

December 1, 2025

Town of Abington
500 Gliniewicz Way
Abington, MA 02351
Email: LShea@abingtonma.gov

Re: Island Grove Pond, Abington, MA – 2025 Year End Report – DEP SE084-563

Dear Ms. Shea and Conservation Commission Members:

It is our pleasure to present the 2025 year-end summary report to Town of Abington regarding the aquatic management program at Island Grove Pond (Figure 1). Island Grove is approximately 32 surface acres and is located in Abington, MA. The pond is primarily bordered by residential ponds with a large, wooded lot to the east. The majority of the shoreline has a nice natural buffer. The outlet is found along the southern shoreline, which feeds the Shumatuscant River.

Historically, Island Grove has battled invasive species variable milfoil (*Myriophyllum heterophyllum*), curly-leaf pondweed (*Potamogeton crispus*), and fanwort (*Cabomba caroliniana*). The goal of the 2025 program was to manage the invasive species. This would be accomplished by implementing an aquatic management program that focused around performing all applicable tasks, including planning, permitting, surveys, treatments, and reporting.

During each visit to the pond, 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) 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. All readings are included in the tables throughout this report.

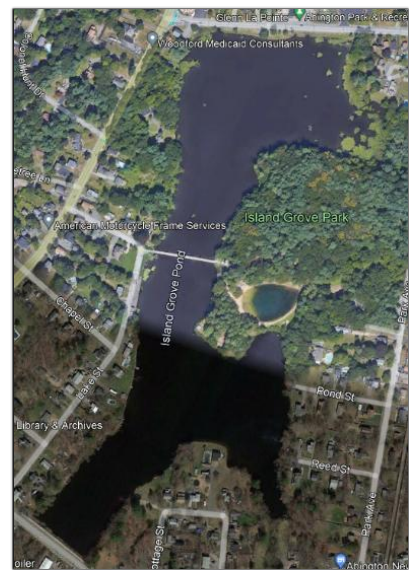


Figure 1: Island Grove Pond - Abington, MA

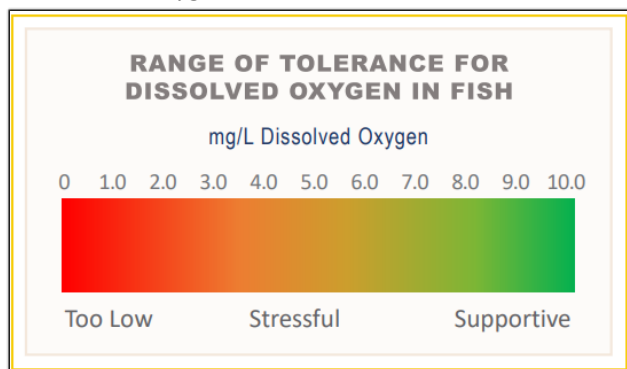


Figure 2: Dissolved Oxygen Table

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All permitting, treatments, and survey tasks were completed without issued 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 15, 2025	A pre-management survey was conducted to document baseline conditions of the Pond, note the current vegetation species/densities present, and guide future 2025 management
June 19, 2025	A survey was performed to confirm treatment areas; An initial herbicide treatment was performed
July 17, 2025	A post-treatment survey was conducted to assess the effectiveness of the previous treatment
August 5, 2025	An end of seasons survey was completed to evaluate the effectiveness of the 2025 management program and to help guide recommendations for 2026

May 15, 2025 - Pre-Management Survey

On 5/15/25, Aquatic Field Biologist, Jake McNary, made a visit to Island Grove 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. 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
Curly-leaf Pondweed*	<i>Potamogeton crispus</i>
Watershield	<i>Brasenia schreberi</i>
Coontail	<i>Ceratophyllum demersum</i>
Water Starwort	<i>Callitriche</i>
Waterlilies	<i>Nymphaeaceae</i>
Fanwort*	<i>Cabomba caroliniana</i>
Variable Milfoil*	<i>Myriophyllum heterophyllum</i>



Figure 3: Fanwort observed at Island Grove Pond during May visit

This site visit consisted of the collection of basic water quality data and a survey. Curly-leaf pondweed was found in moderate densities around the shoreline along with native species including watershield (*Brasenia schreberi*), waterlilies (*Nymphaeaceae*), coontail (*Ceratophyllum demersum*), and water starwort (*Callitriche*). Variable milfoil was found scattered throughout the pond in small patches reaching its highest densities around the northern end of the pond. Fanwort was found in very small patches primarily in the southern end of the pond. Filamentous algae was also observed in scattered, small mats but did not appear to reach densities of concern. Based on the survey, we are planning a June treatment specifically for the control of

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curly-leaf pondweed and the small areas of milfoil and fanwort regrowth. Treatment will only occur in areas where these species are present, and all notifications would be conducted prior to treatment.

Temperature & Dissolved Oxygen	
Surface Temp (°C)	Surface DO (mg/L)
20.1	8.9

Secchi Disk Clarity	
Secchi Disk Depth (Feet)	4 ft

June 19, 2025 – Survey / Herbicide Treatment

On 6/19/25, Aquatic Field Biologist, Brian O'Leary, and Aquatic Field Biologist, Jake McNary, made a visit to Island Grove. 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
Variable Milfoil*	<i>Myriophyllum heterophyllum</i>
Fanwort*	<i>Cabomba caroliniana</i>
Benthic Algae	
Snailseed Pondweed	<i>Potamogeton bicupulatus</i>
Waterlilies	<i>Nymphaeaceae</i>
Filamentous Algae	
Curly-leaf Pondweed*	<i>Potamogeton crispus</i>
Common Waterweed/Elodea	<i>Elodea canadensis</i>



Figure 4: Variable milfoil observed during June visit

The primary purpose for this site visit to Island Grove was to conduct an herbicide treatment which would target any prevailing invasive/nuisance aquatic vegetation, particularly the stands

of nuisance snailseed pondweed (*Potamogeton bicupulatus*), and invasive variable milfoil, curly-leaf pondweed and fanwort within the pond. A vegetation survey and collection of basic water quality data was also performed. Water clarity was poor at the time of visit with a brown discoloration in the water. Sparse to moderate densities of fanwort and variable milfoil were scattered throughout the entire shoreline. Snailseed pondweed was also found in moderate densities along the shoreline and was especially dense within the northern coves. Waterlilies were most dense within the northeastern cove but were scattered around the entire perimeter. Trace densities of curly-leaf pondweed were also found along the shorelines.

As planned, a contact herbicide treatment was conducted at the time of visit. The treatment was guided by previous vegetation assemblage data as well as the day-of-visit visual observations. No issues occurred during the treatment and excellent coverage was achieved.

As noted, a treatment was conducted for the control of target nuisance/invasive plant growth. The liquid contact herbicide(s) was applied using a treatment boat equipped with a calibrated sub-surface injection system. This application methodology allows for even coverage within the treatment areas. The treatment was completed without issue. We anticipated plant die-off within just a few days to a few weeks.

Prior to the treatment, the shoreline was posted 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)
27.5	11.13

July 17, 2025 – Post-Treatment Survey

On 7/17/25, Aquatic Field Biologist, Jake McNary, and Field Biologist, Irini Stefanakos, made a visit to Island Grove 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. 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
Waterlilies	<i>Nymphaeaceae</i>
Filamentous Algae	
Fanwort*	<i>Cabomba caroliniana</i>
Cattails	<i>Typha</i>
Water Starwort	<i>Callitriche</i>
Duckweed	<i>Lemna</i>
Watershield	<i>Brasenia schreberi</i>
Purple Loosestrife*	<i>Lythrum salicaria</i>
Variable Milfoil*	<i>Myriophyllum heterophyllum</i>



Figure 5: Fanwort observed during July visit

prior visit successfully curbed a majority of the invasive variable milfoil, fanwort, and curly-leaf pondweed, as neither of these plants were observed aside from two small clumps of decaying or

This site visit to Island Grove Pond consisted of a post-treatment survey and the collection of basic water quality data. The water quality was documented as slightly below average. The treatment conducted during the

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dead variable milfoil. Despite the condition of the variable milfoil and curly-leaf pondweed, fanwort continued to somewhat persist within the pond, with small, scattered densities being found within the littoral zone. However, most of the fanwort patches were covered in epiphytic algae, an indicator of decay. The other abundant growth that was observed included moderate to dense waterlilies with sparse, scattered patches of filamentous algae residing within them. Overall, the conditions of the pond had improved post-treatment, with dissolved oxygen readings exhibiting healthier levels.

Temperature & Dissolved Oxygen	
Surface Temp (°C)	Surface DO (mg/L)
28.7	9.56

Secchi Disk Clarity	
Secchi Disk Depth (Feet)	3'6"

August 5, 2025 – End of Season Survey

On 8/5/25, Aquatic Field Biologist, Jake McNary, and Field Assistant, Nick Cameron, made a visit to Island Grove. 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
Fanwort*	<i>Cabomba caroliniana</i>
Waterlilies	<i>Nymphaeaceae</i>
Tape Grass	<i>Vallisneria americana</i>
Cattails	<i>Typha</i>
Purple Loosestrife*	<i>Lythrum salicaria</i>



Figure 6: Fanwort and waterlilies observed during August visit

This site visit to Island Grove Pond consisted of the collection of basic water quality data and a survey. Water clarity was slightly obscured due to tannin buildup and dissolved oxygen readings exhibited healthy levels at the time of visit. Scattered patches of fanwort were observed in varying densities all throughout the pond and became increasingly dense along the western shoreline and within the southeastern cove. The northwestern cove was covered with moderate to high density waterlilies.

Temperature & Dissolved Oxygen	
Surface Temp (°C)	Surface DO (mg/L)
25.8	8.10



Secchi Disk Clarity	
Secchi Disk Depth (Feet)	2'8"

Summary / 2026 Recommendations

The 2025 management program at Island Grove Pond continued to be highly dependent on monitoring, with survey data guiding all management decisions throughout the season. Overall, the pond remained in excellent condition, and each of the program components was completed as planned. The June contact herbicide treatment successfully reduced variable milfoil and curly-leaf pondweed, while also suppressing small patches of fanwort. The July and August surveys documented clear treatment success on milfoil and curly-leaf pondweed, although fanwort persisted in scattered low to moderate densities along the western shoreline and in the southeastern cove. Waterlilies remained dense in the northern and northeastern coves, consistent with patterns observed over multiple seasons. Water clarity fluctuated throughout the year, largely driven by tannins, warm temperatures, and nutrient cycling. Despite these factors, dissolved oxygen remained healthy throughout all 2025 visits, and no adverse impacts were observed.

Looking ahead to 2026, we recommend continuing a monitoring-centered program identical in structure to the approach used in 2024 and 2025. Regular surveys will allow for the early detection of regrowth of fanwort, curly-leaf pondweed, and milfoil. Based on the densities documented at the end of the 2025 season, we anticipate that fanwort and variable milfoil will again warrant management in 2026, particularly along the western shoreline and in the southeastern cove. Curly-leaf pondweed is expected to return due to its turion-based reproductive cycle, and will likely require spring treatment to maintain open-water habitat and prevent dense mats from forming. Diquat and flumioxazin remain the most suitable and cost-effective tools for spot-treating regrowth of all three invasive species, consistent with the approved Notice of Intent. This approach also limits herbicide exposure to small, targeted areas and prevents unnecessary whole-pond treatment.

Waterlily coverage should continue to be monitored closely. While lilies are native and provide beneficial habitat, dense stands such as those observed in the northern coves can limit oxygen transfer, restrict circulation, and reduce biodiversity. If densities again reach levels documented during 2025, we recommend a targeted treatment during the July–August window to achieve systemic uptake. This approach will provide the most meaningful carry-over control while preserving desirable native habitat in areas where lilies remain at healthy densities.

Algae growth should continue to be monitored during each visit. Although algae did not warrant treatment during the 2025 season, elevated temperatures and nutrient cycling in mid-summer led to reduced water clarity during the July visit, indicating a potential for future nuisance growth. Continued monitoring of Secchi depth, dissolved oxygen, and overall clarity will help determine whether algaecide applications become necessary in 2026.

We also recommend maintaining the natural shoreline buffers that surround much of Island Grove Pond. These buffers continue to provide meaningful nutrient interception and bank stabilization. Encouraging abutters to avoid phosphorus-based fertilizers and to prevent leaf litter from entering the pond will further support long-term water quality improvement.



By continuing a program grounded in monitoring, targeted treatments, and responsive decision-making, we can maintain excellent pond conditions while limiting unnecessary management. We look forward to continuing our partnership with the Town of Abington in 2026 and for many years to come, and we hope that the results, communication, and follow-through provided by Water & Wetland in 2025 met your expectations.

Sincerely,

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Director of Operations

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