

RICHMOND POND MANAGEMENT PLAN

Prepared by the Richmond Pond Association

Adopted October 25, 2016

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 Lakeside Christian Camp 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 Lakeside Christian Camp & Conference Center.

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.

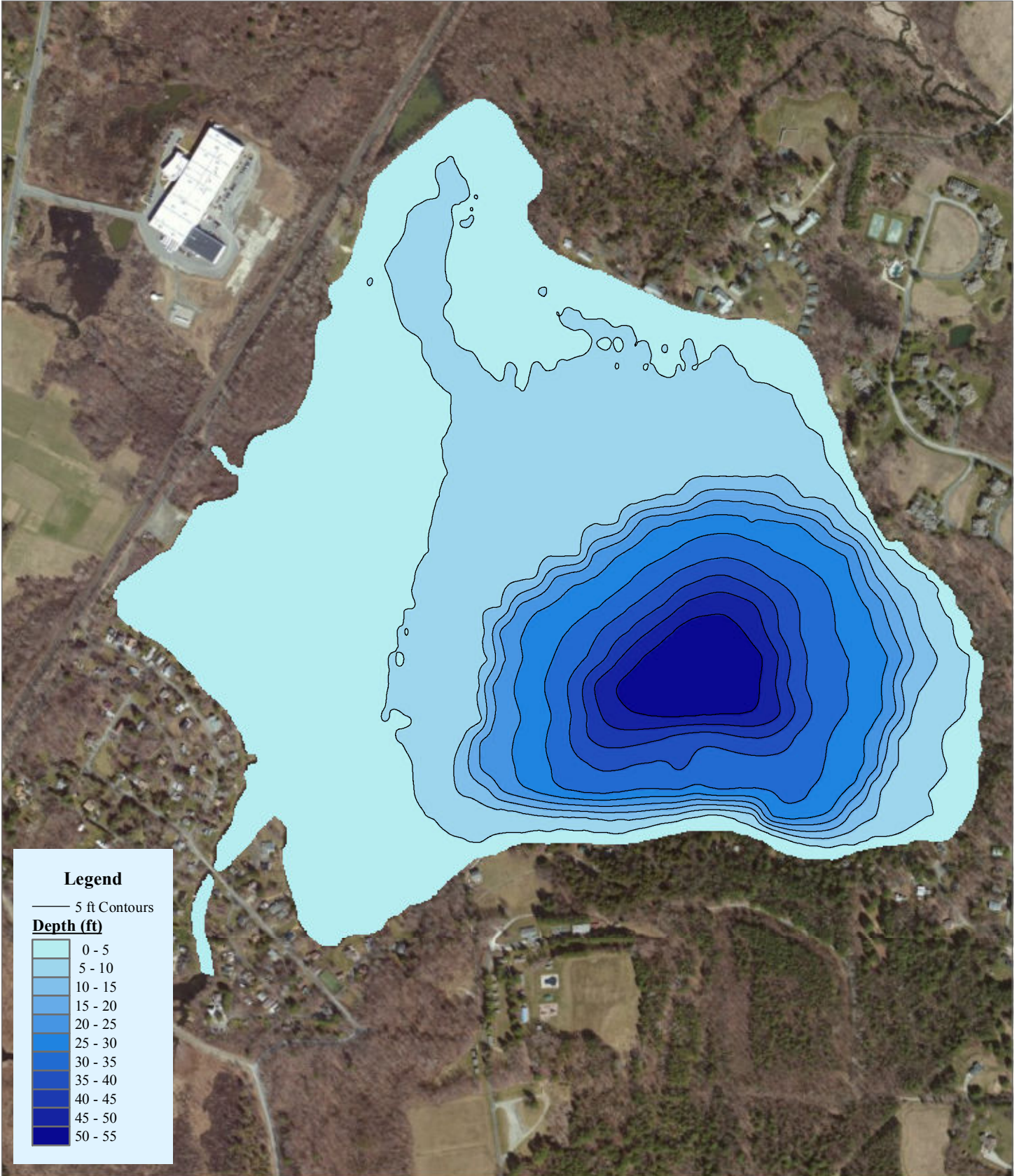
Watershed

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



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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).

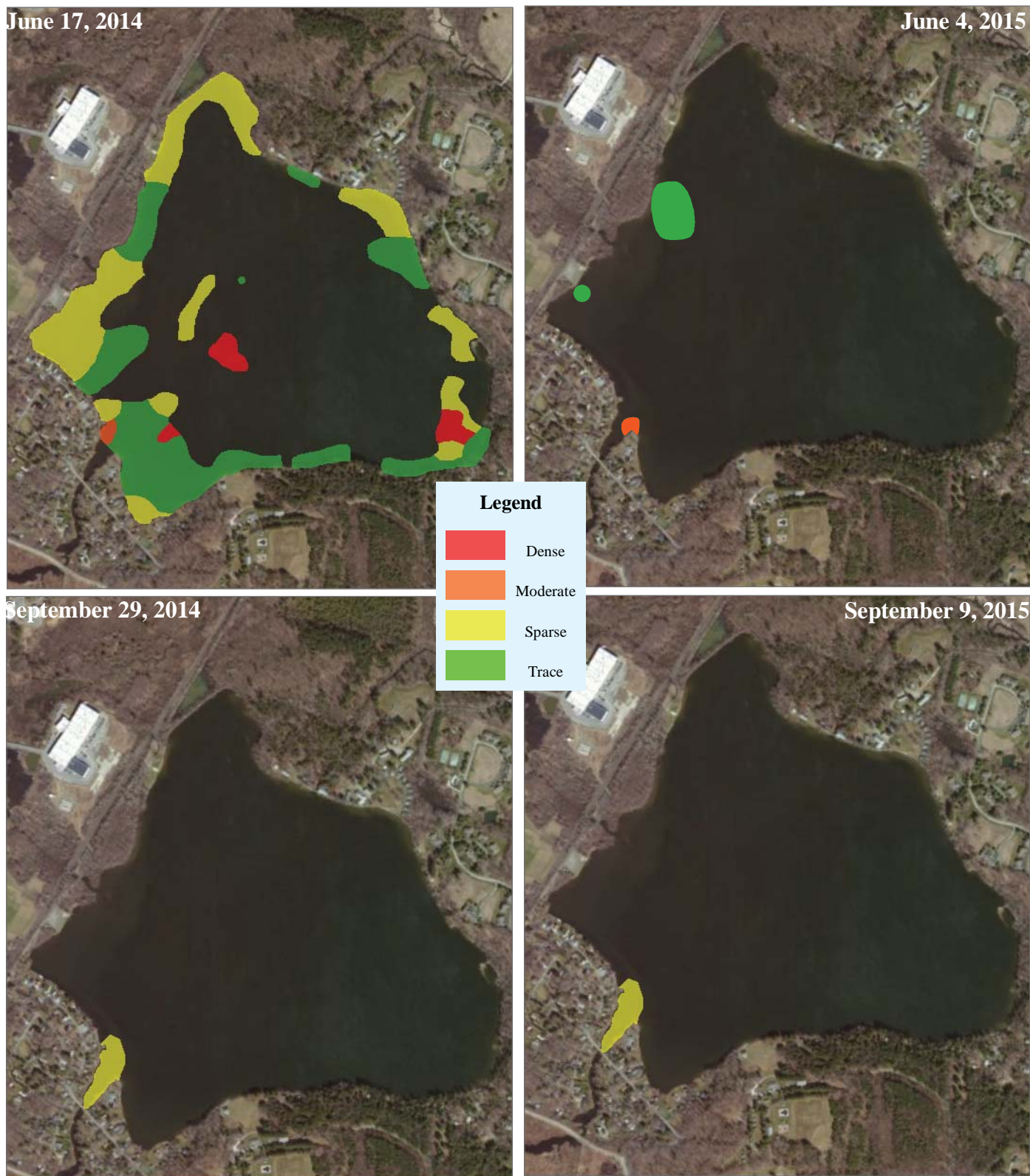
Macrophytes

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.

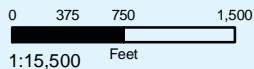
Figure 3: June and September 2014-2015 Density and Distribution Comparison of *M. spicatum*



**Richmond Pond
Richmond/Pittsfield,
Massachusetts**



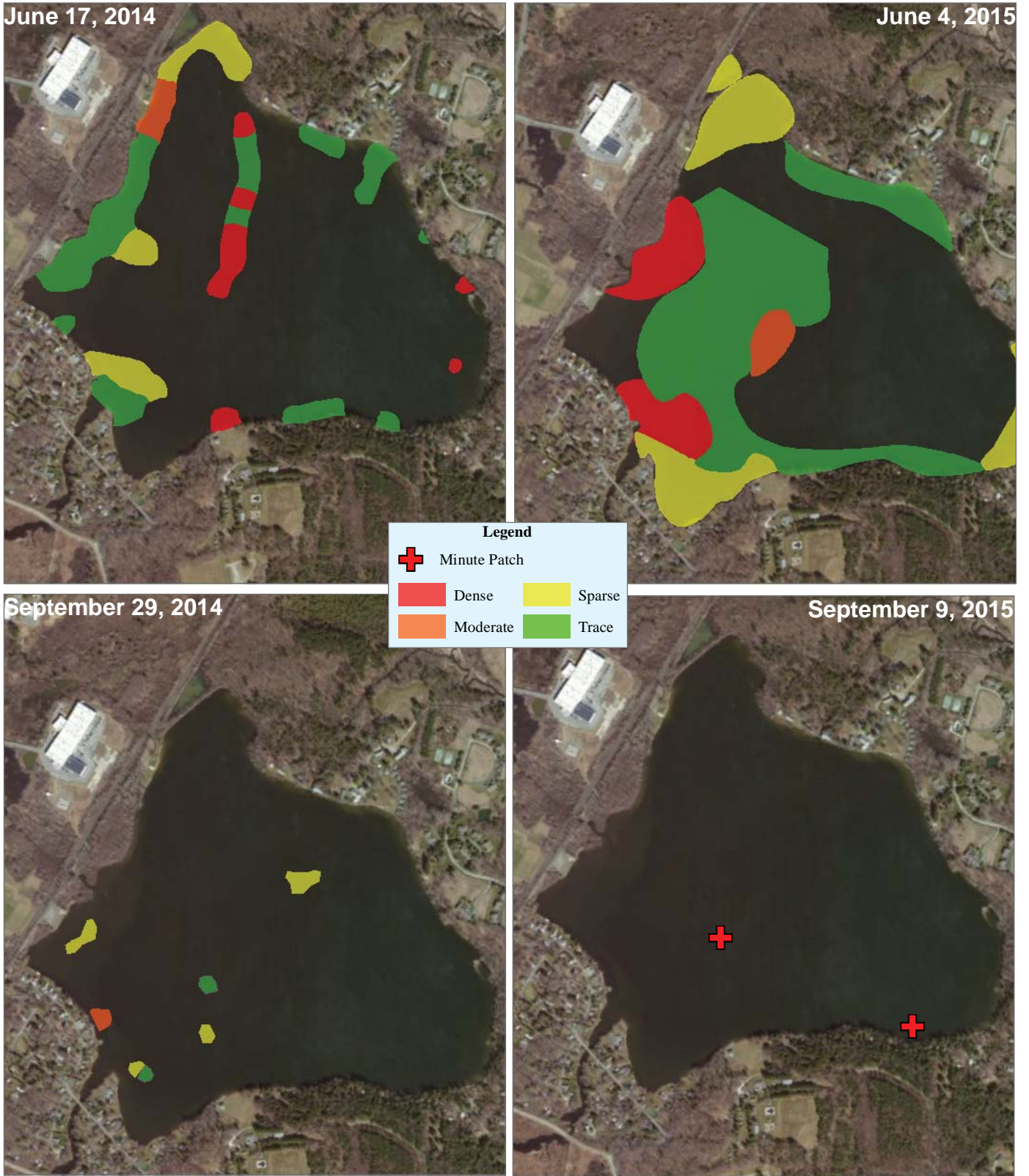
Map Prepared: 10/21/2015
For: Town of Richmond
(Contract #706-15)
Basemap © 2013 Esri



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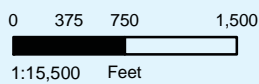
Figure 4: June and September 2014-2015 Density and Distribution Comparison of *P. crispus*



Richmond Pond
Richmond/Pittsfield,
Massachusetts



Map Prepared: 10/23/2015
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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 Lakeside Christian Camp and Conference Center (a year-round ministry of Converge Northeast.)

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.

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 Lakeside Christian Camp on its property in Pittsfield. 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 (2016 THROUGH 2021)

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 Lakeside Christian Camp 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