

December 10, 2025

Far Hills Association
13 Blueberry Road
Ashburnham, MA 01430
Sent via email: environmental@farhillsassociation.com

Re: Sunset Lake – Ashburnham/Winchendon, MA – 2025 Year End Report

Dear Association Members,

It is our pleasure to present the 2025-year end summary report to the Far Hills Association regarding the aquatic management program at Sunset Lake (pictured in Figure 1). Sunset Lake is approximately 276 acres and is surrounded by residential properties and woodlands. Water and Wetland utilized a private boat launch (gated off to the public) found off of West Shore Drive, by Sunset Lake Beach, to launch the boat and equipment for each site visit. There are two beaches found at Sunset Lake, Sunset Lake Beach and Ripple Beach. A handful of islands are scattered throughout the lake, found within the coves. Sunset Lake Dam is found along the western shoreline, which flows into Millers River.



Figure 1: Sunset Lake –
Ashburnham/Winchendon, MA

Historically, Sunset Lake has battled nuisance native vegetation, including, but not limited to, ribbon-leaf pondweed (*Potamogeton epihydrus*), bladderwort (*Utricularia* sp.), snailseed pondweed (*Potamogeton bicupulatus*), low-water milfoil (*Myriophyllum humile*), and thin-leaf pondweed (*Potamogeton pusillus*). The goal of the 2025 program was to manage these nuisance species levels while monitoring basic water quality through a proactive monitoring schedule. This would be accomplished by implementing an aquatic management program that focused around performing all applicable tasks, including planning, permitting, surveys, treatments, and reporting.

During each visit to the lake, a survey was conducted using visual observation paired with a standard

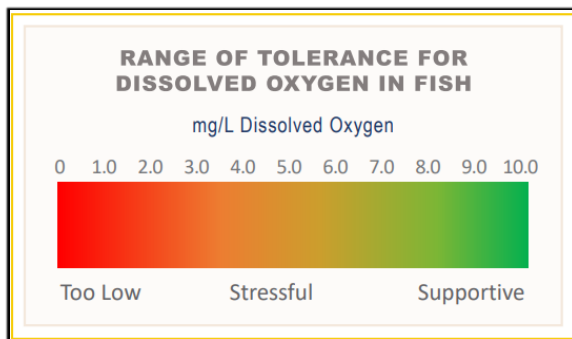


Figure 2: Dissolved oxygen table

throw-rake and handheld GPS/ArcGIS Field Maps, as applicable. Additionally, dissolved oxygen (DO) and temperature readings were collected throughout the season using a calibrated YSI meter with optical sensor (meters and equipment pictured in Figure 3 below). Dissolved oxygen is the amount of oxygen in water that is available to aquatic organisms. DO is necessary to support fish spawning, growth, and activity. Tolerance varies by species, please see the figure provided for a general range of fish tolerance (Source: epa.gov). Dissolved oxygen can be affected by many outside factors, such as temperature, time of day, and

pollution. Dissolved oxygen levels are typically lowest early in the morning. Healthy water should generally have concentrations of about 6.5-8+ mg/L (illustrated in Figure 2 above). Water clarity was also assessed using a Secchi disk when appropriate. A Secchi disk is a disk with alternating black and white quadrants (Figure 3). It is lowered into the water of a pond or lake until it can no longer be seen by the observer. This depth of disappearance, called the Secchi depth, is a measurement of the transparency of the water. All readings are included in the tables throughout this report.



Figure 3: Meters and equipment utilized during each site visit

All permitting, treatment and survey tasks were completed without issue and at the proper times. The table below provides the specific dates of each task. Below the table, each visit/task performed is described in additional detail.

Summary Of 2025 Management Activities

Date	Task/Description
May 28, 2025	A pre-treatment survey was conducted to gauge baseline conditions of the lake, note the species/densities present, and help guide management plans for the 2025 season
June 27, 2025	A survey was conducted to confirm treatment areas; An herbicide treatment was performed
July 30, 2025	A post-treatment survey was conducted to confirm the effectiveness of the previous application and monitor the conditions of the lake
September 12, 2025	A final season survey was conducted to gauge final outcome of management, and help guide recommendations for the 2026 season

May 28, 2025 – Pre-Treatment Survey

On 5/28/25, Aquatic Field Biologist, Brian Sweeney, and Aquatic Field Biologist, Brian O'Leary, made a visit to Sunset Lake. Upon arrival to the site, a survey was conducted using visual observation paired with a standard throw-rake and handheld GPS/ArcGIS Field Maps, as applicable. Plants documented during the survey are documented in the table below.

Species Identified	
Common Name	Latin Name
Thin-leaf Pondweed	<i>Potamogeton pusillus</i>
Benthic Algae	
Cattails	<i>Typha</i> sp.
Bladderwort	<i>Utricularia</i> sp.
Filamentous Algae	



Figure 4: Low-water milfoil observed during May visit



WATER & WETLAND

LAKE, POND & WETLAND MANAGEMENT

Low-water milfoil	<i>Myriophyllum humile</i>
Ribbon-leaf Pondweed	<i>Potamogeton epihydrus</i>
New England Willowmoss	<i>Fontinalis novae-angliae</i>
Waterlilies	<i>Nymphaeaceae</i>
Stonewort	<i>Nitella</i>

Scattered densities of benthic algae were observed along the lake's littoral zone. The northern shorelines of the lake were dotted with stands of young cattails (*Typha sp.*) which were accompanied by

small patches of filamentous algae and ribbon-leaf pondweed. The northwestern-most cove boasted moderately dense stands of both low-water milfoil and bladderwort, becoming increasingly scarce moving southward. The majority of the western/southwestern shoreline was absent of any nuisance aquatic vegetation. The southernmost cove contained moderate to scarce densities of bladderwort and low-water milfoil as previously surveyed, with a few small populations of ribbon-leaf being observed. The highest densities of bladderwort were concentrated on the southern cove's eastern side. One small algal mat was observed in this cove, along with a few nitella fragments. Snailseed densities were sparse to moderate and were found primarily throughout all of the lake's coves. The easternmost cove contained scarce to moderate patches of bladderwort and low-water milfoil, with a few stands of cattails lining the shorelines. The northeastern coves contained scarce, scattered pockets of ribbon-leaf pondweed, bladderwort, cattails, and low-water milfoil. Pollen was present on windblown shorelines.

Water clarity was average at the time of visit. No significant surface algal blooms were observed. The lake appeared to be in fantastic ecological shape and healthy condition, with no aquatic invasives being documented during the survey.

Temperature & Dissolved Oxygen	
Surface Temp (°C)	Surface DO (mg/L)
19.7	8.33

Secchi Disk Clarity	
Secchi Disk Depth (Feet)	4 feet 3 inches

June 27, 2025 – Survey / Herbicide Treatment

On 6/27/25, Aquatic Field Biologist, Brian Sweeney, and Field Biologist, Irini Stefanakos, made a visit to Sunset Lake. Upon arrival to the site, a survey was conducted using visual observation paired with a standard throw-rake and handheld GPS/ArcGIS Field Maps, as applicable. Plants documented during the survey are documented in the table below.

Species Identified	
Common Name	Latin Name
Snailseed Pondweed	<i>Potamogeton bicupulatus</i>
Bladderwort	<i>Utricularia sp.</i>
Thin-leaf Pondweed	<i>Potamogeton pusillus</i>
Tape Grass	<i>Vallisneria americana</i>
Ribbon Leaf Pondweed	<i>Potamogeton epihydrus</i>
Benthic Algae	
Waterlilies	<i>Nymphaeaceae</i>
Low-water milfoil	<i>Myriophyllum humile</i>



Figure 5: Thin-leaf pondweed observed during June visit

The site visit consisted of completing a brief survey, collecting basic water quality data, and performing an herbicide treatment. The survey was done to confirm species/distribution, potential treatment areas, and confirm treatment timing. A map of potential treatment acreage was sent to the Association prior to the treatment in order to confirm acreage and locations. The southeast cove contained the largest treatment area; as species within this area were found in moderate to dense levels, occupying waterfront properties and docks. The other treatment areas were primarily contained within the coves along the western, northern, and eastern shorelines, where bladderwort and snailseed pondweed, along with thin-leaf pondweed and ribbon-leaf pondweed were in abundance. The extra three acres permitted/approved by the Association were used towards any other areas where growth was observed at nuisance levels and treatment was deemed necessary. This included the northeastern cove off Spruce Drive, where low water milfoil was observed. Great coverage was achieved throughout the target areas.

As planned, a treatment was conducted for the control of target nuisance/invasive plant growth. The liquid contact Herbicide(s) was applied using a treatment boat equipped with a calibrated sub-surface injection system. This application methodology allows for even coverage within the treatment areas. The treatment was completed without issue. We anticipated plant die-off within just a few days to a few weeks. Prior to the treatment, the shoreline was posted by the Association with neon signage noting the treatment, affiliated water use restrictions, and Water & Wetland contact information. The signs fulfill permit obligations for shoreline posting.

Temperature & Dissolved Oxygen	
Surface Temp (°C)	Surface DO (mg/L)
25.9	7.07

Secchi Disk Clarity	
Secchi Disk Depth (Feet)	4'10"

July 30, 2025 – Survey / Water Quality

On 7/30/25, Aquatic Field Biologist, Brian Sweeney, and Field Biologist, Irini Stefanakos, made a visit to Sunset Lake. Upon arrival to the site, a survey was conducted using visual observation paired with a standard throw-rake and handheld GPS/ArcGIS Field Maps, as applicable. Plants documented during the survey are documented in the table below.

Species Identified	
Common Name	Latin Name
Waterlilies	<i>Nymphaeaceae</i>
Thin-leaf Pondweed	<i>Potamogeton pusillus</i>
Cattails	<i>Typha sp.</i>
Bladderwort	<i>Utricularia sp.</i>
Low-water milfoil	<i>Myriophyllum humile</i>
Benthic Algae	



Figure 6: Improved conditions since the previous application

The purpose of this visit to Sunset Lake was to complete a post treatment survey to determine the effectiveness of the previous treatment and to help guide recommendations for the 2026 season. Minimal plant growth was documented during the survey compared to the first visit of the season. There were a couple of coves within the northern end of the lake, specifically the northeastern cove off Spruce Drive, that contained visible thin-leaf pondweed, but all populations noted were covered in epiphytic algae (which indicates that the plant is dead/decaying). Other plants, including bladderwort, low-water milfoil, and snailseed pondweed, were either not observed at this visit, were only seen as dead floating fragments, or were observed dead along the floor of the water column. This leads to the conclusion that the herbicide treatment conducted was extremely successful in the removal of all existing pondweeds, specifically within the treatment areas. Conditions had significantly improved since the previous site visit. The water clarity was slightly low due to a brown coloration, but dissolved oxygen levels were moderate during our visit.

Temperature & Dissolved Oxygen	
Surface Temp (°C)	Surface DO (mg/L)
28.6	6.23

Secchi Disk Clarity	
Secchi Disk Depth (Feet)	5'2"

September 12, 2025 – Survey / Water Quality

On 9/12/25, Aquatic Field Biologist, Brian Sweeney, made a visit to Sunset Lake. Upon arrival to the site, a survey was conducted using visual observation paired with a standard throw-rake and handheld GPS/ArcGIS Field Maps, as applicable. Plants documented during the survey are documented in the table below.

Species Identified	
Common Name	Latin Name
Bladderwort	<i>Utricularia</i>
Snailseed Pondweed	<i>Potamogeton bicupulatus</i>
Thin-leaf Pondweed	<i>Potamogeton pusillus</i>
Ribbon-leaf Pondweed	<i>Potamogeton epihydrus</i>
Low-water milfoil	<i>Myriophyllum humile</i>



Figure 7: Bladderwort observed during September visit

This site visit consisted of a final survey for the end of the 2025 season, with the purpose of assessing the entire littoral zone and documenting the aquatic vegetation assemblage. Very little active plant growth was observed during the visit, as most species were in stages of death or decay. Native species including bladderwort, snailseed pondweed, thin-leaf pondweed, and low-water milfoil were present in scattered, low densities within previously documented areas. Aquatic vegetation overall was greatly reduced due to the herbicide treatments conducted earlier in the year. In the southern cove, where bladderwort densities had been high during early summer, almost no bladderwort remained. The few plants that persisted were brown in color and broke apart when disturbed, indicating advanced decay. Overall, the lake was in excellent condition, with no invasive aquatic species observed, healthy dissolved oxygen readings, and normal water clarity.

Temperature & Dissolved Oxygen	
Surface Temp (°C)	Surface DO (mg/L)
20.1	6.61

Secchi Disk Clarity	
Secchi Disk Depth (Feet)	4'

Summary / 2026 Recommendations

The 2025 management program at Sunset Lake was very successful in maintaining healthy conditions and controlling nuisance native vegetation. Throughout the 2025 season, four surveys were conducted to document vegetation composition and water quality, ensuring that all management decisions were based on real-time data. The June herbicide treatment effectively reduced nuisance growth of bladderwort, ribbon-leaf pondweed, snailseed pondweed, and low-water milfoil within the targeted coves. Subsequent surveys confirmed excellent control, as the majority of treated species were found to be decaying or absent by late July, with open-water conditions restored in previously dense areas. No invasive species



were documented during any of the surveys, and overall water quality remained stable, with healthy dissolved oxygen readings and moderate clarity levels.

For 2026, we recommend continuing the same survey-based approach that emphasizes monitoring and only treating as necessary. Regular vegetation surveys should continue to guide management actions, ensuring that treatments are limited to areas where nuisance densities develop. If plant growth reaches nuisance levels, a targeted diquat application should be planned to maintain open-water conditions while preserving beneficial native vegetation. Algae should continue to be monitored closely, with copper-based algaecides implemented only if warranted by survey data. Maintaining close communication between Water & Wetland and the Far Hills Association will allow management decisions to remain adaptive and cost-effective while supporting long-term ecological balance in the lake.

Overall, great progress was made in 2025 as conditions in Sunset Lake were greatly improved. We hope that you were impressed not only with the results of the 2025 Aquatic Management Program, but also the communication, expertise, sense of urgency, and follow-through provided by Water & Wetland over the course of the year. We look forward to continuing our partnership with the Far Hills Association and the Ashburnham Conservation Commission in 2026 and for many years to come.

Sincerely,

A handwritten signature in blue ink, appearing to read "Colin Gosselin", is positioned above the printed name.

Colin Gosselin

Director of Operations

Senior Aquatic Biologist

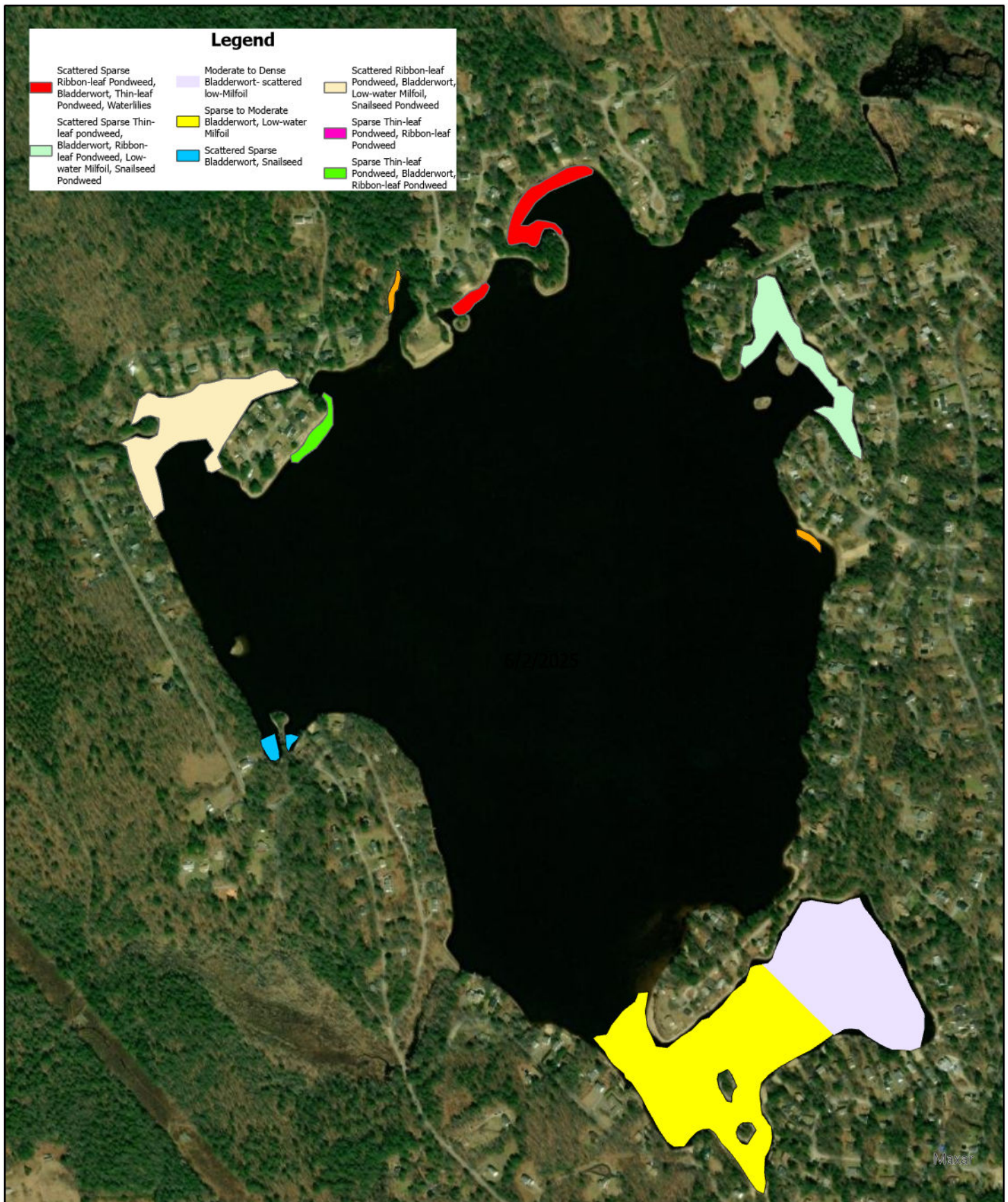
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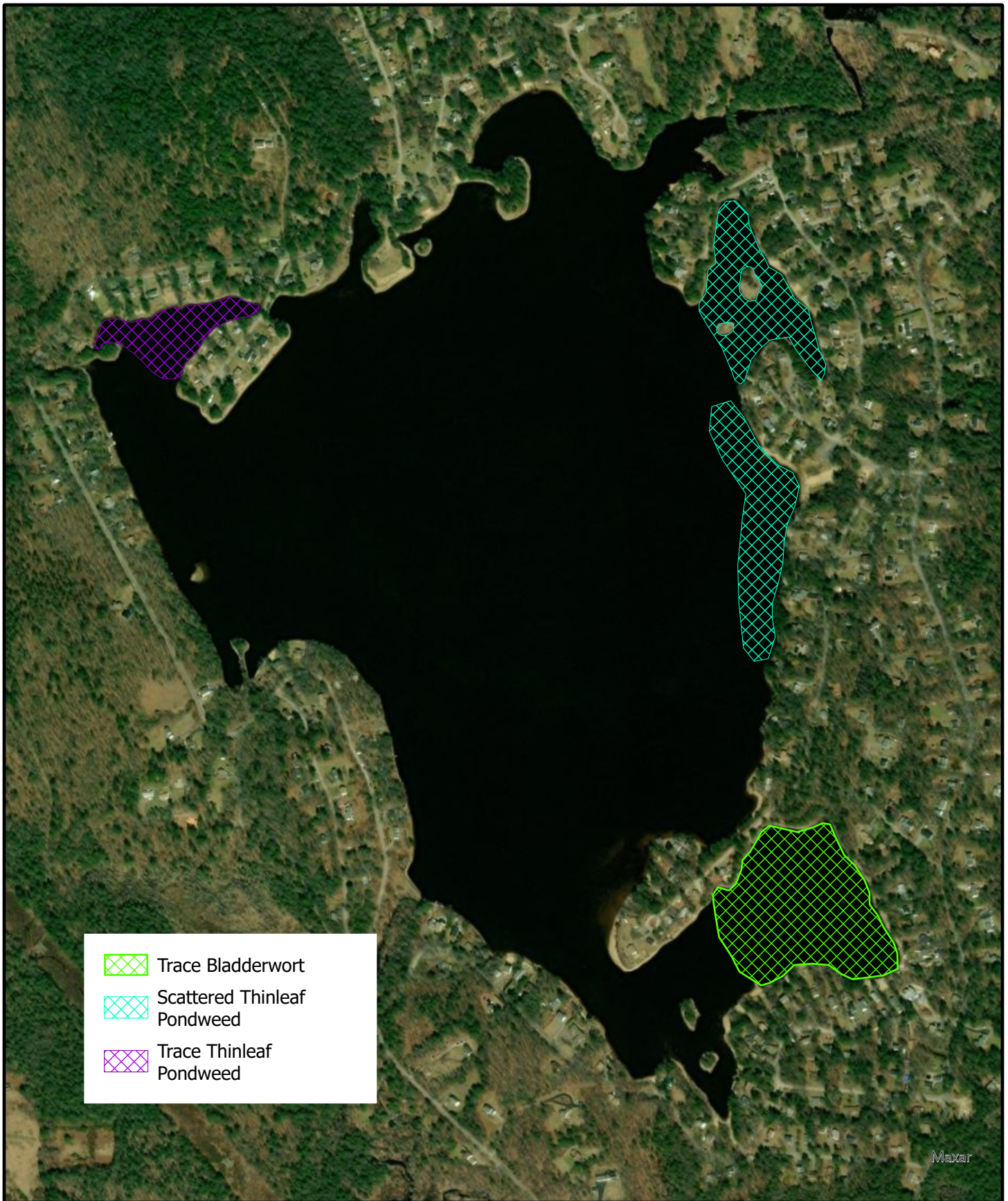
o: 888-4WETLAN(D)

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Attachments include: Pre and Post Treatment Maps





Legend

- Sparse Thinleaf
Pondweed, Snailseed
Pondweed
- Sparse Ribbon Leaf
Pondweed

