Aquatic Invasive Species Management Report

Moody Pond

2025 Final Report

Prepared for

Friends of Moody Pond

Prepared By:

Upper Saranac Foundation

It still is, and always will be, about Water Quality

Upper Saranac Foundation

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Acknowledgements

The Upper Saranac Foundation extends its sincere appreciation to the **Friends of Moody Pond** for their steadfast commitment to preserving, protecting, and restoring Moody Pond through the management of aquatic invasive species (AIS). Their grassroots, community-driven effort stands as an excellent example of local collaboration successfully addressing environmental challenges.

The Friends of Moody Pond have contracted the **Upper Saranac Foundation's Aquatic Invasive Divers (AID)** since 2022 to conduct AIS fieldwork, including harvesting, mapping, and data collection. This important project is fully funded by the Friends of Moody Pond, whose dedication and partnership have been essential to the continued protection of this valuable watershed.

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Executive Summary

- **Moody Pond** is a **24-acre waterbody** located in Essex County, within the towns of Harrietstown and St. Armand. It features approximately 0.9 miles of shoreline, with a mean depth of 8–9 feet and a maximum depth of 17 feet. The majority of the shoreline is privately owned, except for a small public access site located across from the Baker Mountain trailhead (Stager, 2021). The pond holds a rich historical background and serves as a valued community recreational resource.

- **Eurasian watermilfoil (*Myriophyllum spicatum*)**, a **non-native aquatic invasive plant**, was **first discovered in Moody Pond in 2018** by local shoreline residents. In response, the Friends of Moody Pond organization was formed to promote education on invasive species prevention and to raise funds for implementing management and control measures (Stager, 2021).

- In 2019, a preliminary aquatic vegetation survey was conducted by the Adirondack Park Invasive Plant Program (APIPP) in collaboration with the Adirondack Research Early Detection Team. Results indicated that Eurasian watermilfoil was established across approximately 3.91 acres, representing 15% of the pond's surface area (Appendix A). By 2020, additional observations from Friends of Moody Pond members identified further concentrations of EWM growth, suggesting the infestation had expanded beyond the initial estimates.

- A follow-up AIS survey conducted by Adirondack Research in 2021 (Appendix B), following Invasive Solutions Dive Company's initial week of harvesting, documented a significant reduction in EWM density relative to the prior year.

- **Eurasian watermilfoil (EWM)** was first managed in 2021 by Invasive Solutions Dive Company. Since 2022, all aquatic invasive species (AIS) management activities have been conducted by the **Upper Saranac Foundation's Aquatic Invasive Divers (USF–AID)** team.

- In 2022, a pre-management survey performed by the Upper Saranac Foundation's Aquatic Invasive Divers (USF–AID) estimated that approximately 4.45 acres (or 17% of Moody Pond) contained moderate EWM coverage (20–59%), with localized areas of high density (>60%) and sporadic low-density growth observed throughout the pond.

- In 2025, the USF–AID crew was contracted to perform between 182 and 227 hours of aquatic invasive species (AIS) management, depending on the extent of plant growth and harvesting needs. **A total of 185 hours—completed over six management days,** five fewer than in 2024—was ultimately required to complete comprehensive management activities. This represents a reduction of 123 hours from 2024, when 308 hours were dedicated to AIS management, and a significant decrease from 2023, when 360 hours were required.

- The USF–AID team identified only one invasive species in Moody Pond—Eurasian watermilfoil (*Myriophyllum spicatum*). Since 2024, most plants observed have been small and immature, with few larger, old-growth specimens. Areas of recurring growth have remained consistent over the past two years.

- Management days were distributed from **June through September**, using short, single-day sessions to monitor and manage the lake throughout the growing season. This phased, adaptive approach ensures effective outcomes while maintaining cost efficiency.

- In **2025**, a total of **172 Eurasian watermilfoil plants** were found and removed, totaling **17 pounds** of biomass. This represents a dramatic reduction in both plant count and biomass compared to previous years. Since harvesting began in 2021, a cumulative total of **1,123 pounds of EWM** has been removed from Moody Pond.
- The Adirondack Park Invasive Plant Program (AIPP) Lake Manager Tracker provided independent monitoring and evaluation confirming the efficacy of USF-AID team control and removal efforts. Results from a 2021 survey, prior to USFs management, found that 23.7% of the 41 monitoring sites had Moderate to Dense abundancies of EWM. There was no EWM detected at any of the monitoring sampling sites from 2023- 2024 and this monitoring was discontinued in 2025. (Appendix A).
- There is an abundance of Common Bladderwort (a milfoil lookalike, native plant) growing in shallow waters of the pond that we do not harvest. This is mentioned so there is no confusion that we are missing the retrieval of any invasive plants.

Introduction

Eurasian watermilfoil – (Myriophyllum spicatum)

New York State ranks Eurasian watermilfoil (*Myriophyllum spicatum*) among the most problematic aquatic invasive species (AIS) due to its ecological impacts, aggressive growth, and widespread distribution. Eurasian watermilfoil (EWM) is a submerged perennial plant that closely resembles several native aquatic species, including native milfoils.

Typically, EWM features four finely divided, feather-like leaves whorled around the stem, each leaf containing more than nine leaflets with flat-tipped segments. The plant can reach lengths of up to 20 feet, often branching near the surface, and may produce tiny pink flowers on emergent spikes during late summer.

EWM spreads rapidly through fragmentation, allowing even small plant pieces to form new colonies. This characteristic enables the plant to outcompete native vegetation, forming dense mats that degrade habitat quality for fish and wildlife. These thick growths reduce dissolved oxygen levels, sometimes to zero, rendering areas uninhabitable to many aquatic species. Additionally, extensive infestations hinder recreational use—including fishing, swimming, and boating—thereby impacting tourism and local economies dependent on lake-based recreation.

EWM has been identified in numerous water bodies across New York State and is widespread throughout the Adirondack Park. Recognizing both the ecological and economic consequences of unmanaged AIS, the Upper Saranac Foundation (USF) affirms that ongoing harvesting and management at Moody Pond represent a practical and essential investment in environmental preservation.

The Upper Saranac Foundation's track record of AIS control has demonstrated measurable success in restoring the Upper Saranac Lake watershed, promoting healthy ecosystems, and ensuring the continued recreational and economic use of lake resources. USF is confident that the Friends of Moody Pond's partnership with the USF Aquatic Invasive Diver (AID) team will yield similarly successful results.

While the ultimate goal is the eradication of Eurasian watermilfoil from Moody Pond, the immediate objectives are to restore the pond's ecological balance, prevent the spread of AIS, and protect native aquatic species. Effective management will preserve Moody Pond as a valuable recreational and ecological resource, safeguarding both the community's environmental integrity and economic vitality.

Success is measured by immediate control and a sustained, year-to-year decline in both the area infested and amount of plant biomass removed.

The data-quality objective of this project is to collect, maintain, analyze, and present accurate AIS location and removal data across the pond, providing a strong statistical foundation for future decision-making.

USF – Aquatic Invasive Divers retrieving AIS from Moody Pond

This Final Report establishes baseline and trend data to inform adaptive management strategies for the Friends of Moody Pond in future years. Submission of this report by the Friends of Moody Pond to the Adirondack Park Agency (APA) fulfills permit requirements as outlined in APA General Permit 2020-0249.

Methodology

The successful management and removal of aquatic invasive species (AIS) requires a comprehensive understanding of a waterbody's unique physical and ecological conditions. Effective control depends on knowledge of factors such as bathymetry, substrate composition, seasonal variation, historical infestation patterns, and the growth dynamics of invasive watermilfoils.

Recognizing the complexity of these variables, the Upper Saranac Foundation (USF) has established a flexible management framework designed to ensure consistency in AIS control while allowing adaptive adjustments in response to field conditions. This approach ensures that the most efficient and environmentally responsible techniques are continuously applied.

Data collected during field surveys and harvesting operations provide both context and a long-term baseline for tracking aquatic plant community trends. Daily harvest records include total biomass removed and the number of individual plants extracted, while GPS mapping documents precise removal locations. These datasets enable comparative analyses of plant density and distribution over multiple years, supporting informed management decisions and demonstrating program efficacy.

Throughout the 2025 season, the Aquatic Invasive Diver (AID) Team closely monitored the phenological stages of Eurasian watermilfoil to align removals with optimal control periods. Monthly progress reports (June–September) summarized plant data, field observations, and management outcomes, providing the Friends of Moody Pond with timely updates and supporting an adaptive, data-driven approach.

USF – Aquatic Invasive Divers finding more than milfoil

AIS detection and removal incorporated multiple survey and harvesting techniques. Surface spotting from paddleboards was conducted under calm, clear conditions to ensure accurate visual identification and marking of target plants. Divers performed systematic line and grid swim surveys in both known and potential AIS areas, using Hookah-assisted systems for deeper waters and snorkel methods in shallower zones.

Between two and five divers conducted harvesting operations simultaneously, supported by a surface tender who guided divers, retrieved fragments, and recorded GPS coordinates for all removal sites. The tender also documented plant size, density, and count data to create detailed geospatial maps of AIS distribution.

Divers employed careful hand-pulling methods to extract plants from the sediment, ensuring complete root removal to prevent regrowth. Harvested material was collected underwater in 5 mm mesh bags (standard lobster mesh). Each bag's weight was estimated based on fill percentage, with a full bag equivalent to approximately 25 pounds—consistent with regional AIS management standards.

All plant material was composted locally for environmentally responsible disposal. To prevent the transfer of invasive species between sites, all equipment was thoroughly cleaned and decontaminated before entering Moody Pond and again at the end of each workday. Decontamination followed regional AIS prevention standards, employing a hot-water (140°F), high-pressure system to eliminate any residual organisms.

Operations

The USF–AID crew operated from the Dumas family's private beach on Moody Pond, a convenient location near known AIS infestations. Management was conducted through single-day sessions, allowing for real-time monitoring and targeted harvesting. This phased approach has proven both efficient and cost-effective. Early sessions focused on removing mature, old-growth plants to prevent fragmentation and reproduction. As the season progressed, divers found mostly small, immature plants, indicating continued suppression of the population.

Divers conducted periodic checks of known infestation sites and expanded surveys into deeper and less frequently monitored areas. Larger crews performed grid-style searches using surface spotting, snorkeling, and Hookah-assisted diving to ensure comprehensive coverage. The consistent reduction in both plant size and abundance reflects the long-term success of ongoing management efforts, supported by correspondingly low harvest poundage.

USF – Aquatic Invasive Divers surface spotting and marking AIS plant locations

Survey teams also noted a healthy presence of native Common Bladderwort (*Utricularia vulgaris*). Although similar in appearance to milfoil, this beneficial species plays an important role in maintaining ecological balance and is left undisturbed during management operations.

Beyond fieldwork, the dive crew participated in the Friends of Moody Pond Annual Ice Cream Social on August 9, engaging with the community through demonstrations, equipment displays, and discussions on the progress of AIS control efforts.

Work Hours / AIS Removed

A total of six days of management accounted for 185 diver hours in 2025. This was a decrease from 2024 (11 days - 308hrs.) and 2023 (12 days -360 hrs.). Management days were spread out beginning in June and concluding in September. The spacing of management periods allows for AIS plant regrowth to emerge, but prior to allowing plants to mature enough to fragment and start additional new growth.

Date	Hrs.	Plants Removed
12-Jun	50	60
16-Jul	30	21
6-Aug	45	46
20-Aug	13.5	12
8-Sep	30	18
22-Sep	16.5	15
Total	185	172

Each year has found a substantial reduction in the pounds of AIS harvested, dropping from 921 pounds removed in 2021 to 17 pounds in 2025. Since harvesting began in 2021 a total of 1,343 diver hours was invested to remove 1,123 pounds of Eurasian watermilfoil (Figure 1-2).

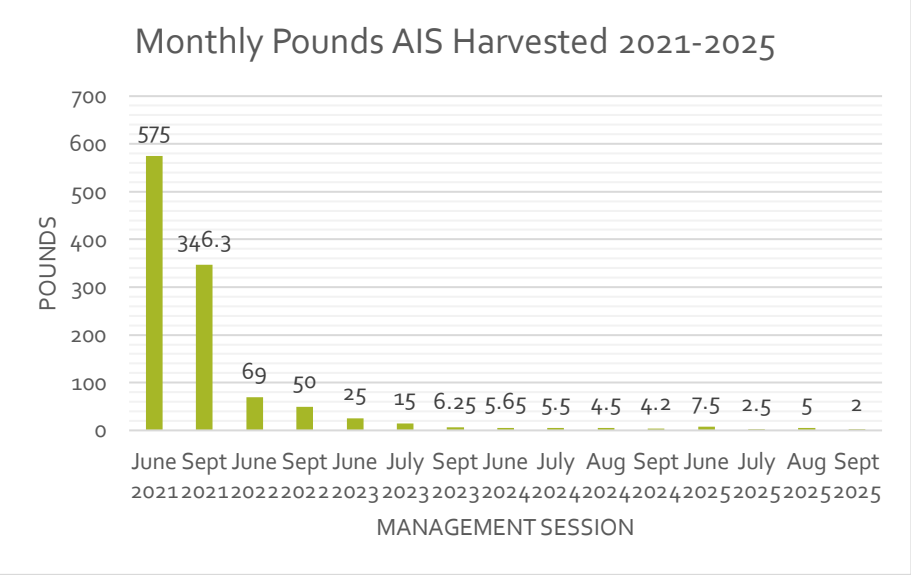


Figure 1. Pounds of Eurasian watermilfoil harvested for each month (2021 data retrieved from Invasive Solutions Dive Company)

Figure 2. Pounds of Eurasian watermilfoil harvested for each management year (2021 data retrieved from Invasive Solutions Dive Company)

Plants Harvested

With the continued decline in AIS density, USF–AID divers now record both daily harvest weight and the number of individual plants removed. This plant-counting method, first implemented at Moody Pond in 2022 when the USF–AID team assumed management responsibilities, provides a more precise metric for evaluating long-term effectiveness. The same methodology has been successfully applied on Upper Saranac Lake since 2015.

Since 2022, the number of plants removed from Moody Pond has dropped dramatically—from 5,376 plants in 2022 to just 172 in 2025—reflecting a sustained and substantial reduction in AIS presence. Combined with the corresponding decline in total biomass harvested, these results demonstrate the ongoing effectiveness and stability of management efforts (Figure 3–4).

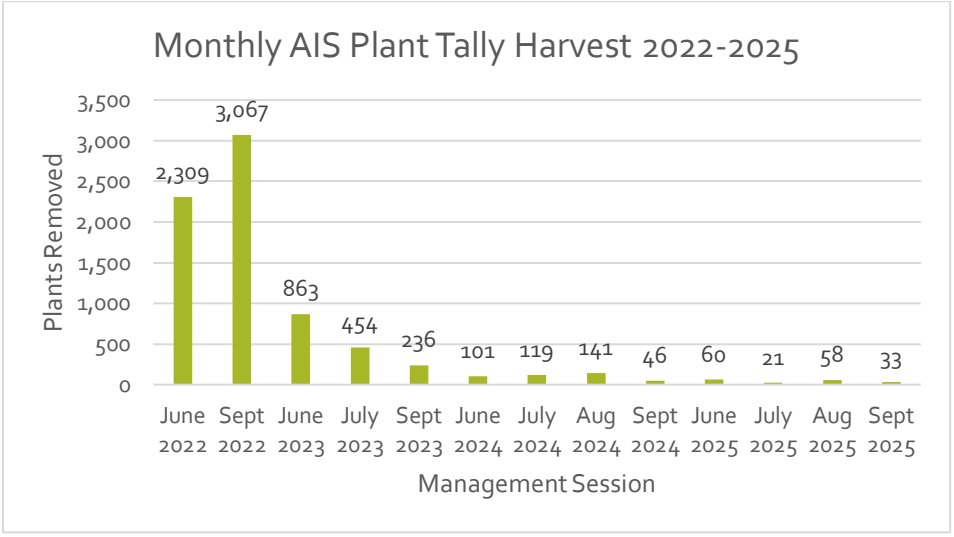


Figure 3. Number of Eurasian watermilfoil plants harvested for each management session

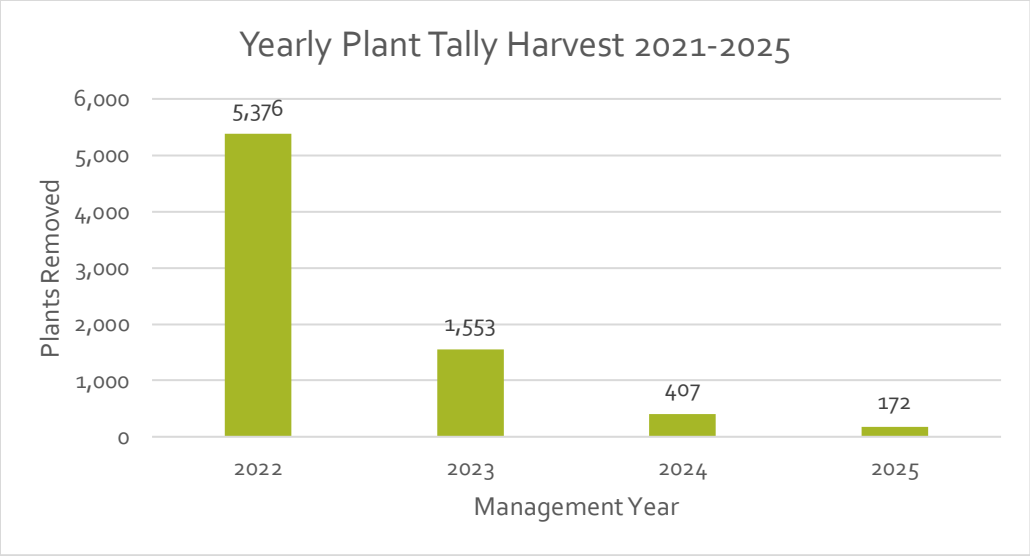


Figure 4. Number of Eurasian watermilfoil plants harvested for each management year

Trend Analysis

Since the initiation of management activities in 2021, there has been an **average annual decrease of 55% in the total pounds** of Eurasian watermilfoil (EWM) harvested. Furthermore, since 2022, when the number of individual plants removed began being recorded, data indicates an **average annual reduction of 68% in plant counts**.

These trends demonstrate the continued effectiveness of ongoing management efforts and provide a valuable forecast for future harvesting expectations. With consistent annual monitoring and maintenance, similar reductions are anticipated, supporting the long-term goal of achieving and sustaining low-density EWM populations within Moody Pond.

EWM Percentage Decrease Harvested		
Year	**Pounds Removed % Decrease**	**Plants Removed % Decrease**
2021 to 2022	87%	N/A
2022 to 2023	61%	71%
2023 to 2024	57%	74%
2024 to 2025	14%	58%
Average	55%	68%

Monitoring Locations

For management purposes we have divided Moody Pond into three sections, North, West and East (figure 5).

Locations of where most plants were found has had little fluctuation for the past three years. The majority of EWM harvested since 2023 was from the northern portion of the pond (figure 6).

Tracking trends over time helps guide future management. It should be noted that the earliest surveys in 2019 didn't find any AIS plants in the eastern section of the pond but by 2025 this area accounted for 16% of AIS harvested.

Figure 5. Moody sections North, West, East

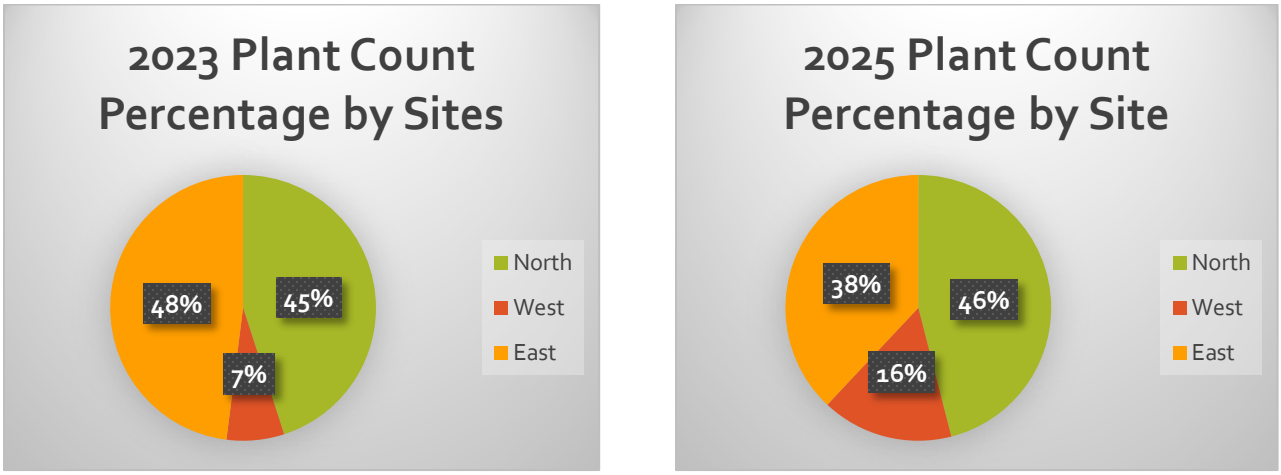
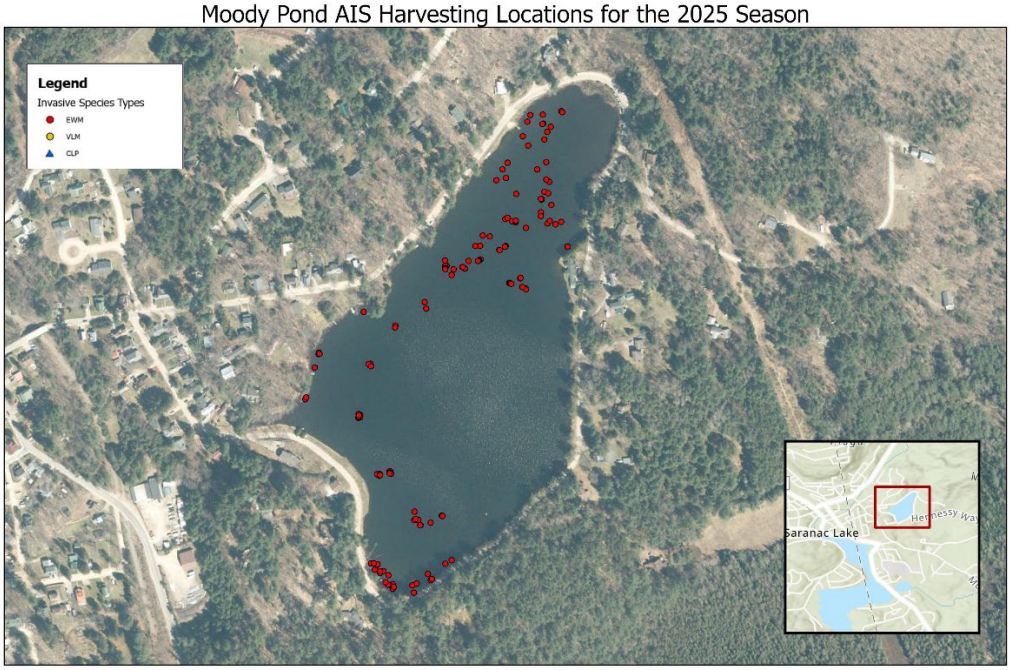
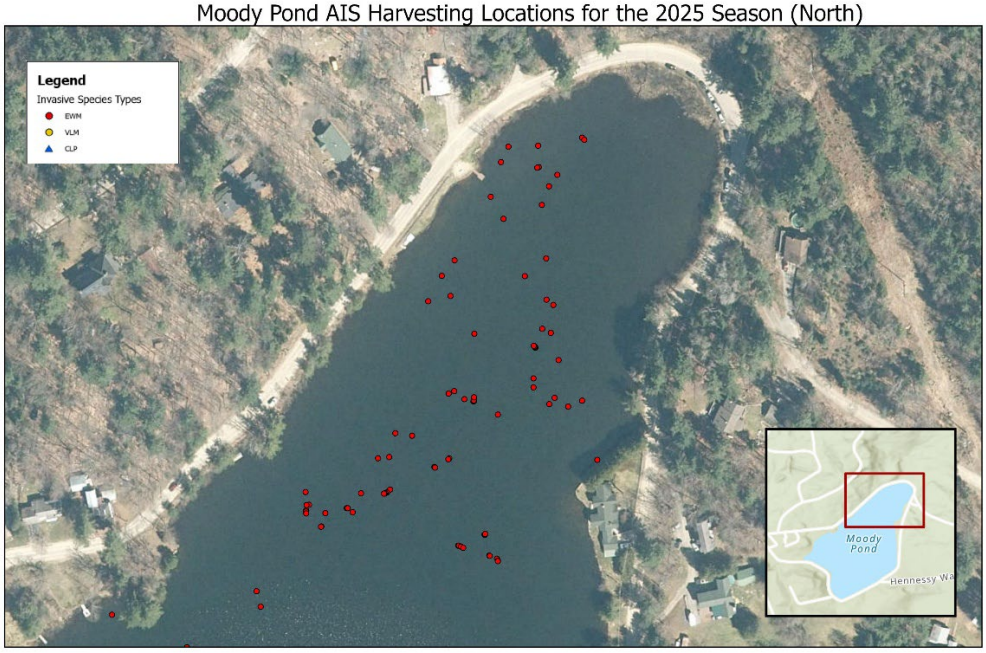


Figure 6. Plant Count by Site

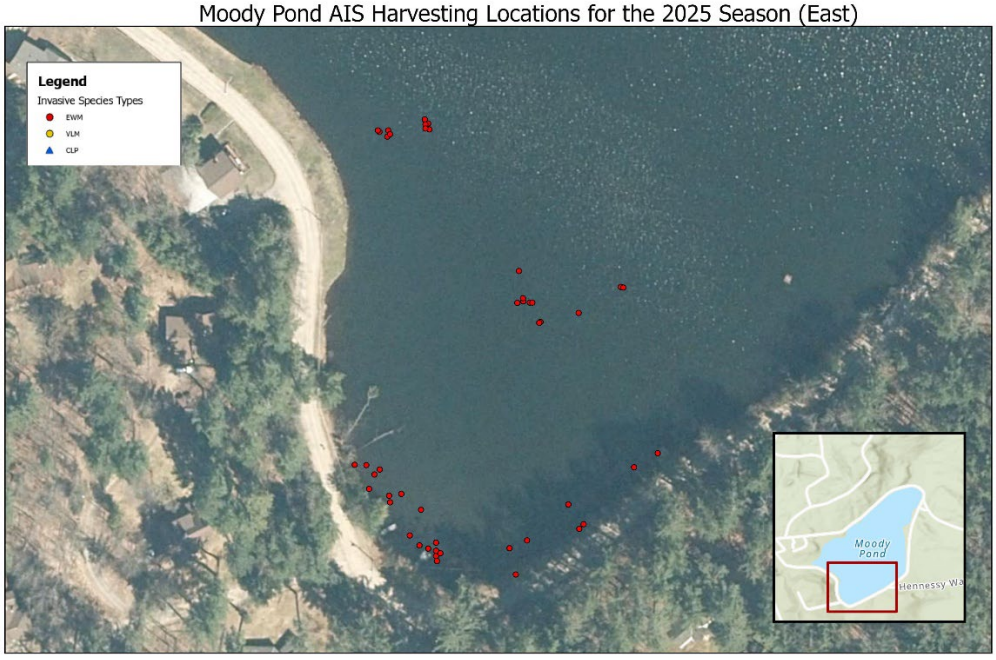
Moody Pond AIS Harvesting Locations for the 2025 Season



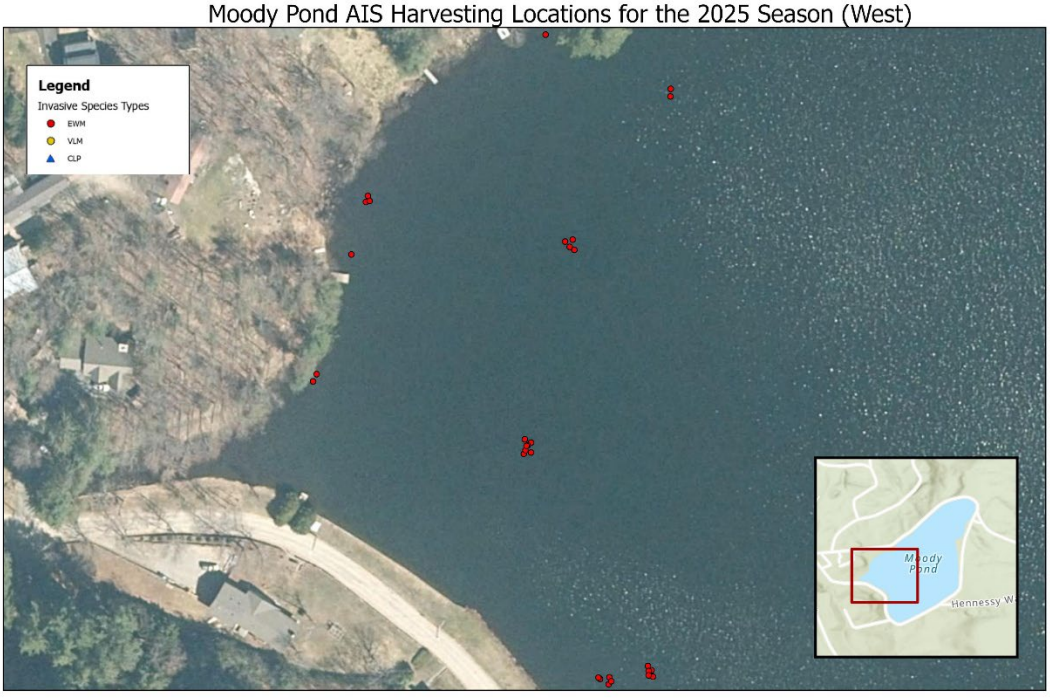
Moody Pond AIS Harvesting Locations for the 2025 Season (North)



Moody Pond AIS Harvesting Locations for the 2025 Season (East)



Moody Pond AIS Harvesting Locations for the 2025 Season (West)



Independent Monitoring: The Adirondack Park Invasive Plant Program (APIPP) Lake Manager Tracker (LMT) program collects standardized data to inform management decisions and assess the long-term effectiveness of aquatic invasive species (AIS) control efforts on Moody Pond. Volunteers from the Friends of Moody Pond monitored 41 fixed locations annually using a combination of visual surveys, aquascopes, and rake toss methods.

Prior to the Upper Saranac Foundation's (USF) involvement in September 2021, survey results indicated that 23.7% of the monitored sites exhibited Moderate to Dense Eurasian watermilfoil (EWM) abundance. Following the first full year of USF management in 2022, no sites showed Moderate to Dense growth, and only 4.9% displayed Trace or Sparse abundance levels.

Subsequent surveys conducted after USF–AID management in 2023 and 2024 reported no EWM presence at any of the 41 monitoring locations (Figure 7). After two consecutive years with no detections of invasive species, Lake Manager Tracker surveys were discontinued in 2025.

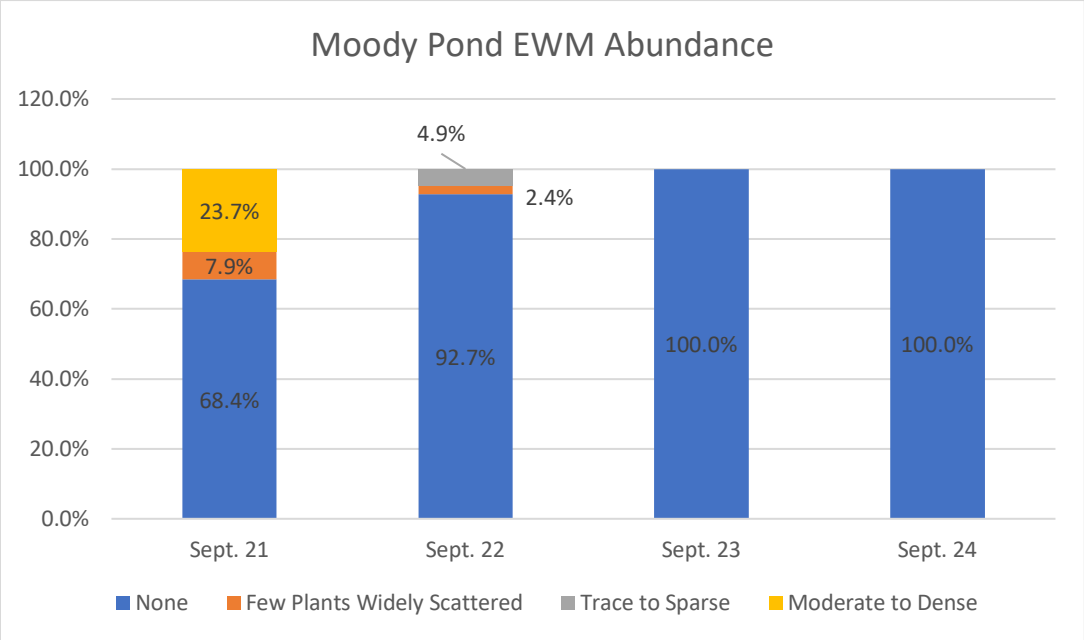


Figure 7. 2021-2024 Moody Pond EWM Abundance (courtesy of APIPP)

Conclusion

The 2025 season marks the fourth consecutive year of aquatic invasive species management at Moody Pond conducted by the Upper Saranac Foundation's Aquatic Invasive Divers (USF–AID) team. The results clearly demonstrate that persistent, targeted hand-harvesting continues to yield strong results, achieving substantial reductions in Eurasian watermilfoil (EWM) biomass and

distribution. Since management began in 2021, EWM has been reduced from covering roughly 17% of the pond to only small, isolated occurrences, with just 172 plants—totaling 17 pounds—removed this season.

Independent monitoring by the Adirondack Park Invasive Plant Program (APIPP) volunteer Lake Management Tracker, conducted by Friends of Moody Pond, further validates these results: no EWM was detected at any of the 41 monitoring sites from 2023 through 2024. After two consecutive years with no detections of AIS, the Lake Manager Tracker surveys were discontinued.

Given the ongoing reduction in plant density and area, the USF believes Moody Pond has reached a level of effective control, allowing for a modest reduction in annual management hours. However, maintaining regular monitoring and harvesting throughout the growing season remains essential to prevent resurgence.

This Final Report establishes baseline and trend data to inform adaptive management strategies for the Friends of Moody Pond in future years. Submission of this report by the Friends of Moody Pond to the Adirondack Park Agency (APA) fulfills permit requirements as outlined in APA General Permit 2020-0249.

This work directly supports the goals of the *Friends of Moody Pond Management Plan*, emphasizing long-term hand-harvesting and ongoing monitoring to preserve water quality and natural resources. The progress made thus far demonstrates that consistent collaboration, adaptive methodology, and community engagement are key to protecting Moody Pond's health and biodiversity.

The Upper Saranac Foundation extends sincere appreciation to the Friends of Moody Pond, local residents, and donors whose commitment has made this progress possible. Together, these collective efforts ensure Moody Pond remains a clean, resilient, and thriving resource for future generations.

Literature Cited

Schwartzberg, E.G., Hoh, J., Fountain, M., LaLumiere, S., and Epifanio, A. (2019). 2019 Adirondack AIS Surveys. Adirondack Research, Saranac Lake, NY.

Schwartzberg, E.G., Firkins, T., Privee M., Bly, P., Young, J., Johnson, L., Murphy, T., Aveson, S. and Greene, B.T. (2021). 2021 Adirondack Aquatic Invasive Species Surveys. Adirondack Research, Saranac Lake, NY.

Stager, C. (March 14, 2021) Management Plan for Moody Pond (Saranac Lake, NY).

APPENDIX A

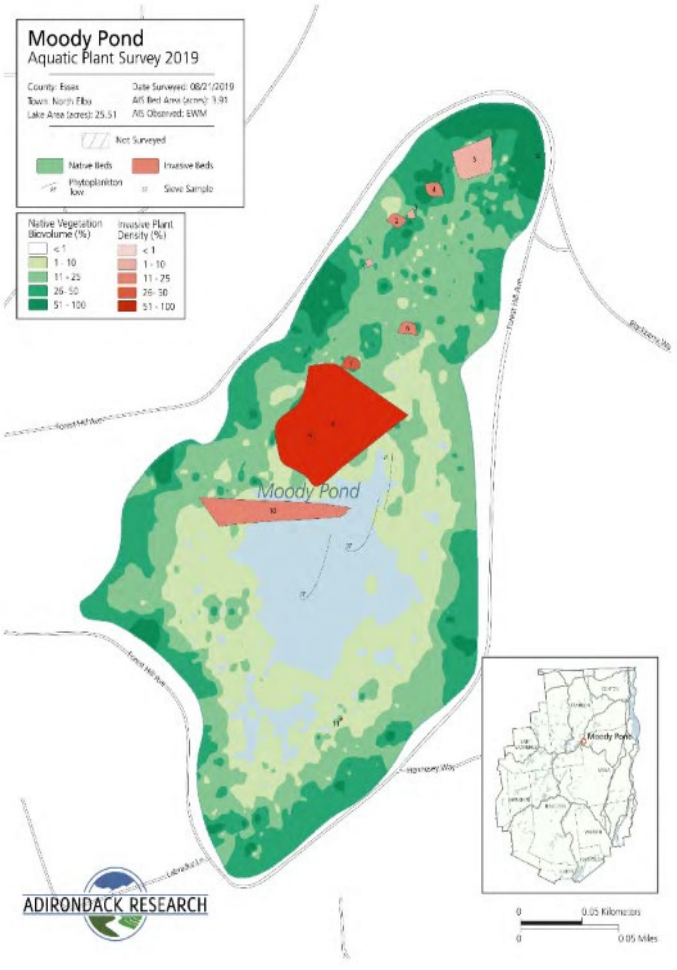
Curtesy of Adirondack Aquatic Invasive Species Surveys Early Detection Team Report- written by Adirondack Research for the Adirondack Park Invasive Plant Program

Invasive Species Percent Cover (See map on adjacent page)

Eurasian Watermilfoil			
Bed	Size (Ac.)	Size (Sq. Ft.)	% Cover
1	.01	561.55	1-10
2	.05	2387.88	11-25
3	.02	799.46	1-10
4	.06	2756.79	11-25
5	.34	14955.80	1-10
6	.06	2470.38	11-25
7	.05	2175.78	26-50
8	2.64	115046.00	51-100

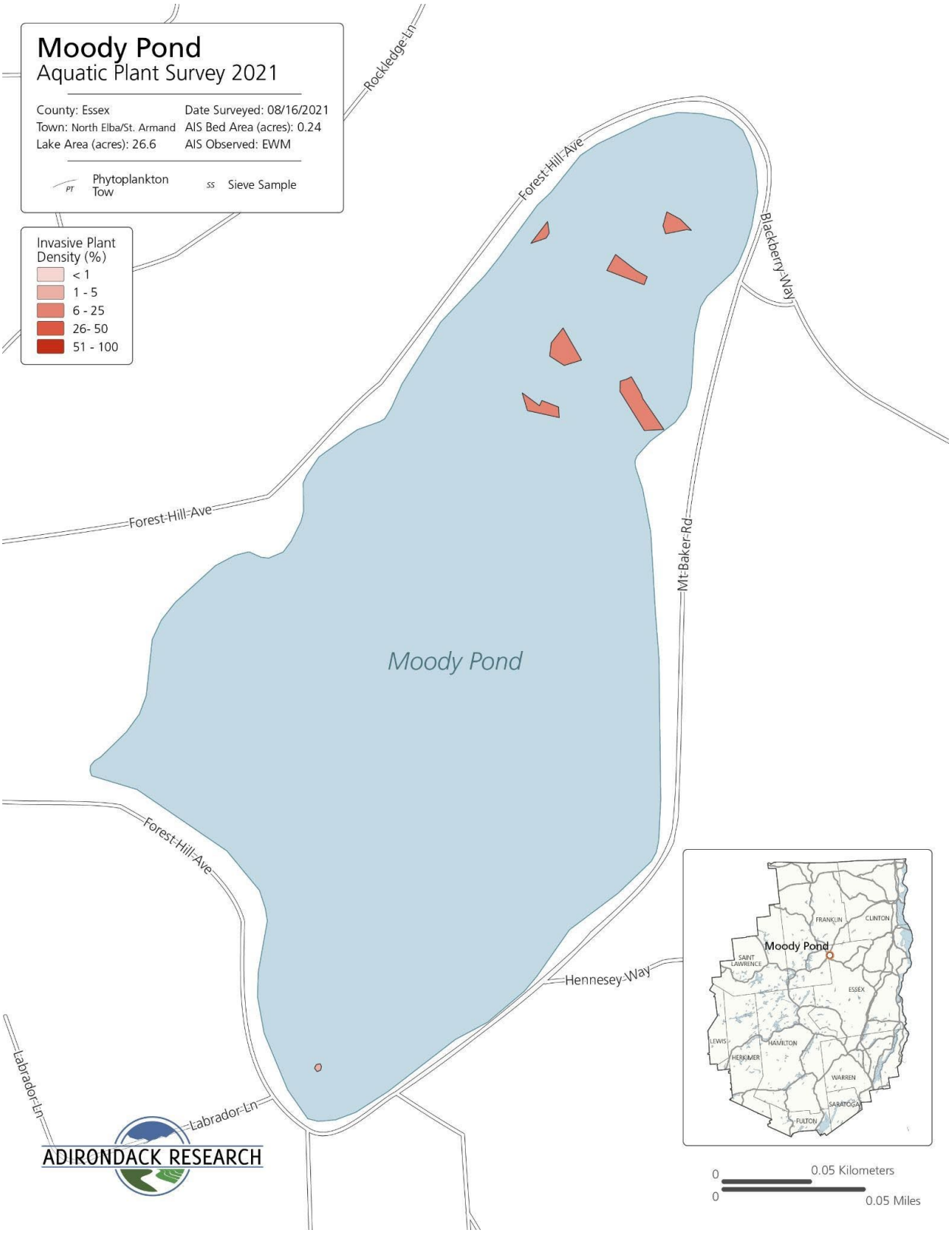
Eurasian Watermilfoil			
Bed	Size (Ac.)	Size (Sq. Ft.)	% Cover
9	.03	1168.21	51-100
10	.63	27393.70	11-25
11	.0005	20.35	51-10

Asian Clam	Spiny Waterflea
Present (Y/N)	Present (Y/N)
No	No



Map of EWM extent in Moody Pond in 2019 produced by Adirondack Research and APIPP, showing EWM beds in red and native plants in green

APPENDIX B


Moody Pond
Aquatic Plant Survey 2021
County: Essex
Town: North Elba/St. Armand
Lake Area (acres): 26.6
Date Surveyed: 08/16/2021
AIS Bed Area (acres): 0.24
AIS Observed: EWM
PT Phytoplankton Tow
SS Sieve Sample
Invasive Plant Density (%)
< 1
1 - 5
6 - 25
26- 50
51 - 100
Rockledge Ln
Forest Hill Ave
Blackberry Way
Forest Hill Ave
Mt Baker Rd
Moody Pond
Forest Hill Ave
Hennesey Way
Labrador Ln
Labrador Ln
ADIRONDACK RESEARCH
FRANKLIN
CLINTON
Moody Pond
SAINT LAWRENCE
ESSEX
LEWIS
HAMILTON
HERKIMER
WARREN
SARATOGA
FULTON
0
0.05 Kilometers
0
0.05 Miles