October 27, 2025

City of Framingham – Conservation Commission
Attention : Rebecca Nau, Conservation Administrator
150 Concord Street
Framingham, MA 01702
Sent via email: rn@framinghamma.gov

Re: Framingham Ponds (Big Farm Pond, Little Farm Pond, Mohawk Pond, Norton Pond, Sudbury River, Gleason Pond, Learned Pond, and Waushakum Pond) Framingham, MA (DEP#158-1573)– 2025 Year End Report

Dear Ms. Nau and Commission Members,

It is our pleasure to present a year end summary report to The City of Framingham regarding the 2025 Aquatic Management Program at The Framingham Ponds. The contracted Framingham waterbodies include Big Farm Pond, Little Farm Pond, Mohawk Pond, Norton Pond, Sudbury River, Gleason Pond, Learned Pond, and Waushakum Pond, all located in Framingham, MA. A small percentage of Waushakum Pond is also contained within the Town of Ashland.

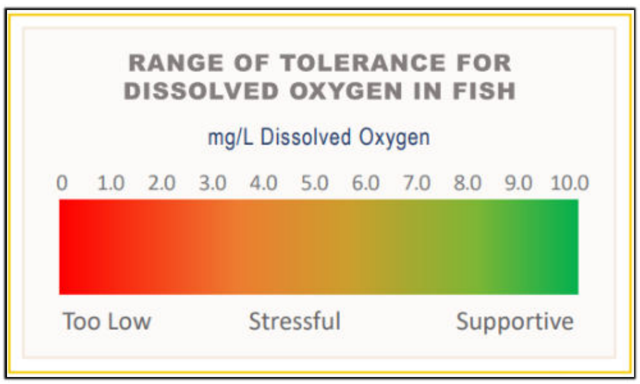


Figure 1: Dissolved Oxygen Meter

During each visit to the waterbody, a survey was conducted using visual observation paired with a standard throw-rake and handheld GPS/ArcGIS Field Maps, as applicable. Additionally, dissolved oxygen (DO) profiles and temperature readings were collected throughout the season using a calibrated YSI meter with optical sensor. 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, but the figure shown provides 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 (Figure 1). 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 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.

Water quality samples were collected at specific visits from the contracted locations of the site. The samples were properly preserved, and shipped on-ice via FedEx Overnight, or transported directly to the most appropriate lab. The lab then analyzed the samples for the contracted/required parameters. All results will be provided at the end of this report. Any concerning results were immediately brought to the attention of the Client previously.

Big Farm Pond

Figure 2: Big Farm Pond – Framingham, MA

Big Farm Pond (pictured in Figure 2) is approximately 151 acres and located in the center of Framingham. Railroad tracks abut the eastern shoreline (CSX Railroad), while parks and small woodlands run along the western shoreline. The parks that are adjacent to the western shoreline include Farm Pond Park and Framingham Skatepark. Access to the Pond was obtained through a public boat launch, located at the northern point of the waterboy (off Lakeview Avenue). Big Farm Pond is a popular recreational waterbody for swimming, fishing, and boating.

Historically, Big Farm Pond has battled several invasive species, including water chestnut (*Trapa natans*), curly-leaf pondweed (*Potamogeton crispus*), and Eurasian milfoil (*Myriophyllum spicatum*), along with nuisance densities of native pondweeds (*Potamogeton sp*.). The goal of the 2025 program was to monitor invasive growth while examining 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, surveys, and reporting.

All permitting, water sampling, 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 27, 2025	An early-season survey was performed to document baseline conditions of the pond, note the current vegetative species/densities present; Water samples collected
September 9, 2025	A survey was conducted to gauge pond conditions; Water samples collected

May 27, 2025 – Early-Season Survey/Water Samples Collected

On 5/27/25, Aquatic Field Biologist, Brian O'Leary, and Field Biologist, Drew Felter, made a visit to Big Farm Pond.

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, in addition to collecting water samples. Plants documented during the survey are documented in the table below. (*) denotes an invasive species. Invasive species are non-native to the ecosystem and are likely to cause economic harm, environmental harm, or harm to human health.

Figure 3: Big Farm Pond during the May visit

Species Identified	
Common Name	Latin Name
Water Chestnut*	*Trapa natans*
Waterlilies	*Nymphaeaceae*
Eurasian Milfoil*	*Myriophyllum spicatum*
Clasping-leaf Pondweed	*Potamogeton perfoliatis*
Curly-leaf Pondweed*	*Potamogeton crispus*
Coontail	*Ceratophyllum demersum*
Robbin's Pondweed	*Potamogeton robbinsii*
Arrowhead	*Sagittaria latifolia*
Elodea	*Elodea canadensis*

Scattered patches of varying densities of several different species were mixed in with each other at a high density along the pond's littoral zone. The most dominant species included curly-leaf pondweed, Eurasian milfoil, Robbins pondweed (*Potamogeton robbinsii)*, clasping-leaf pondweed (*Potamogeton perfoliatis)*, elodea (*Elodea canadensis)*, and water chestnut. In addition, curly-leaf and Eurasian milfoil were observed extending into the pond's mid-section. A few small pockets of coontail (*Ceratophyllum demersum)* were also observed within these stands. Aquatic species density began to drop off moving southward, with Eurasian milfoil becoming extremely prominent towards the southeastern perimeter, along with a few small sections of curly-leaf pondweed. Young cattails (*Typha sp.)* were observed mixed in with water lilies along the western/southwestern perimeter. A few small patches of broadleaf arrowhead (*Sagittaria latifolia)* were observed towards the boat launch and the western bank.

No significant algal blooms were observed. Water clarity was average at the time of visit. Given the Natural Heritage Endangered Species Program restrictions, no management will occur in 2025. It is worth considering the hand-pulling of water chestnut if NHESP allows. Water chestnut spreads rapidly and requires long-term management given the reproductive cycle of this plant. If managed before further spread, it will help long-term and allow for hand-pulling of this species to continue in lieu of treatment.

Water Quality Parameters
WQ Baseline Plus Bundle = Alkalinity, Chlorophyll A, Conductivity, Hardness, Nitrates & Nitrites, Nitrogen - Total (Kjeldahl), pH, Phosphorus - Free Reactive (Water), Phosphorus - Total (water), Turbidity
Microbial Bacteria (total coliforms & E. coli)

Temperature & Dissolved Oxygen Profile		
Depth (ft)	Surface Temp (°C)	Surface DO (mg/L)
Surface	21.2	9.41
1	19.6	9.79
2	18.6	9.69
3	17.6	9.83

4	17.3	9.92
5	16.8	10.14
6	16.7	10.49
7	16.38	10.79
8	16.5	10.93

Secchi Disk Clarity	
Secchi Disk Depth (Feet)	5 feet 2 inches

September 9, 2025 – Late-Season Survey/Water Samples Collected

On 09/09/25, Aquatic Field Biologist, Brian Sweeney and Irini Stefanakos, made a visit to Big Farm Pond. 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, in addition to collecting water samples. Plants documented during the survey are documented in the table below. (*) denotes an invasive species.

Species Identified	
Common Name	Latin Name
Robbin's Pondweed	*Potamogeton robbinsii*
Water Chestnut*	*Trapa natans*
Coontail	*Ceratophyllum demersum*
Waterlilies	*Nymphaeaceae*
Cattails	*Typha*
Eurasian Milfoil*	*Myriophyllum spicatum*
Curly-leaf Pondweed	*Potamogeton crispus*
Thin-leaf Pondweed	*Potamogeton pusillus*
Elodea	*Elodea canadensis*
Clasping-leaf Pondweed	*Potamogeton perfoliatis*

Figure 4: Clasping-leaf pondweed observed during the September visit

The purpose of this visit to Big Farm Pond was to conduct a final plant survey for the season, collect basic water quality data—including a dissolved oxygen (DO) profile—and obtain water quality samples for analysis. Moderate to dense Robbin's pondweed was observed throughout the entire pond. Coontail and clasping-leaf pondweed were found alongside it at moderate to dense levels, and together these three species comprised the most dominant plant assemblage in Big Farm Pond. Water chestnut was documented interspersed within waterlily patches near the public boat launch and at the southern end but was not observed elsewhere at the site. Eurasian milfoil was documented primarily around the perimeter of the pond, encroaching towards the middle at certain points. Curly-leaf pondweed was found mixed within the native species at isolated and scarce densities. Overall, the visit was successful. The pond community was composed primarily of native vegetation, with varying densities of water chestnut, Eurasian milfoil, and curly-leaf pondweed as the notable invasive species encountered. If left unmanaged, water chestnut can form dense floating mats that reduce light penetration, diminish dissolved oxygen, and impede recreation; targeted control near the launch area will help prevent expansion and protect the pond's ecological function. Water chestnut seeds are viable within the sediment bed for up to 10-13 years, while each rosette has the ability to produce up to 20 seeds. As of now, the population remains at a hand-pullable density. This method of management is worth considering in lieu of treatment if the Natural Heritage Endangered Species Program permits it since Big Farm Pond has management restrictions.

Water Quality Parameters
Microbial Bacteria (total coliforms & E. coli)
Alkalinity, Chlorophyll A, Conductivity, Hardness, Nitrates & Nitrites, Nitrogen - Total (Kjeldahl), pH, Phosphorus - Free Reactive (Water), Phosphorus - Total (water), Turbidity

Temperature & Dissolved Oxygen Profile		
Depth (Ft)	Surface Temp (℃)	Surface DO (mg/L)
Surface	21.6	5.95
1	21.5	5.78
2	21.5	5.72
3	21.2	5.43
4	21.0	5.17
5	20.9	5.08
6	20.6	5.07
7	20.3	4.99
8	20.3	4.94
9	20.1	4.89
10	19.9	4.81
11	19.9	4.80

Secchi Disk Clarity	
Secchi Disk Depth (Feet)	7’6”

Little Farm Pond

Figure 5: Little Farm Pond – Framingham, MA

Little Farm Pond (Figure 5) is found due south of Big Farm Pond – separated by a berm used for hiking and fishing. This waterbody is approximately 22.9 acres. The pond is primarily surrounded by sparse woodlands to the west and south, with the berm separating Big Farm Pond and Little Farm Pond to the north. Access to this waterbody was gained from Big Farm Pond, as the jon boat was carried over the berm. All of Little Farm Pond is considered to be a littoral zone, meaning that sunlight can penetrate the bottom of the entire Pond resulting in potential algae/vegetation growth. Little Farm Pond is a popular recreational waterbody for fishing.

Historically, Little Farm Pond has battled invasive species including water chestnut, curly-leaf pondweed, and Eurasian milfoil, in addition to nuisance densities of native pondweeds. The goal of the 2025 program was to monitor the invasive species population while examining 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, surveys, and reporting.

All permitting, water sampling, 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 27, 2025	An early-season survey was performed to document baseline conditions of the Pond, note the current vegetative species/densities present; Water samples collected
September 9, 2025	A survey was conducted to gauge pond conditions; Water samples collected

May 27, 2025 – Early-Season Survey/Water Samples Collected

On 5/27/25, Aquatic Field Biologist, Brian O'Leary, and Field Biologist, Drew Felter, made a visit to Little Farm Pond. 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, in addition to collecting water samples. Plants documented during the survey are documented in the table below. (*) denotes an invasive species.

Species Identified	
Common Name	Latin Name
Coontail	*Ceratophyllum demersum*
Robbin's Pondweed	*Potamogeton robbinsii*

Figure 6: Little Farm Pond during May visit

Curly-leaf Pondweed*	*Potamogeton crispus*
Water Chestnut*	*Trapa natans*
Waterlilies	*Nymphaeaceae*
Benthic Algae	
Filamentous Algae	
Eurasian Milfoil*	*Myriophyllum spicatum*

The site visit consisted of conducting a survey in addition to collecting basic water quality data and water samples. The vegetation assemblage was fairly similar to that of previous years. Highly dense stands of Robbins pondweed and coontail dominated the pond's littoral zone with 60-70% coverage overall. Eurasian milfoil and curly-leaf pondweed were found in sparse, scattered densities along the pond's perimeter. Waterlilies dotted the perimeter of the pond with a large concentration on the southwestern edge. Only a few sparse, small patches of filamentous algae and water chestnut were observed throughout the whole pond.

Due to Natural Heritage Endangered Species Program restrictions, no management will occur in 2025. At a minimum, consideration should be given to seeking NHESP approval to allow for hand-pulling of the invasive water chestnut. If this approval is gained, this could likely be completed by volunteers.

Water Quality Parameters
WQ Baseline Plus Bundle = Alkalinity, Chlorophyll A, Conductivity, Hardness, Nitrates & Nitrites, Nitrogen - Total (Kjeldahl), pH, Phosphorus - Free Reactive (Water), Phosphorus - Total (water), Turbidity
Microbial Bacteria (total coliforms & E. coli)

	Temperature & Dissolved Oxygen	
Depth (ft)	Surface Temp (°C)	Surface DO (mg/L)
Surface	19.4	10.78
1	18.8	11.18
2	17.7	11.40
3	17.11	12.08
4	17.11	12.30
5	16.38	13.33

Secchi Disk Clarity	
Secchi Disk Depth (Feet)	6 feet 5 inches (to bottom)

September 9, 2025 – Late-Season Survey/Water Samples Collected

On 09/09/25, Aquatic Field Biologist, Brian Sweeney and Irini Stefanakos, made a visit to Little Farm Pond. 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, in addition to collecting water samples. Plants documented during the survey are documented in the table below. (*) denotes an invasive species.

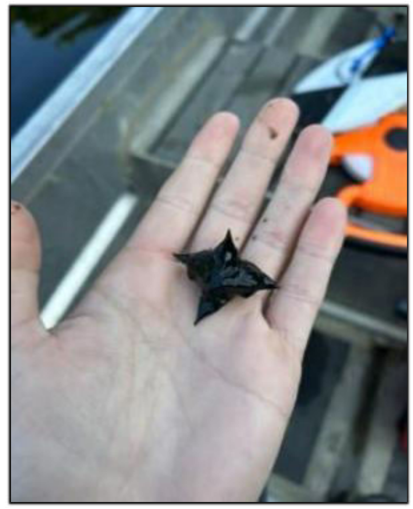


Figure 7: Water chestnut seed found on the surface of Little Farm Pond

Species Identified	
Common Name	**Latin Name**
Waterlilies	*Nymphaeaceae*
Water Chestnut*	*Trapa natans*
Duckweed	*Lemna*
Thin-leaf Pondweed	*Potamogeton pusillus*
Coontail	*Ceratophyllum demersum*
Eurasian Milfoil*	*Myriophyllum spicatum*
Bladderwort	*Utricularia*
Robbin's Pondweed	*Potamogeton robbinsii*
Common Waterweed/Elodea	*Elodea canadensis*

The purpose of this visit to Little Farm Pond was to complete a final survey for the season, collect basic water quality data—including a dissolved oxygen (DO) profile—and obtain water quality samples for analysis. During the survey, waterlilies (*Nymphaeaceae)* occupied nearly the entire shoreline at varying densities. In accessible areas away from the waterlily patches, the dominant species were coontail, elodea, and Robbin's pondweed. Coontail and elodea occurred at higher densities across the northern half of the littoral zone, while very dense stands of Robbin's pondweed—similar to conditions at Big Farm Pond—were documented along the eastern and southern shorelines. Scarce Eurasian milfoil and water chestnut were also observed along the southeastern shore; these occurrences were not considered nuisance densities. As the growing season winds down, most vegetation was in visible decline (browning/chlorosis) and colonized by epiphytic algae. Although invasive occurrences were limited, it is worth noting that Eurasian milfoil and water chestnut can expand rapidly if unmanaged—forming dense surface canopies that outcompete native plants, reduce light penetration, and impede recreation. Continued monitoring is recommended to ensure these species remain at low levels. The hand pulling methods discussed for Big Farm Pond's water chestnut are also something to consider to prevent spreading in Little Farm Pond as well. Overall, the visit confirmed a diverse plant community dominated by native species. Water quality sampling and DO profiling were completed without issue.

Water Quality Parameters
Microbial Bacteria (total coliforms & E. coli)
Alkalinity, Chlorophyll A, Conductivity, Hardness, Nitrates & Nitrites, Nitrogen - Total (Kjeldahl), pH, Phosphorus - Free Reactive (Water), Phosphorus - Total (water), Turbidity

Temperature & Dissolved Oxygen		
Depth (Ft)	Surface Temp (℃)	Surface DO (mg/L)
Surface	21.4	8.54
1	21.4	8.39
2	21.1	8.30
3	20.7	8.12
4	20.3	7.99
5	20.2	7.76
6	20.2	7.74

Secchi Disk Clarity	
Secchi Disk Depth (Feet)	6'4"

Mohawk Pond

Mohawk Pond (pictured in Figure 8) is found at the end of Mohawk Drive in Framingham and is approximately 1.65 acres. The Pond is extremely shallow as the average depth is only roughly 2 feet. Mohawk Pond is primarily surrounded by woodlands, with one developed residential property along the northern shoreline. Access to the waterbody was gained from a walking trail along the western shoreline. This trail is typically gated off to vehicles.

Figure 8: Mohawk Pond – Framingham, MA

Historically, Mohawk Pond has battled invasive species variable milfoil (*Myriophyllum heterophyllum*), along with potentially nuisance densities of pondweeds and algae. The goal of the 2025 program was to manage the invasive variable milfoil population while examining basic water quality through a proactive monitoring schedule. This would be accomplished by implementing an Aquatic Management Program that focused on performing all applicable tasks, including planning, permitting, surveys, treatments, and reporting.

All permitting, treatments, 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.

Date	Task/Description
May 27, 2025	An early-season survey was performed to document baseline conditions of the Pond, note the current vegetative species/densities present, and guide future 2025 management; Water samples collected
June 19, 2025	A survey was conducted to reassess the conditions of the pond, and also to note treatment areas; An algaecide treatment was applied; An herbicide treatment was applied
July 17, 2025	A post-treatment survey was conducted to gauge pond conditions; Water samples collected
August 18, 2025	A survey was conducted to monitor pond conditions
September 9, 2025	An end of season survey was conducted to conclude the pond's conditions; Water samples collected

<u>May 27, 2025 – Early-Season Survey/Water Quality/Water Samples Collected</u>

On 5/27/25, Aquatic Field Biologist, Brian O'Leary, and Field Biologist, Drew Felter, made a visit to Mohawk Pond. 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. (*) denotes an invasive species.

Species Identified	
Common Name	Latin Name
Filamentous Algae	
Benthic Algae	
Variable Milfoil*	*Myriophyllum heterophyllum*
Cattails	*Typha sp.*

Figure 9: Filamentous Algae on Mohawk Pond at May visit

This site visit consisted of conducting a survey and collecting basic water quality data - including a dissolved oxygen (DO) profile - in addition to water samples. A few small, isolated patches of variable milfoil were observed towards the western side of the pond. Small, scattered patches of filamentous algae dotted the pond, with a larger mat being observed at the northern edge of the pond. A patch of cattails was observed at the same location. Benthic algae dominated the littoral zone with 75-80% coverage. Based on the results of our survey data, we recommended treating the pond for invasive variable milfoil and algae populations.

Water Quality Parameters
WQ Baseline Plus Bundle = Alkalinity, Chlorophyll A, Conductivity, Hardness, Nitrates & Nitrites, Nitrogen - Total (Kjeldahl), pH, Phosphorus - Free Reactive (Water), Phosphorus - Total (water), Turbidity
Microbial Bacteria (total coliforms & E. coli)

Temperature & Dissolved Oxygen Profile		
Depth (ft)	Surface Temp (°C)	Surface DO (mg/L)
Surface	16.5	14.02
1	13.01	14.92
2 (Bottom)	12.88	14.61

Secchi Disk Clarity	
Secchi Disk Depth (Feet)	2 feet 5 inches (to bottom)

<u>June 19, 2025 – Survey/Algaecide application/Herbicide application</u>

On 6/19/25, Aquatic Field Biologist, Brian Sweeney, and Field Biologist, Irini Stefanakos, made a visit to Mohawk Pond. 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. (*) denotes an invasive species.

Species Identified	
Common Name	Latin Name
Variable Milfoil*	*Myriophyllum heterophyllum*
Filamentous Algae	
Benthic Algae	
Cattails	*Typha sp.*

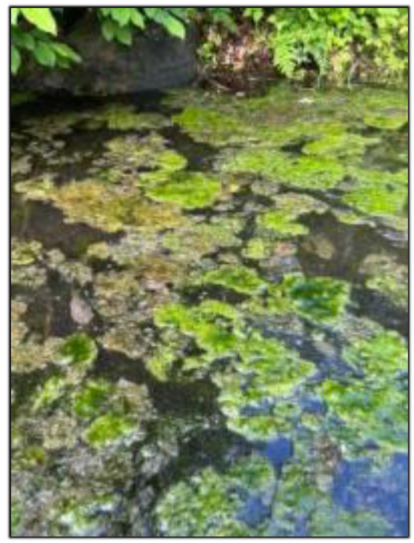


Figure 10: Filamentous Algae on Mohawk Pond at June visit

Overall, this site visit included completing a brief survey, conducting both the algaecide and herbicide treatments that were recommended, and the collection of basic water quality data. Dense filamentous algae, benthic algae, and moderate variable milfoil occupied the majority of the pond. Great coverage of the treatment was done to combat this growth. One patch of cattails was observed along the northeast shoreline. A larger mat of filamentous algae was found in this area as well.

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.

A second treatment was conducted for the control of algae. The liquid contact algaecide was applied using the same treatment boat equipped with a calibrated sub-surface injection system. This application allows for even coverage within the treatment areas. The treatment was completed without issue.

Prior to the treatment, the shoreline was posted 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)
19.7	12.54

Secchi Disk Clarity	
Secchi Disk Depth (Feet)	2'4"

July 17, 2025 – Survey / Water Quality

On 7/17/25, Aquatic Field Biologist, Brian Sweeney, and Field Assistant, Nick Cameron, made a visit to Mohawk Pond. 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.

Figure 11: Mohawk Pond at July visit

Species Identified	
Common Name	**Latin Name**
Cattails	*Typha sp.*

This site visit consisted of the collection of basic water quality data and completing a survey. Water clarity was slightly above average and dissolved oxygen readings exhibited healthier levels than the prior visit. Very little aquatic vegetation was observed, with the cattails being the only species holding a significant presence in and around the waterbody. The previous treatment appeared to have worked exceptionally well in terms of curbing any algae blooms and targeting invasive aquatic vegetation. There were no visible filamentous algae mats nor any active variable milfoil. Overall, the pond appears to be in excellent condition.

Temperature & Dissolved Oxygen	
Surface Temp (°C)	Surface DO (mg/L)
29.8	9.04

Secchi Disk Clarity	
Secchi Disk Depth (Feet)	3'1"

August 18, 2025 – Survey / Water Quality

On 8/18/25, Aquatic Field Biologist, Brian Sweeney and Irini Stefanakos, made a visit to Mohawk Pond. 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. (*) denotes an invasive species.

Figure 12: Mohawk Pond at August visit

Species Identified	
Common Name	Latin Name
Variable Milfoil*	*Myriophyllum heterophyllum*
Watermeal	*Wolffia*
Watershield	*Brasenia schreberi*

This site visit consisted of a survey to determine if a follow-up treatment was necessary for the presence of invasive/nuisance aquatic vegetation and algae. During the visit, it was decided that treatment was unnecessary, as there was no presence of algae blooms or invasive/nuisance pondweeds. Variable milfoil was found, but only as fragments. No rooted or active variable milfoil was seen. Overall, the pond has seen excellent improvement since the beginning of the season and has remained consistent since treatment.

Temperature & Dissolved Oxygen	
Surface Temp (℃)	Surface DO (mg/L)
27.8	11.15

Secchi Disk Clarity	
Secci Disk Depth (Feet)	2’5” (to the bottom)

<u>September 9, 2025 – Survey Water Quality/Water Samples Collected</u>

On 9/9/25, Aquatic Field Biologist, Brian Sweeney and Irini Stefanakos, made a visit to Mohawk Pond. 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.

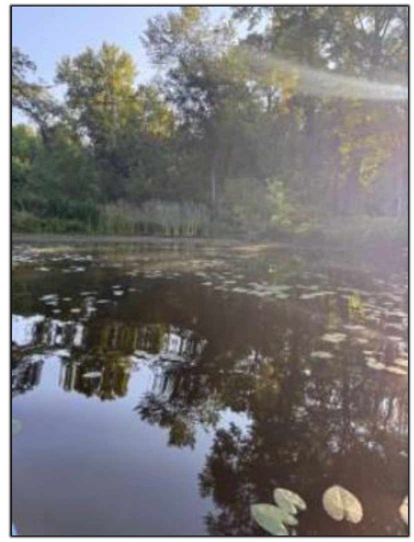


Figure 13: Waterlilies and cattails at Mohawk Pond during September visit

Species Identified	
Common Name	Latin Name
Waterlilies	*Nymphaeaceae*
Cattails	*Typha*

The purpose of this visit to Mohawk Pond was to conduct a survey and collect basic water quality data, including a dissolved oxygen (DO) profile. Water samples were also collected to be sent for analysis. During the survey, scattered waterlilies were observed along with dense cattails concentrated on the northwest shoreline near the inlet. Water levels were slightly below average, and water clarity was reduced due to recent heavy rainfall. A moderate flow was entering from the inlet, which should help replenish pond levels in the coming weeks. Overall, Mohawk Pond appeared to be in excellent condition compared to earlier visits in the season, when filamentous algae and variable milfoil had been observed and treated. Neither of these species were present at the time of this survey, concluding that the 2025 management plan was successful.

Water Quality Parameters
Alkalinity, Chlorophyll A, Conductivity, Hardness, Nitrates & Nitrites, Nitrogen - Total (Kjeldahl), pH, Phosphorus - Free Reactive (Water), Phosphorus - Total (water), Turbidity
Microbial Bacteria (total coliforms & E. coli)

Temperature & Dissolved Oxygen Profile		
Depth (Ft)	Surface Temp (℃)	Surface DO (mg/L)
Surface	17.1	7.44
1	17.1	7.43
2	17.0	7.38

Secchi Disk Clarity	
Secchi Disk Depth (Feet)	1’3”

WATER & WETLAND
LAKE, POND & WETLAND MANAGEMENT

Norton Pond

Figure 14: Norton Pond – Framingham, MA

Norton Pond (Figure 14) is approximately 3.4 acres and is surrounded between four roadways (Pinewood Drive to the south, Elm Street to the east, Michael Road to the north, and Alfred Road to the west). Sparse woodlands abut each shoreline, as developed residential properties are found along all shorelines except the eastern shoreline. Access to the Pond was granted from Elm Street.

Historically, Norton Pond has battled nuisance densities of pondweeds and algae. The goal of the 2025 program was to manage the densities of pondweeds/algae while examining basic water quality through a proactive monitoring schedule. This would be accomplished by implementing an Aquatic Management Program that focused on performing all applicable tasks, including planning, permitting, surveys, treatments, and reporting.

All permitting, treatments, water sampling, 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 27, 2025	An early-season survey was performed to document baseline conditions of the Pond, note the current vegetative species/densities present, and guide future 2024 management; Water samples collected
June 19, 2025	A survey was conducted; Herbicide/algaecide treatment conducted
July 17, 2025	A survey was conducted; An algaecide treatment was conducted
August 18, 2025	Mid-season survey to assess the algae and duckweed/watermeal growth; Algaecide treatment was conducted
September 9, 2025	End of season survey was conducted to conclude the pond's conditions; Water samples collected

May 27, 2025 – Early-Season Survey/Water Samples Collected

On 5/27/25, Aquatic Field Biologist, Brian O'Leary, and Field Biologist, Drew Felter, made a visit to Norton Pond. 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**
Duckweed	*Lemna*
Filamentous Algae	
Benthic Algae	
Marsh seed box	*Ludwigia palustris*

Figure 15: Norton Pond algae during May visit

The site visit consisted of collecting basic water quality data (including dissolved oxygen profiles), collecting water samples, and completing a survey. Scattered densities of duckweed (*Lemna)* lined the entire perimeter of the pond along with small patches which spotted the pond's mid-section. A handful of filamentous algae patches were observed within the duckweed patches. Large, dense patches of marsh seedbox (*Ludwigia palustris)* dominated the northern edges of the pond's shallow depths. We recommended monitoring throughout the season and considering an algaecide treatment as necessary to maintain healthy pond conditions.

Water Quality Parameters
WQ Baseline Plus Bundle = Alkalinity, Chlorophyll A, Conductivity, Hardness, Nitrates & Nitrites, Nitrogen - Total (Kjeldahl), pH, Phosphorus - Free Reactive (Water), Phosphorus - Total (water), Turbidity
Microbial Bacteria (total coliforms & E. coli)

Temperature & Dissolved Oxygen Profile		
Depth (Ft)	Surface Temp (℃)	Surface DO (mg/L)
Surface	19.11	11.63
1	16.78	11.63
2	15.89	11.55
3	15.38	8.05

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

June 19, 2025 – Survey / Treatment / Water Quality

On 6/19/25, Field Biologist, Irini Stefanakos, and Aquatic Field Biologist, Brian Sweeney, made a visit to Norton Pond. 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
Duckweed	*Lemna*
Benthic Algae	
Filamentous Algae	

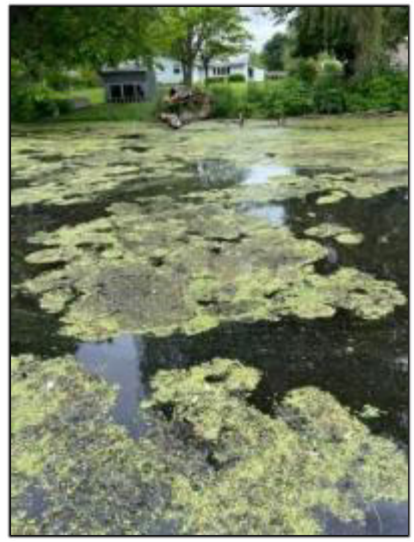


Figure 16: Norton Pond algae during June visit

During the survey for this site visit, the species observed were duckweed, filamentous algae, and benthic algae. A series of applications were completed during the site visit for control of these. The most growth was observed on the north/northeastern shore, which led this to be the area of focus for the algaecide and herbicide treatments. The visit was completed successfully, and a follow-up site visit will determine the effectiveness of treatment and further management planning.

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 anticipate plant die-off within just a few days to a few weeks.

A treatment was also conducted for the control of algae. The liquid contact algaecide was applied using the same treatment boat equipped with a calibrated sub-surface injection system. This application allows for even coverage within the treatment areas. The treatment was completed without issue.

Prior to the treatment, the shoreline was posted 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)
23.2	10.55

Secchi Disk Clarity	
Secchi Disk Depth (Feet)	3’11”

WATER & WETLAND
LAKE, POND & WETLAND MANAGEMENT

July 17, 2025 – Survey / Treatment

On 7/17/25, Aquatic Field Biologist, Brian Sweeney, and Field Assistant, Nick Cameron, made a visit to Norton Pond. 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**
Filamentous Algae	
Benthic Algae	

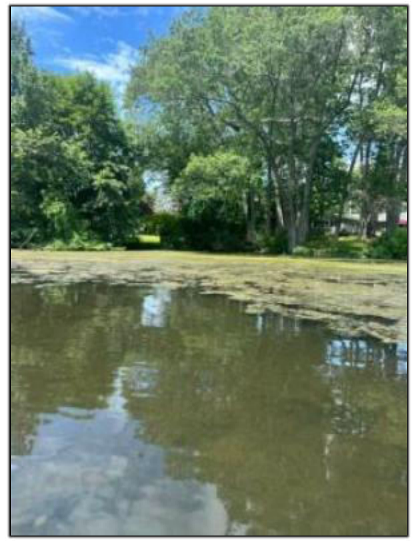


Figure 17: Filamentous algae mats on Norton Pond at July visit

This site visit consisted of the collection of basic water quality data, completing a survey, and conducting the algaecide treatment. Water clarity levels were average for the waterbody and dissolved oxygen readings exhibited a slightly healthier level than the prior visit. The algaecide treatment was performed to target the mats of filamentous algae present in scattered densities around the pond. A few of the algae mats were developing towards the middle, but they became most dense towards the northern end of the pond. The treatment went without issue and excellent coverage was achieved.

A follow-up treatment was conducted for the control of algae. The liquid contact algaecide 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. Prior to the treatment, the shoreline was posted 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 (℃)	Surface DO (mg/L)
30.4	8.53

Secchi Disk Clarity	
Secchi Disk Depth (Feet)	3’ (to the bottom)

August 18, 2025 – Survey / Treatment

On 8/18/25, Aquatic Field Biologist, Brian Sweeney and Irini Stefanakos, made a visit to Norton Pond. 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
Filamentous Algae	
Benthic Algae	

Figure 18: Norton Pond during August visit

This visit consisted of a brief survey and the algaecide treatment to combat the growth of filamentous and benthic algae. 100% of the shoreline areas were covered in filamentous algae, but only the north and south ends had spots that protruded farther into the littoral zone. Additionally, the water at the site had a brownish/yellow tint to it making clarity lower than usual. No other vegetation was observed aside from the filamentous algae that was treated.

A follow-up treatment was conducted for the control of algae. The liquid contact algaecide 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. Prior to the treatment, the shoreline was posted 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 (℃)	Surface DO (mg/L)
28.3	7.55

Secchi Disk Clarity	
Secchi Disk Depth (Feet)	1’11”

September 9, 2025 – Post-management Survey/Water Samples Collected

On 9/9/25, Aquatic Field Biologist, Brian Sweeney and Irini Stefanakos, made a visit to Norton Pond. 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.

Figure 19: Norton Pond during September visit

Species Identified	
Common Name	Latin Name
Filamentous Algae	
Benthic Algae	
Duckweed	*Lemna*
Muskgrass	*Chara vulgaris*

The purpose of this site visit to Norton Pond was to complete a post-treatment survey, collect basic water quality data (including dissolved oxygen profiles), and obtain water quality samples. The survey determined that the previous treatment targeting filamentous and benthic algae, combined with recent weather conditions, has been effective in breaking down the dense filamentous algae mats that had overtaken the pond earlier in the season. Moderate algae remained along the northern and eastern shorelines, but the mats were extremely brittle and easily broke apart when disturbed, signifying it is in the process of decaying. In addition, scarce densities of muskgrass (*Chara vulgaris)* were observed scattered throughout the pond, along with very limited duckweed. Despite the remaining filamentous algae, overall conditions have improved, and with the seasonal transition, further natural die-off is expected.

Water Quality Parameters
Microbial Bacteria (total coliforms & E. coli)
Alkalinity, Chlorophyll A, Conductivity, Hardness, Nitrates & Nitrites, Nitrogen - Total (Kjeldahl), pH, Phosphorus - Free Reactive (Water), Phosphorus - Total (water), Turbidity

Temperature & Dissolved Oxygen Profiles		
Depth (Ft)	Surface Temp (℃)	Surface DO (mg/L)
Surface	19.4	5.09
1	19.4	5.12
2	19.4	5.02
3	19.3	4.98

WATER & WETLAND
LAKE, POND & WETLAND MANAGEMENT

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

Sudbury River


Figure 20: Sudbury River – Framingham, MA

The portion of the Sudbury River considered within the management area included from the outlet (a dammed structure), adjacent to Central Street, extending to the area of the Sudbury River that abuts the Mass Pike (Route 90). Access to the River was granted from a boat launch off Centennial Place. Most of this portion of the river is surrounded by woodlands, with developed residential properties scattered throughout.

Historically, this portion of the Sudbury River has battled several invasive species including water chestnut, variable milfoil, Eurasian milfoil, fanwort (*Cabomba caroliniana)*, and curly-leaf pondweed. The goal of the 2025 program was to manage the invasive water chestnut population only, while examining 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.

All permitting, treatments, water sampling, 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 27, 2025	An early-season survey was performed to document baseline conditions of the pond, note the current vegetative species/densities present, and guide future 2025 management; Water samples were collected
June 19, 2025	Mid-season survey; Herbicide treatment was conducted.
July 17, 2025	A survey was conducted to gauge pond conditions.
September 9, 2025	End of season survey was conducted to conclude the pond's conditions; Water samples were collected

May 27, 2025 – Early-Season Survey/Water Samples Collected

On 5/27/25, Aquatic Field Biologist, Brian O'Leary, and Field Biologist, Drew Felter, made a visit to the Sudbury River. 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. (*) denotes an invasive species.

Species Identified	
Common Name	Latin Name
Fanwort*	*Cabomba caroliniana*
Cattails	*Typha sp.*
Waterlilies	*Nymphaeaceae*
Water Chestnut*	*Trapa natans*
Floating-leaf Pondweed	*Potamogeton natans*
Thin-leaf Pondweed	*Potamogeton pusillus*
Variable Milfoil*	*Myriophyllum heterophyllum*
Duckweed	*Lemna*
Arrowhead	*Sagittaria latifolia*
Waterlilies	*Nymphaeaceae*
Common Waterweed/Elodea	*Elodea canadensis*
Eurasian Milfoil	*Myriophyllum spicatum*

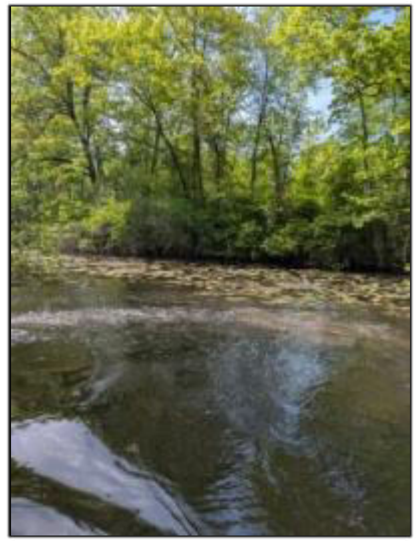


Figure 21: Sudbury River during May visit

The littoral zone of the pond was dominated by large, dense patches of fanwort which spread throughout the littoral zone. Small, scarce patches of variable and Eurasian milfoil were mixed in with the fanwort stands. Water chestnut was primarily observed towards the pond's northeastern edges. Small, dense patches of arrowhead lined the northern perimeters of the pond accompanied by several stretches of duckweed. Sparse, but moderate-sized patches of smartweed and cattails were found at multiple shoreline locations. Large, dense patches of waterlilies were observed primarily on the pond's southern perimeter. Nuisance vegetation densities began to drop off moving southward, disappearing almost entirely just before the interstate bridge. A small patch of elodea was observed on the pond's southwestern edge.

No significant algal blooms were observed. Water clarity was average at the time of visit. We recommended the management of water chestnut to continue in the 2025 season, through either treatment or hand-pulling. The methodology of management would be confirmed upon arrival for the following site visit, which will consist of a brief survey prior to management.

Water Quality Parameters
Microbial Bacteria (total coliforms & E. coli)
Alkalinity, Chlorophyll A, Conductivity, Hardness, Nitrates & Nitrites, Nitrogen - Total (Kjeldahl), pH, Phosphorus - Free Reactive (Water), Phosphorus - Total (water), Turbidity

Temperature & Dissolved Oxygen Profiles		
Depth (ft)	Surface Temp (°C)	Surface DO (mg/L)
Surface	17.6	9.32
1	17.38	9.60
2	17.27	9.64
3	17.21	9.69

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

June 19, 2025 – Survey/ Treatment/ Water Quality

On 6/19/25, Aquatic Field Biologist, Brian Sweeney, and Field Biologist, Irini Stefanakos, made a visit to the Sudbury River. 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. (*) denotes an invasive species.

Species Identified	
Common Name	Latin Name
Fanwort*	*Cabomba caroliniana*
Curly-leaf Pondweed*	*Potamogeton crispus*
Variable Milfoil*	*Myriophyllum heterophyllum*
Water Chestnut*	*Trapa natans*
Arrowhead	*Sagittaria latifolia*
Cattails	*Typha*
Floating-leaf Pondweed	*Potamogeton natans*
Tape Grass	*Vallisneria americana*
Thin-leaf Pondweed	*Potamogeton pusillus*

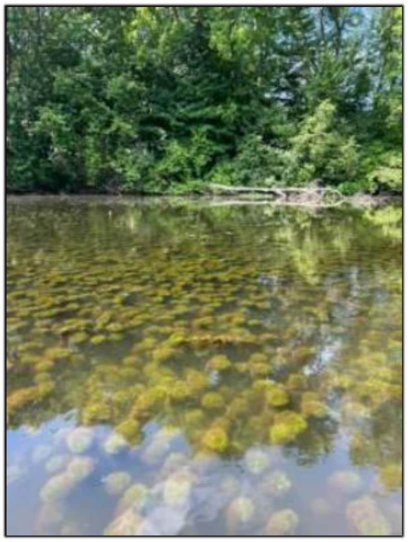


Figure 22: Fanwort observed at the June visit

This site visit consisted of performing a survey, completing an herbicide treatment, and the collection of basic water quality data. An abundance of plant growth was documented throughout the river, with populations spreading into the middle as water levels were very low. Fanwort was the dominant species observed in consistently high densities through majority of the site, especially in the cove by the dam. Curly-leaf pondweed and variable milfoil made appearances with the fanwort but were not as dense. We found varying densities of water chestnut along the littoral zone. The treatment was completed to target this water chestnut growth. We would be conducting a follow-up application in 2-5 weeks. Prior to the treatment, the shoreline was posted 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)
24.3	6.25

Secchi Disk Clarity	
Secchi Disk Depth (Feet)	5'4"

July 17, 2025 – Mid-season Survey/ Treatment / Water Quality

On 7/17/25, Aquatic Field Biologist, Brian Sweeney, and Field Assistant, Nick Cameron, made a visit to Sudbury River. 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. (*) denotes an invasive species.

Species Identified	
Common Name	Latin Name
Water Chestnut*	*Trapa natans*
Fanwort*	*Cabomba caroliniana*
Variable Milfoil*	*Myriophyllum heterophyllum*
Waterlilies	*Nymphaeaceae*


Figure 23: Water chestnut observed during the July visit

This site visit to the Sudbury River in Framingham consisted of the collection of basic water quality data and a survey. Both fanwort and variable milfoil had a dense presence through the river with fanwort remaining the most dominant species. The fanwort was extremely dense, and much of the population was flowering at the surface while others were completely submerged. Scattered patches of water chestnut were observed, however due to the extremely low water levels combined with dense fanwort, certain areas of the water chestnut were difficult, but manageable, to navigate to and from for treatment. The water chestnut was found in very scarce densities. Overall, the invasive fanwort and variable milfoil were almost completely dominant within this section of the river's littoral zone, with some scattered water chestnut also being present along the surface. Hand-pulling of water chestnut was the primary technique of removal during the site visit, while using the spot-treatment as applicable.

A secondary treatment was conducted for the control of water chestnut. The liquid herbicide, Clearcast (imazamox), was applied using the most appropriate boat, equipped with a calibrated pump, which is used to target the water chestnut plants via foliar application methodology. This method allows for even and precise coverage. Weather was also closely monitored prior to treatment to ensure a treatment date without rain or high winds. Prior to the treatment, the shoreline was posted 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 (℃)	Surface DO (mg/L)
28.6	5.55

Secchi Disk Clarity	
Secchi Disk Depth (Feet)	4’9”

September 9, 2025 – Post-Management Survey/Treatment/Water Quality/Water Samples Collected

On 9/9/25, Aquatic Field Biologist, Brian Sweeney and Irini Stefanakos, made a visit to Sudbury River. 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. (*) denotes an invasive species.

Species Identified	
Common Name	Latin Name
Fanwort*	*Cabomba caroliniana*
Variable Milfoil*	*Myriophyllum heterophyllum*
Water Chestnut*	*Trapa natans*
Waterlilies	*Nymphaeaceae*
Tape Grass	*Vallisneria americana*
Common Waterweed/Elodea	*Elodea canadensis*
Purple Loosestrife*	*Lythrum salicaria*
Filamentous Algae	
Ribbon-leaf Pondweed	*Potamogeton epihydrus*
Cattails	*Typha*
Coontail	*Ceratophyllum demersum*

Figure 24: Sudbury River during the September visit

The purpose of this visit to the Sudbury River was to complete a post-treatment survey, collect basic water quality data - including dissolved oxygen (DO) profiles - and obtain water quality samples. During the survey, most plant growth was brown in color and coated with epiphytic algae, indicating that the majority of vegetation was in the process of decay. Fanwort lined much of the littoral zone in dense mats, with traces of variable milfoil observed on the west end of the river. Traces of tape grass were scattered throughout the site, and a large patch of elodea was documented near the middle section before the first bridge. These notable plants, however, were largely dead or decaying at the time of observation. The only actively growing plants observed were water chestnut and waterlilies. Water chestnut was present only at very scarce densities, suggesting that previous treatments have been effective in reducing its population (water chestnut populations remaining were hand-pulled and properly disposed of off-site). Overall, the water chestnut population has notably decreased, while water clarity across the site was excellent. Fanwort remains the most significant species of concern, though with recent seasonal changes, its growth is also in decline.

Water Quality Parameters
Microbial Bacteria (total coliforms & E. coli)
Alkalinity, Chlorophyll A, Conductivity, Hardness, Nitrates & Nitrites, Nitrogen - Total (Kjeldahl), pH, Phosphorus - Free Reactive (Water), Phosphorus - Total (water), Turbidity

Temperature & Dissolved Oxygen Profiles		
Depth (Ft)	Surface Temp (℃)	Surface DO (mg/L)
Surface	19.5	5.85
1	19.5	5.61
2	19.4	5.70
3	19.5	5.21
4	19.4	5.07

Secchi Disk Clarity	
Secchi Disk Depth (Feet)	7’4” (to bottom)

Gleason Pond

Gleason Pond (pictured in Figure 25) is approximately 11.3 acres and is located between Dennison Avenue (to the west and south), Concord Street (to the east), and Prindiville Avenue (to the north). Gleason Pond is primarily surrounded by sparse woodlands, with developed residential properties scattered throughout the woodlands. Gallagher Park abuts the Pond to the east, where access to the Pond was granted. Like other shallow Framingham Ponds, the entirety of Gleason Pond is considered a littoral zone. Gleason Pond is a popular recreational waterbody for fishing.

Figure 25: Gleason Pond – Framingham, MA

Historically, Gleason Pond has battled nuisance densities of native pondweeds and the invasive species known as curly-leaf pondweed. The goal of the 2025 program was to monitor the vegetation growth while examining 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, and reporting.

All of the permitting, treatment, water sampling, 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 27, 2025	An early-season survey was performed to document baseline conditions of the Pond, note the current vegetative species/densities present, and guide future 2024 management; Water samples collected
June 19, 2025	Survey conducted to assess treatment areas; Herbicide treatment applied
September 9, 2025	A post-management survey was conducted to gauge pond conditions; Water samples collected

May 27, 2025 – Early-Season Survey/Water Samples Collected

On 5/27/25, Aquatic Field Biologist, Brian O'Leary, and Field Biologist, Drew Felter, made a visit to Gleason Pond. 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. (*) denotes an invasive species.

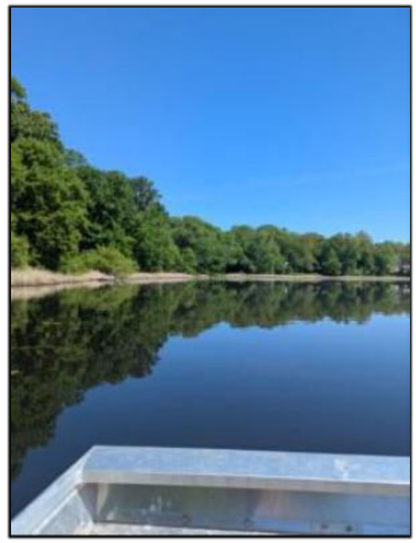


Figure 26: Gleason Pond during May visit

Species Identified	
Common Name	Latin Name
Robbin's Pondweed	*Potamogeton robbinsii*
Waterlilies	*Nymphaeaceae*
Curly-leaf Pondweed*	*Potamogeton crispus*
Benthic Algae	
Snailseed Pondweed	*Potamogeton bicupulatus*
Thin-leaf Pondweed	*Potamogeton pusillus*
Coontail	*Ceratophyllum demersum*
Bladderwort	*Utricularia sp.*

This site visit consisted of completing a survey and collecting basic water quality data – including dissolved oxygen (DO) profiles – in addition to sampling. Scarce patches of immature curly-leaf pondweed, thin-leaf pondweed (*Potamogeton pusillus)*, and snailseed pondweed (*Potamogeton bicupulatus)* were found growing in the littoral zone towards the pond's western and northern edges. Waterlilies were in abundant populations around the pond's perimeter with larger concentrations towards the pond's northern and western edge. These four species were the most prominent species throughout the waterbody. Scattered, dense patches of Robbins pondweed were also found throughout the littoral zone and benthic algae was prominent, but no significant surface algal blooms were present. No water chestnut was noted during the survey, although it was still early in the season for this plant to develop.

Similar to previous years, based on the 2025 survey, treatment of curly-leaf pondweed may be warranted, given that this species is invasive. Water chestnut should be hand-pulled later in the season, prior to seeds dropping (typically in mid-August). This could either be accomplished by volunteers, or Water & Wetland could provide a crew to hand-pull the invasive water chestnut.

Water Quality Parameters
WQ Baseline Plus Bundle = Alkalinity, Chlorophyll A, Conductivity, Hardness, Nitrates & Nitrites, Nitrogen - Total (Kjeldahl), pH, Phosphorus - Free Reactive (Water), Phosphorus - Total (water), Turbidity
Microbial Bacteria (total coliforms & E. coli)

Temperature & Dissolved Oxygen Profiles		
Depth (ft)	Surface Temp (°C)	Surface DO (mg/L)
Surface	19.0	7.50
1	17.1	7.17
2	16.7	7.53
3	16.11	6.73
4	15.88	5.94

Secchi Disk Clarity	
Secchi Disk Depth (Feet)	3 feet 9 inches

<u>June 19, 2025 – Survey/Herbicide Application</u>

On 6/19/25, Aquatic Field Biologist, Brian Sweeney, and Field Biologist, Irini Stefanakos, made a visit to Gleason Pond.

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. (*) denotes an invasive species.

Species Identified	
Common Name	**Latin Name**
Waterlilies	*Nymphaeaceae*
Robbin's Pondweed	*Potamogeton robbinsii*
Watershield	*Brasenia schreberi*
Filamentous Algae	
Bladderwort	*Utricularia sp.*
Curly-leaf Pondweed*	*Potamogeton pusillus*

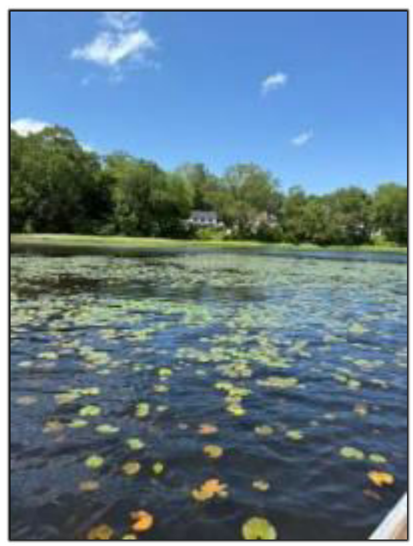


Figure 27: Waterlily densities observed during the June visit

The site visit consisted of collecting basic water quality data, conducting a survey, and performing a treatment. The treatment during this site visit was successfully conducted. We targeted nuisance densities of native and invasive populations throughout pond. Robbin's pondweed was the dominant species found in moderate densities mixed with bladderwort (*Utricularia* *sp.)*. We were careful to ensure treatment where densities of curly-leaf pondweed increased, in hopes to mitigate any spreading. Waterlilies still covered the majority of the shoreline on the north/northwest side.

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 anticipate plant die-off within just a few days to a few weeks. Prior to the treatment, the shoreline was posted 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 (℃)	Surface DO (mg/L)
26.3	6.49

Secchi Disk Clarity	
Secchi Disk Depth (Feet)	4’2”

<u>September 9, 2025 – Post-Management Survey/Water Samples</u>

On 9/9/25, Aquatic Field Biologist, Brian Sweeney, and Field Biologist, Irini Stefanakos, made a visit to Gleason Pond. 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	*Nymphaeaceae*
Bladderwort	*Utricularia*
Robbin's Pondweed	*Potamogeton robbinsii*
Coontail	*Ceratophyllum demersum*

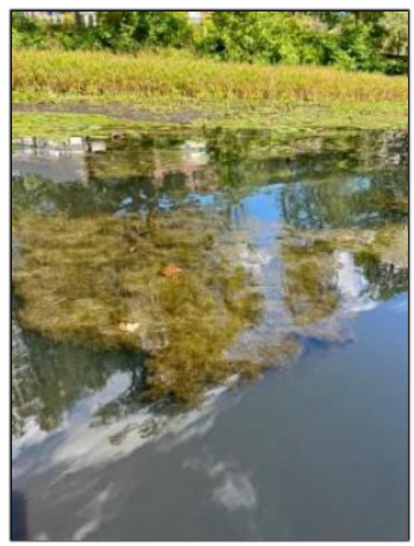


Figure 28: Bladderwort observed during the September visit

This visit consisted of an end of season survey and the collection of basic water quality data – including dissolved oxygen (DO) profiles – in addition to water sampling. The survey determined that the previous treatment targeting nuisance native and invasive pondweeds was successful. Aside from waterlilies, no active targeted plant growth was observed. The only vegetation noted during the visit consisted of large mats of bladderwort that were brown in color and covered in epiphytic algae, indicating the plants were dead or in the process of decaying. Traces of Robbin’s pondweed and coontail were also observed in a similar state of decay. No curly-leaf pondweed was observed during this visit. Overall, this gathers that treatments at Gleason Pond have been effective, and the site has shown significant improvement since the beginning of the season.

Water Quality Parameters
Microbial Bacteria (total coliforms & E. coli)
Alkalinity, Chlorophyll A, Conductivity, Hardness, Nitrates & Nitrites, Nitrogen - Total (Kjeldahl), pH, Phosphorus - Free Reactive (Water), Phosphorus - Total (water), Turbidity

Temperature & Dissolved Oxygen Profiles		
Depth (Ft)	Surface Temp (°C)	Surface DO (mg/L)
Surface	21.2	5.59
1	21.1	5.51
2	20.7	5.92
3	20.7	5.92
4 (bottom)	20.7	5.54

Secchi Disk Clarity	
Secchi Disk Depth (Feet)	4'0" (to bottom)

Learned Pond

Learned Pond (pictured in Figure 29) is approximately 33.9 acres with a maximum depth of roughly 13 feet. Learned Park and Beach compromise most of the eastern shoreline, which is open to the public. The boat launch (where access to the Pond was granted), is adjacent to the Learned Park and Beach, off Shawmut Terrace. Learned Pond is a popular recreational waterbody for activities such as fishing and swimming. The Pond is surrounded by sparse woodlands, with developed properties scattered within the woodlands. The majority of the residential properties are found along the western and northern shorelines.

Figure 29: Learned Pond – Framingham, MA

Historically, Learned Pond has battled nuisance algal blooms and occasionally nuisance densities of native pondweeds. The goal of the 2025 program was to monitor the conditions within the Pond while examining 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, and reporting.

All permitting 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 27, 2025	An early-season survey was performed to document baseline conditions of the Pond, note the current vegetative species/densities present, and guide future 2024 management; Water samples collected
September 9, 2025	A post management survey was conducted to gauge pond conditions; Water samples collected

May 27, 2025– Early-Season Survey/Water Samples Collected

On 5/27/25, Aquatic Field Biologist, Brian O'Leary, and Field Biologist, Drew Felter, made a visit to Learned Pond.

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**
Benthic Algae	
Cattails	*Typha sp.*
Waterlilies	*Nymphaeaceae*
Low-water milfoil	*Myriophyllum humile*

Figure 30: Learned Pond during May visit

The site visit consisted of a survey and the collection of basic water quality data – including dissolved oxygen (DO) profiles – in addition to water sampling. A few small populations of cattails were present at the boat launch. Scarce, moderately sized patches of waterlilies dotted the pond's perimeter. Benthic algae was observed in scattered densities within the littoral zone. Scattered, dense patches of low-water milfoil (*Myriophyllum humile)* were observed at its characteristic depth when moving along the pond's western/southwestern perimeter. No overly significant nuisance vegetation was observed otherwise. The northern edge of the pond was especially sparse. No surface algal blooms were observed at the time of visit. Water clarity was above average at the time of visit. Based on the survey data collected, we did not recommend treatment at this time.

Water Quality Parameters
WQ Baseline Plus Bundle = Alkalinity, Chlorophyll A, Conductivity, Hardness, Nitrates & Nitrites, Nitrogen - Total (Kjeldahl), pH, Phosphorus - Free Reactive

(Water), Phosphorus - Total (water), Turbidity
Microbial Bacteria (total coliforms & E. coli)

Temperature & Dissolved Oxygen Profiles		
Depth (ft)	Surface Temp (°C)	Surface DO (mg/L)
Surface	21.2	9.05
1	21.1	9.08
2	19.88	9.25
3	18.61	9.35
4	18.00	9.29
5	17.72	9.39
6	17.5	9.32
7	17.38	9.29
8	17.22	9.24
9	17.05	9.21
10 (bottom)	17.00	9.18

Secchi Disk Clarity	
Secchi Disk Depth (Feet)	10 feet 9 inches

<u>September 9, 2025 – Post-Management Survey/Water Samples Collected</u>

On 9/9/25, Aquatic Field Biologist, Brian Sweeney, and Field Biologist, Irini Stefanakos, made a visit to Learned Pond. 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. (*) denotes an invasive species.

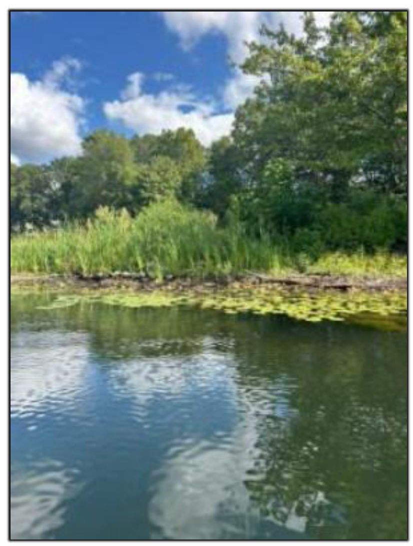


Figure 31: Waterlilies and cattails observed during the September visit

Species Identified	
Common Name	Latin Name
Waterlilies	*Nymphaeaceae*
Benthic Algae	
Robbin's Pondweed	*Potamogeton robbinsii*
Low-water milfoil	*Myriophyllum humile*
Thin-leaf Pondweed	*Potamogeton pusillus*

The purpose of this visit to Learned Pond was to conduct a plant survey, collect basic water quality data, and obtain water quality samples. During the survey, scattered traces of Robbin's pondweed and thin-leaf pondweed were observed, along with moderate patches of waterlilies. Other than these species, no additional active species were present. A small patch of low-water milfoil, documented in earlier visits, was found at the south end of the pond; however, it appeared dead, showing brown coloration and coverage of epiphytic algae. Scarce densities of benthic algae were also observed throughout the pond. Overall, Learned Pond was in excellent condition, with minimal plant growth and excellent water clarity.

Water Quality Parameters
Microbial Bacteria (total coliforms & E. coli)
Alkalinity, Chlorophyll A, Conductivity, Hardness, Nitrates & Nitrites, Nitrogen - Total (Kjeldahl), pH, Phosphorus - Free Reactive (Water), Phosphorus - Total (water), Turbidity

Temperature & Dissolved Oxygen		
Depth (Ft)	Surface Temp (℃)	Surface DO (mg/L)
Surface	22.3	5.98
1	22.3	6.03
2	22.2	6.25
3	22.1	6.08
4	22.1	5.86
5	22.1	6.02
6	22.0	6.23
7	21.9	6.28
8	22.0	6.46
9	22.0	5.64
10 (bottom)	22.0	5.98

Secchi Disk Clarity	
Secchi Disk Depth (Feet)	9’1”

Waushakum Pond

Figure 32: Waushakum Pond – Framingham/ Ashland, MA

Waushakum Pond (pictured in Figure 32 below) is located in both Framingham and Ashland and is approximately 80 acres. Most of the waterbody falls within Framingham city boundaries, as only the southern cove is in Ashland (town boundaries fall at the end of Shore Road on the western shoreline and between Willis Avenue and Waushakum Avenue along the eastern shoreline). The pond is primarily surrounded by sparse woodlands, shrubbery, and developed residential properties. Waushakum Beach is located along the northern shoreline. Waushakum Pond is a popular recreational waterbody for activities such as fishing, boating, and swimming. Access to the pond is granted from the southern cove, on the corner of Washington Avenue and Lakeside Drive.

Historically, Waushakum Pond has battled invasive species variable milfoil and curly-leaf pondweed along with nuisance densities of native pondweeds. The Pond has also battled potentially harmful algae, including in 2025. The goal of the 2025 program was to manage the invasive variable milfoil and curly leaf pondweed populations and nuisance densities of pondweeds while examining basic water quality through a proactive monitoring schedule. This would be accomplished by implementing an Aquatic Management Program that focused on performing all applicable tasks, including planning, permitting, surveys, treatments, and reporting.

All permitting, treatments, water sampling, 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.

Date	Task/Description
May 27, 2025	An early-season survey was performed to document baseline conditions of the Pond, note the current vegetative species/densities present, and guide future 2025 management; Water samples collected
June 18, 2025	A survey was conducted to affirm treatment areas on both the Framingham and Ashland sides, herbicide treatments were applied for the control of nuisance/invasive pondweeds
September 9, 2025	A post-management survey was conducted to gauge pond conditions; Water samples were collected

September 15, 2025	Water samples collected through a different contract with the City of Framingham

Summary of 2025 Management Activities

May 27, 2025 – Early-Season Survey/Water Samples Collected

On 5/27/25, Field Biologist, Drew Felter, and Aquatic Field Biologist, Brian O'Leary, made a visit to Waushakum Pond.

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. (*) denotes an invasive species.

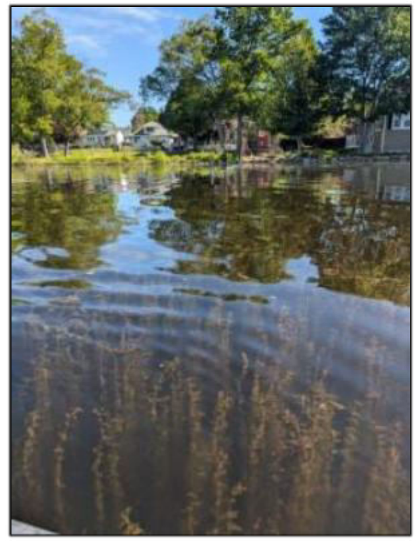


Figure 33: Clasping-leaf observed during the May visit

Species Identified	
Common Name	**Latin Name**
Cattails	*Typha sp.*
Filamentous Algae	
Waterlilies	*Nymphaeaceae*
Elodea	*Elodea canadensis*
Curly-leaf Pondweed*	*Potamogeton crispus*
Benthic Algae	
Thin-leaf Pondweed	*Potamogeton pusillus*
Coontail	*Ceratophyllum demersum*
Microscopic Algae	
Clasping-leaf Pondweed	*Potamogeton perfoliatis*
Variable Milfoil*	*Myriophyllum heterophyllum*

The site visit consisted of collecting basic water quality data – including dissolved oxygen (DO) profiles – in addition to water samples and completing a survey. Similar to previous years, two invasive species were documented during the survey, which included curly-leaf pondweed and variable milfoil. Curly-leaf pondweed was the dominant invasive species noted as it was found throughout the majority of the littoral zone. Variable milfoil was found in an isolated population, as it was observed in the early stages of growth. We have noted a slight delay in aquatic growth during the 2025 season, which we attribute the elongated winter/ice-out, in combination with the excessive rain events which occurred in Spring, causing subpar growing conditions. We anticipated the variable milfoil to grow in historical locations within the near future. Waterlilies dotted some of the pond's perimeter in scattered densities, concentrating towards the pond's southwestern edge. Dense patches of filamentous algae accompanied this waterlily concentration. Scattered patches of benthic algae were present throughout the littoral zone.

In addition, dense, scattered pockets of curly-leaf pondweed and thin-leaf pondweed accompanied each other on the pond's perimeter and throughout the littoral zone, as noted above. Concentrations became visibly denser when moving towards the pond's eastern edge. With the abundance of pollen in the air, it is difficult to distinguish microscopic algae vs pollen counts, as this was noted on roughly 35-40% of the pond's surface.

Dense stands of clasping-leaf pondweed were found along the pond's perimeter, reaching nuisance-level densities on the pond's southeastern perimeter, continuing to grow in large densities towards the beach. Small, scarce patches of coontail were found towards the pond's eastern perimeter. Water clarity proved average at the time of visit. Water quality samples were collected and shipped to the laboratory for further analysis. Only triclopyr herbicide is allowed for use in Waushakum Pond for nuisance/invasive aquatic weed control. Triclopyr works somewhat slowly but would impact both milfoil and curly-leaf pondweed. We also anticipated some impacts to the nuisance densities of native species. Our plan is to target the usual amount of acreage in Framingham. Areas will include the densest areas of nuisance and invasive species.

Water Quality Parameters
WQ Baseline Plus Bundle = Alkalinity, Chlorophyll A, Conductivity, Hardness, Nitrates & Nitrites, Nitrogen - Total (Kjeldahl), pH, Phosphorus - Free Reactive (Water), Phosphorus - Total (water), Trubidity
Microbial Bacteria (total coliforms & E. coli)

	Temperature & Dissolved Oxygen Profile	
Depth (ft)	Surface Temp (°C)	Surface DO (mg/L)
Surface	17.6	9.11
1	17.6	9.19
2	16.7	9.48
3	16.38	9.27
4	16.2	9.33
5	15.7	8.76
6	15.2	8.58
7	15.1	8.62

Secchi Disk Clarity	
Secchi Disk Depth (Feet)	7 feet 1 inches

June 18, 2025– Survey/Herbicide Application

On 6/18/25, Aquatic Field Biologist, Brian O'Leary, and Aquatic Field Biologist, Jake McNary, made a visit to Waushakum Pond.

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. (*) denotes an invasive species.

Species Identified	
Common Name	**Latin Name**
Thin-leaf Pondweed	*Potamogeton pusillus*
Clasping-leaf Pondweed	*Potamogeton perfoliatis*
Common Waterweed/Elodea	*Elodea canadensis*
Filamentous Algae	
Variable Milfoil*	*Myriophyllum heterophyllum*
Curly-leaf Pondweed*	*Potamogeton crispus*
Waterlilies	*Nymphaeaceae*

Figure 34: Thin-leaf pondweed observed during the June visit

The site visit consisted of collecting basic water quality data, performing a brief survey, and conducting a treatment. The survey was performed to confirm potential treatment areas and treatment timing. The purpose of this application was to curb the presence of the nuisance/invasive aquatic vegetation within the pond, primarily targeting the highly dense stands of thin-leaf pondweed, and clasping-leaf pondweed, in addition to invasive species variable milfoil and curly-leaf pondweed. The eastern cove shoreline and the beach area contained the most dense areas of thin-leaf pondweed and clasping leaf pondweed, in addition to a few scattered curly-leaf pondweed plants. The western cove contained dense patches of thin-leaf pondweed and elodea, with scattered densities of variable milfoil and waterlilies. Excellent coverage was achieved within the designated treatment areas above.

A treatment was conducted for the control of target nuisance/invasive plant growth. The liquid contact herbicide 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 a few weeks. Prior to the treatment, the shoreline was posted with neon signage noting the treatment in three languages, 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)
22.2	9.74

Secchi Disk Clarity	
Secchi Disk Depth (Feet)	5 feet 6 inches

September 9, 2025 – Post-Management Survey/Water Samples Collected

On 9/9/25, Aquatic Field Biologists, Irini Stefanakos and Brian Sweeney, made a visit to Waushakum Pond. 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.

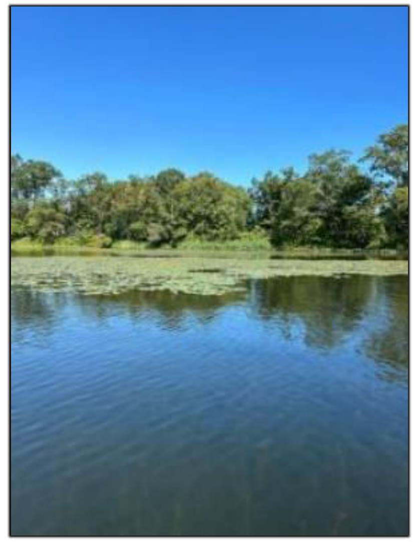


Figure 35: Waushakum Pond during September 9th visit

Species Identified	
Common Name	**Latin Name**
Coontail	*Ceratophyllum demersum*
Tape Grass	*Vallisneria americana*
Common Waterweed/Elodea	*Elodea canadensis*
Clasping-leaf Pondweed	*Potamogeton perfoliatis*
Thin-leaf Pondweed	*Potamogeton pusillus*
Bladderwort	*Utricularia*
Waterlilies	*Nymphaeaceae*
Ribbon-leaf Pondweed	*Potamogeton epihydrus*

The purpose of this visit to Waushakum Pond was to complete the final survey of the season, collect basic water quality data—including a dissolved oxygen (DO) profile—and obtain water quality samples for analysis. During the survey, moderate to dense tape grass and clasping-leaf pondweed were observed throughout the entire eastern cove and along the northern shoreline. One area within this zone also supported a moderate patch of ribbon-leaf pondweed. Coontail occurred at scattered densities across the littoral zone, increasing in abundance toward the western cove/shoreline. Traces of thin-leaf pondweed and bladderwort were interspersed among the other vegetation. Although vegetation was observed to be abundant, no invasive species were observed. The most recent treatment targeting variable milfoil and curly-leaf pondweed was deemed successful, as neither of these species were detected during this survey. Portions of the vegetaion populations appeared to be in seasonal decline (chlorosis/decay) as the growing season ends. Water quality readings, including the DO profile, indicated healthy and stable conditions at the time of the visit.

Water Quality Parameters
Microbial Bacteria (total coliforms & E. coli)
Alkalinity, Chlorophyll A, Conductivity, Hardness, Nitrates & Nitrites, Nitrogen - Total (Kjeldahl), pH, Phosphorus - Free Reactive (Water), Phosphorus - Total (water), Turbidity

Temperature & Dissolved Oxygen Profiles		
Depth (ft)	**Surface Temp (℃)**	**Surface DO (mg/L)**
Surface	22.6	7.01

1	22.6	6.99
2	22.3	6.98
3	22.2	6.87
4	22.0	6.76
5	22.0	6.72
6	21.7	6.55
7	21.4	6.39
8	21.0	6.32
9	19.8	6.19
10	19.4	6.10

Secchi Disk Clarity	
Secchi Disk Depth (Feet)	9’7”

Water Quality Sampling Results

During the May 27th and September 9th survey events, water samples were collected from each of the Framingham Ponds mentioned above. Samples were collected from the middle of the ponds, preserved and immediately shipped to a certified laboratory where they were analyzed for the specific contracted parameters. A second day of collection was completed, specifically for Waushakum Pond, on September 15th, which included precise sampling locations which are attached to this report. All samples were analyzed for Alkalinity, Chlorophyll a, Conductivity, Hardness, Nitrates & Nitrites, Nitrogen – Total (Kjeldahl), pH, Phosphorus – Free Reactive, Phosphorus – Total, Turbidity, and E. Coli colony counts (with the exception of the September 15th sampling event). All samples, aside from the September 15th Waushakum sampling, were collected via “surface grabs.” September 15th sampling was conducted using a Van Dorn. This device allows the biologists on site to collect samples at desired depths of the pond. Dissolved oxygen and temperature levels were also measured at each visit using a calibrated YSI meter; these values are located within the details of each visit listed above.

Water quality in lakes and ponds is constantly changing and is altered by many environmental factors. The samples collected during the two site visits provide a baseline and the results depict a “snap-shot” of the results specific to the sampling date. The results from the two sampling events, as well as a description of each parameter, are included in the tables below.

As shown below, one table for each waterbody is included. We understand that this is quite a bit of data. For ease, we have highlighted any results which we have deemed as being outside of a standard range. These parameters are described below, and their matching results are highlighted in each pond’s specific table.

Big Farm Pond – The only notable outlier in Big Farm Pond was slightly higher than average total phosphorus during the Spring sampling. Other than this, the water quality represents a healthy waterbody, with results similar to 2024.

Little Farm Pond – The water quality in Little Farm Pond is generally desirable, although the total phosphorus during the Spring sampling and Fall sampling was slightly elevated (Spring 67.1 µg/L, Fall 30.2 µg/L – which falls within the nutrient rich, or eutrophic range). The Fall sampling E Coli was also slightly high at 201.4 CFU/100mL, but still below the concerning threshold of 235 CFU/100mL.

Mohawk Pond – Overall, the water quality in Mohawk Pond illustrated a healthy waterbody. The total phosphorus falls within the eutrophic range, but generally, on the lower end of this range (Spring: 42.6 µg/L; Fall: 28.7 µg/L). The Spring total phosphorus result was similar to the 2024 Spring result, while the Fall total phosphorus result was much decreased from 2024 (70.1 µg/L in 2024). The E Coli was also slightly elevated at 172.2 CFU/100mL, but still below the concerning threshold of 235 CFU/100mL.

Norton Pond – Total phosphorus was elevated during both sampling results, most notably in the Fall. Chlorophyll was also elevated during the Fall sampling, which indicates increased algae production. Both the Fall total phosphorus (108.8 µg/L) and Fall chlorophyll A (185.9 µg/L) samples resulted in hypereutrophic levels.

Sudbury River – Total phosphorus was slightly elevated during the Spring sampling, and just above notable for the Fall sampling. This result follows a similar trend compared to the 2024 sampling result (which had an increased result in the Spring, and a decreasing result in the Fall). The 2025 September total phosphorus result was much more favorable compared to the Spring result.

Gleason Pond – Total phosphorus was slightly elevated during both samplings. For the most part, the results were very consistent with the 2024 results.

Learned Pond – Total phosphorus was slightly elevated during the May sampling only. The remaining water quality results illustrate a healthy waterbody and fall within desirable ranges.

Waushakum Pond – Total phosphorus was elevated during the Spring sampling. The results during the September sampling were much more within a desirable range.

2025 Water Quality Results – Big Farm Pond			
Parameter	**Units**	**5/27/2025**	**9/9/2025**
Alkalinity	mg/L	17	44.2
Chlorophyll a	µg/L	<10	<10
Conductivity	uS/cm	1080.2	1021.7
Hardness	mg/L $CaCO_3$	94.7	87.0
Nitrates + Nitrites	mg/L	0.05	<0.02
Nitrates	mg/L	0.05	<0.02
Nitrites	mg/L	<0.02	<0.02
Phosphorus (Free Reactive)	µg/L	6.6	7.9
Phosphorus (Total)	µg/L	33.5	19.7
Turbidity	NTU	2.7	2.2

E. Coli	CFU/100mL	<1	1.0
Total Kjeldahl Nitrogen	mg/L	0.42	0.3
pH	S.U.	7.5	7.3

2025 Water Quality Results – Little Farm Pond			
Parameter	**Units**	**5/27/2025**	**9/9/2025**
Alkalinity	mg/L	12.5	49.1
Chlorophyll a	µg/L	<10	<10
Conductivity	uS/cm	573.8	721.8
Hardness	mg/L $CaCO_3$	55.0	78.0
Nitrates + Nitrites	mg/L	0.04	<0.02
Nitrates	mg/L	0.04	<0.02
Nitrites	mg/L	<0.02	<0.02
Phosphorus (Free Reactive)	µg/L	10.5	7.3
Phosphorus (Total)	µg/L	67.1	30.2
Turbidity	NTU	3.5	2.3
E. Coli	CFU/100mL	4.1	201.4
Total Kjeldahl Nitrogen	mg/L	0.46	0.53
pH	S.U.	7	7.1

2025 Water Quality Results – Mohawk Pond			
Parameter	**Units**	**5/27/2025**	**9/9/2025**
Alkalinity	mg/L	<10	16
Chlorophyll a	µg/L	<10	59.4
Conductivity	uS/cm	322.1	219.0
Hardness	mg/L $CaCO_3$	36.1	38.8
Nitrates + Nitrites	mg/L	0.51	<0.02
Nitrates	mg/L	0.51	<0.02
Nitrites	mg/L	<0.02	<0.02
Phosphorus (Free Reactive)	µg/L	5.8	8.0
Phosphorus (Total)	µg/L	42.6	28.7
Turbidity	NTU	2.8	3.7
E. Coli	CFU/100mL	14.4	172.2
Total Kjeldahl Nitrogen	mg/L	0.36	0.43
pH	S.U.	7	6.8

2025 Water Quality Results – Norton Pond			
Parameter	**Units**	**5/27/2025**	**9/9/2025**
Alkalinity	mg/L	<10	21.5
Chlorophyll a	µg/L	22.3	185.9
Conductivity	uS/cm	207.4	150.0
Hardness	mg/L $CaCO_3$	33.7	24.9
Nitrates + Nitrites	mg/L	0.2	<0.02
Nitrates	mg/L	0.2	<0.02
Nitrites	mg/L	<0.02	<0.02

Phosphorus (Free Reactive)	µg/L	12.1	8.3
Phosphorus (Total)	µg/L	66.1	108.8
Turbidity	NTU	3.3	4.4
E. Coli	CFU/100mL	6.2	7.5
Total Kjeldahl Nitrogen	mg/L	0.54	<0.1
pH	S.U.	7.3	6.8

2025 Water Quality Results – Sudbury River			
Parameter	**Units**	**5/27/2025**	**9/9/2025**
Alkalinity	mg/L	<10	25.8
Chlorophyll a	µg/L	<10	<10
Conductivity	uS/cm	402.7	456.6
Hardness	mg/L $CaCO_3$	35.0	44.1
Nitrates + Nitrites	mg/L	0.15	<0.02
Nitrates	mg/L	0.15	<0.02
Nitrites	mg/L	<0.02	<0.02
Phosphorus (Free Reactive)	µg/L	6.0	7.7
Phosphorus (Total)	µg/L	46.5	26
Turbidity	NTU	2.5	2.1
E. Coli	CFU/100mL	26.2	15.8
Total Kjeldahl Nitrogen	mg/L	0.42	0.39
pH	S.U.	7.1	6.9

2025 Water Quality Results – Gleason Pond			
Parameter	**Units**	**5/27/2025**	**9/9/2025**
Alkalinity	mg/L	<10	30.9
Chlorophyll a	µg/L	<10	18.3
Conductivity	uS/cm	679.6	702.6
Hardness	mg/L $CaCO_3$	30.3	39.8
Nitrates + Nitrites	mg/L	0.07	<0.02
Nitrates	mg/L	0.07	<0.02
Nitrites	mg/L	<0.02	<0.02
Phosphorus (Free Reactive)	µg/L	8.6	8.7
Phosphorus (Total)	µg/L	52.5	53.1
Turbidity	NTU	2.8	2.4
E. Coli	CFU/100mL	<1	7.4
Total Kjeldahl Nitrogen	mg/L	0.53	0.57
pH	S.U.	7.1	7

2025 Water Quality Results – Learned Pond			
Parameter	**Units**	**5/27/2025**	**9/9/2025**
Alkalinity	mg/L	<10	<10
Chlorophyll a	µg/L	<10	<10
Conductivity	uS/cm	478.2	410.7
Hardness	mg/L $CaCO_3$	15.0	20.8

Nitrates + Nitrites	mg/L	0.0	<0.02
Nitrates	mg/L	0.06	<0.02
Nitrites	mg/L	<0.02	<0.02
Phosphorus (Free Reactive)	µg/L	6.2	8.0
Phosphorus (Total)	µg/L	38.9	22.6
Turbidity	NTU	2.2	2.1
E. Coli	CFU/100mL	8.5	8.5
Total Kjeldahl Nitrogen	mg/L	0.32	0.27
pH	S.U.	7	7

2025 Water Quality Results – Waushakum Pond			
Parameter	**Units**	**5/27/2025**	**9/9/2025**
Alkalinity	mg/L	<10	27.7
Chlorophyll a	µg/L	<10	<10
Conductivity	uS/cm	421.1	401.8
Hardness	mg/L $CaCO_3$	46.8	46.3
Nitrates + Nitrites	mg/L	0.11	<0.02
Nitrates	mg/L	0.11	<0.02
Nitrites	mg/L	<0.02	<0.02
Phosphorus (Free Reactive)	µg/L	6.4	7.5
Phosphorus (Total)	µg/L	35.7	15.2
Turbidity	NTU	2.4	2.3
E. Coli	CFU/100mL	2.0	2.0
Total Kjeldahl Nitrogen	mg/L	0.39	<0.1
pH	S.U.	7.2	7.4

Water Quality Parameter Table
Turbidity: Turbidity is either planktonic organisms or suspended solid particulates (algae, clay, silt, dead organic matter) in the water column that interfere with the penetration of light. The more suspended material throughout the water column, the higher the turbidity. *<10 NTU drinking water standards; 10-50 NTU is considered moderate; >50 NTU potentially impactful to aquatic life.*
Total Alkalinity: Measure of the buffering capacity of water, primarily consisting of carbonate, bicarbonate, and hydroxide in typical freshwater. Waters with lower levels are more susceptible to pH shifts. *>20 mg/l is considered healthy; ~50 mg/l illustrates the water is resistant to change.*
Hardness: Measure of the concentration of divalent cations, primarily consisting of carbonate, bicarbonate, and hydroxide in typical freshwaters. Waters with lower levels are more susceptible to pH shifts. *0-60mg/L as $CaCO_3$ soft; 61-120 moderately hard; 121-180 very hard*

Conductivity: Measure of the waters ability to transfer an electrical current, increases with more dissolved ions.

50 uS/cm relatively low concentration may not provide sufficient dissolved ions for ecosystem health; 50-1500 typical freshwaters; >1500 may be stressful to some freshwater organisms, though not uncommon in many areas

Nitrogen, Nitrate: Nitrate nitrogen is important to the growth of algae. Nitrate is the oxidized nitrogen and is often readily free for algae uptake.

<1 mg/l typical for freshwater; 1-10 mg/l is potentially harmful; >10 mg/l possibly toxic.

Nitrogen, Nitrite: By-product of ammonia nitrogen when it is broken down. At high levels, nitrite can be detrimental to wildlife within a pond/lake. Pond nitrate levels should as close to of 0.00 ppm (parts per million) as possible.

0.15 mg/l levels can become deadly to fish in smaller ponds; >0.60 mg/l is considered very dangerous;

Chlorophyll a: Chlorophyll a is the primary light harvesting pigment found in algae and a measure of the algal productivity and water quality in a system.

0-2.6 ug/L oligotrophic; 2.7-20 ug/L mesotrophic; 21-56 ug/L eutrophic; >56 ug/L hypereutrophic.

Total Kjeldahl Nitrogen (TKN): Total Kjeldahl Nitrogen (TKN) is the organic and ammonia forms of nitrogen. Nitrogen is essential for living organisms to live in a pond.

Generally, concentrations below 1.0 mg/l are considered desirable.

Total Phosphorus: Total phosphorous is a nutrient that is essential for plants and algae to grow. Typically, a value of .03 mg/l, or 30 parts per billion, is sufficient enough to stimulate excessive plant and algae growth. This sample measures all forms of phosphorus in the water column.

<12 ppb is considered nutrient deficient or oligotrophic; 12-24 ppb is considered a moderate amount of nutrients, or mesotrophic; 25-96 ppb is nutrient rich, or eutrophic; >96 ppb is considered excessive nutrients, or hypereutrophic.

Soluble Phosphorus: Soluble phosphorous is the measure of filterable soluble and inorganic phosphorus. This form of phosphorus is directly taken up by plant cells.

pH: the measure of how acidic or basic the water is.

<6 notably acidic; 6-9 standard for freshwaters (7 is neutral); >9 notably basic.

E. Coli: E.Coli is a potentially harmful fecal coliform bacteria that can be harmful to humans and pose a health threat

>235 colonies/100 ml is potential harmful

Temperature: the amount of dissolved oxygen a pond can hold is largely determined by water temperature. When the water temperature is cooler, it can hold more oxygen. Generally, water cannot hold oxygen at a level that supports fish and aquatic life when above 85 degrees Fahrenheit.
Dissolved Oxygen: amount of diatomic oxygen dissolved in the water. Dissolved oxygen can be affected by many outside factors, such as: temperature, time of day, and pollution. Fish and other aquatic organisms typically require a minimum of four to five milligrams per liter (mg/l) of oxygen. *< 2 mg/l likely toxic with sufficient exposure duration; <5 mg/l stressful to many aquatic organisms; >5 mg/l able to support most fish and invertebrates.*

<u>Waushakum Pond Algae Sampling Results</u>

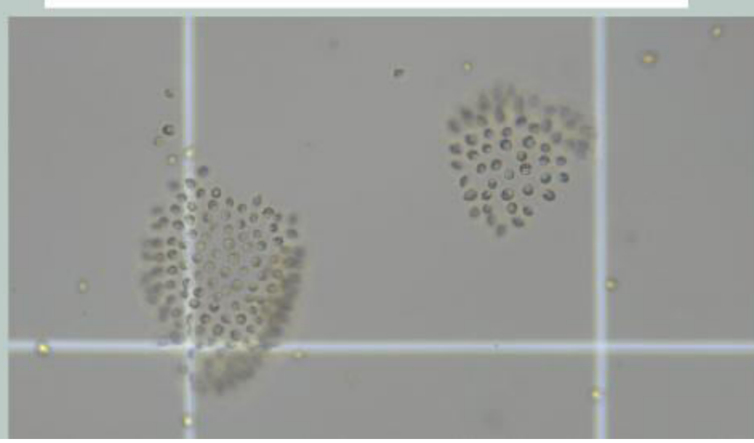
On June 10th, samples were collected, preserved and shipped on ice via FedEx overnight to SePro Labs in North Carolina, where they were identified for algae species and enumeration.

Blue-green algae/cyanobacteria occur in aquatic ecosystems and have the ability to produce toxins. These toxins can pose a risk to human and animal health. The Massachusetts Department of Public Health (MA DPH) recommends an advisory when cell counts exceed 70,000 per mL of water. Dense blooms and scum can contain millions of cells/mL and toxin levels in the parts per million. They can form near embankments and in areas suitable for swimming and other forms of recreation. They can also move around in the water body and grow quickly, making management of them difficult. The results for the algae samples were all well below the concerning threshold of 70,000 counts/mL.

Algae ID Results — Waushakum Pond

Identification	Classification	Description	Density/Biomass (cells/mL)
Uroglena sp.	Chrysophyceae-Golden-brown algae	Colonial, flagellated, planktonic	187,300

Other algae observed at densities less than 40 cells/mL: *Gloeocystis* (Chlorophyta); *Aphanizomenon, Aphanocapsa* (Cyanophyta); *Staurastrum* (Streptophyta); *Trachelomonas* (Euglenophyta)



Summary / 2026 Recommendations

The 2025 season was successful overall, with all contracted tasks completed efficiently and in accordance with the Orders of Conditions. Communication between the City, the Conservation Commission, and Water & Wetland remained excellent throughout the year. Conditions again proved challenging due to variable precipitation and high summer temperatures, which influenced water levels and vegetation response across all managed ponds. The following recommendations outline proposed management strategies for the 2026 season, consistent with established monitoring-based programs and adaptive management principles.

Learned Pond – 2026 Recommendations

- Conduct a pre-management survey to assess vegetation conditions and guide the need for potential management (all management should be based on survey data collected).
- Complete a late-season/post-management survey to document conditions and update the management plan.
- Continue water quality sampling during scheduled visits to track long-term trends.

Gleason Pond – 2026 Recommendations

- Conduct a pre-management survey to document plant densities and determine the need for management (all management should be based on survey data collected).
- Complete a late-season/post-management survey to evaluate treatment success and update management objectives.
- Continue water quality monitoring throughout the season.
- Based on the 2025 results, plan for waterlily management in late summer if densities continue to increase.
- Continue early-season (May) treatment of curly-leaf pondweed as warranted by survey results.

Big Farm Pond & Little Farm Pond – 2026 Recommendations

No herbicide treatments were conducted at Big Farm Pond or Little Farm Pond during the 2025 season, and conditions remained stable throughout the year. For 2026, we recommend continued monitoring through early and late-season surveys, paired with water quality data collection, to track vegetation trends and ensure that invasive or nuisance species remain under control. Prior to any management, proper approvals from Natural Heritage Endangered Species Program (NHESP) will need to be obtained. If treatment is allowed, we would recommend whole pond Sonar (Fluridone) treatment programs to provide overall aquatic weed control. In lieu of Sonar, use of contact herbicides paired with treatment of water chestnut with Imazamox. In the meantime, water chestnut should be hand-pulled and properly disposed of offsite.

Mohawk Pond – 2026 Recommendations

- Conduct pre- and post-management surveys to guide and evaluate the program.
- Continue routine water quality monitoring.
- Implement interim visits to track changing vegetation and algal conditions.

- Conduct targeted herbicide treatments of nuisance and invasive species as needed, with particular consideration of Procellacor for selective milfoil control.

Norton Pond – 2026 Recommendations

- Continue pre-management and late-season surveys paired with water quality sampling.
- Conduct mid-season monitoring to assess changing conditions and guide treatment timing.
- Implement treatments for nuisance or invasive vegetation and algae as necessary.
- Implement the use of polyaluminum chloride to bind phosphorus in the water column and reduce nutrient availability.
- Pair algaecide treatments with AquaSticker adjuvant to improve breakdown of algal biomass and maintain water clarity under low-flow conditions.

Sudbury River – 2026 Recommendations

- Conduct pre- and post-management surveys to track vegetation and water quality conditions.
- Continue hand-pulling of water chestnut where feasible, supplementing with imazamox treatments when densities exceed what can be controlled manually.
- Continue evaluating management options for fanwort, variable milfoil, and curly-leaf pondweed, emphasizing herbicide selectivity, cost effectiveness, and flow constraints.
- Maintain consultation with SePro regarding potential use of pelletized Sonar or drip systems to target fanwort, pending feasibility and cost considerations.
- Conduct limited Clipper treatments for spot-control of fanwort in localized areas, as appropriate.

Waushakum Pond – 2026 Recommendations

The 2025 season again focused on controlling invasive aquatic weeds through the use of triclopyr herbicide under NHESP-approved conditions. This approach has proven successful at suppressing invasive milfoil and curly-leaf pondweed while limiting impacts on native species. For 2026, we recommend continuing with triclopyr treatment unless additional herbicides are approved for use. If approvals are obtained, incorporation of diquat or endothall should be considered for improved efficacy on native nuisance species such as elodea and clasping-leaf pondweed.

Cyanobacteria monitoring should continue on a regular basis, with cell count results guiding potential reactive management. If regulatory approval is achieved, the use of copper sulfate could provide an effective and safe option for managing cyanobacteria prior to bloom escalation. Algae sampling should continue to identify species and track cell densities relative to advisory thresholds.

As the City continues watershed improvement projects to reduce phosphorus loading, internal phosphorus management should also remain a long-term focus. We recommend continued collaboration with TRC and City engineers to advance the alum feasibility study and to evaluate dosing requirements. Additionally, the use of EutroSORB filters at stormwater inflows should remain under consideration as a low-cost nutrient-filtration option once permitted.

Above, we noted EutroSORB filters. SePro has also recently received EPA approval for additional EutroSORB products including EutroSORB WC and EutroSORB G. These proprietary blend of phosphate binding materials do not impact water chemistry, are safe for fish, invertebrates, and personnel, and do not carry any water use restrictions. Much like alum, the EutroSORB products noted above are applied directly to the water column using specialized treatment equipment. Unfortunately, these products are not approved in Massachusetts at this time. SePro is developing another product, however, called EutroSORB SI, which is anticipated to receive Massachusetts approval in the coming year or so. While not currently an option, we feel these products are applicable to Waushakum Pond and should be considered as regulatory approval occurs.

Beyond watershed improvements, internal phosphorus loading is likely contributing to the current blooms. One internal approach would be through the use of aluminum sulfate (alum). While copper sulfate is an algaecide, alum targets source phosphorus, as phosphorus is considered the limiting nutrient driving nuisance plant and algae growth. Alum is commonly used in ponds, lakes and drinking water reservoirs to remove phosphorus through precipitation, forming a heavier than water particulate known as floc. This floc settles to the bottom of the waterbody to create a barrier that slows sediment phosphorus release. Alum dosing can vary greatly. A low dose treatment can be used to strip phosphorus from the water column but may need to be repeated annually or more. Higher doses are typically needed to inactivate sediment phosphorus reserves. Higher doses also typically require buffering with sodium aluminate.

Water quality monitoring should continue to include parameters related to phosphorus and algal activity. Sediment sampling should also be performed to refine alum dosing and track internal nutrient release potential. If copper sulfate is approved for use in Waushakum Pond, the algae sampling results should guide any algaecide applications. All recommendations for Waushakum Pond detailed above are subject to approval by Framingham Conservation Commission, Ashland Conservation Commission, and Natural Heritage Endangered Species Program. These approvals must be obtained in advance of any management differing from the approved triclopyr treatment.

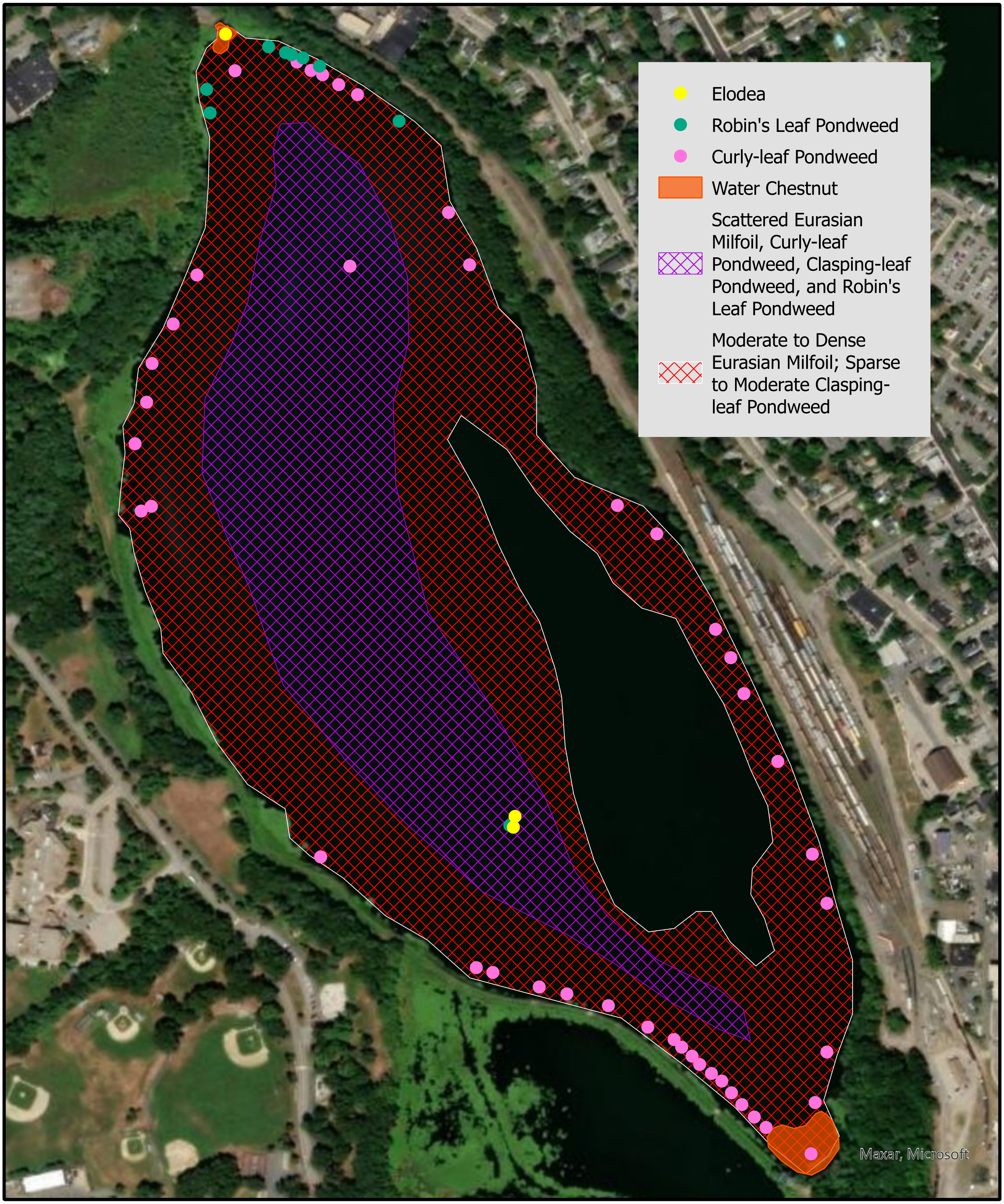
We look forward to continuing our partnership with the City of Framingham in 2026 and beyond, maintaining open communication and data-driven management to enhance the health and ecological balance of each pond and waterbody.

Sincerely,

Colin Gosselin
Director of Operations
Senior Aquatic Biologist
c: 508-259-3153

o: 888-4WETLAN(D)
colin@waterandwetland.com
www.waterandwetland.com

Attachments Include: May Survey Maps, September Survey Maps, Lab Water Quality Results, Waushakum sampling locations map (for September sampling event)

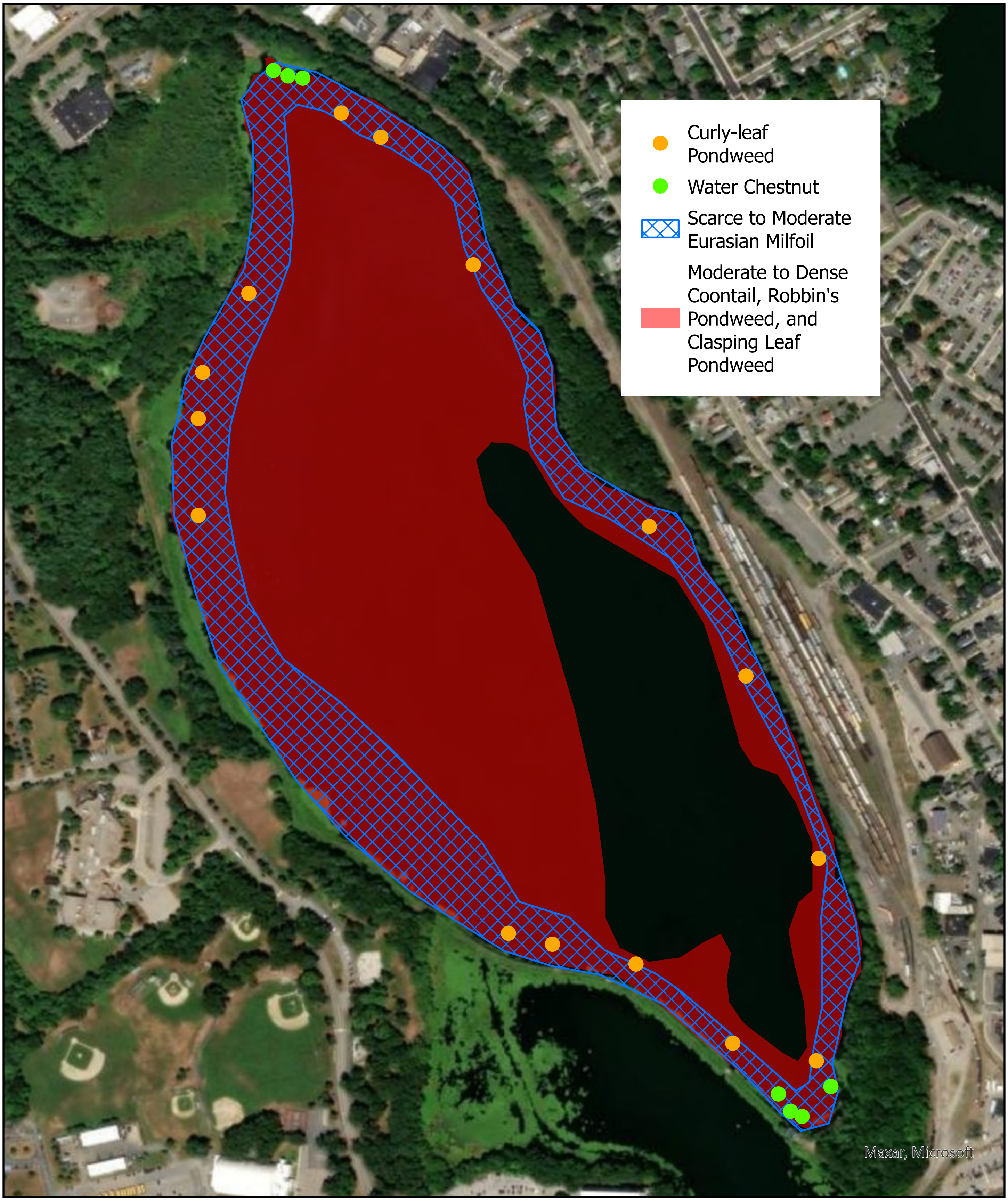


WATER & WETLAND
LAKE, POND & WETLAND MANAGEMENT

Big Farm Pond
Survey Map
Framingham, MA

Survey Date
5/27/2025

Map Date
6/3/2025



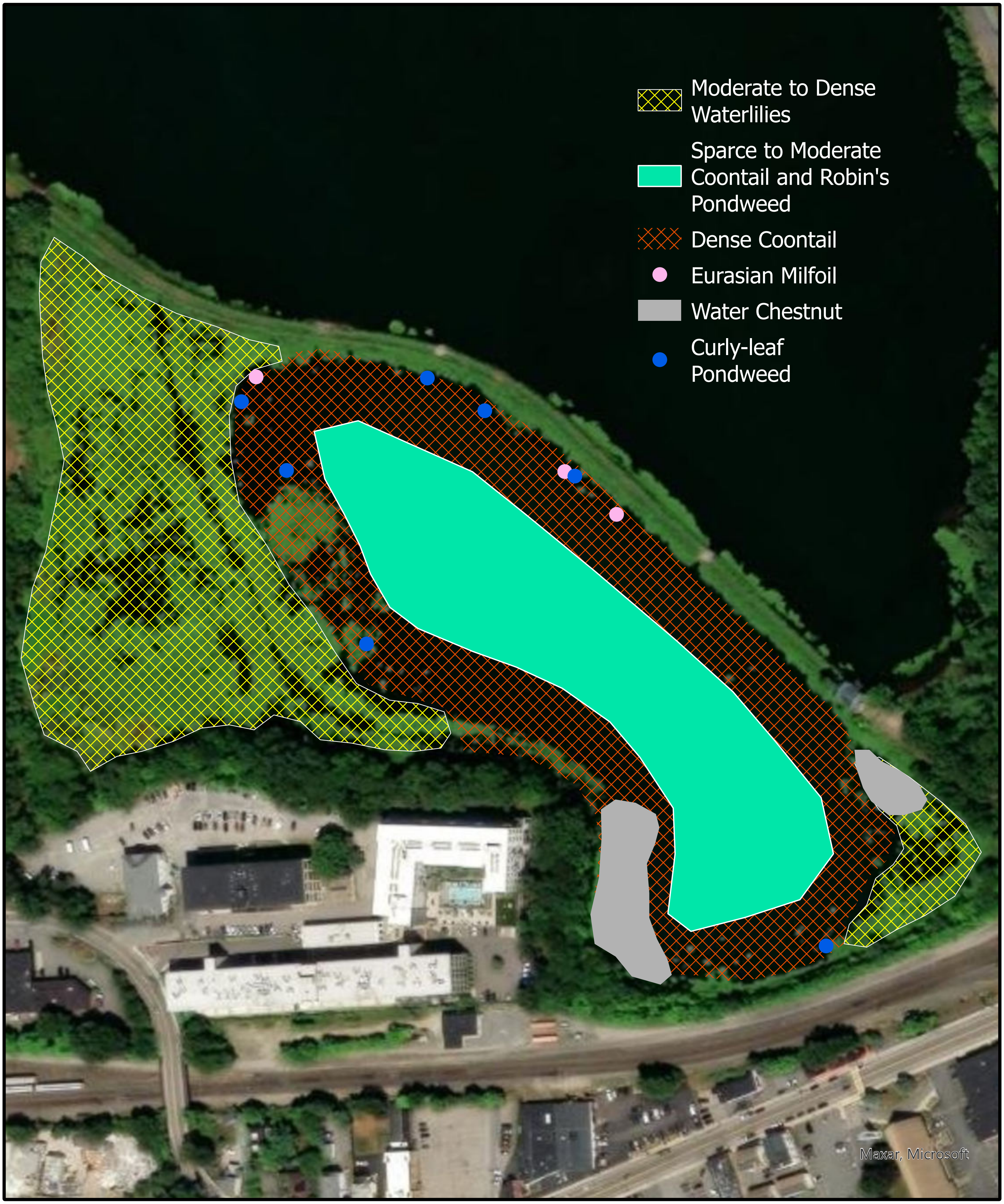
WATER & WETLAND
LAKE, POND & WETLAND MANAGEMENT

Big Farm Pond
Species Assemblage Map
Framingham, MA

Survey Date
9/9/2025

Map Date
9/18/2025

N



WATER & WETLAND
LAKE, POND & WETLAND MANAGEMENT

Little Farm Pond
Survey Map
Framingham, MA

Survey Date
5/27/2025

Map Date
6/3/2025

N

WATER & WETLAND
LAKE, POND & WETLAND MANAGEMENT

Little Farm Pond
Invasive Species Assemblage Map
Framingham, MA

Survey Date
9/9/2025
Map Date
9/11/2025

N

WATER & WETLAND
LAKE, POND & WETLAND MANAGEMENT

Little Farm Pond

Native Species Assemblage Map

Framingham, MA

Survey Date
9/9/2025
Map Date
9/11/2025

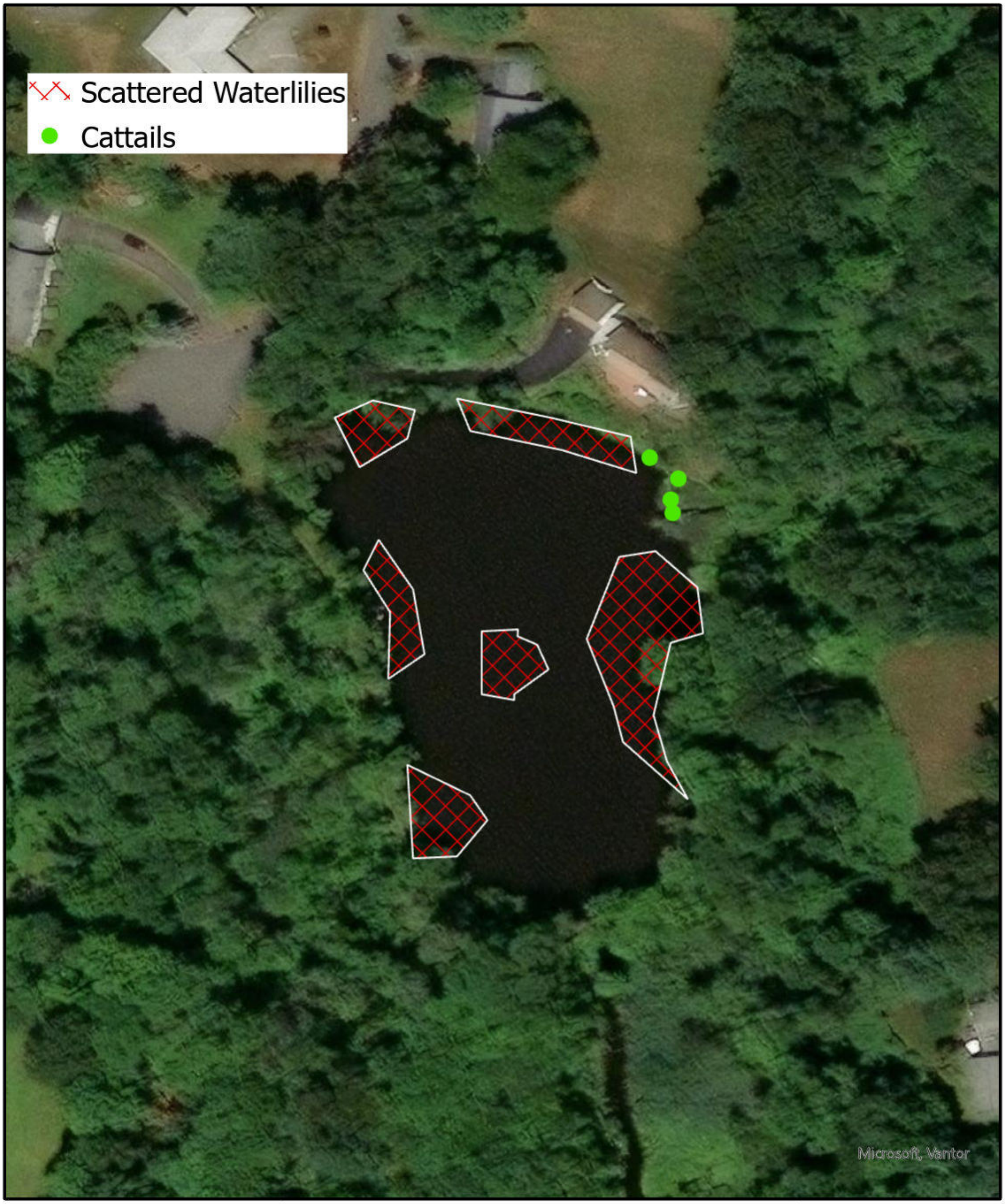
N

WATER & WETLAND
a Jones Lake Management Partner

Mohawk Pond
Invasive Species Distribution
Framingham, MA

Survey Date:
05/27/2025

N



WATER & WETLAND
LAKE, POND & WETLAND MANAGEMENT

Mohawk Pond
Post-Management Survey
Framingham, MA

Survey Date
9/9/2025

Map Date
9/12/2025

N

WATER & WETLAND
LAKE, POND & WETLAND MANAGEMENT

Norton Pond
Vegetation Assemblage
Framingham, MA

Survey Date
5/27/2025

Map Date
6/3/2025

N

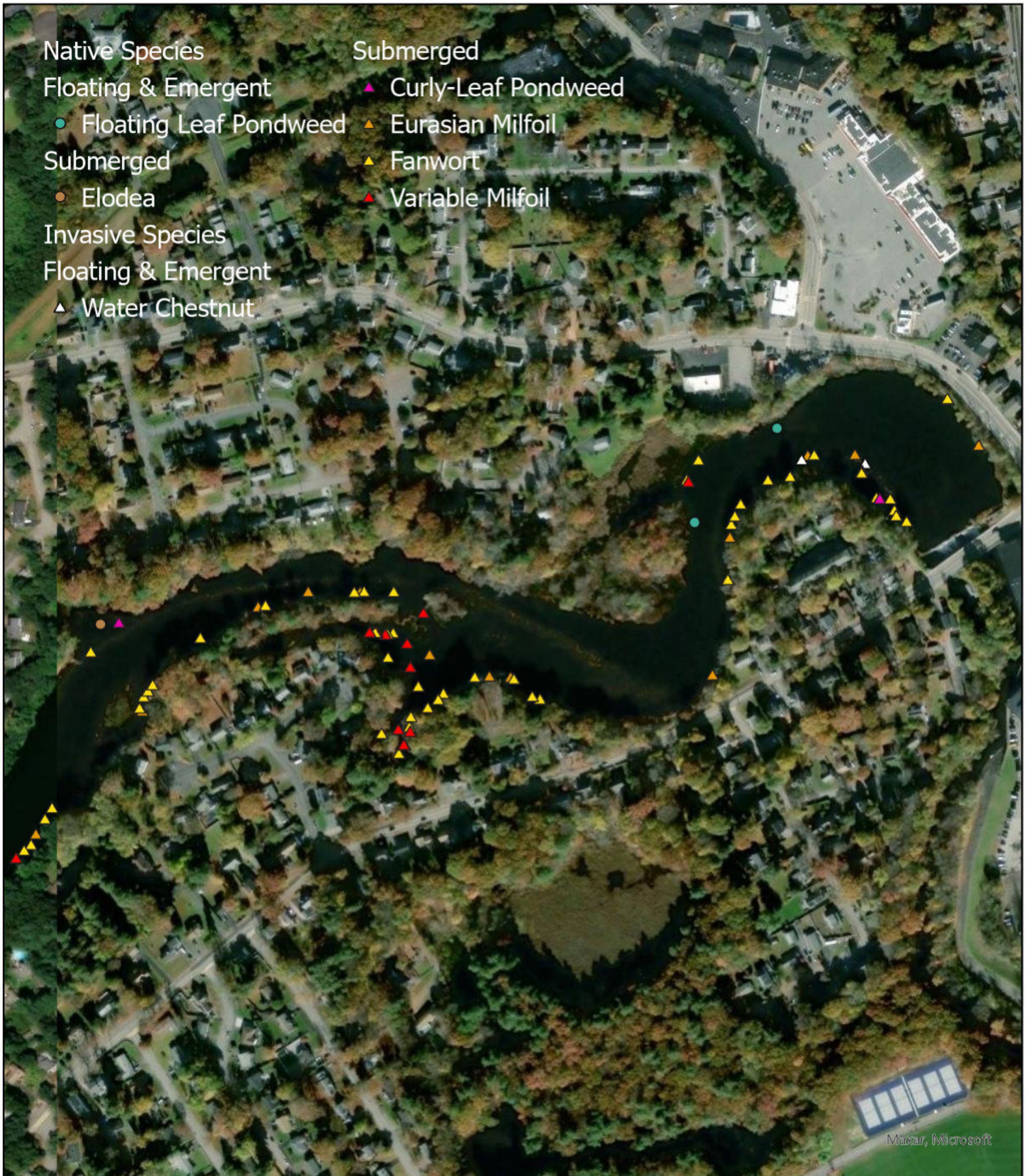
WATER & WETLAND
Lake, Pond & Wetland Management

Norton Pond
Post-Management Survey
Framingham, MA

Survey Date
9/9/2025

Map Date
9/12/2025

N

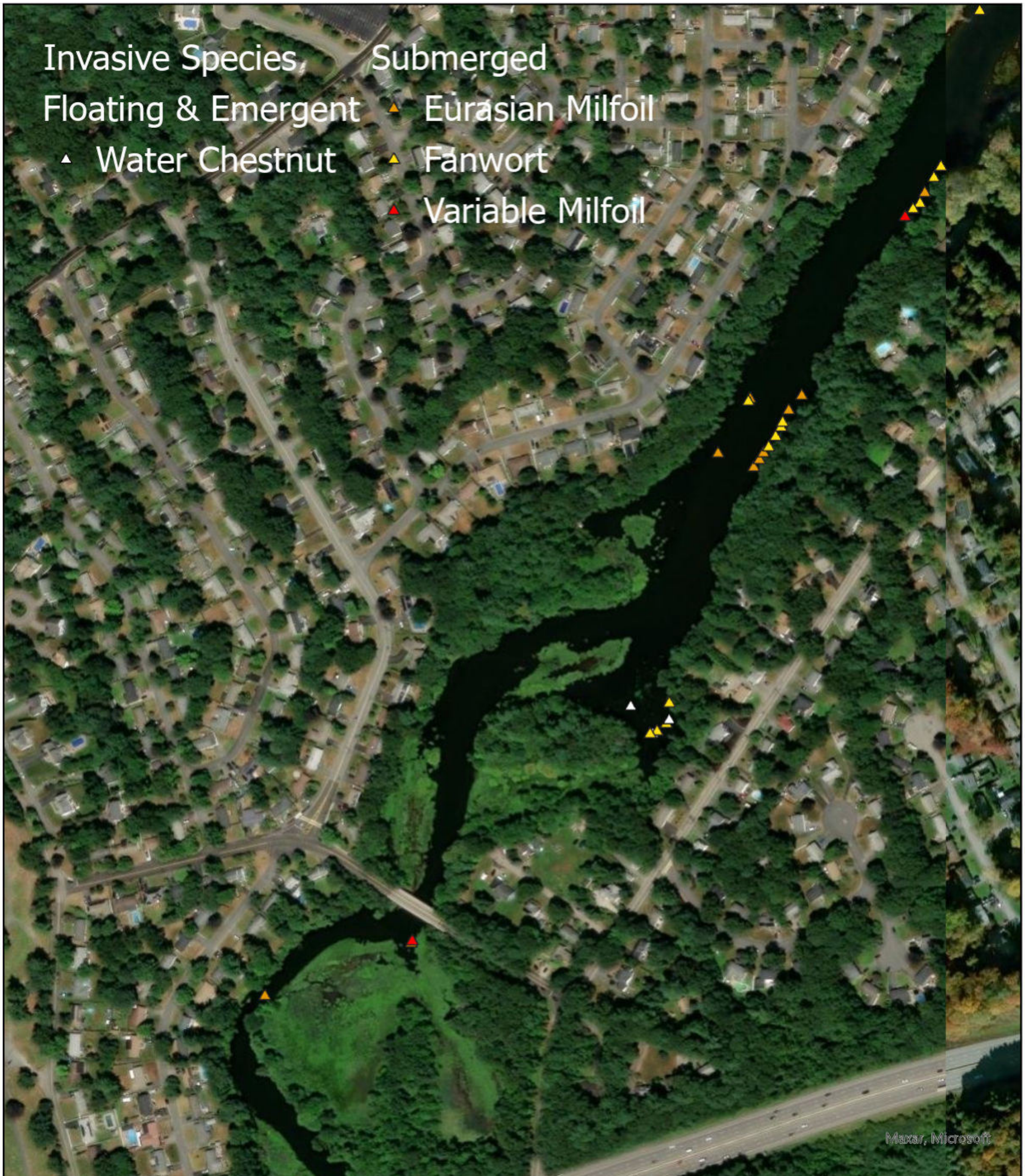


WATER & WETLAND
a Jones Lake Management Partner

Sudbury River (Framingham)
Vegetation Assemblage
Framingham, MA

Survey Date:
05/27/2025

N

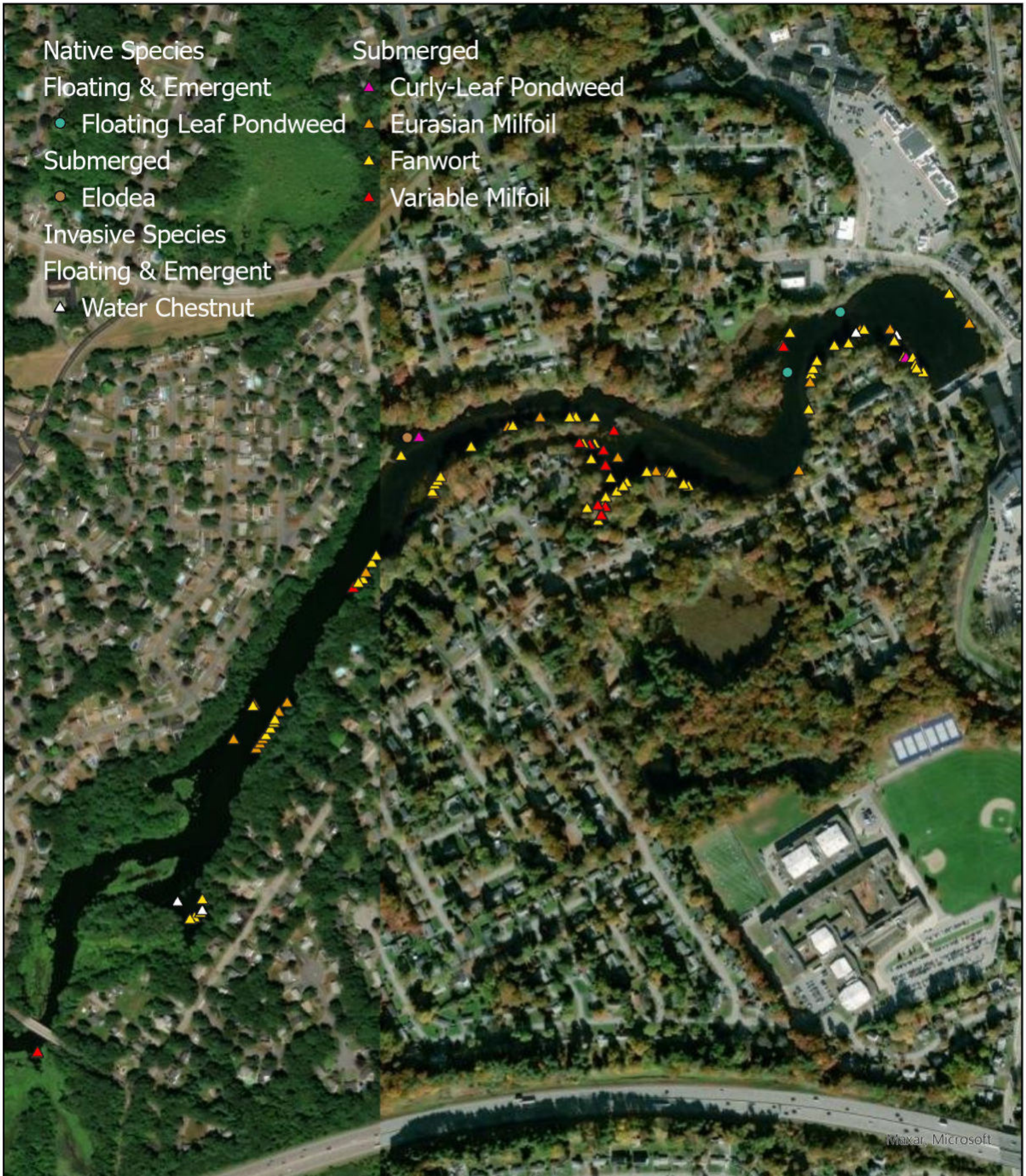


WATER & WETLAND
a Jones Lake Management Partner

Sudbury River (Framingham)
Vegetation Assemblage
Framingham, MA

Survey Date:
05/27/2025

N



WATER & WETLAND
a Jones Lake Management Partner

Sudbury River (Framingham)
Vegetation Assemblage
Framingham, MA

Survey Date:
05/27/2025

N

WATER & WETLAND
LAKE, POND & WETLAND MANAGEMENT

Sudbury River

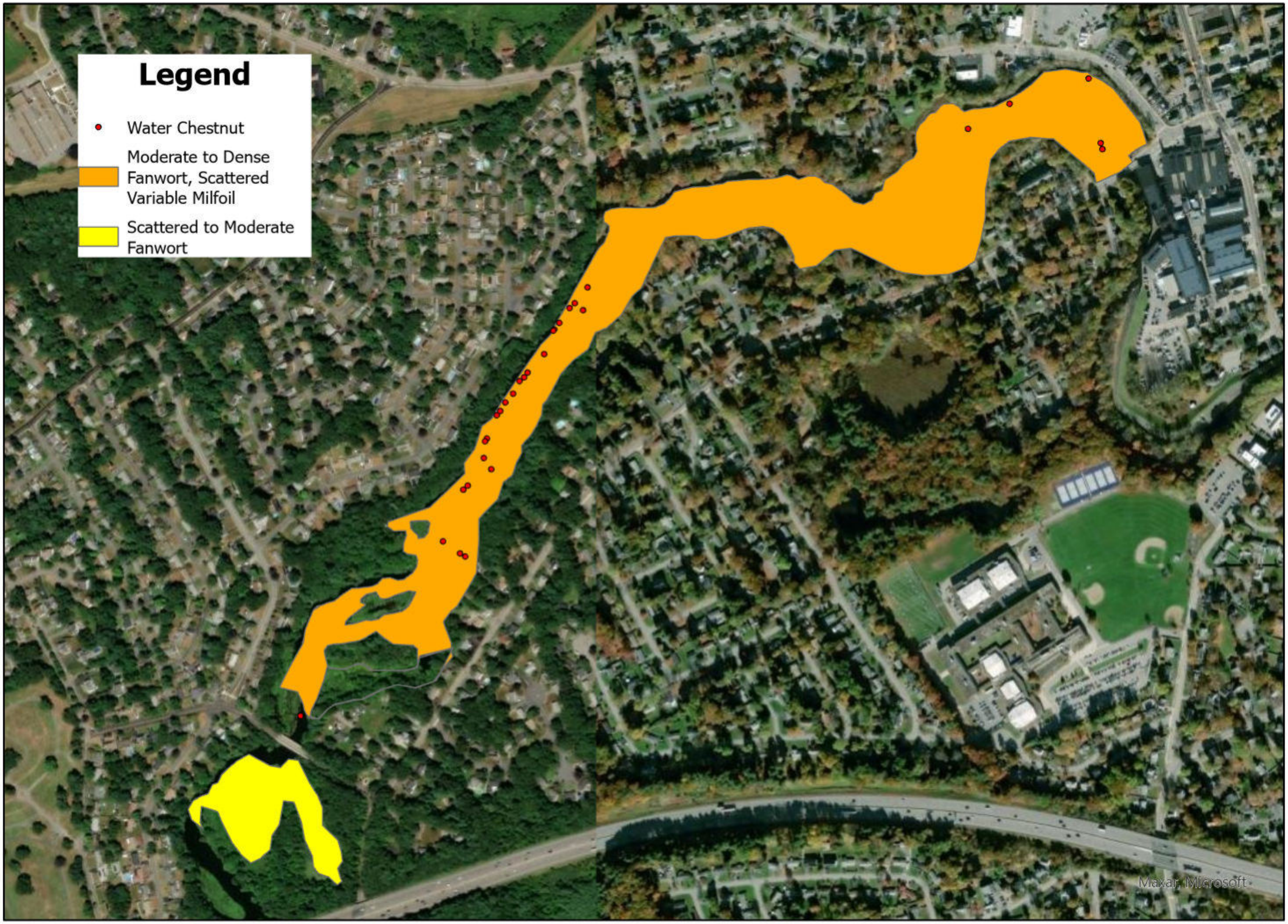
Native Species Map

Framingham, MA

Survey Date
9/9/2025

Map Date
9/25/2025

N



WATER & WETLAND
LAKE POND & WETLAND MANAGEMENT

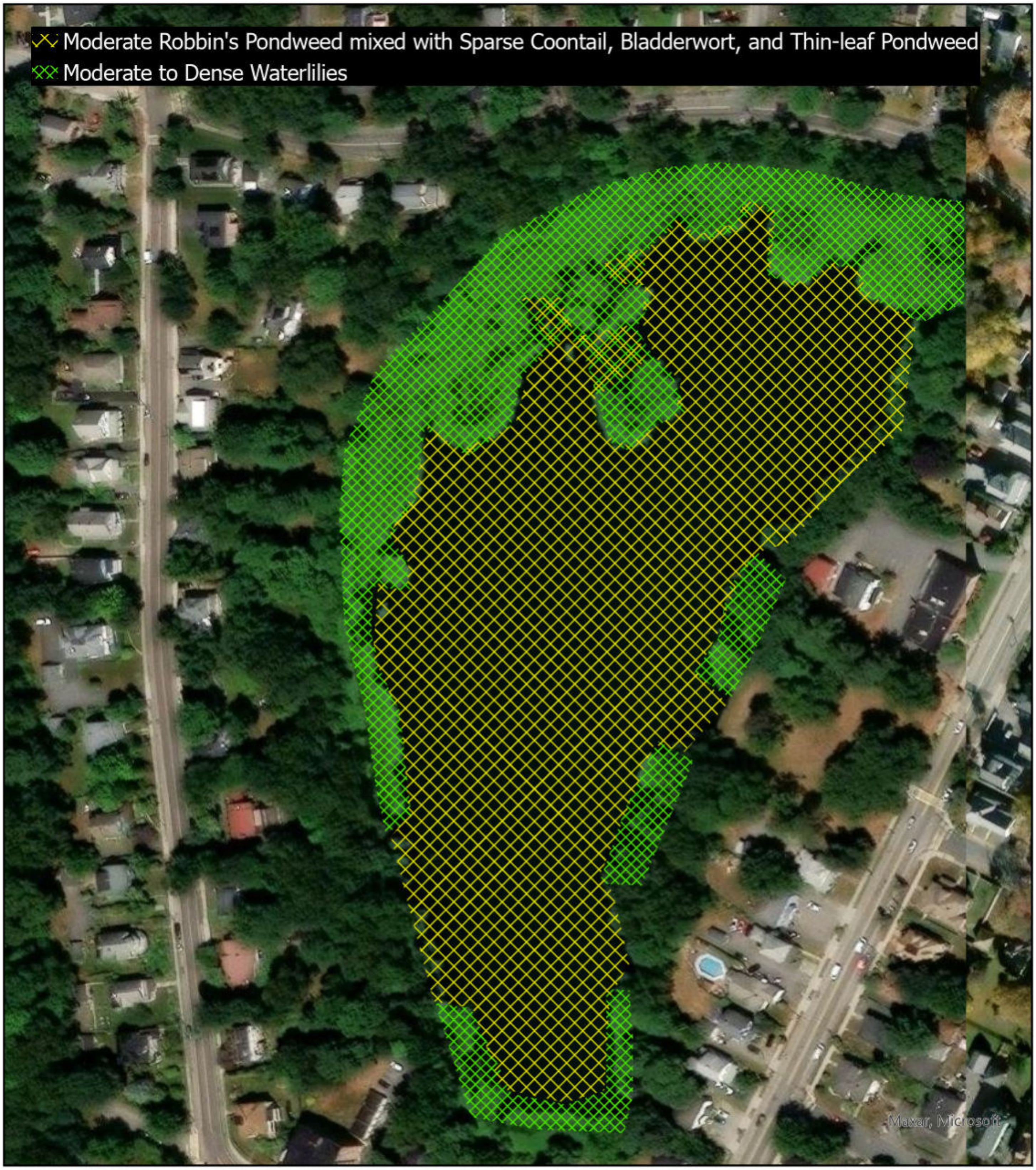
Sudbury River
Invasive Species Map
Framingham, MA

Survey Date
9/9/2025
Map Date
9/25/2025

WATER & WETLAND
a Jones Lake Management Partner

Gleason Pond
Invasive Species Distribution
Framingham, MA

Survey Date:
05/27/2025



WATER & WETLAND
a Jones Lake Management Partner

Gleason Pond
Native Species Assemblage
Framingham, MA

Survey Date:
05/27/2025

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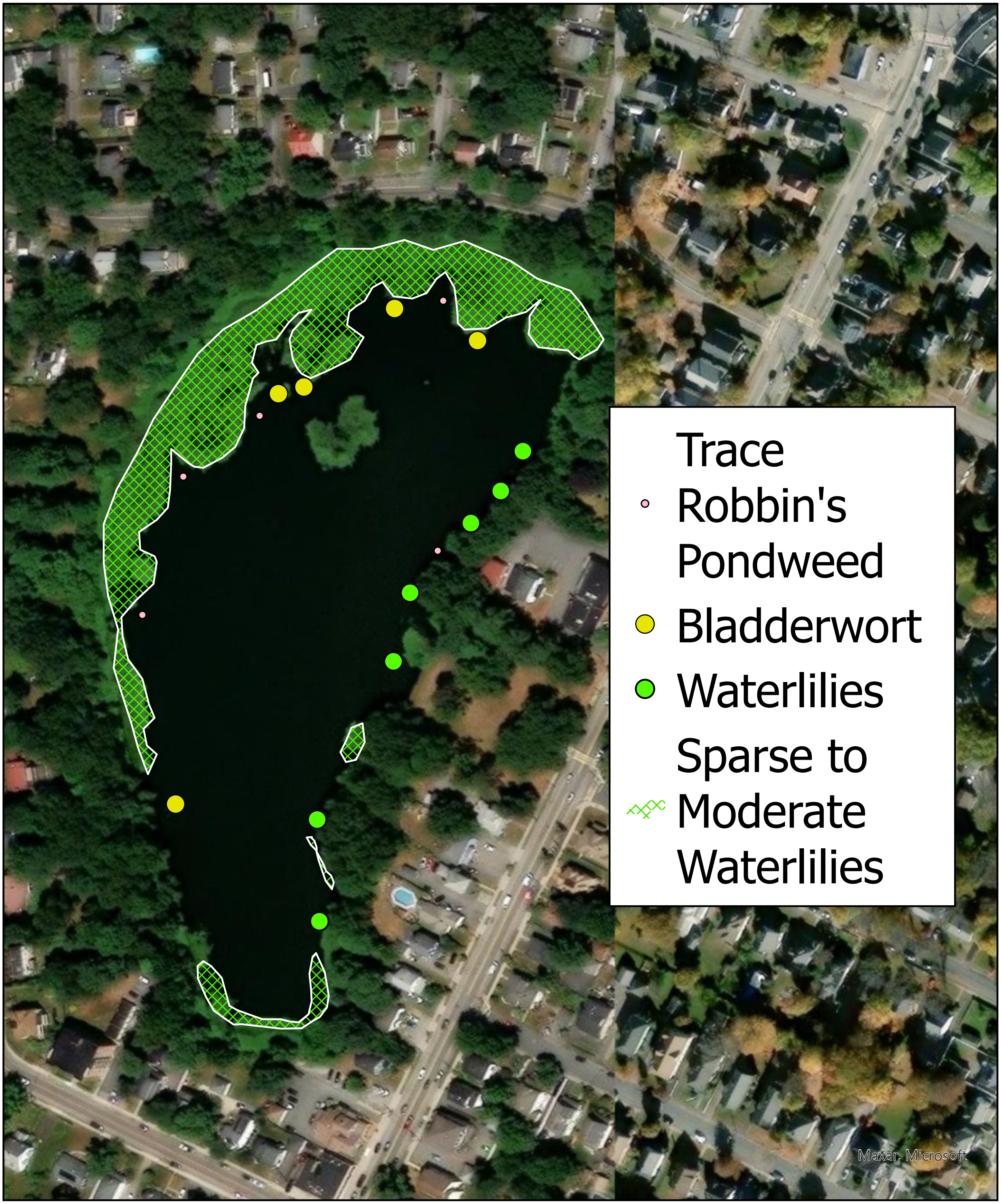


WATER & WETLAND
LAKE, POND & WETLAND MANAGEMENT

Gleason Pond
Vegetation Assemblage Map
Framingham, MA

Survey Date 9/9/25
Map Date 9/19/25

N

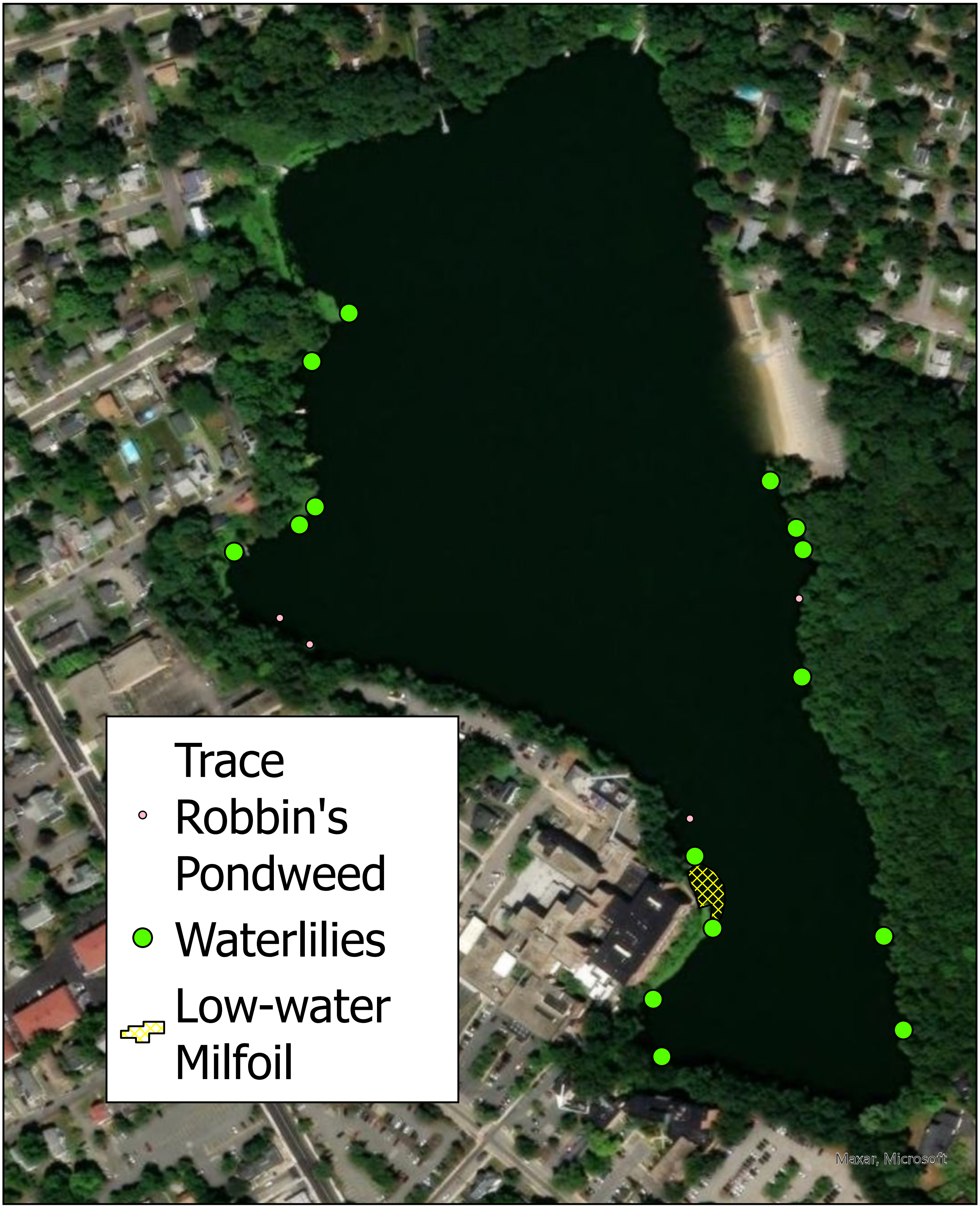
WATER & WETLAND
LAKE, POND & WETLAND MANAGEMENT

Learned Pond
Survey Map
Framingham, MA

Survey Date
5/27/2025

Map Date
6/3/2025

N



WATER & WETLAND
LAKE, POND & WETLAND MANAGEMENT

Learned Pond
Vegetation Assemblage Map
Framingham, MA

Survey Date
9/9/25
Map Date
9/19/25

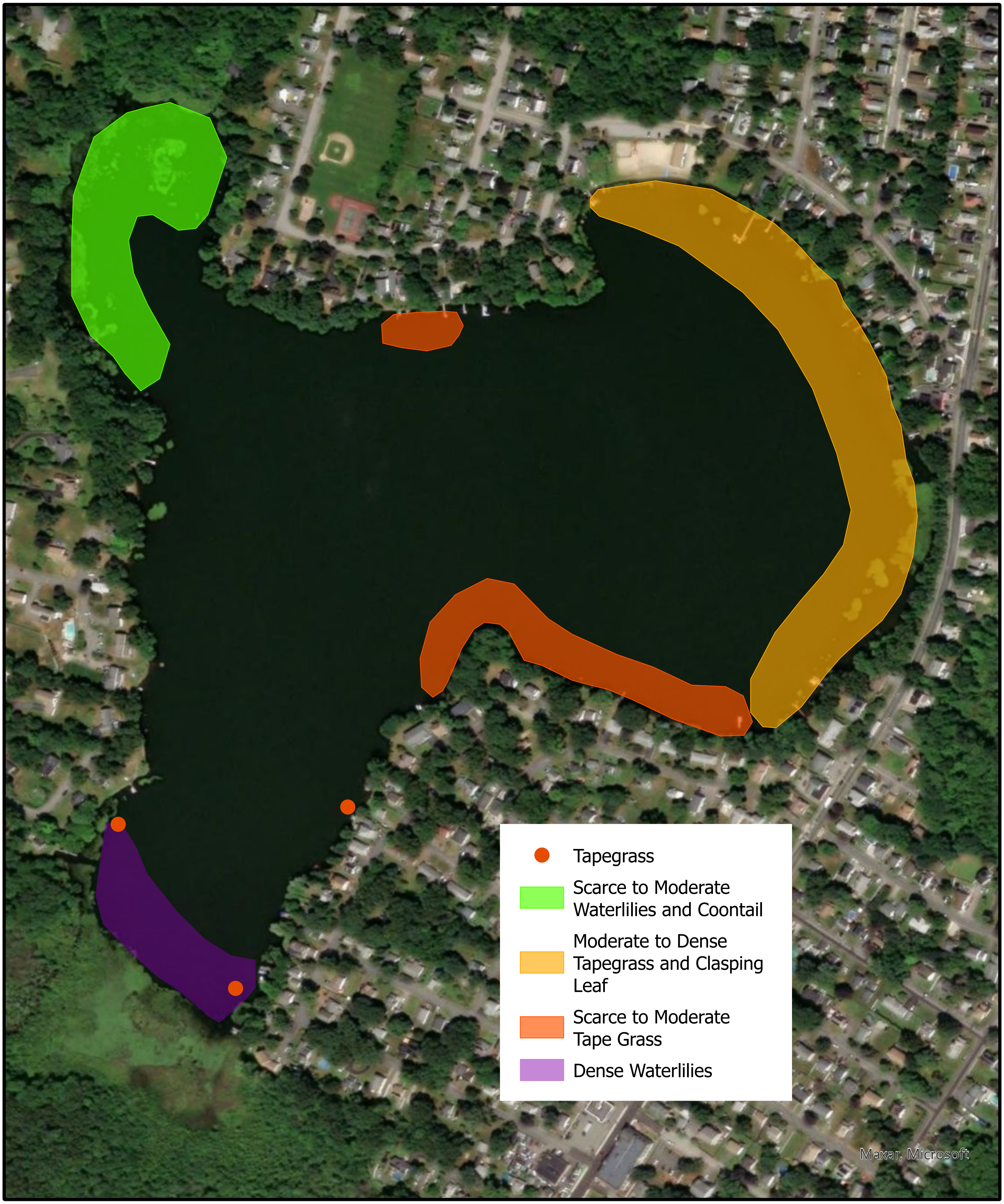
N

WATER & WETLAND
a Jones Lake Management Partner

Waushakum Pond
Vegetation Assemblage
Framingham/Ashland, MA

Survey Date:
05/27/2025

N



WATER & WETLAND
LAKE, POND & WETLAND MANAGEMENT

Waushakum Pond
Native Species Distribution
Framingham, MA

Survey Date 9/09/2025

Map Date 9/21/2025

N

SePRO Lab
Water Diagnostics for Lakes & Ponds

SeSCRIPT*

16013 Watson Seed Farm Road, Whitakers, NC 27891

LABORATORY REPORT

Chain of Custody: eCOC17213

Customer Contact Information

Company Name: Water and Wetland	Contact Person: James Lacasse
Address: 134 Ferry St., South Grafton, MA 01560	E-mail Address: james@waterandwetland.com
	Phone: 888-493-8526

Waterbody Information

Waterbody:	Framingham Ponds - MA
Waterbody size:	
Depth Average:	

Sample ID	Sample Location	Test	Method	Results	Sampling Date / Time
CTM63205-1	Big Farm Pond	Turbidity (NTU)	EPA 180.1	2.7	05/27/2025
		Conductivity (µS/cm)	EPA 120.1	1080.2	
		Free Reactive Phosphorus (µg/L)	EPA 365.3	6.6	
		Chlorophyll a (µg/L)	EPA 445	<10	
		Total Phosphorus (µg/L)	EPA 365.3	33.5	
		Alkalinity (mg/L as CaCO3)	EPA 310.2	17	
		Total Hardness (mg/L as CaCO3)	EPA 130.2	94.7	
		Total Nitrate (mg/L) and Nitrite (mg/L)	Campbell et al 2004	0.05	
		Nitrite (mg/L)	Campbell et al 2004	<0.02	
		Nitrate (mg/L)	calculated	0.05	
		Total Kjeldahl Nitrogen (mg/L)	EPA 351.2	0.42	
		E. coli (CFU/100mL)	EPA 9223B	<1	
		Total Coliforms (CFU/100mL)	EPA 9223B	2.0	
		Total Nitrogen (mg/L)	calculated	0.47	
		pH	EPA 150.1	7.5	
CTM63206-1	Little Farm Pond	Turbidity (NTU)	EPA 180.1	3.5	05/27/2025
		Conductivity (µS/cm)	EPA 120.1	573.8	
		Free Reactive Phosphorus (µg/L)	EPA 365.3	10.5	
		Chlorophyll a (µg/L)	EPA 445	<10	
		Total Phosphorus (µg/L)	EPA 365.3	67.1	
		Alkalinity (mg/L as CaCO3)	EPA 310.2	12.5	
		Total Hardness (mg/L as CaCO3)	EPA 130.2	55.0	
		Total Nitrate (mg/L) and Nitrite (mg/L)	Campbell et al 2004	0.04	
		Nitrite (mg/L)	Campbell et al 2004	<0.02	
		Nitrate (mg/L)	calculated	0.04	
		Total Kjeldahl Nitrogen (mg/L)	EPA 351.2	0.46	
		E. coli (CFU/100mL)	EPA 9223B	54.8	
		Total Coliforms (CFU/100mL)	EPA 9223B	122.2	
		Total Nitrogen (mg/L)	calculated	0.5	
		pH	EPA 150.1	7	

CTM63207-1	Learned Pond	Turbidity (NTU)	EPA 180.1	2.2	05/27/2025
		Conductivity (µS/cm)	EPA 120.1	478.2	
		Free Reactive Phosphorus (µg/L)	EPA 365.3	6.2	
		Chlorophyll a (µg/L)	EPA 445	<10	
		Total Phosphorus (µg/L)	EPA 365.3	38.9	
		Alkalinity (mg/L as CaCO3)	EPA 310.2	<10	
		Total Hardness (mg/L as CaCO3)	EPA 130.2	15.0	
		Total Nitrate (mg/L) and Nitrite (mg/L)	Campbell et al 2004	0.06	
		Nitrite (mg/L)	Campbell et al 2004	<0.02	
		Nitrate (mg/L)	calculated	0.06	
		Total Kjeldahl Nitrogen (mg/L)	EPA 351.2	0.32	
		E. coli (CFU/100mL)	EPA 9223B	8.5	
		Total Coliforms (CFU/100mL)	EPA 9223B	51.2	
		Total Nitrogen (mg/L)	calculated	0.38	
		pH	EPA 150.1	7	
CTM63208-1	Gleason Pond	Turbidity (NTU)	EPA 180.1	2.8	05/27/2025
		Conductivity (µS/cm)	EPA 120.1	679.6	
		Free Reactive Phosphorus (µg/L)	EPA 365.3	8.6	
		Chlorophyll a (µg/L)	EPA 445	<10	
		Total Phosphorus (µg/L)	EPA 365.3	52.5	
		Alkalinity (mg/L as CaCO3)	EPA 310.2	<10	
		Total Hardness (mg/L as CaCO3)	EPA 130.2	30.3	
		Total Nitrate (mg/L) and Nitrite (mg/L)	Campbell et al 2004	0.07	
		Nitrite (mg/L)	Campbell et al 2004	<0.02	
		Nitrate (mg/L)	calculated	0.07	
		Total Kjeldahl Nitrogen (mg/L)	EPA 351.2	0.53	
		E. coli (CFU/100mL)	EPA 9223B	<1	
		Total Coliforms (CFU/100mL)	EPA 9223B	28.1	
		Total Nitrogen (mg/L)	calculated	0.6	
		pH	EPA 150.1	7.1	
CTM63209-1	Waushakum Pond	Turbidity (NTU)	EPA 180.1	2.4	05/27/2025
		Conductivity (µS/cm)	EPA 120.1	421.1	
		Free Reactive Phosphorus (µg/L)	EPA 365.3	6.4	
		Chlorophyll a (µg/L)	EPA 445	<10	
		Total Phosphorus (µg/L)	EPA 365.3	35.7	
		Alkalinity (mg/L as CaCO3)	EPA 310.2	<10	
		Total Hardness (mg/L as CaCO3)	EPA 130.2	46.8	
		Total Nitrate (mg/L) and Nitrite (mg/L)	Campbell et al 2004	0.11	
		Nitrite (mg/L)	Campbell et al 2004	<0.02	
		Nitrate (mg/L)	calculated	0.11	
		Total Kjeldahl Nitrogen (mg/L)	EPA 351.2	0.39	
		E. coli (CFU/100mL)	EPA 9223B	2.0	
		Total Coliforms (CFU/100mL)	EPA 9223B	9.5	
		Total Nitrogen (mg/L)	calculated	0.5	
		pH	EPA 150.1	7.2	
CTM63210-1	Sudbury River	Turbidity (NTU)	EPA 180.1	2.5	05/27/2025
		Conductivity (µS/cm)	EPA 120.1	402.7	
		Free Reactive Phosphorus (µg/L)	EPA 365.3	6.0	
		Chlorophyll a (µg/L)	EPA 445	<10	
		Total Phosphorus (µg/L)	EPA 365.3	46.5	
		Alkalinity (mg/L as CaCO3)	EPA 310.2	<10	
		Total Hardness (mg/L as CaCO3)	EPA 130.2	35.0	
		Total Nitrate (mg/L) and Nitrite (mg/L)	Campbell et al 2004	0.15	
		Nitrite (mg/L)	Campbell et al 2004	<0.02	
		Nitrate (mg/L)	calculated	0.15	
		Total Kjeldahl Nitrogen (mg/L)	EPA 351.2	0.42	
		E. coli (CFU/100mL)	EPA 9223B	26.2	
		Total Coliforms (CFU/100mL)	EPA 9223B	157.6	
		Total Nitrogen (mg/L)	calculated	0.57	
		pH	EPA 150.1	7.1	
CTM63211-1	Norton Pond	Turbidity (NTU)	EPA 180.1	3.3	05/27/2025
		Conductivity (µS/cm)	EPA 120.1	207.4	
		Free Reactive Phosphorus (µg/L)	EPA 365.3	12.1	

		Chlorophyll a (µg/L)	EPA 445	22.3	
		Total Phosphorus (µg/L)	EPA 365.3	66.1	
		Alkalinity (mg/L as CaCO3)	EPA 310.2	<10	
		Total Hardness (mg/L as CaCO3)	EPA 130.2	33.7	
		Total Nitrate (mg/L) and Nitrite (mg/L)	Campbell et al 2004	0.2	
		Nitrite (mg/L)	Campbell et al 2004	<0.02	
		Nitrate (mg/L)	calculated	0.2	
		Total Kjeldahl Nitrogen (mg/L)	EPA 351.2	0.54	
		E. coli (CFU/100mL)	EPA 9223B	6.2	
		Total Coliforms (CFU/100mL)	EPA 9223B	21.3	
		Total Nitrogen (mg/L)	calculated	0.74	
		pH	EPA 150.1	7.3	
CTM63212-1	Mohawk Pond	Turbidity (NTU)	EPA 180.1	2.8	05/27/2025
		Conductivity (µS/cm)	EPA 120.1	322.1	
		Free Reactive Phosphorus (µg/L)	EPA 365.3	5.8	
		Chlorophyll a (µg/L)	EPA 445	<10	
		Total Phosphorus (µg/L)	EPA 365.3	42.6	
		Alkalinity (mg/L as CaCO3)	EPA 310.2	<10	
		Total Hardness (mg/L as CaCO3)	EPA 130.2	36.1	
		Total Nitrate (mg/L) and Nitrite (mg/L)	Campbell et al 2004	0.51	
		Nitrite (mg/L)	Campbell et al 2004	<0.02	
		Nitrate (mg/L)	calculated	0.51	
		Total Kjeldahl Nitrogen (mg/L)	EPA 351.2	0.36	
		E. coli (CFU/100mL)	EPA 9223B	14.4	
		Total Coliforms (CFU/100mL)	EPA 9223B	80.5	
		Total Nitrogen (mg/L)	calculated	0.87	
		pH	EPA 150.1	7	

ANALYSIS STATEMENTS:
SAMPLE RECEIPT /HOLDING TIMES: All samples arrived in an acceptable condition and were analyzed within prescribed holding times in accordance with the SRTC Laboratory Sample Receipt Policy unless otherwise noted in the report.
PRESERVATION: Samples requiring preservation were verified prior to sample analysis and any qualifiers will be noted in the report.
QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.
COMMENTS: No significant observations were made unless noted in the report.
MEASUREMENT UNCERTAINTY: Uncertainty of measurement has been determined and is available upon request.

Laboratory Information
Date / Time Received: 05/28/25 12:00 PM
Date Results Sent: Monday, June 2, 2025

Disclaimer: The results listed within this Laboratory Report relate only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a dry weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the exclusive use of SRTC Laboratory and its client. This report shall not be reproduced, except in full, without written permission from SRTC Laboratory. The Chain of Custody is included and is an essential component of this report.

This entire report was reviewed and approved for release.

Reviewed By: Laboratory Manager

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SePRO Lab
Fast. Accurate. Reliable.
Water Diagnostics for Lakes & Ponds

Water Quality Analysis Explanation

These water quality parameters are essential to document the condition of a water body and design custom treatment prescriptions to achieve the desired management objective.

pH: Measure of how acidic or basic the water is (pH 7 is considered neutral).

Hardness: Measure of the concentration of divalent cations, primarily consisting of calcium and magnesium in typical freshwaters.
0-60 mg/L as CaCO3 soft; 61-120 mg/L as CaCO3 moderately hard; 121-180 mg/L as CaCO3 hard; > 181 mg/L as CaCO3 very hard

Alkalinity: Measure of the buffering capacity of water, primarily consisting of carbonate, bicarbonate, and hydroxide in typical freshwaters. Waters with lower levels are more susceptible to pH shifts.
< 50 mg/L as CaCO3 low buffered; 51-100 mg/L as CaCO3 moderately buffered; 101-200 mg/L as CaCO3 buffered; > 200 mg/L as CaCO3 high buffered

Conductivity: Measure of the waters ability to transfer an electrical current, increases with more dissolved ions.
< 50 µS/cm relatively low concentration may not provide sufficient dissolved ions for ecosystem health; 50-1500 µS/cm typical freshwaters; > 1500 µS/cm may be stressful to some freshwater organisms, though not uncommon in many areas

Phosphorus: Essential nutrient often correlating to growth of algae in freshwaters.

Total Phosphorus (TP): is the measure of all phosphorus in a sample as measured by persulfate strong digestion and includes: inorganic, oxidizable organic and polyphosphates. This includes what is readily available, potential to become available and stable forms. *<12 µg/L oligotrophic; 12-24 µg/L mesotrophic; 25-96 µg/L eutrophic; > 96 µg/L hypereutrophic*

Free Reactive Phosphorus (FRP): is the measure of inorganic dissolved reactive phosphorus (PO4-3, HPO4-2, etc). This form is readily available in the water column for algae growth.

Nitrogen: Essential nutrient that can enhance growth of algae.

Total N is all nitrogen in the sample (organic N+ and Ammonia) determined by the sum of the measurements for Total Kjeldahl Nitrogen (TKN) and ionic forms.

Nitrites and Nitrates are the sum of total oxidized nitrogen, often readily free for algae uptake.
< 1 mg/L typical freshwater; 1-10 mg/L potentially harmful; >10 mg/L possible toxicity, above many regulated guidelines

Chlorophyll a: primary light-harvesting pigment found in algae and a measure of the algal productivity and water quality in a system.
0-2.6µg/L oligotrophic; 2.7-20 µg/L mesotrophic; 21-56 µg/L eutrophic; > 56 µg/L hypereutrophic

Turbidity: Measurement of water clarity. Suspended particulates (algae, clay, silt, dead organic matter) are the common constituents impacting turbidity.
< 10 NTU drinking water standards and typical trout waters; 10-50 NTU moderate; > 50 NTU potential impact to aquatic life.

SePRO Lab
Water Diagnostics for Lakes & Ponds
SeSCRIPT*
16013 Watson Seed Farm Road, Whitakers, NC 27891

LABORATORY REPORT

Chain of Custody: eCOC19482

Customer Contact Information

Company Name: Water and Wetland	Contact Person: James Lacasse
Address: 134 Ferry St., South Grafton, MA 01560	E-mail Address: james@waterandwetland.com
	Phone: 888-493-8526

Waterbody Information

Waterbody:	Framingham Ponds - MA
Waterbody size:	
Depth Average:	

Sample ID	Sample Location	Test	Method	Results	Sampling Date / Time
CTM68262-1	Mohawk Pond	Turbidity (NTU)	EPA 180.1	3.7	09/09/2025
		Conductivity (µS/cm)	EPA 120.1	219.0	
		Free Reactive Phosphorus (µg/L)	EPA 365.3	8.0	
		Chlorophyll a (µg/L)	EPA 445	59.4	
		Total Phosphorus (µg/L)	EPA 365.3	28.7	
		Alkalinity (mg/L as CaCO3)	EPA 310.2	16	
		Total Hardness (mg/L as CaCO3)	EPA 130.2	38.8	
		Total Nitrate (mg/L) and Nitrite (mg/L)	Campbell et al 2004	<0.02	
		Nitrite (mg/L)	Campbell et al 2004	<0.02	
		Nitrate (mg/L)	calculated	<0.02	
		Total Kjeldahl Nitrogen (mg/L)	EPA 351.2	0.43	
		E. coli (CFU/100mL)	EPA 9223B	172.2	
		Total Coliforms (CFU/100mL)	EPA 9223B	16.6	
		Total Nitrogen (mg/L)	calculated	0.43	
		pH	EPA 150.1	6.8	
CTM68263-1	Norton Pond	Turbidity (NTU)	EPA 180.1	4.4	09/09/2025
		Conductivity (µS/cm)	EPA 120.1	150.0	
		Free Reactive Phosphorus (µg/L)	EPA 365.3	8.3	
		Chlorophyll a (µg/L)	EPA 445	185.9	
		Total Phosphorus (µg/L)	EPA 365.3	108.8	
		Alkalinity (mg/L as CaCO3)	EPA 310.2	21.5	
		Total Hardness (mg/L as CaCO3)	EPA 130.2	24.9	
		Total Nitrate (mg/L) and Nitrite (mg/L)	Campbell et al 2004	<0.02	
		Nitrite (mg/L)	Campbell et al 2004	<0.02	
		Nitrate (mg/L)	calculated	<0.02	
		Total Kjeldahl Nitrogen (mg/L)	EPA 351.2	<0.1	
		E. coli (CFU/100mL)	EPA 9223B	7.5	
		Total Coliforms (CFU/100mL)	EPA 9223B	8.5	
		Total Nitrogen (mg/L)	calculated	<0.1	
		pH	EPA 150.1	6.8	

CTM68264-1	Sudbury River	Turbidity (NTU)	EPA 180.1	2.1	09/09/2025
		Conductivity (µS/cm)	EPA 120.1	456.6	
		Free Reactive Phosphorus (µg/L)	EPA 365.3	7.7	
		Chlorophyll a (µg/L)	EPA 445	<10	
		Total Phosphorus (µg/L)	EPA 365.3	26	
		Alkalinity (mg/L as CaCO3)	EPA 310.2	25.8	
		Total Hardness (mg/L as CaCO3)	EPA 130.2	44.1	
		Total Nitrate (mg/L) and Nitrite (mg/L)	Campbell et al 2004	<0.02	
		Nitrite (mg/L)	Campbell et al 2004	<0.02	
		Nitrate (mg/L)	calculated	<0.02	
		Total Kjeldahl Nitrogen (mg/L)	EPA 351.2	0.39	
		E. coli (CFU/100mL)	EPA 9223B	15.8	
		Total Coliforms (CFU/100mL)	EPA 9223B	61.6	
		Total Nitrogen (mg/L)	calculated	0.39	
		pH	EPA 150.1	6.9	
CTM68265-1	Learned Pond	Turbidity (NTU)	EPA 180.1	2.1	09/09/2025
		Conductivity (µS/cm)	EPA 120.1	410.7	
		Free Reactive Phosphorus (µg/L)	EPA 365.3	8.0	
		Chlorophyll a (µg/L)	EPA 445	<10	
		Total Phosphorus (µg/L)	EPA 365.3	22.6	
		Alkalinity (mg/L as CaCO3)	EPA 310.2	<10	
		Total Hardness (mg/L as CaCO3)	EPA 130.2	20.8	
		Total Nitrate (mg/L) and Nitrite (mg/L)	Campbell et al 2004	<0.02	
		Nitrite (mg/L)	Campbell et al 2004	<0.02	
		Nitrate (mg/L)	calculated	<0.02	
		Total Kjeldahl Nitrogen (mg/L)	EPA 351.2	0.27	
		E. coli (CFU/100mL)	EPA 9223B	8.5	
		Total Coliforms (CFU/100mL)	EPA 9223B	16.6	
		Total Nitrogen (mg/L)	calculated	0.27	
		pH	EPA 150.1	7	
CTM68266-1	Gleason Pond	Turbidity (NTU)	EPA 180.1	2.4	09/09/2025
		Conductivity (µS/cm)	EPA 120.1	702.6	
		Free Reactive Phosphorus (µg/L)	EPA 365.3	8.7	
		Chlorophyll a (µg/L)	EPA 445	18.3	
		Total Phosphorus (µg/L)	EPA 365.3	53.1	
		Alkalinity (mg/L as CaCO3)	EPA 310.2	30.9	
		Total Hardness (mg/L as CaCO3)	EPA 130.2	39.8	
		Total Nitrate (mg/L) and Nitrite (mg/L)	Campbell et al 2004	<0.02	
		Nitrite (mg/L)	Campbell et al 2004	<0.02	
		Nitrate (mg/L)	calculated	<0.02	
		Total Kjeldahl Nitrogen (mg/L)	EPA 351.2	0.57	
		E. coli (CFU/100mL)	EPA 9223B	7.4	
		Total Coliforms (CFU/100mL)	EPA 9223B	55.0	
		Total Nitrogen (mg/L)	calculated	0.57	
		pH	EPA 150.1	7	
CTM68267-1	Waushakum Pond	Turbidity (NTU)	EPA 180.1	2.3	09/09/2025
		Conductivity (µS/cm)	EPA 120.1	401.8	
		Free Reactive Phosphorus (µg/L)	EPA 365.3	7.5	
		Chlorophyll a (µg/L)	EPA 445	<10	
		Total Phosphorus (µg/L)	EPA 365.3	15.2	
		Alkalinity (mg/L as CaCO3)	EPA 310.2	27.7	
		Total Hardness (mg/L as CaCO3)	EPA 130.2	46.3	
		Total Nitrate (mg/L) and Nitrite (mg/L)	Campbell et al 2004	<0.02	
		Nitrite (mg/L)	Campbell et al 2004	<0.02	
		Nitrate (mg/L)	calculated	<0.02	
		Total Kjeldahl Nitrogen (mg/L)	EPA 351.2	<0.1	
		E. coli (CFU/100mL)	EPA 9223B	2.0	
		Total Coliforms (CFU/100mL)	EPA 9223B	10.8	
		Total Nitrogen (mg/L)	calculated	<0.1	
		pH	EPA 150.1	7.4	
CTM68268-1	Little Farm Pond	Turbidity (NTU)	EPA 180.1	2.3	09/09/2025
		Conductivity (µS/cm)	EPA 120.1	721.8	
		Free Reactive Phosphorus (µg/L)	EPA 365.3	7.3	

		Chlorophyll a (µg/L)	EPA 445	<10	
		Total Phosphorus (µg/L)	EPA 365.3	30.2	
		Alkalinity (mg/L as CaCO3)	EPA 310.2	49.1	
		Total Hardness (mg/L as CaCO3)	EPA 130.2	78.0	
		Total Nitrate (mg/L) and Nitrite (mg/L)	Campbell et al 2004	<0.02	
		Nitrite (mg/L)	Campbell et al 2004	<0.02	
		Nitrate (mg/L)	calculated	<0.02	
		Total Kjeldahl Nitrogen (mg/L)	EPA 351.2	0.53	
		E. coli (CFU/100mL)	EPA 9223B	201.4	
		Total Coliforms (CFU/100mL)	EPA 9223B	960.6	
		Total Nitrogen (mg/L)	calculated	0.53	
		pH	EPA 150.1	7.1	
CTM68269-1	Farm Pond	Turbidity (NTU)	EPA 180.1	2.2	09/09/2025
		Conductivity (µS/cm)	EPA 120.1	1021.7	
		Free Reactive Phosphorus (µg/L)	EPA 365.3	7.9	
		Chlorophyll a (µg/L)	EPA 445	<10	
		Total Phosphorus (µg/L)	EPA 365.3	19.7	
		Alkalinity (mg/L as CaCO3)	EPA 310.2	44.2	
		Total Hardness (mg/L as CaCO3)	EPA 130.2	87.0	
		Total Nitrate (mg/L) and Nitrite (mg/L)	Campbell et al 2004	<0.02	
		Nitrite (mg/L)	Campbell et al 2004	<0.02	
		Nitrate (mg/L)	calculated	<0.02	
		Total Kjeldahl Nitrogen (mg/L)	EPA 351.2	0.3	
		E. coli (CFU/100mL)	EPA 9223B	1.0	
		Total Coliforms (CFU/100mL)	EPA 9223B	241.1	
		Total Nitrogen (mg/L)	calculated	0.3	
		pH	EPA 150.1	7.3	

ANALYSIS STATEMENTS:
SAMPLE RECEIPT /HOLDING TIMES: All samples arrived in an acceptable condition and were analyzed within prescribed holding times in accordance with the SRTC Laboratory Sample Receipt Policy unless otherwise noted in the report.
PRESERVATION: Samples requiring preservation were verified prior to sample analysis and any qualifiers will be noted in the report.
QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.
COMMENTS: No significant observations were made unless noted in the report.
MEASUREMENT UNCERTAINTY: Uncertainty of measurement has been determined and is available upon request.

Laboratory Information
Date / Time Received: 09/11/25 12:00 PM
Date Results Sent: Tuesday, September 23, 2025

Disclaimer: The results listed within this Laboratory Report relate only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a dry weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the exclusive use of SRTC Laboratory and its client. This report shall not be reproduced, except in full, without written permission from SRTC Laboratory. The Chain of Custody is included and is an essential component of this report.

This entire report was reviewed and approved for release.

Reviewed By: Laboratory Manager

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SePRO Lab
Water Diagnostics for Lakes & Ponds

Water Quality Analysis Explanation

These water quality parameters are essential to document the condition of a water body and design custom treatment prescriptions to achieve the desired management objective.

pH: Measure of how acidic or basic the water is (pH 7 is considered neutral).

Hardness: Measure of the concentration of divalent cations, primarily consisting of calcium and magnesium in typical freshwaters.
0-60 mg/L as CaCO3 soft; 61-120 mg/L as CaCO3 moderately hard; 121-180 mg/L as CaCO3 hard; > 181 mg/L as CaCO3 very hard

Alkalinity: Measure of the buffering capacity of water, primarily consisting of carbonate, bicarbonate, and hydroxide in typical freshwaters. Waters with lower levels are more susceptible to pH shifts.
< 50 mg/L as CaCO3 low buffered; 51-100 mg/L as CaCO3 moderately buffered; 101-200 mg/L as CaCO3 buffered; > 200 mg/L as CaCO3 high buffered

Conductivity: Measure of the waters ability to transfer an electrical current, increases with more dissolved ions.
< 50 µS/cm relatively low concentration may not provide sufficient dissolved ions for ecosystem health; 50-1500 µS/cm typical freshwaters; > 1500 µS/cm may be stressful to some freshwater organisms, though not uncommon in many areas

Phosphorus: Essential nutrient often correlating to growth of algae in freshwaters.

Total Phosphorus (TP): is the measure of all phosphorus in a sample as measured by persulfate strong digestion and includes: inorganic, oxidizable organic and polyphosphates. This includes what is readily available, potential to become available and stable forms. *<12 µg/L oligotrophic; 12-24 µg/L mesotrophic; 25-96 µg/L eutrophic; > 96 µg/L hypereutrophic*

Free Reactive Phosphorus (FRP): is the measure of inorganic dissolved reactive phosphorus (PO4-3, HPO4-2, etc). This form is readily available in the water column for algae growth.

Nitrogen: Essential nutrient that can enhance growth of algae.

Total N is all nitrogen in the sample (organic N+ and Ammonia) determined by the sum of the measurements for Total Kjeldahl Nitrogen (TKN) and ionic forms.

Nitrites and Nitrates are the sum of total oxidized nitrogen, often readily free for algae uptake.
< 1 mg/L typical freshwater; 1-10 mg/L potentially harmful; >10 mg/L possible toxicity, above many regulated guidelines

Chlorophyll a: primary light-harvesting pigment found in algae and a measure of the algal productivity and water quality in a system.
0-2.6µg/L oligotrophic; 2.7-20 µg/L mesotrophic; 21-56 µg/L eutrophic; > 56 µg/L hypereutrophic

Turbidity: Measurement of water clarity. Suspended particulates (algae, clay, silt, dead organic matter) are the common constituents impacting turbidity.
< 10 NTU drinking water standards and typical trout waters; 10-50 NTU moderate; > 50 NTU potential impact to aquatic life.

WATER & WETLAND

LAKE POND & WETLAND MANAGEMENT

BIOLOGIST:
Brian O Leary
(o): (888)493-8526
BrianO@waterandwetland.com

Call/Email with any questions!

FIELD NOTES SUMMARY

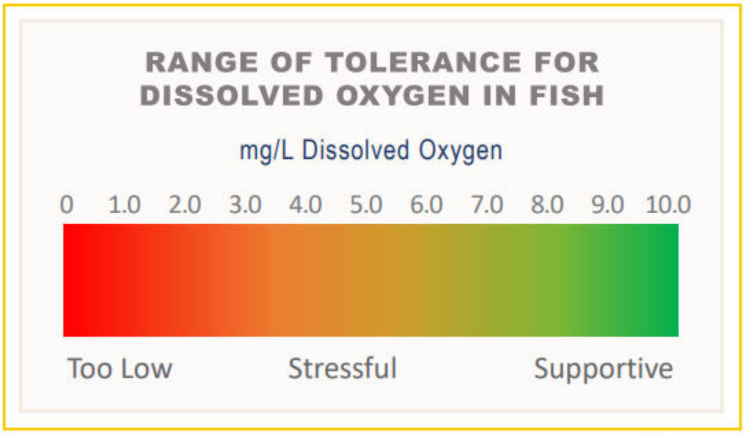
Customer: City of Framingham
Pond Name: Waushakum Pond
Site Location: Framingham, MA
Date: 9/15/25

On 9/15/25, Aquatic Field Biologist, Brian O'Leary, made a visit to Waushakum Pond. The following services were completed during the visit:

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. (*) denotes an invasive species. Invasive species are non-native to the ecosystem and are likely to cause economic harm, environmental harm, or harm to human health.

Species Identified	
Common Name	**Latin Name**
Benthic Algae	
Filamentous Algae	
Microscopic Algae	
Bladderwort	*Utricularia sp.*
Clasping-leaf Pondweed	*Potamogeton perfoliatis*
Cattails	*Typha*
Coontail	*Ceratophyllum demersum*

While on-site, dissolved oxygen (DO) and temperature readings were collected using a calibrated YSI meter with optical sensor. 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, but the figure below provides 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.



Results from the visit are included in the table below:

Location 1: Temperature & Dissolved Oxygen		
Depth (M)	Surface Temp (°C)	Surface DO (mg/L)
Surface	23.3	9.16
1	23.1	9.19
2	22.6	9.18
3	22.0	8.73
4	21.3	8.14
5	20.7	6.11
6	19.6	5.11
7	15.2	2.34

Location 2: Temperature & Dissolved Oxygen		
Depth (M)	Surface Temp (°C)	Surface DO (mg/L)
Surface	22.8	9.05
1	22.8	9.04
2	22.8	9.03
3	21.9	9.07
4	21.5	8.59
5	21.0	7.48

6	19.7	3.42
7	19.5	2.89
8	18.1	2.41

Location 3: Temperature & Dissolved Oxygen		
Depth (M)	Surface Temp (°C)	Surface DO (mg/L)
Surface	22.8	9.10
1	22.7	9.08
2	22.1	9.12
3	21.9	8.89
4	21.4	8.43
5	21.0	6.96
6	20.1	5.19
7	19.9	5.23
8	13.9	1.97
9	14.1	1.08
10	11.4	0.79
11	11.3	0.56
12	10.4	0.12

Secchi Disk Clarity	
Secchi Disk Depth (Feet)	Location 1 Southern Point 9'3"
Secchi Disk Depth (Feet)	Location 2 Mid Pond 12'2"
Secchi Disk Depth (Feet)	Location 3 Deep Hole 10'8"

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.

Additional samples were collected from the contracted locations (Location 1, Location 2, Location 3). Samples were not collected from Location 4 – the outlet, as there was no flow. The samples were properly preserved, and shipped on-ice via FedEx Overnight, or transported directly to the most appropriate lab. The lab will analyze the samples for the contracted/required parameters which are listed in the table above. Results will be provided upon receipt from the lab or in the year end-summary report, as applicable. Any concerning results will immediately be brought to the attention of the Client.

Additional Notes from the Biologist
The site visit to Waushakum Pond consisted of a brief survey and an extensive collection of basic water quality data and water samples per the contract conditions. Since the outlet was not flowing at the time of visit, only three sampling locations were provided with complete vertical profiles: Location 1/Southern Point, Location 2/Mid-Pond, and Location 3/Deep Hole (see map attached for designated locations). The dissolved oxygen reading profiles remained relatively consistent and water clarity did not drastically deviate between locations. Water samples, complying with the required parameters, were taken from the surface, middle, and bottom of the water column at all three in-pond locations. Weather conditions were optimal for surveying and sampling. In addition to the services provided, this site visit will aid in guiding future management decisions for the upcoming 2026 season.

As always, we will notify you prior to any upcoming visits, as applicable. Please feel free to reach out to us directly with any questions.

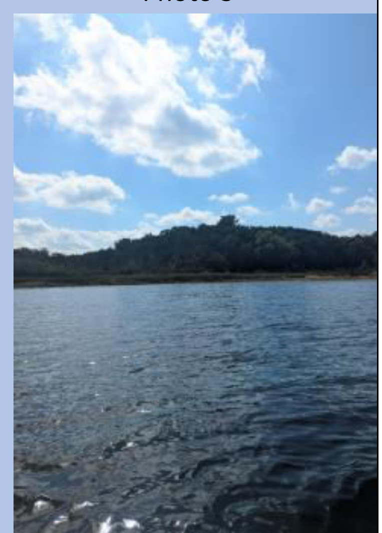
Photo 1	Photo 2	Photo 3
		

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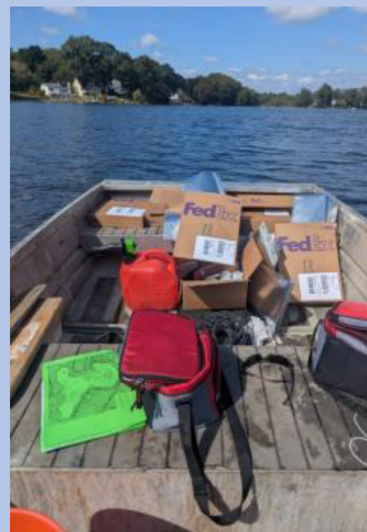
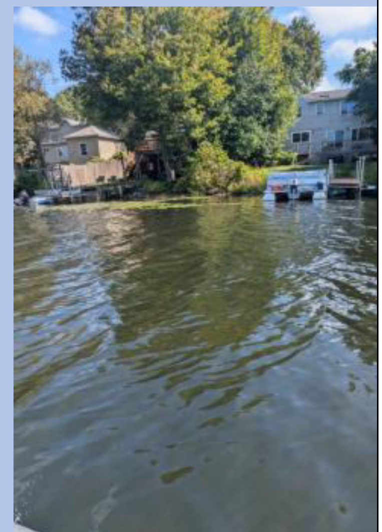
Photo 4	Photo 5	Photo 6
		

Water & Wetland, LLC
Upton, MA
(888) 4WETLAN(D)
www.waterandwetland.com

SePRO Lab
Water Diagnostics for Lakes & Ponds
SeSCRIPT*
16013 Watson Seed Farm Road, Whitakers, NC 27891

LABORATORY REPORT

Chain of Custody: eCOC19552

Customer Contact Information

Company Name: Water and Wetland	Contact Person: James Lacasse
Address: 134 Ferry St., South Grafton, MA 01560	E-mail Address: james@waterandwetland.com
	Phone: 888-493-8526

Waterbody Information

Waterbody:	Waushakum Pond - MA
Waterbody size:	88
Depth Average:	

Sample ID	Sample Location	Test	Method	Results	Sampling Date / Time
CTM68478-1	Location 1 (Southern Pond) - Surface	Conductivity (µS/cm)	EPA 120.1	442.8	09/15/2025
		Total Phosphorus (µg/L)	EPA 365.3	23	
		Alkalinity (mg/L as CaCO3)	EPA 310.2	35.8	
		Total Kjeldahl Nitrogen (mg/L)	EPA 351.2	0.38	
		pH	EPA 150.1	7.4	
CTM68479-1	Location 1 (Southern End) - Bottom	Conductivity (µS/cm)	EPA 120.1	438.9	09/15/2025
		Total Phosphorus (µg/L)	EPA 365.3	30.3	
		Alkalinity (mg/L as CaCO3)	EPA 310.2	35.6	
		Total Kjeldahl Nitrogen (mg/L)	EPA 351.2	0.32	
		pH	EPA 150.1	7.2	
CTM68480-1	Location 2 (Mid-Pond) - Surface	Conductivity (µS/cm)	EPA 120.1	439.6	09/15/2025
		Total Phosphorus (µg/L)	EPA 365.3	18.2	
		Alkalinity (mg/L as CaCO3)	EPA 310.2	33	
		Total Kjeldahl Nitrogen (mg/L)	EPA 351.2	0.21	
		pH	EPA 150.1	7.4	
CTM68481-1	Location 2 (Mid-Pond) - Bottom	Conductivity (µS/cm)	EPA 120.1	440.4	09/15/2025
		Total Phosphorus (µg/L)	EPA 365.3	251.8	
		Alkalinity (mg/L as CaCO3)	EPA 310.2	31.8	
		Total Kjeldahl Nitrogen (mg/L)	EPA 351.2	0.5	
		pH	EPA 150.1	7	
CTM68482-1	Location 3 (Deep Hole) - Surface	Conductivity (µS/cm)	EPA 120.1	440.1	09/15/2025
		Total Phosphorus (µg/L)	EPA 365.3	17.8	
		Alkalinity (mg/L as CaCO3)	EPA 310.2	35.1	
		Total Kjeldahl Nitrogen (mg/L)	EPA 351.2	0.15	
		pH	EPA 150.1	7.4	
CTM68483-1	Location 3 (Deep Hole) - Bottom	Conductivity (µS/cm)	EPA 120.1	438.4	09/15/2025
		Total Phosphorus (µg/L)	EPA 365.3	22	
		Alkalinity (mg/L as CaCO3)	EPA 310.2	34.9	
		Total Kjeldahl Nitrogen (mg/L)	EPA 351.2	<0.1	

pH	EPA 150.1	7.2

ANALYSIS STATEMENTS:
SAMPLE RECEIPT /HOLDING TIMES: All samples arrived in an acceptable condition and were analyzed within prescribed holding times in accordance with the SRTC Laboratory Sample Receipt Policy unless otherwise noted in the report.
PRESERVATION: Samples requiring preservation were verified prior to sample analysis and any qualifiers will be noted in the report.
QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.
COMMENTS: No significant observations were made unless noted in the report.
MEASUREMENT UNCERTAINTY: Uncertainty of measurement has been determined and is available upon request.

Laboratory Information
Date / Time Received: 09/16/25 12:00 PM
Date Results Sent: Friday, September 19, 2025

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This entire report was reviewed and approved for release.

Reviewed By: Laboratory Manager

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SePRO Lab
Water Diagnostics for Lakes & Ponds
SeSCRIPT*
16013 Watson Seed Farm Road, Whitakers, NC 27891

LABORATORY REPORT

Chain of Custody: eCOC19555

Customer Contact Information

Company Name: Water and Wetland	Contact Person: James Lacasse
Address: 134 Ferry St., South Grafton, MA 01560	E-mail Address: james@waterandwetland.com
	Phone: 888-493-8526

Waterbody Information

Waterbody:	Waushakum Pond - MA
Waterbody size:	88
Depth Average:	

Sample ID	Sample Location	Test	Method	Results	Sampling Date / Time
CTM68469-1	Location 1 (Southern Point) - Surface	Chlorophyll a (µg/L)	EPA 445	<10	09/15/2025
CTM68470-1	Location 1 (Southern Point) - 20'	Chlorophyll a (µg/L)	EPA 445	<10	09/15/2025
CTM68471-1	Location 2 (Mid-Pond) - Surface	Chlorophyll a (µg/L)	EPA 445	<10	09/15/2025
CTM68472-1	Location 2 (Mid-Pond) - 20'	Chlorophyll a (µg/L)	EPA 445	<10	09/15/2025
CTM68473-1	Location 3 (Deep Hole) - Surface	Chlorophyll a (µg/L)	EPA 445	<10	09/15/2025
CTM68474-1	Location 3 (Deep Hole) - 20'	Chlorophyll a (µg/L)	EPA 445	<10	09/15/2025

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Date / Time Received: 09/16/25 12:00 PM
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SeSCRIPT*
16013 Watson Seed Farm Road, Whitakers, NC 27891

LABORATORY REPORT

Chain of Custody: eCOC19554

Customer Contact Information

Company Name: Water and Wetland	Contact Person: James Lacasse
Address: 134 Ferry St., South Grafton, MA 01560	E-mail Address: james@waterandwetland.com
	Phone: 888-493-8526

Waterbody Information

Waterbody:	Waushakum Pond - MA
Waterbody size:	88
Depth Average:	

Sample ID	Sample Location	Test	Method	Results	Sampling Date / Time
CTM68475-1	Location 3 (Deep Hole) - Mid	Conductivity (µS/cm)	EPA 120.1	353.6	09/15/2025
		Total Phosphorus (µg/L)	EPA 365.3	20.2	
		Total Kjeldahl Nitrogen (mg/L)	EPA 351.2	0.17	
		pH	EPA 150.1	6.9	

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Laboratory Information
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SePRO Lab
Water Diagnostics for Lakes & Ponds
SeSCRIPT*
16013 Watson Seed Farm Road, Whitakers, NC 27891

LABORATORY REPORT

Chain of Custody: eCOC19553

Customer Contact Information

Company Name: Water and Wetland	Contact Person: James Lacasse
Address: 134 Ferry St., South Grafton, MA 01560	E-mail Address: james@waterandwetland.com
	Phone: 888-493-8526

Waterbody Information

Waterbody:	Waushakum Pond - MA
Waterbody size:	88
Depth Average:	

Sample ID	Sample Location	Test	Method	Results	Sampling Date / Time
CTM68476-1	Location 1 (Southern Point) - Mid	Conductivity (µS/cm)	EPA 120.1	390.3	09/15/2025
		pH	EPA 150.1	7.2	
CTM68477-1	Location 2 (Mid-Pond) - Mid	Conductivity (µS/cm)	EPA 120.1	393.7	09/15/2025
		pH	EPA 150.1	7.3	

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SePRO Lab

Water Diagnostics for Lakes & Ponds

Water Quality Analysis Explanation

These water quality parameters are essential to document the condition of a water body and design custom treatment prescriptions to achieve the desired management objective.

pH: Measure of how acidic or basic the water is (pH 7 is considered neutral).

Hardness: Measure of the concentration of divalent cations, primarily consisting of calcium and magnesium in typical freshwaters.
0-60 mg/L as CaCO3 soft; 61-120 mg/L as CaCO3 moderately hard; 121-180 mg/L as CaCO3 hard; > 181 mg/L as CaCO3 very hard

Alkalinity: Measure of the buffering capacity of water, primarily consisting of carbonate, bicarbonate, and hydroxide in typical freshwaters. Waters with lower levels are more susceptible to pH shifts.
< 50 mg/L as CaCO3 low buffered; 51-100 mg/L as CaCO3 moderately buffered; 101-200 mg/L as CaCO3 buffered; > 200 mg/L as CaCO3 high buffered

Conductivity: Measure of the waters ability to transfer an electrical current, increases with more dissolved ions.
< 50 µS/cm relatively low concentration may not provide sufficient dissolved ions for ecosystem health; 50-1500 µS/cm typical freshwaters; > 1500 µS/cm may be stressful to some freshwater organisms, though not uncommon in many areas

Phosphorus: Essential nutrient often correlating to growth of algae in freshwaters.

Total Phosphorus (TP): is the measure of all phosphorus in a sample as measured by persulfate strong digestion and includes: inorganic, oxidizable organic and polyphosphates. This includes what is readily available, potential to become available and stable forms. *<12 µg/L oligotrophic; 12-24 µg/L mesotrophic; 25-96 µg/L eutrophic; > 96 µg/L hypereutrophic*

Free Reactive Phosphorus (FRP): is the measure of inorganic dissolved reactive phosphorus (PO4-3, HPO4-2, etc). This form is readily available in the water column for algae growth.

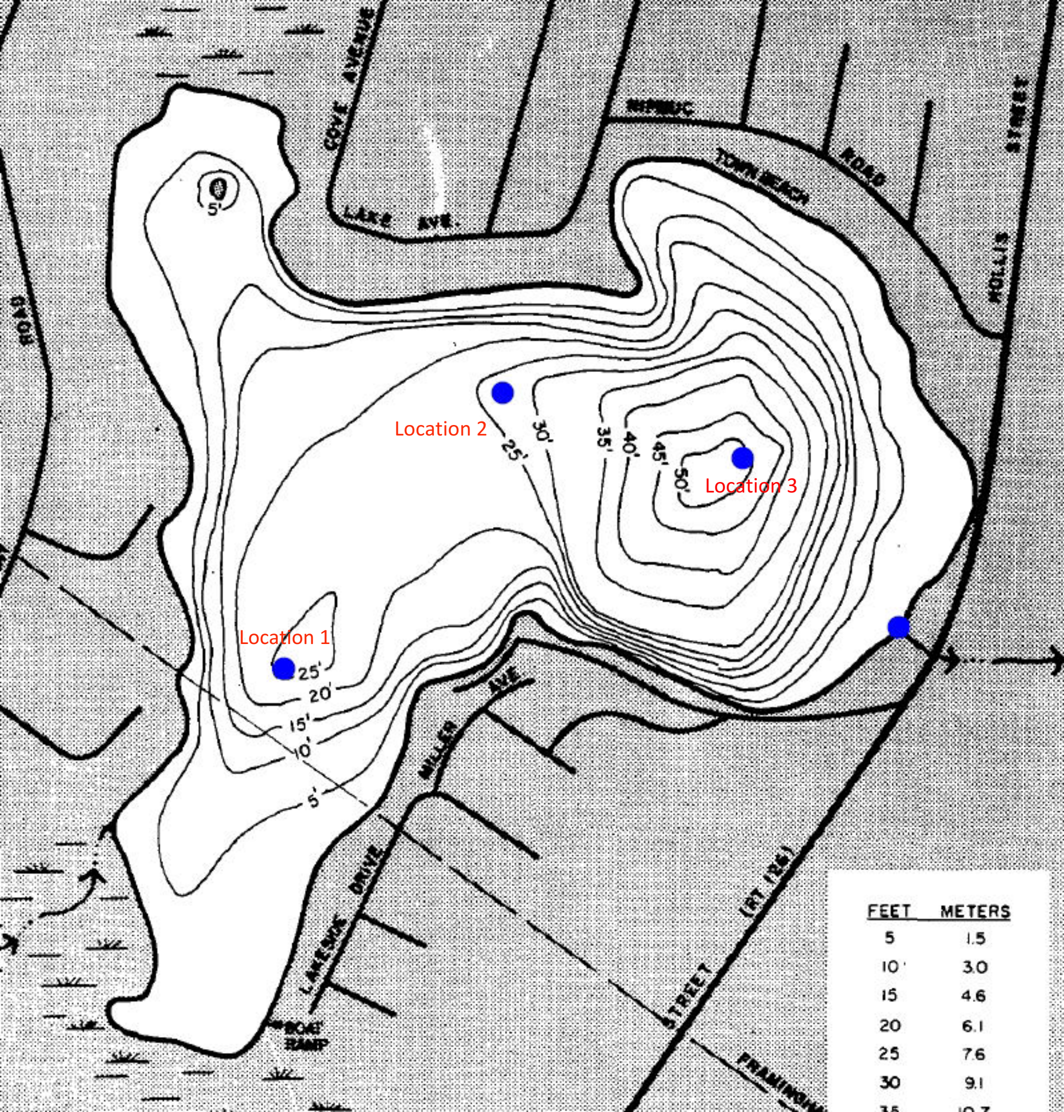
Nitrogen: Essential nutrient that can enhance growth of algae.

Total N is all nitrogen in the sample (organic N+ and Ammonia) determined by the sum of the measurements for Total Kjeldahl Nitrogen (TKN) and ionic forms.

Nitrites and Nitrates are the sum of total oxidized nitrogen, often readily free for algae uptake.
< 1 mg/L typical freshwater; 1-10 mg/L potentially harmful; >10 mg/L possible toxicity, above many regulated guidelines

Chlorophyll a: primary light-harvesting pigment found in algae and a measure of the algal productivity and water quality in a system.
0-2.6µg/L oligotrophic; 2.7-20 µg/L mesotrophic; 21-56 µg/L eutrophic; > 56 µg/L hypereutrophic

Turbidity: Measurement of water clarity. Suspended particulates (algae, clay, silt, dead organic matter) are the common constituents impacting turbidity.
< 10 NTU drinking water standards and typical trout waters; 10-50 NTU moderate; > 50 NTU potential impact to aquatic life.



COVE AVENUE
LAKE AVE.
NIPMUC
TOWN BEACH ROAD
HOLLIS STREET
ROAD
MILLER AVE
LAKESIDE DRIVE
STREET (RT 126)
BOAT RAMP
Location 1
Location 2
Location 3
5'
10'
15'
20'
25'
30'
35'
40'
45'
50'
FEET METERS
5 1.5
10' 3.0
15 4.6
20 6.1
25 7.6
30 9.1