

## 2014 Year-End Report

### Ice Pond

### Mystic, Connecticut

Lycott Environmental, Inc. (Lycott) was contracted (Contract # 103-13) by Mason Island Property Owners Association to conduct an aquatic plant management program to manage invasive and nuisance aquatic vegetation species; *Potamogeton pusillus* (*P. pusillus*, Small Pondweed), *Hydrilla* sp. (*Hydrilla* sp.), and filamentous algae in Ice Pond over a three-year period (2013 - 2015). In accordance with this contract, the following document serves as a year-end report to summarize the tasks completed in 2014. These tasks included a pre-management survey, obtaining a 'Permit to Apply Pesticides to State Waters' from Connecticut Department of Energy and Environmental Protection (CTDEEP), conducting an aquatic plant management program, and completing a post-management survey/year-end report.



#### Pre-Management Survey

On May 21, 2014, a Lycott biologist/applicator conducted a pre-management survey at Ice Pond. The purpose of this survey was to document the distributions and densities of aquatic vegetation within Ice Pond and to assess the best method of treatment. Results of this survey were: trace density of *P. pusillus* observed throughout the pond, as seen in **Image 1**, with a trace to sparse density observed in the north half and a sparse to moderate density of filamentous algae was observed throughout the pond. *Hydrilla* sp. was not observed during the pre-management survey. A brief summary of these results pertaining to extents and abundance of target species *P. pusillus*, *Hydrilla* sp. and filamentous algae is provided below:

Target Species	Generalized Extent	Generalized Density
<i>P. pusillus</i>	Throughout	Trace
<i>Hydrilla</i> sp.	Not Observed	Not Observed
Filamentous Algae	Throughout	Sparse to Moderate

#### Permit Information

The following table details the permitting activities that were required and undertaken by Lycott prior to the 2014 herbicide applications.

Date	Task
February 11 <sup>th</sup>	Submitted 'Permit to Apply Pesticides to State Waters' to Connecticut Department of Energy and Environmental Protection (CTDEEP)
March 18 <sup>th</sup>	Received 'Permit to Apply Pesticides to State Waters' from Connecticut Department of Energy and Environmental Protection (CTDEEP)

## Treatment Notifications

Lycott provided notifications to Mason Island Property Owners Association via fax and email, respectively, at least 48 hours prior to each herbicide application (dates listed in table below).

## Herbicide Applications

A total of three treatment events occurred over the course of the 2014 management season to manage *P. pusillus*, *Hydrilla* sp. and filamentous algae in Ice Pond. Information pertaining to these treatment events, including notification and treatment dates, herbicide product used, and amount of herbicide applied is provided in the following table.



Image 1: *P. pusillus*

Notification Date	Treatment Date	Herbicide Product (active ingredient)	Amount of Herbicide Used
May 13 <sup>th</sup>	May 21 <sup>st</sup>	Captain XTR® (Copper Ethanolamine)	9 gallons
June 18 <sup>th</sup>	June 25 <sup>th</sup>	Captain XTR® (Copper Ethanolamine)	12.5 gallons
July 21 <sup>st</sup>	July 30 <sup>th</sup>	Captain XTR® (Copper Ethanolamine)	7.5 gallons

## Post-Management Survey

On September 29, 2014, Lycott biologists conducted the post-management survey at Ice Pond. The survey revealed an overall reduction in the total distribution of aquatic vegetation. The target species *P. pusillus* was observed at a trace density in scattered patches. A microscopic algae bloom was observed during the post-management survey. The water level was observed to be reduced by an estimated 1 foot at the time of the survey. The target species *Hydrilla* sp. was not observed during the post-management survey.

## Conclusion/Recommendations

Results of the pre- and post-management surveys suggest that the 2014 herbicide treatments significantly affected the target species – *P. pusillus*, *Hydrilla* sp. and filamentous algae. The absolute effectiveness of the 2014 aquatic plant management program will be further assessed during the 2015 management program.

Given the longstanding history of these species within the water body, it is unlikely that one year of treatment will suffice to control the target species – *P. pusillus*, *Hydrilla* sp. and filamentous algae. As such, Lycott recommends continuing the aquatic plant management program – both monitoring and herbicide treatments – in 2015. Lycott recommends, as in 2014, commencing the herbicide treatments early in the growing season when vegetative biomass is low, allowing less time for reproduction and fragmentation.