Notice of Intent Application

Richmond Pond

Aquatic Vegetation Management Program

Addendum: Responses to Comments on WM DEP Filing Document

September 2025

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
WESTERN REGIONAL OFFICE
436 DWIGHT STREET, SPRINGFIELD, MA 01103 413-784-1100

MAURA T. HEALEY
Governor

KIMBERLEY DRISCOLL
Lieutenant Governor

REBECCA L. TEPPER
Secretary

BONNIE HEIPLE
Commissioner

DATE: December 5, 2024

Municipality PITTSFIELD
(city/town)

RE: NOTIFICATION OF WETLANDS PROTECTION ACT FILE NUMBER

The Department of Environmental Protection has received a Notice of Intent filed in accordance with the Wetlands Protection Act (M.G.L. c. 131, §40):

Applicant:	CITY OF PITTSFIELD	Owner:	
Address:	70 ALLEN STREET PITTSFIELD, MA 01201	Address:	
LOCUS:	RICHMOND POND		

This project has been assigned the following file # : WE 263-1241

A FILE NUMBER ONLY INDICATES THAT THE APPLICATION CONTAINS THE MINIMAL SUBMITTAL REQUIREMENTS AND IS ADMINISTRATIVELY COMPLETE - NOT THAT THE INFORMATION IN THE APPLICATION IS ADEQUATE FOR ISSUANCE OF AN ORDER OF CONDITIONS.

Although a file # is being issued, please note the following:

[1] The commission needs to wait to close the public hearing until NHESP has issued its decision.

[2] This project has been submitted as an Ecological Restoration Limited Project. The commission needs to review 310 CMR 10.11, 310 CMR 10.12 and 310 CMR 10.53(4)(e)5. as well as the included Appendix A. However, in order to qualify as an Ecological Restoration Limited Project, which means a project whose primary purpose is to restore or otherwise improve the natural capacity of a Resource Area(s) to protect and sustain the interests identified in M.G.L. c. 131, § 40, when such interests have been degraded or destroyed by anthropogenic influences, the applicant must clearly explain to the commission what those anthropogenic influences are. Failure to do so means the work does not qualify as an ER Limited Project and therefore full compliance with the performance standards is required

[3] A permanent lake elevation gauge needs to be installed at a location easily visible to the commission and it shall be maintained. Does the NOI note the normal pond summer elevation as well as the elevation for the two foot drawdown?

[4] Nuisance vegetation removal has been an ongoing process here for many years. The Commission should note

CITY OF PITTSFIELD
70 ALLEN STREET
PITTSFIELD, MA 01201

that the application of herbicides is typically only a short term management solution. Herbicide treatment should only be approved as part of a comprehensive lake management plan that includes not only short term but also long term management methods. A Lake Management Plan should include water quality data, information on the history and sources of water quality degradation and other information to identify existing pollution inputs to the water body. It is essential to review past and current watershed management practices, assess the effect of these practices on water quality, and evaluate alternative watershed management practices to improve water quality through source control.

[5] This reviewer recommends that the Pittsfield and Richmond conservation commissions work together on any special conditions so there is no conflict between the two Orders.

If you have any questions regarding this letter, please contact: MARK STINSON @ (413)-961-9583

Cc: Pittsfield Conservation Commission, CITY HALL, 70 ALLEN STREET, Pittsfield, MA, 01201
Natural Heritage & Endangered Species Program, Div of Fisheries & Wildlife Route 135, North Drive, Westborough, MA, 01581
Representative: Richmond Pond Association, PO Box 447, LENOX, MA, 01240

[1] The commission needs to wait to close the public hearing until NHESP has issued its decision.

NHESP issued its decision on 12/23/24 after this WMDEP filing document was submitted on 12/05/24. The letter from NHESP is submitted below (See attachment H). The ruling was favorable to the combined Notice of Intent for Aquatic Vegetation Management in Richmond Pond. There were specific conditions provided by NHESP which were to be followed in order to safely avoid adverse effects to the Resource Area Habitats and to avoid a prohibited Take of the state-listed species, including the Bald Eagle and Bridle Shiner. The necessary List of Conditions are stated in the recent correspondence from NHESP and also in the original NOI application. Provided these conditions are included in any approving Orders of Conditions issued by the Conservation Commissions of Pittsfield and Richmond – as they certainly should be – the project will not result in an adverse impact to the resource area habitats of state-listed wildlife species pursuant to the WPA and will not result in a prohibited Take pursuant to the MESA, according to NHESP.

[2] This project has been submitted as an Ecological Restoration Limited Project. The commission needs to review 310 CMR 10.11, 310 CMR 10.12 and 310 CMR 10.53(4)(e)5. as well as the included Appendix A. However, in order to qualify as an Ecological Restoration Limited Project, which means a project whose primary purpose is to restore or otherwise improve the natural capacity of a Resource Area(s) to protect and sustain the interests identified in M.G.L. c. 131, §40, when such interests have been degraded or destroyed by anthropogenic influences, the applicant must clearly explain to the commission what those anthropogenic influences are. Failure to do so means the work does not qualify as an ER Limited Project and therefore full compliance with the performance standard is required.

In the case of Richmond Pond, there are clearly **anthropogenic** factors at work causing the degradation of the lake by aquatic vegetation. The NOI would therefore qualify as an Ecological Restoration Limited Project to "otherwise improve the natural capacity of the Resource Area."

Anthropogenic literally means "caused by man." In the case of Richmond Pond, there are number of anthropogenic factors in the degradation of the pond by various invasive and proliferative weed species. Please refer to attachment of most recent weed map survey and analysis of Richmond Pond from Late Summer 2025 (See attachment G).

The invasive weed species in Richmond Pond include Eurasian Watermilfoil, Large Curly Pondleaf, and Brittle Spiny Nyad. As these species are invasive meaning not native to Richmond Pond, they must necessarily have been brought over vast distances from elsewhere -- including Europe, Asia, and Africa in the case of EM -- by human beings. They did not arise *de novo* in Western Massachusetts and specifically Richmond Pond.

The second factor is the nitrogen and phosphate run-off into the lake through the multiple tributaries feeding Richmond Pond. The sources of these vegetation nutrients are due in large part to commercial and personal land and crop fertilization. Unfortunately, the ability to completely prevent this type of run-off is

not possible, but the effects might be mitigated with informational campaigns to promote best practices for farming and alerts to local residents about the negative effects of run-off on the lake and the surrounding habitat.

The third anthropogenic factor is that of climate change. Due to the ever-growing population and the reliance on fossil fuels, carbon dioxide levels have increased over the last century in an exponential manner.[1] The increasing carbon dioxide levels have been tracked in ice core samples which measure these levels.[2] The increased carbon dioxide has directly led to the greenhouse effect which in turn has raised the overall average temperature around the planet including here in the Berkshires.[3,4] Methane a lesser component of the atmosphere but a more potent greenhouse gas by 28x that of carbon dioxide has also contributed to this effect. A major source of methane is the waste produced by domesticated livestock.[5] With more heat in the ecological system and longer growing seasons, vegetative growth has increased here in Richmond Pond and elsewhere.[6,7]

Finally, a secondary effect of the excessive weed growth is the trapping of the nitrogen in the plant material which is released on an annual basis in the winter months back into the lake contributing to further excessive growth.

It is true that this NOI represents an Ecological Restoration Limited Project. It is our hope that the effectiveness of the treatment methods we have proposed will exceed expectations. But the reality is that all the lakes in the Berkshires area are struggling with invasive weed species which don't seem to have a definitive solution. It is becoming clear that just like Burmese Pythons in the everglades, Lionfish off the coasts of the eastern United States, and Zebra Muscles in our lakes and streams, we are trying to manage and ameliorate a very challenging issue where eradication does not seem possible at this time.

That being said, the following represents the **Five-Year Schedule** for Aquatic Vegetation Management Treatment for Richmond Pond including Mechanical Weed Harvesting and Approved Herbicide treatment with detailed specificity as requested. This schedule was drafted by Dominic Meringolo from Solitude. The Annual 2 Foot Lake Level Drawdown would continue throughout the five-year

period. We would like to ask for flexibility in the aquatic vegetation management of the lake as one cannot precisely predict what the outcome of each year's treatment will be without the annual weed maps, which would of course be obtained every year and is already stipulated in the original NOI.

5 Year Plan for Aquatic Vegetation Management for Richmond Pond

Richmond Pond - 5 Year Treatment Plan

Task	Year					Notes
	2026	2027	2028	2029	2030	
Milfoil Control***	Whole Lake Fluridone	None, or minimal spot treatment with ProcellCOR	None, or minimal spot treatment with ProcellCOR	Spot Treatment with ProcellaCOR	Spot Treatment with ProcellaCOR	Whole Lake Fluridone - maintain pondwide concentration of ~4 ppb for 90 days, herbcide applied to ~180 acre infested area. Initial treatment in late April/early May followed by 2-3 booster applications. ProcellaCOR Spot-Treatment - up to 4 PDU/ac-ft (7.7 ppb). Acreage based on survey work (likely up to 25 acres/year)
Curlyleaf Pondweed Control	Whole Lake Fluridone	Spot Treatment with Imazamox	Spot Treatment with Imazamox	Spot Treatment with Imazamox	Spot Treatment with Imazamox	Imazamox applied at 100-150 ppb. Acreage treated based on survey (likely up to 25 acres/year)
Native Plants	Whole Lake Fluridone	Possible Harvesting	Possible Harvesting	Possible Harvesting	Possible Harvesting	See Project Description

*** - Alternative Approach if funding is not available for the whole lake fluridone treatment is rotating annual spot-treatment with ProcellaCOR.

Richmond Pond - Preliminary 2026 Management Recommendations

● To control widespread Eurasian watermilfoil, a whole lake treatment with Sonar (fluridone) herbicide is recommended.

● This treatment will control Eurasian watermilfoil for 3+ years as well as regulate the growth of native species such as tapegrass in the year of treatment.

● Will also control curlyleaf pondweed in the year of treatment

● Approximate Cost: $110,000 ○ Three applications using a total of ~14 ppb of fluridone will be conducted with the goal of maintaining a concentration of ~4 ppb in the lake for 60-90 days.

● Alternative approach is to use ProcellaCOR, however the cost will be significantly more (~$255,000) to treat ~180 acres of the lake, with no better longevity of control versus fluridone treatment. There will also be no control of curlyleaf pondweed or regulation of native plant growth.

1. https://www.climate.gov/news-features/understanding-climate/climate-change-atmospheric-carbon-dioxide

2. D.M. Etheridge, L.P. Steele, R.L. Langenfelds, R.J. Francey, J.-M. Barnola and V.I. Morgan. 1998. Historical CO_2 records from the Law Dome DE08, DE08-2, and DSS ice cores. In Trends: A Compendium of Data on Global Change. Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, U.S. Department of Energy, Oak Ridge, Tenn., U.S.A. https://www.co2.earth/co2-ice-core-data

3. https://www.ncei.noaa.gov/access/monitoring/monthly-report/global/202413

4. https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/statewide/time-series/19/tavg/1/8/1895-2025

5. https://www.epa.gov/snep/agriculture-and-aquaculture-food-thought

6. Xiufeng Zhang, et al. (2015) Warming shows differential effects on late season growth and competitive capacity of Elodea canadensis and Potamogeton crispus in shallow lakes, Inland Waters, 5:4, 421-432.

7. Patrick, D. A., Boudreau, N., et al. (2012). Effects of climate change on late-season growth and survival of native and non-native species of watermilfoil (Myriophyllum spp.): Implications for invasive potential and ecosystem change. Aquatic Botany, 103, 83-88.

[3] A permanent lake elevation gauge needs to be installed a location easily visible to the commission and it shall be maintained. Does the NOI note normal pond summer elevation as well as the elevation for the two-foot drawdown.

Since 1987, Annual Winter Lake Level Drawdowns have been performed for Richmond Pond utilizing the dam, which is currently owned by Cloverdale Properties, LLC. For the past 4 years the caretaker of Camp Arrow Wood has been performing the Annual 2 Foot Lake Level Drawdown. For the prior 30 years, the drawdown was performed safely and effectively by George, the previous caretaker. He instructed the current caretaker in the operation of the dam and proper drawdown procedure.

The Drawdown rationale is explained and conditions are defined in section 5.2A of the original NOI as well as in the List of Conditions provided by NHESP in the letter dated 12/23/25 (See attachment H).

The following narrative and photos are presented to provide further detail on how the measurements are *actually* taken in a safe and reliable manner and how the dam is operated at Richmond Pond.

•The water level is measured using a flexible high carbon steel retractable tape measure. The measurement is taken from the top of the concrete dam structure to the water level (See photos 1 and 2).

•The Spillway level is at the level of 65" (See photo 3).

•Mass Wildlife comes out to the dam to check lake levels ~1/month. They obtain their measurements in the same manner as the caretaker. To date, there have been no complaints, suggestions, or concerns raised.

•Conservation Commissioners can visit the lake and the dam site to perform their own measurements at any time they wish, although a phone call to the staff of Camp Arrow Wood would be appreciated.

Photo 1: Lake Level Measurement

Photo 2: Lake Level Measurement (alternate view)

Photo 3: Spillway and Dam Outlet

Photo 4: Control Wheel for Dam Outflow Gate

•The goal of the 2 Foot Lake Level Drawdown is 89”.

•Daily logs kept by caretaker from November 01 (Drawdown start) to April 01 (Complete Refill). Levels are measured periodically during the summer, but no action is allowed following completion of refilling after April 01.

•1 complete revolution = ¼” of outflow per day (See photo 4).

•2-foot level maintained during winter if no lake freezing occurs and measurement is possible.

Representative Logs from recent Drawdown

DATE	LEVEL	WEATHER	GATE FLOW CHANGE
1st Nov	63”	showers	Gate Open 1/2”
2nd Nov	62 1/2”	sunny	1/2”
3rd Nov	62 1/2”	sunny	1”
4th Nov	63 1/2”	sunny	1/2”
5th Nov	64”	sunny windy	1/2”
6th Nov	64” 1/2	showers	
7th Nov	65”	sunny	1 1/4”
8th Nov	66”	sunny	1/2”
9th Nov	66 1/2”	sunny	1”
10th Nov	67 1/4”	sunny	3/4”
11th Nov	68 1/2”	cloudy	No change
12th Nov	68 1/2”	rain	1/2”
13th Nov	69”	showers	No change
14th Nov	70”	fine	1/4”
15th Nov	70 1/2”	fine	1/4”
16th Nov	70”	snow and rain	1/2”
17th Nov	71”	snow showers	No change
18th Nov	72”	fine	No change
19th Nov	71 1/2”	fine	3/4”
20th Nov	Too windy for accurate reading.		
21st Nov	73”	fine	3/4”
22nd Nov	75”	fine	No change
23rd Nov	76”	fine	1/2”

24th Nov	77 1/2”	fine	No change
25th Nov	79”	showers/windy	No change
26th Nov	80”	fine	No change
27th Nov	81”	Rain	No change
28th Nov	80”	overcast	3/4”
29th Nov	81”	overcast	No change
30th Nov	81”	Heavy Rain.	No change
1st Dec	81”	fine	No change
2nd Dec	79”	fine	No change
3rd Dec	79”	Rain	No change
4th Dec	80”	fine	No change
5th Dec	79”	fine	No change
6th Dec	79”	showers	No change
7th Dec	79”	showers	No change
8th Dec	78”	fine	No change
9th Dec	77”	fine	No change
10th Dec	73”	fine	3/4”
11th Dec	74”	heavy snow	No change
12th Dec	not measured 8” snow overnight		
13th Dec	75”	fine	No change
14th Dec	75”	fine	No change
15th Dec	76”	cloudy	No change
16th Dec	77”	snow	No change
17th Dec	not measured. Still snowing		
18th Dec	not measured. Cloudy		
19th Dec	78”	cloudy	No change
20th Dec	78 1/2”	fine	No change
21st Dec	79”	fine	No change
22nd Dec	80 1/2”	cloudy	No change
23rd Dec	81”	heavy rain	No change
24th Dec	not measured		
25th Dec	78”	overcast/snow	
26th Dec	72”	fine	3/4” open
27th Dec	72”	fine	No change
28th Dec	73”	fine	No change
29th Dec	75”	fine	No change
30th Dec	74”	fine	No change
31st Dec not measured fine warm rain			
1st Jan	72”		No change
2nd Jan	72”	overcast warm.	No change

3rd Jan	72”	Rain	No change
4th Jan	71”	Rain	1/2”
5th Jan	69”	cloudy	3/4”
6th Jan	69”	rain	No change
7th Jan	not measured		
8th Jan	not measured		
9th Jan	69”	cloudy	No change
10th Jan	70”	cloudy	No change
11th Jan	71 1/2”	fine	No change
12th Jan	72”	snow/sleet	No change
13th Jan	72”	rain	No change
14th Jan	69”	flurries	No Change
15th Jan	69”	fine	No change
16th Jan	70”	fine	1/2”
17th Jan	70”	cloudy	1/2”
18th Jan	72”	light rain	No change
19th Jan	71 1/2”	snow/sleet	No change
20th Jan	71 1/2"	light rain	No change
21st Jan	not measured		
22nd Jan	not measured		
23rd Jan	72”	Heavy snow/sleet	No change
24th Jan	72”	light snow	No change
25th Jan	72 1/2"	late rain	No change
26th Jan	72”	fine, mild	1/2”
27th Jan	72”	fine	No change
28th Jan	not measured		
29th Jan	not measured		
30th Jan	73”	fine	No change
31st Jan	73”	fine	No change
1st Feb	74”	fine	No change
2nd Feb	75”	fine	No change
3rd Feb	76 1/2”	fine	No change
4th Feb	not measured extreme cold		
5th Feb	not measured Extreme cold		
6th Feb	82”	fine above freezing	No change
7th Feb	83”	fine	Closed 1/2”
8th Feb	85”	fine	Closed 1”
9th Feb	86”	showers	Closed 2”
10th Feb	88”	mild	Closed 1”

Vacation

20th March	81”	mild	Closed 2”
21st March	80”	mild	Closed 2”
22nd March	78”	mild	No change
23rd March	75”	mild	No change
24th March	69 1/2"	mild	No change
25th March	65”	mild	No change
26th March	at spillway	mild	**Gate closed**
27th March	over spillway		

[4] Nuisance vegetation removal has been an ongoing process here for many years. The Commission should note that the application of herbicides is typically only a short-term management solution. Herbicide treatment should only be approved as part of a comprehensive lake management plan that includes not only short term but also long-term management methods. A Lake Management Plan should include water quality data, information of the history and sources of water quality degradation and other information to identify existing pollution inputs to the water body. It is essential to review past and current water shed management practices, assess the effect of these practices on water quality, and evaluate alternative watershed management practices to improve water quality through source control.

It is true that the application of herbicides is typically seen as only a short term management solution. The feeling of the Richmond Pond Association, the City of Pittsfield, and the Town of Richmond is that aquatic vegetation management strategies presented in this proposed NOI should also be part of a long term coordinated effort to address root causes of excessive and invasive weed species at Richmond Pond.

For many years, a comprehensive Lake Management Plan has been in place for Richmond Pond. It is posted clearly on the RPA website.

https://richmondpondassociation.org/lake-mgmt

The current comprehensive Lake Management Plan for Richmond Pond is attached below (See attachment I).

Nitrate and Phosphate run-off from fertilizer use by nearby farms and neighboring residents continues to impact the lake and the weed proliferation. This is further compounded by the roads surrounding the lake which are primarily dirt roads. As the rains and winter melt occur over the year, these wash the silt and nutrients into the tributaries to the lake. This situation could be improved by various public works projects concerning the roads adjacent to the lake including proper road grading, road paving, and placement and maintenance of effective swales and

culverts. These techniques have been advocated by many in the RPA, but road paving has not been seen as financially feasible at the current time.

Unfortunately, the ability to completely prevent this type of run-off is not possible, but the effects might also be mitigated with informational campaigns to promote best practices for farming and alert local residents to the negative and harmful effects of nutrient run-off on the lake and the surrounding habitat.

Water analysis of the lake has been and continues to be an important goal for Richmond Pond. Cyanobacteria and E. coli testing are routinely performed. This past year there were no toxic algal blooms recorded, and Cyanobacteria levels were at safe lower depth levels. Systems remain in place to alert the public to any concerning levels of E. coli or Cyanobacteria in the lake and provide necessary directives and restrictions to lake users and potential visitors.

Further water analysis had been routinely performed for Nitrate, Phosphate, and E. coli levels at the inlets of various tributaries including Whitewood, Tracy Brook, Clarke's Brook, and the inlet, as well as the outlet by the dam. The outlet levels have continued to remain at safe levels over the years. The inlet levels for nitrates and phosphates can vary widely depending on the time of year, snow melt, and rain affecting the run-off into the tributaries (See attachment J).

Looking for grant opportunities for the maintenance and well-being of the lake and the surrounding habitat also remains a priority for the organizations that support Richmond Pond. We have explored possible avenues working with Alison Dixon from the Berkshire Regional Planning Commission, but as of yet we have not qualified or secured any recent grants.

[5] This reviewer recommends that the Pittsfield and Richmond Conservation Commissions work together on any special conditions so there is no conflict between the two Orders.

Richmond Pond presents an additional challenge in that approximately 2/3 of the lake resides in Richmond while a 1/3 resides in Pittsfield. Although the aquatic vegetation affects the entire lake, which is certainly true for EM in the most recent weed map survey (See attachment G), and treatment thereof must necessarily apply to the entire lake; both the Town of Richmond and the City of Pittsfield must approve the NOI and write an Order of Conditions. It is therefore critical that both municipalities work together to come to a consensus on the Order of Conditions which will be adopted. If this is not done, then extra time and contradictory orders will prevent effective treatment of the invasive and proliferative weed species of Richmond Pond.

Further Concerns by Pittsfield Conservation Commission:

[6] Existing OOC 263-1131, the Commission *cannot* take action on this NOI without first closing the existing NOI.

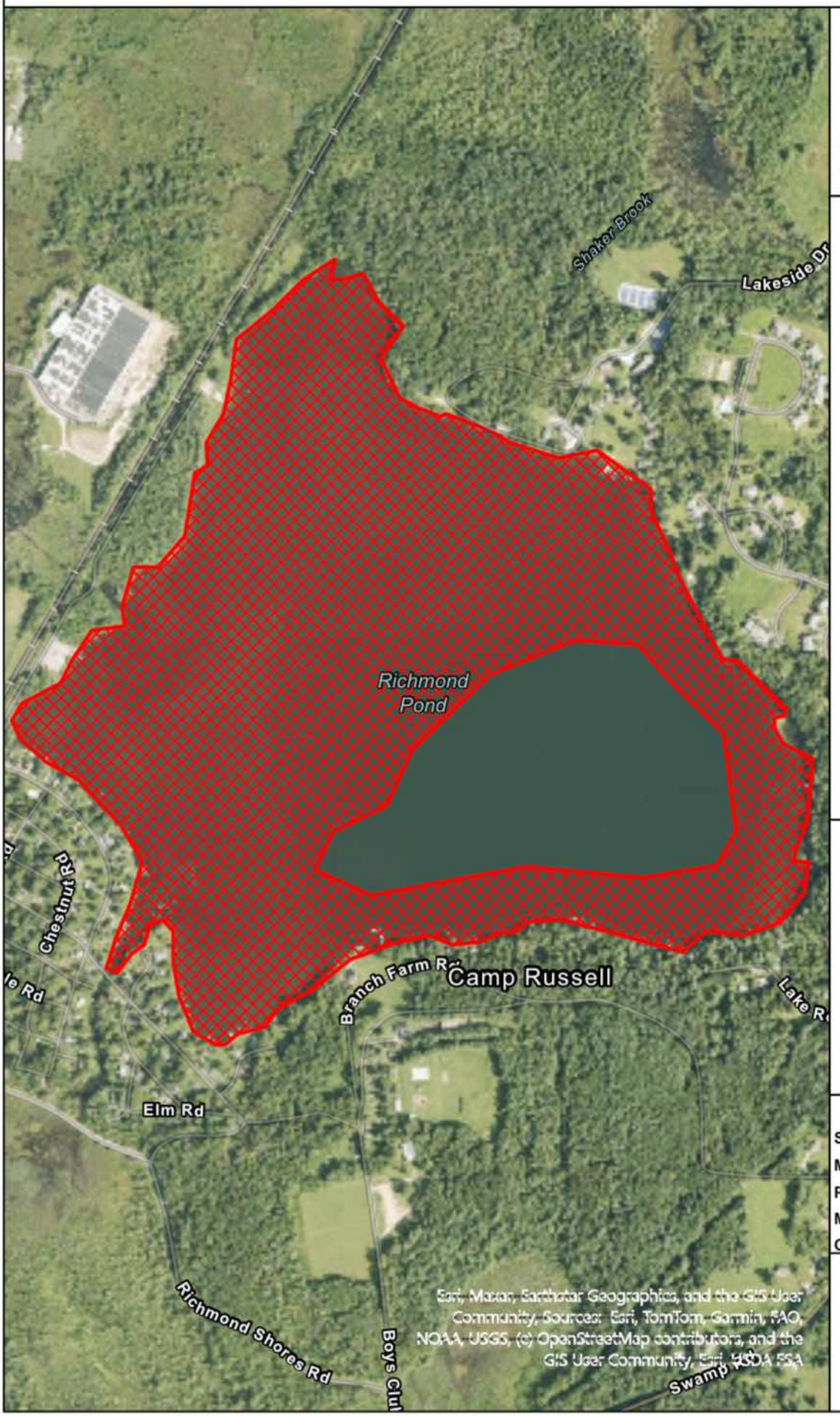
The applicants for the new NOI for Aquatic Vegetation Management for the City of Pittsfield would certainly be willing to close out the existing NOI currently in place. But before they do so, they would like to make sure that both the Conservation Commissions for Richmond and Pittsfield are ready and willing to approve the new NOI and draft a new set of Order of Conditions thereby avoiding disruption of the ability of Richmond Pond to proceed with an Annual 2 Foot Lake Level Drawdown – *the only weed treatment strategy currently available to Richmond Pond since 2021*.

ATTACHMENT G

Late Summer 2025 Weed Map Survey and Analysis for Richmond Pond

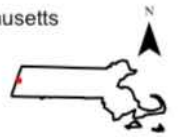
Figure 4. 2025 Post-Management Eurasian Watermilfoil

Richmond Pond



Site Information

Richmond Pond
Richmond, Massachusetts
Center: 71°38'38"W 44°N



0 250 500
US Feet

Key

EWM Coverage - Predominantly Moderate to Dense

Target Species

Eurasian Watermilfoil
(Myriophyllum spicatum)

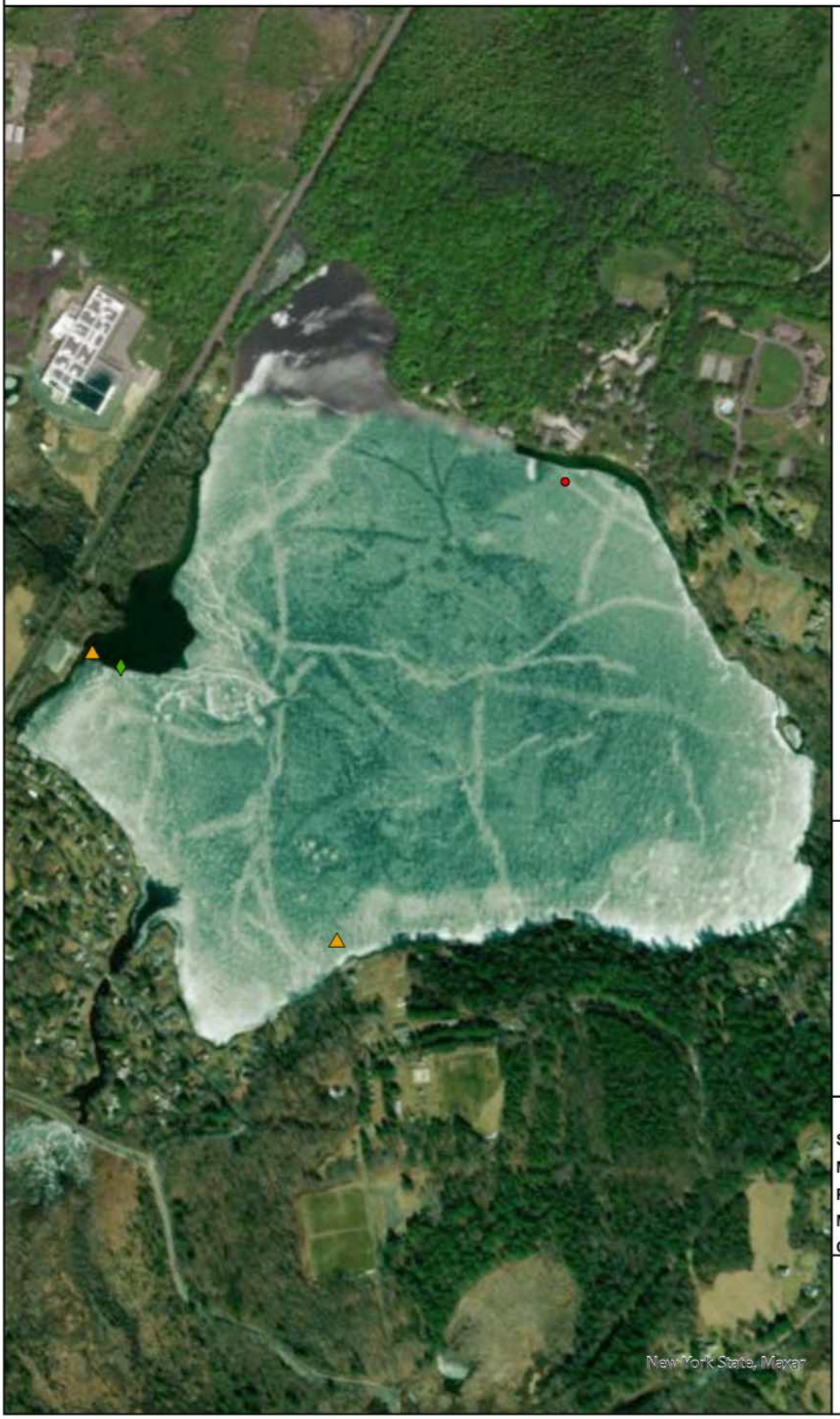
Map Details

Survey Date: September 2, 2025
Map Date: September 3, 2025
Prepared For: Town of Richmond
Map Author: E. Vulgamore
Office: Massachusetts

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

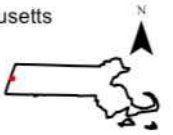
Figure 5. 2025 Post-Management Invasive Species

Richmond Pond



Site Information

Richmond Pond
Richmond, Massachusetts
Center: 71°38'38"W 44°N
Scale: 1:26,064,501



0 250 500
US Feet

Key

Invasive Density

- Dense Phragmites
- Moderate Brittle Naiad
- Trace Water Chestnut

Target Species

INVASIVE:

Common Reed
(Phragmites australis)

Brittle Naiad
(Najas minor)

Water Chestnut
(Trapa natans)

Map Details

Survey Date: September 2, 2025
Map Date: September 3, 2025
Prepared For: Town of Richmond
Map Author: E. Vulgamore
Office: Massachusetts

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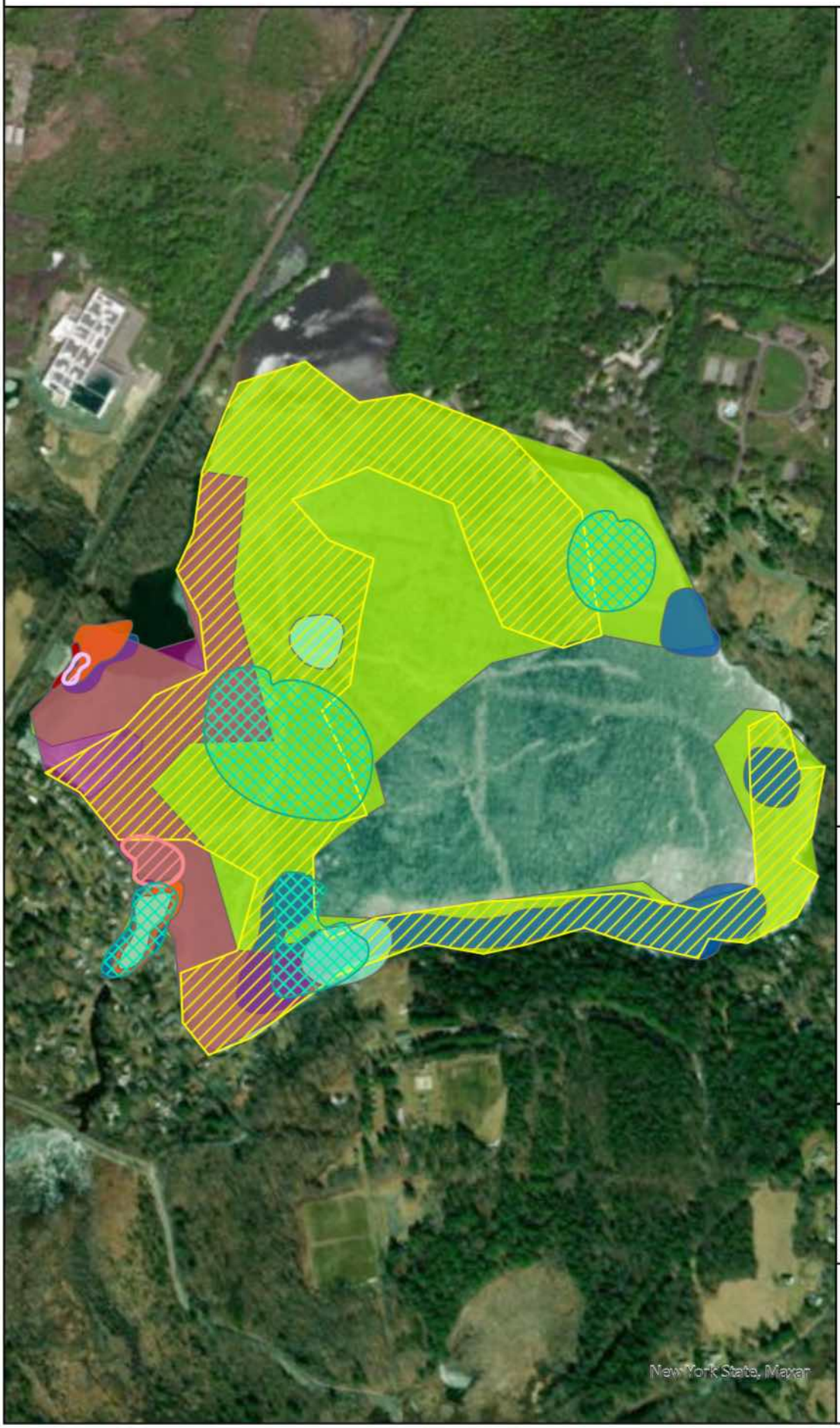
Figure 6. 2025 Post-Management Native Species

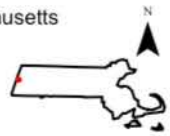
Richmond Pond



Site Information

Richmond Pond
Richmond, Massachusetts
Center: 71°38'38"W 44°N
Scale: 1:26,064,501

0 250 500
US Feet



Key

Native Species

- Trace to Dense Tapegrass
- Trace Coontail
- Trace to Moderate Slender Naiad
- Trace to Moderate White and Yellow Waterlily
- Trace to Sparse Ribbon-leaf Pondweed
- Moderate Cattail
- Sparse to Moderate Large-leaf Pondweed
- Moderate Rush
- Sparse Waterweed
- Trace to Moderate Macro-Algae

Target Species

All Native Species

Map Details

Survey Date: September 2, 2025
Map Date: September 3, 2025
Prepared For: Town of Richmond
Map Author: E. Vulgamore
Office: Massachusetts

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com

ATTACHMENT H

NHESP Determination Letter with List of Conditions for Richmond Pond

12/23/24

MASSWILDLIFE

DIVISION OF
FISHERIES & WILDLIFE

1 Rabbit Hill Road, Westborough, MA 01581
p: (508) 389-6300 | f: (508) 389-7890
MASS.GOV/MASSWILDLIFE

December 23, 2024

Jim McGrath
City of Pittsfield
70 Allen Street
Pittsfield, MA 01201

Danielle Fillio
Town of Richmond
1751 State Road
Richmond, Massachusetts 01254

Richmond Conservation Commission
1529 State Road
Richmond, MA 01254

Pittsfield Conservation Commission
70 Allen St
Room 200
Pittsfield, MA 01201

RE: Applicant: City of Pittsfield, Town of Richmond
Project Location: Richmond Pond
Project Description: Richmond Pond- weed harvesting, herbicide application, and annual drawdown
DEP Wetlands File No.: Pittsfield 263-1241; Richmond 271-0242
NHESP File No.: 23-8752

Dear Commissioners and Applicant:

The Natural Heritage & Endangered Species Program of the Massachusetts Division of Fisheries & Wildlife (the "Division") received a Notice of Intent in compliance with the rare wildlife species section of the Massachusetts Wetlands Protection Act Regulations (310 CMR 10.58(4)(b), 10.59). The Division also received the MESA Review Checklist and supporting documentation for review pursuant to the MA Endangered Species Act Regulations (321 CMR 10.18).

STATE-LISTED SPECIES
The Division has determined that this Project, as currently proposed, will occur **within** the actual habitat of the following species:

Scientific Name	Common Name	Taxonomic Group	State Status

Haliaeetus leucocephalus	Bald Eagle	Bird	Special Concern
Notropis bifrenatus	Bridle Shiner	Fish	Special Concern

State-listed species and their habitats are protected in accordance with the MESA and rare wetland species habitat provisions of the WPA.

PROJECT DESCRIPTION

The Applicant proposes to implement an invasive and nuisance plant management program including: herbicide use (Sonar (fluridone), ProcellaCor, ClearCast (Imazamox)); a 2' Winter Drawdown; and targeted mechanical harvesting. The proposal states that they wish to control the following **non-native** aquatic plant species:

- European Watermilfoil (Myriophyllum spicatum)
- Curlyleaf Pondweed (Potamogeton crispus)
- Spiny naiad (Najas minor)

MA WETLANDS PROTECTION ACT (WPA) and MA ENDANGERED SPECIES ACT (MESA)

The purpose of the Division's review of the proposed project under the WPA regulations is to determine whether the project will have any adverse effects on the Resource Areas Habitats of state-listed species. The purpose of the Division's review under the MESA regulations is to determine whether a Take of state-listed species will result from the proposed project.

Based on the information provided and the information contained in our database, it is the opinion of the Division that this project, as currently proposed, **must be conditioned in order to avoid adverse effects** to the Resource Area Habitats of state-listed wildlife species (310 CMR 10.37, 10.58(4)(b), 10.59) and **must be conditioned in order to avoid a prohibited Take** of state-listed species (321 CMR 10.18(2)(a)). **To avoid adverse effects to the Resource Area Habitats and to avoid a prohibited Take of state-listed species, the conditions attached to this letter must be met.**

Provided these conditions are included in any approving Orders of Conditions issued by the Conservation Commission, and the applicant complies with all the above noted conditions, the project will not result in an adverse impact to the resource area habitats of state-listed wildlife species pursuant to the WPA and will not result in a prohibited Take pursuant to the MESA. A copy of the final Order of Conditions shall be sent to the NHESP simultaneously with the applicant as stated in the Procedures section of the WPA (310 CMR 10.05(6)(e)).

The Division may find that any future proposed management activity individually or in combination will result in a Take and may require a MESA CMP subject to 321 CMR 10.23. Therefore, we recommend that the Applicant contact our office in advance of each submission to ensure that proposals are developed to avoid a Take of state-listed species.

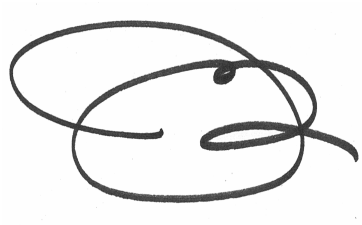
Wetland Protection Act Filings, Notice. When filing for any renewal, extension, or amendment of the WPA Orders of Conditions the Applicant shall contact the Division for written response regarding impacts to Resource Area habitat of state-listed wildlife. A renewal, extension or amendment of Order of Conditions does not renew, extend, or amend this MESA authorization.

This determination is a final decision of the Division of Fisheries and Wildlife pursuant to 321 CMR 10.18. Any changes to the proposed project or any additional work beyond that shown on the site plans may require an additional filing with the Division pursuant to the MESA. This project may be subject to further review if no physical work is commenced within five years from the date of issuance of this determination, or if there is a

change to the project.

Please note that this determination addresses only the matter of state-listed species and their habitats. If you have any questions regarding this letter please contact Melany Cheeseman, Endangered Species Review Assistant, at Melany.Cheeseman@mass.gov, (508) 389-6357.

Sincerely,



Jesse Leddick
Assistant Director

cc:

Attachment: List of Conditions

List of Conditions

Applicant: City of Pittsfield, Town of Richmond
Project Location: Richmond Pond
Project Description: Richmond Pond- weed harvesting, herbicide application, and annual drawdown
NHESP File No.: 23-8752
Heritage Hub Form ID: RC-89847
Approved Plan: MESA & NOI Submissions: Pittsfield & Richmond
Plan date: 2024 (prepared by Solitude Lake Management)

To avoid adverse effects to the Resource Area Habitats and to avoid a prohibited Take of state-listed species, the following condition(s) must be met:

1. **Submit Annual Herbicide Treatment Plan.** The Applicant must submit a written annual treatment plan to the Division for review and approval at least sixty (60) days prior to each year's proposed treatments. The treatment plan shall include, at a minimum, a detailed map of the proposed treatment area and methods, calculated treatment acres by method, proposed date(s) of treatment(s), proposed herbicide product names and formulations, active ingredients, active ingredient target concentrations and calculated treatment concentrations.

2. **Monitoring and Mapping.** The project shall comply with the submitted monitoring plans for each activity as described in the filing, Attachment B.

3. **Herbicides**. The Applicant must ensure that treatments remain below the following concentrations, for each application, for each product (Product, Threshold):
   - Diquat (Reward, EPA #100-1091), less than 30 ug/L
   - Florpyrauxifen-benzyl (ProcellaCOR EC, EPA #67690-80), less than 10 ppb
   - Sonar Q (fluridone; EPA #: 67690-21), Less than or equal to 25 ppb
   - ClearCast (Imazamox; EPA# 241-437-67690), MA label rate
   - Surfactant MON 0818, if applicable, less than 25 ppb

4. **2 Foot Annual Winter Drawdown**. The drawdown shall comply with GEIR's Drawdown Performance Standards (Section 4.2.6.3, pdf page 332, summarized below, Mattson et al 2004):
   a. Commence drawdown after the beginning of November.
   b. Achieve the target drawdown depth by the beginning of December.
   c. Achieve full lake refill level by the beginning of April.
   d. Keep outflow during drawdown below a discharge equivalent to 4 cfs per square mile of watershed. Once the target water level is achieved, match outflow to inflow to the greatest extent possible, maintaining a stable water level.
   e. Keep outflow during refill above a discharge equivalent to 0.5 cfs per square mile of watershed.

5. **Authorization.** With a Division-approved annual treatment plan (Condition 1) submitted and approved, herbicide application and the 2-foot drawdown, may occur in 2024, 2025, 2026, 2027, and 2028. Thereafter, the Applicant must refile with the Division pursuant to the MESA.

6. **2025 Annual Work Plan (Appendix B, page 7).** The proposed 2025 plan is approved provide it complies with these conditions and those required by the Conservation Commission.

ATTACHMENT I

Richmond Pond Lake Management Program

RICHMOND POND MANAGEMENT PLAN

Prepared by the Richmond Pond Association

Adopted in October of 2016 and Updated Periodically

PURPOSE of the PLAN

Richmond Pond is a living, natural treasure that deserves care and attention. It is a wildlife habitat, a resource for recreation and quality of life, and an economic asset to the surrounding communities. While a natural beauty, it has challenges – man-made and natural – that need tending to. We know that prevention and rehabilitation is a never ending task and is critical to minimizing long-term costs and protecting public investment.

This plan was developed to aid the many who care about Richmond Pond in undertaking high quality, responsible lake and watershed management and protection activities. The Plan is an important tool that will help to provide a reference point for communications, education and funding. It is intended to be a living document to reflect the circumstances as they change and evolve and will be updated accordingly and as needed.

The plan provides background information on the lake and its watershed, a brief description of "stakeholders" organizations, a brief review of past and current lake preservation initiatives, a discussion of current and future issues and concerns, a statement of goals for dealing with the issues and a set of recommendations for management actions to ameliorate the identified issues.

We are grateful to the Town of Richmond, the City of Pittsfield Open Space and Natural Resource Program Manager (Department of Community Development), Pittsfield City Council and Mayor and volunteers of the Richmond Pond Association.

RICHMOND POND AND ITS WATERSHED

General Information

Richmond Pond is a 218 acre waterbody with approximately 2/3 located in the Town of Richmond and 1/3 in Pittsfield, and entirely within the watershed of the Housatonic River, dammed through a structure located within the Camp Arrow Wood on the Pittsfield side.

It is a raised great pond that has a maximum depth of 53 feet and an average depth of 18 feet. Visibility through the water column is very good, extending to an average of 13 feet. The bottom is composed of silt and clay and supports abundant aquatic vegetation, which extends outward from most of the shoreline areas to depths of 6 or 8 feet.

Richmond Pond fills a depression scraped from the limestone-and-marble bedrock by advancing glaciers thousands of years ago. It lies at about 1,100 feet elevation in a narrow valley just east of the Taconic Mountains that rise to about 1,700 feet near the pond. To the south and west, the elevated ridge of Lenox Mountain climbs to an elevation of about 2,000 feet. The northern and western half of the lake is shallow, with an average depth of less than ten feet.

Land Use

Much of the eastern, southern and western shoreline is heavily developed, with approximately 180 seasonal cottages and year round dwellings on or near the lake. There are two camps on the lake - Camp Russell (Boys & Girls Club of the Berkshires) and Camp Arrow Wood.

Toward the eastern end of the northern shore is the Richmond town beach, with a large tract of undeveloped wetland and forest in between the boat launch and the beach. The town beach is gated and is operated in summer for Richmond year-round and seasonal residents and their guests.

Railroad tracks run the length of the northwest shore, close to the lake. To the southwest of the lake is an extensive wetland, Nordeen Marsh, covering about 250 acres. It may be reached from the pond by canoe or kayak with a portage over Town Beach Road.

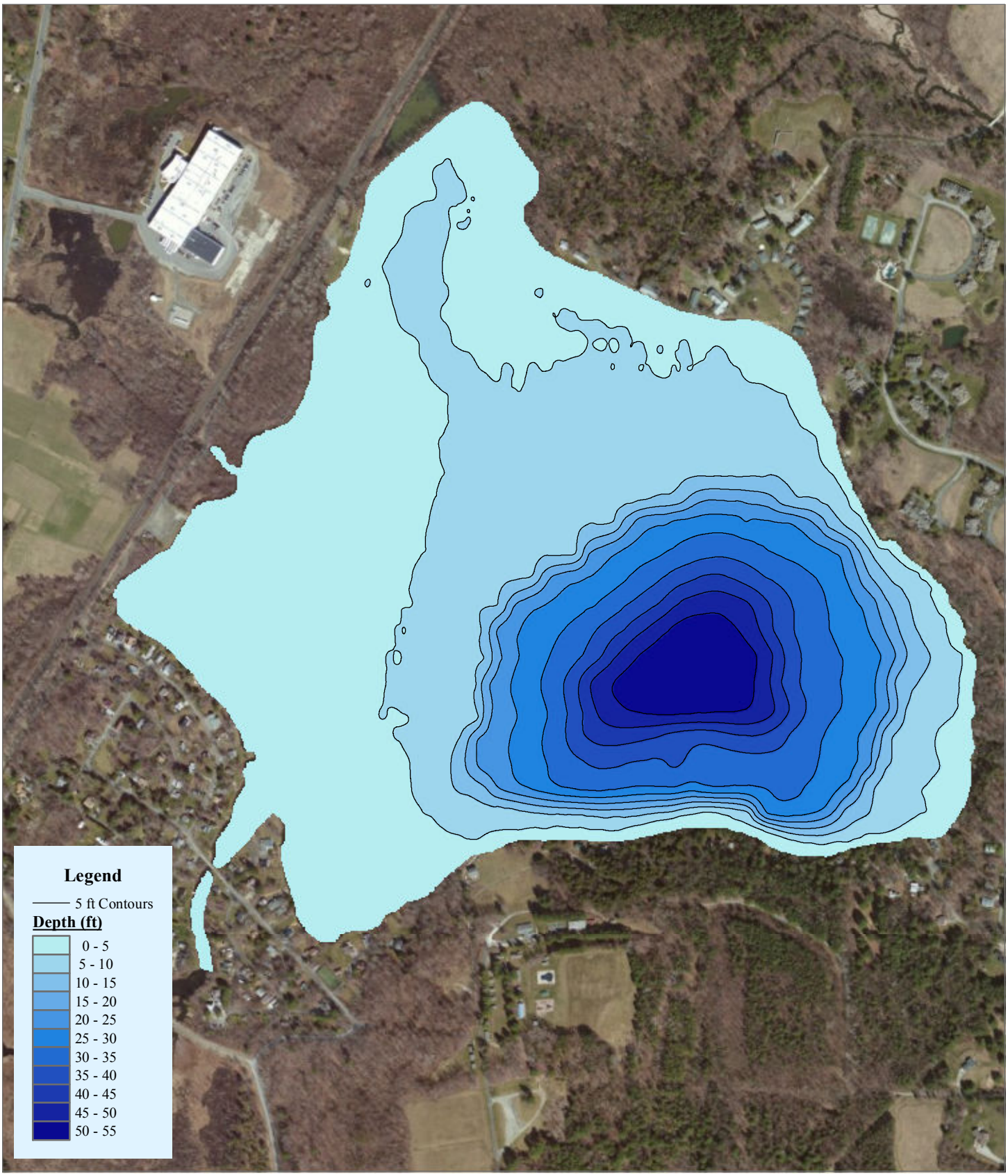
Watershed

The town of Richmond is located in two watersheds, the Housatonic and the Hudson, though the majority of the town falls within the Housatonic River Watershed. Only a small portion of the northwest corner of the town is located within the Hudson River Watershed. Both of these rivers have active watershed organizations working to protect them.

Pond Depth

In October 2014, Lycott Environmental was hired to undertake a bathymetry study (see bathymetry chart). Maximum and average depth recorded were 53.8 feet and 12.7 feet, respectively.

Bathymetry



Richmond Pond
Richmond & Pittsfield
Massachusetts

Data Collected: 10/28 & 10/29/14
Map Prepared: 11/03/2014
For RPA (#366-14)
Basemap © 2013 Esri

0 200 400 600 800
1:8,000 Feet

N

LYCOTT ENVIRONMENTAL
21 West Main Street • Spencer, MA
508-885-0101 • info@lycott.com

Fishery

The main draw for anglers at this pond is the excellent trout fishing which is produced by the MA Department of Fish and Wildlife through stockings of catchable trout several times each year. Rainbow trout are the bread and butter of this fishery, but brown trout and even brook trout are sometimes stocked as well. Trout can survive here throughout the year, with some individuals attaining weights of 5 or more pounds. In general, however, most trout are caught within a month or two of their release. Bluegill and largemouth bass are naturally prevalent. The chain pickerel and yellow perch provide some ice fishing action, but the pickerel aren't large and the perch are not very plentiful. Pumpkinseed and black crappie are present in such low numbers they are incapable of supporting a fishery.

A fisheries survey was conducted by MA Fish & Wildlife in June 2012 also found 10 rock bass, brown bullhead, common shiner, the endangered bridle shiner, and killifish.

Rare Species

The shoreline of Richmond Pond is listed as a Natural Heritage and Endangered Species Program priority habitat for rare species as well as BioMap2 core habitat. Richmond Pond is known to contain the Bridle Shiner (*Notropis bifrenatus*). This small fish is listed as a species of special concern in Massachusetts. The Bridle Shiner is known to live in clear water bodies and is a visual predator, relying on sight to hunt for food like insects and other invertebrates. This fish also requires both open water and aquatic vegetation to provide its foraging and breeding habitat. Thus, changes in water quality, particularly turbidity and invasive aquatic vegetation, can have profound impacts on this species (NHESP Bridle Shiner Fact Sheet 2008).

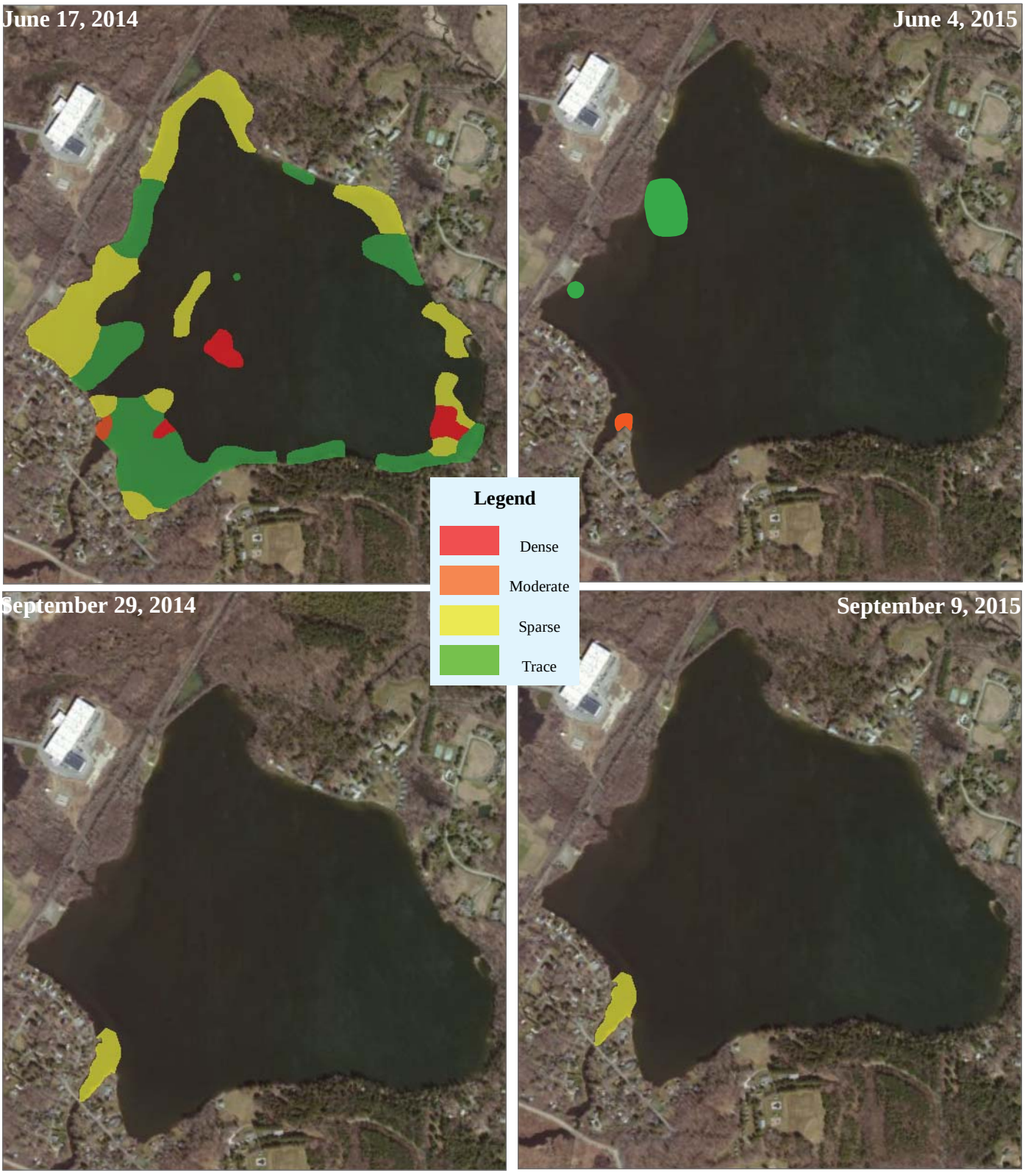
Macrophytes

Aquatic invasive macrophytes continue to be an issue in the pond.

The Clean Water Act of 1972 requires that individual states assess the quality of their water bodies and work to restore waters to be fishable and swimmable. Water bodies that are considered impaired by pollution are listed in each state's 303(D) list. The 303(D) list for Massachusetts was last updated in 2012. Richmond Pond is listed as being impaired due to the presence of non-native macrophytes, specifically Eurasian Watermilfoil (*Myriophyllum spicatum*) and is shown as the town's only impaired water body. European Naiad (Najas minor), and Curlyleaf Pondweed (*Potamogeton crispus*) have also been noted as potentially harmful invasive species within the pond (MA Executive Office of Energy and Environmental Affairs, 2002).

These invasive species can crowd out native aquatic plant species and create a nuisance for boaters and anglers.

Figure 3: June and September 2014-2015 Density and Distribution Comparison of *M. spicatum*



Richmond Pond
Richmond/Pittsfield, Massachusetts

Map Prepared:10/21/2015
For: Town of Richmond
(Contract #706-15)
Basemap © 2013 Esri

0 375 750 1,500
1:15,500 Feet

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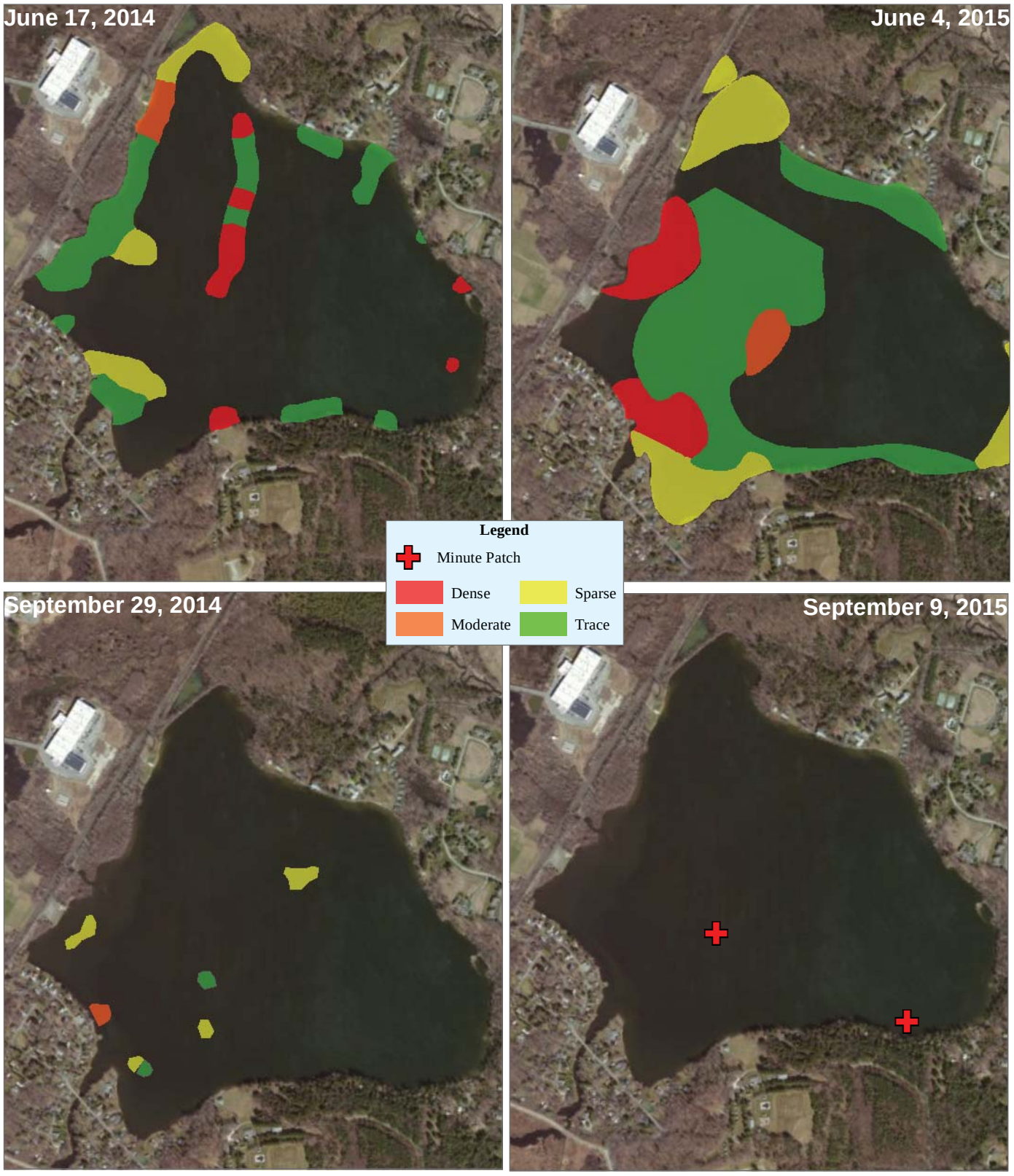
AQUATIC CONTROL TECHNOLOGY
21 West Main Street • Spencer, MA
info@aquaticcontroltech.com
508-885-0101

Figure 4: June and September 2014-2015 Density and Distribution Comparison of *P. crispus*



Richmond Pond
Richmond/Pittsfield, Massachusetts

Map Prepared: 10/23/2015
For: Town of Richmond
(Contract # 706-15)
Basemap © 2013 Esri

0 375 750 1,500
1:15,500 Feet

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info@aquaticcontroltech.com
508-885-0101

How the Pond is Used

The Pond is used for swimming, fishing, boating, birding, walking & hiking, camp waterside activities, ice skating, bird & fish habitat and visual enjoyment. The MA Public Access Board owns, in conjunction with the MA Department of Fish and Game) a concrete boat ramp on the western shore, immediately north of the large cove. It is suitable for car top and shallow draft trailer boats, and the parking lot can hold up to 30 vehicles.

PLANNING AND MANAGEMENT CHALLENGES

A variety of factors indicate that there is a challenge to manage Richmond Pond both ecologically and recreationally. These include:

1. Richmond Pond's status as an impaired waterbody named in the EPA's 303(D) list due to the presence of Eurasian Milfoil. Additionally, land use within the watershed may be contributing other non-point pollution sources.
2. The Pond's shared location on the boundary of two municipalities.
3. The Pond and its associated shoreline's ecological value as habitat for the Bridle Shiner and as mapped NHESP and BioMap2 priority and core habitat.
4. The Pond and dam's value as a piece of both manmade and "green infrastructure" which helps to control downstream flooding in Pittsfield and manage invasive species.
5. The variety of communities (year round residents, seasonal residents and summer camps) that surround the pond and value it both aesthetically and recreationally.
6. Annual budgets may not be adequate to support the myriad of noted challenges.

The Town of Richmond has been actively working to help manage the pond along with the Richmond Pond Association, which acts as the primary advocate for issues regarding the pond and the communities that surround it. Both organizations have taken proactive measures to study Richmond Pond and its needs and address issues including invasive species, among others. However, given the shared jurisdiction of the pond, its management needs, and its importance to the town, the town has – and must continue to – work with the City of Pittsfield and the Commonwealth of Massachusetts to secure funding, technical assistance or other aid to help manage the pond.

Partners in Pond Management

Richmond Pond Association

The Richmond Pond Association (RPA) was formed in 2000 and is comprised of members from the five communities around the pond, including Whitewood, Branch Farm, South Pond Farm (located in Pittsfield), Richmond Shores, and the independent cottages located between these areas. Members also include representatives from the Town of Richmond and City of Pittsfield. Additionally, there are representatives from two camps that surround the pond: Camp Russell (a summer camp owned by the Boys' and Girls Club of the Berkshires) and Camp Arrow Wood.

The Richmond Pond Association evaluates the health of the pond, discusses and takes action on related matters. The RPA board is made up of a representative of each of the associations and camps on the pond as well as three ex-officio members: Town Administrator of the Town of Richmond, the City of Pittsfield – Open Space and Natural Resource Program Manager, (Department of Community Development) and a representative of the Richmond Conservation Commission.

RPA develops education materials and posts signage about invasive species management, boat washing, safe boating and swimming. Anyone can sign up online for the e-newsletter. All meetings are open to the public and meeting minutes are posted on the RPA website at www.richmondpondassociation.org

Town of Richmond

The Town of Richmond is an important partner in lake management. The town funds monitors who work to check boats at the public boat ramp for invasive species and direct boat owners to a washing station. The town has also funded a 5-year aquatic management plan for the pond, with a focus on managing and eradicating the invasive Eurasian Milfoil and Curly Leaf Pondweed found within the pond. Implementation of the plan began in 2013 with application of aquatic herbicide to 74 acres of Eurasian Milfoil around the pond.

The town also recently funded the development of an Open Space and Recreation Plan (OSRP).

City of Pittsfield

The City, as an ex-officio member of the RPA, allocates annual funds for lake management efforts. The City is also instrumental in coordinating/collaborating with regional and state entities.

State of MA

- MA Division of Fisheries and Wildlife
- MA Department of Environmental Protection
- MA Department of Conservation and Recreation – Lakes and Ponds Program
- MA Natural Heritage and Endangered Species Program

Other Important Partners

Lakes and Ponds Association-West

Massachusetts Congress of Lake and Pond Associations

Housatonic Valley Association

ISSUES REQUIRING CONSTANT MONITORING AND ACTION

Macrophytes

It has been determined that a combination of techniques, repeated over time, are required to control rooted invasive plants. These techniques include winter drawdowns of water level, harvesting, herbicides and more. Spot herbicide treatment is the preferred management alternative.

A 5-year weed management plan has been developed by Solitude Lake Management, Inc, covering the calendar years 2013-2017. Since 2021, there has been no aquatic vegetation management of the lake except for annual 2 Foot Lake Level Drawdown.

Water Quality

While generally healthy and well within the state's water quality standards for safe swimming, Richmond Pond has water quality issues that must be monitored closely.

A water testing & related communications protocol has been developed for Richmond Pond public and semi-public beaches and tributaries. In addition, a tributary water quality monitoring program has been developed by RPA and is overseen by knowledgeable volunteers.

The RPA has also been working to identify and mitigate impact from storm water runoff that causes erosion, sedimentation and lake pollution. In 2002, the Town of Richmond was awarded a matching grant under Section 319 of the Clean Water Act of 1987, in the form of federal funds administered in Massachusetts by the Department of Environmental Protection and awarded to towns to control non-point sources of water pollution. The RPA worked in cooperation with the Town of Richmond for the 60/40 match, providing volunteer manpower to do much of the necessary work planting trees, bushes, monitoring the installation of drop inlets (catch basins), providing rip-rap to storm water erosion channels, monitoring the construction of detention basins, and working with engineers who designed the structures.

Failing septic systems

Old septic systems around the pond, some of which had been leaching into the waterbody, were all de-commissioned as hookups to the sewer system were completed in 2004. The water quality of the pond, as documented by the RPA's water monitoring, improved substantially.

Currently, the only areas in Richmond served by public centralized sewer are the communities along the shoreline of Richmond Pond. Camp Russell, the summer camp along the southern shore of Richmond Pond is also connected to this sewer system. The communities and neighborhoods around Richmond Pond are some of the most dense in the entire town. Sewer

service connects these communities to wastewater treatment facilities in nearby Pittsfield, and was implemented to address issues related to water quality and public health.

Additionally, the proximity of these areas to Richmond Pond made the need to address issues of water quality more important. While sewer in this neighborhood helps to reduce the impact of development along Richmond Pond, the remainder of the town is serviced by onsite septic systems.

Lake Recreation Safety

Richmond Pond is a highly visible community resource for the Berkshires. Recreational uses cover a spectrum of interests from those who merely enjoy the scenic view to active sport fishermen and paddlers. Public access by boat is very good and the lake is used to its fullest potential year round.

The enforcement of regulations is also recognized as a lake management concern critical to the effective management of Richmond Pond. Meanwhile, the enforcement of existing safety and environmental protection regulations should be supported and strengthened. Wakes caused by large boats, jet skis, and 'boogie boards' are a serious concern with respect to shoreline erosion and causing unpleasant conditions on the lake. It has been noted as a safety concern when boaters exceed safe speeds, are inconsiderate to other lake users, and boat in and around established swimming lanes. More support is needed for instituting lake surface use ordinances on the lake as necessary.

Zebra Mussels

An invasive species first detected in the Berkshires nearly six years ago, zebra mussels are small freshwater mollusks (fingernail sized) with a striped pattern on their shell. They typically live 2 to 5 years in temperate climates. This is the only freshwater mussel that can attach to a hard surface. Zebra mussels breed prolifically and can form dense clusters. They can proliferate in staggering numbers, with as many as 700,000 occupying a square yard. They can clog boat motors, jam intake pipes, and sink buoys with their weight. They also are avaricious eaters, filtering up to a liter of water a day apiece, depriving young fish of crucial nutrients. Since they are nearly impossible to eradicate, containing their spread is the only answer.

As of 2013, the Commonwealth of MA Environmental Police are now authorized to fine boaters who willfully launch a vessel infested with zebra mussels.

The Town of Richmond, with funding support from the MA Dept. of Conservation and Recreation, funds boat ramp monitors at the boat ramp during the summer season to educate

boaters and ask them whether they've complied with the appropriate decontamination methods.

Continued vigilance including adequate funding and education is crucial to prevent their spread into Richmond Pond.

Drawdown

Annual fall drawdowns of the pond water level to the maximum extent feasible have been successful in: controlling flooding, reducing shoreline property damage, and controlling nuisance aquatic species while minimizing negative impacts on emergent wetlands, native flora, and fauna. Lowering the water level provides an inexpensive means to control some macrophytes, if there is an existing drawdown capability. Additional benefits may include opportunities for shoreline maintenance and oxidation or removal of nutrient-rich sediments. This technique is not effective on all submergent species. However, it does decrease the abundance of some of the chief nuisance species, particularly those that rely on vegetative propagules for over wintering and expansion. The amount and rate of drawdown is determined by a permit issued by both Richmond and Pittsfield. Further investigation of deeper drawdown levels should be an option for study.

Richmond Pond Dam

A dam was constructed at the pond's northern outlet in 1865. This dam is currently owned by Cloverdale Properties, LLC and Camp Arrow Wood in Pi sfield. RPA has financially supported modest dam upgrades and if major upgrades are required it will necessitate cooperation among all the stakeholders. Construction of the dam increased Richmond Pond's size by roughly 90 acres and created much of the southern and western shoreline seen today. Without the dam, the shoreline near the Richmond Shores community, as well as at the Richmond Town Beach and state boat launch would disappear, eliminating water access from those areas. The dam is used yearly to control water levels within the pond. In the fall, the water level is decreased by about two feet as part of an annual drawdown. The drawdown is thought to help control the spread of invasive aquatic plant species such as Eurasian Milfoil (*Myriophyllum spicatum*) near the pond's shoreline by exposing these species to freezing conditions during the winter. Moreover, the yearly drawdown is thought to help reduce flooding along the west branch of the Housatonic River in Pittsfield during the spring (Baystate Environmental Consultants, 1990). The additional water capacity created by the drawdown allows the pond to store spring runoff that would otherwise contribute to flooding in west Pittsfield. Permission for the drawdown of Richmond Pond is granted under an order of conditions approved by the Conservation Commissions of both Richmond and Pittsfield.

GOALS for Richmond Pond Lake Management Plan

Generally, it is recommended that the town continue its work to manage Richmond Pond, including its funding and implementation of this Lake Management Plan and the boat ramp monitor program. Additionally, the town should continue and strengthen its partnership with the Richmond Pond Association and continue to invest in this natural resource and important town recreation area. In addition to its other efforts, the Richmond Pond Association can continue to take the lead on other issues regarding the pond, including promoting a greater sense of community, safety, and mutual respect between user groups and residents around the pond as a commonly held resource. Moreover, both the town and the Richmond Pond Association should work to seek additional funding, technical assistance or other aid from state agencies and to continue ongoing cooperation with the City of Pittsfield.

1. Protect and manage the pond using the best means available
2. Explore options for responsible management through cooperation with other interested entities
3. Identify gaps between current procedures and desired outcomes
4. Help ensure that sufficient funding is available, and seek supplementary funding through grant proposals
5. Enhance the collaboration between RPA , Town of Richmond and City of Pittsfield
6. Maximize use of available resources, including RPA website as an educational resource
7. Maximize public input into the development of this and other plans with communication and invitations to RPA meetings

PLAN RECOMMENDATIONS (2026 THROUGH 2030)

These recommendations are intended to serve as a guide for the RPA's annual action plans.

1. Annual Reporting: Produce an Annual Richmond Pond Report on specific accountable task results and future plans (jointly, between the two towns & RPA).
2. Nuisance Aquatic Species Management: Continue and improve work by implementing Lycott/Aquatic Control Management plan at full funding; study alternatives for nuisance aquatic plants and algae control which will include annual drawdown.
3. Zebra Mussel Spread Prevention: Continue robust boat ramp monitoring and education so as to avoid invasion of zebra mussels.
4. Management Responsibilities: Consistently monitor sharing of responsibilities for Pond and delegate new responsibilities as needed.
5. Education and Outreach: Continue and enhance activities that increase knowledge and understanding of the Pond (including boat tours, newsletter articles, website, etc.) and seek ways to involve students and teachers from the Richmond and Pittsfield schools.
6. Water Quality Monitoring: Continue current activities which include routine monitoring of the Pond and the tributaries.
7. Fishery: Continue current monitoring as needed in cooperation with the state.
8. Recreation: Continue cooperative leadership to mitigate issues related to the numerous recreational uses and users of the Pond.
9. Public Access: Encourage maximum access to Pond and Richmond Town Beach and advocate for continued enhancement and access improvements.
10. Dam: Continue to work with Camp Arrow Wood on issues related to the Richmond Pond dam.
11. Funding: Continue to better understand budget implications of recommendations while continuing to raise funds through grants and private fundraising.

HELPFUL REFERENCES AND SOURCE MATERIALS

Water Testing & Related Communications Protocol for Richmond Pond Beaches & Tributaries

The MA Lakes and Ponds Guide. MA Department of Conservation & Recreation

MA Berkshire Department of Environmental Management "Watershed Connections"

Lycott 5 Year Detailed Aquatic Management Plan (2013 to 2017)

Richmond Pond Association website: www.richmondpondassociation.org

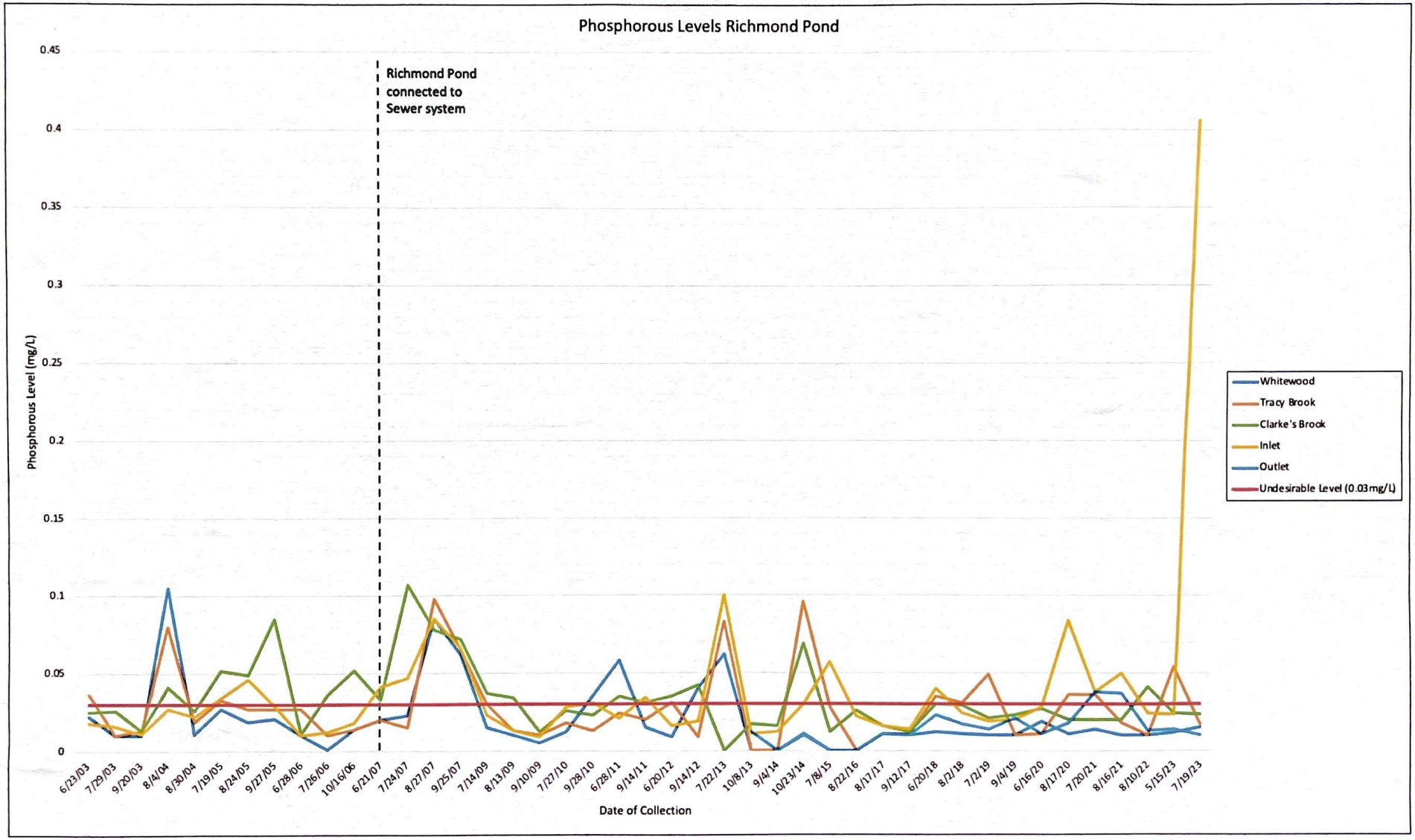
Town of Richmond Open Space and Recreation Plan, 2015

"The Practical Guide to Lake Management in Massachusetts; A companion to the Final Generic Environmental Impact Report on Eutrophication and Aquatic Plant Management in Massachusetts" prepared for the Dept. of Environmental Protection and Dept. of Conservation and Recreation. Executive Office of Environmental Affairs, Commonwealth of Massachusetts. 2004

ATTACHMENT J

Water Analysis Data Graphs

for Richmond Pond


Phosphorous Levels Richmond Pond
Richmond Pond connected to Sewer system
Phosphorous Level (mg/L)
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
6/23/03
7/29/03
9/20/03
8/4/04
8/30/04
7/19/05
8/24/05
9/27/05
6/28/06
7/26/06
10/16/06
6/21/07
7/24/07
8/27/07
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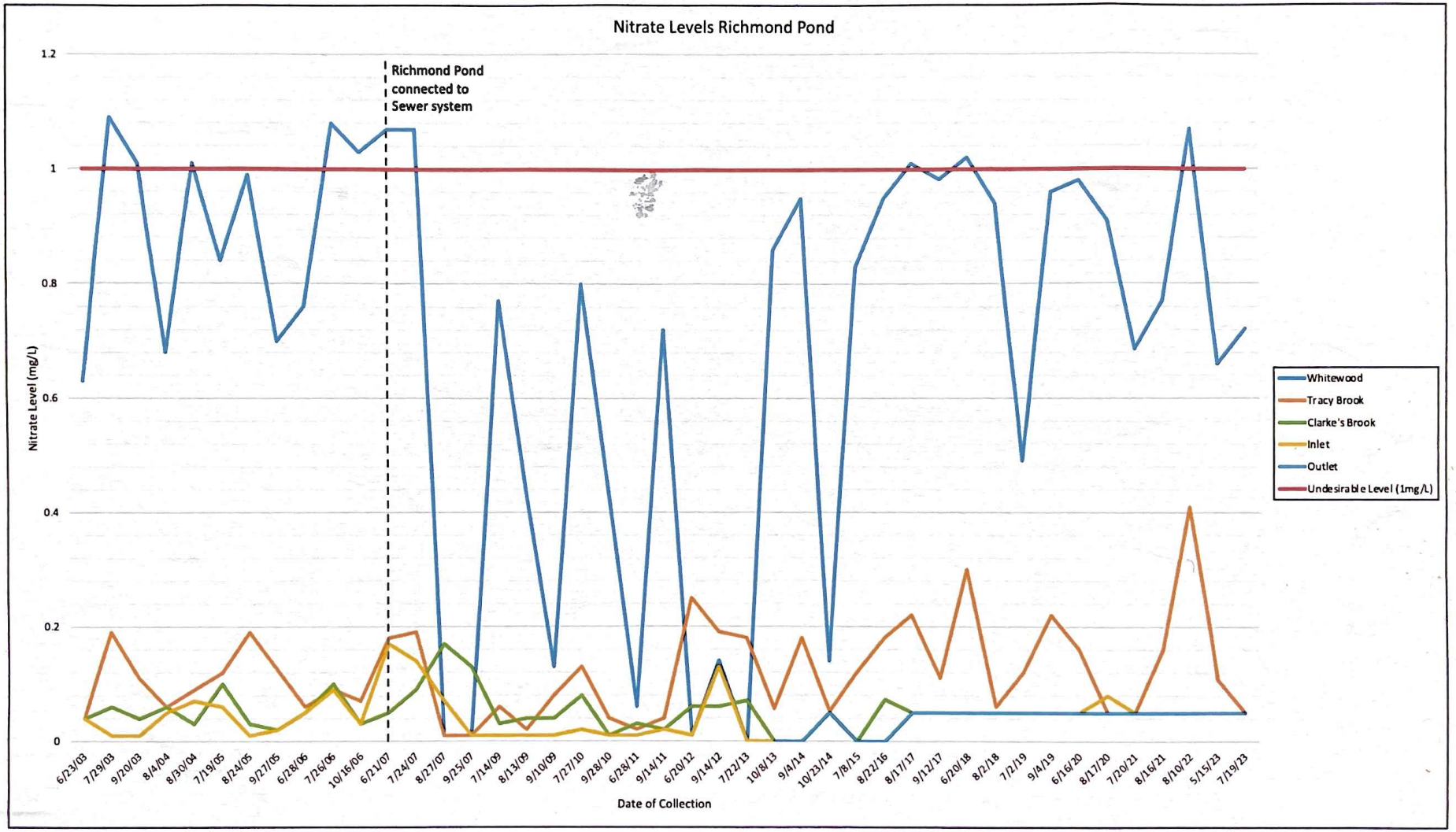
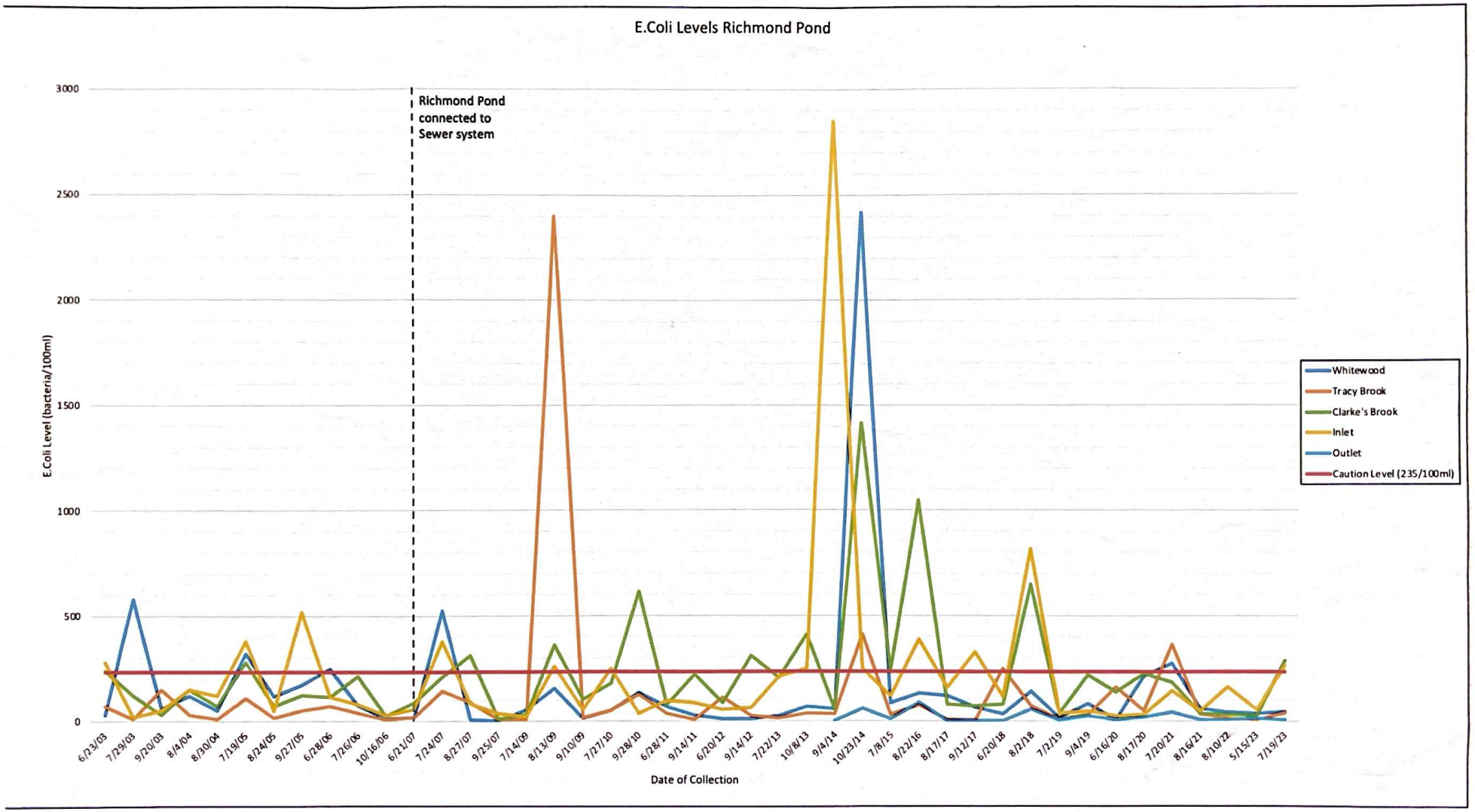
7/22/13
10/8/13
9/4/14
10/23/14
7/8/15
8/22/16
8/17/17
9/12/17
6/20/18
8/2/18
7/2/19
9/4/19
6/16/20
8/17/20
7/20/21
8/16/21
8/10/22
5/15/23
7/19/23
Date of Collection
Whitewood
Tracy Brook
Clarke's Brook
Inlet
Outlet
Undesirable Level (0.03mg/L)


Nitrate Levels Richmond Pond
Richmond Pond connected to Sewer system
Nitrate Level (mg/L)
1.2
1
0.8
0.6
0.4
0.2
0
Date of Collection
6/23/03
7/29/03
9/20/03
8/4/04
8/30/04
7/19/05
8/24/05
9/27/05
6/28/06
7/26/06
10/16/06
6/21/07
7/24/07
8/27/07
9/25/07
7/14/09
8/13/09
9/10/09
7/27/10
9/28/10
6/28/11
9/14/11
6/20/12
9/14/12
7/22/13
10/8/13
9/4/14
10/23/14
7/8/15
8/22/16
8/17/17
9/12/17
6/20/18
8/2/18
7/1/19
9/4/19
6/16/20
8/17/20
7/20/21
8/16/21
8/10/22
5/15/23
7/19/23
Whitewood
Tracy Brook
Clarke's Brook
Inlet
Outlet
Undesirable Level (1mg/L)


E.Coli Levels Richmond Pond
Richmond Pond connected to Sewer system
E.Coli Level (bacteria/100ml)
3000
2500
2000
1500
1000
500
0
6/23/03
7/29/03
9/20/03
8/4/04
8/30/04
7/19/05
8/24/05
9/27/05
6/28/06
7/26/06
10/16/06
6/21/07
7/24/07
8/27/07
9/25/07
7/14/09
8/13/09
9/10/09
7/27/10
9/28/10
6/28/11
9/14/11
6/20/12
9/14/12
7/22/13
10/8/13
9/4/14
10/23/14
7/8/15
8/22/16
8/17/17
9/12/17
6/20/18
8/2/18
7/2/19
9/4/19
6/16/20
8/17/20
7/20/21
8/16/21
8/10/22
5/15/23
7/19/23
Date of Collection
Whitewood
Tracy Brook
Clarke's Brook
Inlet
Outlet
Caution Level (235/100ml)