

**Dorothy Pond, Millbury, Massachusetts
2016 Year-End Report**

10/21/2016

Report Prepared for: Jeffrey Gardner
Dorothy Pond Restoration Committee

In accordance with the existing aquatic plant management contract between SOLitude Lake Management and the Dorothy Pond Restoration Committee for Dorothy Pond in Millbury, MA, the following document serves to provide this year's treatment and survey results and the management recommendations for the next season.

All management activities were consistent with the Order of Conditions (DEP# 224-298), and the License to Apply Chemicals issued by the MA DEP – Office of Watershed Management (16-289).

Early Season Survey

On April 25, 2016, a SOLitude Lake Management (SLM) Biologist/Applicator conducted a pre-management survey at Dorothy Pond. The purpose of this survey was to analyze and document the distribution of aquatic target vegetation within the pond. The best method of management for the pond will be determined based on survey results.

P. Crispus was observed in the northern basin as well as in the southern coves and around the island. Historically *M. spicatum* was documented as being observed in the pond, however it was not present during the time of the survey (See Figure 1 attached).

Initial Herbicide Treatment

One Treatment event occurred during the 2016 management season. The goal of the treatment was to manage growth of the invasive aquatic species *P. Crispus* within Dorothy Pond, utilizing MA-DEP and US-EPA registered herbicide Reward®.

Prior to the treatment, SLM provided notifications to the Dorothy Pond Restoration Committee and the Millbury Conservation Commission via fax and email, respectively. Notifications were provided at least 48 hours prior to the herbicide application. There was also a legal ad placed in the Millbury-Sutton Chronicle, both 2 weeks and 1 week prior to treatment.

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Post-Treatment Inspection

On August 10, 2016, SLM Biologists conducted an initial post management survey at Dorothy Pond. Results of the survey revealed a reduction in the total distribution of the target aquatic vegetation *P. Crispus*, which was not observed during the post – management survey. There were other species present during the post treatment survey, some of which have reached nuisance levels of growth.

An additional year end survey was conducted on September 28, 2016. The purpose of this survey was to identify and map the distributions of the other plant species present during the previous survey. *Vallisneria Americana* (Tapegrass) was observed at moderate to dense abundances in several locations throughout the pond (See Images 1 and 2 below). *Najas spp.* (Naiad) was also observed at sparse abundances in isolated areas within the pond (See Figure 1).

Ongoing Management Recommendations

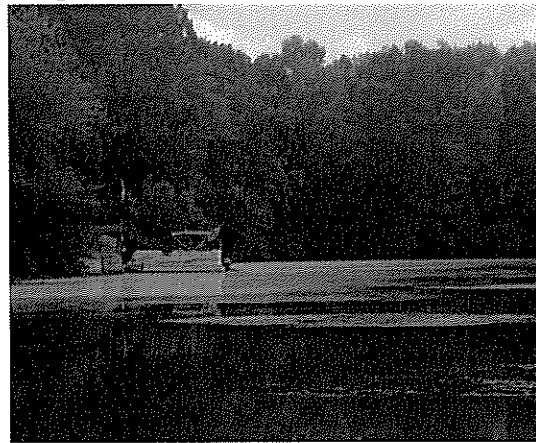
While survey results suggest that the 2016 treatment program for *P. crispus* was successful, it can be expected that ongoing management will continue to be required. While the target species was not observed during the post treatment surveys, it is unlikely that it was completely eradicated from the waterbody.

The current three-year contract also contains options to manage both Naiad and Tapegrass species, through additional mid-late season herbicide treatments. Due to the reduction of the invasive species *P. crispus*, other species listed above have increased their distribution throughout the pond. In this case, the tapegrass has reached dense abundances in some areas, which can prevent navigation of boats through these areas. It is recommended that this option will be selected in the years to come, in an effort to eliminate the hindrance on full recreational use of the waterbody later in the season.

Image 1:



Image 2:



Images 1 (2016) and 2 (2015) both show *Vallisneria Americana* (Tapegrass) reaching surface of the water.

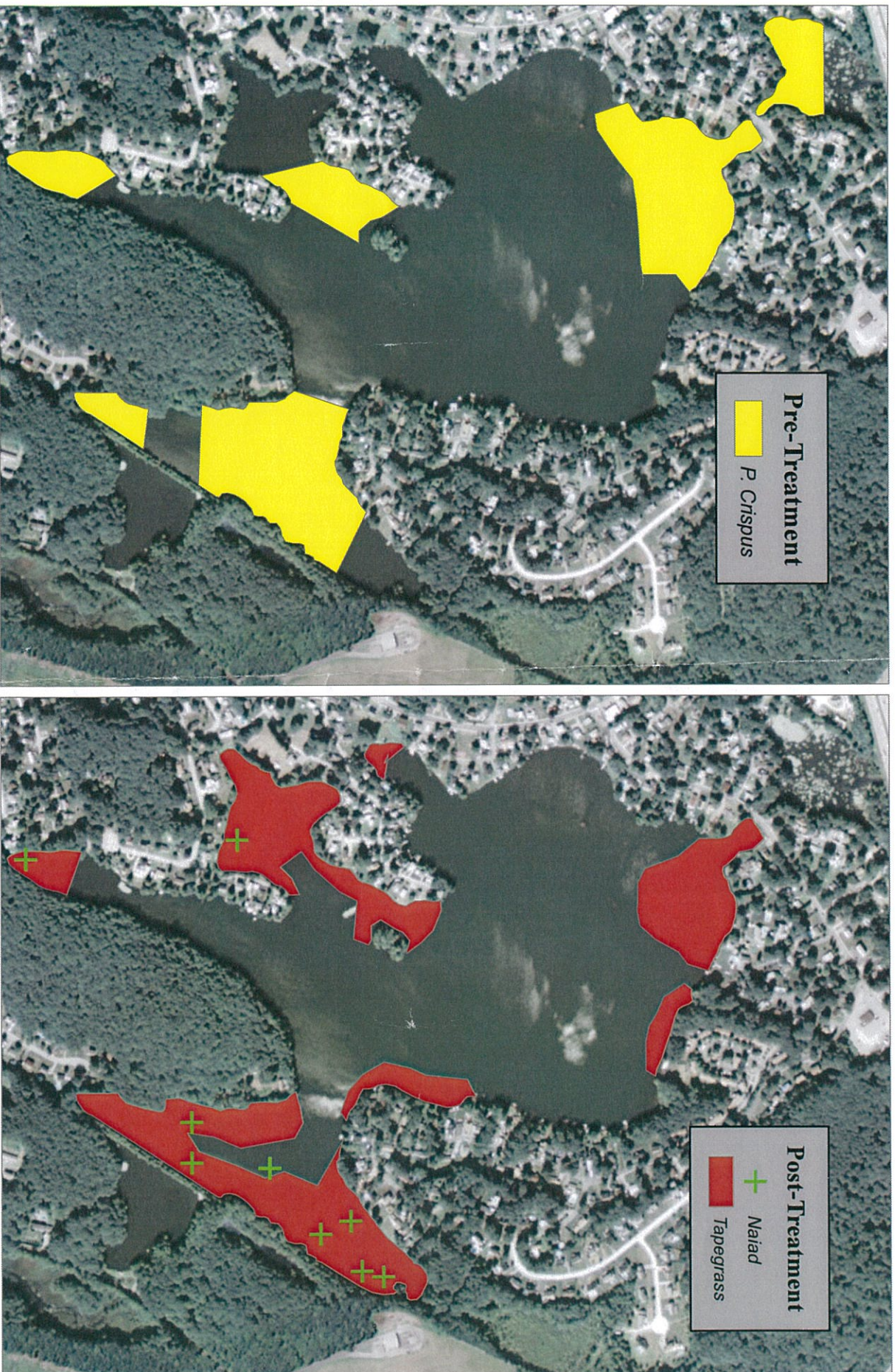
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During the 2015 Dorothy Pond experienced a microscopic algae bloom during the latter part of the season. Such blooms can produce a green color within the water column as well as produce unpleasant odors. While aesthetically unpleasing, some algae blooms contain toxic species of algae, which can be harmful to humans, pets, and other wildlife if the water is ingested. While such conditions didn't appear during this treatment season, it is recommended to conduct some water quality testing as well as sample collection. Monitoring the algal counts and identifying the species will help determine the best course of action if such conditions develop.

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Figure 1: Pre & Post Distribution of Aquatic Vegetation



Dorothy Pond
Millbury, MA



Data Collected: 4/25/16 & 8/10/16
Map Prepared: 10/24/16
For: Dorothy Pond
Restoration Committee
Basemap © 2013 Esri



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