INDEPENDENT THIRD-PARTY MONITOR FOR CHAUTAUQUA LAKE MACROPHYTE MANAGEMENT – 2020 HERBICIDE TREATMENT PROGRAM

CHAUTAUQUA COUNTY, NEW YORK

JANUARY 2021

PREPARED FOR:
CHAUTAUQUA LAKE & WATERSHED
MANAGEMENT ALLIANCE
201 WEST 3RD STREET, SUITE 115
JAMESTOWN, NY 14701

PREPARED BY:
PRINCETON HYDRO, LLC
203 EXTON COMMONS
EXTON, PA 19341
908-235-5660

TABLE OF CONTENTS

FUNDING / PARTNERSHIP ACKNOWLEDGEMENT

This project was funded in partnership between the County of Chautauqua and the Chautauqua Lake and Watershed Management Alliance in support of the Chautauqua Lake Weed Management Consensus Strategy Memorandum of Agreement (MOA). Thank you as well to the Alliance Members, MOA participants, and other lake and watershed stakeholder groups and individuals who participated in the project.

EXECUTIVE SUMMARY

The Chautauqua Lake and Watershed Management Alliance commissioned Princeton Hydro, LLC to provide third party monitoring services related to satisfying the Chautauqua Lake Weed Management Consensus Strategy Memorandum of Agreement (MOA) related to herbicide treatments conducted for four (4) municipalities (Towns of Ellery and Busti; and Villages of Lakewood and Bemus Point) by Solitude Lake Management in June 2020. This third-party monitoring included pre- and post-treatment macrophyte surveys and *in-situ* water quality testing in the Shermans Bay area (Busti and Lakewood). The herbicide application of ProcellaCOR EC was conducted by Solitude Lake Management on 29 June 2020 under regulatory permits issued by the New York State Department of Environmental Conservation (NYSDEC).

The primary objectives of the independent third-party monitoring, and the resulting conclusions and recommendations, are summarized below and detailed herein. The Statement of Objectives for this project are to:

1. Evaluate the apparent effectiveness of the herbicide treatment.
2. Evaluate the potential impacts of the herbicide treatment on non-target plants.
3. Evaluate potential effects of herbicide treatments on ambient water quality via *in-situ* monitoring

Water quality data showed no acute impacts related to temperature, dissolved oxygen, pH, specific conductance, or clarity in relation to the treatment.

The plant community showed biomass reductions of the target species, Eurasian watermilfoil (*Myriophyllum spicatum*), in the Treatment and Non-Treatment sites following treatment. In addition, the non-target, non-native, curly-leaf pondweed (*Potamogeton crispus*), also showed reductions in the Treatment and Non-Treatment sites between Pre-Treatment and Post-Treatment. Reductions in curly-leaf pondweed may be related to the natural life cycle of this species which is characterized by early-senescence. Finally, native plant species richness increased at the Treatment site following treatment as did the Floristic Quality Index.

Macrophyte and water quality data showed the treatment program to have been successful in reducing Eurasian watermilfoil biomass and allowing for increasing native submerged aquatic vegetation (SAV). Further chemical testing should be conducted in the future to determine if in-lake movement of herbicides was the cause for reductions in non-native plant biomass in the Non-Treatment site or if these reductions were based on natural senescence.

1.0 INTRODUCTION

Chautauqua Lake, located within Chautauqua County, New York, is an approximately 13,000-acre natural lake with a length of approximately 17-miles. Distinct in shape, the lake consists of a large and moderately deep northern basin and slightly smaller but much shallower southern basin. The watershed of Chautauqua Lake encompasses approximately 180 square miles of mixed land use while the overall flow direction through the lake is in a generally southerly direction into the Chadakoin River. Historically, Chautauqua Lake has been affected by dense stands of native and non-native aquatic macrophytes (plants), which have served to impact the lake's recreational, aesthetic, and ecological conditions.

The County of Chautauqua, on 27 March 2019, finalized the Memorandum of Agreement (MOA) for the Chautauqua Lake Weed Management Consensus Strategy. The purpose of the MOA was to effectively bring together lake stakeholders to work together to properly manage the invasive or otherwise nuisance aquatic vegetation and algal blooms in Chautauqua Lake. One of the central tenets of the MOA, as will be described herein, is for third party monitoring for aquatic macrophyte management activities. This monitoring is intended to provide objective data pertaining to this management that may be utilized in a transparent manner to make science-based decisions for the management of the lake. Third-Party monitoring was initiated by Princeton Hydro in 2019 and was again continued in 2020.

The herbicide application and permit-required monitoring was conducted by Solitude Lake Management. Princeton Hydro did not oversee the herbicide application for the 2020 monitoring year. Herbicide applications were commissioned directly by local Municipalities with treatment areas as described in Table 1.1 and referenced in Appendix B.

Table 1.1: Chautauqua Lake – Herbicide Application Areas

Chautauqua Lake - Herbicide Application Areas - 2020			
Application Area	Treatment Start Date	Permitted Acres	Treated Acres
Busti	6/29/20	59.2	59.2
Lakewood	6/29/20	20.2	20.2
Ellery/Bemus Point	6/29/20	7.0	7.0
Total		**86.4**	**86.4**

Herbicide application was permitted for the utilization of ProcellaCOR EC® (2.7% Florpyrauxifen-benzyl: 2-pyridinecarboxylic acid, 4-amino-3-chloro-6-(4-chloro-2-fluoro-3-methoxy-phenyl)-5-fluoro-, phenyl methyl ester) for the target species Eurasian watermilfoil (*Myriophyllum spicatum*). Herbicides were applied at zones previously approved by NYSDEC on 29 June 2020.

The overall objectives of the third-party monitoring, which was conducted by Princeton Hydro, LLC, were to:

1. Evaluate the apparent effectiveness of the herbicide treatment.
2. Evaluate the potential impacts of the herbicide treatment on non-target plants.
3. Evaluate potential effects of herbicide treatments on ambient water quality via *in-situ* monitoring

The overall scope of work conducted by Princeton Hydro included the following tasks (Table 1.2):

Table 1.2: Chautauqua Lake – Third Party Monitoring Tasks

Chautauqua Lake – Third Party Monitoring Tasks	
Task	Description
1.1	Third Party Sampling and Observation Plan
1.2	Collect Pre-Treatment Samples and Observations
2.1	Collect Post-Treatment Samples and Observations
2.2	Prepare Draft and Final Report
2.3	Attend Virtual Public Meeting

This report represents the final, publicly available deliverable, which provides all data collected as part of this project and our interpretation of these results.

Princeton Hydro is uniquely suited to conduct the third-party monitoring of this effort as our staff consists of a mixture of licensed aquatic pesticide applicators and academically trained limnologists and ecologists. Several staff within Princeton Hydro hold doctoral degrees in aquatic ecology or hold accreditation as Certified Lake Managers (CLM) through the North American Lake Management Society (NALMS). Since 1998, Princeton Hydro has provided rigorous, scientific-based consulting for well over 300 private and public waterbodies throughout the mid-Atlantic and New England regions.

2.0 METHODOLOGY

The following section will detail the methodology utilized to satisfy the tasks identified in Section 1.0.

2.1 SAMPLING - PLAN, LOCATIONS, & PARAMETERS

The development of the Sampling and Observation Plan was an iterative process utilizing best practices for the establishment of appropriate monitoring locations and development of scientifically sound monitoring procedure to accurately characterize the *in-situ* water quality and macrophyte community in relation to the treatment.

In total, thirty (30) SAV monitoring points were selected in the Busti and Lakewood portions (Collectively known as 'Shermans Bay') of Chautauqua Lake. Fifteen (15) points represented 'Treatment' points while the remaining fifteen (15) points represented 'Non-Treatment' points. In addition, four (4) *in-situ* points were included in this area (Appendix A). Please note, no SAV monitoring or *in-situ* monitoring was conducted by Princeton Hydro in the Ellery portion of Chautauqua Lake.

Princeton Hydro was notified of permit finalization and treatment schedule on June 17, 2020. As such, the tight timeline between permit authorization and treatment (originally scheduled for June 24, 2020 but then on/around the day of planned treatment it was delayed to June 29, 2020 due to weather conditions) left a reduced capacity to survey all treatment areas (Busti, Lakewood, and Ellery) prior to treatment. The Busti and Lakewood portions were therefore selected due to their isolated geography and to be in-line with general time constraints. The Busti and Lakewood portions also represented 92% of the total permitted acreage for the lake in 2020.

In-situ profiles of temperature, dissolved oxygen, pH, and conductivity were measured at a central point in the treatment zone and a central point outside of the treatment zone, in profile throughout the water column at 0.5-1.0 m intervals, using a calibrated multimeter water quality probe. Since this effort was focused in Shermans Bay, and there are two (2) treatment zones contained in this area, a total of four (4) *in-situ* stations were monitored.

Calibration of dissolved oxygen and conductivity sensors was conducted daily according to the manufacturer's recommendations. A 3-point calibration of the pH sensor was performed daily using buffer fluids with known pH's of 4, 7, and 10. Checks were performed approximately every three hours in the field using the pH 7 buffer fluid. Water clarity was measured using a Secchi disk. General observations regarding water color, wind speed, weather conditions, and other relevant data were also documented.

Surveys of the aquatic macrophyte community in and around the Busti and Lakewood treatment areas were conducted once prior to herbicide treatment and once after treatment, in order to assess the effect of the herbicides on macrophytes both in treatment areas and in non-treatment areas. The 'Pre-Treatment' event was conducted on June 23, 2020, the treatment was conducted on June 29, 2020, and the 'Post-Treatment' survey was conducted between August 10 and 12, 2020.

Macrophyte surveys followed the methodology established by Racine-Johnson Aquatic Ecologists as most recently described in the *2019 Status of Chautauqua Lake Aquatic Macrophyte Community Determined by a Late Summer/Early Fall Survey and Estimates of the Associated Invertebrate Community* (Racine-Johnson, 2019). Prior to sampling, Princeton Hydro established a sampling grid overlaying Shermans Bay. This area encompassed both the Busti and Lakewood A treatment areas and also non-treatment zones. Given the time

constraints for sampling, Princeton Hydro selected thirty (30) total rake toss points. Fifteen (15) points were in the Busti and Lakewood A treatment locations while fifteen (15) points were located outside of the treatment zone extending both outwards into the lake proper and also along the shoreline (Appendix A). Rake toss sample collection was conducted at the intersect of the North-South and East-West lines. Prior to sampling, the points were uploaded to a handheld GPS which was utilized to navigate to each pre-determined location.

At each point, submerged aquatic vegetation was collected via a dual-headed rake tied to a nylon rope marked off at 50 feet length. At each location, Princeton Hydro conducted two (2) rake tosses. Each toss was conducted by throwing the rake from the boat and then backing the boat out to extend the rake 50 feet. The rake was then retrieved slowly at least 33 feet (10 m) to sample each point. Once the plants were retrieved, Princeton Hydro assigned an overall abundance estimate to the mass of total plants on each rake. The estimates were ascribed as follows:

- Dense (D) – More than an armful and difficult to get into the boat,
- Medium (M) – An arm full,
- Sparse (S) – Two hands full,
- Trace (T) – A small handful or less,
- Zero (0) – A bare rake

Princeton Hydro then separated each sample to individual species and recorded a percentage estimate of the amount of each species for each of the two (2) rake-toss samples. Additionally, the condition of the plants (pertaining to possible damage by herbicides) was documented.

Plants were identified to the lowest practical taxon (typically species level) utilizing field guides, taxonomic keys, and other references such as Skawinski, 2014, Crow and Hellquist, 2006, and Borman et al., 1997. Further observations of other macrophyte species not sampled by rake toss but observed along or adjacent to the transect were noted. These data were subsequently recorded in Microsoft Excel spreadsheets for post-processing and analysis.

2.2 DATA ANALYSIS

2.2.1 *IN-SITU DATA*

All *in-situ* water quality data was entered into digital spreadsheets with data compared to standards for Class A waterbodies as designated by NYSDEC.

2.2.2 MACROPHYTE DATA

Following the identification of plants, recording of overall density, and percent contribution of each species; Princeton Hydro ascribed a dry weight biomass (g/m^2) as based on abundance categories according to the protocol established by Racine-Johnson (Johnson et al. 2008, Johnson et al. 2012).

Dry weight biomass associated with each Abundance Category is described below in Table 2.1.

Table 2.1: Chautauqua Lake – Abundance Category

Abundance Category	Rake-Toss Abundance Number	Dry Weight (g/m^2) Ranges Associated with Total Plants Abundance	Mean Dry Biomass (g/m^2)	Dry Weight (g/m^2) Ranges Associated with Single Species Abundance
'0' = no plants	0	0.0	0.0	Same
'T' = trace plants	1	~0.0001 – 0.9999	0.5	Same
'S' = sparse plants	2	~1.0000 – 24.9999	13.0	Same
'M' = medium plants	3	~25.0000 – 99.9999	62.5	Same
'D' = dense plants	4	~100.0000 – 400.0000+	250.0	Same

This analysis was conducted for each rake toss and for the average of the two (2) rake tosses per sample point. For example, if one (1) rake toss is Medium (3) and the other is Trace (1) then the average was Sparse (2).

The resultant data provided the following raw information:

1. Number of species per site, before and after treatment
2. Percent abundance of each species per site, before and after treatment
3. Estimated biomass of each species per site, before and after treatment

Utilizing this raw information, Princeton Hydro computed species richness, which is the number of species, for Treatment and Non-Treatment sites during pre-treatment and post-treatment surveys.

Plant biomass, of Eurasian watermilfoil, curly-leaf pondweed, and native species, at the Treatment and Non-Treatment sites, before and after treatment, were computed and graphed. Changes in total biomass were subsequently computed utilizing the Kruskal-Wallis statistical test.

Finally, Princeton Hydro assessed the sampling sites for the Floristic Quality Assessment (FQA). The FQA is a tool utilized to assess an area's ecological integrity as based on plant species composition. The FQA is conducted through the assignment of a *coefficient of conservatism* (C-value), which ranges from zero to 10. The C-values for this effort were selected from the database associated with the Mid-Atlantic Allegheny Plateau (glaciated) (2012) as accessed via universalfqa.org. A plant species with a higher-score has a lower tolerance to environmental degradation while a lower-score species has a higher tolerance to degradation. This assessment produces a Floristic Quality Index (FQI) which is determined by multiplying the mean C value by the square root of the total number of species. The FQI is presented and compared between Pre-Treatment and Post-Treatment events for the Non-Treatment and Treatment sites.

3.0 RESULTS

The following section provides the key data tables or figures related to the data collection effort detailed in Section 2.0. Specifically, this section presents the raw-data for the *in-situ* data, and macrophyte data under Pre-treatment, and Post-Treatment conditions. Section 3.1 includes *in-situ* data, and Section 3.2 includes the SAV data. Pertinent thresholds for water quality, as established by NYSDEC are included as appropriate. Chautauqua Lake South and North Basins are both categorized as 'Class A' waters by NYSDEC and as such are ascribed certain thresholds for pH and dissolved oxygen under 6 NYCRR Part 703. The pH range established by NYSDEC is 6.5 to 8.5 while dissolved oxygen concentrations are not to fall below 5.0 mg/L.

3.1 IN-SITU DATA

In-situ data collected during Pre-Treatment and Post-Treatment events are provided in Tables 3.1 and 3.2. Discussion for the *in-situ* data is provided in Section 4.0.

Table 3.1: Chautauqua Lake – Pre-Treatment *In-situ* Data

Chautauqua Lake - Pre-Treatment *In-situ* - 6/23/20									
Date	**Station**	**Total Depth**	**Secchi Depth**	**Sample Depth**	**Temp**	**DO**	**DO%**	**pH**	**SpC**
		(m)	**(m)**	**(m)**	**(°C)**	**(mg/L)**	**(%)**	**(SU)**	**(mS/cm)**
NYSDEC Standard for Class A Waterbody:						> 5		6.5 to 8.5	
6/23/2020	WQ1	2.1	1.5	0	25.51	7.20	88.8	8.86	0.201
				0.5	25.52	6.77	83.5	8.88	0.201
				1	25.45	6.86	84.5	8.87	0.201
				1.5	24.77	5.43	66.2	8.71	0.196
				2	24.26	2.25	27.3	8.24	0.203
6/23/2020	WQ2	2.8	2.0	0	25.45	8.64	106.5	8.88	0.203
				1	25.25	9.38	115.1	9.00	0.203
				2	24.62	6.90	84.1	8.20	0.208
				2.5	24.37	5.31	64.2	7.81	0.211
6/23/2020	WQ3	3.0	2.0	0	25.38	9.02	111.0	8.81	0.201
				1	25.04	8.38	102.6	8.67	0.203
				2	24.32	7.11	85.8	7.98	0.211
				2.5	24.26	6.60	79.6	7.80	0.212
6/23/2020	WQ4	2.2	2.0	0	26.56	11.19	140.7	9.68	0.187
				0.5	26.28	12.32	153.9	9.67	0.185
				1	25.75	12.43	154.0	9.56	0.187
				1.5	25.84	12.12	150.4	9.58	0.187
				2	24.78	7.71	93.9	8.72	0.195

Table 3.2: Chautauqua Lake – Post-Treatment *In-situ* Data

Chautauqua Lake - Post-Treatment *In-situ* - 8/12/20									
Date	**Station**	**Total depth**	**Secchi Depth**	**Sample Depth**	**Temp**	**DO**	**DO%**	**pH**	**SpC**
		(m)	**(m)**	**(m)**	**(°C)**	**(mg/L)**	**(%)**	**(SU)**	**(mS/cm)**
NYSDEC Standard for Class A Waterbody:						> 5		6.5 to 8.5	
8/12/2020	WQ1	2.1	1.0	0	28.34	9.20	118.2	9.67	0.203
				0.5	27.77	9.78	123.9	9.59	0.200
				1	27.60	9.69	122.4	9.51	0.202
				1.5	25.61	9.35	113.9	9.18	0.202
				2	24.59	6.93	81.7	8.53	0.206
8/12/2020	WQ2	2.8	1.0	0	28.73	9.33	120.2	9.54	0.202
				1	26.74	9.30	115.4	9.43	0.203
				2	25.08	7.92	95.6	8.94	0.203
				2.5	24.80	7.09	85.1	8.72	0.205
8/12/2020	WQ3	3.0	0.9	0	28.58	9.45	121.4	9.72	0.202
				1	25.27	8.45	102.4	9.13	0.202
				2	25.09	6.35	76.6	8.85	0.203
				2.5	24.98	4.90	59.1	8.60	0.203
8/12/2020	WQ4	2.1	0.9	0	29.22	8.86	115.1	9.33	0.202
				0.5	29.21	9.14	118.7	9.30	0.201
				1	28.21	9.59	122.4	9.26	0.202
				1.5	25.92	9.21	112.9	8.90	0.197
				2	25.58	6.89	83.9	8.69	0.203

3.2 MACROPHYTE DATA

The following table (Table 3.3) provides a species list of those species encountered during the macrophyte surveys.

Table 3.3: Chautauqua Lake – Macrophyte Species List

Chautauqua Lake - Macrophyte Species List	
Common Name	**Scientific Name**
Curly-Leaf Pondweed	*Potamogeton crispus*
Eurasian Watermilfoil	*Myriophyllum spicatum*
Coontail	*Ceratophyllum demersum*
Elodea	*Elodea canadensis*
Small Pondweed	*Potamogeton berchtoldii*
Water Stargrass	*Heteranthera dubia*
Sago Pondweed	*Stuckenia pectinata*
Tape Grass	*Vallisneria americana*
Star Duckweed	*Lemna trisulca*
Slender Naiad	*Najas flexilis*
Chara	*Chara* sp.

In total, ten (10) macrophyte species and one (1) macroalgae species were identified during the Pre-Treatment and Post-Treatment Surveys.

The raw rake-toss data for the Pre-Treatment and Post-Treatment events are provided in Tables 3.4 to 3.7 and Tables 3.8 to 3.11. Each table describes the type of point (Treatment vs. Non-Treatment), rake toss number, text abundance category or numerical biomass, and percent coverage estimates (As described in Table 2.1). Abundance and mean biomass estimates are provided for each rake toss as a whole plant community, on a species basis within each rake toss, and as an average of each of the two (2) rake tosses.

Table 3.4: Chautauqua Lake – Pre-Treatment SAV Data (1 of 2)

Type	Point	Depth (m)	Rake Toss (#)	Overall Abundanc	Overall Density	Biomass Estimate (g/m^2)	P_crispus% (%)	P_crispus Biomass (g/m^2)	M_spicatum% (%)	M_spicatum Biomass (g/m^2)	C_demersum% (%)	C_demersum Biomass (g/m^2)	E_canadensis% (%)	E_canadensis Biomass (g/m^2)	P_berchtoldii% (%)	P_berchtoldii Biomass (g/m^2)	H_dubia% (%)	H_dubia Biomass (g/m^2)	S_pectinata% (%)	S_pectinata Biomass (g/m^2)	V_americana% (%)	V_americana Biomass (g/m^2)
TRT	1	1.6	1	D	4	250.0	50.0	125.0	30.0	75.0	0.0	0.0	10.0	25.0	10.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	1	1.6	2	D	4	250.0	60.0	150.0	30.0	75.0	10.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	1	1.6	Average	D	4	250.0	55.0	137.5	30.0	75.0	5.0	12.5	5.0	12.5	5.0	12.5	0.0	0.0	0.0	0.0	0.0	0.0
TRT	2	0.8	1	S	2	13.0	10.0	1.3	20.0	2.6	0.0	0.0	30.0	3.9	5.0	0.7	35.0	4.6	0.0	0.0	0.0	0.0
TRT	2	0.8	2	M	3	62.5	30.0	18.8	10.0	6.3	10.0	6.3	20.0	12.5	0.0	0.0	30.0	18.8	0.0	0.0	0.0	0.0
TRT	2	0.8	Average	M	2.5	37.8	20.0	10.0	15.0	4.4	5.0	3.1	25.0	8.2	2.5	0.3	32.5	11.7	0.0	0.0	0.0	0.0
TRT	3	1.3	1	D	4	250.0	30.0	75.0	30.0	75.0	25.0	62.5	15.0	37.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	3	1.3	2	D	4	250.0	30.0	75.0	30.0	75.0	25.0	62.5	15.0	37.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	3	1.3	Average	D	4	250.0	30.0	75.0	30.0	75.0	25.0	62.5	15.0	37.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	4	1.8	1	D	4	250.0	90.0	225.0	5.0	12.5	0.0	0.0	5.0	12.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	4	1.8	2	D	4	250.0	90.0	225.0	5.0	12.5	5.0	12.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	4	1.8	Average	D	4	250.0	90.0	225.0	5.0	12.5	2.5	6.3	2.5	6.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	5	1.1	1	T	1	0.5	100.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	5	1.1	2	T	1	0.5	100.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	5	1.1	Average	T	1	0.5	100.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	6	1.4	1	M	3	62.5	25.0	15.6	25.0	15.6	25.0	15.6	25.0	15.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	6	1.4	2	D	4	250.0	75.0	187.5	10.0	25.0	15.0	37.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	6	1.4	Average	D	3.5	156.3	50.0	101.6	17.5	20.3	20.0	26.6	12.5	7.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	7	1.6	1	D	4	250.0	40.0	100.0	20.0	50.0	20.0	50.0	20.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	7	1.6	2	M	3	62.5	70.0	43.8	10.0	6.3	0.0	0.0	20.0	12.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	7	1.6	Average	D	3.5	156.3	55.0	71.9	15.0	28.1	10.0	25.0	20.0	31.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	8	1.3	1	S	2	13.0	20.0	2.6	60.0	7.8	0.0	0.0	5.0	0.7	15.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	8	1.3	2	S	2	13.0	20.0	2.6	20.0	2.6	40.0	5.2	20.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	8	1.3	Average	S	2	13.0	20.0	2.6	40.0	5.2	20.0	2.6	12.5	1.6	7.5	1.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	9	0.9	1	S	2	13.0	15.0	2.0	40.0	5.2	15.0	2.0	30.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	9	0.9	2	S	2	13.0	20.0	2.6	40.0	5.2	30.0	3.9	10.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	9	0.9	Average	S	2	13.0	17.5	2.3	40.0	5.2	22.5	2.9	20.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	10	1.5	1	M	3	62.5	40.0	25.0	30.0	18.8	20.0	12.5	10.0	6.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	10	1.5	2	M	3	62.5	60.0	37.5	20.0	12.5	10.0	6.3	10.0	6.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	10	1.5	Average	M	3	62.5	50.0	31.3	25.0	15.6	15.0	9.4	10.0	6.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	11	1.3	1	S	2	13.0	15.0	2.0	25.0	3.3	60.0	7.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	11	1.3	2	D	4	250.0	60.0	150.0	10.0	25.0	30.0	75.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	11	1.3	Average	D	3	131.5	37.5	76.0	17.5	14.1	45.0	41.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	12	0.7	1	S	2	13.0	20.0	2.6	40.0	5.2	0.0	0.0	0.0	0.0	20.0	2.6	20.0	2.6	0.0	0.0	0.0	0.0
TRT	12	0.7	2	M	3	62.5	15.0	9.4	55.0	34.4	10.0	6.3	0.0	0.0	20.0	12.5	0.0	0.0	0.0	0.0	0.0	0.0
TRT	12	0.7	Average	M	2.5	37.8	17.5	6.0	47.5	19.8	5.0	3.1	0.0	0.0	20.0	7.6	10.0	1.3	0.0	0.0	0.0	0.0
TRT	13	1.4	1	S	2	13.0	0.0	0.0	95.0	12.4	0.0	0.0	0.0	0.0	5.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0
TRT	13	1.4	2	S	2	13.0	20.0	2.6	80.0	10.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	13	1.4	Average	S	2	13.0	10.0	1.3	87.5	11.4	0.0	0.0	0.0	0.0	2.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0
TRT	14	0.3	1	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	14	0.3	2	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	14	0.3	Average	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	15	0.7	1	D	4	250.0	60.0	150.0	40.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	15	0.7	2	D	4	250.0	75.0	187.5	5.0	12.5	20.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	15	0.7	Average	D	4	250.0	67.5	168.8	22.5	56.3	10.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 3.5: Chautauqua Lake – Pre-Treatment SAV Data (2 of 2)

Type	Point	Depth (m)	Rake Toss (#)	Overall Abundance	Overall Density	Biomass Estimate (g/m^2)	P_crispus% (%)	P_crispus Biomass (g/m^2)	M_spicatum% (%)	M_spicatum Biomass (g/m^2)	C_demersum% (%)	C_demersum Biomass (g/m^2)	E_canadensis% (%)	E_canadensis Biomass (g/m^2)	P_berchtoldii% (%)	P_berchtoldii Biomass (g/m^2)	H_dubia% (%)	H_dubia Biomass (g/m^2)	S_pectinata% (%)	S_pectinata Biomass (g/m^2)	V_americana% (%)	V_americana Biomass (g/m^2)
NTRT	16	1.9	1	S	2	13.0	0.0	0.0	10.0	1.3	60.0	7.8	5.0	0.7	5.0	0.7	20.0	2.6	0.0	0.0	0.0	0.0
NTRT	16	1.9	2	S	2	13.0	40.0	5.2	20.0	2.6	0.0	0.0	30.0	3.9	0.0	0.0	10.0	1.3	0.0	0.0	0.0	0.0
NTRT	16	1.9	Average	S	2	13.0	20.0	2.6	15.0	2.0	30.0	3.9	17.5	2.3	2.5	0.3	15.0	2.0	0.0	0.0	0.0	0.0
NTRT	17	1.7	1	M	3	62.5	85.0	53.1	10.0	6.3	5.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	17	1.7	2	M	3	62.5	70.0	43.8	10.0	6.3	15.0	9.4	5.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	17	1.7	Average	M	3	62.5	77.5	48.4	10.0	6.3	10.0	6.3	2.5	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	18	3.4	1	S	2	13.0	10.0	1.3	10.0	1.3	40.0	5.2	30.0	3.9	10.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	18	3.4	2	T	1	0.5	15.0	0.1	10.0	0.1	5.0	0.0	60.0	0.3	10.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	18	3.4	Average	S	1.5	6.8	12.5	0.7	10.0	0.7	22.5	2.6	45.0	2.1	10.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	19	1.2	1	M	3	62.5	90.0	56.3	10.0	6.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	19	1.2	2	D	4	250.0	60.0	150.0	10.0	25.0	20.0	50.0	10.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	19	1.2	Average	D	3.5	156.3	75.0	103.1	10.0	15.6	10.0	25.0	5.0	12.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	20	2.5	1	S	2	13.0	65.0	8.5	10.0	1.3	5.0	0.7	20.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	20	2.5	2	M	3	62.5	65.0	40.6	15.0	9.4	0.0	0.0	20.0	12.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	20	2.5	Average	M	2.5	37.8	65.0	24.5	12.5	5.3	2.5	0.3	20.0	7.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	21	2.0	1	S	2	13.0	65.0	8.5	15.0	2.0	0.0	0.0	10.0	1.3	10.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	21	2.0	2	S	2	13.0	70.0	9.1	10.0	1.3	20.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	21	2.0	Average	S	2	13.0	67.5	8.8	12.5	1.6	10.0	1.3	5.0	0.7	5.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	22	3.0	1	M	3	62.5	40.0	25.0	0.0	0.0	40.0	25.0	20.0	12.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	22	3.0	2	S	2	13.0	80.0	10.4	0.0	0.0	0.0	0.0	10.0	1.3	10.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	22	3.0	Average	M	2.5	37.8	60.0	17.7	0.0	0.0	20.0	12.5	15.0	6.9	5.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	23	2.8	1	S	2	13.0	65.0	8.5	10.0	1.3	15.0	2.0	5.0	0.7	5.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	23	2.8	2	S	2	13.0	60.0	7.8	10.0	1.3	10.0	1.3	20.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	23	2.8	Average	S	2	13.0	62.5	8.1	10.0	1.3	12.5	1.6	12.5	1.6	2.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	24	1.5	1	M	3	62.5	60.0	37.5	0.0	0.0	20.0	12.5	20.0	12.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	24	1.5	2	M	3	62.5	80.0	50.0	5.0	3.1	15.0	9.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	24	1.5	Average	M	3	62.5	70.0	43.8	2.5	1.6	17.5	10.9	10.0	6.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	25	1.2	1	D	4	250.0	85.0	212.5	15.0	37.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	25	1.2	2	D	4	250.0	69.0	172.5	10.0	25.0	20.0	50.0	1.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	25	1.2	Average	D	4	250.0	77.0	192.5	12.5	31.3	10.0	25.0	0.5	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	26	1.4	1	M	3	62.5	90.0	56.3	0.0	0.0	10.0	6.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	26	1.4	2	M	3	62.5	95.0	59.4	0.0	0.0	5.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	26	1.4	Average	M	3	62.5	92.5	57.8	0.0	0.0	7.5	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	27	1.5	1	S	2	13.0	5.0	0.7	75.0	9.8	20.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	27	1.5	2	S	2	13.0	0.0	0.0	60.0	7.8	40.0	5.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	27	1.5	Average	S	2	13.0	2.5	0.3	67.5	8.8	30.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	28	1.3	1	S	2	13.0	10.0	1.3	50.0	6.5	25.0	3.3	10.0	1.3	5.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	28	1.3	2	S	2	13.0	0.0	0.0	70.0	9.1	25.0	3.3	5.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	28	1.3	Average	S	2	13.0	5.0	0.7	60.0	7.8	25.0	3.3	7.5	1.0	2.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	29	2.8	1	S	2	13.0	10.0	1.3	40.0	5.2	40.0	5.2	0.0	0.0	10.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	29	2.8	2	S	2	13.0	10.0	1.3	30.0	3.9	30.0	3.9	0.0	0.0	30.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	29	2.8	Average	S	2	13.0	10.0	1.3	35.0	4.6	35.0	4.6	0.0	0.0	20.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	30	0.6	1	T	1	0.5	20.0	0.1	10.0	0.1	0.0	0.0	0.0	0.0	50.0	0.3	20.0	0.1	0.0	0.0	0.0	0.0
NTRT	30	0.6	2	T	1	0.5	0.0	0.0	25.0	0.1	25.0	0.1	0.0	0.0	15.0	0.1	0.0	0.0	15.0	0.1	20.0	0.1
NTRT	30	0.6	Average	T	1	0.5	10.0	0.1	17.5	0.1	12.5	0.1	0.0	0.0	32.5	0.2	10.0	0.1	7.5	0.0	10.0	0.1

Table 3.6: Chautauqua Lake – Post-Treatment SAV Data (1 of 2)

Type	Point	Depth (m)	Rake Toss (#)	Overall Abundance	Overall Density	Biomass Estimate (g/m^2)	P_crispus% (%)	P_crispus Biomass (g/m^2)	M_spicatum% (%)	M_spicatum Biomass (g/m^2)	C_demersum% (%)	C_demersum Biomass (g/m^2)	E_canadensis% (%)	E_canadensis Biomass (g/m^2)	P_berchtoldii% (%)	P_berchtoldii Biomass (g/m^2)	H_dubia% (%)	H_dubia Biomass (g/m^2)	S_pectinata% (%)	S_pectinata Biomass (g/m^2)	V_americana% (%)	V_americana Biomass (g/m^2)	L_trisulca% (%)	L_trisulca Biomass (g/m^2)	N_flexilis% (%)	N_flexilis Biomass (g/m^2)	Chara% (%)	Chara Biomass (g/m^2)
TRT	1	1.6	1	S	2	13.0	10.0	1.3	0.0	0.0	30.0	3.9	50.0	6.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	1.3	0.0	0.0
TRT	1	1.6	2	S	2	13.0	5.0	0.7	5.0	0.7	45.0	5.9	45.0	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	1	1.6	Average	S	2	13.0	7.5	1.0	2.5	0.3	37.5	4.9	47.5	6.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.7	0.0	0.0
TRT	2	0.5	1	D	4	250.0	0.0	0.0	0.0	0.0	10.0	25.0	20.0	50.0	0.0	0.0	5.0	12.5	0.0	0.0	30.0	75.0	0.0	0.0	35.0	87.5	0.0	0.0
TRT	2	0.5	2	D	4	250.0	0.0	0.0	0.0	0.0	0.0	0.0	35.0	87.5	0.0	0.0	10.0	25.0	0.0	0.0	5.0	12.5	0.0	0.0	50.0	125.0	0.0	0.0
TRT	2	0.5	Average	D	4	250.0	0.0	0.0	0.0	0.0	5.0	12.5	27.5	68.8	0.0	0.0	7.5	18.8	0.0	0.0	17.5	43.8	0.0	0.0	42.5	106.3	0.0	0.0
TRT	3	1.3	1	M	3	62.5	0.0	0.0	0.0	0.0	80.0	50.0	20.0	12.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	3	1.3	2	S	2	13.0	5.0	0.7	5.0	0.7	45.0	5.9	40.0	5.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.7	0.0	0.0
TRT	3	1.3	Average	M	2.5	37.8	2.5	0.3	2.5	0.3	62.5	27.9	30.0	8.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.3	0.0	0.0
TRT	4	1.8	1	S	2	13.0	10.0	1.3	5.0	0.7	55.0	7.2	30.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	4	1.8	2	M	3	62.5	10.0	6.3	0.0	0.0	45.0	28.1	40.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0
TRT	4	1.8	Average	M	2.5	37.8	10.0	3.8	2.5	0.3	50.0	17.6	35.0	14.5	0.0	0.0	0.0	0.0	0.0	0.0	2.5	1.6	0.0	0.0	0.0	0.0	0.0	0.0
TRT	5	1.1	1	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	5	1.1	2	T	1	0.5	100.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	5	1.1	Average	T	0.5	0.3	50.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	6	1.4	1	M	3	62.5	0.0	0.0	20.0	12.5	40.0	25.0	30.0	18.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	6.3	0.0	0.0
TRT	6	1.4	2	T	1	0.5	0.0	0.0	10.0	0.1	30.0	0.2	20.0	0.1	0.0	0.0	10.0	0.1	0.0	0.0	10.0	0.1	10.0	0.1	10.0	0.1	0.0	0.0
TRT	6	1.4	Average	S	2	31.5	0.0	0.0	15.0	6.3	35.0	12.6	25.0	9.4	0.0	0.0	5.0	0.0	0.0	0.0	5.0	0.0	5.0	0.0	10.0	3.2	0.0	0.0
TRT	7	1.5	1	M	3	62.5	2.0	1.3	0.0	0.0	60.0	37.5	38.0	23.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	7	1.5	2	S	2	13.0	2.5	0.3	0.0	0.0	45.0	5.9	50.0	6.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.3	0.0	0.0	0.0	0.0
TRT	7	1.5	Average	M	2.5	37.8	2.3	0.8	0.0	0.0	52.5	21.7	44.0	15.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.2	0.0	0.0	0.0	0.0
TRT	8	1.2	1	T	1	0.5	10.0	0.1	0.0	0.0	45.0	0.2	45.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	8	1.2	2	S	2	13.0	5.0	0.7	0.0	0.0	40.0	5.2	20.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	2.6	15.0	2.0
TRT	8	1.2	Average	S	1.5	6.8	7.5	0.4	0.0	0.0	42.5	2.7	32.5	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	1.3	7.5	1.0
TRT	9	0.9	1	S	2	13.0	0.0	0.0	10.0	1.3	30.0	3.9	20.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.3	37.5	4.9	0.0	0.0
TRT	9	0.9	2	S	2	13.0	2.5	0.3	20.0	2.6	25.0	3.3	30.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.3	20.0	2.6	0.0	0.0
TRT	9	0.9	Average	S	2	13.0	1.3	0.2	15.0	2.0	27.5	3.6	25.0	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.3	28.8	3.7	0.0	0.0
TRT	10	1.6	1	T	1	0.5	10.0	0.1	0.0	0.0	80.0	0.4	10.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	10	1.6	2	T	1	0.5	5.0	0.0	95.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	10	1.6	Average	T	1	0.5	7.5	0.0	47.5	0.2	40.0	0.2	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	11	1.3	1	D	4	250.0	5.0	12.5	5.0	12.5	70.0	175.0	20.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	11	1.3	2	D	4	250.0	5.0	12.5	5.0	12.5	60.0	150.0	30.0	75.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	11	1.3	Average	D	4	250.0	5.0	12.5	5.0	12.5	65.0	162.5	25.0	62.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	12	0.7	1	T	1	0.5	0.0	0.0	17.5	0.1	40.0	0.2	30.0	0.2	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.1	0.0	0.0
TRT	12	0.7	2	S	2	13.0	0.0	0.0	10.0	1.3	35.0	4.6	35.0	4.6	20.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	12	0.7	Average	S	1.5	6.8	0.0	0.0	13.8	0.7	37.5	2.4	32.5	2.4	11.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0
TRT	13	1.0	1	T	1	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.3	0.0	0.0
TRT	13	1.0	2	T	1	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	13	1.0	Average	T	1	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	75.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.0	0.1	0.0	0.0
TRT	14	0.3	1	0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	14	0.3	2	T	1	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	90.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.1	0.0	0.0
TRT	14	0.3	Average	T	0.5	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	45.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0
TRT	15	0.7	1	T	1	0.5	5.0	0.0	0.0	0.0	60.0	0.3	35.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	15	0.7	2	S	2	13.0	2.5	0.3	0.0	0.0	60.0	7.8	20.0	2.6	0.0	0.0	17.5	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TRT	15	0.7	Average	S	1.5	6.8	3.8	0.2	0.0	0.0	60.0	4.1	27.5	1.4	0.0	0.0	8.8	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 3.7: Chautauqua Lake – Post-Treatment SAV Data (2 of 2)

Type	Point	Depth	Rake Toss	Overall Abundanc	Overall Density	Biomass Estimate	P_crispus%	P_crispus Biomass	M_spicatum%	M_spicatum Biomass	C_demersum%	C_demersum Biomass	E_canadensis%	E_canadensis Biomass	P_berchtoldii%	P_berchtoldii Biomass	H_dubia%	H_dubia Biomass	S_pectinata%	S_pectinata Biomass	V_americana%	V_americana Biomass	L_trisulca%	L_trisulca Biomass	N_flexilis%	N_flexilis Biomass	Chara%	Chara Biomass
		(m)	(#)			(g/m^2)	(%)	(g/m^2)	(%)	(g/m^2)	(%)	(g/m^2)	(%)	(g/m^2)	(%)	(g/m^2)	(%)	(g/m^2)	(%)	(g/m^2)	(%)	(g/m^2)	(%)	(g/m^2)	(%)	(g/m^2)	(%)	(g/m^2)
NTRT	16	0.2	1	S	2	13.0	0.0	0.0	10.0	1.3	10.0	1.3	20.0	2.6	0.0	0.0	50.0	6.5	0.0	0.0	10.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	16	0.2	2	S	2	13.0	0.0	0.0	10.0	1.3	0.0	0.0	20.0	2.6	0.0	0.0	40.0	5.2	0.0	0.0	30.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	16	0.2	Average	S	2	13.0	0.0	0.0	10.0	1.3	5.0	0.7	20.0	2.6	0.0	0.0	45.0	5.9	0.0	0.0	20.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	17	1.7	1	S	2	13.0	5.0	0.7	5.0	0.7	40.0	5.2	40.0	5.2	0.0	0.0	10.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	17	1.7	2	S	2	13.0	0.0	0.0	5.0	0.7	30.0	3.9	45.0	5.9	0.0	0.0	20.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	17	1.7	Average	S	2	13.0	2.5	0.3	5.0	0.7	35.0	4.6	42.5	5.5	0.0	0.0	15.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	18	3.5	1	S	2	13.0	0.0	0.0	40.0	5.2	30.0	3.9	30.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	18	3.5	2	S	2	13.0	0.0	0.0	20.0	2.6	40.0	5.2	40.0	5.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	18	3.5	Average	S	2	13.0	0.0	0.0	30.0	3.9	35.0	4.6	35.0	4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	19	1.2	1	S	2	13.0	10.0	1.3	10.0	1.3	40.0	5.2	40.0	5.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	19	1.2	2	M	3	62.5	0.0	0.0	0.0	0.0	10.0	6.3	90.0	56.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	19	1.2	Average	M	2.5	37.8	5.0	0.7	5.0	0.7	25.0	5.7	65.0	30.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	20	2.3	1	S	2	13.0	5.0	0.7	5.0	0.7	40.0	5.2	50.0	6.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	20	2.3	2	D	4	250.0	0.0	0.0	0.0	0.0	10.0	25.0	90.0	225.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	20	2.3	Average	D	3	131.5	2.5	0.3	2.5	0.3	25.0	15.1	70.0	115.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	21	2.0	1	S	2	13.0	5.0	0.7	35.0	4.6	0.0	0.0	60.0	7.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	21	2.0	2	M	3	62.5	0.0	0.0	10.0	6.3	20.0	12.5	70.0	43.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	21	2.0	Average	M	2.5	37.8	2.5	0.3	22.5	5.4	10.0	6.3	65.0	25.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	22	2.7	1	T	1	0.5	0.0	0.0	40.0	0.2	10.0	0.1	50.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	22	2.7	2	T	1	0.5	10.0	0.1	0.0	0.0	60.0	0.3	30.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	22	2.7	Average	T	1	0.5	5.0	0.0	20.0	0.1	35.0	0.2	40.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	23	2.5	1	S	2	13.0	10.0	1.3	5.0	0.7	30.0	3.9	50.0	6.5	5.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	23	2.5	2	S	2	13.0	10.0	1.3	0.0	0.0	30.0	3.9	50.0	6.5	0.0	0.0	10.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	23	2.5	Average	S	2	13.0	10.0	1.3	2.5	0.3	30.0	3.9	50.0	6.5	2.5	0.3	5.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	24	1.5	1	S	2	13.0	5.0	0.7	10.0	1.3	20.0	2.6	60.0	7.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	0.7	0.0	0.0
NTRT	24	1.5	2	M	3	62.5	5.0	3.1	20.0	12.5	30.0	18.8	45.0	28.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	24	1.5	Average	M	2.5	37.8	5.0	1.9	15.0	6.9	25.0	10.7	52.5	18.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.3	0.0	0.0
NTRT	25	1.2	1	M	3	62.5	5.0	3.1	10.0	6.3	45.0	28.1	40.0	25.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	25	1.2	2	S	2	13.0	5.0	0.7	0.0	0.0	75.0	9.8	20.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	25	1.2	Average	M	2.5	37.8	5.0	1.9	5.0	3.1	60.0	18.9	30.0	13.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	26	1.4	1	M	3	62.5	10.0	6.3	20.0	12.5	50.0	31.3	20.0	12.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	26	1.4	2	M	3	62.5	10.0	6.3	0.0	0.0	45.0	28.1	45.0	28.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	26	1.4	Average	M	3	62.5	10.0	6.3	10.0	6.3	47.5	29.7	32.5	20.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	27	1.3	1	M	3	62.5	0.0	0.0	5.0	3.1	20.0	12.5	20.0	12.5	55.0	34.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	27	1.3	2	S	2	13.0	0.0	0.0	0.0	0.0	30.0	3.9	20.0	2.6	20.0	2.6	30.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	27	1.3	Average	M	2.5	37.8	0.0	0.0	2.5	1.6	25.0	8.2	20.0	7.6	37.5	18.5	15.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	28	1.5	1	D	4	250.0	0.0	0.0	0.0	0.0	20.0	50.0	30.0	75.0	50.0	125.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	28	1.5	2	S	2	13.0	0.0	0.0	5.0	0.7	15.0	2.0	10.0	1.3	40.0	5.2	30.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	28	1.5	Average	D	3	131.5	0.0	0.0	2.5	0.3	17.5	26.0	20.0	38.2	45.0	65.1	15.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	29	2.4	1	M	3	62.5	0.0	0.0	60.0	37.5	10.0	6.3	0.0	0.0	15.0	9.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.0	9.4	0.0	0.0
NTRT	29	2.4	2	S	2	13.0	0.0	0.0	70.0	9.1	0.0	0.0	10.0	1.3	20.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NTRT	29	2.4	Average	M	2.5	37.8	0.0	0.0	65.0	23.3	5.0	3.1	5.0	0.7	17.5	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.5	4.7	0.0	0.0
NTRT	30	0.3	1	T	1	0.5	0.0	0.0	30.0	0.2	30.0	0.2	0.0	0.0	0.0	0.0	30.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.1	0.0	0.0
NTRT	30	0.3	2	T	1	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.1	10.0	0.1	0.0	0.0	40.0	0.2	0.0	0.0	40.0	0.2	0.0	0.0
NTRT	30	0.3	Average	T	1	0.5	0.0	0.0	15.0	0.1	15.0	0.1	0.0	0.0	5.0	0.0	20.0	0.1	0.0	0.0	20.0	0.1	0.0	0.0	25.0	0.1	0.0	0.0

Table 3.8: Chautauqua Lake – Pre-Treatment SAV Data (1 of 2)

Type	Point	Depth (m)	Rake Toss (#)	Overall Abundance	Overall Density	Abundance Estimate (g/m2)	P_crispus% (%)	P_crispus Abundance (g/m2)	M_spicatum% (%)	M_spicatum Abundance (g/m2)	C_demersum% (%)	C_demersum Abundance (g/m2)	E_canadensis% (%)	E_canadensis Abundance (g/m2)	P_berchtoldii% (%)	P_berchtoldii Abundance (g/m2)	H_dubia% (%)	H_dubia Abundance (g/m2)	S_pectinata% (%)	S_pectinata Abundance (g/m2)	V_americana% (%)	V_americana Abundance (g/m2)
TRT	1	1.6	1	D	4	D	50	D	30	M	0	0	10	M	10	M	0	0	0	0	0	0
TRT	1	1.6	2	D	4	D	60	D	30	M	10	M	0	0	0	0	0	0	0	0	0	0
TRT	1	1.6	Average	D	4	D	55	D	30	M	5	S	5	S	5	S	0	0	0	0	0	0
TRT	2	0.8	1	S	2	S	10	S	20	S	0	0	30	S	5	T	35	S	0	0	0	0
TRT	2	0.8	2	M	3	M	30	S	10	S	10	S	20	S	0	0	30	S	0	0	0	0
TRT	2	0.8	Average	M	2.5	M	20	S	15	S	5	S	25	S	2.5	T	32.5	S	0	0	0	0
TRT	3	1.3	1	D	4	D	30	M	30	M	25	M	15	M	0	0	0	0	0	0	0	0
TRT	3	1.3	2	D	4	D	30	M	30	M	25	M	15	M	0	0	0	0	0	0	0	0
TRT	3	1.3	Average	D	4	D	30	M	30	M	25	M	15	M	0	0	0	0	0	0	0	0
TRT	4	1.8	1	D	4	D	90	D	5	S	0	0	5	S	0	0	0	0	0	0	0	0
TRT	4	1.8	2	D	4	D	90	D	5	S	5	S	0	0	0	0	0	0	0	0	0	0
TRT	4	1.8	Average	D	4	D	90	D	5	S	2.5	S	2.5	S	0	0	0	0	0	0	0	0
TRT	5	1.1	1	T	1	T	100	T	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRT	5	1.1	2	T	1	T	100	T	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRT	5	1.1	Average	T	1	T	100	T	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRT	6	1.4	1	M	3	M	25	S	25	S	25	S	25	S	0	0	0	0	0	0	0	0
TRT	6	1.4	2	D	4	D	75	D	10	M	15	M	0	0	0	0	0	0	0	0	0	0
TRT	6	1.4	Average	D	3.5	D	50	D	17.5	S	20	M	12.5	S	0	0	0	0	0	0	0	0
TRT	7	1.6	1	D	4	D	40	D	20	M	20	M	20	M	0	0	0	0	0	0	0	0
TRT	7	1.6	2	M	3	M	70	M	10	S	0	0	20	S	0	0	0	0	0	0	0	0
TRT	7	1.6	Average	D	3.5	D	55	M	15	M	10	M	20	M	0	0	0	0	0	0	0	0
TRT	8	1.3	1	S	2	S	20	S	60	S	0	0	5	T	15	S	0	0	0	0	0	0
TRT	8	1.3	2	S	2	S	20	S	20	S	40	S	20	S	0	0	0	0	0	0	0	0
TRT	8	1.3	Average	S	2	S	20	S	40	S	20	S	12.5	S	7.5	T	0	0	0	0	0	0
TRT	9	0.9	1	S	2	S	15	S	40	S	15	S	30	S	0	0	0	0	0	0	0	0
TRT	9	0.9	2	S	2	S	20	S	40	S	30	S	10	S	0	0	0	0	0	0	0	0
TRT	9	0.9	Average	S	2	S	17.5	S	40	S	22.5	S	20	S	0	0	0	0	0	0	0	0
TRT	10	1.5	1	M	3	M	40	M	30	S	20	S	10	S	0	0	0	0	0	0	0	0
TRT	10	1.5	2	M	3	M	60	M	20	S	10	S	10	S	0	0	0	0	0	0	0	0
TRT	10	1.5	Average	M	3	M	50	M	25	S	15	S	10	S	0	0	0	0	0	0	0	0
TRT	11	1.3	1	S	2	S	15	S	25	S	60	S	0	0	0	0	0	0	0	0	0	0
TRT	11	1.3	2	D	4	D	60	D	10	M	30	M	0	0	0	0	0	0	0	0	0	0
TRT	11	1.3	Average	D	3	D	37.5	M	17.5	S	45	M	0	0	0	0	0	0	0	0	0	0
TRT	12	0.7	1	S	2	S	20	S	40	S	0	0	0	0	20	S	20	S	0	0	0	0
TRT	12	0.7	2	M	3	M	15	S	55	M	10	S	0	0	20	S	0	0	0	0	0	0
TRT	12	0.7	Average	M	2.5	M	17.5	S	47.5	S	5	S	0	0	20	S	10	S	0	0	0	0
TRT	13	1.4	1	S	2	S	0	0	95	S	0	0	0	0	5	T	0	0	0	0	0	0
TRT	13	1.4	2	S	2	S	20	S	80	S	0	0	0	0	0	0	0	0	0	0	0	0
TRT	13	1.4	Average	S	2	S	10	S	87.5	S	0	0	0	0	2.5	T	0	0	0	0	0	0
TRT	14	0.3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRT	14	0.3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRT	14	0.3	Average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRT	15	0.7	1	D	4	D	60	D	40	D	0	0	0	0	0	0	0	0	0	0	0	0
TRT	15	0.7	2	D	4	D	75	D	5	S	20	M	0	0	0	0	0	0	0	0	0	0
TRT	15	0.7	Average	D	4	D	67.5	D	22.5	M	10	M	0	0	0	0	0	0	0	0	0	0

Table 3.9: Chautauqua Lake – Pre-Treatment SAV Data (2 of 2)

Type	Point	Depth (m)	Rake Toss (#)	Overall Abundance	Overall Density	Abundance Estimate	P_crispus% (%)	P_crispus Abundance (g/m2)	M_spicatum% (%)	M_spicatum Abundance (g/m2)	C_demersum% (%)	C_demersum Abundance (g/m2)	E_canadensis% (%)	E_canadensis Abundance (g/m2)	P_berchtoldii% (%)	P_berchtoldii Abundance (g/m2)	H_dubia% (%)	H_dubia Abundance (g/m2)	S_pectinata% (%)	S_pectinata Abundance (g/m2)	V_americana% (%)	V_americana Abundance (g/m2)
NTRT	16	1.9	1	S	2	S	0.0	0	10.0	S	60.0	S	5.0	T	5.0	T	20.0	S	0.0	0	0.0	0
NTRT	16	1.9	2	S	2	S	40.0	S	20.0	S	0.0	0	30.0	S	0.0	0	10.0	S	0.0	0	0.0	0
NTRT	16	1.9	Average	S	2	S	20.0	S	15.0	S	30.0	S	17.5	S	2.5	T	15.0	S	0.0	0	0.0	0
NTRT	17	1.7	1	M	3	M	85.0	M	10.0	S	5.0	S	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	17	1.7	2	M	3	M	70.0	M	10.0	S	15.0	S	5.0	S	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	17	1.7	Average	M	3	M	77.5	M	10.0	S	10.0	S	2.5	S	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	18	3.4	1	S	2	S	10.0	S	10.0	S	40.0	S	30.0	S	10.0	S	0.0	0	0.0	0	0.0	0
NTRT	18	3.4	2	T	1	T	15.0	T	10.0	T	5.0	T	60.0	T	10.0	T	0.0	0	0.0	0	0.0	0
NTRT	18	3.4	Average	S	1.5	S	12.5	T	10.0	T	22.5	S	45.0	S	10.0	T	0.0	0	0.0	0	0.0	0
NTRT	19	1.2	1	M	3	M	90.0	M	10.0	S	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	19	1.2	2	D	4	D	60.0	D	10.0	M	20.0	M	10.0	M	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	19	1.2	Average	D	3.5	D	75.0	D	10.0	S	10.0	M	5.0	S	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	20	2.5	1	S	2	S	65.0	S	10.0	S	5.0	T	20.0	S	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	20	2.5	2	M	3	M	65.0	M	15.0	S	0.0	0	20.0	S	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	20	2.5	Average	M	2.5	M	65.0	S	12.5	S	2.5	T	20.0	S	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	21	2.0	1	S	2	S	65.0	S	15.0	S	0.0	0	10.0	S	10.0	S	0.0	0	0.0	0	0.0	0
NTRT	21	2.0	2	S	2	S	70.0	S	10.0	S	20.0	S	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	21	2.0	Average	S	2	S	67.5	S	12.5	S	10.0	S	5.0	T	5.0	T	0.0	0	0.0	0	0.0	0
NTRT	22	3.0	1	M	3	M	40.0	M	0.0	0	40.0	M	20.0	S	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	22	3.0	2	S	2	S	80.0	S	0.0	0	0.0	0	10.0	S	10.0	S	0.0	0	0.0	0	0.0	0
NTRT	22	3.0	Average	M	2.5	M	60.0	S	0.0	0	20.0	S	15.0	S	5.0	T	0.0	0	0.0	0	0.0	0
NTRT	23	2.8	1	S	2	S	65.0	S	10.0	S	15.0	S	5.0	T	5.0	T	0.0	0	0.0	0	0.0	0
NTRT	23	2.8	2	S	2	S	60.0	S	10.0	S	10.0	S	20.0	S	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	23	2.8	Average	S	2	S	62.5	S	10.0	S	12.5	S	12.5	S	2.5	T	0.0	0	0.0	0	0.0	0
NTRT	24	1.5	1	M	3	M	60.0	M	0.0	0	20.0	S	20.0	S	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	24	1.5	2	M	3	M	80.0	M	5.0	S	15.0	S	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	24	1.5	Average	M	3	M	70.0	M	2.5	S	17.5	S	10.0	S	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	25	1.2	1	D	4	D	85.0	D	15.0	M	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	25	1.2	2	D	4	D	69.0	D	10.0	M	20.0	M	1.0	S	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	25	1.2	Average	D	4	D	77.0	D	12.5	M	10.0	M	0.5	S	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	26	1.4	1	M	3	M	90.0	M	0.0	0	10.0	S	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	26	1.4	2	M	3	M	95.0	M	0.0	0	5.0	S	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	26	1.4	Average	M	3	M	92.5	M	0.0	0	7.5	S	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	27	1.5	1	S	2	S	5.0	T	75.0	S	20.0	S	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	27	1.5	2	S	2	S	0.0	0	60.0	S	40.0	S	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	27	1.5	Average	S	2	S	2.5	T	67.5	S	30.0	S	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	28	1.3	1	S	2	S	10.0	S	50.0	S	25.0	S	10.0	S	5.0	T	0.0	0	0.0	0	0.0	0
NTRT	28	1.3	2	S	2	S	0.0	0	70.0	S	25.0	S	5.0	T	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	28	1.3	Average	S	2	S	5.0	T	60.0	S	25.0	S	7.5	S	2.5	T	0.0	0	0.0	0	0.0	0
NTRT	29	2.8	1	S	2	S	10.0	S	40.0	S	40.0	S	0.0	0	10.0	S	0.0	0	0.0	0	0.0	0
NTRT	29	2.8	2	S	2	S	10.0	S	30.0	S	30.0	S	0.0	0	30.0	S	0.0	0	0.0	0	0.0	0
NTRT	29	2.8	Average	S	2	S	10.0	S	35.0	S	35.0	S	0.0	0	20.0	S	0.0	0	0.0	0	0.0	0
NTRT	30	0.6	1	T	1	T	20.0	T	10.0	T	0.0	0	0.0	0	50.0	T	20.0	T	0.0	0	0.0	0
NTRT	30	0.6	2	T	1	T	0.0	0	25.0	T	25.0	T	0.0	0	15.0	T	0.0	0	15.0	T	20.0	T
NTRT	30	0.6	Average	T	1	T	10.0	T	17.5	T	12.5	T	0.0	0	32.5	T	10.0	T	7.5	0	10.0	T

Table 3.10: Chautauqua Lake – Post-Treatment SAV Data (1 of 2)

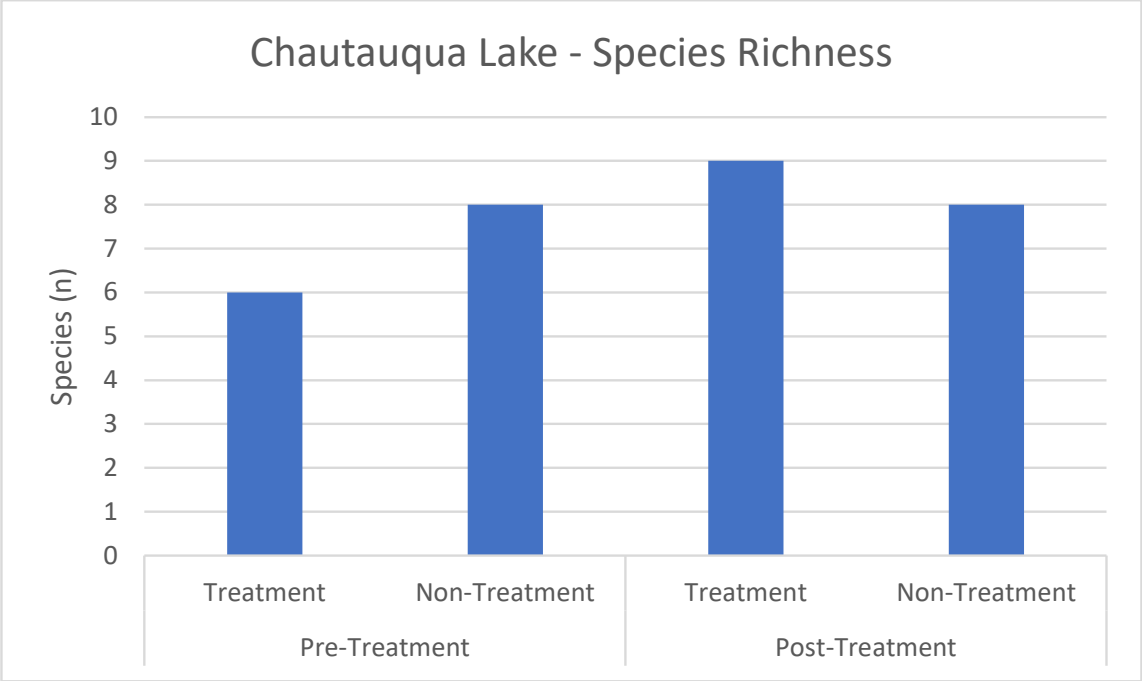
Type	Point	Depth (m)	Rake Toss (#)	Overall Abundance	Overall Density	Abundance Estimate	P_crispus% (%)	P_crispus Abundance (g/m2)	M_spicatum% (%)	M_spicatum Abundance (g/m2)	C_demersum% (%)	C_demersum Abundance (g/m2)	E_canadensis% (%)	E_canadensis Abundance (g/m2)	P_berchtoldii% (%)	P_berchtoldii Abundance (g/m2)	H_dubia% (%)	H_dubia Abundance (g/m2)	S_pectinata% (%)	S_pectinata Abundance (g/m2)	V_americana% (%)	V_americana Abundance (g/m2)	L_trisulca% (%)	L_trisulca Abundance (g/m2)	N_flexilis% (%)	N_flexilis Abundance (g/m2)	Chara% (%)	Chara Abundance (g/m2)
TRT	1	1.6	1	S	2	S	10	S	0	0	30	S	50	S	0	0	0	0	0	0	0	0	0	0	10	S	0	0
TRT	1	1.6	2	S	2	S	5	T	5	T	45	S	45	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRT	1	1.6	Average	S	2	S	7.5	T	2.5	T	37.5	S	47.5	S	0	0	0	0	0	0	0	0	0	0	5	T	0	0
TRT	2	0.5	1	D	4	D	0	0	0	0	10	M	20	M	0	0	5	S	0	0	30	M	0	0	35	M	0	0
TRT	2	0.5	2	D	4	D	0	0	0	0	0	0	35	M	0	0	10	M	0	0	5	S	0	0	50	D	0	0
TRT	2	0.5	Average	D	4	D	0	0	0	0	5	S	27.5	M	0	0	7.5	S	0	0	17.5	M	0	0	42.5	D	0	0
TRT	3	1.3	1	M	3	M	0	0	0	0	80	M	20	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRT	3	1.3	2	S	2	S	5	T	5	T	45	S	40	S	0	0	0	0	0	0	0	0	0	0	5	T	0	0
TRT	3	1.3	Average	M	2.5	M	2.5	T	2.5	T	62.5	M	30	S	0	0	0	0	0	0	0	0	0	0	2.5	T	0	0
TRT	4	1.8	1	S	2	S	10	S	5	T	55	S	30	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRT	4	1.8	2	M	3	M	10	S	0	0	45	M	40	M	0	0	0	0	0	0	5	S	0	0	0	0	0	0
TRT	4	1.8	Average	M	2.5	M	10	S	2.5	T	50	S	35	S	0	0	0	0	0	0	2.5	S	0	0	0	0	0	0
TRT	5	1.1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRT	5	1.1	2	T	1	T	100	T	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRT	5	1.1	Average	T	0.5	T	50	T	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRT	6	1.4	1	M	3	M	0	0	20	S	40	M	30	S	0	0	0	0	0	0	0	0	0	0	10	S	0	0
TRT	6	1.4	2	T	1	T	0	0	10	T	30	T	20	T	0	0	10	T	0	0	10	T	10	T	10	T	0	0
TRT	6	1.4	Average	S	2	S	0	0	15	S	35	S	25	S	0	0	5	T	0	0	5	T	5	T	10	S	0	0
TRT	7	1.5	1	M	3	M	2	S	0	0	60	M	38	S	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRT	7	1.5	2	S	2	S	2.5	T	0	0	45	S	50	S	0	0	0	0	0	0	0	0	2.5	T	0	0	0	0
TRT	7	1.5	Average	M	2.5	M	2.25	T	0	0	52.5	S	44	S	0	0	0	0	0	0	0	0	1.25	T	0	0	0	0
TRT	8	1.2	1	T	1	T	10	T	0	0	45	T	45	T	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRT	8	1.2	2	S	2	S	5	T	0	0	40	S	20	S	0	0	0	0	0	0	0	0	0	0	20	S	15	S
TRT	8	1.2	Average	S	1.5	S	7.5	T	0	0	42.5	S	32.5	S	0	0	0	0	0	0	0	0	0	0	10	S	7.5	T
TRT	9	0.9	1	S	2	S	0	0	10	S	30	S	20	S	0	0	0	0	0	0	0	0	2.5	T	37.5	S	0	0
TRT	9	0.9	2	S	2	S	2.5	T	20	S	25	S	30	S	0	0	0	0	0	0	0	0	2.5	T	20	S	0	0
TRT	9	0.9	Average	S	2	S	1.25	T	15	S	27.5	S	25	S	0	0	0	0	0	0	0	0	2.5	T	28.75	S	0	0
TRT	10	1.6	1	T	1	T	10	T	0	0	80	T	10	T	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRT	10	1.6	2	T	1	T	5	T	95	T	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRT	10	1.6	Average	T	1	T	7.5	T	47.5	T	40	T	5	T	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRT	11	1.3	1	D	4	D	5	S	5	S	70	D	20	M	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRT	11	1.3	2	D	4	D	5	S	5	S	60	D	30	M	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRT	11	1.3	Average	D	4	D	5	S	5	S	65	D	25	M	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRT	12	0.7	1	T	1	T	0	0	17.5	T	40	T	30	T	2.5	T	0	0	0	0	0	0	0	0	10	T	0	0
TRT	12	0.7	2	S	2	S	0	0	10	S	35	S	35	S	20	S	0	0	0	0	0	0	0	0	0	0	0	0
TRT	12	0.7	Average	S	1.5	S	0	0	13.75	T	37.5	S	32.5	S	11.25	S	0	0	0	0	0	0	0	0	5	T	0	0
TRT	13	1	1	T	1	T	0	0	0	0	0	0	0	0	50	T	0	0	0	0	0	0	0	0	50	T	0	0
TRT	13	1	2	T	1	T	0	0	0	0	0	0	0	0	100	T	0	0	0	0	0	0	0	0	0	0	0	0
TRT	13	1	Average	T	1	T	0	0	0	0	0	0	0	0	75	T	0	0	0	0	0	0	0	0	25	T	0	0
TRT	14	0.3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRT	14	0.3	2	T	1	T	0	0	0	0	0	0	0	0	90	T	0	0	0	0	0	0	0	0	10	T	0	0
TRT	14	0.3	Average	T	0.5	T	0	0	0	0	0	0	0	0	45	T	0	0	0	0	0	0	0	0	5	T	0	0
TRT	15	0.7	1	T	1	T	5	T	0	0	60	T	35	T	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRT	15	0.7	2	S	2	S	2.5	T	0	0	60	S	20	S	0	0	17.5	S	0	0	0	0	0	0	0	0	0	0
TRT	15	0.7	Average	S	1.5	S	3.75	T	0	0	60	S	27.5	S	0	0	8.75	S	0	0	0	0	0	0	0	0	0	0

Table 3.11: Chautauqua Lake – Post-Treatment SAV Data (2 of 2)

Type	Point	Depth (m)	Rake Toss (#)	Overall Abundance	Overall Density	Abundance Estimate (g/m2)	P_crispus% (%)	P_crispus Abundance (g/m2)	M_spicatum% (%)	M_spicatum Abundance (g/m2)	C_demersum% (%)	C_demersum Abundance (g/m2)	E_canadensis% (%)	E_canadensis Abundance (g/m2)	P_berchtoldii% (%)	P_berchtoldii Abundance (g/m2)	H_dubia% (%)	H_dubia Abundance (g/m2)	S_pectinata% (%)	S_pectinata Abundance (g/m2)	V_americana% (%)	V_americana Abundance (g/m2)	L_trisulca% (%)	L_trisulca Abundance (g/m2)	N_flexilis% (%)	N_flexilis Abundance (g/m2)	Chara% (%)	Chara Abundance (g/m2)
NTRT	16	0.2	1	S	2	S	0.0	0	10.0	S	10.0	S	20.0	S	0.0	0	50.0	S	0.0	0	10.0	S	0.0	0	0.0	0	0.0	0
NTRT	16	0.2	2	S	2	S	0.0	0	10.0	S	0.0	0	20.0	S	0.0	0	40.0	S	0.0	0	30.0	S	0.0	0	0.0	0	0.0	0
NTRT	16	0.2	Average	S	2	S	0.0	0	10.0	S	5.0	T	20.0	S	0.0	0	45.0	S	0.0	0	20.0	S	0.0	0	0.0	0	0.0	0
NTRT	17	1.7	1	S	2	S	5.0	T	5.0	T	40.0	S	40.0	S	0.0	0	10.0	S	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	17	1.7	2	S	2	S	0.0	0	5.0	T	30.0	S	45.0	S	0.0	0	20.0	S	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	17	1.7	Average	S	2	S	2.5	T	5.0	T	35.0	S	42.5	S	0.0	0	15.0	S	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	18	3.5	1	S	2	S	0.0	0	40.0	S	30.0	S	30.0	S	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	18	3.5	2	S	2	S	0.0	0	20.0	S	40.0	S	40.0	S	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	18	3.5	Average	S	2	S	0.0	0	30.0	S	35.0	S	35.0	S	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	19	1.2	1	S	2	S	10.0	S	10.0	S	40.0	S	40.0	S	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	19	1.2	2	M	3	M	0.0	0	0.0	0	10.0	S	90.0	M	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	19	1.2	Average	M	2.5	M	5.0	T	5.0	T	25.0	S	65.0	M	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	20	2.3	1	S	2	S	5.0	T	5.0	T	40.0	S	50.0	S	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	20	2.3	2	D	4	D	0.0	0	0.0	0	10.0	M	90.0	D	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	20	2.3	Average	D	3	D	2.5	T	2.5	T	25.0	S	70.0	D	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	21	2.0	1	S	2	S	5.0	T	35.0	S	0.0	0	60.0	S	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	21	2.0	2	M	3	M	0.0	0	10.0	S	20.0	S	70.0	M	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	21	2.0	Average	M	2.5	M	2.5	T	22.5	S	10.0	S	65.0	M	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	22	2.7	1	T	1	T	0.0	0	40.0	T	10.0	T	50.0	T	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	22	2.7	2	T	1	T	10.0	T	0.0	0	60.0	T	30.0	T	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	22	2.7	Average	T	1	T	5.0	T	20.0	T	35.0	T	40.0	T	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	23	2.5	1	S	2	S	10.0	S	5.0	T	30.0	S	50.0	S	5.0	T	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	23	2.5	2	S	2	S	10.0	S	0.0	0	30.0	S	50.0	S	0.0	0	10.0	S	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	23	2.5	Average	S	2	S	10.0	S	2.5	T	30.0	S	50.0	S	2.5	T	5.0	T	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	24	1.5	1	S	2	S	5.0	T	10.0	S	20.0	S	60.0	S	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	5.0	T	0.0	0
NTRT	24	1.5	2	M	3	M	5.0	S	20.0	S	30.0	S	45.0	M	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	24	1.5	Average	M	2.5	M	5.0	S	15.0	S	25.0	S	52.5	S	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	2.5	T	0.0	0
NTRT	25	1.2	1	M	3	M	5.0	S	10.0	S	45.0	M	40.0	M	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	25	1.2	2	S	2	S	5.0	T	0.0	0	75.0	S	20.0	S	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	25	1.2	Average	M	2.5	M	5.0	S	5.0	S	60.0	S	30.0	S	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	26	1.4	1	M	3	M	10.0	S	20.0	S	50.0	M	20.0	S	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	26	1.4	2	M	3	M	10.0	S	0.0	0	45.0	M	45.0	M	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	26	1.4	Average	M	3	M	10.0	S	10.0	S	47.5	M	32.5	S	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	27	1.3	1	M	3	M	0.0	0	5.0	S	20.0	S	20.0	S	55.0	M	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	27	1.3	2	S	2	S	0.0	0	0.0	0	30.0	S	20.0	S	20.0	S	30.0	S	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	27	1.3	Average	M	2.5	M	0.0	0	2.5	S	25.0	S	20.0	S	37.5	S	15.0	S	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	28	1.5	1	D	4	D	0.0	0	0.0	0	20.0	M	30.0	M	50.0	D	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	28	1.5	2	S	2	S	0.0	0	5.0	T	15.0	S	10.0	S	40.0	S	30.0	S	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	28	1.5	Average	D	3	D	0.0	0	2.5	T	17.5	M	20.0	M	45.0	M	15.0	S	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	29	2.4	1	M	3	M	0.0	0	60.0	M	10.0	S	0.0	0	15.0	S	0.0	0	0.0	0	0.0	0	0.0	0	15.0	S	0.0	0
NTRT	29	2.4	2	S	2	S	0.0	0	70.0	S	0.0	0	10.0	S	20.0	S	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
NTRT	29	2.4	Average	M	2.5	M	0.0	0	65.0	S	5.0	S	5.0	T	17.5	S	0.0	0	0.0	0	0.0	0	0.0	0	7.5	S	0.0	0
NTRT	30	0.3	1	T	1	T	0.0	0	30.0	T	30.0	T	0.0	0	0.0	0	30.0	T	0.0	0	0.0	0	0.0	0	10.0	T	0.0	0
NTRT	30	0.3	2	T	1	T	0.0	0	0.0	0	0.0	0	0.0	0	10.0	T	10.0	T	0.0	0	40.0	T	0.0	0	40.0	T	0.0	0
NTRT	30	0.3	Average	T	1	T	0.0	0	15.0	T	15.0	T	0.0	0	5.0	T	20.0	T	0.0	0	20.0	T	0.0	0	25.0	T	0.0	0

SAV species richness, not including the macroalgae chara, is shown below in Figure 3.1.

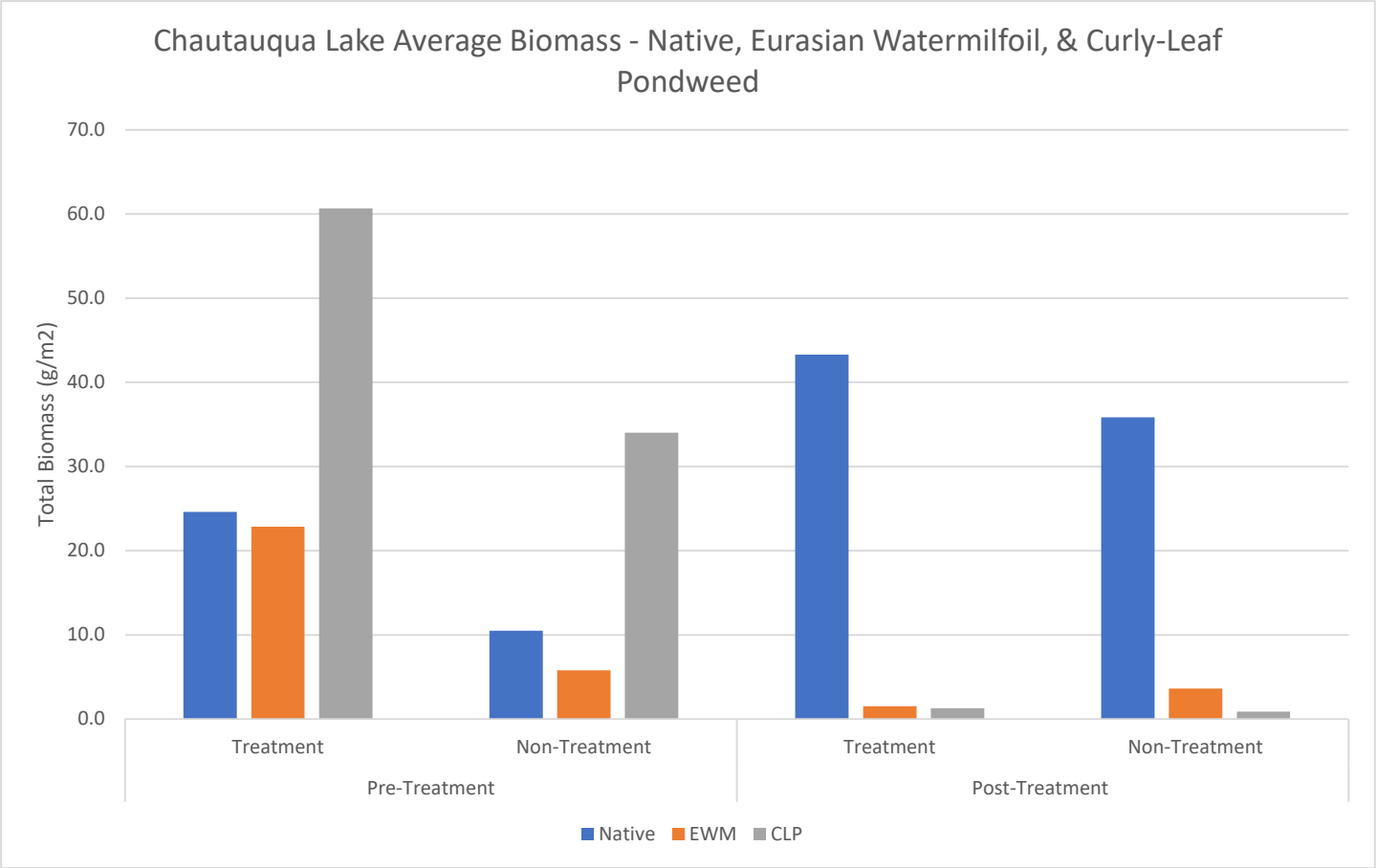
Figure 3.1: Chautauqua Lake – Macrophyte Species Richness



SAV species richness at the Non-Treatment site was eight (8) species Pre-treatment and Post-treatment. Macrophytes species richness in the Treatment site was six (6) Pre-treatment and increased to nine (9) Post-treatment. The two (2) non-native plants identified in the survey, curly-leaf pondweed and Eurasian watermilfoil, were present in Treatment and Non-Treatment zones during both pre-treatment and post-treatment surveys.

SAV biomass, not including chara, was also evaluated between Treatment and Non-Treatment sites for before and after the herbicide treatment (Figure 3.2).

Figure 3.2: Chautauqua Lake – Average Biomass



Average native plant biomass in the Treatment site was 24.6 g/m^2 Pre-Treatment site and 43.3 g/m^2 Post-Treatment. Average native plant biomass in the Non-Treatment site was 10.5 g/m^2 Pre-Treatment and 35.9 g/m^2 Post-Treatment.

Eurasian watermilfoil in the Treatment site was 22.9 g/m^2 Pre-Treatment and 1.5 g/m^2 Post-Treatment. In the Non-Treatment site, Eurasian watermilfoil was 5.8 g/m^2 Pre-Treatment and was reduced to 3.6 g/m^2 Post-Treatment.

Curly-leaf pondweed in the Treatment site was 60.6 g/m^2 Pre-Treatment and 1.3 g/m^2 Post-Treatment. In the Non-Treatment site, curly-leaf pondweed was 34.0 g/m^2 Pre-Treatment and 0.9 g/m^2 Post-Treatment.

Overall, average biomass (all species minus chara) decreased in both the Treatment and Non-Treatment sites between Pre-Treatment and Post-Treatment. The largest decline was at the Treatment site where average biomass decreased from 108.1 g/m^2 to 46.1 g/m^2. Mean biomass reduction at the Non-Treatment site was from 50.3 g/m^2 to 40.3 g/m^2. Evaluation of changes in biomass was conducted via the non-parametric Kruskal-Wallace test with a p-value of 0.05. The reduction in biomass at the Treatment site was non-significant with a p-value of 0.06. The reduction in biomass at the Non-Treatment site was non-significant with a p-value of 1.

Mean rake toss abundance categories, per species, is presented in Table 3.12 below.

Table 3.12: Chautauqua Lake – Mean Rake Toss Biomass

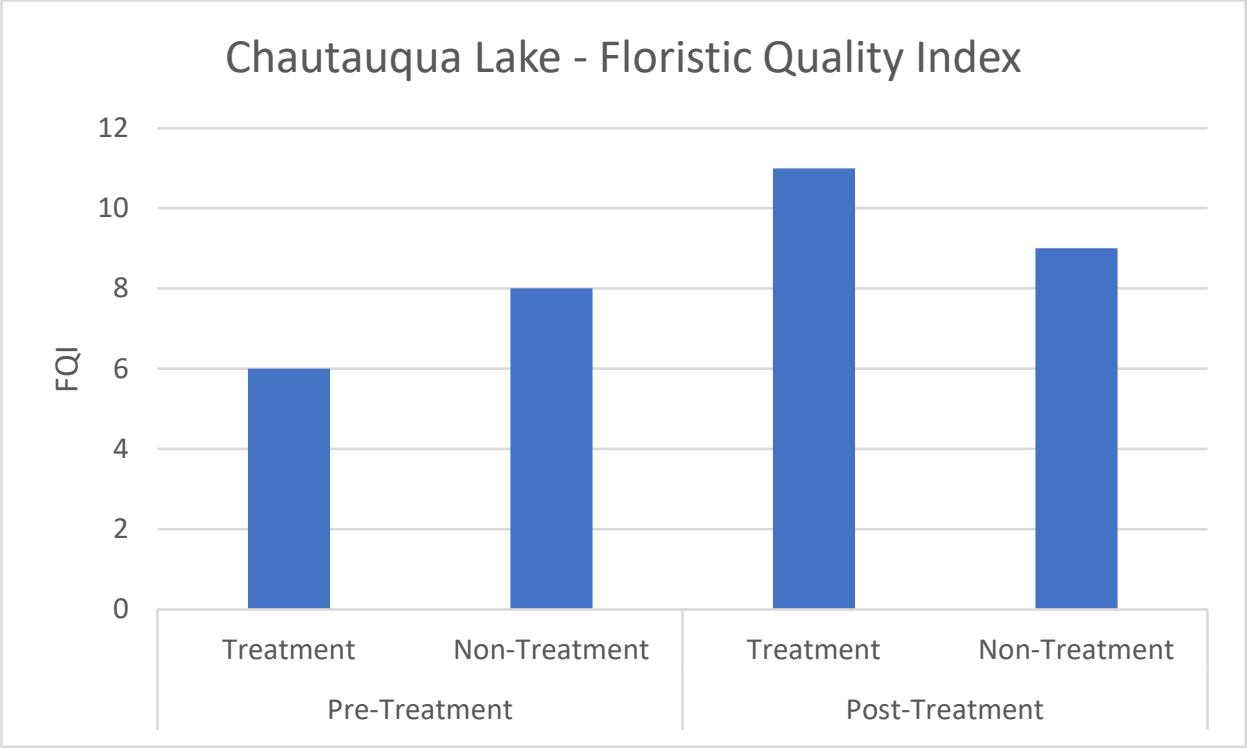
Mean Rake Toss Abundance Per Species											
Event	Type	Species									
		P_crispus	M_spicatum	C_demersum	E_canadensis	P_berchtoldii	H_dubia	S_pectinata	V_americana	L_trisulca	N_flexilis
Pre-Treatment	TRT	M	S	S	S	S	T	0	0	0	0
	NTRT	M	S	S	S	T	T	T	T	0	0
Post-Treatment	TRT	S	S	S	S	T	S	0	S	T	S
	NTRT	T	S	S	S	S	T	0	T	0	T

The target species, Eurasian watermilfoil, was 'Sparse' during Pre-Treatment and was also 'Sparse' Post-Treatment. The 'Sparse' category covers a dry biomass range from ~1.0000 – 24.9999 g/m^2. In the Non-Treatment site, Eurasian watermilfoil was 'Sparse' Pre-Treatment and then 'Sparse' Post-Treatment.

The non-native, non-target, curly-leaf pondweed was Medium in the Treatment and Non-Treatment sites prior to treatment. Post-treatment, this species was reduced to Sparse in the Treatment site and Trace in the Non-treatment site.

Finally, Princeton Hydro assessed the Sites for the Floristic Quality Assessment (FQA). The FQA is a tool utilized to assess an area's ecological integrity as based on plant species composition. The FQA is conducted through the assignment of a *coefficient of conservatism* (C-value), which ranges from zero to 10. A plant species with a higher-score has a lower tolerance to environmental degradation while a lower-score species has a higher tolerance to degradation. FQI is subsequently determined by multiplying the mean C value by the square root of the total number of species. The FQI for the Treatment and Non-Treatment zones, assessed before and after treatment, are provided in Figure 3.3.

Figure 3.3: Chautauqua Lake – Floristic Quality Index



The FQI for the Treatment zone increased from six (6) Pre-Treatment to eleven (11) Post-Treatment. The FQI for the Non-Treatment site increased from eight (8) Pre-Treatment to nine (9) Post-Treatment. The coefficient of conservatism (C-value) for each species per site, Pre-Treatment and Post-Treatment, are provided in Tables 3.13 and 3.14.

Table 3.13: Chautauqua Lake – Floristic Quality Index – Pre-Treatment

Pre-Treatment	C	
Species	Treatment	Non-Treatment
Myriophyllum spicatum	0	0
Potamogeton crispsus	0	0
Ceratophyllum demersun	4	4
Elodea canadensis	2	2
Potamogeton berchtoldii	5	5
Heteranthera dubia	4	4
Stuckenia pectinata		3
Vallisneria americana		5

Table 3.14: Chautauqua Lake – Floristic Quality Index – Post-Treatment

Post-Treatment	C	
Species	Treatment	Non-Treatment
Myriophyllum spicatum	0	0
Potamogeton crispsus	0	0
Ceratophyllum demersun	4	4
Elodea canadensis	2	2
Potamogeton berchtoldii	5	5
Heteranthera dubia	4	4
Vallisneria americana	5	5
Lemna trisculca	7	
Najas flexilis	5	5

4.0 DISCUSSION

The following section provides a discussion of the results presented in Section 3.

4.1 IN-SITU DATA

NYSDEC has prescribed thresholds to dissolved oxygen for concentrations to not fall below 5.0 mg/L. One sample during the pre-treatment event on 23 June 2020 (WQ1; 2m) showed a dissolved oxygen concentration below this threshold at 2.25 mg/L while one sample during the post-treatment on 12 August 2020 (WQ3; 2.5m) showed a concentration below this threshold at 4.90 mg/L. No large-scale, sustained depression in dissolved oxygen was measured with generally higher dissolved oxygen concentrations in August compared to June. Please note, monitoring of dissolved oxygen was not conducted by Princeton Hydro in the weeks immediately following the herbicide treatment.

The NYSDEC also defines an acceptable range for pH between 6.5 and 8.5. The majority of the measurements Pre-Treatment and Post-Treatment were above the 8.5 upper threshold likely as a result of elevated primary productivity. pH values were higher during the August event compared to June with all measures (stations/depths) greater than the 8.5 upper threshold compared to thirteen (13) of the eighteen (18) points sampled in June.

Secchi depth showed a general decrease between June to August which is to be expected due to increasing productivity as the growing season progresses. Typically, this productivity is comprised of planktonic algae but no chlorophyll *a* sampling was conducted as part of this project.

4.2 MACROPHYTE DATA

The primary evaluation for the macrophyte community related to the third-party monitoring was to evaluate multiple lines of evidence to document potential changes in the species composition and biomass prior to, and following, the herbicide treatment. Furthermore, these data were to be evaluated to determine if there were impacts to non-target macrophyte species.

Species richness, that is the number of species identified in the Treatment and Non-Treatment zones, increased at the Treatment zone between the Pre-Treatment survey and Post-Treatment survey. Species richness at the Non-Treatment site remained the same.

Overall, average biomass (all species minus chara) decreased in both the Treatment and Non-Treatment sites between Pre-Treatment and Post-Treatment. The largest decline was at the Treatment site where average biomass decreased from 108.1 g/m^2 to 46.1 g/m^2. Mean biomass reduction at the Non-Treatment site was from 50.3 g/m^2 to 40.3 g/m^2. Evaluation of changes in biomass was conducted via the non-parametric Kruskal-Wallace test with a p-value of 0.05. The reduction in biomass at the Treatment site was non-significant with a p-value of 0.06. The reduction in biomass at the Non-Treatment site was non-significant with a p-value of 1.

Reductions in Eurasian watermilfoil biomass in the Treatment zone was sizeable with a mean biomass of 22.9 g/m^2 reduced to 1.5 g/m^2. This represented a 93.5% reduction in biomass. Growth of this species in the Non-Treatment zone was much less Pre-Treatment with a mean biomass of 5.8 g/m^2. Reductions were also noted in

the Non-Treatment zone, Post-Treatment, but the delta was much smaller with a decrease to 3.6 g/m^2 (37.9% decrease).

Curly-leaf pondweed was the densest growing plant in the Treatment *and* Non-Treatment zone Pre-Treatment (60.6 g/m^2 and 34.0 g/m^2; respectively). Large reductions of this plant were noted in both zones Post-Treatment to 1.3 g/m^2 in the Treatment zone and 0.9 g/m^2 in the Non-Treatment zone.

Two non-native plants were present in the area: Eurasian watermilfoil, and curly-leaf pondweed. Eurasian watermilfoil typically grows throughout the season with peak biomass reached in late summer. Conversely, curly-leaf pondweed typically reaches peak biomass earlier in the growing season and senesces before late-August. Curly-leaf pondweed was present with higher mean biomass than Eurasian watermilfoil in the Treatment and Non-Treatment sites pre-treatment. As such, reductions in overall non-native biomass in the Non-Treatment zone may be attributable to natural early senescence of this plant, movement of herbicide outside of the targeted treatment zone, or a combination of these factors. The likely cause for reduction in biomass was natural early senescence. Still, sampling for in-lake chemical movement was not part of Princeton Hydro's scope of work for this project and this work should be conducted in the future in order to rule out potential herbicide impact on reductions of curly-leaf pondweed.

Floristic quality, as described by the FQI, increased in the Treatment and Non-Treatment sites when comparing pre-treatment and post-treatment data. Increases in native plant richness, biomass, and floristic quality may be related to reductions in non-native plants which may have allowed establishment of native species. Increases in native species may also have been the result of simple seasonal progression with increasing plant growth as the season progressed and continued recruitment of later growing native species.

4.3 POTENTIAL EFFECTS OF OTHER MACROPHYTE MANAGEMENT

Princeton Hydro was provided with mechanical weed harvester data for 2020 to parse out potential relationships between harvesting, herbicide application, and plant response.

Princeton Hydro was provided with CLA 2020 Harvester Activity on Chautauqua Lake (Figure 4.1) and available GPS tracking data for the harvesters (Figure 4.2) which was plotted for the time periods of:

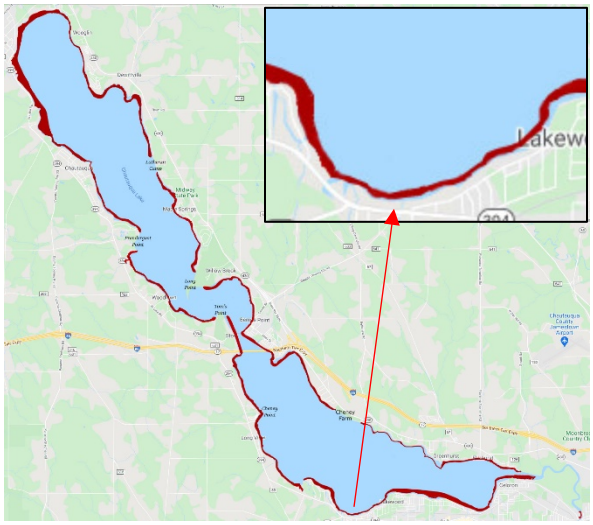
- July 27, 2020 – July 31, 2020
- August 4, 2020 – August 8, 2020
- August 10, 2020 – August 14, 2020

In addition, we were provided with a Work Report breakdown which included harvesting in Shermans Bay. This table is presented below (Table 4.1).

Table 4.1: CLA Activity in Shermans/Loomis Bay and Vukote Summer 2020

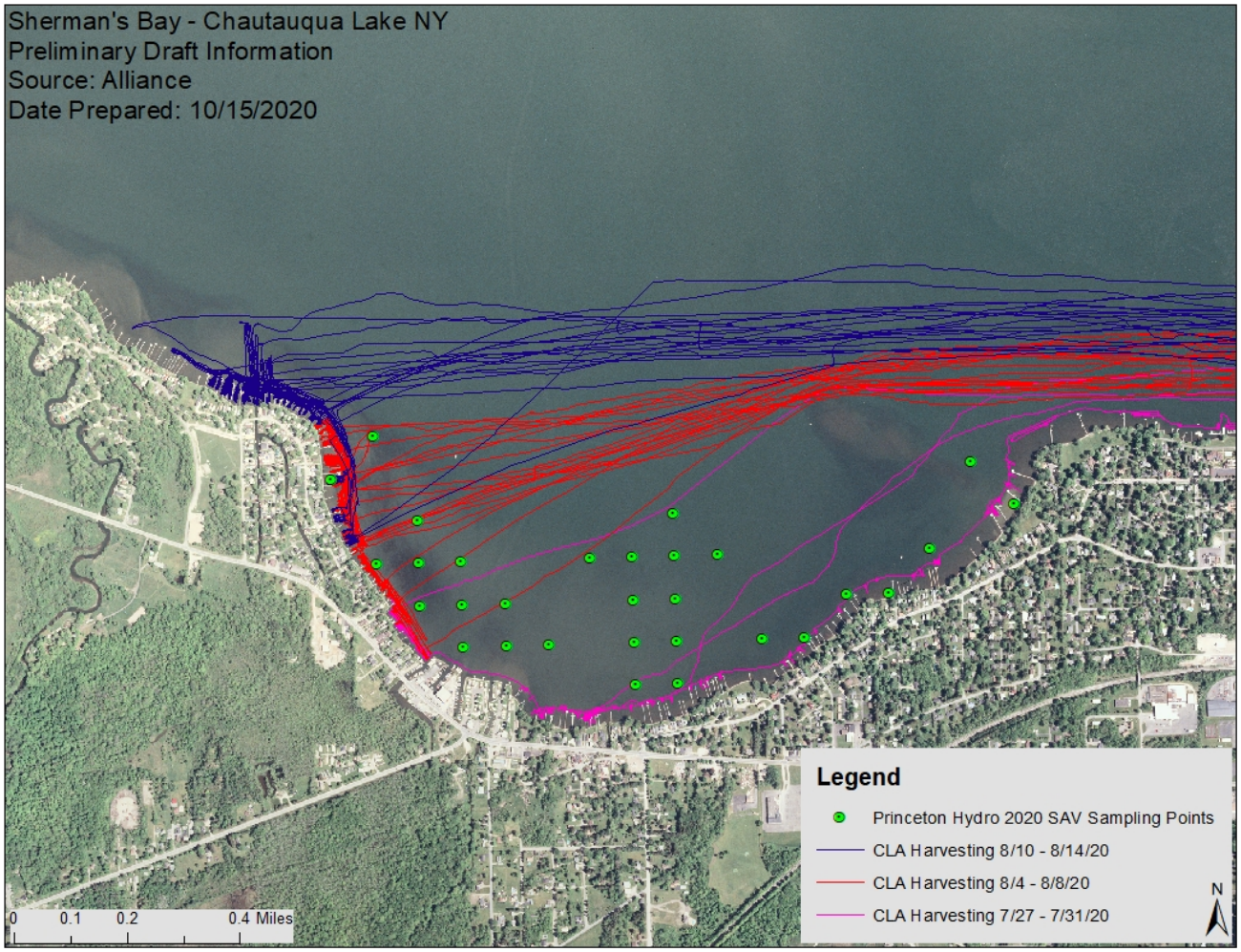
Date	Location	Harvester Loads	Tons
6/25/2020	Sherman's Bay	8	40
6/26/2020	Sherman's Bay to Goose Creek	4	20
7/9/2020	Lakewood Beach to Sherman's Bay	4	20
7/10/2020	Vukote	4	20
7/13/2020	Vukote north to Goose Creek	5	25
7/30/2020	Yacht Club to Smith Boys	1	5
7/31/2020	Smith Boys to Vukote	1	5
8/3/2020	Sherman's Bay/Vukote	2	10
8/4/2020	Vukote	2	10
8/5/2020	Vukote	3	15
8/6/2020	Vukote to Goose Creek	3	15
8/7/2020	Vukote/Goose Creek	3	15
8/10/2020	Loomis Bay (northern end of Sherman's Bay)	2	10
8/11/2020	Loomis Bay (northern end of Sherman's Bay)	2	10
8/12/2020	Loomis Bay (northern end of Sherman's Bay)	2	10
8/13/2020	Loomis Bay (northern end of Sherman's Bay)	2	10
8/14/2020	Loomis Bay (northern end of Sherman's Bay)	2	10
TOTAL		**50**	**250**

Figure 4.1: CLA 2020 Harvesting Activity Zoomed in on Shermans Bay*



Source of Original Figure: CLA website URL: https://chautauqualakeassociation.org/cla-programs/work-reports/work-reports-2020/

Figure 4.2: Shermans Bay – CLA 2020 Harvesting Activity - Harvesting Paths



From the figure (Figure 4.2) above we see track lines, which are generally direct into and out of the Bay, and denser lines nearer the shoreline which are likely associated with active harvesting. Typically, mechanical weed harvesters work in an effective water depth range specific to that type of unit. The functionality of the specific harvesters, mechanism of harvesting, impact on above ground biomass versus root biomass, are unknown. Review of the figures shows that the bulk of the harvesting appears to not be associated with the sample points with the potential exception of points 16 (Non-Treatment), 12 and 13 (Treatment). Total biomass, therefore, *may* have been lower than normal at these three (3) points but the true impact on these areas, without isolating the harvesting variable and sampling pre- and post-harvesting, is unknown.

5.0 CONCLUSIONS

Princeton Hydro was commissioned by the Chautauqua Lake and Watershed Alliance to provide third-party monitoring services related to the ProcellaCOR herbicide application conducted in June 2020. The monitoring included select *in-situ* water quality monitoring and macrophyte surveys prior to treatment and approximately 45-days post-treatment.

Water quality data showed reduced dissolved oxygen at one station and depth both pre-treatment and post-treatment which was not related to the treatment. pH values were elevated before treatment and following treatment and were not attributed to the herbicide application directly.

Macrophyte data showed reductions in non-native SAV biomass in the Treatment and Non-Treatment zones following treatment. This included reductions in the target non-native, Eurasian watermilfoil, and also the non-target, non-native, curly-leaf pondweed. Reductions in the former are likely associated with the herbicide application while reductions with the latter may be related to natural senescence, potential in-lake chemical movement, or other factors. Native macrophyte species richness increased in the Treatment zone following treatment as did floristic quality per the Floristic Quality Index.

Macrophyte and water quality data showed the treatment program to have been successful in reducing Eurasian watermilfoil biomass and allowing for increasing native SAV. Further chemical testing should be conducted in the future to determine if in-lake movement of herbicides was the cause for reductions in non-native plant biomass in the Non-Treatment site or if these reductions were based on natural senescence.

REFERENCES

Borman, S., R. Korth, J. Temte, and C. Watkins. 1997. *Through the Looking Glass: A Field Guide to Aquatic Plants.* University of Wisconsin Press: Madison, Wisconsin.

Chautauqua Lake and Watershed Management Alliance. 2020. CLA GPS Program Presentation DRAFT.ppt.

Crow, G.E., and C.B. Hellquist. 2006. *Aquatic and Wetland Plants of Northeastern North America, Volumes I & II: A Revised and Enlarged Edition of Norman C. Fassett's A Manual of Aquatic Plants.* University of Wisconsin Press: Madison, Wisconsin.

Johnson, R. et al. 2008. *Aquatic Plant and Macroinvertebrate Monitoring in Chautauqua Lake during 2007.* Racine-Johnson Aquatic Ecologists, Ithaca, NY. PP 1-49.

Johnson, R. et al. 2012. *Chautauqua Lake's Insect Herbivory by Caddis, Moths, and Weevils on Macrophytes.* Racine-Johnson Aquatic Ecologists. Ithaca, NY. PP 1-75.

Johnson, R. et al. 2019. *2019 Status of Chautauqua Lake's Aquatic Macrophyte Community Determined by a Late Summer/Early Fall Survey and Estimates of the Associated Invertebrate Community*. Racine-Johnson Aquatic Ecologists. Ithaca, NY. PP 1 – 158.

Lord, P.H., R. L. Johnson and K. Wagner. 2005. Effective aquatic plant monitoring: data and issues from Waneta Lake. Presentation at the Northeast Aquatic Plant Management Society annual meeting, Saratoga Springs, NY.

Madsen, 1999. Point Intercept and Line Intercept Methods for Aquatic Plant Management. Aquatic Plant Control Technical Note MI-02.

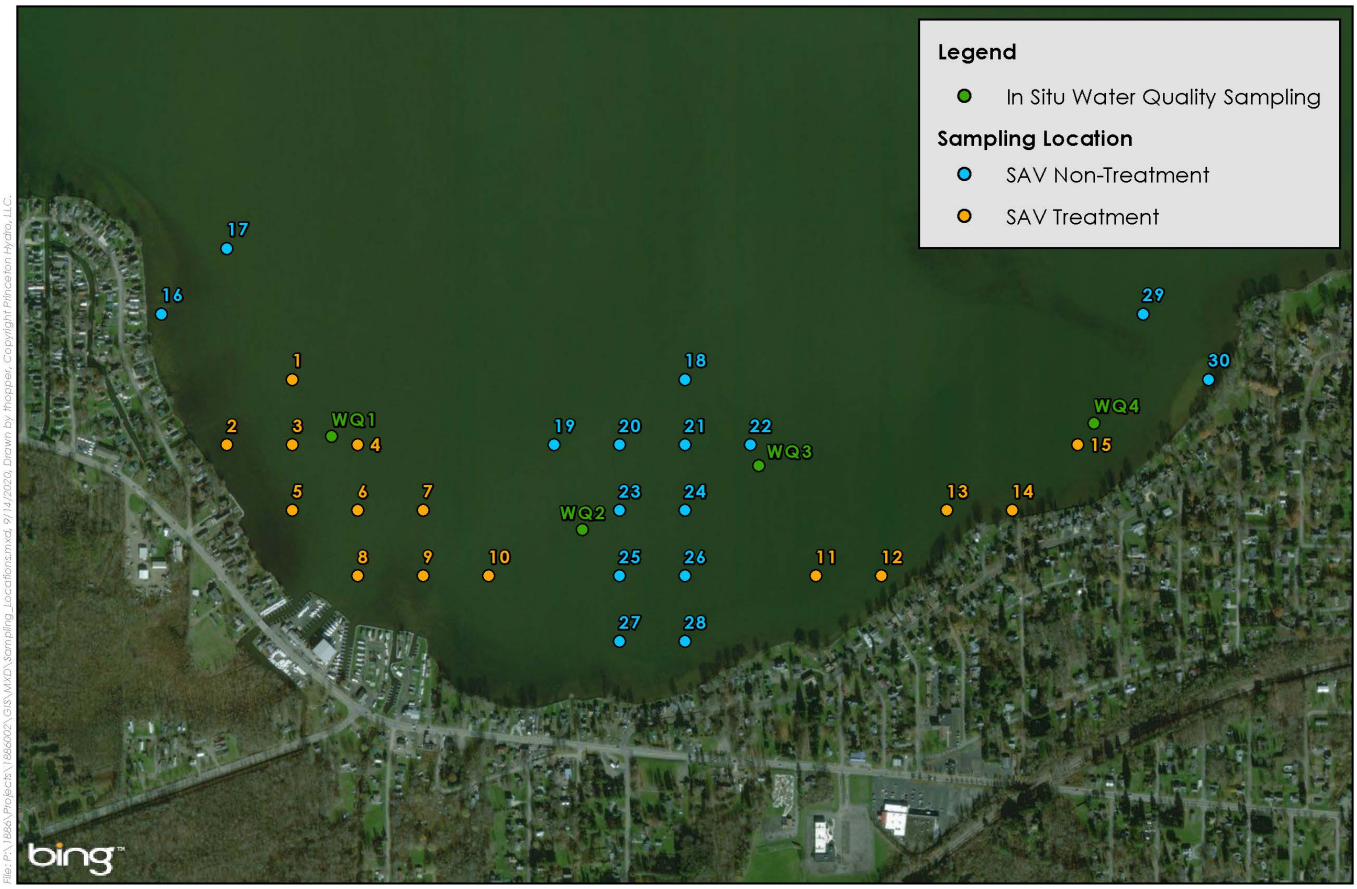
NYDEC, Division of Water. 2005. A Primer on Aquatic Plant Management in New York State (Draft). https://www.dec.ny.gov/docs/water_pdf/ch6apr05.pdf.

NYDEC. Instructions for Rake Toss Sampling. https://www.dec.ny.gov/docs/water_pdf/cslapratoss.pdf.

Skawinski, P. M. 2014. *Aquatic Plants of the Upper Midwest, 2nd Ed.* Wisconsin, USA.

Appendix A

Sampling Map



File: P:\1886 Projects\1886002\GIS\MXD\Sampling_Locations.mxd, 9/14/2020, Drawn by: thopper, Copyright Princeton Hydro, LLC

NOTES:
1. Sampling locations are approximate.
2. Aerial imagery obtained through ArcGIS Online Bing Maps (C) 2020 Microsoft Corporation and its data suppliers.

0 400 800 Feet

Map Projection: NAD 1983 2011 StatePlane New York West FIPS 3103 Ft US

SAMPLING LOCATION MAP

CHAUTAUQUA LAKE
CHAUTAUQUA COUNTY
NEW YORK

PRINCETON HYDRO
SCIENCE DESIGN ENGINEERING
www.PrincetonHydro.com

Appendix B

NYSDEC Permits and Maps

New York State Department of Environmental Conservation
Division of Materials Management / Region 9 / Bureau of Pesticides Management
270 Michigan Ave, Buffalo, NY 14203
(716) 851-7220

TITLE 6 NEW YORK CODE OF RULES AND REGULATIONS PART 327
PERMIT TO USE A PESTICIDE FOR THE CONTROL OR ELIMINATION OF AQUATIC VEGETATION

PERMIT NUMBER: **AV92020-035**	TARGET SPECIES: **Eurasian Watermilfoil**
PERMITTEE: **Town of Ellery**	WATER TO BE TREATED: **Chautauqua Lake**
TOWN: **Ellery**	COUNTY: **Chautauqua**

Pursuant to the Rules and Regulations governing the use of pesticides for controlling or eliminating aquatic vegetation adopted by the New York State Department of Environmental Conservation, permission is granted to the permittee or his/her agent(s) pursuant to the provisions of Article 15 of the Environmental Conservation Law to apply the listed pesticide(s) to the waters identified above located in the town and county identified above in conformance with all statements and agreements set forth in the application .

I. THIS AQUATIC PESTICIDE PERMIT IS ISSUED SUBJECT TO THE FOLLOWING CONDITIONS:

1. DATE(S) OF TREATMENT: **June 22 through June 30, 2020**
2. AUTHORIZED CHEMICAL (Product & EPA Reg. No.): **ProcellaCOR EC (EPA Reg # 67690-80)**
3. % OR WEIGHT OF ACTIVE INGREDIENT: **2.7%** Florpyrauxifen-benzyl: 2-pyridinecarboxylic acid, 4-amino-3-chloro-6- (4-chloro-2-fluoro-3-methoxy-phenyl)-5-fluoro-, phenyl methyl ester
4. MAXIMUM AMOUNT OF CHEMICAL AUTHORIZED: **199.71 oz**
5. MAXIMUM NUMBER OF ACRES TO BE TREATED: **7 acres**
6. NOT TO EXCEED PERMISSIBLE DOSAGE RATE: **6.34 oz/ac-ft (2 PDU)**
7. METHOD OF APPLICATION: **Subsurface injection**
8. AUTHORIZED AREAS TO BE TREATED: The following MMS zones are permitted to a water depth of six feet. Treated areas must be buoyed prior to treatment. Updated maps from the registered business must be provided and attached to permits prior to treatment.

   MMS ZONES PERMITTED: **N156 and N157**
9. NAME OF REGISTERED BUSINESS/AGENCY: **Solitude Lake Management LLC**
10. BUSINESS/AGENCY REGISTRATION NO.: **16505**
11. NAME OF CERTIFIED APPLICATOR(S): **Glenn Sullivan**
12. CERTIFIED APPLICATOR ID NO.: **C0680740**
13. A Prescription Dose Unit (PDU) is equal to 3.17 fluid ounces.
14. This permit is valid for one application.
15. Undeveloped shorelines cannot be treated with pesticide.
16. Wind speeds the day of treatment cannot be, or forecasted to be, above 10 MPH.

II. USE OF THE TREATED WATERS AND THOSE WATERS AFFECTED BY THE TREATMENT WILL BE PROHIBITED OR RESTRICTED AS FOLLOWS:

1. Do not use water from treated areas for irrigation of agricultural crop, greenhouse, nursery, and hydroponic irrigation until concentrations are below 1 ppb (<1 ppb) active ingredient as determined by FasTest or determined by the Department approved model to have degraded/diluted to below 1 ppb unless an activated

AV92020-035

carbon or similar filtration process is utilized prior to the water use.

2. Do not use water for irrigation of landscape vegetation or other forms of non-agricultural irrigation (excluding greenhouse, nursery and turf) until concentrations are below 2 ppb (<2 ppb) as determined by FasTest or for 5 days following in-water application.

3. To minimize potential exposure in compost, do not use water from treated areas for livestock watering until concentrations are below 1 ppb (<1 ppb) active ingredient as determined by FasTest.

4. Warning signs approved by the Department must be posted as described in the attached conditions. Signs must remain posted until all restrictions are removed as determined by sample results and agreed upon by the Department.

5. Water use restrictions will remain in effect until sample analysis determines concentrations are at or below the labeled limit.

III SAMPLING REQUIREMENTS

1. To remove the water use restrictions and take down the notification signs a sample must be taken from each treatment area and at the outlet and results must be below 1 ppb active ingredient. The first sample shall be taken 5 days following treatment. If initial sample exceeds 1 ppb additional sampling shall occur at least every 5 days until levels drop below 1 ppb. Sample locations are designated on maps provided with the application and are labeled: ELL7, ELL6, NH7, BU2, BU1, LKWD1, LKWD 4, and O1 (outlet).

2. All sampling results must be reported immediately (within 24 hours) to Bureau of Pesticides Management, NYSDEC, 270 Michigan Ave, Buffalo, NY 14203 and robert.freese@dec.ny.gov when received by permittee.

3. All sampling results must also be reported immediately (within 24 hours) to William Boria, Chautauqua County DOH, Senior Water Resource Specialist, at boriaw@co.chautauqua.ny.us .

IV. NOTIFICATION REQUIREMENTS:

1. **Riparian Owner and User Notification:** Prior notice of the actual date(s) of treatment and water use restrictions must be given to any party likely to be adversely affected.

2. **Posting of Warning Signs Prior to Treatment:** Warning/Notification signs must be posted conspicuously along the shoreline of the pond. These signs shall be approved by the Department and must be posted as described.

   There must be at least two (2) signs at each required posting location, posted no more than fifty feet (50') apart from each other. Signs shall be posted at a minimum height of thirty inches (30") above the ground to the top of the sign; and shall be > 6" x 8" in size; made of suitable weather-resistant, rigid material with a background color of yellow and black lettering. The signs are to be posted before the application and remain posted and legible until all water use restrictions are removed as determined by sample results and agreed upon by the Department.

3. **This sign shall include the following information in an acceptable format to the Department:** "NOTICE. This waterbody has been treated with a pesticide for aquatic weed control. (Name of pesticide shall be included) Do not enter treatment area until after treatment."
   The signs posted must include:
   a. Date and time of treatment
   b. All water use restrictions
   c. Description of treatment area
   d. Contact person's name and cell phone number
   e. If applicable, statement that signs will be updated as water use restrictions are lifted

3. **Agency Notifications:** The following must be notified at least seven (7) days and no more than fourteen (14) days prior to the date of each pesticide treatment:
   Robert Freese, Pesticide Control Specialist 2, NYSDEC, 270 Michigan Ave, Buffalo, NY 14203
   P: 716-851-7220 | robert.freese@dec.ny.gov

   The permittee must also provide seven to fourteen-day notice to the **Regional Office of the New York State**

AV92020-035

Health Department, where the water body or outflow waters serve as water supplies.

a.) Representative(s) of the DEC (Pesticide Control Specialist) maintain the right to be present during all pesticide treatments.

b.) In the event conditions necessitate rescheduling of the treatment, the Department must be notified 24 hours prior to the date the rescheduled treatment will occur. If treatments are rescheduled, the permittee must make a new request to the Department if a waiver is desired.

c.) Any waiver must be explicitly granted by the Department in writing and may not be implied by the absence of the Department's representative. Any waiver granted by the Department shall be effective only for the specific application and treatment date/time for which it was granted.

d.) In the event conditions necessitate rescheduling the pesticide treatment, the following must be notified 24 hours prior to the date the rescheduled treatment will occur:
Robert Freese, Pesticide Control Specialist 2, NYSDEC, 270 Michigan Ave, Buffalo, NY 14203
P: 716-851-7220 | robert.freese@dec.ny.gov

e) If no treatment is made, and the permit is not used, the following must be notified:
Robert Freese, Pesticide Control Specialist 2, NYSDEC, 270 Michigan Ave, Buffalo, NY 14203
P: 716-851-7220 | robert.freese@dec.ny.gov

V. REPORTING

1. **Final Report Required:** Permittee must submit a Final Report by November 30, 2020. The Report shall contain the following information for **each application site**: product name; active ingredient; EPA registration number; the total quantity of each pesticide used; number of acres or acre feet treated; targeted concentration; dosage rate; target organism; and date of application(s). **GPS maps of the exact treatment areas must also be included with each report**. The report must be submitted to Robert Freese, Pesticide Control Specialist 2, NYSDEC, 270 Michigan Ave, Buffalo, NY 14203.

   This permit requirement does not preclude the statutory obligation of the permittee, or other pesticide applicator registered agency or registered business to comply with Annual Reporting requirements expressed at Section 33-1205 of the ECL.

2. **Post Treatment Evaluation Required:** A post treatment evaluation done in late Summer or early Fall, of each treatment area describing the status of aquatic plant species present and an estimate of their abundance shall also be reported before November 30, 2020.

VI. ADDITIONAL CONDITIONS OR RESTRICTIONS:

1. **No Right to Treat Lands and Waters under Department Control** This permit grants no right to treatment of lands under control of the Department nor relieves the permittee of the responsibility to obtain permission from the Department for any treatment of waters lying under their control, unless a specific signed authorization appears on this permit.

2. **No Right to Treat Non-Target Areas** Issuance of the permit does not authorize the treatment or the drift of pesticides to non-target water or water lying on or passing through the property of others without their consent, nor relieve the permittee/applicator of any legal necessity to obtain such consent before treatment, nor relieve them of responsibility for damages to riparian owners or others.

3. **Follow Product Label Directions** The applicator must follow all product label directions. A copy of the product labeling, including any applicable Special Local Need (SLN) or supplemental labeling, must be on site during all treatments. The applicator, and all others handling the product, must wear appropriate personal protective clothing as required by label directions.

4. **Possession of a Valid Commercial Pesticide Applicator Certification** The applicator must possess valid Commercial Pesticide Applicator Certification in Category 5A with the permit issuing agency. The certified applicator must be on site during all treatments. The use of individuals now referred to as "Pesticide Technician" and/or "Pesticide Apprentice" in current regulation, is permitted as described in Title 6 NYCRR Part 325.7. In addition, the applicator, if contracted to complete the treatment, must possess valid registration as a Pesticide Application Business with the Bureau of Pesticides Management.

AV92020-035

5. **Special Authorization Required for Multiple Treatments** This permit is valid for only one treatment, or a split treatment, during the calendar year and the treatment may not be repeated without special authorization from the Department.

6. **State Not Liable for Damage** The State of New York shall in no case be liable for any damage or injury to the structure or work herein authorized which may be caused by or result from future operations undertaken by the State for the conservation or improvement of navigation, or for other purposes, and no claim or right to compensation shall accrue from any such damage.

7. **Precautions Against Contamination of Waters** All necessary precautions shall be taken to preclude contamination of any wetland or waterway by suspended solids, sediments, fuels, solvents, lubricants, epoxy coatings, paints, concrete, leachate or any other environmentally deleterious materials associated with the project. Spill recovery materials shall be maintained at the temporary pesticide storage area.

8. **No Interference with Navigation** There shall be no unreasonable interference with navigation by the work herein authorized.

VII. GENERAL CONDITIONS – APPLY TO ALL AUTHORIZED PERMITS:

1. **Facility Inspection by the Department** The permitted site or facility, including relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department of Environmental Conservation (the Department) to determine whether the permittee is complying with this permit and the ECL. Such representative may order the work suspended pursuant to ECL 71-0301and SAPA 401(3).

   The permittee shall provide a person to accompany the Department's representative during an inspection to the permit area when requested by the Department.

   A copy of this permit, including all referenced maps, drawings and special conditions, must be available for inspection by the Department at all times at the project site or facility. Failure to produce a copy of the permit upon request by a Department representative is a violation of this permit.

2. **Relationship of this Permit to Other Department Orders and Determinations** Unless expressly provided for by the Department, issuance of this permit does not modify, supersede or rescind any order or determination previously issued by the Department or any of the terms, conditions or requirements contained in such order or determination.

3. **Applications for Permit Renewals, Modifications or Transfers** The permittee must submit a separate written application to the Department for permit renewal, modification or transfer of this permit. Such application must include any forms or supplemental information the Department requires. Any renewal, modification or transfer granted by the Department must be in writing. Submission of applications for permit renewal, modification or transfer is to be submitted to: NYS DEC, Bureau of Pesticides Management, 207 Genesee Street, Utica, NY 13501.

4. **Permit Modifications, Suspensions and Revocation by the Department** The Department reserves the right to modify, suspend or revoke this permit. The grounds for modification, suspension or revocation include:

   a. materially false or inaccurate statements in the permit application or supporting papers;
   b. failure by the permittee to comply with any terms or conditions of the permit;
   c. exceeding the scope of the project as described in the permit application;
   d. newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing permit;
   e. noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the Department related to the permitted activity.

5. **Permit Transfer** Permits are transferrable unless specifically prohibited by statute, regulation or another permit condition. Applications for permit transfer should be submitted prior to actual transfer of ownership.

VIII. NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

AV92020-035

Item A: Permittee Accepts Legal Responsibility and Agrees to Indemnification
The permittee expressly agrees to indemnify and hold harmless the Department of Environmental Conservation of the State of New York, its representatives, employees, and agents ("DEC") for all claims, suits, actions, and damages, to the extent attributable to the permittee's acts or omissions in connection with the permittee's undertaking of activities in connection with, or operation and maintenance of, the facility or facilities authorized by the permit whether in compliance or not in compliance with the terms and conditions of the permit. This indemnification does not extend to any claims, suits, actions, or damages to the extent attributable to DEC's own negligent or intentional acts or omissions, or to any claims, suites, or actions naming the DEC and arising under Article 78 of the New York Civil Practice Laws and Rules or any citizen suit or civil rights provision under federal or state laws.

Item B: Permittee's Contractors to Comply with Permit
The permittee is responsible for informing its independent contractors, employees, agents and assigns of their responsibility to comply with this permit, including all special conditions while acting as the permittee's agent with respect to the permitted activities, and such persons shall be subject to the same sanctions for violations of the Environmental Conservation Law as those prescribed for the permittee.

Item C: Permittee Responsible for Obtaining Other Required Permits
The permittee is responsible for obtaining any other permits, approvals, lands, easements and rights-of-way that may be required to carry out the activities that are authorized by this permit.

Item D: No Right to Trespass or Interfere with Riparian Rights
This permit does not convey to the permittee any right to trespass upon the lands or interfere with the riparian rights of others in order to perform the permitted work nor does it authorize the impairment of any rights, title, or interest in real or personal property held or vested in a person not a party to the permit.

By acceptance of this permit, the permittee agrees that failure to comply with the permit terms and all New York State Department of Environmental Laws, Rules and Regulations subjects the permittee to prosecution under these laws, and will be deemed sufficient reason for denial of future permit applications.

Issuing Officer's Signature: Robert Freese Digitally signed by Robert Freese Date: 2020.06.17 11:05:05 -04'00'

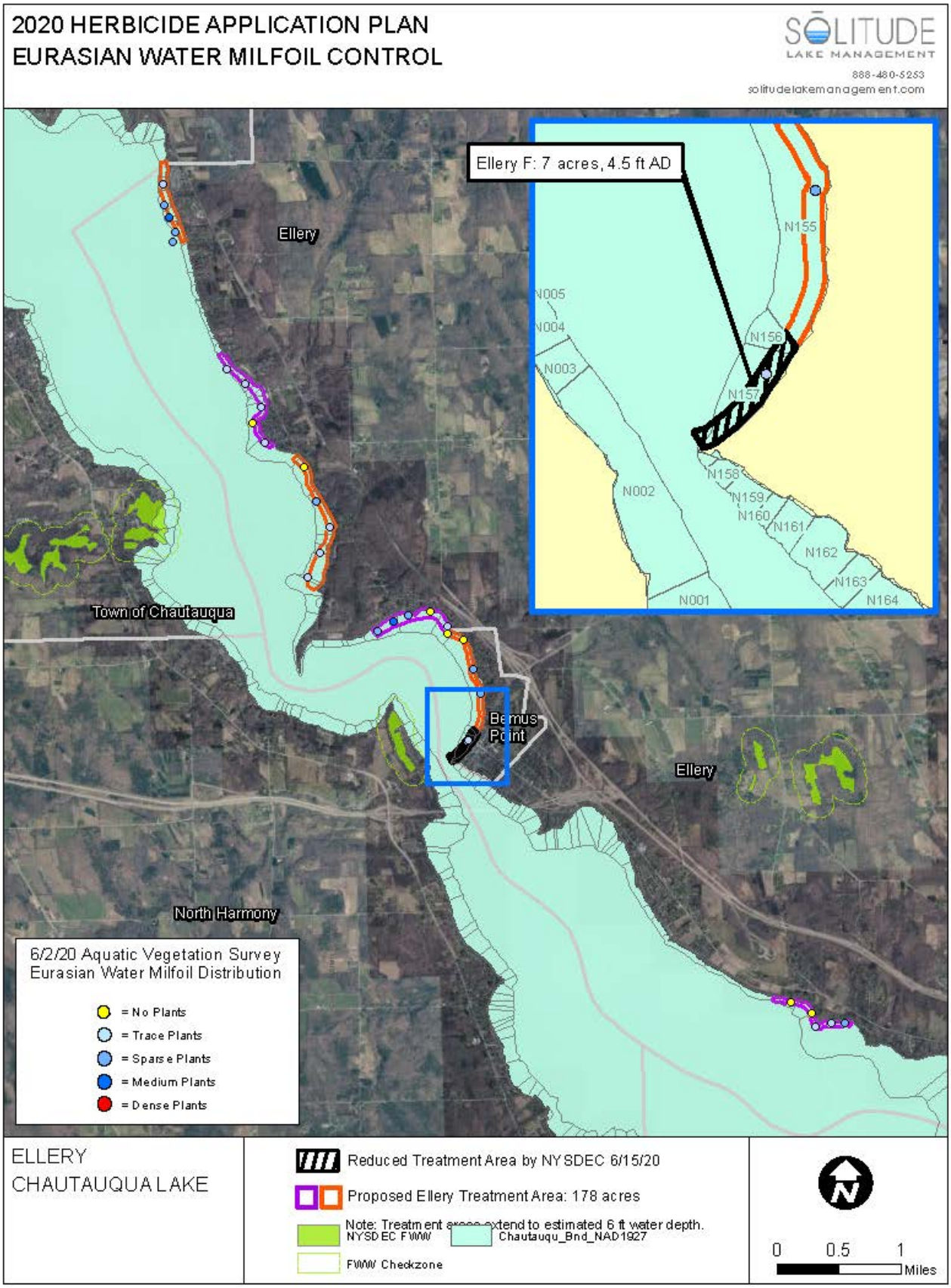
Robert Freese
Pesticide Control Specialist 2

Issue Date: June 17, 2020

Expiration Date: **December 31, 2020**

Distribution:
Permittee: Town of Ellery, Arden Johnson, ellerysupervisor@gmail.com
Applicator: Solitude Lake Management LLC, Glenn Sullivan, gsullivan@solitudelake.com

Abby Snyder, NYS DEC Region 9 Regional Director
Dave Denk, NYS DEC Region 9 Permit Administrator
Maureen Brady, NYS DEC Region 9 Regional Attorney
Kenneth Baginski, NYS DEC Region 9 Natural Resources Supervisor
Charles Rosenburg, NYS DEC Region 9 BOH Supervisor
Michael Clancy, NYS DEC Region 9 Fisheries Supervisor
Justin Brewer, NYS DEC Region 9 Fisheries
Christopher Wainwright, NYS DEC Pesticide Control Specialist 3
William Boria, Chautauqua County DOH, Senior Water Resource Specialist
Dave McCoy, Chautauqua County Department of Planning and Economic Development, Watershed Coordinator


2020 HERBICIDE APPLICATION PLAN
EURASIAN WATER MILFOIL CONTROL
SOLITUDE
LAKE MANAGEMENT
888-480-5253
solitudelakemanagement.com
Ellery F: 7 acres, 4.5 ft AD
N155
N005
N004
N156
N003
N157
N158
N002
N159
N160
N161
N162
N163
N001
N164
Ellery
Town of Chautauqua
Bemus Point
Ellery
North Harmony
6/2/20 Aquatic Vegetation Survey
Eurasian Water Milfoil Distribution
= No Plants
= Trace Plants
= Sparse Plants
= Medium Plants
= Dense Plants
ELLERY
CHAUTAUQUA LAKE
Reduced Treatment Area by NYSDEC 6/15/20
Proposed Ellery Treatment Area: 178 acres
Note: Treatment areas extend to estimated 6 ft water depth.
NYSDEC FWW
Chautauqu_Bnd_NAD1927
FWW Checkzone
N
0 0.5 1
Miles

New York State Department of Environmental Conservation
Division of Materials Management / Region 9 / Bureau of Pesticides Management
270 Michigan Ave, Buffalo, NY 14203
(716) 851-7220

TITLE 6 NEW YORK CODE OF RULES AND REGULATIONS PART 327
PERMIT TO USE A PESTICIDE FOR THE CONTROL OR ELIMINATION OF AQUATIC VEGETATION

PERMIT NUMBER: **AV92020-036**	TARGET SPECIES: **Eurasian Watermilfoil**
PERMITTEE: **Town of Busti**	WATER TO BE TREATED: **Chautauqua Lake**
TOWN: **Busti**	COUNTY: **Chautauqua**

Pursuant to the Rules and Regulations governing the use of pesticides for controlling or eliminating aquatic vegetation adopted by the New York State Department of Environmental Conservation, permission is granted to the permittee or his/her agent(s) pursuant to the provisions of Article 15 of the Environmental Conservation Law to apply the listed pesticide(s) to the waters identified above located in the town and county identified above in conformance with all statements and agreements set forth in the application .

I. THIS AQUATIC PESTICIDE PERMIT IS ISSUED SUBJECT TO THE FOLLOWING CONDITIONS:

1. DATE(S) OF TREATMENT: **June 22 through June 30, 2020**
2. AUTHORIZED CHEMICAL (Product & EPA Reg. No.): **ProcellaCOR EC (EPA Reg # 67690-80)**
3. % OR WEIGHT OF ACTIVE INGREDIENT: **2.7%** Florpyrauxifen-benzyl: 2-pyridinecarboxylic acid, 4-amino-3-chloro-6- (4-chloro-2-fluoro-3-methoxy-phenyl)-5-fluoro-, phenyl methyl ester
4. MAXIMUM AMOUNT OF CHEMICAL AUTHORIZED: **19.6 gallons**
5. MAXIMUM NUMBER OF ACRES TO BE TREATED: **79.4 acres**
6. NOT TO EXCEED PERMISSIBLE DOSAGE RATE: **6.34 oz/ac-ft (2 PDU)**
7. METHOD OF APPLICATION: **Subsurface injection**
8. AUTHORIZED AREAS TO BE TREATED: The following MMS zones are permitted to a water depth of six feet. Treated areas must be buoyed prior to treatment. Updated maps from the registered business must be provided and attached to permits prior to treatment.

   MMS ZONES PERMITTED: **S082, S081, S080, S079, S076 and S077**
9. NAME OF REGISTERED BUSINESS/AGENCY: **Solitude Lake Management LLC**
10. BUSINESS/AGENCY REGISTRATION NO.: **16505**
11. NAME OF CERTIFIED APPLICATOR(S): **Glenn Sullivan**
12. CERTIFIED APPLICATOR ID NO.: **C0680740**
13. A Prescription Dose Unit (PDU) is equal to 3.17 fluid ounces.
14. This permit is valid for one application.
15. Undeveloped shorelines cannot be treated with pesticide.
16. Wind speeds the day of treatment cannot be, or forecasted to be, above 10 MPH.

II. USE OF THE TREATED WATERS AND THOSE WATERS AFFECTED BY THE TREATMENT WILL BE PROHIBITED OR RESTRICTED AS FOLLOWS:

1. Do not use water from treated areas for irrigation of agricultural crop, greenhouse, nursery, and hydroponic irrigation until concentrations are below 1 ppb (<1 ppb) active ingredient as determined by FasTest or determined by the Department approved model to have degraded/diluted to below 1 ppb unless an activated

AV92020-036

carbon or similar filtration process is utilized prior to the water use.

2. Do not use water for irrigation of landscape vegetation or other forms of non-agricultural irrigation (excluding greenhouse, nursery and turf) until concentrations are below 2 ppb (<2 ppb) as determined by FasTest or for 5 days following in-water application.

3. To minimize potential exposure in compost, do not use water from treated areas for livestock watering until concentrations are below 1 ppb (<1 ppb) active ingredient as determined by FasTest.

4. Warning signs approved by the Department must be posted as described in the attached conditions. Signs must remain posted until all restrictions are removed as determined by sample results and agreed upon by the Department.

5. Water use restrictions will remain in effect until sample analysis determines concentrations are at or below the labeled limit.

III SAMPLING REQUIREMENTS

1. To remove the water use restrictions and take down the notification signs a sample must be taken from each treatment area and at the outlet and results must be below 1 ppb active ingredient. The first sample shall be taken 5 days following treatment. If initial sample exceeds 1 ppb additional sampling shall occur at least every 5 days until levels drop below 1 ppb. Sample locations are designated on maps provided with the application and are labeled: ELL7, ELL6, NH7, BU2, BU1, LKWD1, LKWD 4, and O1 (outlet).

2. All sampling results must be reported immediately (within 24 hours) to Bureau of Pesticides Management, NYSDEC, 270 Michigan Ave, Buffalo, NY 14203 and robert.freese@dec.ny.gov when received by permittee.

3. All sampling results must also be reported immediately (within 24 hours) to William Boria, Chautauqua County DOH, Senior Water Resource Specialist, at boriaw@co.chautauqua.ny.us .

IV. NOTIFICATION REQUIREMENTS:

1. **Riparian Owner and User Notification:** Prior notice of the actual date(s) of treatment and water use restrictions must be given to any party likely to be adversely affected.

2. **Posting of Warning Signs Prior to Treatment:** Warning/Notification signs must be posted conspicuously along the shoreline of the pond. These signs shall be approved by the Department and must be posted as described.

   There must be at least two (2) signs at each required posting location, posted no more than fifty feet (50') apart from each other. Signs shall be posted at a minimum height of thirty inches (30") above the ground to the top of the sign; and shall be > 6" x 8" in size; made of suitable weather-resistant, rigid material with a background color of yellow and black lettering. The signs are to be posted before the application and remain posted and legible until all water use restrictions are removed as determined by sample results and agreed upon by the Department.

3. **This sign shall include the following information in an acceptable format to the Department:** "NOTICE. This waterbody has been treated with a pesticide for aquatic weed control. (Name of pesticide shall be included) Do not enter treatment area until after treatment."
   The signs posted must include:
   a. Date and time of treatment
   b. All water use restrictions
   c. Description of treatment area
   d. Contact person's name and cell phone number
   e. If applicable, statement that signs will be updated as water use restrictions are lifted

3. **Agency Notifications:** The following must be notified at least seven (7) days and no more than fourteen (14) days prior to the date of each pesticide treatment:
   Robert Freese, Pesticide Control Specialist 2, NYSDEC, 270 Michigan Ave, Buffalo, NY 14203
   P: 716-851-7220 | robert.freese@dec.ny.gov

   The permittee must also provide seven to fourteen-day notice to the **Regional Office of the New York State**

AV92020-036

Health Department, where the water body or outflow waters serve as water supplies.

a.) Representative(s) of the DEC (Pesticide Control Specialist) maintain the right to be present during all pesticide treatments.

b.) In the event conditions necessitate rescheduling of the treatment, the Department must be notified 24 hours prior to the date the rescheduled treatment will occur. If treatments are rescheduled, the permittee must make a new request to the Department if a waiver is desired.

c.) Any waiver must be explicitly granted by the Department in writing and may not be implied by the absence of the Department's representative. Any waiver granted by the Department shall be effective only for the specific application and treatment date/time for which it was granted.

d.) In the event conditions necessitate rescheduling the pesticide treatment, the following must be notified 24 hours prior to the date the rescheduled treatment will occur:
Robert Freese, Pesticide Control Specialist 2, NYSDEC, 270 Michigan Ave, Buffalo, NY 14203
P: 716-851-7220 | robert.freese@dec.ny.gov

e) If no treatment is made, and the permit is not used, the following must be notified:
Robert Freese, Pesticide Control Specialist 2, NYSDEC, 270 Michigan Ave, Buffalo, NY 14203
P: 716-851-7220 | robert.freese@dec.ny.gov

V. REPORTING

1. **Final Report Required:** Permittee must submit a Final Report by November 30, 2020. The Report shall contain the following information for **each application site**: product name; active ingredient; EPA registration number; the total quantity of each pesticide used; number of acres or acre feet treated; targeted concentration; dosage rate; target organism; and date of application(s). **GPS maps of the exact treatment areas must also be included with each report**. The report must be submitted to Robert Freese, Pesticide Control Specialist 2, NYSDEC, 270 Michigan Ave, Buffalo, NY 14203.

   This permit requirement does not preclude the statutory obligation of the permittee, or other pesticide applicator registered agency or registered business to comply with Annual Reporting requirements expressed at Section 33-1205 of the ECL.

2. **Post Treatment Evaluation Required:** A post treatment evaluation done in late Summer or early Fall, of each treatment area describing the status of aquatic plant species present and an estimate of their abundance shall also be reported before November 30, 2020.

VI. ADDITIONAL CONDITIONS OR RESTRICTIONS:

1. **No Right to Treat Lands and Waters under Department Control** This permit grants no right to treatment of lands under control of the Department nor relieves the permittee of the responsibility to obtain permission from the Department for any treatment of waters lying under their control, unless a specific signed authorization appears on this permit.

2. **No Right to Treat Non-Target Areas** Issuance of the permit does not authorize the treatment or the drift of pesticides to non-target water or water lying on or passing through the property of others without their consent, nor relieve the permittee/applicator of any legal necessity to obtain such consent before treatment, nor relieve them of responsibility for damages to riparian owners or others.

3. **Follow Product Label Directions** The applicator must follow all product label directions. A copy of the product labeling, including any applicable Special Local Need (SLN) or supplemental labeling, must be on site during all treatments. The applicator, and all others handling the product, must wear appropriate personal protective clothing as required by label directions.

4. **Possession of a Valid Commercial Pesticide Applicator Certification** The applicator must possess valid Commercial Pesticide Applicator Certification in Category 5A with the permit issuing agency. The certified applicator must be on site during all treatments. The use of individuals now referred to as "Pesticide Technician" and/or "Pesticide Apprentice" in current regulation, is permitted as described in Title 6 NYCRR Part 325.7. In addition, the applicator, if contracted to complete the treatment, must possess valid registration as a Pesticide Application Business with the Bureau of Pesticides Management.

AV92020-036

5. **Special Authorization Required for Multiple Treatments** This permit is valid for only one treatment, or a split treatment, during the calendar year and the treatment may not be repeated without special authorization from the Department.

6. **State Not Liable for Damage** The State of New York shall in no case be liable for any damage or injury to the structure or work herein authorized which may be caused by or result from future operations undertaken by the State for the conservation or improvement of navigation, or for other purposes, and no claim or right to compensation shall accrue from any such damage.

7. **Precautions Against Contamination of Waters** All necessary precautions shall be taken to preclude contamination of any wetland or waterway by suspended solids, sediments, fuels, solvents, lubricants, epoxy coatings, paints, concrete, leachate or any other environmentally deleterious materials associated with the project. Spill recovery materials shall be maintained at the temporary pesticide storage area.

8. **No Interference with Navigation** There shall be no unreasonable interference with navigation by the work herein authorized.

VII. GENERAL CONDITIONS – APPLY TO ALL AUTHORIZED PERMITS:

1. **Facility Inspection by the Department** The permitted site or facility, including relevant records, is subject to inspection at reasonable hours and intervals by an authorized representative of the Department of Environmental Conservation (the Department) to determine whether the permittee is complying with this permit and the ECL. Such representative may order the work suspended pursuant to ECL 71-0301and SAPA 401(3).

   The permittee shall provide a person to accompany the Department's representative during an inspection to the permit area when requested by the Department.

   A copy of this permit, including all referenced maps, drawings and special conditions, must be available for inspection by the Department at all times at the project site or facility. Failure to produce a copy of the permit upon request by a Department representative is a violation of this permit.

2. **Relationship of this Permit to Other Department Orders and Determinations** Unless expressly provided for by the Department, issuance of this permit does not modify, supersede or rescind any order or determination previously issued by the Department or any of the terms, conditions or requirements contained in such order or determination.

3. **Applications for Permit Renewals, Modifications or Transfers** The permittee must submit a separate written application to the Department for permit renewal, modification or transfer of this permit. Such application must include any forms or supplemental information the Department requires. Any renewal, modification or transfer granted by the Department must be in writing. Submission of applications for permit renewal, modification or transfer is to be submitted to: NYS DEC, Bureau of Pesticides Management, 207 Genesee Street, Utica, NY 13501.

4. **Permit Modifications, Suspensions and Revocation by the Department** The Department reserves the right to modify, suspend or revoke this permit. The grounds for modification, suspension or revocation include:

   a. materially false or inaccurate statements in the permit application or supporting papers;
   b. failure by the permittee to comply with any terms or conditions of the permit;
   c. exceeding the scope of the project as described in the permit application;
   d. newly discovered material information or a material change in environmental conditions, relevant technology or applicable law or regulations since the issuance of the existing permit;
   e. noncompliance with previously issued permit conditions, orders of the commissioner, any provisions of the Environmental Conservation Law or regulations of the Department related to the permitted activity.

5. **Permit Transfer** Permits are transferrable unless specifically prohibited by statute, regulation or another permit condition. Applications for permit transfer should be submitted prior to actual transfer of ownership.

VIII. NOTIFICATION OF OTHER PERMITTEE OBLIGATIONS

AV92020-036

Item A: Permittee Accepts Legal Responsibility and Agrees to Indemnification
The permittee expressly agrees to indemnify and hold harmless the Department of Environmental Conservation of the State of New York, its representatives, employees, and agents ("DEC") for all claims, suits, actions, and damages, to the extent attributable to the permittee's acts or omissions in connection with the permittee's undertaking of activities in connection with, or operation and maintenance of, the facility or facilities authorized by the permit whether in compliance or not in compliance with the terms and conditions of the permit. This indemnification does not extend to any claims, suits, actions, or damages to the extent attributable to DEC's own negligent or intentional acts or omissions, or to any claims, suites, or actions naming the DEC and arising under Article 78 of the New York Civil Practice Laws and Rules or any citizen suit or civil rights provision under federal or state laws.

Item B: Permittee's Contractors to Comply with Permit
The permittee is responsible for informing its independent contractors, employees, agents and assigns of their responsibility to comply with this permit, including all special conditions while acting as the permittee's agent with respect to the permitted activities, and such persons shall be subject to the same sanctions for violations of the Environmental Conservation Law as those prescribed for the permittee.

Item C: Permittee Responsible for Obtaining Other Required Permits
The permittee is responsible for obtaining any other permits, approvals, lands, easements and rights-of-way that may be required to carry out the activities that are authorized by this permit.

Item D: No Right to Trespass or Interfere with Riparian Rights
This permit does not convey to the permittee any right to trespass upon the lands or interfere with the riparian rights of others in order to perform the permitted work nor does it authorize the impairment of any rights, title, or interest in real or personal property held or vested in a person not a party to the permit.

By acceptance of this permit, the permittee agrees that failure to comply with the permit terms and all New York State Department of Environmental Laws, Rules and Regulations subjects the permittee to prosecution under these laws, and will be deemed sufficient reason for denial of future permit applications.

Issuing Officer's Signature: Robert Freese Digitally signed by Robert Freese Date: 2020.06.17 13:33:20 -04'00'

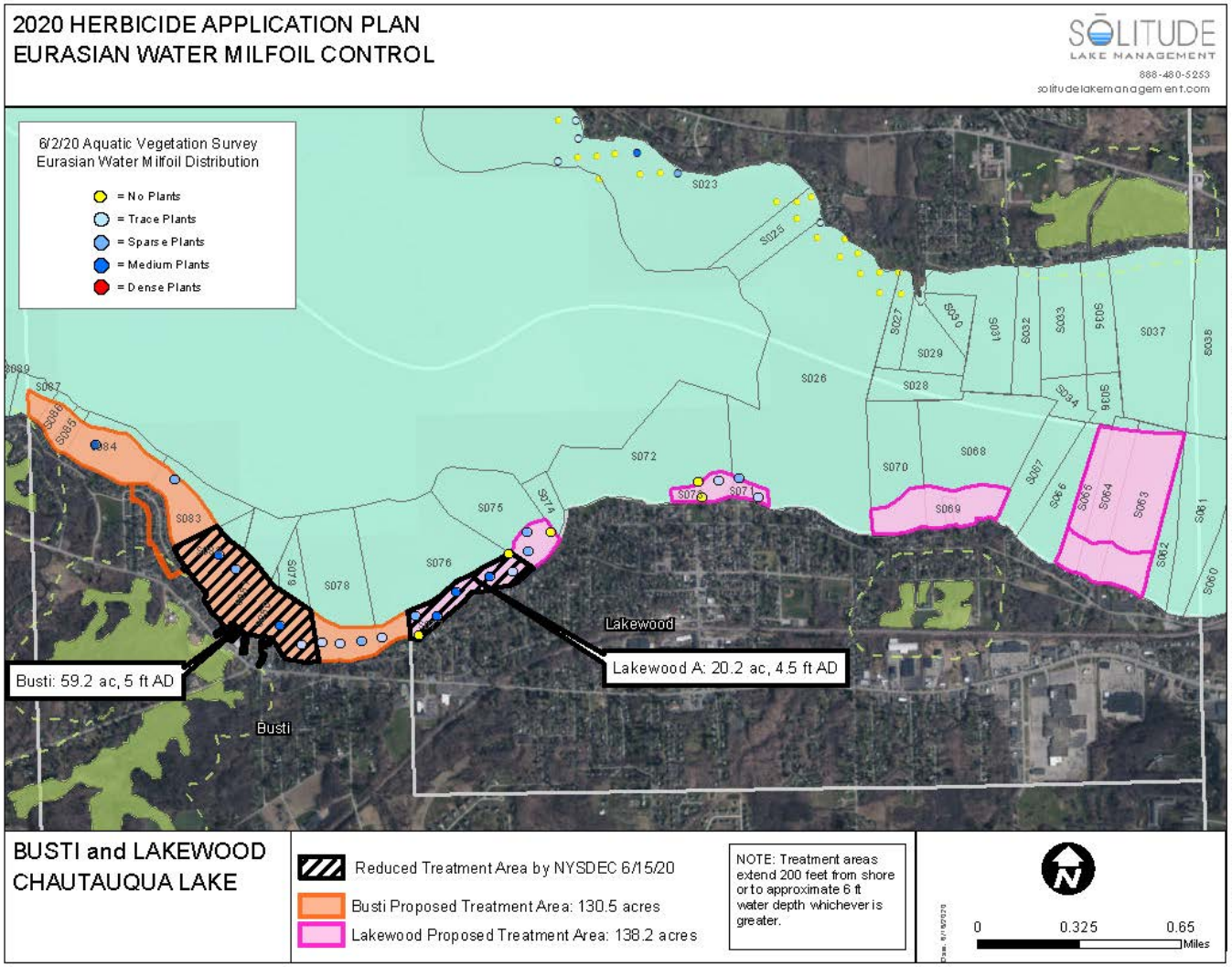
Robert Freese
Pesticide Control Specialist 2

Issue Date: June 17, 2020

Expiration Date: **December 31, 2020**

Distribution:
Permittee: Town of Busti, Jesse Robbins, jesserobbinsbusti@gmail.com
Applicator: Solitude Lake Management LLC, Glenn Sullivan, gsullivan@solitudelake.com

Abby Snyder, NYS DEC Region 9 Regional Director
Dave Denk, NYS DEC Region 9 Permit Administrator
Maureen Brady, NYS DEC Region 9 Regional Attorney
Kenneth Baginski, NYS DEC Region 9 Natural Resources Supervisor
Charles Rosenburg, NYS DEC Region 9 BOH Supervisor
Michael Clancy, NYS DEC Region 9 Fisheries Supervisor
Justin Brewer, NYS DEC Region 9 Fisheries
Christopher Wainwright, NYS DEC Pesticide Control Specialist 3
William Boria, Chautauqua County DOH, Senior Water Resource Specialist
Dave McCoy, Chautauqua County Department of Planning and Economic Development, Watershed Coordinator


2020 HERBICIDE APPLICATION PLAN
EURASIAN WATER MILFOIL CONTROL
SOLITUDE LAKE MANAGEMENT
888-480-5253
solitudelakemanagement.com
6/2/20 Aquatic Vegetation Survey
Eurasian Water Milfoil Distribution
= No Plants
= Trace Plants
= Sparse Plants
= Medium Plants
= Dense Plants
Busti: 59.2 ac, 5 ft AD
Lakewood A: 20.2 ac, 4.5 ft AD
Busti
Lakewood
BUSTI and LAKEWOOD
CHAUTAUQUA LAKE
Reduced Treatment Area by NYSDEC 6/15/20
Busti Proposed Treatment Area: 130.5 acres
Lakewood Proposed Treatment Area: 138.2 acres
NOTE: Treatment areas extend 200 feet from shore or to approximate 6 ft water depth whichever is greater.
0
0.325
0.65
Miles