

Spy Pond, Arlington, Massachusetts 2016 Year-End Report

Report Prepared for: Town of Arlington
Department of Public Works
c/o Teresa DeBenedictis, Assistant DPW Director
51 Grove Street
Arlington, MA 02476

December 13, 2016

In accordance with the existing aquatic plant management contract between SÖLitude Lake Management and Town of Arlington for Spy Pond, the following document serves to provide a summary of the tasks performed in 2016 and provide recommendations for the continued management of the pond.

All management activities performed at Spy Pond were consistent with the Order of Conditions (DEP File# 91-258), and the License to Apply Chemicals issued by the MA DEP – Office of Watershed Management (# 16110).

Pre-Management Inspection

SÖLitude biologists performed a pre-management inspection of Spy Pond to assess the relative abundance and distribution of non-native aquatic vegetation specifically Eurasian watermilfoil (*Myriophyllum spicatum*). During the survey, the entire waterbody was systematically toured and the extent of target non-native plant growth was recorded with an onboard GPS. In addition to the visual survey, an assessment of habitat features and vegetative composition was conducted to assure native vegetation species were not affected by the treatment. A majority of aquatic vegetation growth was observed in the littoral area, and below the island where the depths were more shallow (**Figure 1**).

Herbicide Treatment

Based on conditions observed during the pre-management inspection, the treatment of Spy Pond was scheduled and conducted on May 9th. Prior to treatment, notification was sent to the Arlington Conservation Commissions. Also prior to treatment, the pond level was lowered as prescribed in the work plan submitted to NHESP.

In total a 103-acre treatment area of Eurasian milfoil was treated using both liquid and granular Sonar (fluridone) herbicides. Granular SonarONE was applied to the 103-acre treatment area at 20 ppb to the beds of the plants, liquid Sonar Genesis was applied at 3 ppb to the entire waterbody. A booster application was conducted on June 13th to maintain proper concentration levels throughout the lake. At this time, granular SonarONE was applied at 10 ppb to the beds of plants, and liquid Sonar Genesis was applied at 2 ppb to the entire waterbody. Treatment was performed using an airboat equipped with a low-pressure spray system, which applied the herbicide subsurface to avoid aerial drift, and a bow mounted granular spreader. At no time during the treatment were fish mortalities or significant non-target impacts to other aquatic organisms or wildlife either observed or reported.

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On October 5th, a treatment was conducted to Common Reed (*Phragmites australis*). AquaPro (glyphosate) and necessary surfactants were applied to the scattered areas of common reed via backpack sprayers and hand-wiping.

Post-Management Inspection

A whole-pond, post-management inspection was performed to further assess the impact of treatment and the relative abundance and distribution of aquatic vegetation on July 27th. Again, the entire lake was systematically toured and GPS point were taken.

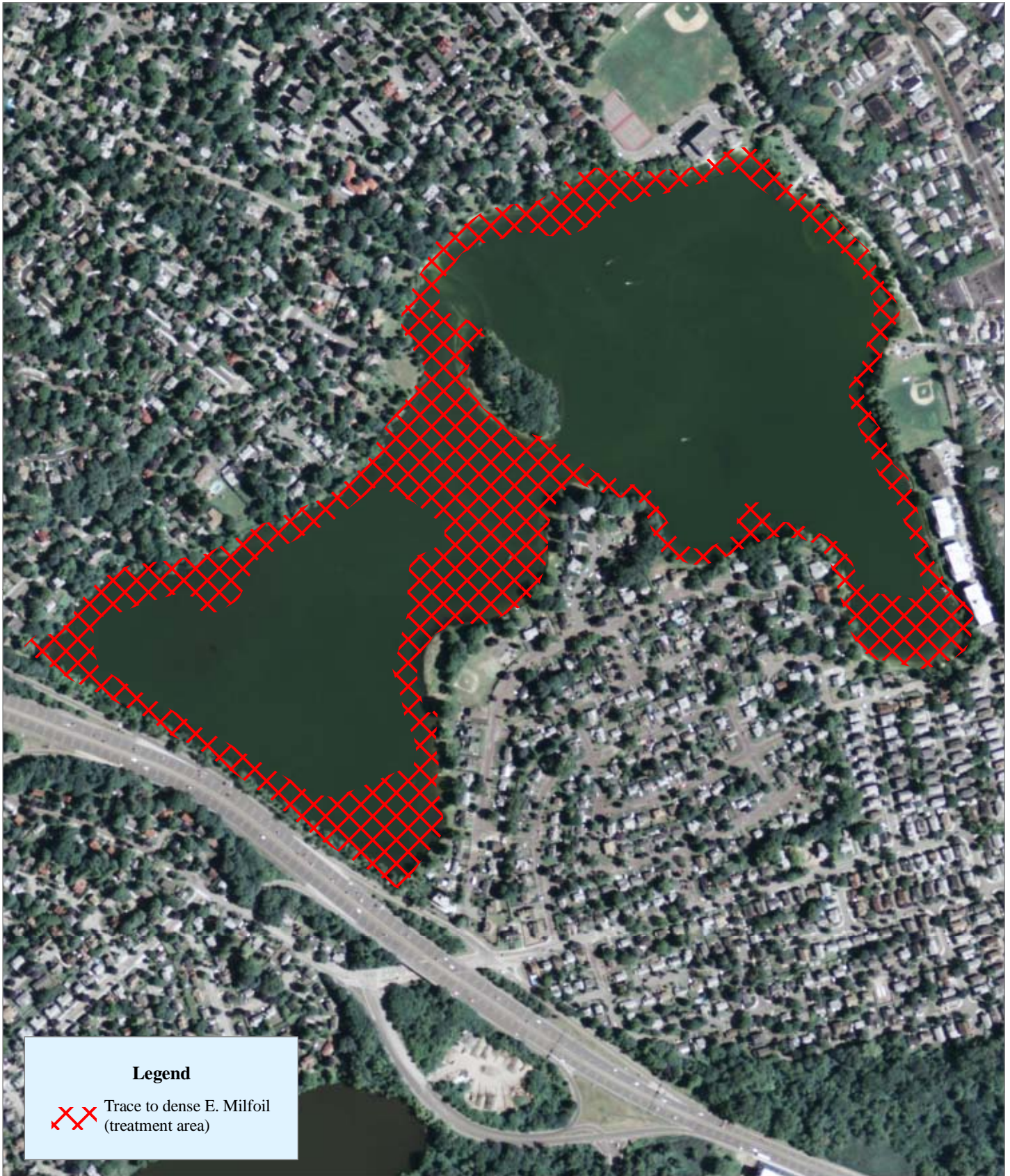
The plant composition consisted primarily of native species dominated by snailseed and thin-leaf pondweeds, (*Potamogeton bicupulatus*) and (*Potamogeton pusillus*), respectively, and filamentous algae (**Figure 2**). Milfoil growth was not observed at the time of the post-management survey. Results of the common reed treatment will be further assessed in 2017.

Ongoing Management Recommendations

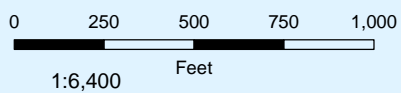
Based on the success of this year's management program, we recommend continuing with a similar management approach next year. Partial lake, low-dose treatment with a combination of systemic and contact herbicides has proven to be an effective means of controlling target species Eurasian watermilfoil. Given that no milfoil regrowth was observed in 2016 we feel that this approach provides the most cost-effective means of controlling this plant species. If substantial milfoil growth has been controlled come 2017, spot treatment with contact herbicide Reward (diquat) may be most effective, however if substantial growth begins to reestablish in the pond, the Town should consider the use of systemic Sonar (fluridone) herbicides again given the success of the 2016 application.

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Figure 1: Pre-Management Distribution and Treatment Area Designation of Eurasian Milfoil

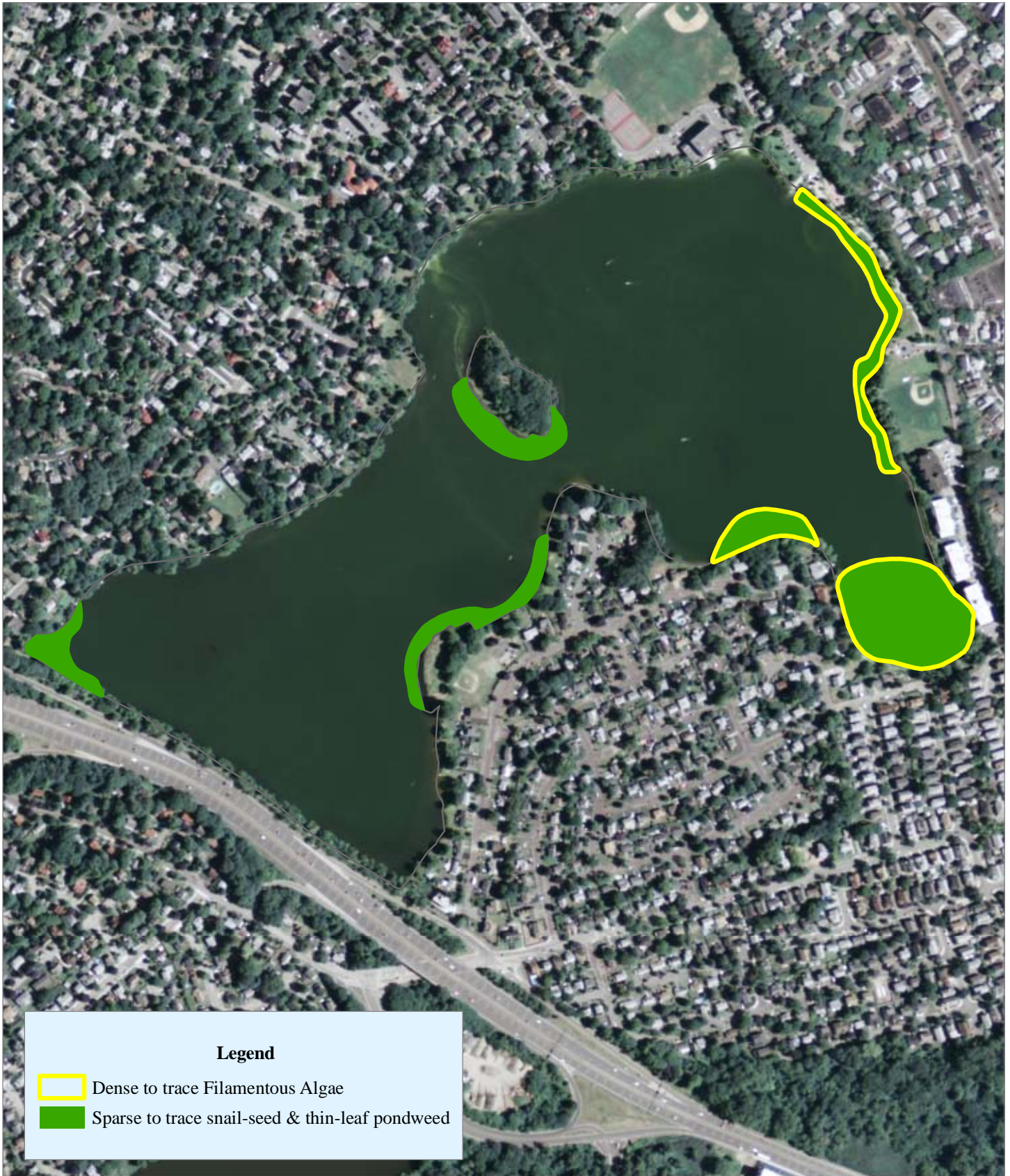


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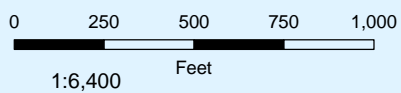


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Figure 2: July 27, 2016 Post-Management Density and Distribution of Aquatic Vegetation



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