

Monitoring Report

Invasive Aquatic Plants

Candlewood Lake
Lake Lillinonah
Lake Zoar

Bulletin 1039

2012

Gregory J. Bugbee

Jordan A. Gibbons

Mark June-Wells

Jennifer M. Fanzutti

Invasive Aquatic Plant Program
The Connecticut Agricultural
Experiment Station
Department of Environmental Sciences
123 Huntington Street
New Haven, CT 06511

www.ct.gov/caes/iapp



April 23, 2013



The Connecticut Agricultural Experiment Station was founded in 1875. It is chartered by the General Assembly to make scientific inquiries and conduct experiments regarding plants and their pests, insects, soil and water, and to perform analyses for state agencies. Station laboratories are in New Haven and Windsor, and research farms in Hamden and Griswold.



The Connecticut Agricultural Experiment Station prohibits discrimination on the basis of race, color, ancestry, national origin, sex, religious creed, age, political beliefs, sexual orientation, criminal conviction record, genetic information, learning disability, marital or family status, or present or past history of mental disorder, mental retardation or physical disability, including but not limited to blindness. To file a complaint of discrimination, write: Director, The Connecticut Agricultural Experiment Station, P.O. Box 1106, New Haven CT 06504, or call (203) 974-8440. The experiment station is an equal opportunity provider and employer. People with disabilities who require alternate means of communication should contact the Chief of Services at (203) 974-8442 (voice); (203) 974-8502 (fax); or Michael.Last@ct.gov.

Table of Contents

1. Introduction	4
2. Objectives.....	6
3. Materials and Methods	6
4. Results and Discussion	9
A) Candlewood Lake.....	9
B) Lake Lillinonah.....	29
C) Lake Zoar	32
5. Comparisons of Water Chemistry.....	46
6. Conclusions	48
7. Acknowledgements.....	49
8. References.....	49
9. Appendix.....	52
A) Lakes Candlewood, Lillinonah and Zoar Surface Elevations	53
B) Timeline	54
C) Invasive Plant Descriptions	55
D) Metadata	61
E) Invasive Aquatic Plant Location Data	68
1) Candlewood Lake	69
2) Lake Zoar	94
F) Transect Data	113
1) Candlewood Lake	114
2) Lake Lillinonah	118
3) Lake Zoar	122

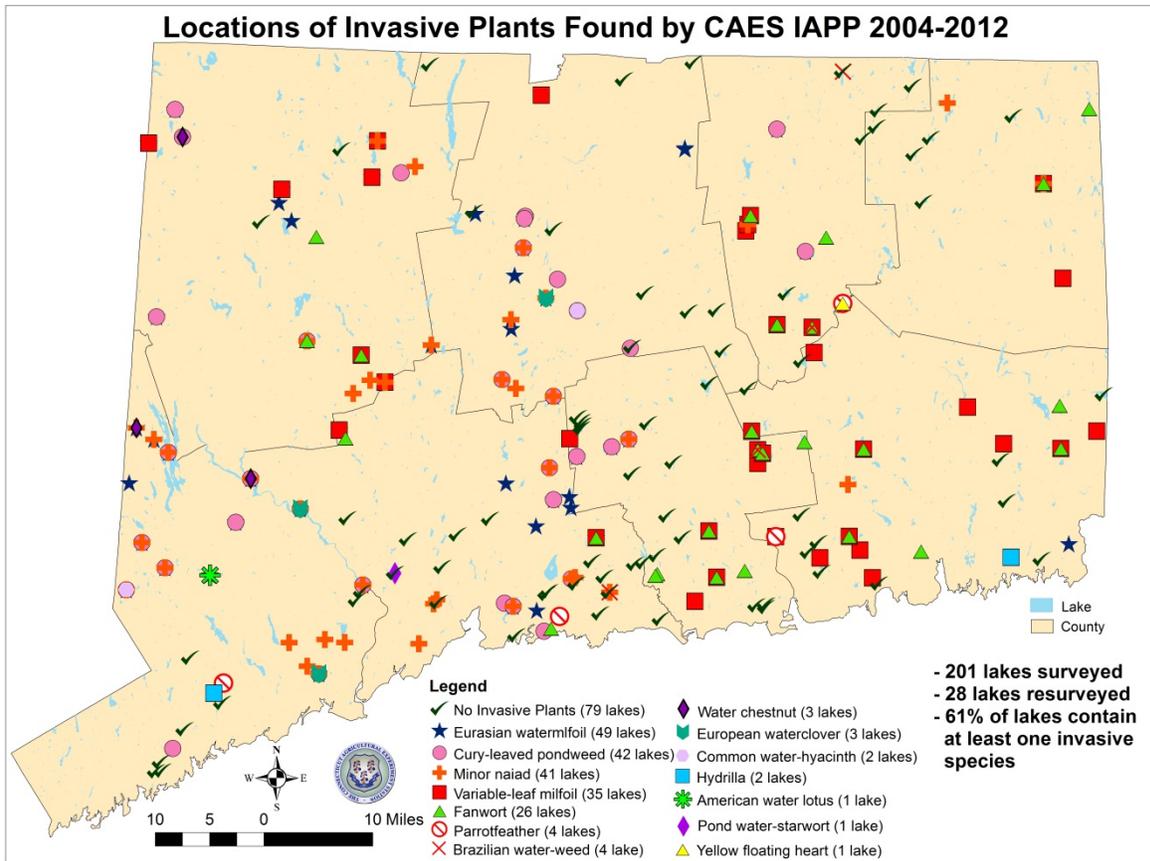


Figure 1. Locations of invasive aquatic plants found by CAES IAPP from 2004 – 2012.

Introduction

Lakes Candlewood, Lillinonah and Zoar are threatened by several species of invasive aquatic plants. Invasive aquatic plants have few natural enemies (Wilcove et al. 1998, Pimintel et al. 2000), and therefore, their uncontrolled growth can impair recreational opportunities, reduce local real estate values and degrade the native aquatic ecosystem (Connecticut Aquatic Nuisance Species Working Group, 2006, Fishman et al. 1998). Lakes Candlewood, Lillinonah and Zoar are large freshwater impoundments that are managed by FirstLight Power Resources, Inc. to generate hydroelectric power. The Federal Energy Regulatory Commission (FERC) Article 409 requires FirstLight Power Resources, Inc. to provide annual invasive aquatic plant monitoring of Lakes Candlewood, Lillinonah and Zoar (Northeast Generating Company, 2005).

Fourteen invasive aquatic plant species are found in approximately two-thirds of Connecticut's lakes and ponds (Figure 1) (CAES IAPP, 2013). Eurasian watermilfoil

(Myriophyllum spicatum) is the most commonly found invasive aquatic plant and the principal problem in Lakes Candlewood, Lillinonah and Zoar. Eurasian watermilfoil has been present in Candlewood Lake since at least the early 1980's (Siver et al., 1986) when it probably entered Lakes Lillinonah and Zoar as well.

The Connecticut Agricultural Experiment Station Invasive Aquatic Plant Program (CAES IAPP) has studied the plant communities in Lakes Candlewood, Lillinonah and Zoar since 2005 and have found they are similar in many ways (Bugbee et al., 2012, Bugbee, 2011, Bugbee and Balfour, 2010, Bugbee and Reeps, 2009, Bugbee et al., 2008). Fifteen to 18 plant species occur in the lakes with European watercress (*Marsilea quadrifolia*), Eurasian watermilfoil, minor naiad (*Najas minor*), curlyleaf pondweed (*Potamogeton crispus*) and water chestnut (*Trapa natans*) being invasive. European watercress only occurs in Lake Zoar and water chestnut is found only in Lake Lillinonah. Eurasian watermilfoil covers the largest area in the lakes followed by minor naiad and curlyleaf pondweed. Curlyleaf pondweed may have been underestimated because it dies back prior to the summer surveys (Catling and Dobson, 1985). Although the plant communities are similar in all three lakes, the way nuisance plants are being managed varies. Winter drawdown, occasional harvesting and the introduction of milfoil weevils (*Euhrychiopsis lecontei*) are used to manage Eurasian watermilfoil in Candlewood Lake (Tarsi, 2006). Deep drawdowns (3 meters) with long exposure times have proven most effective (Bugbee et al., 2012). Harvesting is performed in small areas to give immediate relief but records on where harvesting has been performed are sparse. In 2008, 2010 and 2012, milfoil weevils were introduced into Candlewood Lake to test their ability to survive, multiply and control Eurasian watermilfoil. The status of the weevils has been monitored by Western Connecticut State University, EnviroScience Inc. and CAES and their efficacy appears minimal. In Lakes Lillinonah and Zoar nuisance vegetation is actively managed by harvesting and herbicide applications. Passive control may be occurring via occasional low water levels (any season) and storm events causing intense flow rates.

The following report represents the fifth year of CAES IAPP surveillance and mapping of invasive aquatic plants for FirstLight Power Resources, Inc to fulfill the requirements of FERC Article 409.

Objectives:

Survey and map invasive aquatic plants in Lakes Candlewood, Lillinonah and Zoar to fulfill the FERC nuisance plant monitoring requirement in Article 409. Provide scientific information to assist in the management of invasive aquatic vegetation, enhancement of native species and overall protection of the water bodies.

Materials and Methods:

Our 2012 aquatic vegetation survey utilized established CAES methods (CAES IAPP, 2013). We recorded locations of all invasive plants with Trimble GeoXT[®] or ProXT[®] global positioning systems (GPS) with sub-meter accuracy. Plants occurring in patches were circumnavigated to form a polygon. Patches covering less than one square meter were recorded as a point and assigned an area of 0.0002 acres (1 m²). We measured depth with a rake handle, drop line or digital depth finder and sediment type was estimated. Plant samples were obtained in shallow water with a rake and in deeper water with a grapple. We measured plant abundance visually using a scale of 1 – 5 (1 = single stem; 2 = few stems; 3 = common; 4 = abundant; 5 = extremely abundant). When field identification was questionable, we brought samples back to the lab for review using the taxonomy of Crow and Hellquist (2000a, 2000b). We post-processed the GPS data in Pathfinder[®] 5.10 (Trimble Navigation Limited, Sunnyvale, CA) and then imported it into ArcGIS[®] 10.1 (ESRI, Redlands, CA), where it was geo-corrected. Data were then overlaid onto 2010 United States Department of Agriculture - National Agricultural Inventory Program (NAIP) aerial imagery with 1 meter resolution. On September 9th a local pilot flew us over Candlewood Lake to take aerial photographs for comparison with our on-lake survey.

We collected occurrence and abundance plant information from ten transects per lake with points positioned 0, 5, 10, 20, 30, 40, 50, 60, 70 and 80 meters from shore. In Candlewood Lake, these transects were a subset of the 105 we laid out in 2005 (Bugbee et al., 2008) and contained at least one occurrence of each native and invasive plant species. In Lake Zoar, previously established transects were used, but not all species in the earlier surveys were present. In Lake Lillinonah, we decreased the number of transects from the 16 we surveyed in 2009 to 10. We chose transects that represented the greatest species richness and ranked abundance as described above. Significant differences in the



Figure 2. Testing water for temperature and dissolved oxygen in Lake Zoar.

frequency of occurrence of plant species between years along transects ($p < 0.05$) was determined using analysis of variance (ANOVA) followed by Tukey's post-hoc test. Significant differences in species richness per transect point were determined by \pm one standard error of the mean.

We surveyed Candlewood Lake for curlyleaf pondweed from June 6 – June 14 and all invasive plants from August 3 – August 27. This was the first time we performed the early curlyleaf pondweed survey because we felt it was important to document this plant prior to its summer senescence. The Candlewood Lake transect data were obtained from August 29 – 30. We surveyed Lake Zoar for curlyleaf pondweed from May 30 - June 6 and all invasive plants from July 24 - August 17. We obtained transect data on Lake Zoar from August 22 – 23. The Lake Lillinonah transect data were obtained from August 10 – 13. Detailed information regarding our “on-lake” time is located in the Appendix (page 53).

We obtained water samples from Candlewood Lake on September 6, Lake Lillinonah on August 13 and Lake Zoar on August 23. We used a Secchi disk to measure transparency and an YSI® 58 meter (YSI Inc., Yellow Springs, Ohio) to measure water temperature and dissolved oxygen (Figure 2). Measurements occurred in deep areas of each lake at a depth of 0.5 m and 1 m intervals thereafter until we reached the bottom. We collected water samples from 0.5 m below the surface and 0.5 m from the bottom. Samples were stored in

Table 1. The frequency of occurrence and area covered by aquatic plants in Candlewood Lake.

Scientific Name	Common Name	Frequency of Occurrence (percent *)						Area (acres)					
		2005	2008	2009	2010	2011	2012	2007	2008	2009	2010	2011	2012
<i>Callitriche sp.</i>	Water starwort	1.0	0.0	0.0	0.0	0.0	0.0	ND**	ND	ND	ND	ND	ND
<i>Ceratophyllum demersum</i>	Coontail	3.1	33.3	11.3	22.7	29.9	22.7	ND	ND	ND	ND	ND	ND
<i>Elatine sp.</i>	Waterwort	0.0	1.0	3.1	2.1	0.0	4.1	ND	ND	ND	ND	ND	ND
<i>Eleocharis sp.</i>	Spikerush	0.0	0.0	3.1	1.0	1.0	3.1	ND	ND	ND	ND	ND	ND
<i>Elodea nuttallii</i>	Waterweed	4.2	0.0	0.0	0.0	0.0	0.0	ND	ND	ND	ND	ND	ND
<i>Lemna minor</i>	Duckweed	2.1	6.3	1.0	4.1	7.2	4.1	ND	ND	ND	ND	ND	ND
<i>Myriophyllum spicatum</i>	Eurasian watermilfoil	51.0	79.2	64.9	70.1	78.4	79.4	221	451	373	461	331	505
<i>Najas flexilis</i>	Nodding waternymph	7.3	1.0	1.0	0.0	2.0	0.0	ND	ND	ND	ND	ND	ND
<i>Najas minor</i>	Minor naid	12.5	6.3	8.2	11.3	15.5	12.4	12	11	26	21	19	32
<i>Nymphaea odorata</i>	White water lily	1.0	1.0	0.0	1.0	1.0	1.0	ND	ND	ND	ND	ND	ND
<i>Potamogeton bicupulatus</i>	Snailseed pondweed	0.0	1.0	0.0	0.0	0.0	0.0	ND	ND	ND	ND	ND	ND
<i>Potamogeton crispus</i>	Curly leaf pondweed	13.5	1.0	0.0	0.0	0.0	0.0	<1	<1	1	1	<1	0
<i>Potamogeton foliosus</i>	Leafy pondweed	3.1	0.0	0.0	0.0	2.1	1.0	ND	ND	ND	ND	ND	ND
<i>Potamogeton gramineus</i>	Variable leaf pondweed	2.1	0.0	0.0	0.0	0.0	0.0	ND	ND	ND	ND	ND	ND
<i>Potamogeton perfoliatus</i>	Clasping leaf pondweed	1.0	2.1	1.0	0.0	0.0	2.1	ND	ND	ND	ND	ND	ND
<i>Potamogeton pusillus</i>	Small Pondweed	3.1	1.0	0.0	0.0	0.0	0.0	ND	ND	ND	ND	ND	ND
<i>Spirodela polyrhiza</i>	Great duckweed	1.0	0.0	0.0	1.0	5.2	0.0	ND	ND	ND	ND	ND	ND
<i>Stuckenia pectinata</i>	Sago pondweed	6.3	1.0	0.0	4.1	0.0	3.1	ND	ND	ND	ND	ND	ND
<i>Vallisneria americana</i>	Eel grass	2.1	2.1	4.1	4.1	3.1	4.0	ND	ND	ND	ND	ND	ND
<i>Wolffia sp.</i>	Spotless watermeal	0.0	0.0	0.0	0.0	0.0	3.1	ND	ND	ND	ND	ND	ND
<i>Zannichellia palustris</i>	Horned pondweed	11.5	3.1	0.0	0.0	0.0	0.0	ND	ND	ND	ND	ND	ND

Invasive plant

* Percent occurrence on 97 points in 10 transects

**Not determined

Shaded columns indicate deep drawdown years

sterile 250 ml plastic Nalgene® containers at 3°C until they were analyzed for pH, alkalinity, conductivity and total phosphorus. We measured conductivity and pH with a Fisher-Accumet® XL20 meter (Fisher Scientific International Inc., Hampton, NH) and quantified alkalinity by titration with 0.16 N H₂SO₄ to a pH 4.5 endpoint. Finally, we analyzed total phosphorus via spectroscopy using the ascorbic acid method with potassium persulfate digestion (American Public Health Association, 1995).

To assess the effectiveness of the 2012 winter drawdown, we obtained pots of sediment containing what appeared to be rooted Eurasian watermilfoil at the start of the lake refill process (2/21/12). We took three pots of sediment from sites in Allen’s Cove west, Allen’s Cove east, Echo Bay and Latin’s Cove (Lake Candlewood maps 1 and 8). The pots were placed in 190 L (50 gallon) tanks in a heated greenhouse where water temperatures ranged from 17.6 – 27.8 °C. After 29 days plant growth was evaluated by determining the species of plants that regrew and in the case of Eurasian watermilfoil measuring the height of each plant.

Table 2. Yearly comparisons of the number and size of invasive species patches in Candlewood Lake.

Year	Patch Size (acres)											
	Eurasian watermilfoil				Minor naiad				Curlyleaf pondweed			
	Number	(min)	(max)	(mean)	Number	(min)	(max)	(mean)	Number	(min)	(max)	(mean)
2012	637**	0.0002	29.8	0.8	83	0.0002	4.0	0.4	0	0	0	0
2011	485	0.0002	13.5	0.7	46	0.0002	4.4	0.4	1	0.0002	0.0002	0.0002
2010	324	0.0002	35.6	1.6	47	0.0170	6.6	0.4	1	1.00	1.00	1.00
2009	489	0.0002	39.6	0.8	50	0.0002	7.9	0.5	1	0.67	0.67	0.67
2008	469	0.0002	28.1	1.0	26	0.0006	5.5	0.4	5	0.0002	0.10	0.03
2007	489	0.0002	24.9	0.4	31	0.0003	5.0	0.4	1	0.07	0.07	0.07

*Shaded rows indicate deep drawdown years

**Patches with distinct abundance differences within an area are treated as separate patches. If combined, patch number would be 498 (see narrative).

Results and Discussion

Candlewood Lake

We found three invasive plant species in Candlewood Lake in 2012; Eurasian watermilfoil, minor naiad and curlyleaf pondweed, (Table 1, Maps 1 – 9). No new invasive species were observed. Eurasian watermilfoil continued to be the most prevalent invasive aquatic plant covering 505 acres. This compares to 331, 461, 373, 451 and 221 acres in 2011, 2010, 2009, 2008 and 2007, respectively. There were 637 patches of Eurasian watermilfoil in 2012 compared to 485 in 2011, 324 in 2010, 489 in 2009, 469 in 2008 and 489 in 2007 (Table 2). The increase in 2012 was largely because the milfoil in shallow areas along dense patches was less abundant and was treated as a separate patch (Figure 10). If the less abundant shoreline patches were combined with the more abundant deeper patches the total patch number would be 498. The phenomenon was likely because the warm winter resulted in poor control of milfoil in the areas exposed to the shallow drawdown. Mean patch size of Eurasian watermilfoil was 0.8 acres in 2012, compared to 0.7, 1.6, 0.8, 1.0 and 0.4 in 2011, 2010, 2009, 2008 and 2007, respectively.

The largest patch of Eurasian milfoil in 2012 was located in and around Brookfield Bay (Map 6) and encompassed 30 acres (Table 2). In previous shallow drawdown years, the largest patches were 30 - 40 acres and occurred in Danbury Cove or Echo Bay. The inconsistency in the largest patch location from year to year may be related to weather conditions during the drawdown or other poorly documented factors. Average abundance of Eurasian

Table 3. Yearly comparisons of the abundance of invasive species in Candlewood Lake.

Year	Patch Abundance (1 = sparse - 5 = dense)								
	Eurasian watermilfoil			Minor naiad			Curlyleaf pondweed		
	(min)	(max)	(mean)	(min)	(max)	(mean)	(min)	(max)	(mean)
2012	1	5	3.1	2	5	2.6	0	0	0
2011	1	5	1.8	1	4	2.1	2	2	2.0
2010	1	5	3.3	2	3	2.1	1	1	1.0
2009	1	5	2.1	1	4	1.9	1	1	1.0
2008	1	5	3.0	2	4	1.5	1	1	1.0
2007	1	5	2.9	1	4	2.1	2	2	2.0

*Shaded rows indicate deep drawdown years

watermilfoil patches (Table 3) increased from 1.8 in 2011 to 3.1 in 2012. This follows a pattern of patch abundances of near 3.0 in the shallow drawdown years compared to abundances of 1.8 - 2.9 in the deep drawdown years. Changes in milfoil coverage, patch number, size and abundance are likely related to differences in drawdown practices and corresponding weather conditions during the period when the sediment is exposed (Marsicano, 2009). The near record warm winter and short duration of the 2012 drawdown probably protected many areas of exposed milfoil from lethal conditions. We found 32 acres of minor naiad in 2012 compared to 19 in 2011, 21 in 2010, 26 in 2009, 11 in 2008 and 12 in 2007 (Table 1). This large increase was surprising as 2011 and 2010 featured only 19 and 21 acres, respectively. The number of minor naiad patches also showed a dramatic increase from previous years with 83 patches found in 2012 compared to 26 - 50 in our previous surveys. The largest patch was in Brookfield Bay (Map 6) and covered 4.0 acres. Minor naiad patches averaged 0.4 acres in 2012 which is similar to previous years (Table 2). The mean patch abundance of minor naiad (Table 3) shows a slight increase from previous years with a rating of 2.6. Minor naiad appears to be less affected by drawdown than Eurasian watermilfoil probably because it is an annual plant that propagates from drawdown resistant seeds. We found no curlyleaf pondweed during our summer surveillance but our spring survey showed the plant was present in small patches in Allen's Cove, Danbury Cove and Echo Bay (Maps 1, 8, 9). A total of one acre of curlyleaf pondweed was found during the spring survey. All of it occurring at depths of 1 - 3 meters. The mean patch size of curlyleaf pondweed was 0.04 acres and the mean abundance was 1.1. This small acreage and abundance of curlyleaf pondweed suggests that this invasive species is having difficulty establishing in Candlewood Lake.

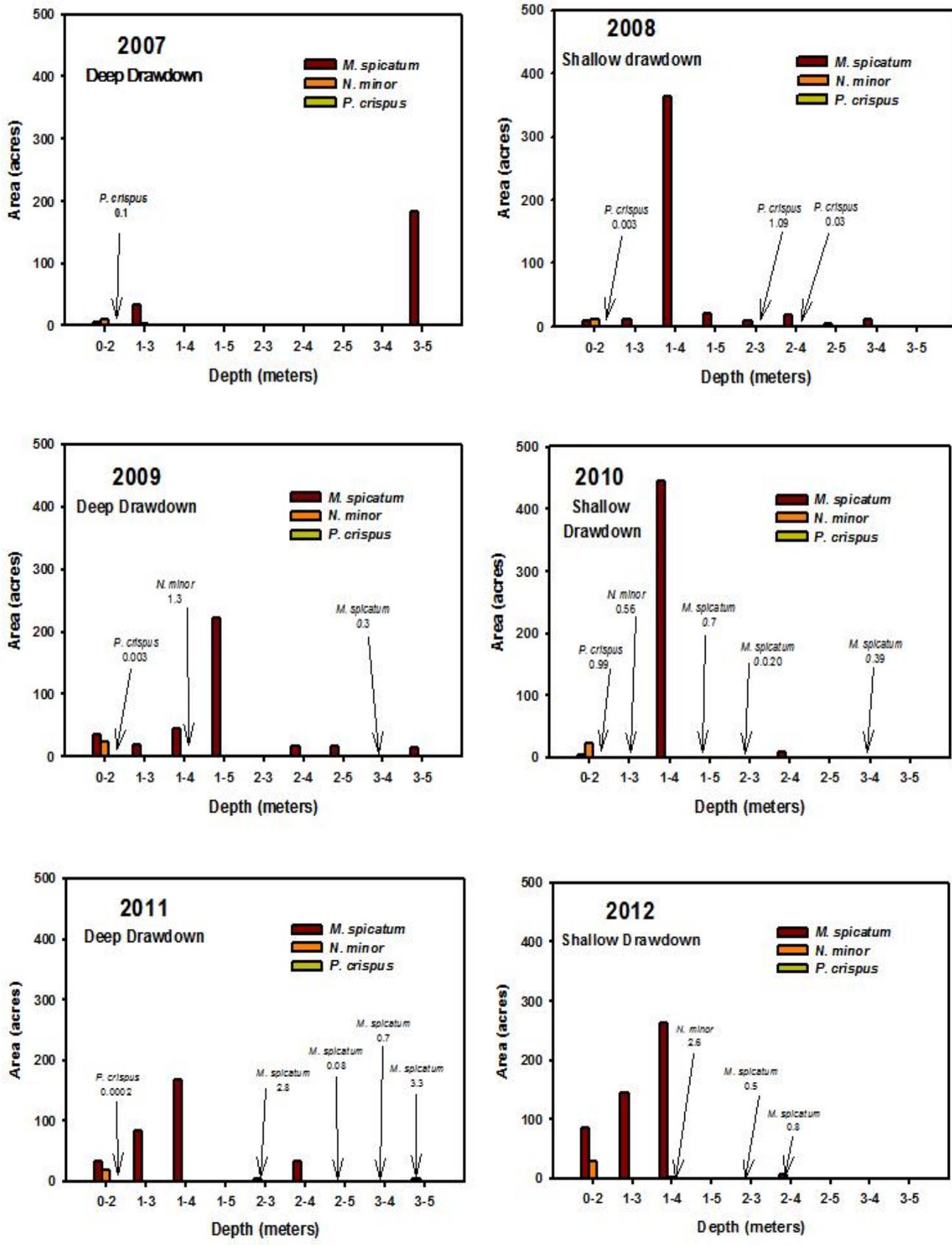


Figure 3. Yearly comparisons of depth preferences of invasive plants in Candlewood Lake.

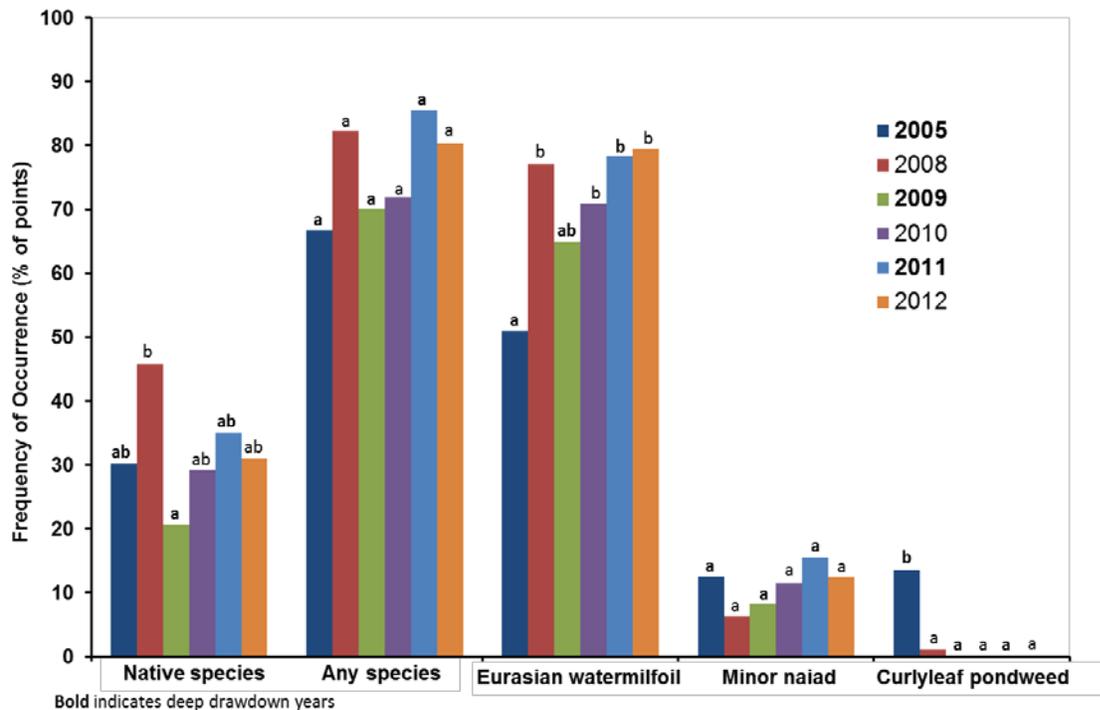


Figure 4. Yearly frequency of occurrence of aquatic vegetation on transects in Candlewood Lake. Bars with the same letter within a species are not statistically different.

Depth preferences of invasive species in Candlewood Lake may change from year to year because of drawdowns, summer water levels and natural variation in plant communities. In 2012, the majority of Eurasian watermilfoil (309 acres, 80.5% of total) occurred at a depth of 1 - 3 or 1 - 4 meters (Figure 3). At depths of 0 - 2 meters 86.9 acres (17.1% of the total) was inhabited by Eurasian watermilfoil compared to 30 acres (10% of the total) in 2011 and 2009 and <5 acres in the 2007, 2008 and 2010. This increase in Eurasian watermilfoil in the areas exposed to the shallow drawdown in 2012 is likely because of the mild winter and short drawdown time. Water clarity and associated light restriction at depths of >5 meters is the likely cause for Eurasian watermilfoil to be absent at greater depths. Minor naiad was limited to depths of 0 - 2 meters in all years. The restriction of minor naiad to shallow water is probably because it rarely grows more than 1 m in height and is light-limited at deeper depths.

In 2012, the frequency of occurrence of Eurasian watermilfoil on transects (Figure 4) was 79.4%. This is only statistically different ($p < 0.05$) from the 51.0% found in 2005. The frequency of occurrence of minor naiad in 2012 was 12.4% and not statistical different than

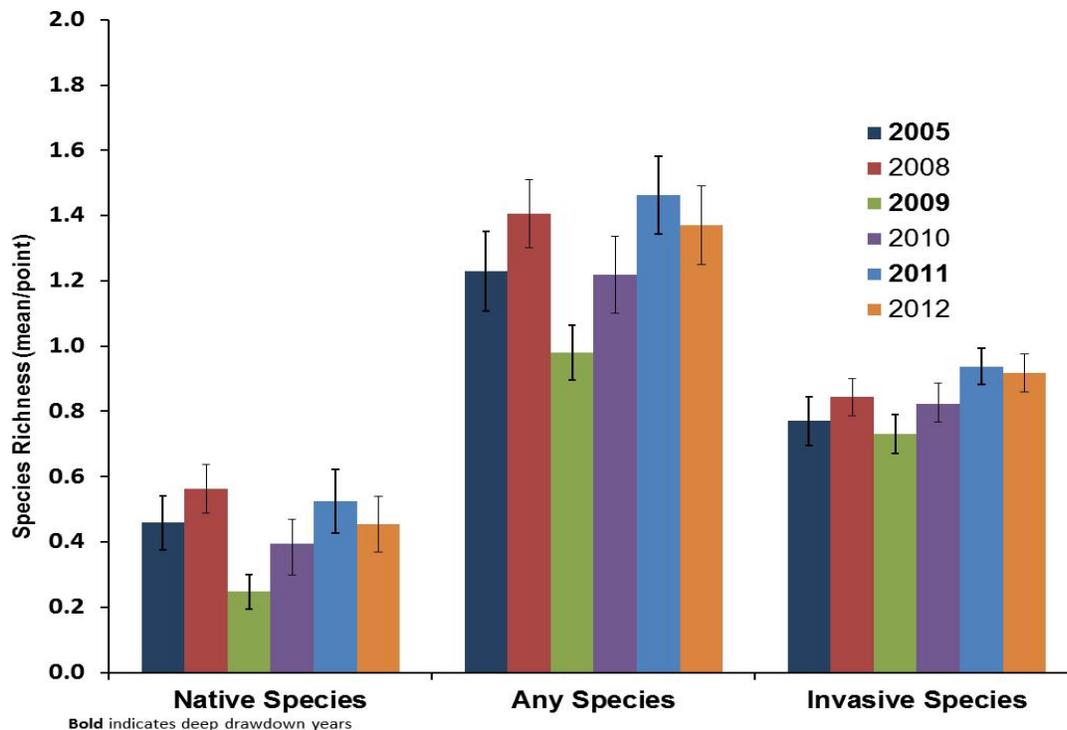


Figure 5. Yearly comparisons of average number of plant species per transect in Candlewood Lake. Error bars equal +/- one standard error of the mean.

the previous years. We did not find curlyleaf pondweed on transects in 2012. The mean invasive species richness (number of plant species) per transect point was 0.9 in 2012 compared to a low of 0.7 in 2009 (Figure 5). With the exception of 2011, the deep drawdown years tend to have slightly lower species richness than the shallow drawdown years.

Overall native species richness on the transects were 10 in 2012, 8 in 2011, 8 in 2010, 7 in 2009, 11 in 2008, and 14 in 2005 (Table 1). Robust populations of non- nuisance native species are sometimes considered an indicator of a healthy aquatic ecosystem. In addition, they may decrease the invasibility of non-native species (Capers et al., 2007). Some species rich Connecticut lakes contain over 30 plants species (CAES IAPP, 2013). Waterwort (*Elatine sp.*), spikerush (*Eleocharis sp.*) and watermeal (*Wolffia sp.*) were found in 2012 but not in 2005. Water starwort (*Callitriche sp.*), waterweed (*Elodea nuttallii*), nodding waternymph (*Najas flexilis*), variable leaf pondweed (*Potamogeton gramineus*), small pondweed (*Potamogeton pusillus*), great duckweed (*Spirodela polyrhiza*), and horned pondweed (*Zannichellia palustris*) were present in 2005 but not in 2012. Nodding waternymph and great duckweed (*Spirodela polyrhiza*) were present on transects in 2011

Table 4. Yearly comparison of the coverage of invasive aquatic plants in Candlewood Lake's littoral zone (0-5m).

Scientific Name	Common Name	Year	Area (%)
<i>Myriophyllum spicatum</i>	Eurasian watermilfoil	2012	62.3
		2011	40.9
		2010	56.9
		2009	46.0
		2008	55.7
		2007	27.3
<i>Najas minor</i>	Minor naiad	2012	4.0
		2011	2.3
		2010	2.6
		2009	3.2
		2008	1.3
		2007	1.5
<i>Potamogeton crispus</i>	Curly leaf pondweed	2012	0.0
		2011	<0.1
		2010	0.1
		2009	<0.1
		2008	<0.1
		2007	<0.1

but not in 2012. The 2010-2012 reversal in the decreasing number of native species found from 2005-2009 is encouraging and may be because of the less efficient winter drawdowns.

When frequency of occurrence and species richness is high, biodiversity is often considered optimal. The frequency of occurrence of any species (native + invasive) on transect points (Figure 4) has ranged between 67% and 86% from 2005-2012 but these differences are not statistically significant ($p > 0.05$). The frequency of occurrence of native species in 2012 was 30.9% which was not statistically different from any previous year. The average native species richness on transect points in 2012 was 0.5 (Figure 5). This is only statistically different from 2009 when the native species richness was 0.2. In 2012, the average invasive species richness per transect point was 0.9 which is not statistically different to 2011 (± 1 SEM). These data suggest that species richness for both native and invasive species has increased slightly since 2009.

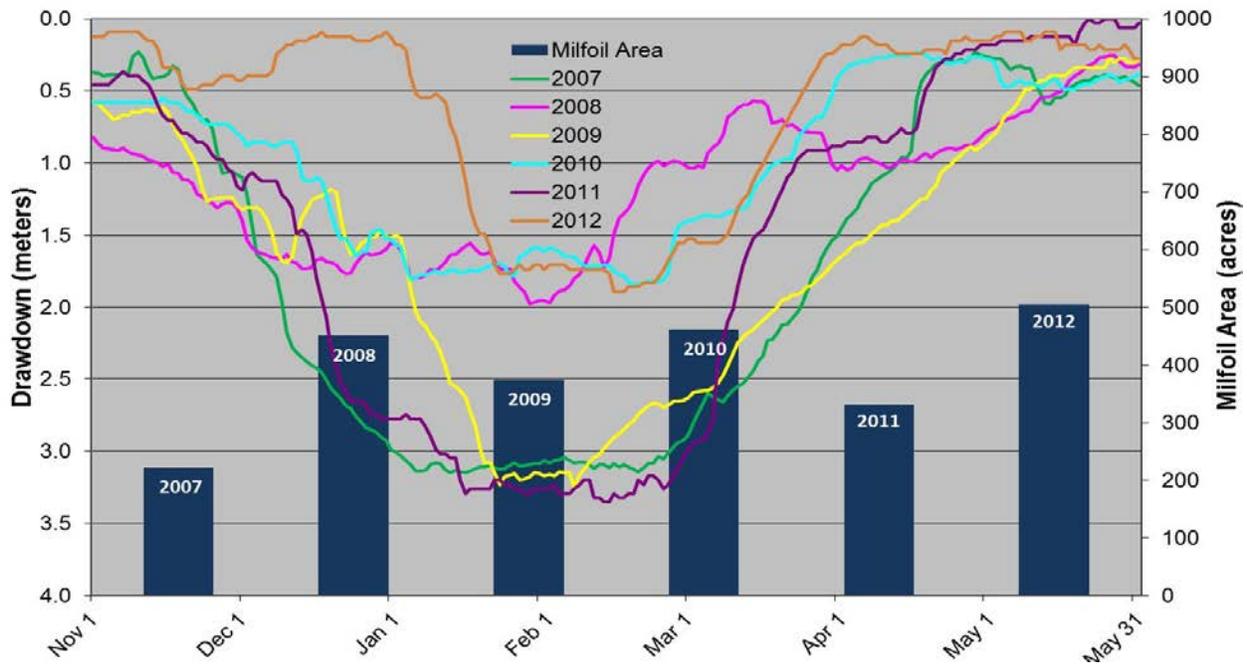


Figure 6. Yearly comparisons of drawdown depth and duration with milfoil area.

Coverage of the littoral zone by aquatic vegetation is sometimes used to infer whether optimum habitat is available for fish and other aquatic organisms. From 20% to 40% vegetative coverage is stated as optimal in Connecticut lakes (Jacobs and O'Donnell, 2002). This range does not take into account whether the vegetation inhabits the entire water column, as is often the case with Eurasian watermilfoil, or whether it hugs the bottom as is common with many native plants. We used a depth of five meters (15 feet) as the littoral zone limit in Candlewood Lake because it best corresponds to our field observations. Candlewood Lake has a littoral zone of 810 acres or 16 percent of the total lake area (Bugbee, 2011). Eurasian watermilfoil occupied 62 percent of the littoral zone in 2012 representing the greatest coverage since we began our surveys (Table 4). In the previous shallow drawdown years of 2010 and 2008, Eurasian watermilfoil covered 57 and 56 percent of the littoral zone respectively. Again, the relative ineffectiveness of the 2012 drawdown is evident. Minor naiad covered 4.0% of the littoral zone in 2012 eclipsing the previous high of 3.2% in 2009. Curlyleaf pondweed was not present during our summer 2012 survey. In years such as 2007, when apparently the most effective deep drawdown reduced milfoil coverage to 27.3%, the optimal 20 - 40% littoral zone coverage was satisfied by Eurasian watermilfoil alone. When combined with the area of the other native and invasive species, the optimal range is exceeded.

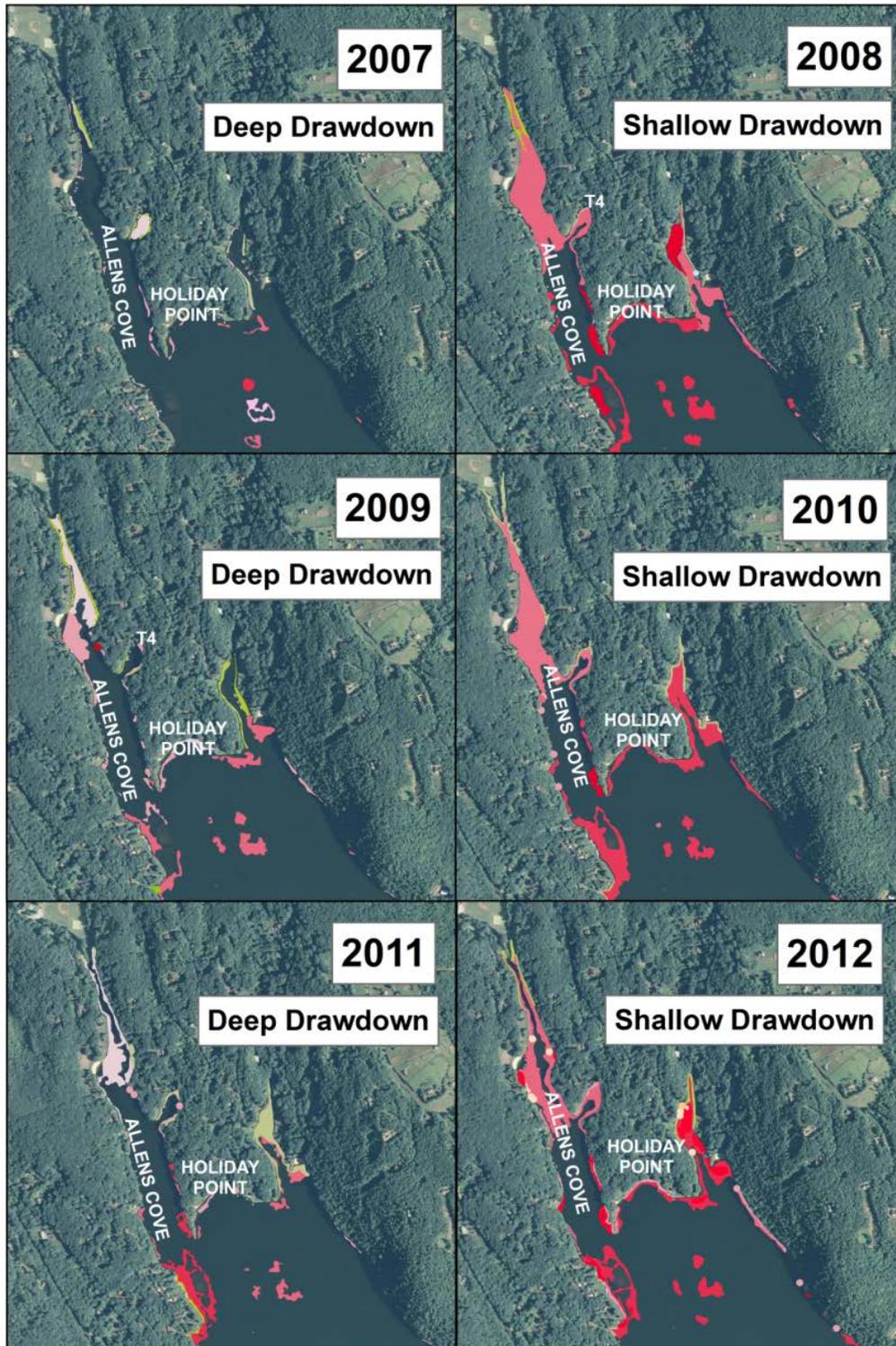


Figure 7. Comparison of the coverage and abundance of Eurasian watermilfoil in Allen's Cove from 2007 to 2012. Darker pink colors indicate greater abundance.



Figure 8. Accumulation of fragmented Eurasian watermilfoil in Echo Bay during winter drawdown.

2012 Drawdown:

The 2012 winter drawdown was the shortest shallow drawdown since we began our surveys in 2007 (Figure 6). In addition, the winter of 2012 was one of the warmest on record. These factors likely resulted in the observed poor suppression of Eurasian watermilfoil and the increase of minor naiad. Further support for this observation is the largest increases in of Eurasian watermilfoil and minor naiad coverage occurred in the 0-2m depth range. Eurasian watermilfoil coverage in Allen's Cove from 2007 - 2012 (Figure 7) are least in the deep drawdown years with rapid regrowth in the shallow drawdown years. Rapid regrowth in areas exposed to drawdown could be because of in situ plant survival or movement of plant propagules such as milfoil stem fragments or minor naiad seeds. Our visit on 2/21/12 found extensive areas of dislodged milfoil fragments being worked into the shoreline sediment by wave action (Figure 8). Samples of these fragments were brought back to our lab and found to be viable. Thus wave action may be breaking off milfoil stems and efficiently planting them by wave action on the windward shoreline. In this scenario, some areas may be heavily infested in one year and not the next because of differences in wind patterns during key times in the drawdown. This appears to be the case in 2012 as a reference area outside of Lattin's Cove (Figure 9) did not exhibit the same increase in milfoil as areas



Figure 9. Eurasian watermilfoil abundance from 2010 (left), 2011 (center) and 2012 (right). This reference area did not reflect the overall lake trend of increased milfoil abundance in 2012.



Figure 10. Aerial view of dense Eurasian milfoil in Danbury Cove near the town beach. Note the distinct differences in abundance between the shallow (0-1m) and deeper (1-4m) areas.

such as Danbury Cove (Figure 10). To determine if the regrowth of milfoil was because the drawdown did not control the plant root systems, we obtained sediment containing milfoil root systems from two sites in Allen's Cove, one site in Echo Bay and one site in Lattin's Cove. In all sites milfoil from the previous year was evident. The sediment was obtained just prior to the beginning of the refill process from the one meter depth range. We immediately placed the potted sediment in a tank in our greenhouse to determine what plants had survived. After only 14 days approximately half of the pots had actively growing Eurasian watermilfoil and after 3 weeks minor naiad was observed in over 90 percent of the pots. Eurasian watermilfoil was growing from established root systems while minor naiad appeared to have germinated from seeds. After 29 days Eurasian watermilfoil was present in all of the

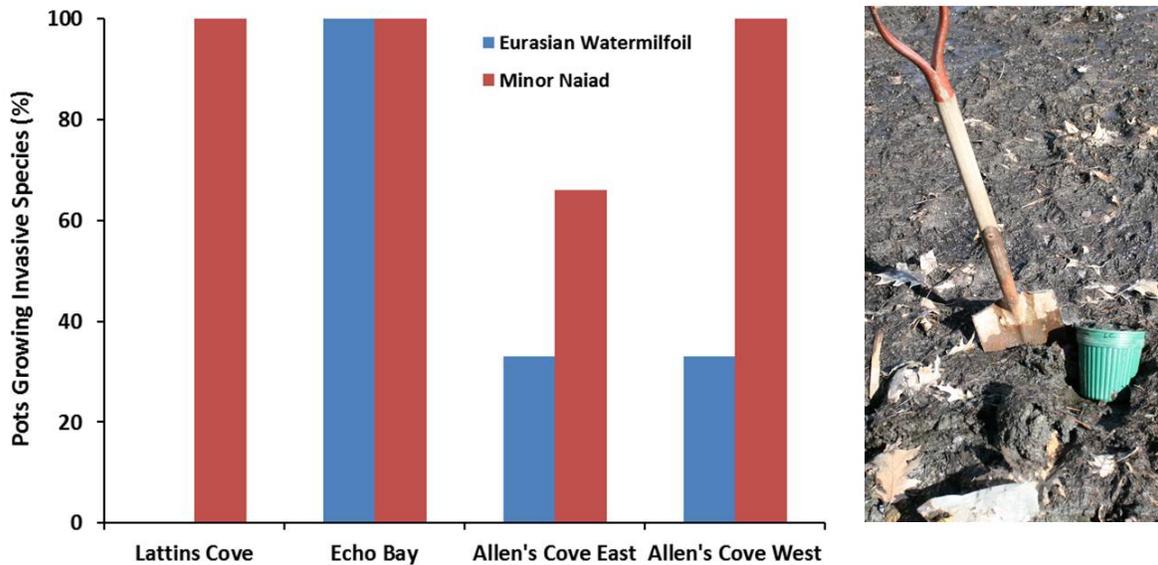
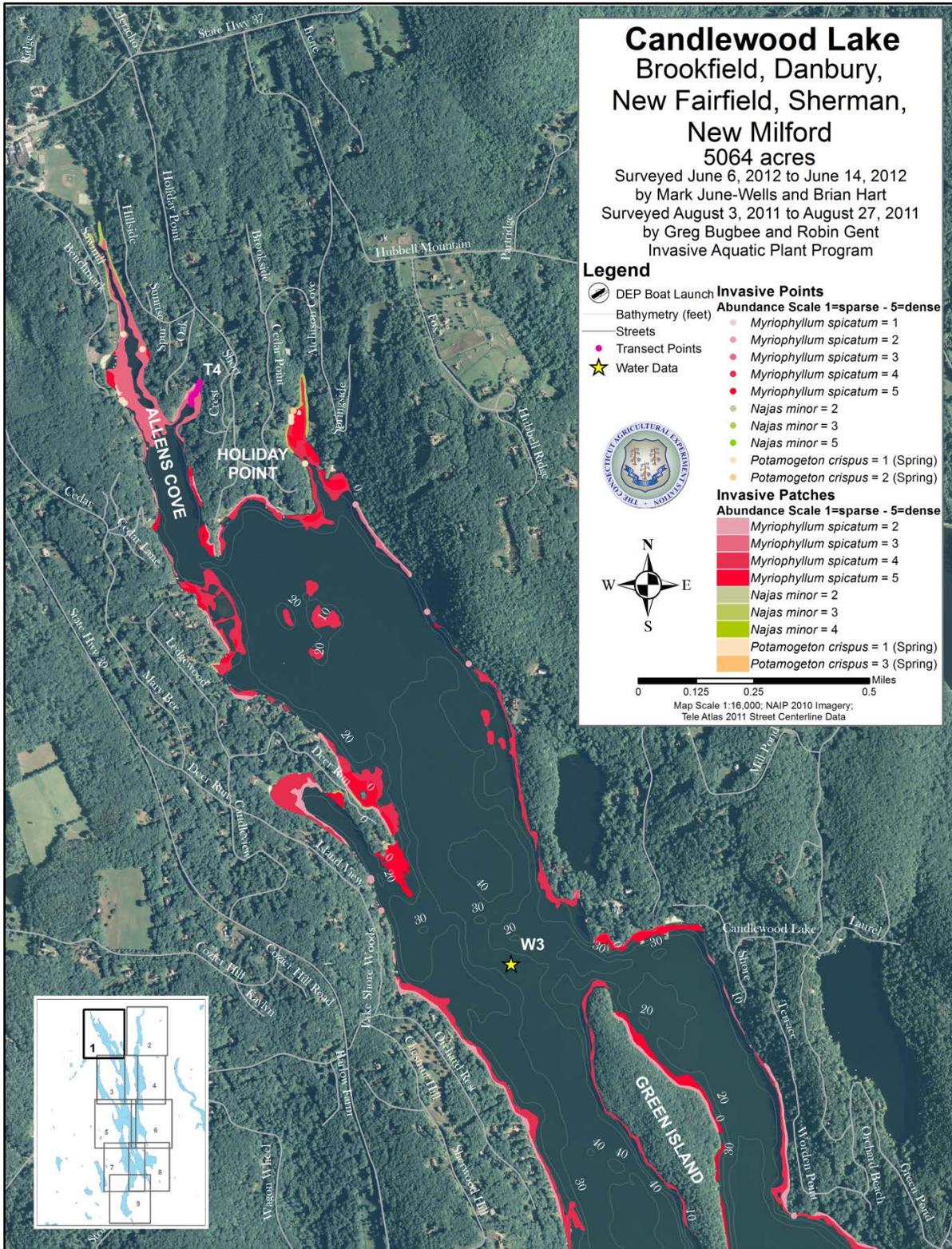
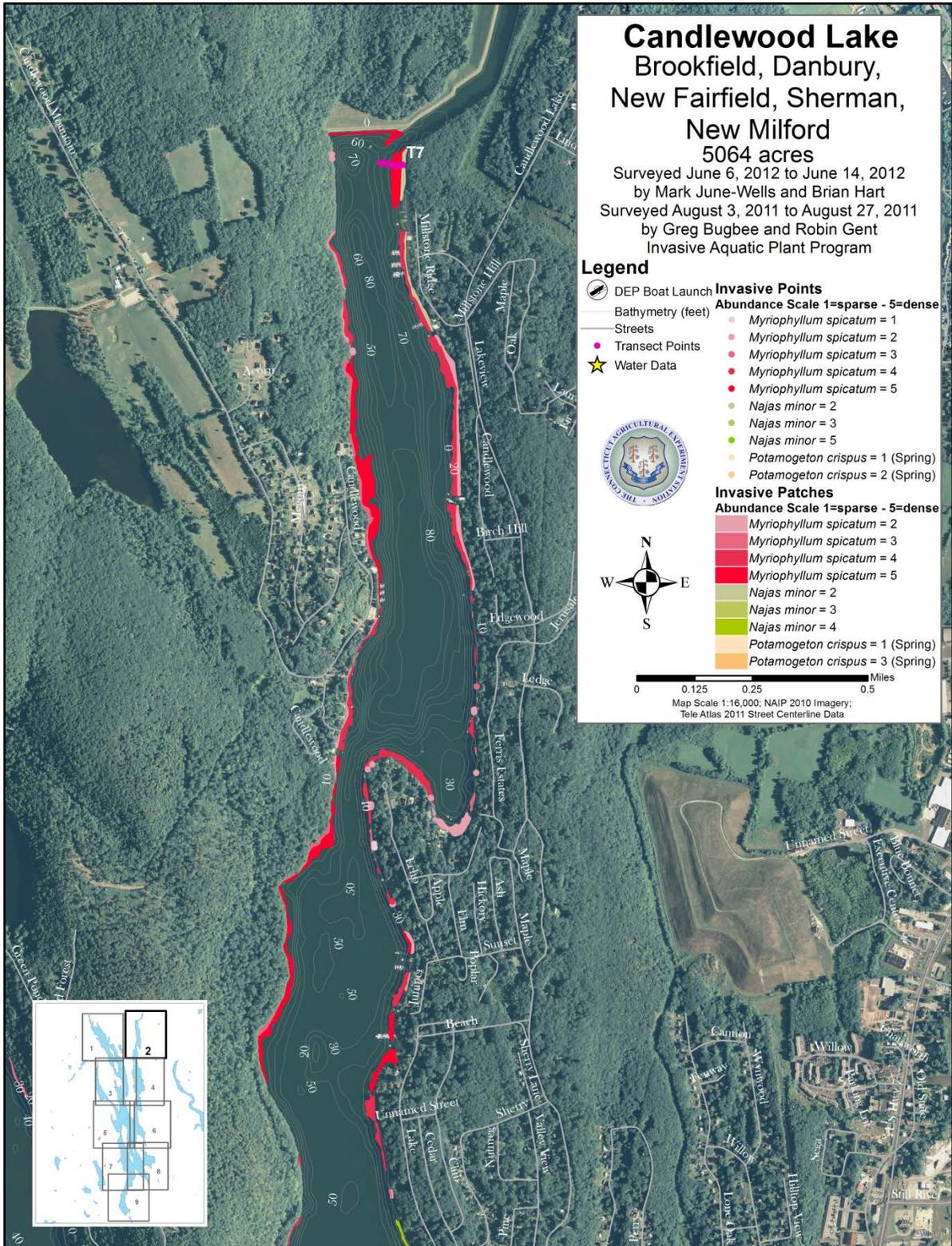


Figure 11. Growth of invasive aquatic plants (left) in sediment obtained after drawdown (right).

pots from Echo Bay (Figure 11) and a third of the pots from Allen's Cove east and west. No plants were present in the pots from Lattin's Cove. Minor naiad was present in all pots from all sites except Allen's Cove east where it appeared in two-thirds of the pots. Because minor naiad spreads by seeds, it was possible seeds moved from pot to pot by turbulence in the tank. This study suggests that the 2012 drawdown was at best partially effective at controlling established Eurasian watermilfoil and had little effect on minor naiad.





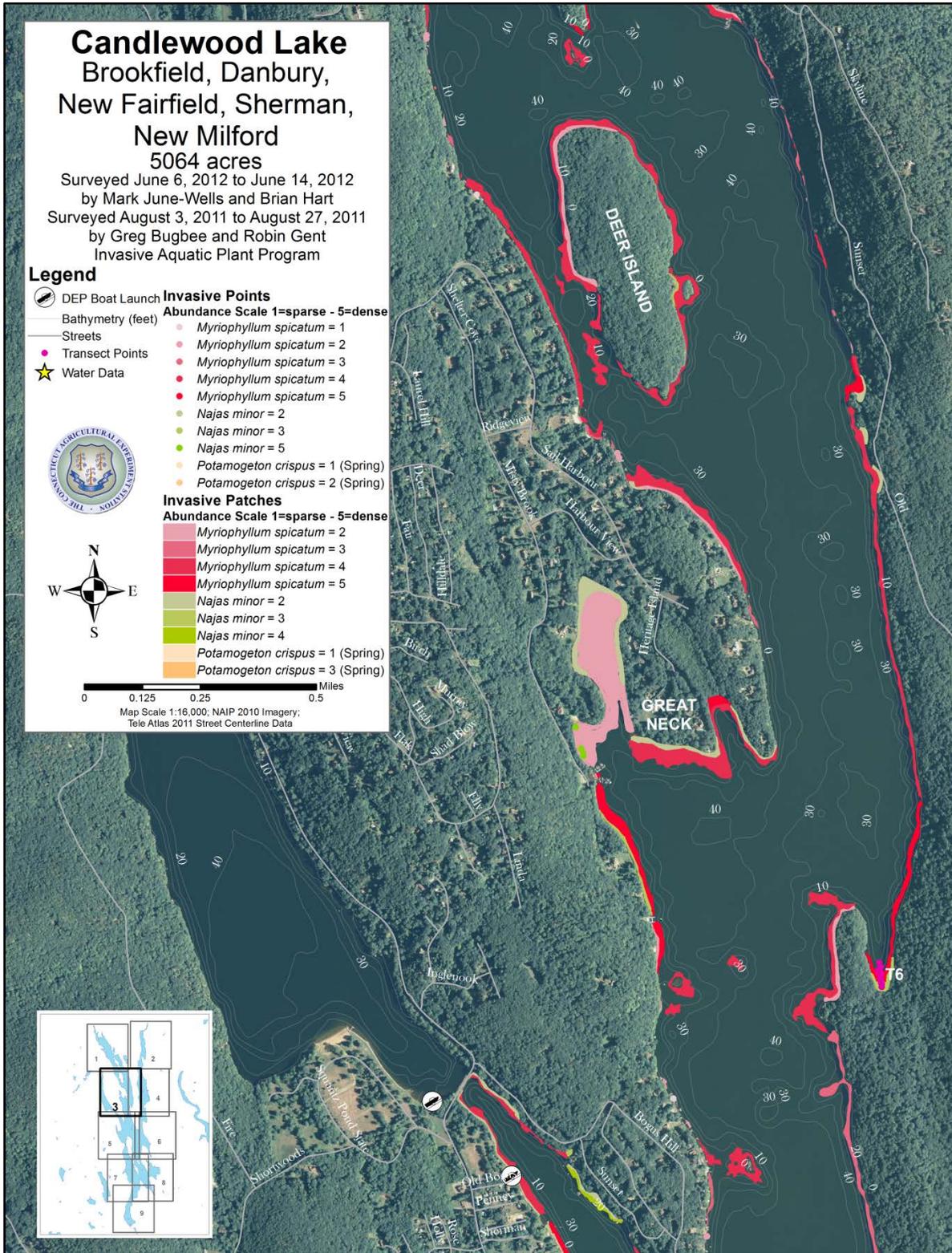
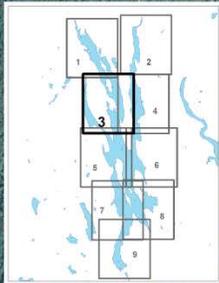
Candlewood Lake

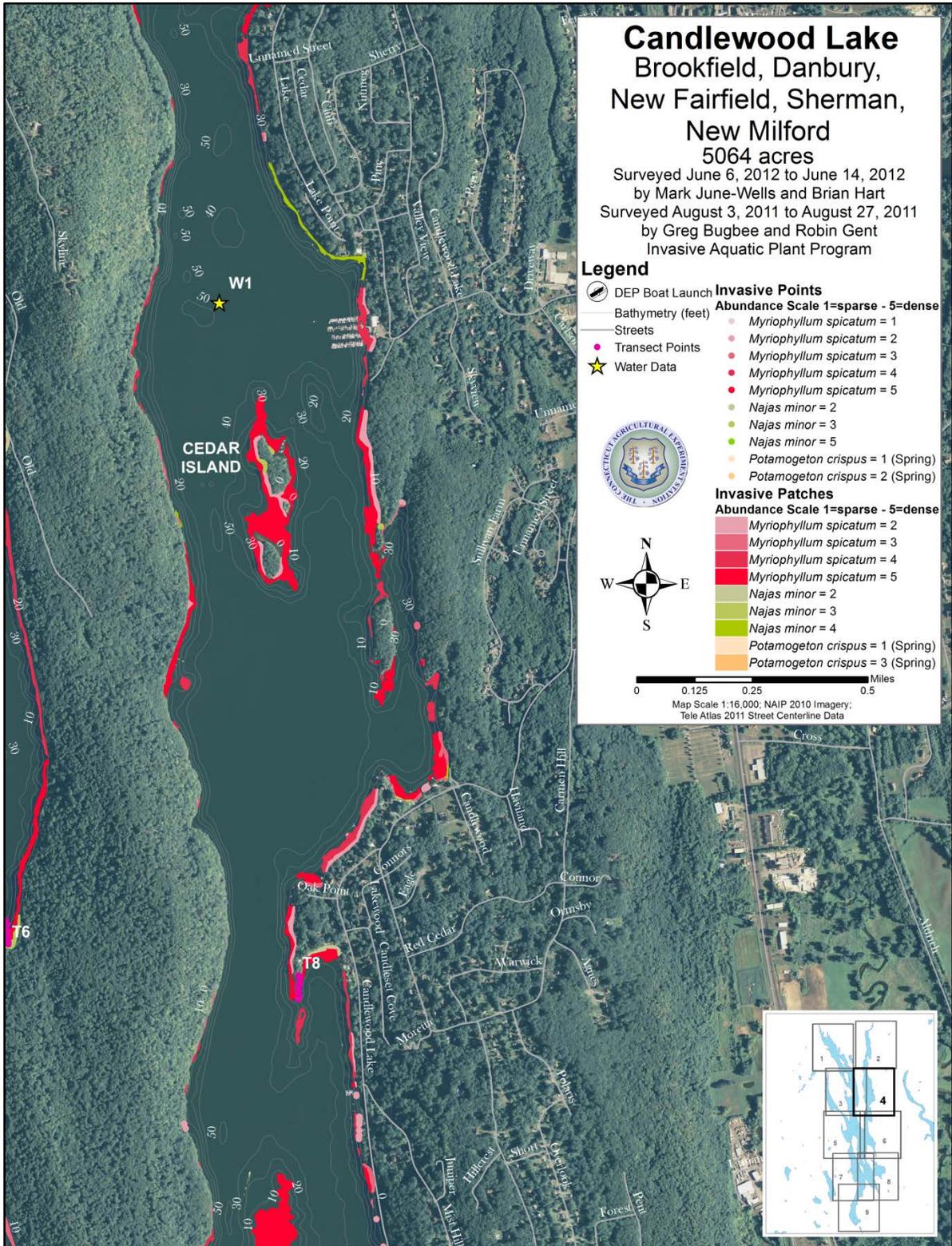
Brookfield, Danbury,
New Fairfield, Sherman,
New Milford

5064 acres
 Surveyed June 6, 2012 to June 14, 2012
 by Mark June-Wells and Brian Hart
 Surveyed August 3, 2011 to August 27, 2011
 by Greg Bugbee and Robin Gent
 Invasive Aquatic Plant Program

Legend

- DEP Boat Launch
 - Bathymetry (feet)
 - Streets
 - Transect Points
 - Water Data
- Invasive Points**
 Abundance Scale 1=sparse - 5=dense
- Myriophyllum spicatum* = 1
 - Myriophyllum spicatum* = 2
 - Myriophyllum spicatum* = 3
 - Myriophyllum spicatum* = 4
 - Myriophyllum spicatum* = 5
 - Najas minor* = 2
 - Najas minor* = 3
 - Najas minor* = 5
 - Potamogeton crispus* = 1 (Spring)
 - Potamogeton crispus* = 2 (Spring)
- Invasive Patches**
 Abundance Scale 1=sparse - 5=dense
- Myriophyllum spicatum* = 2
 - Myriophyllum spicatum* = 3
 - Myriophyllum spicatum* = 4
 - Myriophyllum spicatum* = 5
 - Najas minor* = 2
 - Najas minor* = 3
 - Najas minor* = 4
 - Potamogeton crispus* = 1 (Spring)
 - Potamogeton crispus* = 3 (Spring)
- Map Scale 1:16,000; NAIP 2010 Imagery;
 Tele Atlas 2011 Street Centerline Data





Candlewood Lake

Brookfield, Danbury,
New Fairfield, Sherman,
New Milford

5064 acres
 Surveyed June 6, 2012 to June 14, 2012
 by Mark June-Wells and Brian Hart
 Surveyed August 3, 2011 to August 27, 2011
 by Greg Bugbee and Robin Gent
 Invasive Aquatic Plant Program

Legend

DEP Boat Launch
 Bathymetry (feet)
 Streets
 Transect Points
 Water Data

Miles
 0 0.125 0.25 0.5

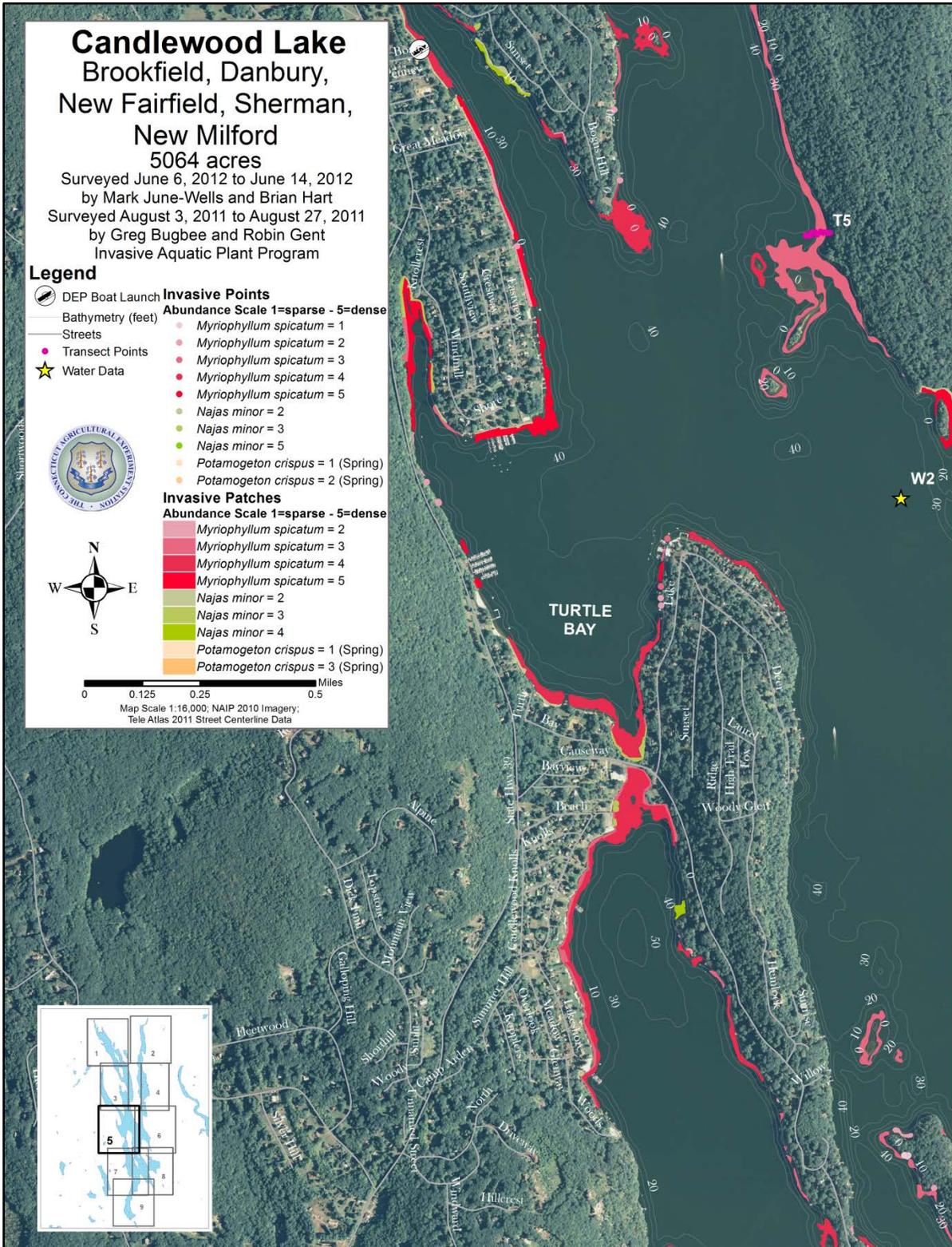
Map Scale 1:16,000; NAIP 2010 Imagery;
 Tele Atlas 2011 Street Centerline Data

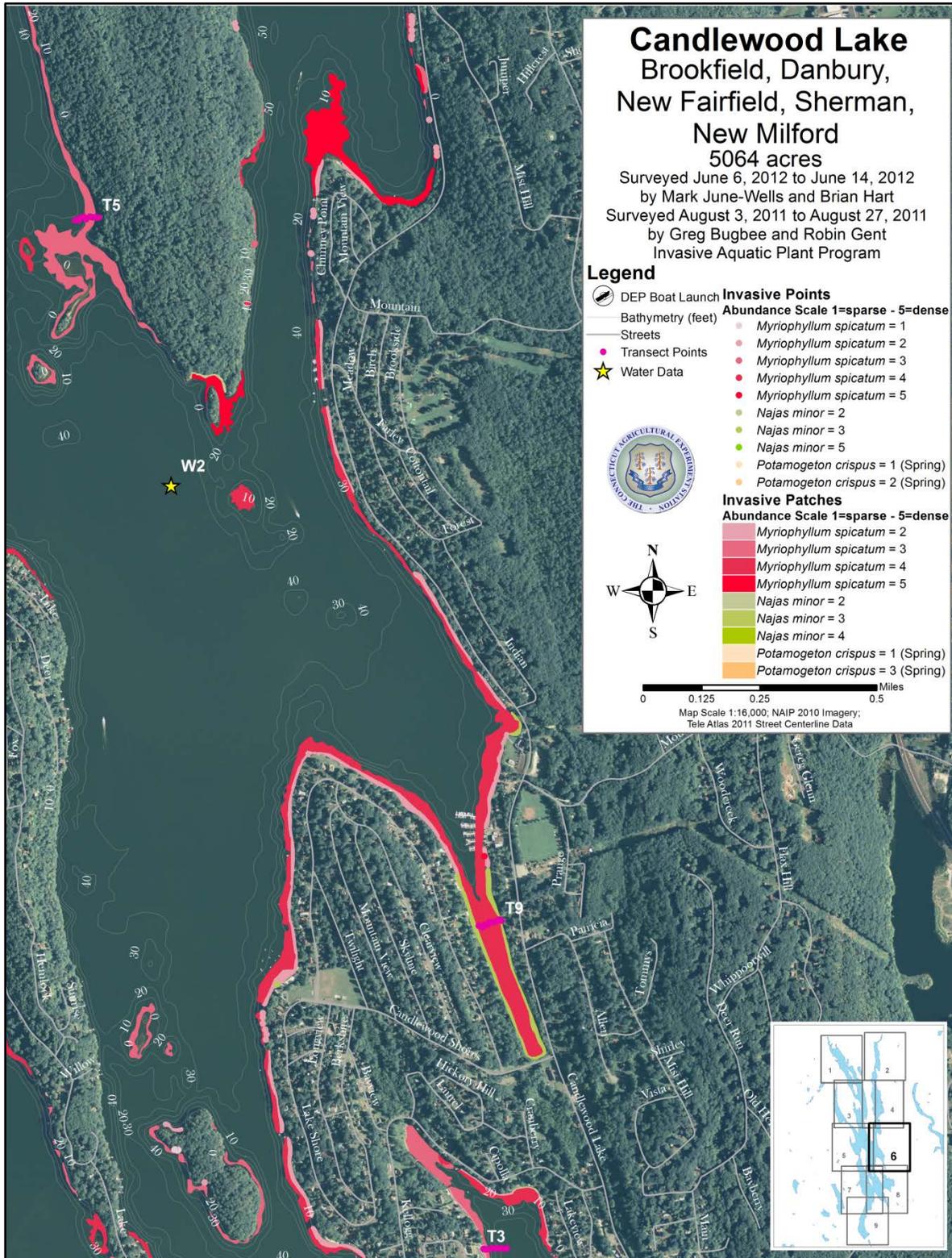
Invasive Points
 Abundance Scale 1=sparse - 5=dense

- Myriophyllum spicatum* = 1
- Myriophyllum spicatum* = 2
- Myriophyllum spicatum* = 3
- Myriophyllum spicatum* = 4
- Myriophyllum spicatum* = 5
- Najas minor* = 2
- Najas minor* = 3
- Najas minor* = 5
- Potamogeton crispus* = 1 (Spring)
- Potamogeton crispus* = 2 (Spring)

Invasive Patches
 Abundance Scale 1=sparse - 5=dense

- Myriophyllum spicatum* = 2
- Myriophyllum spicatum* = 3
- Myriophyllum spicatum* = 4
- Myriophyllum spicatum* = 5
- Najas minor* = 2
- Najas minor* = 3
- Najas minor* = 4
- Potamogeton crispus* = 1 (Spring)
- Potamogeton crispus* = 3 (Spring)





Candlewood Lake

Brookfield, Danbury,
New Fairfield, Sherman,
New Milford

5064 acres
 Surveyed June 6, 2012 to June 14, 2012
 by Mark June-Wells and Brian Hart
 Surveyed August 3, 2011 to August 27, 2011
 by Greg Bugbee and Robin Gent
 Invasive Aquatic Plant Program

Legend

DEP Boat Launch
 Bathymetry (feet)
 Streets
 Transect Points
 Water Data

Map Scale 1:16,000; NAIP 2010 Imagery;
 Tele Atlas 2011 Street Centerline Data

Invasive Points

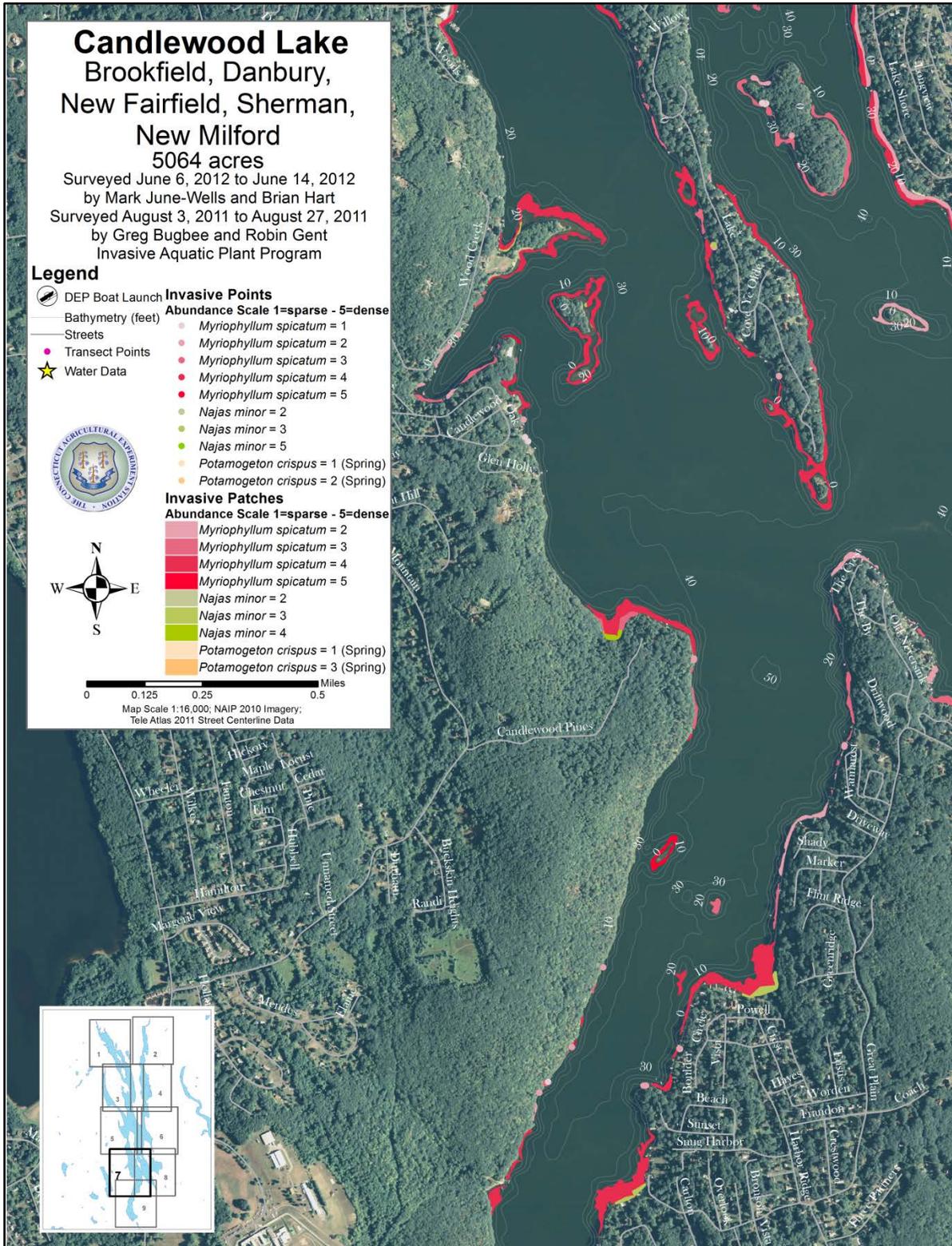
Abundance Scale 1=sparse - 5=dense

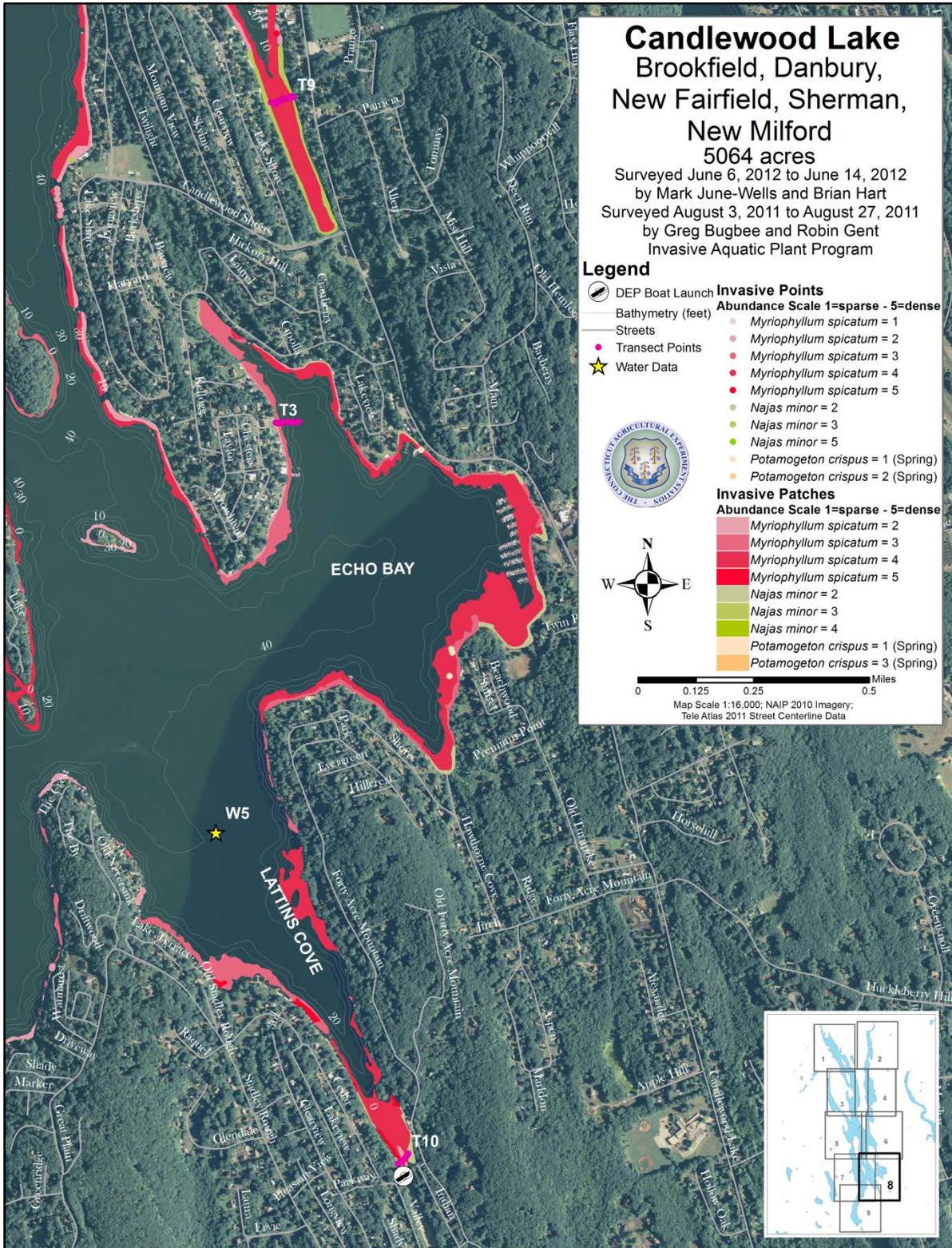
- Myriophyllum spicatum* = 1
- Myriophyllum spicatum* = 2
- Myriophyllum spicatum* = 3
- Myriophyllum spicatum* = 4
- Myriophyllum spicatum* = 5
- Najas minor* = 2
- Najas minor* = 3
- Najas minor* = 5
- Potamogeton crispus* = 1 (Spring)
- Potamogeton crispus* = 2 (Spring)

Invasive Patches

Abundance Scale 1=sparse - 5=dense

- Myriophyllum spicatum* = 2
- Myriophyllum spicatum* = 3
- Myriophyllum spicatum* = 4
- Myriophyllum spicatum* = 5
- Najas minor* = 2
- Najas minor* = 3
- Najas minor* = 4
- Potamogeton crispus* = 1 (Spring)
- Potamogeton crispus* = 3 (Spring)





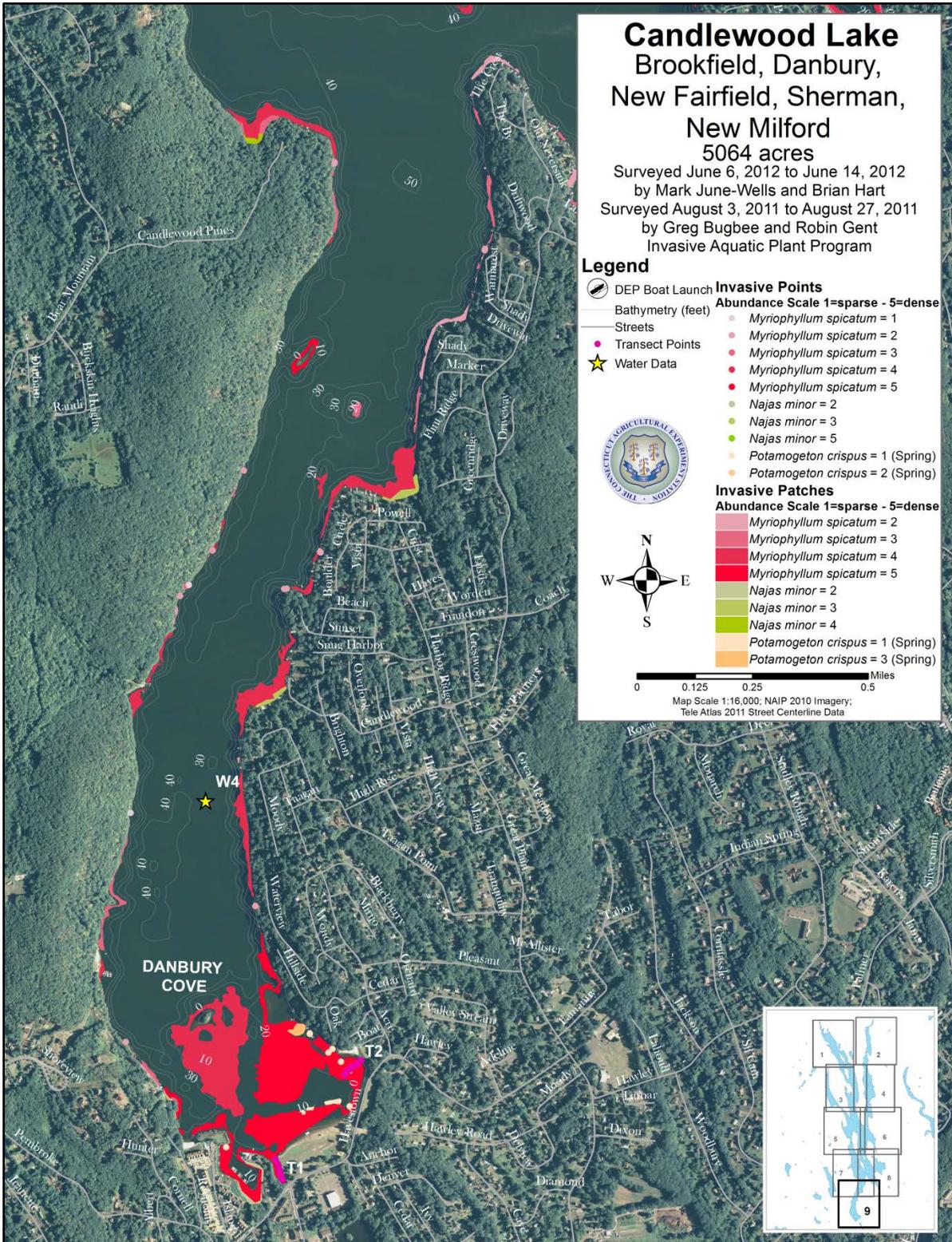


Table 5. Yearly comparisons of frequency of occurrence and total area of aquatic vegetation in Lake Lillionah.

Scientific Name	Common Name	Frequency of Occurrence (percent*)					Area (acres)		
		2007	2009	2010	2011	2012	2007	2009	2011
<i>Callitriche</i> sp.	Water starwort	1	0	0	0	0	ND**	ND	ND
<i>Ceratophyllum demersum</i>	Coontail	0	1	3	5	2	ND	ND	ND
<i>Elatine</i> sp.	Waterwort	0	0	2	1	0	ND	ND	ND
<i>Eleocharis</i> sp.	Spikerush	2	4	4	4	0	ND	ND	ND
<i>Elodea nuttallii</i>	Waterweed	0	0	0	0	0	ND	ND	ND
<i>Eriocaulon aquaticum</i>	Sevenangel pipewort	0	1	2	3	0	ND	ND	ND
<i>Isoetes</i> species	Quillwort	0	0	0	0	0	ND	ND	ND
<i>Gratiola aurea</i>	Golden hedge-hyssop	0	1	0	0	0	ND	ND	ND
<i>Lemna minor</i>	Duckweed	0	1	0	0	4	ND	ND	ND
<i>Myriophyllum spicatum</i>	Eurasian watermilfoil	16	15	25	12	39	21	19	36
<i>Najas minor</i>	Minor naiad	14	6	5	12	19	8	1	11
<i>Potamogeton bicupulatus</i>	Snailseed pondweed	0	3	0	0	0	ND	ND	ND
<i>Potamogeton crispus</i>	Curly leaf pondweed	3	0	1	5	4	0.1	<0.1	<0.1
<i>Potamogeton foliosus</i>	Leafy pondweed	0	0	4	4	1	ND	ND	ND
<i>Potamogeton illinoensis</i>	Illinois pondweed	2	2	0	0	0	ND	ND	ND
<i>Potamogeton nodosus</i>	Longleaf pondweed	0	0	0	1	2	ND	ND	ND
<i>Potamogeton pusillus</i>	Small pondweed	0	0	1	0	1	ND	ND	ND
<i>Sagittaria</i> sp.	Arrowhead	0	0	1	0	0	ND	ND	ND
<i>Sparganium</i> sp.	Bur reed	0	0	0	0	0	ND	ND	ND
<i>Stuckenia pectinata</i>	Sago pondweed	0	0	0	1	0	ND	ND	ND
<i>Trapa natans</i>	Water chestnut	0	0	0	0	0	0.00	0.00	0.001
<i>Zannichellia palustris</i>	Horned pondweed	1	0	4	1	0	ND	ND	ND
<i>Zosterella dubia</i>	Water stargrass	4	0	0	0	0	ND	ND	ND

Invasive plant
* Percent occurrence on 100 points in 10 transects
** Not Determined

Lake Lillionah

Conforming to the FERC approved alternate year cycle of whole lake then transect only surveys for Lake's Lillionah and Zoar, only transect data were obtained from Lake Lillionah in 2012 (Figure 13). We found three invasive species along transects: Eurasian watermilfoil, minor naiad, and curlyleaf pondweed. Eurasian watermilfoil was found on 39% of the transect points (Table 5). This is the highest frequency of occurrence we have found in any survey year and is significantly different from all years except for 2010 (Figure 11). The frequency of occurrence of minor naiad was 19% in 2012 which is similar to 2007 (14%) and 2011 (12%) but significantly greater than 2009 (6%) and 2010 (5%). Curlyleaf pondweed remained stable in 2012 with a frequency of occurrence of 4%. The frequency of occurrence of any species (invasive or native) in Lake Lillionah was 43% in 2012 which is nearly double that found in 2009 and 2011 (both 22%).

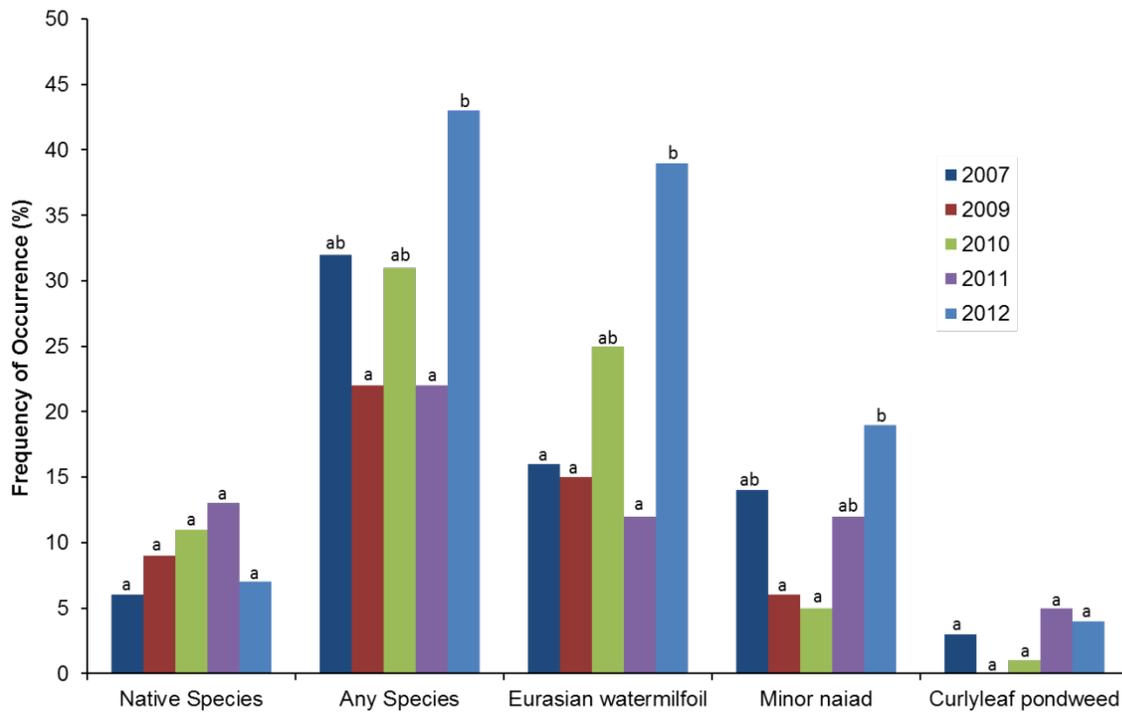


Figure 11. Yearly comparisons of the frequency of native and invasive plants on transects in Lake Lillinonah. Bars with the same letter are not significantly different.

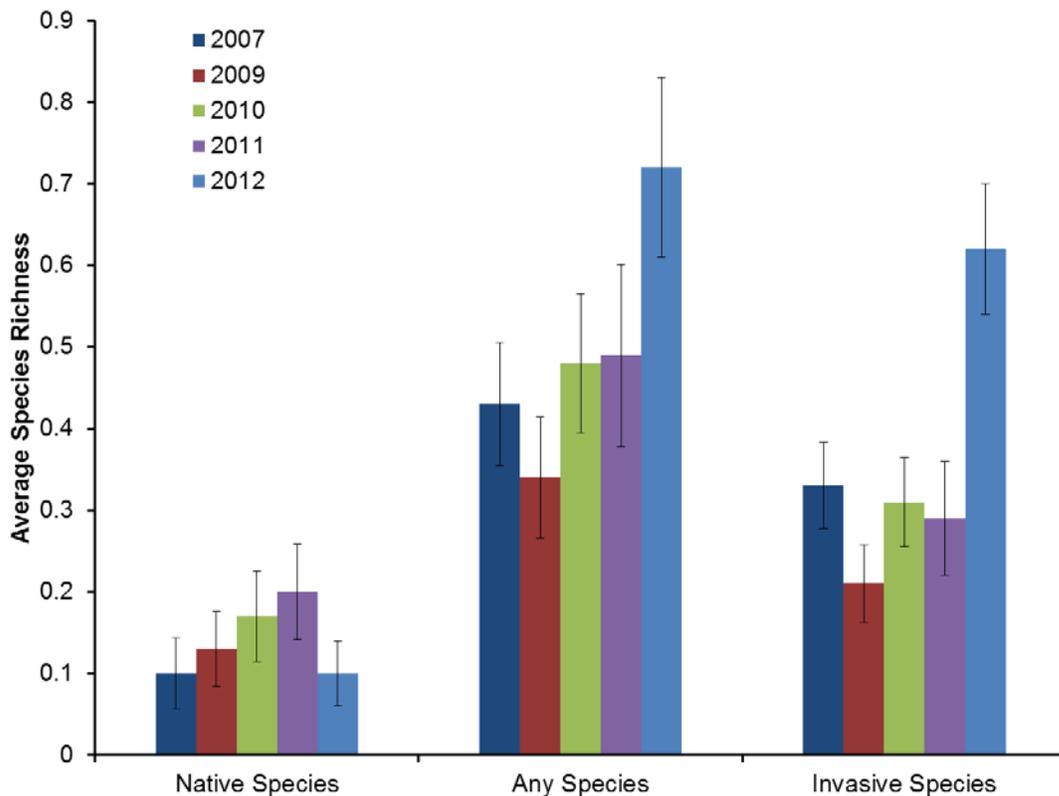


Figure 12. Yearly comparisons of the average number of species per transect point in Lake Lillinonah. Error bars equal +/- one standard error of the mean.

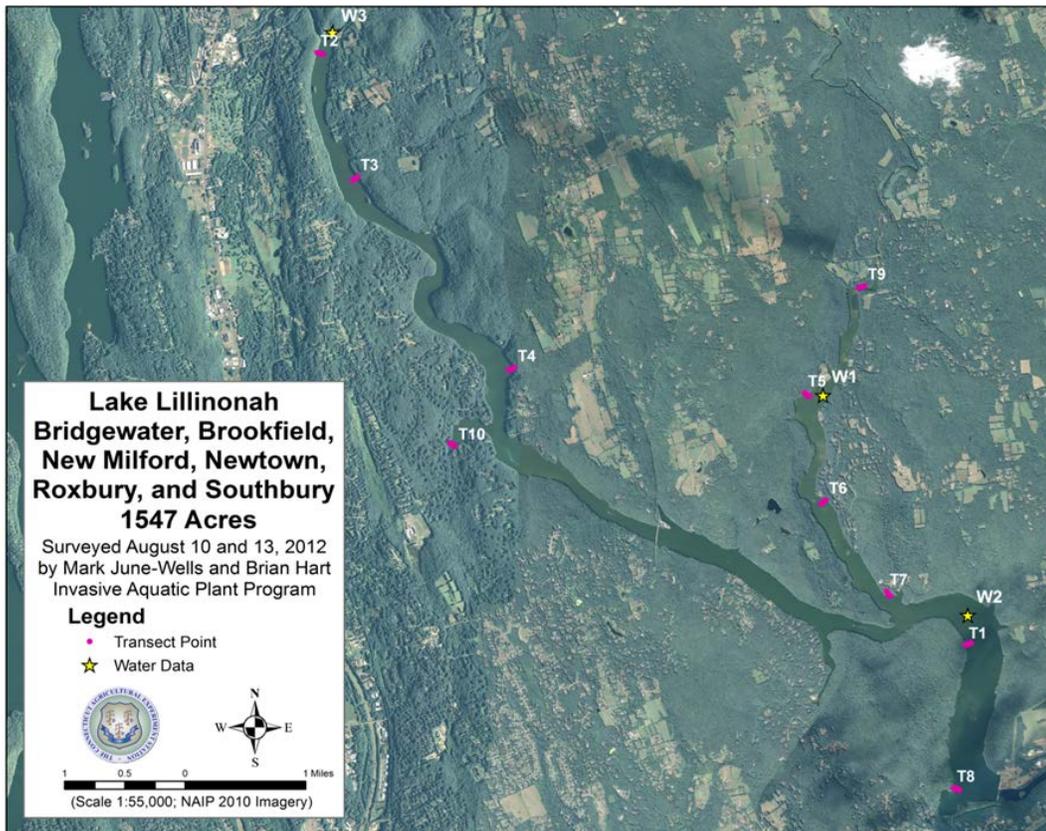


Figure 13. Locations of transects and water sampling sites in Lake Lillinonah

Five native plant species were found on Lake Lillinonah's transects in 2012, compared to eight in 2011 (Table 5). The most common was duckweed (*Lemna minor*) which was found growing along 4% of the transect points. Coontail (*Ceratophyllum demersum*) and longleaf pondweed (*Potamogeton nodosus*) were the next most common native plants being present on 2% of the points. Leafy pondweed (*Potamogeton foliosus*) and small pondweed (*Potamogeton pusillus*) were sparse (both 1%). Duckweed and small pondweed were found in 2012 but not in 2011. Overall, the number of native species found in Lillinonah has remained stable, ranging from 5-8 species.

The average species richness (number of different species) per transect point increased from 0.5 in 2011 to 0.7 in 2012. This is the highest species richness we have found to date (Figure 12). The average invasive species richness nearly doubled in 2012 (0.6) compared to past years. Conversely, the native species richness decreased for the first time in 2012, returning to the 2007 level of 0.1.

Table 6. Yearly comparisons of the frequency of occurrence and total area of aquatic vegetation in Lake Zoar.

Scientific Name	Common Name	Frequency of Occurrence (percent *)						Area (acres)			
		2007	2008	2009	2010	2011	2012	2007	2008	2010	2012
<i>Ceratophyllum demersum</i>	Coontail	3	4	23	15	7	6	ND**	ND	ND	ND
<i>Elodea nuttallii</i>	Waterweed	6	7	7	23	0	1	ND	ND	ND	ND
<i>Isoetes</i> species	Quillwort	0	0	0	0	0	0	ND	ND	ND	ND
<i>Ludwigia</i> species	Primrose-willow	0	0	0	0	1	0	ND	ND	ND	ND
<i>Marsilea quadrifolia</i>	European waterclover	0	0	0	0	0	0	<0.1	0.2	0.3	0.3
<i>Myriophyllum spicatum</i>	Eurasian watermilfoil	35	37	33	49	18	15	63	70	85	85
<i>Najas flexilis</i>	Nodding waternymph	2	1	4	2	2	0	ND	ND	ND	ND
<i>Najas minor</i>	Minor naiad	18	18	16	24	8	17	33	13	12	34
<i>Peltandra virginica</i>	Green arrow arum	0	0	0	0	1	0	ND	ND	ND	ND
<i>Potamogeton crispus</i>	Curly leaf pondweed	6	10	7	7	1	9	21	4	12	17
<i>Potamogeton epihydrus</i>	Ribbon leaf pondweed	0	0	2	0	0	0	ND	ND	ND	ND
<i>Potamogeton foliosus</i>	Leafy pondweed	2	0	0	4	1	0	ND	ND	ND	ND
<i>Potamogeton natans</i>	Floating leaf pondweed	0	0	0	0	0	0	ND	ND	ND	ND
<i>Potamogeton nodosus</i>	Long leaf pondweed	0	0	0	0	0	0	ND	ND	ND	ND
<i>Potamogeton praelongus</i>	White stem pondweed	0	0	1	1	0	0	ND	ND	ND	ND
<i>Potamogeton perfoliatus</i>	Clasping leaf pondweed	0	0	0	0	0	0	ND	ND	ND	ND
<i>Potamogeton pusillus</i>	Small Pondweed	0	0	0	0	0	0	ND	ND	ND	ND
<i>Potamogeton zosteriformis</i>	Flatstem pondweed	0	0	0	3	2	0	ND	ND	ND	ND
<i>Sagittaria</i> species	Arrowhead	0	0	0	0	0	0	ND	ND	ND	ND
<i>Stuckenia pectinata</i>	Sago pondweed	3	0	0	0	0	0	ND	ND	ND	ND
<i>Vallisneria americana</i>	Eel grass	8	6	15	6	9	11	ND	ND	ND	ND
<i>Zosterella dubia</i>	Water stargrass	1	1	0	0	0	3	ND	ND	ND	ND

Invasive plant

* Percent occurrence on 100 points in 10 transects

** Not Determined

Lake Zoar

The CAES IAPP 2012 survey of Lake Zoar reconfirmed the presence of four invasive plant species: Eurasian watermilfoil, minor naiad, curlyleaf pondweed, and European waterclover. Eurasian watermilfoil coverage was the same in 2012 (85 acres) as it was in 2010 (Table 6, Maps 1 - 5). In all our previous surveys, yearly increases occurred; 2007 - 63 acres, 2008 – 70 acres and 2010 - 85 acres. Thus, 2012 showed a stabilization in the Eurasian watermilfoil expansion. Natural habitat limitation, storm events or management practices such as harvesting and herbicide applications (Knoecklein 2012, Figure 14) may be the cause. Minor naiad acreage showed a large increase in 2012 (34 acres) compared to 2010 (12 acres) and returned to coverage not seen since 2007 (33 acres). Because minor naiad is a seed-borne annual, seedling success related water flow during storm events may explain the differences. Our 2012 transect data show a continued decrease in the frequency of occurrence of Eurasian watermilfoil from previous surveys (2012 - 15%, 2011 - 18%, 2010 -

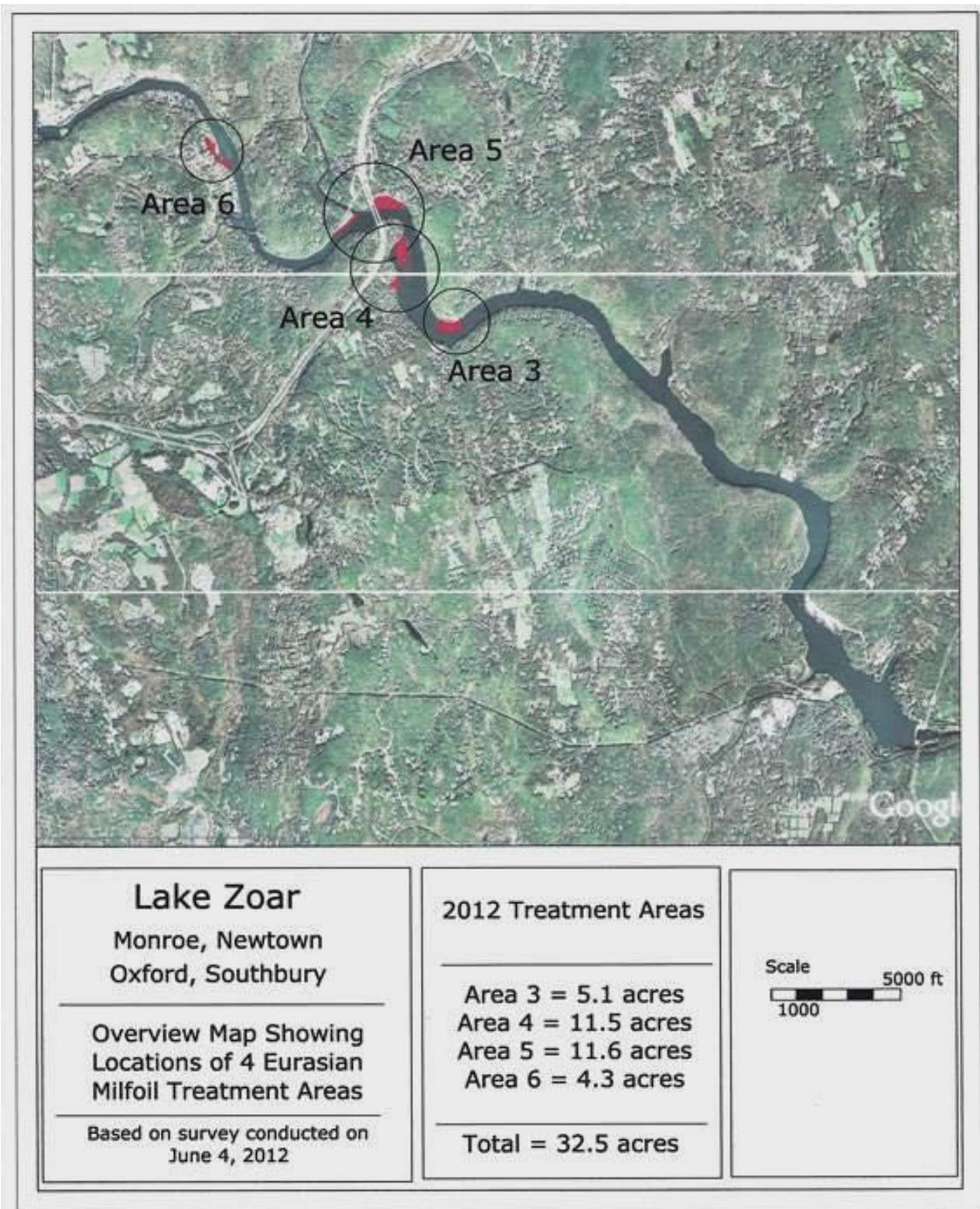


Figure 14. Locations of herbicide treatments to Lake Zoar in 2012 (Knoecklein 2012).

Table 7. Yearly comparisons of the number of invasive patches and their size in Lake Zoar.

Year	Patch Size (acres)															
	Eurasian watermilfoil			Minor naiad			Curlyleaf pondweed			European waterclover						
	Number	(min)	(max)	(mean)	Number	(min)	(max)	(mean)	Number	(min)	(max)	(mean)				
2012	200	0.0002	24.25	0.43	138	0.0002	5.87	0.25	79	0.0002	3.53	0.22	74	0.0002	0.097	0.003
2010	399	0.0002	24.43	0.213	141	0.0002	4.05	0.09	116	0.0002	4.19	0.109	44	0.0002	0.087	0.006
2008	309	0.0002	19.83	0.227	130	0.0002	4.25	0.099	211	0.0002	1.37	0.02	23	0.0002	0.048	0.014
2007	252	0.0002	26.51	0.248	103	0.0002	11.35	0.315	49	0.0002	9.4	0.425	2	0.0002	0.0002	0.0002

Table 8. Yearly comparisons of the abundance of plants in patches in Lake Zoar.

Year	Patch Abundance (1 = sparse - 5 = dense)											
	Eurasian watermilfoil			Minor naiad			Curlyleaf pondweed			European waterclover		
	(min)	(max)	(mean)	(min)	(max)	(mean)	(min)	(max)	(mean)	(min)	(max)	(mean)
2012	1	5	1.8	1	5	2.1	1	4	1.8	1	5	2.0
2010	1	5	2.0	1	5	2.4	1	4	2.1	2	5	4.0
2008	1	4	1.7	1	4	2.1	1	4	1.9	2	4	3.1
2007	1	4	1.75	1	5	3.5	1	4	2.2	3	4	3.5

49%, 2009 - 33%, 2008 – 37%, and 2007 - 35%). Although the frequency of occurrence of minor naiad on transect points nearly doubled in 2012 (17%) compared to 2011 (8%), there was no statistical difference between the two years (Figure 16). There was also no statistical difference between the frequency of occurrence of minor naiad in 2012 and any previous year. The frequency of occurrence of curlyleaf pondweed on transects ranged between 6% and 10% throughout the years with no significant changes. Since curlyleaf pondweed grows primarily in the spring and senesces in the summer, a spring survey was conducted in June. The spring survey found 46 acres of curlyleaf pondweed growing at depths from 0 - 3 meters with a mean abundance of 2.2 (Spring Survey, page 38). This compares to 17 acres found during the summer survey and suggests that a considerable amount of curlyleaf pondweed does not senesce in the summer in Lake Zoar. European waterclover coverage remained the same as in 2010 (0.3 acres) and was not found along any transects.

There were fewer patches of Eurasian watermilfoil in 2012 (200) than any previous year (Table 7), however, the mean patch size increased to 0.4 acres from 0.2 acres in previous years. This suggests that many of the patches have coalesced. Mean patch abundance of Eurasian watermilfoil decreased slightly in 2012 (1.8) from 2010 (2.0) and was similar to the abundances found in 2008 and 2007 (Table 8). The increasing trend in the number of minor naiad patches that occurred from 2007 to 2010 was halted in 2012. As with Eurasian watermilfoil, some of the stabilization in patch number could be related to the coalescing of patches and the increase the mean patch size in from 0.1 acres in 2008 and 2010 to 0.3 acres in 2012. Mean patch abundance of minor naiad decreased slightly to 2.1 in 2012 from

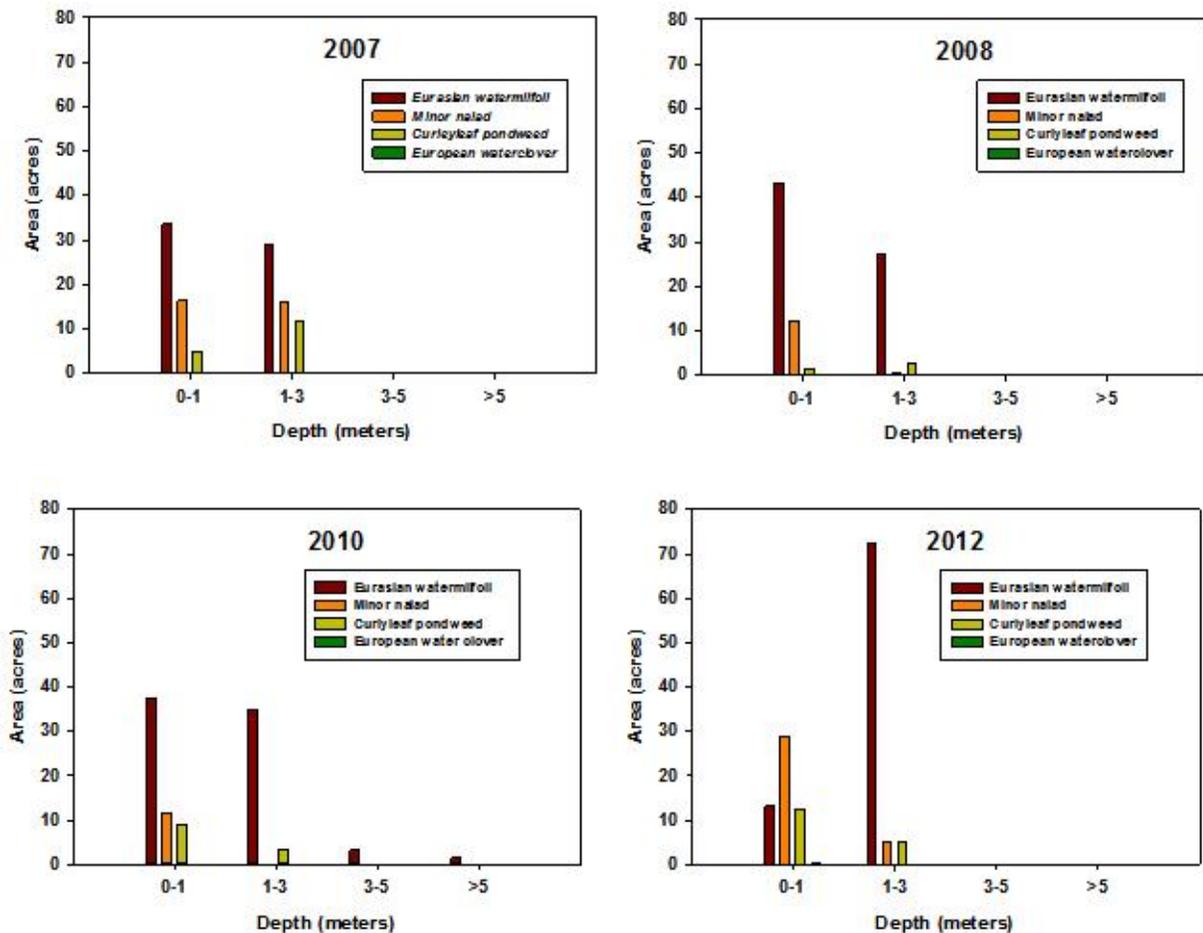


Figure 15. Yearly comparisons of the depth preferences of invasive plants in Lake Zoar.

2.4 in 2010 but remained well below the 3.5 observed in 2007. The mean patch size of curlyleaf pondweed doubled from 0.1 in 2010 to 0.2 acres in 2012; however, the number of patches decreased from 116 to 79. This suggests that as with the previous plants the patches of curlyleaf pondweed could have coalesced. European waterclover increased in patch size from 44 in 2010 to 74 in 2012. Due to fluctuating water levels and difficulty navigating to European waterclover sites, many single points were used instead of patches to represent locations. The 2.0 mean patch abundance of European waterclover in 2012 was the lowest of any previous survey.

Eurasian watermilfoil prefers depths of less than three meters deep in Lake Zoar (Figure 15). In 2012 the majority of the Eurasian watermilfoil inhabited the 1 - 3 meter depth (72 acres). In previous surveys the depth preference of Eurasian watermilfoil was nearly equal

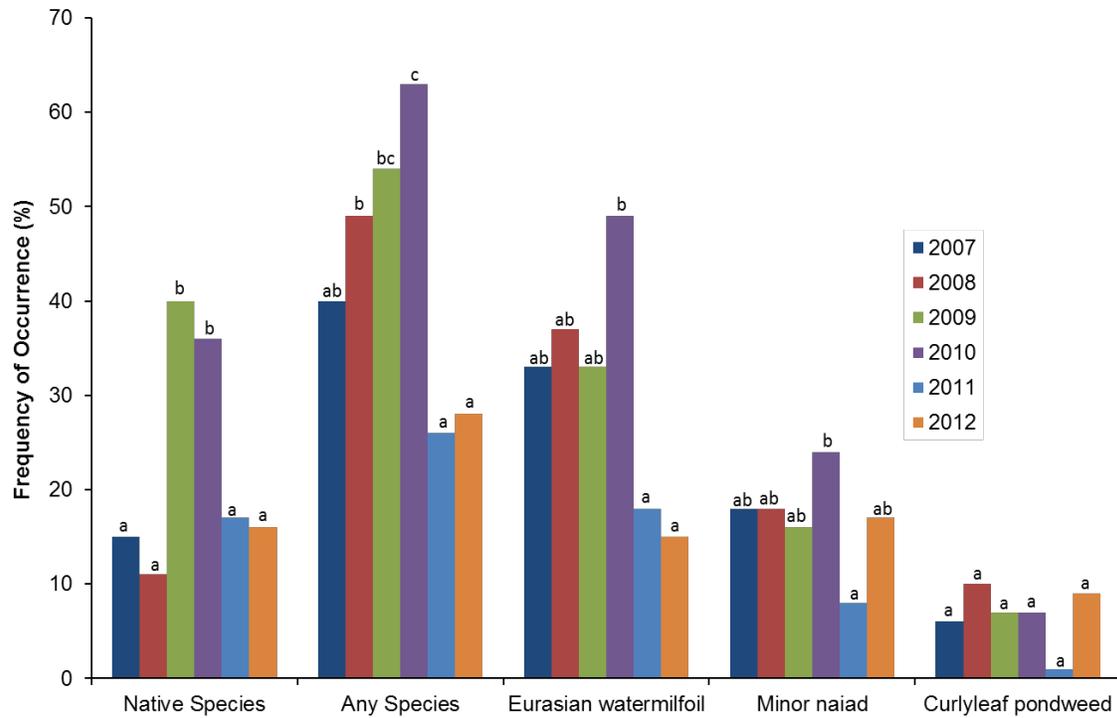


Figure 16. Yearly comparison of average frequency of occurrence of aquatic plants on transects in Lake Zoar. Bars with the same letter within a species are not statistically different.

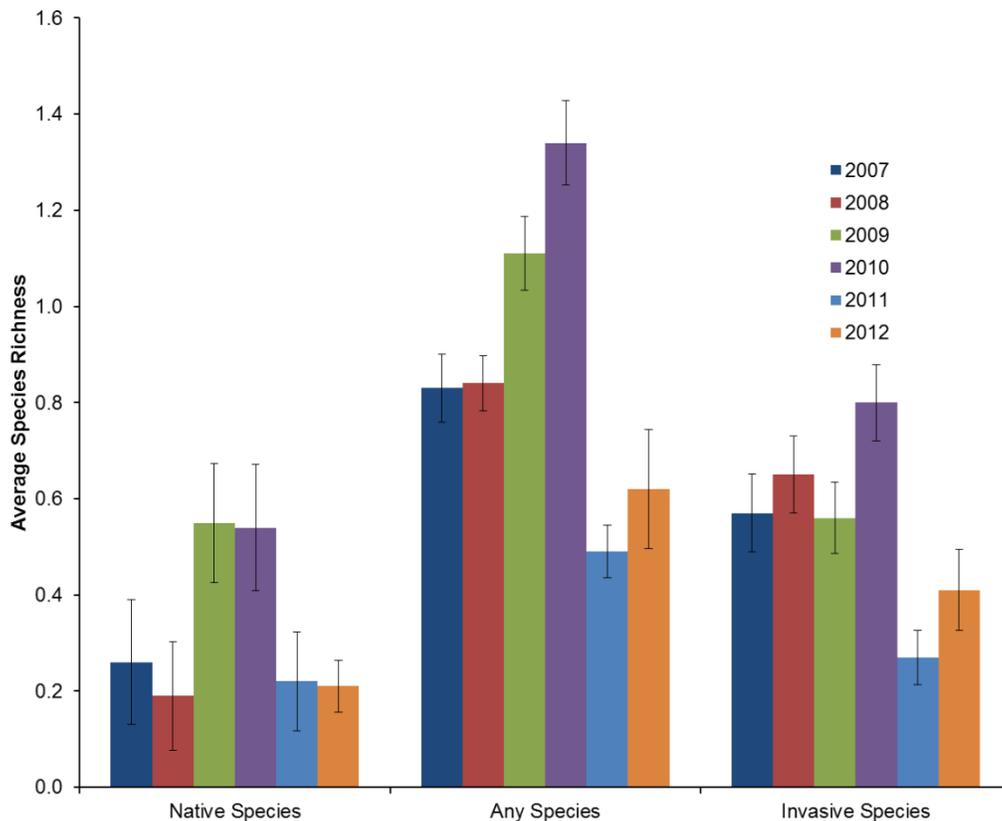


Figure 17. Yearly comparisons of average number of species per transect point in Lake Zoar. Error bars equal +/- one standard error of the mean.

Table 8. Yearly comparison of the coverage of invasive plants in Lake Zoar's littoral zone

Scientific Name	Common Name	Year	Area (%)
<i>Myriophyllum spicatum</i>	Eurasian watermilfoil	2012	22.7
		2010	22.7
		2008	18.7
		2007	16.7
<i>Najas minor</i>	Minor naiad	2012	9.1
		2010	3.4
		2008	3.4
		2007	8.7
<i>Potamogeton crispus</i>	Curly leaf pondweed	2012	4.5
		2010	3.4
		2008	1.1
		2007	5.6
<i>Marsilea quadrifolia</i>	European waterclover	2012	0.1
		2010	0.1
		2008	0.1
		2007	0.0

between 0 -1 and 1- 3 meters. Milfoil migration from shallower to deeper water is probably caused by fluctuations in water levels resulting from storm events or discharges from hydro-electric generation. In 2012, we found 13 acres at the 0 - 1 meter depth, 72 acres at a depth of 1 - 3 meters and none at deeper depths. The greatest amount of minor naiad grew in the 0 - 1 meter range with a small percentage growing from 1 - 3 meters. This is similar to all other years except 2007 when nearly equal amounts of minor naiad grew at both depth ranges. We found European waterclover exclusively in water 0 - 1 meters deep in all years. Sometimes this plant took on wetland characteristics by growing out of the water in wet sediment. This could result from fluctuating water levels in Lake Zoar.

Four native plant species were found on Lake Zoar's transects in 2012, compared to seven found in both 2011 and 2010 (Table 6). Among the most common were eel grass (*Vallisneria americana*) (11%), and coontail (*Ceratophyllum demersum*) (6%). We have found these two plants found in all our previous surveys. Other plants found along the transects included water stargrass (*Zosterella dubia*, 3%) and waterweed (*Elodea nuttallii*, 1%). These plants have been found in at least two of the previous surveys. Other native species found in our 2007 whole lake survey but not found on a transect point were noted in the lake.

A statistically significant decrease in the frequency of occurrence of native species on transects (Figure 16) occurred in 2012 (16%) compared to 2010 (36%) and 2009 (40%). There is no significant difference between the years 2012 (16%) and 2011 (17%), 2008 (11%), or 2007 (15%). The average native species richness per transect point in 2012 (0.2) was similar to the years 2011, 2008, and 2007 (0.2, 0.2, and 0.3 respectively) but is significantly less than 2010 and 2009 (0.5 and 0.6, respectively) (Figure 17). The 2011 and 2012 transect data showed a decrease in both the frequency of occurrence (26% and 28%, respectively) and species richness (0.49 and 0.62, respectively) of any species (native or invasive). The frequency of occurrence of any species on transects had grown steadily during our survey years; 2007 (40%), 2008 (49%), 2009 (54%) and 2010 (63%), as had the average species richness per transect point; 2007 (0.8), 2008 (0.8), 2009 (1.1) and 2010 (1.4). These results suggest that total vegetative cover in Lake Zoar may be decreasing but the limited number of transects may not be accounting for natural shifts in plant populations throughout the lake.

Lake Zoar's littoral zone is 376 acres or 41 percent of the total lake area. In 2012 and 2010, Eurasian watermilfoil's littoral zone coverage was 22.7%, compared to 18.7% in 2008 and 16.7% in 2007 (Table 8). The littoral zone coverage of minor naiad increased in 2012 to 9.1%, compared to 3.4% in 2010 and 2008. Curlyleaf pondweed's littoral zone coverage increased slightly to 4.5% in 2012 showing an increase over 2010 (3.4%) and 2008 (1.1%) but still lower than 2007 (5.6%). European waterclover littoral zone coverage remains small (0.1%) and has changed little during our surveys. As with Lake Candlewood, invasive plant coverage alone in Lake Zoar will meet the 20-40% littoral zone coverage goal considered optimal for lakes. Whereas winter drawdown likely plays the critical role in the plant communities in Lake Candlewood, low summer water levels and turbulence during flood events are likely to influence the more riverine environment of Lake Zoar. This makes predicting future trends difficult.

Spring Survey

**Lake Zoar
Monroe, Newtown,
Oxford, Southbury,
920 acres**

Surveyed May 30, 2012 to June 6, 2012
by Jordan Gibbons and Jennifer Fanzutti
Invasive Aquatic Plant Program

Legend

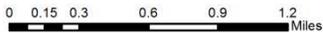
 Boat Launch



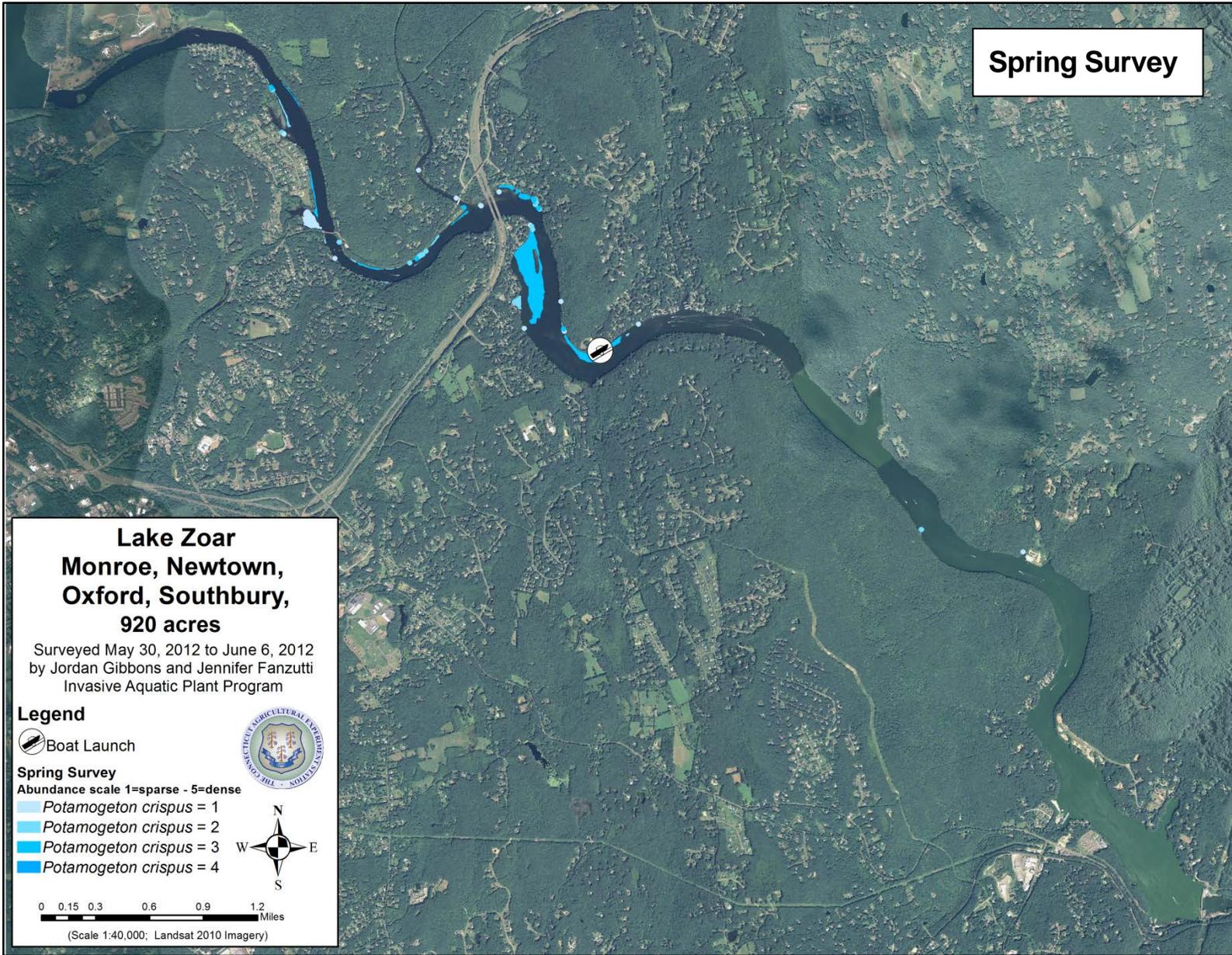
Spring Survey

Abundance scale 1=sparse - 5=dense

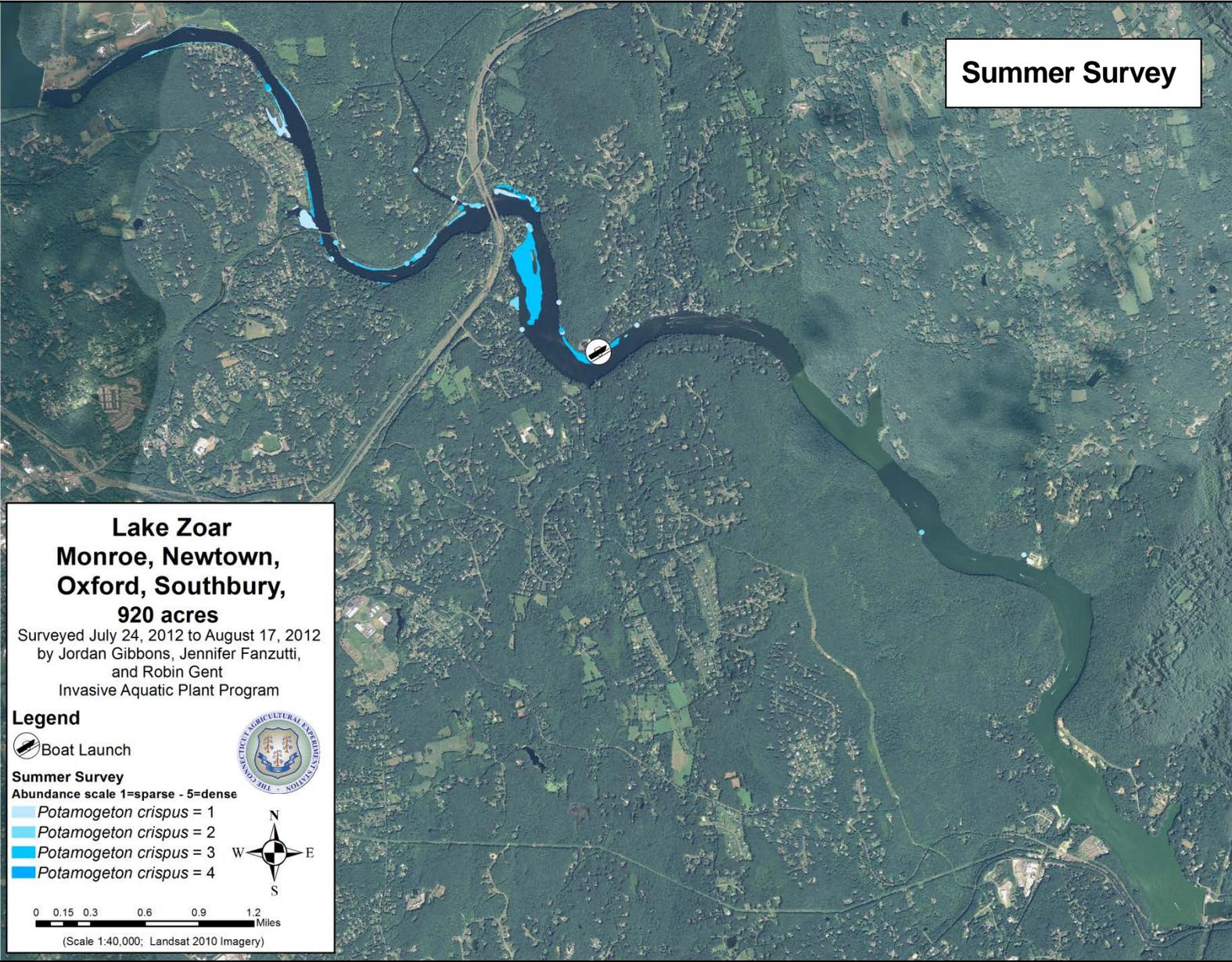
-  *Potamogeton crispus* = 1
-  *Potamogeton crispus* = 2
-  *Potamogeton crispus* = 3
-  *Potamogeton crispus* = 4



(Scale 1:40,000; Landsat 2010 Imagery)



Summer Survey



**Lake Zoar
Monroe, Newtown,
Oxford, Southbury,
920 acres**

Surveyed July 24, 2012 to August 17, 2012
by Jordan Gibbons, Jennifer Fanzutti,
and Robin Gent
Invasive Aquatic Plant Program

Legend

 Boat Launch



Summer Survey

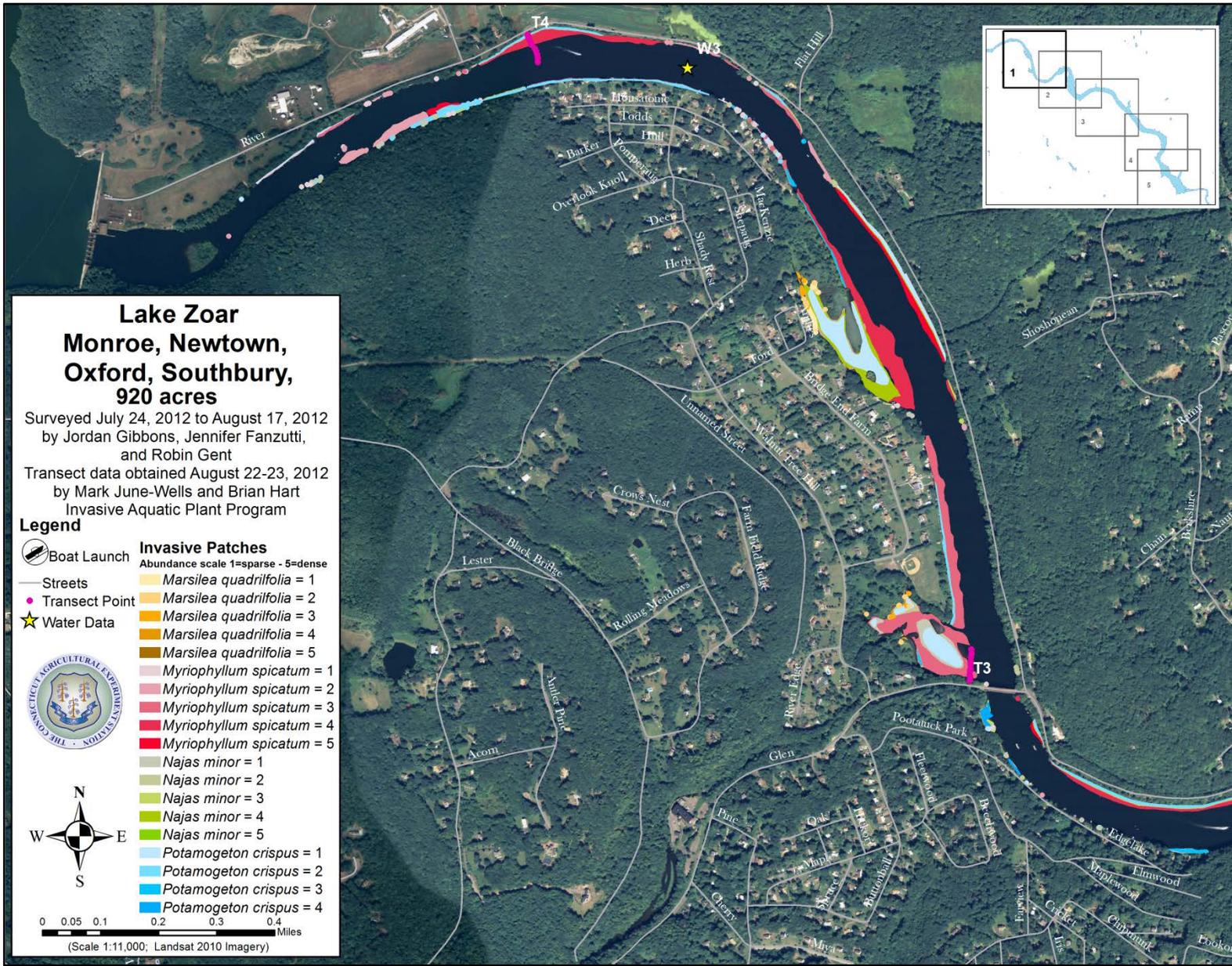
Abundance scale 1=sparse - 5=dense

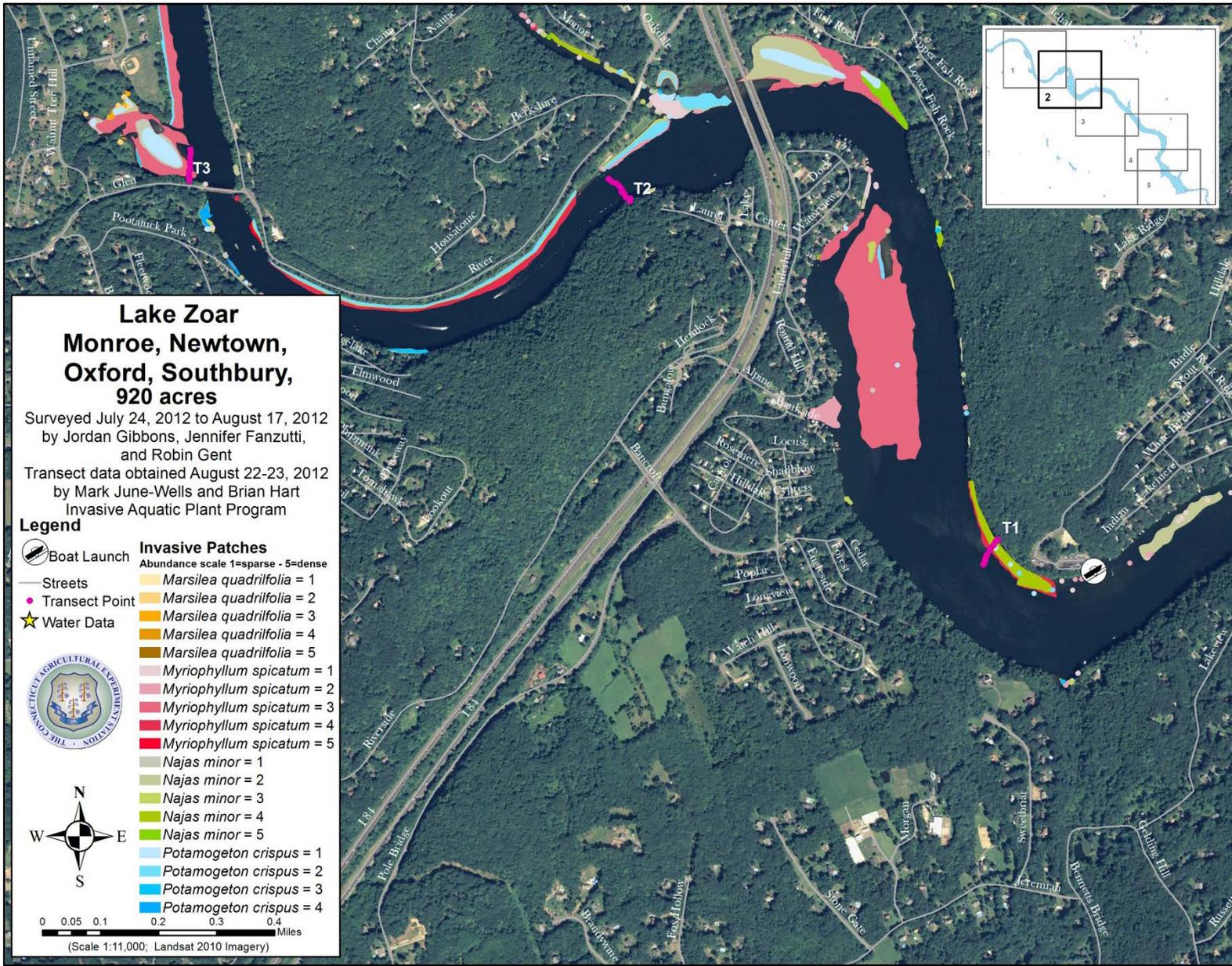
-  *Potamogeton crispus* = 1
-  *Potamogeton crispus* = 2
-  *Potamogeton crispus* = 3
-  *Potamogeton crispus* = 4

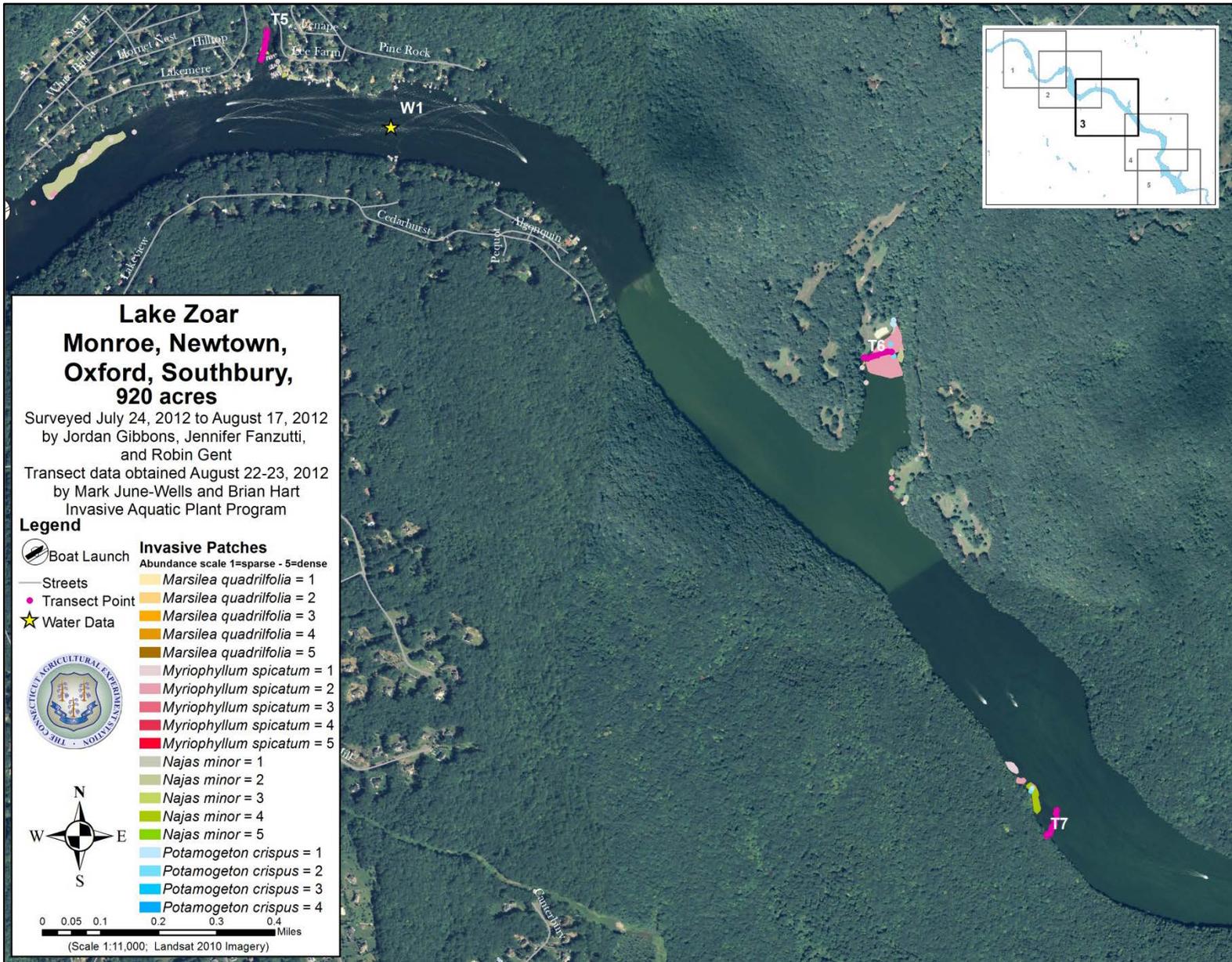


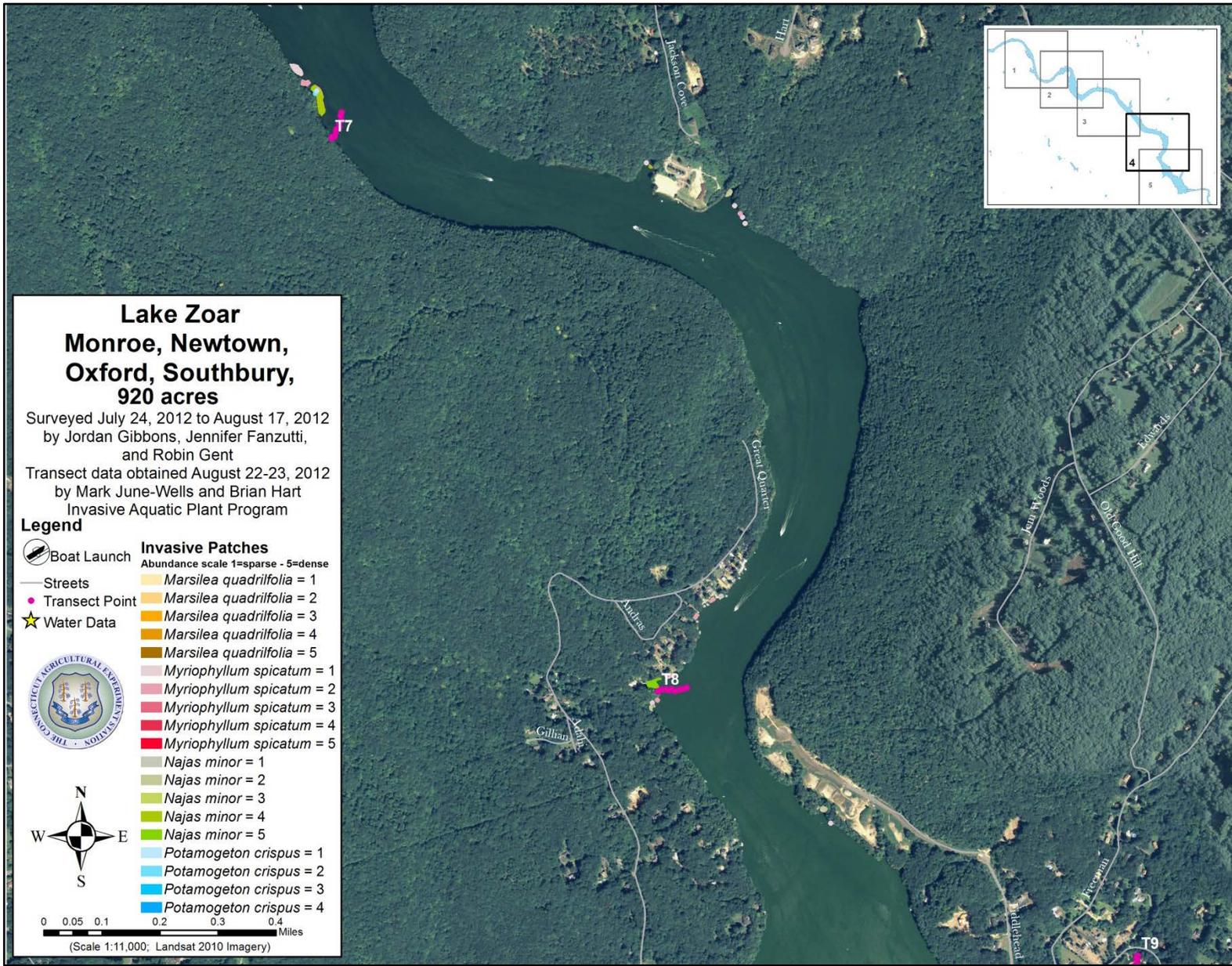
0 0.15 0.3 0.6 0.9 1.2
Miles

(Scale 1:40,000; Landsat 2010 Imagery)









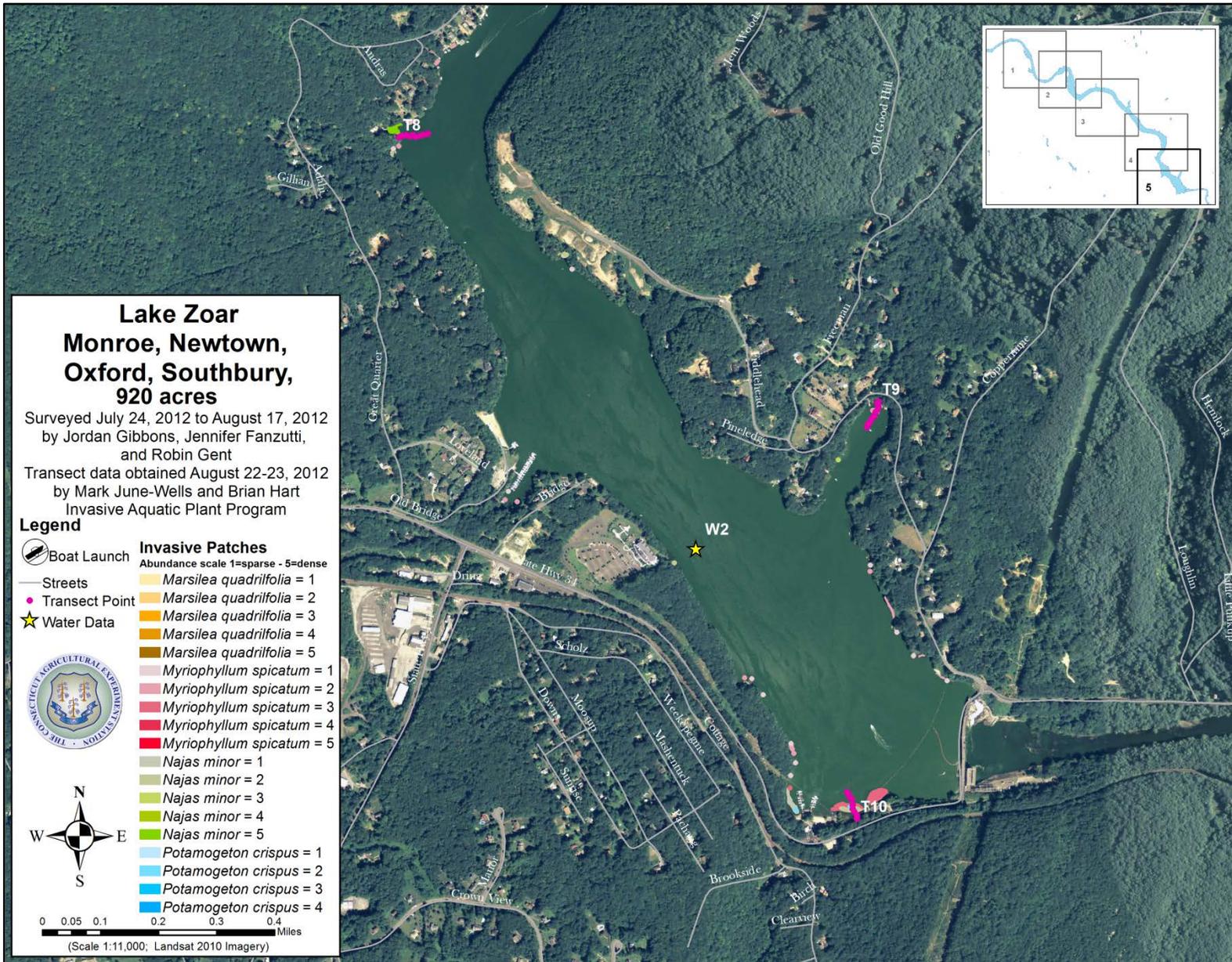


Table 9. Water chemistry of Lakes Candlewood, Lillinonah and Zoar, 2012

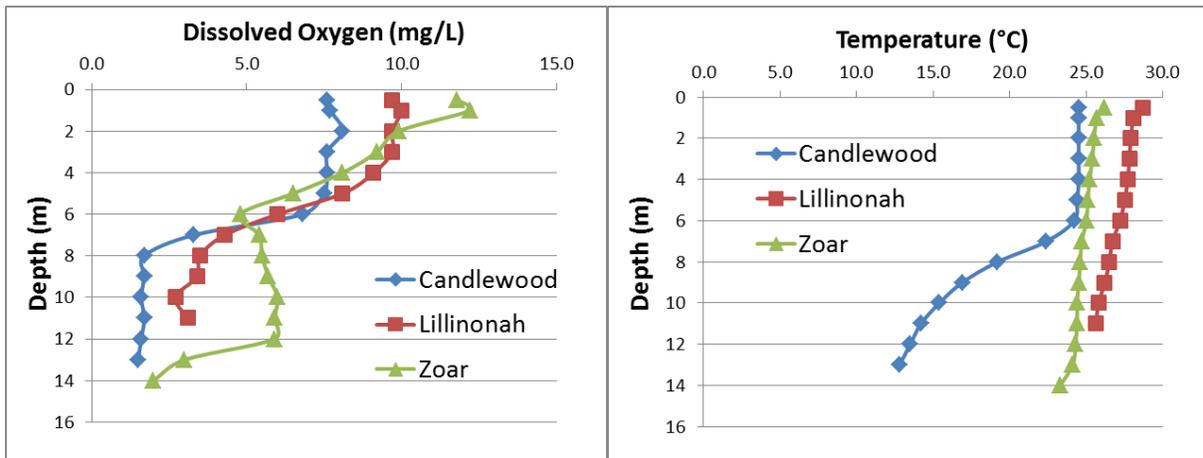
2012 Water chemistry of Lakes Candlewood Lillinonah and Zoar.

Lake	Site	Date	Latitude	Longitude	Sample depth (m)	Transparency Secchi (m)	Conductivity (uS/cm)	pH	Alkalinity CaCO ₃	Total P (ug/L)
Candlewood	W1	9/6/2012	41.53403	-73.44476	0.5	2.5	174	7.9	61.5	15
					13		202	6.8	84.75	112
	W2	9/6/2012	41.49389	-73.44843	0.5	2	168	7.8	61.5	17
					11.6		192	6.8	79.5	79
	W3	9/6/2012	41.55302	-73.47514	0.5	2	167	7.9	60.75	24
					9.5		194	6.8	84.75	83
	W4	9/6/2012	41.43574	-73.45589	0.5	2.5	165	7.7	60.75	14
					10.3		189	6.8	82.5	109
	W5	9/6/2012	41.45739	-73.43765	0.5	2	176	7.8	60.75	15
					10.5		190	6.8	79.5	109
Lillinonah	W1	8/13/2012	41.49682	-73.32428	0.5	1.4	246	8.6	92.25	17
					6.30		270	7.2	93.75	13
	W2	8/13/2012	41.46977	-73.30088	0.5	1.6	280	8.3	102	63
					12.00		270	8.2	105	65
	W3	8/13/2012	41.54121	-73.40319	0.5	1.0	210	8.7	77.25	26
					2.84		168	7.6	54.75	19
Zoar	W1	8/23/2012	41.42979	-73.22321	0.50	1.3	258	7.5	93.75	74
					9.30		262	6.9	97.5	70
	W2	8/23/2012	41.38818	-73.18044	0.50	1.1	252	8.1	97.5	53
					16.60		252	7	107.25	59
	W3	8/23/2012	41.45252	-73.27589	0.50	1.7	280	7.1	103.5	23
					4.00		278	7.2	105.75	59

Comparisons of Water Chemistry

Water clarity and chemistry may affect the type and abundance of vegetation in lakes. For example, vegetation will be limited by water transparency. Some plants such as Eurasian watermilfoil, minor naiad and curlyleaf pondweed prefer water with a higher pH and alkalinity than many other plants (CAES IAPP, 2013, Capers et al., 2007). The transparency of Candlewood Lake in 2012 averaged 2.2 meters compared to 1.3 meters in Lake Lillinonah and 1.4 meters in Lake Zoar (Table 9). Transparencies in Connecticut's lakes ranged from 0.3 to 10.2 meters with an average of 2.3 meters (CAES IAPP, 2013). Thus, the transparency of Candlewood, Lillinonah and Zoar all rank slightly below Connecticut's average. Conductivity is an indicator of dissolved ions that come from natural and man-made sources (fertilizers, septic systems, road salts etc.). The conductivity of Candlewood Lake ranged from 165 - 202 $\mu\text{S}/\text{cm}$ with little difference between surface and bottom water (Table 9). In the early 1990's, the conductivity of Candlewood Lake ranged from 176 - 184 $\mu\text{S}/\text{cm}$ (Cavanaugh and Silver, 1995) suggesting a decreasing trend may be occurring. The conductivity of Lake Lillinonah ranged from 168 - 280 $\mu\text{S}/\text{cm}$ while Lake Zoar ranged from 252 - 280 $\mu\text{S}/\text{cm}$. Since water chemistry changes throughout the year and our data is from only one day, our results may not be representative of conditions at other times.

Figure 18. Temperature and dissolved oxygen profiles in Lakes Candlewood, Lillinonah, and Zoar.



The surface water pH of Candlewood Lake ranged from 7.7 – 7.9 and is therefore slightly alkaline. Candlewood Lake’s bottom water was slightly acidic (pH 6.8). Lake Lillinonah’s surface water was slightly more alkaline than Candlewood and fell in the range pH 8.3 – 8.7 with only a slight decrease in the bottom water pH 7.2 – 8.2. Lake Zoar’s surface water pH fell in a range of 7.1 - 8.1 while its bottom water pH ranged from 6.9 to 7.2. Surface water pH fluctuates widely because of midday removal of carbon dioxide by photosynthesizing algae (Wetzel, 2001). Alkalinity is considered a better indicator than pH for determining a lake’s susceptibility to acidification. Alkalinities in Connecticut’s lakes range from near 0 to greater than 172 mg/L CaCO₃ (CAES IAPP, 2013, Canavan and Silver, 1995, Frink and Norvell, 1984). Candlewood Lake’s surface water had an alkalinity from 60.8 – 61.5 mg/L and bottom water had an alkalinity from 79.5 – 84.8 mg/L. The surface water alkalinity of Lake Lillinonah ranged from 77.3 – 102 mg/L CaCO₃ while Lake Zoar’s surface water was slightly higher at 93.8– 107.3 mg/L CaCO₃. The alkalinity of the bottom water of Lake Lillinonah was also slightly less alkaline (54.8 – 105 mg/L CaCO₃) than the bottom water of Lake Zoar (97.5 – 107.3 mg/L CaCO₃). A slight trend toward increasing pH and alkalinity is evident as water moves downstream from Candlewood Lake, through Lake Lillinonah and into Lake Zoar.

The amount of phosphorus (P) in lake water is a primary gauge of a lake’s trophic state and an indicator of a lake’s ability to support algae (Frink and Norvell, 1984, Wetzel, 2001). Rooted macrophytes are considered to be less dependent on P from the water column as they obtain a majority of their nutrients from the hydrosol (Bristow and Whitcombe, 1971).

Lakes with P levels from 0-10 µg/L are considered to be nutrient-poor or oligotrophic. When P concentrations reach 15 - 25 µg/L, lakes are classified as moderately fertile or mesotrophic. P levels at 30 - 50 µg/L characterize lakes as fertile or eutrophic (Frink and Norvell, 1984). The P concentration in Candlewood Lake's surface water ranged from 14 - 24 µg/L and bottom water ranged from 79 -112 µg/L (Table 9). This partitioning of P between the surface and bottom) water is common in the summer as anoxic conditions near the bottom (Figure 17) release P from the sediment (Norvell, 1974). The P concentration in Lake Lillinionah's surface water ranged from 17 - 63 µg/L and bottom water ranged from 13 - 65 µg/L. Lake Zoar's surface water had P concentration from 23 - 74 µg/L and from 59 - 70 µg/L in its bottom waters. Lake Lillinionah and Zoar's small difference in P concentration between surface and bottom water may be due to shallower depth and greater mixing.

Summer dissolved oxygen profiles of the lakes (Figure 17) showed well oxygenated conditions to a depth of approximately six meters. In Lake Candlewood anoxic conditions occurred around 8 meters while in Lake Zoar anoxic conditions were found at around 14 meters. Lake Lillinionah dissolved oxygen levels drop to near 2.0 mg/L at around 8 meters but never reached anoxic conditions of near 0 mg/L. Greater anoxia in Candlewood Lake is probably due to its greater depth and less vertical mixing caused by storm events and hydroelectric generating discharges.

Conclusions:

Lakes Candlewood, Lillinionah and Zoar have aquatic plant communities dominated by invasive species, particularly Eurasian watermilfoil. The coverage of Eurasian watermilfoil in Candlewood Lake increased to 505 acres in 2012 representing the largest coverage we have found to date. Reasons include previously documented increases after a shallow drawdown, short drawdown duration and an historically mild winter. Tests on sediment containing Eurasian watermilfoil root systems, obtained just prior to the start of Candlewood Lake's refill, showed most root systems were viable and regrew plants when placed in greenhouse tanks. The amount of Eurasian watermilfoil in Candlewood Lake appears inversely related to the depth and duration of the previous winter's drawdown. Minor naiad inhabited 32 acres of Candlewood Lake in 2012 representing the greatest coverage of any of our surveys. Our greenhouse tests on lake sediment found the drawdown did little to

control minor naiad seeds. Curlyleaf pondweed was sparse in both our spring and summer surveys. Our 2012 survey of Lake Zoar confirmed the presence of the invasive plant species; Eurasian watermilfoil, minor naiad, curlyleaf pondweed and European waterclover. Eurasian watermilfoil acreage in Lake Zoar was 85 acres in 2012 which is the same as 2011. Minor naiad coverage in Lake Zoar increased from 12 acres in 2011 to 34 acres in 2012, returning to levels similar to 2007. Curlyleaf pondweed covered 17 acres of Lake Zoar in our summer surveys and 42 acres in our spring survey. The partial senesce of curlyleaf pondweed during the summer was somewhat unusual. European waterclover coverage remained localized to small areas in the northern part of the lake.

Acknowledgments

The assistance of the following individuals is gratefully acknowledged.

Martha Balfour, Invasive Aquatic Plant Program, CAES

Robert Capers, Invasive Aquatic Plant Program, CAES

Michael Cavadini, Invasive Aquatic Plant Program, CAES

Andrea Elision, Invasive Aquatic Plant Program, CAES

Robert Gates, FirstLight Hydro Generating Company, New Milford, CT

Brian Hart, Invasive Aquatic Plant Program, CAES

Chuck Lee, Bureau of Planning and Standards, CT DEEP

Larry Marsicano, Candlewood Lake Authority

Julius Pasay, Invasive Aquatic Plant Program, CAES

Roslyn Reeps, Invasive Aquatic Plant Program, CAES

Mieke Schuyler, Invasive Aquatic Plant Program, CAES

Robert Stira, FirstLight Hydro Generating Company, New Milford, CT

Brian Wood, FirstLight Hydro Generating Company, New Milford, CT

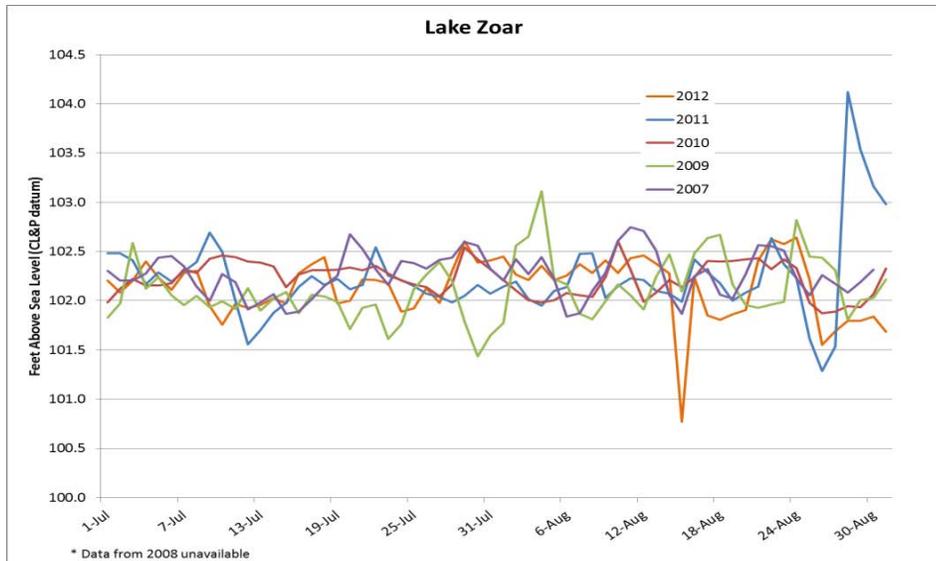
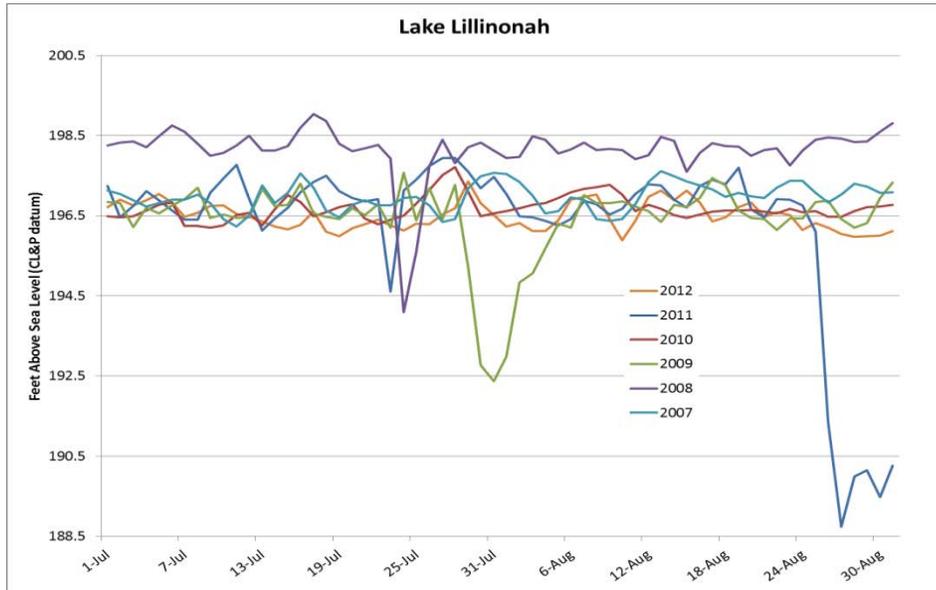
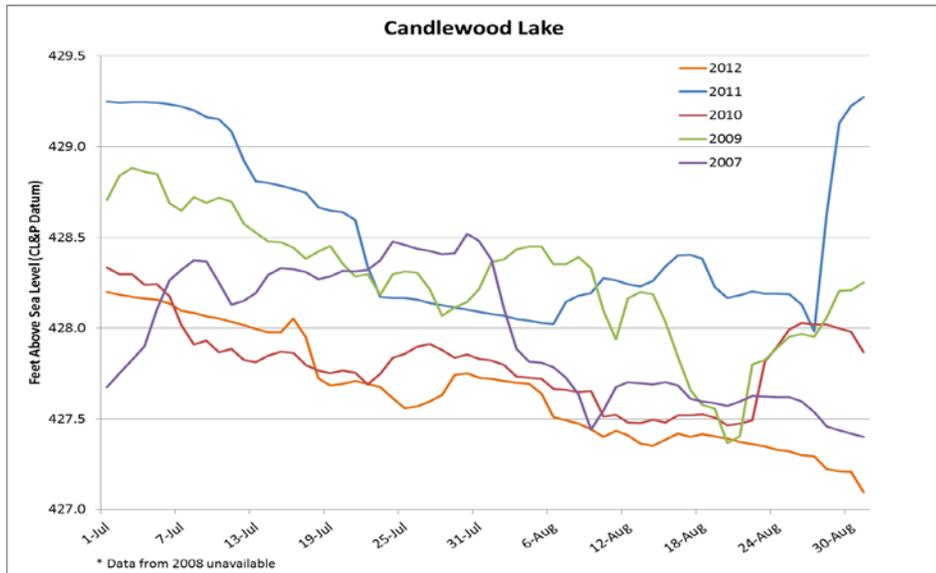
References:

- American Public Health Association. 1995. Standard methods for the examination of water and wastewater. 19th ed. American Public Health Association, 1015 Fifteenth St., NW Washington, DC 20005. 4:108-116.
- Bristow JM, Whitcombe M. 1971. The role of roots in the nutrition of aquatic vascular plants. *Amer. J. Bot.* 58:8-13.
- Bugbee GJ, Barton ME, Gibbons JA. 2013. Connecticut's Aquatic and Wetland Invasive Aquatic Plants 2nd Ed. Conn. Agric. Exp. Sta. Bull. 1035. Retrieved January 30, 2013. http://www.ct.gov/caes/lib/caes/invasive_aquatic_plant_program/pdf_reports/2012_field_guide_online.pdf.
- Bugbee GJ, June-Wells M, Gibbons JA. 2012. Invasive aquatic plants in Lakes Candlewood and Zoar 2011. Conn. Agric. Exp. Sta. Bull. Retrieved January 30, 2013. http://www.ct.gov/caes/lib/caes/invasive_aquatic_plant_program/pdf_reports/firstlightbulletinfinal2012_05_08final_rev12_24_12.pdf.
- Bugbee GJ. 2011. Invasive aquatic plants in Lakes Candlewood and Zoar 2010. Conn. Agric. Exp. Sta. Bull. Retrieved January 30, 2013. http://www.ct.gov/caes/lib/caes/invasive_aquatic_plant_program/pdf_reports/firstlightbulletinfinal2011_3_31.pdf.
- Bugbee GJ, Balfour ME. 2010. Invasive aquatic plants in Lakes Candlewood and Zoar 2009. Conn. Agric. Exp. Sta. Bull. Retrieved January 30, 2013. http://www.ct.gov/caes/lib/caes/invasive_aquatic_plant_program/pdf_reports/firstlightbulletin2009_final_4_1_2010.pdf.
- Bugbee GJ, Reeps R. 2009. Invasive aquatic plants in Lakes Candlewood and Zoar 2008. Conn. Agric. Exp. Sta. Bull. Retrieved January 30, 2013. http://www.ct.gov/caes/lib/caes/invasive_aquatic_plant_program/pdf_reports/firstlightbulletin2008_042709.pdf.
- Bugbee GJ, Selsky R, Marko M. 2008. Invasive aquatic plants in Lakes Candlewood, Lillinonah and Zoar 2007. Conn. Agric. Exp. Sta. Bull. 1017.
- CAES IAPP. 2013. The Connecticut Agricultural Experiment Station Invasive Aquatic Plant Program (CAES IAPP). Retrieved January 30, 2013. <http://www.ct.gov/caes/iapp>.
- Canavan IV RW, Siver PA. 1995. Connecticut Lakes: A study of the chemical and physical properties of fifty-six Connecticut Lakes. Connecticut College Arboretum. New London, CT.
- Capers RS, Selsky R, Bugbee GJ, White JC. 2007. Aquatic plant community invisibility and scale-dependent patterns in native and invasive species richness. *Ecology*. 88(12):3135-3143.
- Catling PM, Dobson I. 1985. The biology of Canadian weeds. *Potamogeton crispus* L. Canadian Journal of Plant Science 65:655-668.

- Connecticut Aquatic Nuisance Species Working Group. 2006. Connecticut aquatic nuisance species management plan. Retrieved December 17, 2007. <http://www.ctiwr.uconn.edu/ProjANS/SubmittedMaterial2005/Material200601/ANS%20Plan%20Final%20Draft121905.pdf>
- Crow GE, Hellquist CB. 2000a. Aquatic and Wetland Plants of Northeastern North America. Vol. 1. Pteridophytes, Gymnosperms and Angiosperms: Dicotyledons. University of Wisconsin Press, Madison.
- Crow GE, Hellquist CB. 2000b. Aquatic and Wetland Plants of Northeastern North America. Vol. 2. Angiosperms: Monocotyledons. University of Wisconsin Press, Madison.
- Frink CR, Norvell WA. 1984. Chemical and physical properties of Connecticut lakes. Conn. Agric. Exp. Sta. Bull. 817.
- Fishman KJ, Leonard RL, Shah FA. 1998. Economic evaluation of Connecticut lakes with alternative water quality levels. Connecticut Department of Environmental Protection. 79 Elm St. Hartford CT
- Jacobs RP, O'Donnell EB. 2002. A fisheries guide to lakes and ponds of Connecticut. Including the Connecticut River and its coves. CT DEP Bull. 35.
- Knoecklein GW. 2012. Lake Zoar Invasive Aquatic Plant Treatment Areas. Post Treatment Survey Results 2012. Northeast Aquatic Research. 74 Higgins Highway, Mansfield Center, CT 06250. 5 pp.
- Marsicano LJ. 2009. Insights into Eurasian watermilfoil management by deep drawdown. Candlewood Lake Authority. New Milford, CT. 13 pp.
- Northeast Generating Company. 2005. Nuisance plant monitoring plan. Lake Candlewood, and Lakes Lillinonah and Zoar. FERC License Article 409.
- Norvell WA. 1974. Insolubilization of inorganic phosphorus by anoxic lake sediment. Soil Sci. Soc. Amer. Proc. 38:441-445.
- Pimentel D, Lach L, Zuniga R, Morrison D. 2000. Environmental and economic costs of nonindigenous species in the United States. Bioscience 53:53-65.
- Siver PA, Coleman AM, Benson GA, Simpson JT. 1986. The effects of winter drawdown on macrophytes in Lake Candlewood, Connecticut. Lake and Reservoir Management. 2:69-73.
- Tarsi M. 2006. Eurasian watermilfoil on Lake Candlewood: Management considerations and possible alternatives to the deep drawdown.
- Wetzel RG. 2001. Limnology: Lake and River Ecosystems 3rd ed. Academic Press, San Diego, CA. <http://www.academicpress.com>.
- Wilcove DS, Rothstien D, Dubow J, Phillips A, Losos E. 1998. Quantifying threats to imperiled species in the United States. BioScience 48:607-615.

Appendix

Water Surface Elevations



2012 CAES IAPP On-Lake Time

Candlewood (Lead surveyor)	Lillinonah (Lead surveyor)	Zoar (Lead surveyor)
6/6/2012 (June-Wells)	8/10/2012 (June-Wells)	5/30/2012 (Gibbons)
6/7/2012 (June-Wells)	8/12/2012 (June-Wells)	5/31/2012 (Gibbons)
6/8/2012 (June-Wells)	8/13/2012 (June-Wells)	6/1/2012 (Gibbons)
6/12/2012 (June-Wells)		6/5/2012 (Gibbons)
6/14/2012 (June-Wells)		6/6/2012 (Gibbons)
8/3/2012 (Bugbee)		7/24/2012 (Gibbons)
8/6/2012 (Bugbee)		7/25/2012 (Gibbons)
8/8/2012 (Bugbee)		7/26/2012 (Gibbons)
8/9/2012 (Bugbee)		7/27/2012 (Gibbons)
8/13/2012 (Bugbee)		7/31/2012 (Gibbons)
8/15/2012 (Bugbee)		8/2/2012 (Gibbons)
8/16/2012 (Bugbee)		8/3/2012 (Gibbons)
8/17/2012 (Bugbee)		8/7/2012 (Gibbons)
8/20/2012 (Bugbee)		8/8/2012 (Gibbons)
8/21/2012 (Bugbee)		8/10/2012 (Gibbons)
8/22/2012 (Bugbee)		8/14/2012 (Gibbons)
8/23/2012 (Bugbee)		8/16/2012 (Gibbons)
8/24/2012 (Bugbee)		8/17/2012 (Gibbons)
8/27/2012 (Bugbee)		8/22/2012 (June-Wells)
8/29/2012 (Bugbee)		8/23/2012 (June-Wells)
8/30/2012 (Bugbee)		
21 days	3 days	20 days

Invasive Plant Descriptions

Marsilea quadrifolia

Common names:

European waterclover
Water shamrock

Origin:

Europe

Key features:

Floating leaf plant

Stems: Smooth petioles 2-12 inches (5-30 cm)

Leaves: Comprised of 4 fan-shaped leaflets (similar to a four-leaf clover)

Fruits/Seeds: 2 or 3 dark brown sporocarps 0.2 inches × 0.2 inches (4-5.5 mm × 3-4 mm)

Reproduction: Cloning and sporocarps

Easily confused species:

None



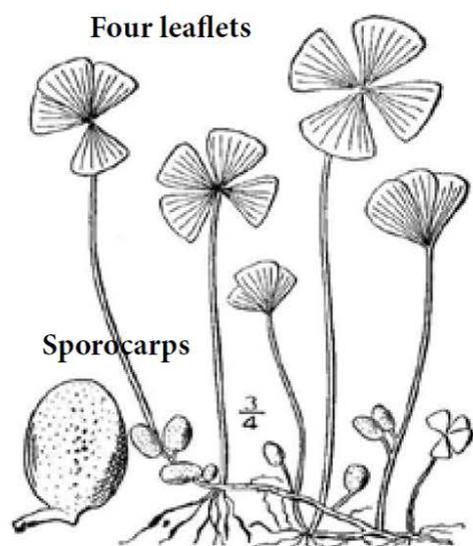
Photo by CAES IAPP



Photo by CAES IAPP



Photo by CAES IAPP



Britton, N.L., and A. Brown. 1913



Myriophyllum spicatum

Common name:
Eurasian watermilfoil

Origin:
Europe and Asia

Key features:
Plants are submersed

Stems: Stem diameter below the inflorescence is greater with reddish stem tips

Leaves: Leaves are rectangular with ≥ 12 pairs of leaflets per leaf and are dissected giving a feathery appearance, arranged in a whorl, whorls are 1 inch (2.5 cm) apart

Flowers: Small pinkish male flowers that occur on reddish spikes, female flowers lack petals and sepals and have 4 lobed pistil

Fruits/Seeds: Fruit are round 0.08-0.12 inches (2-3 mm) and contain 4 seeds

Reproduction: Fragmentation and seeds

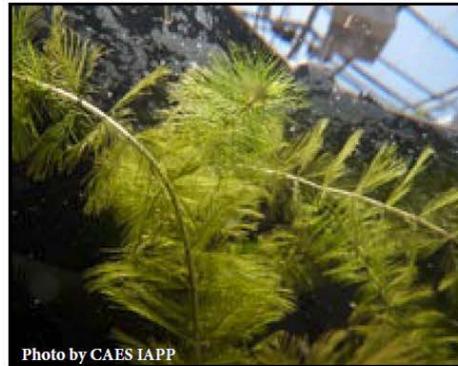
Easily confused species:

Variable-leaf watermilfoil: *Myriophyllum heterophyllum*

Low watermilfoil: *Myriophyllum humile*

Northern watermilfoil: *Myriophyllum sibiricum*

Whorled watermilfoil: *Myriophyllum verticillatum*



Copyright 1991 Univ. of Florida
Center for Aquatic and Invasive Plants



Najas minor

Common names:

Minor naiad
Brittle water nymph
Spiny leaf naiad
Eutrophic water nymph

Origin:

Europe

Key features:

Plants are submersed

Stems: Branched stems can grow up to 4-8 inches (10-20 cm) long

Leaves: Opposite and lance shaped on branched stems with easily visible toothed leaf edges and leaves appear curled under, basal lobes of leaf are also serrated, 0.01-0.02 inches (0.3-0.5 mm)

Flowers: Monoecious (male and female flowers on same plant)

Fruits/Seeds: Fruits are purple-tinged and seeds measure 0.03-0.06 inches (1.5-3 mm)

Reproduction: Seeds and fragmentation

Easily confused species:

Other naiads (native): *Najas* spp.



Potamogeton crispus

Common names:

Curly leaf pondweed
Crispy-leaved pondweed
Crisped pondweed

Origin:

Asia, Africa, and Europe

Key features:

Plants are submersed

Stems: Stems are flattened, can form dense stands in water up to 15 feet (5 m) deep

Leaves: Alternate leaves 0.3-1 inches (3-8 cm) wide with wavy edges (similar to lasagna) with a prominent mid-vein

Flowers: Brown and inconspicuous

Fruits/Seeds: Fruit is oval 0.1 inches (3 mm) long

Reproduction: Turions (right) and seeds

Easily confused species:

None



Photo by CAES IAPP

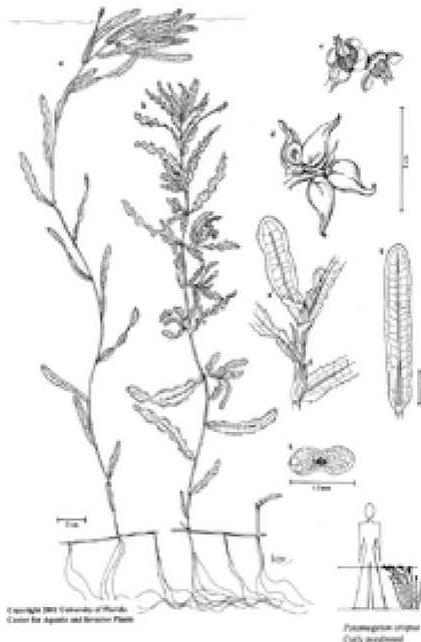


Turion

Photo by CAES IAPP

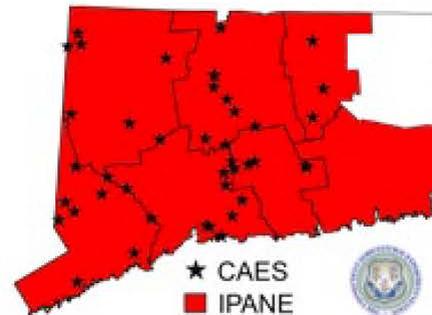


Photo by Leslie J. Mehrhoff



Copyright 1991 University of Florida
Center for Aquatic and Botanical Plants

Potamogeton crispus
Curly pondweed



★ CAES
■ IPANE



Trapa natans

Common names:

Water chestnut
European water chestnut

Origin:

Asia and Europe

Key features:

Plants are rooted to substrate and float

Stems: Stem is submersed, flaccid and can be up to 15 feet (5 m) long

Leaves: Leaves 0.8-0.16 inches (2-4 cm) long are triangular and toothed along the front edge with inflated petioles, leaves float in a rosette pattern

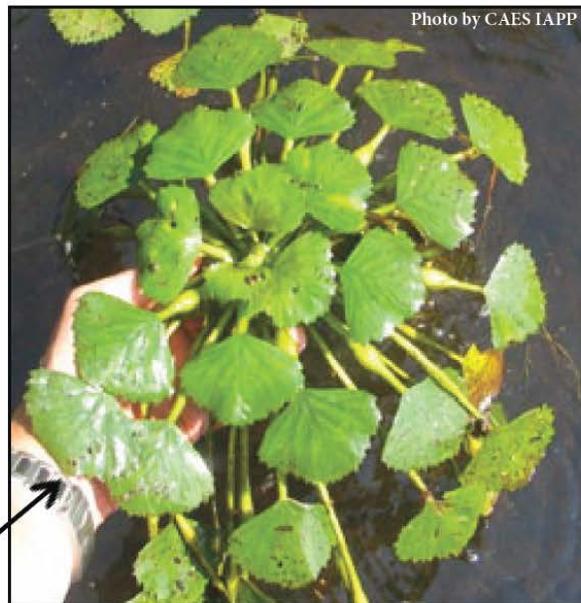
Flowers: Flowers are located in the center of the rosette and have four white petals

Fruits/Seeds: Fruit is hard and has four sharp spines

Reproduction: Seeds and fragmentation

Easily confused species:

None



← Fruit

Rosette →



Metadata

Metadata is data about data. This metadata gives background information on the content, quality, condition, legal liability and other appropriate characteristics of the data.

Metadata

Polygons and Points of Invasive Plants

Abstract	<p>This polygon and point data is of the invasive aquatic plant locations in Lakes Candlewood and Zoar found during the 2012 aquatic plant survey. The invasive aquatic plants found during the survey were <i>Potamogeton crispus</i> (curly leaf pondweed), <i>Najas minor</i> (minor water naiad), <i>Myriophyllum spicatum</i> (Eurasian water milfoil), <i>Marsilea quadrifolia</i> (European watercress). Survey boats with Trimble GPS units traveled along the outside of each invasive patch to obtain the polygons. In the event that invasive aquatic plants species co-occurred, two separate polygons would be made or the occurrence would be noted in the notes field. If plants covered an area of less than 1 meter in diameter a point feature was recorded. Depth was at three different locations in patches and the average depth range was assigned. For points one depth measurement was recorded. Abundance of each species in the patch or point was ranked on a scale of 1-5 (1= rare, a single stem; 2= uncommon, few stems; 3= common; 4= abundant; 5= extremely abundant or dominant).</p>
Purpose	<p>To document and assess the invasive aquatic plant infestation on lakes Candlewood and Zoar during 2012. This data will also be available to compare with future invasive aquatic plant survey data.</p>
Access Constraints	<p>This data is public access data and can be freely distributed. The Connecticut Agricultural Experiment Station Invasive Aquatic Plant Program (CAES IAPP) should be clearly cited as the author in any published works. The State of Connecticut shall not be held liable for improper or incorrect use of the data described and/or contained within this web site. These data and related graphics are not legal documents and are not intended to be used as such. The information contained in these data is dynamic and will change over time. The State of Connecticut gives no warranty, expressed or implied, as to the accuracy, reliability, or completeness of these data. It is the responsibility of the data user to use the data appropriately and consistent within these limitations. Although these data have been processed successfully on a computer system at the State of Connecticut, no warranty expressed or implied is made regarding the utility of the data on another system or for general or scientific purposes, nor shall the act of distribution constitute any such warranty. This disclaimer applies both to individual use of the data and aggregate use with other data.</p>
Use Constraints	<p>No restrictions or legal prerequisites for using the data. The data is suitable for use at appropriate scale, and is not intended for maps printed at scales greater or more detailed than 1:24,000 scale (1 inch = 2,000 feet). Although this data set has been used by the State of Connecticut, The Connecticut Agricultural Experiment Station, no warranty, expressed or implied, is made by the State of Connecticut, Connecticut Agricultural Experiment Station as to the accuracy of the data and or related materials. The act of distribution shall not constitute any such warranty, and no responsibility is assumed by the State of Connecticut, Connecticut Agricultural Experiment Station in the use of these data or related materials. The user assumes the entire risk related to the use of these data. Once the data is distributed to the user, modifications made to the data by the user should be noted in the metadata. When printing this data on a map or using it in a software application, analysis, or report, please acknowledge the Connecticut Agricultural Experiment Station Invasive Aquatic Plant Program (CAES IAPP) as the source for this information.</p>
Credit	<p>Gregory J. Bugbee and Jordan Gibbons, The Connecticut Agricultural Experiment Station Invasive Aquatic Plant Program (CAES IAPP)</p>
Accuracy Report	<p>All aquatic plants noted in this feature were confirmed in the lab using a dichotomous key and, when possible, molecular techniques. Collection specimens of each plant can be found at The Connecticut Agricultural Experiment Station herbarium. Abundance determinations were made by the surveyor based on the abundance guidelines listed in the abstract of this metadata.</p>

GPS

Accuracy

Positions were acquired by using a Trimble GeoXT® or a Trimble ProXT® with TerraSync 2.40 or 5.02 (WAAS enabled). Data was post-processed in the lab with Pathfinder Office 5.10 with data from local base stations. Therefore, the average accuracy of the data is less than 1m.

Process

Position data was obtained in the field using a Trimble GeoXT® or a Trimble ProXT® with TerraSync 2.40 or 5.02 (WAAS enabled). Data was post-processed in the lab with Pathfinder Office 5.10 with data from local base stations and then imported into ESRI ArcMap 10 for display and analysis.

Metadata

Transects

- Abstract** Quantitative abundance information on native and invasive aquatic plants were obtained by using the CAES IAPP transect method. We positioned transects perpendicular to the shoreline and recorded GPS location and the abundance of each plant species found within a 2 m² area at 0, 5, 10, 20, 30, 40, 50, 60, 70 and 80 m from the shore (a total of 10 samples on each transect unless impaired by rocks, land etc.). Ten transects were established for each lake. Transects were positioned using a random-representative method to account for all bottom types and plant conditions in Lakes Lillinonah and Zoar. In Lake Candlewood, the random-representative method was not used. Instead, transects were chosen that included at least one occurrence of each native and invasive plant species found by a more thorough set of transects done by CAES IAPP in 2005. Candlewood Lake transects, T2, T22, T25, T57, T52, T58, T62, T74, T86, and T105, from the CAES IAPP 2005 survey were chosen and renamed T1 - T10 respectively. These transects do not represent the overall conditions of Candlewood Lake as the frequency of native species will be over-estimated. We ranked abundance of each species, at each transect point, on a scale of 1–5 (1 = rare, a single stem; 2 = uncommon, few stems; 3 = common; 4 = abundant; 5 = extremely abundant or dominant). Depth was measured at each transect point.
- Purpose** To document and assess the native and invasive aquatic plant community in Lakes Candlewood Lillinonah and Zoar during 2012. This data will also be available to compare with future aquatic plant survey data.
- Access Constraints** This data is public access data and can be freely distributed. The Connecticut Agricultural Experiment Station Invasive Aquatic Plant Program (CAES IAPP) should be clearly cited as the author in any published works. The State of Connecticut shall not be held liable for improper or incorrect use of the data described and/or contained within this web site. These data and related graphics are not legal documents and are not intended to be used as such. The information contained in these data is dynamic and will change over time. The State of Connecticut gives no warranty, expressed or implied, as to the accuracy, reliability, or completeness of these data. It is the responsibility of the data user to use the data appropriately and consistent within these limitations. Although these data have been processed successfully on a computer system at the State of Connecticut, no warranty expressed or implied is made regarding the utility of the data on another system or for general or scientific purposes, nor shall the act of distribution constitute any such warranty. This disclaimer applies both to individual use of the data and aggregate use with other data.
- Use Constraints** No restrictions or legal prerequisites for using the data. The data is suitable for use at appropriate scale, and is not intended for maps printed at scales greater or more detailed than 1:24,000 scale (1 inch = 2,000 feet). Although this data set has been used by the State of Connecticut, The Connecticut Agricultural Experiment Station, no warranty, expressed or implied, is made by the State of Connecticut, Connecticut Agricultural Experiment Station as to the accuracy of the data and or related materials. The act of distribution shall not constitute any such warranty, and no responsibility is assumed by the State of Connecticut, Connecticut Agricultural Experiment Station in the use of these data or related materials. The user assumes the entire risk related to the use of these data. Once the data is distributed to the user, modifications made to the data by the user should be noted in the metadata. When printing this data on a map or using it in a software application, analysis, or report, please acknowledge the Connecticut Agricultural Experiment Station Invasive Aquatic Plant Program (CAES IAPP) as the source for this information.
- Credit** Gregory J. Bugbee and Jordan Gibbons, The Connecticut Agricultural Experiment Station Invasive Aquatic Plant Program (CAES IAPP)

**Accuracy
Report**

All aquatic plants noted in this feature were confirmed in the lab using a dichotomous key and, when possible, molecular techniques. Abundance determinations were made by the surveyor based on the abundance guidelines listed in the abstract of this metadata.

**GPS
Accuracy**

Positions were acquired by using a Trimble GeoXT® or a Trimble ProXT® with TerraSync 2.40 or 5.02 (WAAS enabled). Data was post-processed in the lab with Pathfinder Office 5.10 with data from local base stations. Therefore, the average accuracy of the data is less than 1m.

Process

Position data was obtained in the field using a Trimble GeoXT® or a Trimble ProXT® with TerraSync 2.40 or 5.02 (WAAS enabled). Data was post-processed in the lab with Pathfinder Office 5.10 with data from local base stations and then imported into ESRI ArcMap 10 for display and analysis.

Metadata

Water Testing

- Abstract** Water data is taken by The Connecticut Agricultural Experiment Station Invasive Aquatic Plant Program (CAES IAPP) in order to document and analyze the water conditions of surveyed aquatic plants in Lakes Candlewood, Lillinonah and Zoar. Five sample locations were chosen in Candlewood Lake and three locations in Lakes Lillinonah and Zoar. At least one sample location is chosen in the deepest part of the lake and the other are spread out to account for diverse conditions. The depth (meters) and Secchi measurement (transparency; meters) are taken at each location, along with dissolved oxygen (mg/L) and temperature (°C) at 0.5 meters from the surface and one-meter intervals to the bottom. Water samples are also taken at the sample location at a 0.5-meter from the surface and near the water-body bottom. Water samples are assessed in the lab for conductivity (µs/cm), pH, alkalinity (expressed as mg/L CaCO₃) and phosphorous (µg/L).
- Purpose** Water data was taken by The Connecticut Agricultural Experiment Station Invasive Aquatic Plant Program (CAES IAPP) in order to document and analyze the water conditions in Lakes Candlewood, Lillinonah and Zoar and correlate with surveyed aquatic plants.
- Access Constraints** This data is public access data and can be freely distributed. The Connecticut Agricultural Experiment Station Invasive Aquatic Plant Program (CAES IAPP) should be clearly cited as the author in any published works. The State of Connecticut shall not be held liable for improper or incorrect use of the data described and/or contained within this web site. These data and related graphics are not legal documents and are not for use as such. The information contained in these data is dynamic and will change over time. The State of Connecticut gives no warranty, expressed or implied, as to the accuracy, reliability, or completeness of these data. It is the responsibility of the data user to use the data appropriately and consistent within these limitations. Although these data have been processed successfully on a computer system used by the State of Connecticut, no warranty expressed or implied is made regarding the utility of the data on another system or for general or scientific purposes, nor shall the act of distribution constitute any such warranty. This disclaimer applies both to individual use of the data and aggregate use with other data.
- Use Constraints** No restrictions or legal prerequisites for using the data. The data is suitable for use at appropriate scale, and is not intended for maps printed at scales greater or more detailed than 1:24,000 scale (1 inch = 2,000 feet). Although this data set has been used by the State of Connecticut, The Connecticut Agricultural Experiment Station, no warranty, expressed or implied, is made by the State of Connecticut, Connecticut Agricultural Experiment Station as to the accuracy of the data and or related materials. The act of distribution shall not constitute any such warranty, and no responsibility is assumed by the State of Connecticut, Connecticut Agricultural Experiment Station in the use of these data or related materials. The user assumes the entire risk related to the use of these data. Once the data is distributed to the user, modifications made to the data by the user should be noted in the metadata. When printing this data on a map or using it in a software application, analysis, or report, please acknowledge the Connecticut Agricultural Experiment Station Invasive Aquatic Plant Program (CAES IAPP) as the source for this information.
- Credit** Gregory J. Bugbee and Jordan Gibbons, The Connecticut Agricultural Experiment Station Invasive Aquatic Plant Program (CAES IAPP)

**Accuracy
Report**

Secchi measurements were taken in the field with a Secchi disk with measurement markers (meters), using the same method each time. Dissolved oxygen and temperature were taken in the field with a YSI 58 meter (YSI Incorporated, Yellow Springs, Ohio, USA) that was calibrated every time it was used. Water samples were stored at 3° C until analyzed for pH, alkalinity, conductivity and total phosphorus. Conductivity and pH were measured with a Fisher-Accumet AR20 meter (Fisher Scientific International Incorporated, Hampton, New Hampshire, USA), which was calibrated each time it was used. Alkalinity was quantified by titration and expressed as milligrams of CaCO₃ per liter (titrant was 0.08 mol/L H₂SO₄ with an end point of pH 4.5). The total phosphorus analysis was conducted on samples that were acidified with three drops of concentrated H₂SO₄, and consisted of the ascorbic acid method and potassium persulfate digestion outlined by the American Public Health Association (Standard Methods of the Examination of Water and Waste Water, 1995).

**GPS
Accuracy**

Positions were acquired by using a Trimble GeoXT® or a Trimble ProXT® with TerraSync 2.40 or 5.02 (WAAS enabled). Data was post-processed in the lab with Pathfinder Office 5.10 with data from local base stations. Therefore, the average accuracy of the data is less than 1m.

**Process
Description**

Position data was obtained in the field using a Trimble GeoXT® or a Trimble ProXT® with TerraSync 2.40 or 5.02 (WAAS enabled). Data was post-processed in the lab with Pathfinder Office 5.10 with data from local base stations and then imported into ESRI ArcMap 10 for display and analysis.

Invasive Aquatic Plant Location Data

Appendix Lake Candlewood invasive plant location data (1 of 25)

FID	Invasive Plant Name	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
0	MyrSpi	Variable abundance	Patch	8/3/2012	10:32:41am	41.45312	-73.43691	1-4	3	5.80716
1	MyrSpi		Patch	8/3/2012	11:08:30am	41.45502	-73.44088	1-3	2	0.00555
2	MyrSpi		Patch	8/3/2012	11:15:12am	41.45578	-73.44069	1-3	2	0.00773
3	MyrSpi		Patch	8/3/2012	11:17:07am	41.45644	-73.44097	1-3	2	0.01137
4	MyrSpi		Patch	8/3/2012	11:18:36am	41.45669	-73.44127	1-3	3	0.08888
5	MyrSpi		Patch	8/3/2012	11:20:48am	41.45703	-73.44165	1-3	2	0.04047
6	MyrSpi		Patch	8/3/2012	11:22:35am	41.45759	-73.44242	1-3	2	0.00467
7	MyrSpi		Patch	8/3/2012	11:24:18am	41.45844	-73.44284	1-3	2	0.01976
8	MyrSpi		Patch	8/3/2012	11:25:58am	41.45892	-73.44422	1-3	2	0.63258
9	MyrSpi		Patch	8/3/2012	11:42:26am	41.46657	-73.44215	2-4	2	1.16121
10	MyrSpi		Patch	8/3/2012	11:49:37am	41.47165	-73.44515	1-4	3	1.45111
11	MyrSpi		Patch	8/3/2012	12:01:43pm	41.47209	-73.44716	1-4	3	0.41662
12	MyrSpi		Patch	8/3/2012	12:07:56pm	41.47344	-73.44845	1-3	3	0.54134
13	MyrSpi		Patch	8/3/2012	12:16:21pm	41.47396	-73.44816	1-3	2	0.25787
14	MyrSpi		Patch	8/3/2012	12:20:06pm	41.474	-73.44645	2-3	3	0.05022
15	MyrSpi		Patch	8/3/2012	12:23:32pm	41.4769	-73.44951	1-4	3	1.40188
16	MyrSpi		Patch	8/3/2012	12:34:38pm	41.47636	-73.44833	1-4	3	0.19057
17	MyrSpi		Patch	8/3/2012	12:52:27pm	41.49742	-73.45383	1-4	3	0.81118
18	MyrSpi	Highly variable abundance	Patch	8/3/2012	01:05:58pm	41.50291	-73.45282	1-4	3	14.4526
19	MyrSpi		Patch	8/3/2012	01:49:41pm	41.50106	-73.45445	1-4	4	0.75806
20	MyrSpi		Patch	8/3/2012	01:56:41pm	41.50823	-73.45907	1-4	4	1.70605
21	MyrSpi		Patch	8/6/2012	12:48:25pm	41.46816	-73.43551	1-3	3	5.26683
22	MyrSpi		Patch	8/6/2012	01:29:56pm	41.47316	-73.43768	1-3	3	2.93375
23	MyrSpi		Patch	8/6/2012	02:06:14pm	41.47175	-73.43402	1-3	4	2.68583
24	MyrSpi		Patch	8/6/2012	02:29:14pm	41.46463	-73.42739	1-3	4	27.661
25	MyrSpi		Patch	8/6/2012	04:07:17pm	41.46027	-73.43562	1-3	3	0.10431
26	MyrSpi		Patch	8/6/2012	04:09:04pm	41.45939	-73.43545	1-3	3	0.16427
27	MyrSpi		Patch	8/6/2012	04:12:36pm	41.45848	-73.43505	1-3	3	0.02122
28	MyrSpi		Patch	8/6/2012	04:13:47pm	41.45765	-73.43449	1-3	3	0.24833
29	MyrSpi		Patch	8/6/2012	04:15:47pm	41.45542	-73.43402	1-3	4	4.81115

Appendix Lake Candlewood invasive plant location data (2 of 25)

FID	Invasive Plant Name	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
30	MyrSpi		Patch	8/6/2012	04:31:00pm	41.45309	-73.4322	1-3	2	0.00519
31	MyrSpi		Patch	8/6/2012	04:32:21pm	41.45223	-73.43197	1-3	3	0.02961
32	MyrSpi		Patch	8/6/2012	04:33:34pm	41.452	-73.43181	1-3	2	0.01092
33	MyrSpi		Patch	8/6/2012	04:34:25pm	41.45136	-73.43177	1-3	4	0.24612
34	MyrSpi		Patch	8/6/2012	04:36:35pm	41.45003	-73.43101	1-4	4	0.62637
35	MyrSpi		Patch	8/8/2012	11:11:54am	41.458	-73.445	1-3	3	0.01748
36	MyrSpi		Patch	8/8/2012	11:13:16am	41.4573	-73.4448	1-3	3	0.11438
37	MyrSpi		Patch	8/8/2012	11:17:32am	41.45471	-73.44423	1-3	3	0.499
38	MyrSpi		Patch	8/8/2012	11:22:04am	41.45568	-73.44445	1-3	2	0.01182
39	MyrSpi		Patch	8/8/2012	11:24:28am	41.45345	-73.4442	1-3	3	0.0533
40	MyrSpi		Patch	8/8/2012	11:27:29am	41.45288	-73.44453	1-3	2	0.01648
41	MyrSpi		Patch	8/8/2012	11:29:08am	41.4526	-73.44469	1-3	3	0.03674
42	MyrSpi		Patch	8/8/2012	11:31:34am	41.45218	-73.44479	1-3	2	0.02074
43	MyrSpi		Patch	8/8/2012	11:32:41am	41.45169	-73.44493	1-3	3	0.01561
44	MyrSpi	Highly variable abundance	Patch	8/8/2012	11:34:11am	41.45041	-73.44626	1-3	2	0.87553
45	MyrSpi	Highly variable abundance	Patch	8/8/2012	11:54:14am	41.44809	-73.44721	1-3	3	0.27248
46	MyrSpi	Highly variable abundance	Patch	8/8/2012	12:01:11pm	41.44589	-73.44856	1-3	4	4.59127
47	MyrSpi		Patch	8/8/2012	12:40:27pm	41.44807	-73.44972	1-4	3	0.31925
48	MyrSpi		Patch	8/8/2012	12:44:25pm	41.44972	-73.45192	1-4	5	0.78604
49	MyrSpi		Patch	8/8/2012	12:52:51pm	41.4457	-73.45117	1-3	4	0.34193
50	MyrSpi		Patch	8/8/2012	01:06:55pm	41.44346	-73.45137	1-3	4	0.08726
51	MyrSpi	Highly variable abundance	Patch	8/8/2012	01:11:15pm	41.44245	-73.4518	1-3	4	0.34249
52	MyrSpi	Highly variable abundance	Patch	8/8/2012	01:29:48pm	41.4393	-73.4535	1-3	4	3.5535
53	MyrSpi		Patch	8/8/2012	01:59:14pm	41.43704	-73.45454	1-3	2	0.03193
54	MyrSpi		Patch	8/8/2012	02:00:30pm	41.43496	-73.45429	1-3	4	1.79847
55	MyrSpi		Patch	8/8/2012	02:17:26pm	41.43181	-73.45362	1-3	2	0.00586
56	MyrSpi		Patch	8/8/2012	02:18:31pm	41.42675	-73.45249	1-3	5	27.2069
57	MyrSpi		Patch	8/8/2012	03:23:32pm	41.42789	-73.45535	1-3	4	14.7919
58	MyrSpi		Patch	8/9/2012	11:09:26am	41.42535	-73.45679	1-3	5	0.05816
59	MyrSpi		Patch	8/9/2012	11:17:48am	41.42631	-73.45708	1-3	5	0.42615

Appendix Lake Candlewood invasive plant location data (3 of 25)

FID	Invasive Plant Name	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
60	MyrSpi		Patch	8/9/2012	11:28:20am	41.4272	-73.45811	1-3	3	0.26664
61	MyrSpi		Patch	8/9/2012	11:33:21am	41.42782	-73.4588	1-3	3	0.03099
62	MyrSpi		Patch	8/9/2012	11:39:42am	41.4304	-73.46019	1-3	4	0.18748
63	MyrSpi		Patch	8/9/2012	11:45:49am	41.43244	-73.45981	1-3	3	0.95394
64	MyrSpi		Patch	8/9/2012	12:06:52pm	41.43887	-73.45884	1-3	4	0.62204
65	MyrSpi		Patch	8/9/2012	12:13:51pm	41.43977	-73.45814	1-3	4	0.18129
66	MyrSpi		Patch	8/9/2012	12:18:35pm	41.44058	-73.45768	1-3	4	0.23544
67	MyrSpi		Patch	8/9/2012	12:21:19pm	41.44158	-73.45721	1-3	2	0.09812
68	MyrSpi		Patch	8/9/2012	12:28:08pm	41.44303	-73.45619	2-3	2	0.00443
69	MyrSpi		Patch	8/9/2012	12:29:05pm	41.44343	-73.45587	2-3	3	0.01375
70	MyrSpi		Patch	8/9/2012	12:30:11pm	41.44372	-73.45557	1-3	5	0.03643
71	MyrSpi		Patch	8/9/2012	12:32:34pm	41.44444	-73.45527	1-3	4	0.0612
72	MyrSpi		Patch	8/9/2012	12:35:05pm	41.44504	-73.45504	2-3	2	0.00435
73	MyrSpi		Patch	8/9/2012	12:36:20pm	41.44544	-73.45479	1-3	3	0.04927
74	MyrSpi		Patch	8/9/2012	12:45:13pm	41.45337	-73.45087	2-3	4	0.05395
75	MyrSpi		Patch	8/9/2012	12:46:52pm	41.4542	-73.45067	1-3	3	0.29339
76	MyrSpi		Patch	8/9/2012	12:50:07pm	41.45546	-73.45081	1-3	3	0.02993
77	MyrSpi		Patch	8/9/2012	12:52:35pm	41.45703	-73.45312	1-3	4	2.87579
78	MyrSpi		Patch	8/9/2012	01:13:59pm	41.46305	-73.45799	1-3	2	0.01567
79	MyrSpi		Patch	8/9/2012	01:16:07pm	41.4641	-73.45825	1-3	4	0.61685
80	MyrSpi		Patch	8/9/2012	01:24:46pm	41.46515	-73.45824	1-3	3	0.02906
81	MyrSpi		Patch	8/9/2012	01:26:48pm	41.46582	-73.45837	1-3	5	0.12471
82	MyrSpi		Patch	8/9/2012	01:29:34pm	41.46557	-73.45899	1-3	3	0.0206
83	MyrSpi		Patch	8/9/2012	01:31:12pm	41.4648	-73.45985	1-3	3	0.36345
84	MyrSpi		Patch	8/9/2012	01:37:33pm	41.46411	-73.46096	1-3	2	0.08687
85	MyrSpi		Patch	8/9/2012	01:39:46pm	41.46389	-73.46189	1-3	3	0.20288
86	MyrSpi		Patch	8/9/2012	01:44:37pm	41.46407	-73.4621	2-3	2	0.0193
87	MyrSpi		Patch	8/9/2012	01:45:34pm	41.46433	-73.46224	1-3	2	0.09014
88	MyrSpi		Patch	8/9/2012	01:49:13pm	41.46533	-73.46128	1-3	2	0.24012
89	MyrSpi		Patch	8/9/2012	01:58:27pm	41.46695	-73.45981	1-3	3	0.10765

Appendix Lake Candlewood invasive plant location data (4 of 25)

FID	Invasive Plant Name	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
90	MyrSpi		Patch	8/9/2012	02:00:18pm	41.46725	-73.4596	1-3	3	0.03203
91	MyrSpi		Patch	8/9/2012	02:02:07pm	41.46853	-73.45724	1-3	4	1.48609
92	MyrSpi		Patch	8/9/2012	02:27:01pm	41.46622	-73.45538	1-3	4	3.24254
93	MyrSpi		Patch	8/30/2012	12:37:03pm	41.44851	-73.43052	1-3	4	5.06366
94	MyrSpi		Patch	8/30/2012	01:05:43pm	41.44726	-73.42974	0-2	2	0.26711
95	MyrSpi		Patch	8/30/2012	01:10:43pm	41.44762	-73.4303	0-2	5	0.37788
96	MyrSpi		Patch	8/30/2012	01:19:50pm	41.44947	-73.43175	0-2	5	0.05666
97	MyrSpi		Patch	8/30/2012	01:25:22pm	41.44899	-73.4301	0-2	5	0.14026
98	MyrSpi		Patch	8/30/2012	02:15:34pm	41.45267	-73.43742	0-2	5	0.19337
99	MyrSpi		Patch	8/30/2012	02:22:53pm	41.45182	-73.43377	0-2	5	0.51923
103	MyrSpi		Patch	8/13/2012	10:57:52am	41.4696	-73.45687	1-3	4	3.05136
105	MyrSpi		Patch	8/13/2012	11:23:52am	41.47419	-73.46021	1-3	2	0.00797
106	MyrSpi	Variable, possible harvesting	Patch	8/13/2012	11:26:05am	41.48218	-73.46026	1-4	4	9.49322
108	MyrSpi		Patch	8/13/2012	01:11:59pm	41.48008	-73.45755	1-3	2	0.01084
109	MyrSpi		Patch	8/13/2012	01:13:02pm	41.47965	-73.45736	1-3	4	0.20836
110	MyrSpi		Patch	8/13/2012	01:15:54pm	41.47932	-73.45682	1-4	4	0.21401
111	MyrSpi		Patch	8/13/2012	01:19:07pm	41.47922	-73.45644	1-4	2	0.01109
112	MyrSpi		Patch	8/13/2012	01:20:30pm	41.47881	-73.45595	1-4	3	0.17872
113	MyrSpi		Patch	8/13/2012	01:23:20pm	41.47676	-73.45502	1-4	4	1.09954
114	MyrSpi		Patch	8/13/2012	01:34:48pm	41.47495	-73.45337	2-4	2	0.0241
115	MyrSpi		Patch	8/13/2012	01:37:28pm	41.47447	-73.4532	1-4	3	0.0634
116	MyrSpi		Patch	8/13/2012	01:40:34pm	41.47346	-73.45305	2-4	3	0.02207
117	MyrSpi		Patch	8/13/2012	01:41:30pm	41.47314	-73.45288	1-4	3	0.06482
118	MyrSpi		Patch	8/13/2012	01:43:36pm	41.47232	-73.45244	1-4	3	0.22346
119	MyrSpi		Patch	8/13/2012	01:49:54pm	41.47064	-73.4512	1-4	4	1.1249
120	MyrSpi		Patch	8/13/2012	02:00:03pm	41.46961	-73.45059	1-4	3	0.27445
121	MyrSpi		Patch	8/13/2012	02:02:47pm	41.4684	-73.45025	1-4	4	0.52161
122	MyrSpi		Patch	8/13/2012	02:12:24pm	41.46689	-73.44976	1-4	4	0.33562
123	MyrSpi		Patch	8/13/2012	02:17:33pm	41.46614	-73.45052	1-4	4	1.51374
124	MyrSpi		Patch	8/13/2012	02:22:04pm	41.46717	-73.45114	2-4	4	0.0516

Appendix Lake Candlewood invasive plant location data (5 of 25)

FID	Invasive Plant Name	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
125	MyrSpi		Patch	8/13/2012	02:29:02pm	41.46559	-73.4488	1-4	4	0.35574
126	MyrSpi		Patch	8/13/2012	02:34:46pm	41.46241	-73.44609	1-4	4	3.64325
127	MyrSpi		Patch	8/15/2012	10:44:52am	41.46504	-73.44584	1-3	3	0.11529
128	MyrSpi		Patch	8/15/2012	10:47:43am	41.46679	-73.44623	1-4	4	0.60831
129	MyrSpi		Patch	8/15/2012	10:59:45am	41.46949	-73.44854	1-4	4	1.14525
130	MyrSpi		Patch	8/15/2012	11:10:35am	41.47093	-73.45023	1-4	2	0.06055
131	MyrSpi		Patch	8/15/2012	11:23:29am	41.48622	-73.45251	2-4	5	0.00725
132	MyrSpi		Patch	8/15/2012	11:28:26am	41.48987	-73.45314	2-4	3	0.00192
133	MyrSpi		Patch	8/15/2012	11:30:01am	41.49014	-73.45318	1-4	2	0.00743
134	MyrSpi		Patch	8/15/2012	11:31:04am	41.49188	-73.45545	1-4	4	1.23358
135	MyrSpi		Patch	8/15/2012	11:48:57am	41.49208	-73.45834	1-4	3	0.07793
136	MyrSpi		Patch	8/15/2012	11:51:09am	41.49151	-73.45843	1-4	5	0.19996
137	MyrSpi		Patch	8/15/2012	11:57:29am	41.48718	-73.46001	1-4	4	5.17337
138	MyrSpi		Patch	8/15/2012	12:53:04pm	41.48807	-73.46352	1-4	4	1.70834
139	MyrSpi		Patch	8/15/2012	01:20:19pm	41.49113	-73.46605	1-4	5	0.13851
140	MyrSpi		Patch	8/15/2012	01:25:11pm	41.49225	-73.46665	1-4	5	0.17459
141	MyrSpi		Patch	8/15/2012	01:32:21pm	41.49458	-73.46844	1-3	2	0.04214
142	MyrSpi		Patch	8/15/2012	01:35:06pm	41.49561	-73.46882	1-3	2	0.0771
143	MyrSpi	Variable abundance	Patch	8/15/2012	01:37:10pm	41.49875	-73.46887	1-4	5	3.02045
144	MyrSpi		Patch	8/15/2012	02:03:40pm	41.49754	-73.46815	1-4	5	0.18024
145	MyrSpi		Patch	8/15/2012	02:08:11pm	41.49618	-73.46751	1-4	3	0.31319
146	MyrSpi		Patch	8/15/2012	02:20:23pm	41.49657	-73.46389	1-4	5	3.70562
147	MyrSpi		Patch	8/16/2012	11:03:50am	41.46619	-73.43801	1-4	4	0.42329
148	MyrSpi		Patch	8/16/2012	11:07:18am	41.46651	-73.43803	0-1	2	0.01808
149	MyrSpi		Patch	8/16/2012	11:09:12am	41.46886	-73.44014	1-4	4	2.10228
150	MyrSpi		Patch	8/16/2012	11:32:15am	41.47223	-73.4431	1-4	4	1.18654
151	MyrSpi		Patch	8/16/2012	11:44:10am	41.47493	-73.44405	1-4	4	0.911
152	MyrSpi		Patch	8/16/2012	11:52:17am	41.47713	-73.44453	1-4	4	0.32954
153	MyrSpi		Patch	8/16/2012	11:58:57am	41.48322	-73.43765	1-4	4	29.8509
154	MyrSpi		Patch	8/17/2012	10:33:59am	41.49802	-73.4424	1-4	4	0.82694

Appendix Lake Candlewood invasive plant location data (6 of 25)

FID	Invasive Plant Name	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
155	MyrSpi		Patch	8/17/2012	10:56:12am	41.49986	-73.44263	1-4	3	0.13389
156	MyrSpi		Patch	8/17/2012	11:00:15am	41.50075	-73.44268	1-4	3	0.06045
157	MyrSpi		Patch	8/17/2012	11:04:19am	41.50143	-73.44285	1-4	3	0.03315
158	MyrSpi		Patch	8/17/2012	11:05:23am	41.50185	-73.44277	1-4	2	0.0177
159	MyrSpi	Abundance = 5 in cove	Patch	8/17/2012	11:09:03am	41.50455	-73.44149	1-4	5	9.31026
160	MyrSpi		Patch	8/17/2012	11:43:02am	41.50429	-73.43765	1-4	5	0.12654
161	MyrSpi		Patch	8/17/2012	11:47:41am	41.50582	-73.43807	1-3	3	0.04951
162	MyrSpi		Patch	8/17/2012	11:49:29am	41.50659	-73.43827	1-4	5	0.26663
163	MyrSpi		Patch	8/17/2012	11:54:03am	41.50743	-73.43865	1-4	4	0.04987
164	MyrSpi		Patch	8/17/2012	11:55:14am	41.50826	-73.43876	1-4	4	0.27774
165	MyrSpi		Patch	8/17/2012	12:04:59pm	41.50953	-73.4389	1-4	5	0.04846
166	MyrSpi		Patch	8/17/2012	12:07:20pm	41.51045	-73.43899	1-4	4	0.32952
167	MyrSpi		Patch	8/17/2012	12:17:19pm	41.51222	-73.43921	1-4	4	0.44706
168	MyrSpi		Patch	8/17/2012	12:28:33pm	41.51346	-73.44097	1-4	5	2.17627
169	MyrSpi		Patch	8/17/2012	12:43:17pm	41.5114	-73.44116	0-1	4	0.53818
170	MyrSpi		Patch	8/17/2012	12:50:14pm	41.51569	-73.44146	1-3	2	0.00314
171	MyrSpi		Patch	8/17/2012	12:51:20pm	41.51584	-73.44113	0-2	2	0.0188
172	MyrSpi		Patch	8/17/2012	12:57:10pm	41.51601	-73.44081	1-4	5	0.52117
173	MyrSpi		Patch	8/17/2012	01:01:33pm	41.51748	-73.4391	1-4	4	1.76564
174	MyrSpi		Patch	8/17/2012	01:25:41pm	41.5194	-73.4379	1-3	5	0.00302
175	MyrSpi		Patch	8/17/2012	01:26:44pm	41.51879	-73.43695	1-4	5	0.80925
176	MyrSpi		Patch	8/17/2012	01:35:33pm	41.51891	-73.43601	1-3	2	0.10229
177	MyrSpi		Patch	8/17/2012	01:37:07pm	41.51973	-73.43546	1-4	5	1.28708
178	MyrSpi		Patch	8/17/2012	01:47:47pm	41.52126	-73.43577	1-4	4	0.41145
179	MyrSpi		Patch	8/17/2012	01:51:13pm	41.52221	-73.43566	1-4	4	0.36768
180	MyrSpi		Patch	8/17/2012	01:55:06pm	41.52226	-73.43613	0-2	5	0.00692
181	MyrSpi		Patch	8/17/2012	01:57:04pm	41.52277	-73.4362	1-3	5	0.03125
182	MyrSpi		Patch	8/17/2012	01:59:46pm	41.52369	-73.43647	2-4	4	0.00672
183	MyrSpi		Patch	8/17/2012	02:06:57pm	41.5275	-73.43727	1-4	3	0.09585
184	MyrSpi		Patch	8/17/2012	02:09:47pm	41.52692	-73.43784	1-4	3	0.05974

Appendix Lake Candlewood invasive plant location data (7 of 25)

FID	Invasive Plant Name	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
185	MyrSpi		Patch	8/17/2012	02:12:51pm	41.52636	-73.43782	1-4	4	0.04943
186	MyrSpi		Patch	8/20/2012	10:35:56am	41.525	-73.43792	1-4	4	0.36674
187	MyrSpi		Patch	8/20/2012	10:42:59am	41.52382	-73.43736	1-4	5	0.03393
188	MyrSpi		Patch	8/20/2012	10:44:25am	41.52209	-73.43766	1-4	5	1.06725
189	MyrSpi		Patch	8/20/2012	10:51:40am	41.52257	-73.43758	0-1	3	0.02192
190	MyrSpi		Patch	8/20/2012	10:54:11am	41.5223	-73.43786	1-4	4	0.04017
191	MyrSpi		Patch	8/20/2012	10:58:12am	41.52279	-73.43804	1-4	5	0.03933
192	MyrSpi		Patch	8/20/2012	10:59:20am	41.52282	-73.43828	1-4	4	0.02049
193	MyrSpi		Patch	8/20/2012	11:00:47am	41.52394	-73.43835	1-4	4	0.11274
194	MyrSpi	40% abundance = 4 within	Patch	8/20/2012	11:03:55am	41.52776	-73.4425	1-4	5	9.54198
195	MyrSpi		Patch	8/20/2012	11:53:37am	41.5278	-73.43842	1-4	5	2.97058
196	MyrSpi		Patch	8/20/2012	12:21:07pm	41.53123	-73.43874	1-4	3	0.0217
197	MyrSpi		Patch	8/20/2012	12:22:13pm	41.53192	-73.43864	1-4	4	0.20174
198	MyrSpi		Patch	8/20/2012	12:26:14pm	41.53347	-73.43874	1-4	4	1.26085
200	MyrSpi		Patch	8/20/2012	01:37:23pm	41.53925	-73.44299	1-4	3	0.05875
201	MyrSpi		Patch	8/20/2012	01:39:04pm	41.54151	-73.44367	1-4	4	0.98334
202	MyrSpi		Patch	8/20/2012	01:51:20pm	41.54322	-73.44337	1-4	5	0.8304
203	MyrSpi		Patch	8/20/2012	01:58:20pm	41.5445	-73.44299	1-4	5	0.40535
204	MyrSpi		Patch	8/20/2012	02:01:22pm	41.54562	-73.44263	1-4	4	0.54599
205	MyrSpi		Patch	8/20/2012	02:07:07pm	41.54588	-73.44233	0-1	2	0.09242
206	MyrSpi		Patch	8/20/2012	02:13:55pm	41.54713	-73.44233	1-4	5	0.17862
207	MyrSpi		Patch	8/20/2012	02:18:00pm	41.54849	-73.44311	1-4	4	0.09158
208	MyrSpi		Patch	8/20/2012	02:22:52pm	41.54937	-73.44359	1-4	4	0.04275
209	MyrSpi		Patch	8/20/2012	02:24:13pm	41.55032	-73.44389	1-4	3	0.15019
210	MyrSpi		Patch	8/20/2012	02:27:48pm	41.55156	-73.44407	1-4	4	0.38114
211	MyrSpi		Patch	8/20/2012	02:35:58pm	41.55259	-73.44252	1-4	4	1.70817
212	MyrSpi		Patch	8/20/2012	02:50:26pm	41.55089	-73.44049	1-4	2	0.73333
213	MyrSpi		Patch	8/20/2012	02:59:12pm	41.55157	-73.43968	1-4	3	0.1534
214	MyrSpi		Patch	8/20/2012	03:05:16pm	41.55318	-73.43957	1-4	3	0.03604
215	MyrSpi		Patch	8/20/2012	03:07:58pm	41.55389	-73.43973	1-4	4	0.21134

Appendix Lake Candlewood invasive plant location data (8 of 25)

FID	Invasive Plant Name	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
216	MyrSpi		Patch	8/20/2012	03:12:59pm	41.55478	-73.43953	1-3	2	0.01074
217	MyrSpi		Patch	8/20/2012	03:15:06pm	41.55559	-73.43957	1-4	3	0.01302
218	MyrSpi		Patch	8/20/2012	03:16:39pm	41.55614	-73.43961	1-4	4	0.07182
219	MyrSpi		Patch	8/20/2012	03:18:36pm	41.55684	-73.4396	1-4	5	0.01292
220	MyrSpi		Patch	8/20/2012	03:20:05pm	41.55745	-73.43974	1-4	3	0.02165
221	MyrSpi		Patch	8/20/2012	03:22:08pm	41.55792	-73.43978	1-4	4	0.04995
222	MyrSpi		Patch	8/20/2012	03:24:13pm	41.55984	-73.44036	1-4	4	1.0834
223	MyrSpi		Patch	8/21/2012	10:41:57am	41.56396	-73.4408	1-4	4	2.75156
224	MyrSpi		Patch	8/21/2012	11:06:35am	41.56785	-73.44242	1-4	4	1.29943
225	MyrSpi		Patch	8/21/2012	11:35:24am	41.57112	-73.44307	1-4	5	1.56588
226	MyrSpi		Patch	8/21/2012	11:42:22am	41.57247	-73.44397	1-4	5	0.83079
227	MyrSpi		Patch	8/21/2012	11:56:14am	41.56847	-73.44545	1-4	4	0.41332
228	MyrSpi		Patch	8/21/2012	12:02:32pm	41.56652	-73.44508	1-4	4	0.62312
229	MyrSpi		Patch	8/21/2012	12:14:48pm	41.56542	-73.44485	1-4	5	0.03862
230	MyrSpi		Patch	8/21/2012	12:15:53pm	41.56181	-73.44429	1-4	5	4.67148
231	MyrSpi		Patch	8/21/2012	12:39:33pm	41.55755	-73.44357	1-4	4	0.03922
232	MyrSpi		Patch	8/21/2012	12:42:47pm	41.55479	-73.44476	1-4	4	1.4096
233	MyrSpi		Patch	8/21/2012	01:07:34pm	41.55271	-73.44532	1-4	5	0.1808
234	MyrSpi		Patch	8/21/2012	01:10:04pm	41.54747	-73.44702	1-4	5	3.95493
235	MyrSpi		Patch	8/21/2012	01:41:11pm	41.54109	-73.44709	2-4	3	0.0086
236	MyrSpi		Patch	8/21/2012	01:42:59pm	41.54023	-73.44677	2-4	4	0.06109
237	MyrSpi		Patch	8/21/2012	01:46:35pm	41.53799	-73.44704	1-4	4	0.18502
238	MyrSpi		Patch	8/21/2012	01:51:20pm	41.53623	-73.4473	2-4	3	0.02242
239	MyrSpi		Patch	8/21/2012	01:53:15pm	41.53443	-73.44765	1-4	4	0.29635
240	MyrSpi		Patch	8/21/2012	02:02:20pm	41.53286	-73.44827	1-4	4	0.24947
241	MyrSpi		Patch	8/21/2012	02:06:13pm	41.53158	-73.44822	1-4	4	0.20517
242	MyrSpi		Patch	8/21/2012	02:10:20pm	41.53073	-73.44798	1-4	4	0.04373
243	MyrSpi		Patch	8/21/2012	02:13:05pm	41.52902	-73.44707	1-4	3	0.29749
245	MyrSpi		Patch	8/21/2012	02:38:52pm	41.52208	-73.44606	2-4	4	0.3163
246	MyrSpi	Less dense in north	Patch	8/21/2012	02:41:18pm	41.52361	-73.44628	1-4	5	1.79814

Appendix Lake Candlewood invasive plant location data (9 of 25)

FID	Invasive Plant Name	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
247	MyrSpi		Patch	8/21/2012	02:54:11pm	41.52077	-73.44644	2-4	4	0.06289
248	MyrSpi		Patch	8/21/2012	02:57:08pm	41.51833	-73.44548	1-4	3	0.05939
249	MyrSpi		Patch	8/21/2012	03:02:22pm	41.51217	-73.44478	1-4	3	0.05768
250	MyrSpi		Patch	8/21/2012	03:04:57pm	41.51134	-73.44512	1-4	3	0.0613
251	MyrSpi		Patch	8/21/2012	03:07:12pm	41.51049	-73.44547	1-4	4	0.11603
252	MyrSpi		Patch	8/21/2012	03:09:48pm	41.50936	-73.44589	2-4	4	0.04477
253	MyrSpi		Patch	8/21/2012	03:15:18pm	41.50698	-73.44531	2-4	3	0.03235
254	MyrSpi		Patch	8/21/2012	03:16:46pm	41.50555	-73.44476	2-4	3	0.03497
255	MyrSpi		Patch	8/21/2012	03:18:48pm	41.50414	-73.44521	1-4	4	0.65116
256	MyrSpi		Patch	8/21/2012	03:28:50pm	41.50218	-73.44507	2-4	3	0.11919
257	MyrSpi		Patch	8/21/2012	03:38:23pm	41.49654	-73.44634	1-4	5	2.65531
258	MyrSpi		Patch	8/21/2012	03:55:01pm	41.49775	-73.44837	2-4	2	0.01031
259	MyrSpi		Patch	8/22/2012	10:34:29am	41.49353	-73.44547	2-4	4	1.22978
260	MyrSpi		Patch	8/22/2012	10:52:03am	41.50081	-73.46417	1-4	5	0.85539
261	MyrSpi		Patch	8/22/2012	10:56:15am	41.50446	-73.46587	1-4	5	1.412
262	MyrSpi		Patch	8/22/2012	11:14:36am	41.50817	-73.46871	1-4	4	1.88079
263	MyrSpi		Patch	8/22/2012	11:43:17am	41.5099	-73.46884	1-4	4	0.81561
264	MyrSpi		Patch	8/22/2012	12:06:10pm	41.50859	-73.46668	1-4	4	0.16801
266	MyrSpi		Patch	8/22/2012	12:41:36pm	41.50603	-73.46377	1-3	2	0.00728
267	MyrSpi		Patch	8/22/2012	12:43:11pm	41.50528	-73.46314	1-4	4	0.38924
268	MyrSpi		Patch	8/22/2012	12:49:54pm	41.50425	-73.46222	1-4	4	0.09852
269	MyrSpi		Patch	8/22/2012	12:52:07pm	41.50312	-73.46149	1-4	3	0.03029
270	MyrSpi		Patch	8/22/2012	12:53:03pm	41.5024	-73.45987	1-4	4	3.98927
271	MyrSpi		Patch	8/22/2012	01:18:32pm	41.50728	-73.4604	1-4	3	0.38121
272	MyrSpi		Patch	8/22/2012	01:25:47pm	41.5085	-73.46043	1-4	4	0.42143
273	MyrSpi		Patch	8/22/2012	01:39:49pm	41.50952	-73.46134	1-4	2	0.0581
274	MyrSpi		Patch	8/22/2012	01:42:30pm	41.51014	-73.46183	1-4	2	0.01053
275	MyrSpi		Patch	8/22/2012	01:44:34pm	41.51079	-73.46234	1-4	2	0.06887
276	MyrSpi		Patch	8/22/2012	01:48:39pm	41.51309	-73.46202	2-4	4	0.36706
277	MyrSpi		Patch	8/22/2012	01:51:10pm	41.5138	-73.46163	1-4	4	0.94011

Appendix Lake Candlewood invasive plant location data (10 of 25)

FID	Invasive Plant Name	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
278	MyrSpi		Patch	8/22/2012	01:56:27pm	41.51318	-73.46252	1-3	2	0.0448
279	MyrSpi		Patch	8/22/2012	01:59:28pm	41.5152	-73.46261	1-4	5	0.7605
280	MyrSpi		Patch	8/22/2012	02:05:33pm	41.51847	-73.46416	1-4	5	2.75346
281	MyrSpi		Patch	8/22/2012	02:16:57pm	41.52038	-73.46521	1-4	5	0.04883
282	MyrSpi	Cove = 1 possible herbicide	Patch	8/22/2012	02:19:19pm	41.52385	-73.46517	1-4	2	13.5951
283	MyrSpi		Patch	8/22/2012	02:43:59pm	41.52111	-73.46123	1-4	4	6.23078
284	MyrSpi		Patch	8/22/2012	03:19:19pm	41.51457	-73.45946	2-4	4	0.37688
285	MyrSpi		Patch	8/23/2012	11:02:45am	41.51453	-73.45588	1-4	4	4.11539
286	MyrSpi		Patch	8/23/2012	11:27:18am	41.5165	-73.45269	1-4	5	2.85136
287	MyrSpi		Patch	8/23/2012	11:48:52am	41.52676	-73.45345	1-4	4	4.46444
288	MyrSpi		Patch	8/23/2012	12:38:37pm	41.53265	-73.45469	1-4	5	0.79139
289	MyrSpi		Patch	8/23/2012	12:50:53pm	41.5338	-73.45482	1-3	2	0.03761
290	MyrSpi		Patch	8/23/2012	12:52:59pm	41.53466	-73.45541	2-3	2	0.01131
291	MyrSpi		Patch	8/23/2012	12:53:45pm	41.53488	-73.45557	2-4	3	0.04844
292	MyrSpi		Patch	8/23/2012	12:55:29pm	41.53683	-73.45614	1-4	4	0.23988
293	MyrSpi		Patch	8/23/2012	12:59:01pm	41.53843	-73.45676	2-4	2	0.00819
294	MyrSpi		Patch	8/23/2012	01:00:11pm	41.53903	-73.45687	1-4	3	0.03702
295	MyrSpi		Patch	8/23/2012	01:01:50pm	41.53959	-73.45712	1-4	3	0.13858
296	MyrSpi		Patch	8/23/2012	01:06:20pm	41.54009	-73.45726	2-4	4	0.01987
297	MyrSpi		Patch	8/23/2012	01:07:46pm	41.54067	-73.45752	2-4	3	0.10945
298	MyrSpi		Patch	8/23/2012	01:10:19pm	41.54128	-73.4578	1-4	3	0.01882
299	MyrSpi		Patch	8/23/2012	01:12:35pm	41.54277	-73.4586	1-4	3	0.24846
300	MyrSpi		Patch	8/23/2012	01:20:14pm	41.54463	-73.46124	1-4	4	1.18247
301	MyrSpi		Patch	8/23/2012	01:40:21pm	41.54718	-73.46387	1-4	4	1.62231
302	MyrSpi		Patch	8/23/2012	02:01:13pm	41.55051	-73.46512	2-4	2	0.01055
303	MyrSpi		Patch	8/23/2012	02:02:40pm	41.55163	-73.46586	1-4	3	0.21301
304	MyrSpi		Patch	8/23/2012	02:07:27pm	41.55322	-73.46679	1-4	3	0.07782
305	MyrSpi		Patch	8/23/2012	02:09:58pm	41.55397	-73.46942	1-4	5	1.71505
306	MyrSpi		Patch	8/23/2012	02:27:44pm	41.54988	-73.46861	1-4	5	2.26845
307	MyrSpi		Patch	8/23/2012	02:39:06pm	41.54686	-73.46641	1-4	5	0.34073

Appendix Lake Candlewood invasive plant location data (11 of 25)

FID	Invasive Plant Name	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
308	MyrSpi	North abundance = 3	Patch	8/23/2012	02:43:06pm	41.54475	-73.46607	1-4	5	0.40652
309	MyrSpi		Patch	8/23/2012	02:48:21pm	41.54365	-73.46594	1-4	4	0.00421
310	MyrSpi		Patch	8/23/2012	02:49:30pm	41.54366	-73.46634	1-4	5	0.14537
311	MyrSpi		Patch	8/23/2012	02:53:33pm	41.54289	-73.46644	1-4	4	0.88578
312	MyrSpi		Patch	8/23/2012	03:04:01pm	41.54902	-73.47053	1-4	4	2.15027
313	MyrSpi		Patch	8/23/2012	03:27:31pm	41.53844	-73.46522	1-4	4	5.11739
314	MyrSpi		Patch	8/23/2012	03:48:13pm	41.53568	-73.46696	2-4	4	0.22972
315	MyrSpi		Patch	8/23/2012	03:51:20pm	41.53469	-73.46542	1-4	4	0.46571
316	MyrSpi		Patch	8/23/2012	03:55:26pm	41.53339	-73.46547	2-4	4	1.43562
317	MyrSpi		Patch	8/23/2012	04:01:55pm	41.53303	-73.46429	1-4	4	0.18004
318	MyrSpi	Abundance = 2 east cove	Patch	8/23/2012	04:04:51pm	41.53424	-73.4621	1-4	4	2.6467
319	MyrSpi		Patch	8/24/2012	10:21:59am	41.5254	-73.45885	1-3	3	0.17334
320	MyrSpi		Patch	8/24/2012	10:26:34am	41.52879	-73.46178	1-4	4	3.47949
321	MyrSpi		Patch	8/24/2012	10:49:01am	41.53071	-73.46473	1-4	3	0.04356
322	MyrSpi		Patch	8/24/2012	10:51:28am	41.53115	-73.46538	1-4	4	0.31099
323	MyrSpi		Patch	8/24/2012	10:56:49am	41.53149	-73.46595	1-4	4	0.0828
324	MyrSpi	Highly variable abundance	Patch	8/24/2012	11:00:51am	41.53612	-73.46837	1-3	4	3.29509
325	MyrSpi		Patch	8/24/2012	11:25:44am	41.53907	-73.47113	1-3	4	0.02605
326	MyrSpi		Patch	8/24/2012	11:28:01am	41.54019	-73.47159	1-3	3	0.12039
327	MyrSpi		Patch	8/24/2012	11:30:05am	41.54077	-73.47185	1-3	2	0.06104
328	MyrSpi		Patch	8/24/2012	11:32:04am	41.54181	-73.47224	2-3	3	0.02039
329	MyrSpi		Patch	8/24/2012	11:33:39am	41.54232	-73.47249	2-3	2	0.01848
330	MyrSpi		Patch	8/24/2012	11:34:49am	41.54296	-73.47259	2-3	2	0.01934
331	MyrSpi	Highly variable abundance	Patch	8/24/2012	11:37:16am	41.54851	-73.47531	1-4	4	5.00554
332	MyrSpi		Patch	8/24/2012	12:15:01pm	41.5532	-73.48004	1-3	2	0.09965
333	MyrSpi		Patch	8/24/2012	12:18:03pm	41.55384	-73.48009	1-3	2	0.0119
334	MyrSpi		Patch	8/24/2012	12:22:27pm	41.55493	-73.48078	1-3	2	0.00831
335	MyrSpi		Patch	8/24/2012	12:25:47pm	41.55638	-73.48166	1-3	2	0.0072
336	MyrSpi		Patch	8/24/2012	12:26:42pm	41.55802	-73.48358	1-4	2	1.15844
337	MyrSpi		Patch	8/24/2012	12:38:08pm	41.55819	-73.48422	1-3	4	2.69267

Appendix Lake Candlewood invasive plant location data (12 of 25)

FID	Invasive Plant Name	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
338	MyrSpi		Patch	8/24/2012	01:09:31pm	41.55818	-73.48247	1-4	5	0.42953
339	MyrSpi		Patch	8/24/2012	01:14:56pm	41.55676	-73.48107	0-1	3	0.00686
340	MyrSpi		Patch	8/24/2012	01:15:51pm	41.55605	-73.47994	1-4	5	2.27194
341	MyrSpi		Patch	8/24/2012	01:28:00pm	41.55855	-73.48111	1-4	4	2.87658
342	MyrSpi		Patch	8/24/2012	01:47:56pm	41.55744	-73.48031	1-3	5	0.28993
343	MyrSpi		Patch	8/24/2012	01:49:59pm	41.55845	-73.48142	1-3	5	1.74807
344	MyrSpi		Patch	8/24/2012	01:58:55pm	41.56099	-73.48465	1-4	4	0.06172
345	MyrSpi		Patch	8/24/2012	02:01:40pm	41.56126	-73.48527	1-3	4	0.07772
346	MyrSpi		Patch	8/24/2012	02:02:55pm	41.56146	-73.48637	1-4	4	0.34127
347	MyrSpi		Patch	8/24/2012	02:13:06pm	41.56385	-73.48742	1-4	4	3.84797
348	MyrSpi		Patch	8/24/2012	02:40:34pm	41.56383	-73.48461	2-4	4	0.30093
349	MyrSpi		Patch	8/24/2012	02:43:46pm	41.56478	-73.48362	2-4	4	0.43488
350	MyrSpi		Patch	8/24/2012	02:46:30pm	41.56379	-73.48304	2-4	4	1.21506
351	MyrSpi		Patch	8/24/2012	02:50:58pm	41.5627	-73.48341	2-3	4	0.29375
352	MyrSpi		Patch	8/24/2012	02:56:01pm	41.56076	-73.47628	2-4	4	0.32175
353	MyrSpi		Patch	8/24/2012	02:57:42pm	41.56013	-73.47608	2-4	4	0.25572
354	MyrSpi		Patch	8/24/2012	02:59:07pm	41.55995	-73.47559	2-4	4	0.18042
355	MyrSpi		Patch	8/27/2012	10:26:25am	41.56253	-73.48709	1-3	5	0.14452
356	MyrSpi		Patch	8/27/2012	10:29:48am	41.563	-73.48676	1-3	5	0.07388
357	MyrSpi		Patch	8/27/2012	10:32:48am	41.56455	-73.48845	1-3	5	0.27772
358	MyrSpi		Patch	8/27/2012	10:45:31am	41.56561	-73.48952	0-2	3	0.20449
359	MyrSpi	North abundance = 3	Patch	8/27/2012	10:50:02am	41.56673	-73.49009	1-3	5	0.14114
360	MyrSpi		Patch	8/27/2012	10:53:33am	41.56758	-73.49017	1-3	2	0.09447
361	MyrSpi		Patch	8/27/2012	10:58:26am	41.56827	-73.49051	0-2	2	0.01084
362	MyrSpi		Patch	8/27/2012	11:00:15am	41.56933	-73.49074	1-3	3	0.21533
363	MyrSpi		Patch	8/27/2012	11:06:45am	41.57134	-73.49078	1-3	3	10.3834
364	MyrSpi		Patch	8/27/2012	12:18:50pm	41.57125	-73.49208	0-2	5	0.32955
365	MyrSpi		Patch	8/27/2012	12:22:41pm	41.57208	-73.49194	0-2	5	0.0172
366	MyrSpi		Patch	8/27/2012	12:25:38pm	41.57207	-73.49052	0-2	5	0.07974
367	MyrSpi		Patch	8/27/2012	12:31:40pm	41.56798	-73.4886	1-3	4	0.24984

Appendix Lake Candlewood invasive plant location data (13 of 25)

Invasive		Notes	Type	Date	Time	Latitude	Longitude	Depth	Abundance	Area
FID	Plant Name							(m)		(acres)
368	MyrSpi		Patch	8/27/2012	12:39:07pm	41.56834	-73.48872	1-3	5	0.06711
369	MyrSpi		Patch	8/27/2012	12:40:31pm	41.56765	-73.48845	1-3	5	0.09017
370	MyrSpi		Patch	8/27/2012	12:43:32pm	41.56624	-73.48806	1-3	5	0.66717
371	MyrSpi		Patch	8/27/2012	12:50:26pm	41.56623	-73.48737	1-3	4	0.27304
372	MyrSpi		Patch	8/27/2012	12:54:38pm	41.56724	-73.48596	1-4	4	0.76715
373	MyrSpi		Patch	8/27/2012	01:05:46pm	41.56832	-73.48355	1-4	4	3.8703
374	MyrSpi		Patch	8/27/2012	01:34:37pm	41.56699	-73.48458	1-3	5	0.0267
375	MyrSpi		Patch	8/27/2012	01:36:12pm	41.56697	-73.48359	1-3	5	0.31333
376	MyrSpi		Patch	8/27/2012	01:42:10pm	41.56698	-73.48426	1-3	5	1.23478
377	MyrSpi		Patch	8/27/2012	02:21:24pm	41.5669	-73.48366	0-2	5	0.44801
378	MyrSpi		Patch	8/27/2012	02:25:54pm	41.56807	-73.48272	1-3	5	0.64566
379	MyrSpi		Patch	8/27/2012	02:30:04pm	41.56619	-73.48074	1-4	3	0.63595
380	MyrSpi		Patch	8/27/2012	02:41:29pm	41.56361	-73.47837	1-3	5	0.05111
381	MyrSpi		Patch	8/27/2012	02:43:27pm	41.56285	-73.47755	1-4	4	0.03146
382	MyrSpi		Patch	8/27/2012	02:46:26pm	41.55958	-73.47519	1-4	4	1.94087
383	MyrSpi		Patch	8/27/2012	03:06:45pm	41.55536	-73.47345	1-4	4	1.23847
384	MyrSpi		Patch	8/27/2012	03:18:17pm	41.55492	-73.47221	1-3	2	0.00931
385	MyrSpi		Patch	8/27/2012	03:19:48pm	41.5544	-73.47202	1-3	2	0.01792
386	MyrSpi		Patch	8/30/2012	11:11:24am	41.42735	-73.44975	1-3	2	0.06408
387	MyrSpi		Patch	9/12/2012	04:08:15pm	41.47153	-73.43617	0-1	2	0.18413
388	MyrSpi		Patch	9/12/2012	04:08:45pm	41.46985	-73.43513	0-1	2	0.25308
389	MyrSpi		Patch	9/12/2012	04:09:25pm	41.46887	-73.43481	0-1	2	0.05411
390	MyrSpi		Patch	9/12/2012	04:12:12pm	41.46745	-73.43524	0-1	2	0.29098
391	MyrSpi		Patch	9/12/2012	04:13:10pm	41.46616	-73.43588	0-1	2	0.11783
392	MyrSpi		Patch	9/12/2012	04:14:20pm	41.46552	-73.43725	0-1	2	0.14721
410	MyrSpi	Variable abundance	Patch	9/13/2012	02:35:20pm	41.42631	-73.45721	0-1	3	0.17584
394	MyrSpi		Patch	9/13/2012	01:43:22pm	41.47301	-73.43706	0-1	4	0.10401
395	MyrSpi		Patch	9/13/2012	01:44:42pm	41.47292	-73.43682	0-1	4	0.04912
396	MyrSpi		Patch	9/12/2012	04:18:55pm	41.47366	-73.43852	0-1	4	0.13821
397	MyrSpi		Patch	9/13/2012	01:48:15pm	41.47178	-73.4339	0-1	2	0.69724

Appendix Lake Candlewood invasive plant location data (14 of 25)

FID	Invasive Plant Name	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
398	MyrSpi		Patch	9/13/2012	01:45:33pm	41.42711	-73.45814	0-1	2	0.11683
399	MyrSpi		Patch	9/13/2012	01:52:20pm	41.43009	-73.46027	0-1	3	0.01323
400	MyrSpi		Patch	9/13/2012	01:52:21pm	41.43053	-73.46027	0-1	3	0.05724
401	MyrSpi		Patch	9/13/2012	01:57:12pm	41.45683	-73.4539	0-1	3	0.85515
403	MyrSpi		Patch	9/13/2012	02:00:01pm	41.46542	-73.46131	0-1	2	0.03373
404	MyrSpi		Patch	9/13/2012	02:00:51pm	41.46503	-73.46162	0-1	2	0.01394
405	MyrSpi		Patch	9/13/2012	02:06:05pm	41.46857	-73.458	0-1	3	0.12066
406	MyrSpi		Patch	9/13/2012	02:07:34pm	41.46777	-73.45921	0-1	3	0.06205
409	MyrSpi		Patch	8/13/2012	11:13:11am	41.46891	-73.45844	0-1	3	0.19468
413	MyrSpi	Variable abundance	Patch	9/13/2012	03:02:14pm	41.46435	-73.42805	0-1	3	8.18985
414	MyrSpi		Patch	9/17/2012	12:54:21pm	41.464	-73.461	0-1	2	0.05038
415	MyrSpi		Patch	9/17/2012	01:06:12pm	41.48096	-73.46082	0-1	3	3.28497
416	MyrSpi		Patch	9/17/2012	01:08:15pm	41.47964	-73.45709	0-1	2	0.06282
417	MyrSpi		Patch	9/17/2012	01:10:35pm	41.48605	-73.45954	0-1	3	0.7518
419	MyrSpi		Patch	9/17/2012	01:14:10pm	41.48743	-73.46312	0-1	2	0.20169
420	MyrSpi		Patch	9/17/2012	01:14:55pm	41.4888	-73.46446	0-1	2	0.28442
423	MyrSpi		Patch	9/17/2012	01:18:42pm	41.46932	-73.44033	0-1	2	1.67942
424	MyrSpi		Patch	9/17/2012	01:19:07pm	41.47244	-73.44301	0-1	2	1.03034
425	MyrSpi		Patch	9/17/2012	01:21:36pm	41.47504	-73.44394	0-1	2	0.76297
426	MyrSpi		Patch	9/17/2012	01:24:12pm	41.49807	-73.44227	0-1	2	0.53481
427	MyrSpi		Patch	9/17/2012	01:26:42pm	41.50663	-73.43814	0-1	3	0.388
428	MyrSpi		Patch	9/17/2012	01:28:28pm	41.50955	-73.4388	0-1	2	0.03416
429	MyrSpi		Patch	9/17/2012	01:29:53pm	41.51058	-73.43891	0-1	2	0.24945
430	MyrSpi		Patch	9/17/2012	01:31:35pm	41.51376	-73.44007	0-1	4	0.40601
432	MyrSpi		Patch	9/17/2012	01:34:56pm	41.51418	-73.44149	0-1	2	0.68133
433	MyrSpi		Patch	9/17/2012	01:35:15pm	41.5158	-73.44058	0-1	3	0.1961
434	MyrSpi		Patch	9/17/2012	01:37:22pm	41.51741	-73.43892	0-1	2	1.04373
435	MyrSpi		Patch	9/17/2012	01:39:42pm	41.51864	-73.43679	0-1	3	0.25559
438	MyrSpi		Patch	9/17/2012	01:43:10pm	41.51882	-73.43593	0-1	2	0.08672
439	MyrSpi		Patch	9/17/2012	01:45:16pm	41.51987	-73.43524	0-1	3	0.60224

Appendix Lake Candlewood invasive plant location data (15 of 25)

FID	Invasive Plant Name	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
441	MyrSpi		Patch	9/17/2012	01:50:03pm	41.52281	-73.43612	0-1	4	0.05543
442	MyrSpi		Patch	9/17/2012	01:51:49pm	41.52782	-73.43706	0-1	2	0.11202
443	MyrSpi		Patch	9/17/2012	01:55:12pm	41.52905	-73.4384	0-1	2	1.61426
444	MyrSpi		Patch	9/17/2012	01:57:24pm	41.53278	-73.43833	0-1	2	0.20334
445	MyrSpi		Patch	9/17/2012	01:57:41pm	41.53411	-73.43867	0-1	2	0.19323
446	MyrSpi		Patch	9/17/2012	01:59:37pm	41.53557	-73.43869	0-1	2	0.03813
448	MyrSpi		Patch	9/17/2012	02:01:12pm	41.53925	-73.4429	0-1	2	0.052
449	MyrSpi		Patch	9/17/2012	02:02:58pm	41.54716	-73.44221	0-1	2	0.23885
450	MyrSpi		Patch	9/17/2012	02:03:46pm	41.55073	-73.44035	0-1	2	0.39955
451	MyrSpi		Patch	9/17/2012	02:05:24pm	41.55971	-73.44015	0-1	2	0.75894
452	MyrSpi		Patch	9/17/2012	02:07:31pm	41.56373	-73.44055	0-1	2	1.56281
453	MyrSpi		Patch	9/17/2012	02:09:15pm	41.56765	-73.44222	0-1	2	0.77117
455	MyrSpi		Patch	9/17/2012	02:11:13pm	41.57123	-73.44278	0-1	4	0.61493
457	MyrSpi		Patch	9/17/2012	02:13:46pm	41.56856	-73.44556	0-1	2	0.31371
458	MyrSpi		Patch	9/17/2012	02:15:25pm	41.56643	-73.4452	0-1	2	0.18863
459	MyrSpi		Patch	9/17/2012	02:18:15pm	41.56482	-73.44501	0-1	3	0.34401
460	MyrSpi		Patch	9/17/2012	02:18:45pm	41.56271	-73.44482	0-1	3	0.1536
461	MyrSpi		Patch	9/17/2012	02:18:56pm	41.5605	-73.44423	0-1	3	0.64442
462	MyrSpi		Patch	9/17/2012	02:23:15pm	41.55708	-73.44388	0-1	2	0.07754
463	MyrSpi		Patch	9/17/2012	02:23:25pm	41.55554	-73.44489	0-1	2	0.0501
464	MyrSpi		Patch	9/17/2012	02:23:45pm	41.55439	-73.44497	0-1	2	0.17002
465	MyrSpi		Patch	9/17/2012	02:23:55pm	41.55346	-73.44531	0-1	2	0.0826
466	MyrSpi		Patch	9/17/2012	02:24:13pm	41.55271	-73.44544	0-1	2	0.11629
467	MyrSpi		Patch	9/17/2012	02:28:36pm	41.55038	-73.44603	0-1	3	0.28682
468	MyrSpi		Patch	9/17/2012	02:28:59pm	41.54915	-73.4473	0-1	3	0.04042
469	MyrSpi		Patch	9/17/2012	02:29:16pm	41.54453	-73.4482	0-1	3	0.2423
470	MyrSpi		Patch	9/17/2012	02:33:06pm	41.49722	-73.4468	0-1	4	0.33011
472	MyrSpi		Patch	9/17/2012	02:37:19pm	41.50057	-73.46424	0-1	2	0.45311
473	MyrSpi		Patch	9/17/2012	02:40:38pm	41.50411	-73.4658	0-1	2	1.10489
475	MyrSpi		Patch	9/17/2012	02:44:48pm	41.50858	-73.46922	0-1	3	0.80908

Appendix Lake Candlewood invasive plant location data (16 of 25)

FID	Invasive Plant Name	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
477	MyrSpi		Patch	9/17/2012	02:47:13pm	41.51036	-73.46932	0-1	2	0.56264
479	MyrSpi		Patch	9/17/2012	02:49:28pm	41.50859	-73.46629	0-1	4	0.09909
481	MyrSpi		Patch	9/17/2012	02:50:35pm	41.50519	-73.46273	0-1	2	0.09495
482	MyrSpi		Patch	9/17/2012	02:52:12pm	41.51506	-73.46272	0-1	2	0.25811
483	MyrSpi		Patch	9/17/2012	02:56:04pm	41.51767	-73.46381	0-1	3	0.82206
485	MyrSpi		Patch	9/17/2012	02:58:46pm	41.52036	-73.46531	0-1	2	0.02431
486	MyrSpi		Patch	9/17/2012	03:05:19pm	41.52271	-73.46031	0-1	5	0.56103
487	MyrSpi		Patch	9/17/2012	03:15:32pm	41.52131	-73.46198	0-1	2	1.31815
489	MyrSpi		Patch	9/17/2012	03:18:36pm	41.52162	-73.45893	0-1	2	0.56523
491	MyrSpi		Patch	9/17/2012	03:23:15pm	41.51475	-73.45523	0-1	2	1.14374
492	MyrSpi		Patch	9/17/2012	03:24:35pm	41.51409	-73.45324	0-1	4	0.7274
494	MyrSpi		Patch	9/17/2012	03:26:41pm	41.53325	-73.45464	0-1	4	0.21573
495	MyrSpi		Patch	9/17/2012	03:27:14pm	41.53243	-73.45439	0-1	2	0.33691
497	MyrSpi		Patch	9/17/2012	03:30:15pm	41.5447	-73.46104	0-1	2	0.53968
498	MyrSpi		Patch	9/17/2012	03:34:23pm	41.54761	-73.46375	0-1	2	1.20494
499	MyrSpi		Patch	9/17/2012	03:36:32pm	41.55392	-73.47029	0-1	4	0.44145
500	MyrSpi		Patch	9/17/2012	03:38:41pm	41.54975	-73.46866	0-1	2	1.35704
501	MyrSpi		Patch	9/17/2012	03:40:12pm	41.53849	-73.46655	0-1	2	2.3055
503	MyrSpi		Patch	9/17/2012	03:43:12pm	41.52851	-73.46159	0-1	2	1.19472
504	MyrSpi		Patch	9/17/2012	03:44:08pm	41.53105	-73.46559	0-1	3	0.14863
505	MyrSpi		Patch	9/17/2012	03:45:28pm	41.5315	-73.4661	0-1	2	0.03974
506	MyrSpi		Patch	9/17/2012	03:49:31pm	41.54924	-73.47606	0-1	2	2.18597
507	MyrSpi		Patch	9/17/2012	03:50:10pm	41.55851	-73.48449	0-1	4	0.50406
508	MyrSpi		Patch	9/17/2012	03:51:14pm	41.55836	-73.48242	0-1	3	0.06958
510	MyrSpi		Patch	9/17/2012	03:54:48pm	41.55661	-73.48034	0-1	4	0.21926
512	MyrSpi		Patch	9/18/2012	08:05:10am	41.55805	-73.48153	0-1	3	0.21828
514	MyrSpi		Patch	9/18/2012	08:07:05am	41.55756	-73.48061	0-1	2	0.25915
515	MyrSpi		Patch	9/18/2012	08:07:46am	41.55936	-73.48257	0-1	2	0.44871
516	MyrSpi		Patch	9/18/2012	08:09:35am	41.56133	-73.48642	0-1	2	0.25679
517	MyrSpi		Patch	9/18/2012	08:26:35am	41.56337	-73.48756	0-1	2	0.34925

Appendix Lake Candlewood invasive plant location data (17 of 25)

FID	Invasive Plant Name	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
518	MyrSpi		Patch	9/18/2012	08:35:55am	41.56228	-73.48759	0-1	4	0.13676
520	MyrSpi		Patch	9/18/2012	08:38:23am	41.56978	-73.49099	0-1	2	0.07334
521	MyrSpi		Patch	9/18/2012	08:50:47am	41.56787	-73.48848	0-1	2	0.11182
522	MyrSpi		Patch	9/18/2012	09:29:13am	41.56618	-73.48784	0-1	2	0.19598
523	MyrSpi		Patch	9/18/2012	09:31:03am	41.56627	-73.48748	0-1	2	0.16143
524	MyrSpi		Patch	9/18/2012	09:34:52am	41.56742	-73.48598	0-1	2	0.47636
525	MyrSpi		Patch	9/18/2012	09:48:20am	41.56628	-73.48071	0-1	2	0.49014
526	MyrSpi		Patch	9/18/2012	09:49:31am	41.55522	-73.47243	0-1	3	0.13996
543	MyrSpi		Patch	9/18/2012	10:47:36am	41.46392	-73.46231	0-1	3	0.04609
544	MyrSpi		Patch	9/18/2012	10:52:02am	41.44875	-73.43132	0-1	2	0.15059
545	MyrSpi		Patch	9/18/2012	10:52:59am	41.44706	-73.42988	0-1	2	0.08295
546	MyrSpi		Patch	9/18/2012	10:53:12am	41.44768	-73.42948	0-1	2	0.54741
550	MyrSpi		Patch	9/18/2012	10:57:15am	41.49107	-73.46616	0-1	4	0.03711
552	MyrSpi		Patch	9/18/2012	11:08:45am	41.49949	-73.46902	0-1	3	1.26219
556	MyrSpi		Patch	9/18/2012	11:17:58am	41.47923	-73.43465	0-1	3	4.04634
557	MyrSpi		Patch	9/18/2012	11:18:22am	41.4865	-73.43409	0-1	3	0.32305
558	MyrSpi		Patch	9/18/2012	11:25:10am	41.49516	-73.4416	0-1	2	0.67406
559	MyrSpi		Patch	9/18/2012	11:25:20am	41.49007	-73.43728	0-1	2	1.1396
560	MyrSpi		Patch	9/18/2012	11:25:40am	41.48759	-73.43511	0-1	2	0.39183
561	MyrSpi		Patch	9/18/2012	11:26:10am	41.4848	-73.43496	0-1	2	1.13606
562	MyrSpi		Patch	9/18/2012	11:26:40am	41.48242	-73.4353	0-1	2	0.27607
563	MyrSpi		Patch	9/18/2012	11:26:55am	41.48242	-73.44155	0-1	2	5.20639
564	MyrSpi		Patch	9/18/2012	11:43:12am	41.50352	-73.44087	0-1	2	0.32527
565	MyrSpi		Patch	9/18/2012	11:43:52am	41.5035	-73.44244	0-1	2	0.43709
566	MyrSpi		Patch	9/18/2012	11:51:36am	41.52858	-73.44264	0-1	2	1.13929
567	MyrSpi		Patch	9/18/2012	11:51:40am	41.52565	-73.44216	0-1	2	0.19836
568	MyrSpi		Patch	9/18/2012	11:51:55am	41.52611	-73.44291	0-1	2	0.28703
569	MyrSpi		Patch	9/18/2012	11:53:10am	41.52718	-73.44639	0-1	3	0.03484
570	MyrSpi		Patch	9/18/2012	11:54:47am	41.52457	-73.4459	0-1	2	0.08854
572	MyrSpi		Patch	9/18/2012	11:58:43am	41.52412	-73.46519	0-1	2	5.85355

Appendix Lake Candlewood invasive plant location data (18 of 25)

FID	Invasive Plant Name	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
573	MyrSpi		Patch	9/18/2012	12:00:20pm	41.53561	-73.46221	0-1	3	0.23353
575	MyrSpi	North abundance = 3	Patch	9/18/2012	12:01:21pm	41.56681	-73.49014	0-1	5	0.05448
578	MyrSpi		Patch	9/18/2012	12:06:55am	41.57519	-73.49222	0-1	3	0.57324
579	MyrSpi		Patch	9/18/2012	12:06:30pm	41.57495	-73.49257	0-1	3	0.35017
580	MyrSpi		Patch	9/18/2012	12:12:25pm	41.5703	-73.48415	0-1	3	1.01165
581	MyrSpi		Patch	9/18/2012	12:08:41pm	41.57068	-73.48893	0-1	2	0.29779
582	MyrSpi		Patch	9/18/2012	12:09:38pm	41.57318	-73.49178	0-1	2	0.15436
589	MyrSpi		Patch	9/18/2012	01:31:12pm	41.56445	-73.4885	0-1	5	0.21503
590	MyrSpi		Patch	9/18/2012	01:33:15pm	41.56249	-73.48729	0-1	5	0.03962
591	MyrSpi		Patch	9/18/2012	01:33:58pm	41.56267	-73.48712	0-1	5	0.00473
100	NajMin		Patch	8/13/2012	10:48:21am	41.46624	-73.45512	0-1	3	0.01342
101	NajMin		Patch	8/13/2012	10:50:54am	41.46689	-73.45537	0-1	3	0.03036
102	NajMin		Patch	8/13/2012	10:52:48am	41.46714	-73.45612	0-1	2	0.00213
104	NajMin		Patch	8/13/2012	11:13:11am	41.46891	-73.45844	0-1	3	0.19468
107	NajMin		Patch	8/13/2012	01:06:13pm	41.48092	-73.45752	1-4	4	0.37336
199	NajMin		Patch	8/20/2012	01:03:45pm	41.53631	-73.44066	1-4	4	1.41988
244	NajMin	North abundance = 3	Patch	8/21/2012	02:18:28pm	41.52728	-73.4464	1-4	4	0.07622
265	NajMin		Patch	8/22/2012	12:11:23pm	41.50725	-73.46539	1-4	4	0.74325
393	NajMin		Patch	9/12/2012	04:18:55pm	41.47366	-73.43852	0-1	2	0.13821
402	NajMin		Patch	9/13/2012	01:58:36pm	41.45652	-73.45411	0-1	4	0.31653
407	NajMin		Patch	9/13/2012	02:07:34pm	41.46777	-73.45921	0-1	2	0.06205
408	NajMin		Patch	9/13/2012	02:06:05pm	41.46857	-73.458	0-1	2	0.12066
411	NajMin		Patch	9/13/2012	02:37:14pm	41.42642	-73.45737	0-1	2	0.06694
412	NajMin		Patch	9/13/2012	02:37:30pm	41.42585	-73.45704	0-1	2	0.01783
418	NajMin		Patch	9/17/2012	01:10:55pm	41.48597	-73.45954	0-1	3	0.66678
421	NajMin		Patch	9/17/2012	01:14:55pm	41.4888	-73.46446	0-1	2	0.28442
422	NajMin		Patch	9/17/2012	01:14:10pm	41.48743	-73.46312	0-1	2	0.20169
431	NajMin		Patch	9/17/2012	01:31:40pm	41.51376	-73.44007	0-1	2	0.40601
436	NajMin		Patch	9/17/2012	01:41:23pm	41.51846	-73.4367	0-1	3	0.05261
437	NajMin		Patch	9/17/2012	01:42:32pm	41.51855	-73.43713	0-1	3	0.04569

Appendix Lake Candlewood invasive plant location data (19 of 25)

FID	Invasive Plant Name	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
440	NajMin		Patch	9/17/2012	01:46:29pm	41.51935	-73.43508	0-1	4	0.08905
447	NajMin		Patch	9/17/2012	01:59:52pm	41.53557	-73.43869	0-1	2	0.03813
454	NajMin		Patch	9/17/2012	02:09:45pm	41.56765	-73.44222	0-1	2	0.77117
456	NajMin		Patch	9/17/2012	02:11:33pm	41.57123	-73.44278	0-1	2	0.61493
471	NajMin		Patch	9/17/2012	02:33:26pm	41.49722	-73.4468	0-1	2	0.33011
474	NajMin		Patch	9/17/2012	02:41:22pm	41.50591	-73.46687	0-1	2	0.25099
476	NajMin		Patch	9/17/2012	02:44:59pm	41.50858	-73.46922	0-1	2	0.80908
478	NajMin		Patch	9/17/2012	02:47:23pm	41.51036	-73.46932	0-1	2	0.56264
480	NajMin		Patch	9/17/2012	02:49:38pm	41.50859	-73.46629	0-1	3	0.09909
484	NajMin		Patch	9/17/2012	02:56:14pm	41.51767	-73.46381	0-1	3	0.82206
488	NajMin		Patch	9/17/2012	03:15:42pm	41.52131	-73.46198	0-1	2	1.31815
490	NajMin		Patch	9/17/2012	03:18:46pm	41.52162	-73.45893	0-1	2	0.56523
493	NajMin		Patch	9/17/2012	03:24:55pm	41.51409	-73.45324	0-1	3	0.7274
496	NajMin		Patch	9/17/2012	03:27:34pm	41.53243	-73.45439	0-1	2	0.33691
502	NajMin		Patch	9/17/2012	03:43:56pm	41.52944	-73.4638	0-1	2	0.14778
509	NajMin		Patch	9/17/2012	03:51:44pm	41.55836	-73.48242	0-1	3	0.06958
511	NajMin		Patch	9/17/2012	03:55:10pm	41.55668	-73.4804	0-1	2	0.10025
513	NajMin		Patch	9/18/2012	08:05:20am	41.55805	-73.48153	0-1	2	0.21828
519	NajMin		Patch	9/18/2012	08:36:25am	41.56228	-73.48762	0-1	2	0.11769
527	NajMin		Patch	9/18/2012	09:52:09am	41.4455	-73.44765	0-1	3	0.76624
528	NajMin		Patch	9/18/2012	09:54:13pm	41.43009	-73.46027	0-1	2	0.01323
529	NajMin		Patch	9/18/2012	09:54:48pm	41.43053	-73.46027	0-1	2	0.05724
530	NajMin		Patch	9/18/2012	09:57:20pm	41.4975	-73.46805	0-1	3	0.22965
531	NajMin		Patch	9/18/2012	09:58:14pm	41.49639	-73.46767	0-1	2	0.1144
532	NajMin		Patch	9/18/2012	10:01:02am	41.52896	-73.44286	0-1	3	0.23093
533	NajMin		Patch	9/18/2012	10:01:02am	41.52942	-73.44254	0-1	3	0.09088
534	NajMin		Patch	9/18/2012	10:03:51am	41.50728	-73.46527	0-1	2	0.56726
535	NajMin		Patch	9/18/2012	10:30:15am	41.47213	-73.43355	0-1	2	0.15029
536	NajMin		Patch	9/18/2012	10:39:26am	41.46984	-73.42986	0-1	2	0.21698
537	NajMin		Patch	9/18/2012	10:39:59am	41.46865	-73.42528	0-1	2	0.25943

Appendix Lake Candlewood invasive plant location data (20 of 25)

FID	Invasive Plant Name	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
538	NajMin		Patch	9/18/2012	10:40:26am	41.46685	-73.42411	0-1	2	0.30851
539	NajMin		Patch	9/18/2012	10:40:55am	41.46411	-73.42492	0-1	2	1.3361
540	NajMin		Patch	9/18/2012	10:41:06am	41.45963	-73.42804	0-1	2	0.51019
541	NajMin		Patch	9/18/2012	10:45:11am	41.4233	-73.45394	0-1	2	0.2897
542	NajMin		Patch	9/18/2012	10:46:03am	41.42421	-73.45362	0-1	2	0.22372
547	NajMin		Patch	9/18/2012	10:54:32am	41.44875	-73.43132	0-1	2	0.15059
548	NajMin		Patch	9/18/2012	10:55:12am	41.44706	-73.42988	0-1	2	0.08295
549	NajMin		Patch	9/18/2012	10:55:48am	41.44768	-73.42948	0-1	2	0.54741
551	NajMin		Patch	9/18/2012	11:06:25am	41.50003	-73.46906	0-1	3	0.71105
553	NajMin		Patch	9/18/2012	11:10:51am	41.49603	-73.46489	0-1	2	0.3103
554	NajMin		Patch	9/18/2012	11:17:52am	41.47923	-73.43465	0-1	3	4.04634
555	NajMin		Patch	9/18/2012	11:18:12am	41.4865	-73.43409	0-1	3	0.32305
571	NajMin		Patch	9/18/2012	11:56:20am	41.52515	-73.46526	0-1	2	3.81015
574	NajMin		Patch	9/18/2012	12:00:40pm	41.53561	-73.46221	0-1	3	0.23353
576	NajMin		Patch	9/18/2012	12:06:20am	41.57495	-73.49257	0-1	3	0.35017
577	NajMin		Patch	9/18/2012	12:06:45am	41.57519	-73.49222	0-1	3	0.57324
583	NajMin		Patch	9/18/2012	12:12:55pm	41.5703	-73.48415	0-1	3	1.01165
584	NajMin		Patch	9/18/2012	12:21:15pm	41.439	-73.45315	0-1	3	0.41316
585	NajMin		Patch	9/18/2012	12:24:02pm	41.48365	-73.4603	0-1	3	0.04645
586	NajMin		Patch	9/18/2012	12:24:50pm	41.48364	-73.46022	1-3	3	0.02764
587	NajMin		Patch	9/18/2012	12:31:25pm	41.52972	-73.45364	0-1	2	0.31599
588	NajMin		Patch	9/18/2012	12:34:21pm	41.53108	-73.45424	0-1	2	0.24405
0	PotCri		Patch	6/8/2012	12:07:49pm	41.42599	-73.45172	2	1	0.05269
1	PotCri	into swim area	Patch	6/8/2012	12:11:10pm	41.42611	-73.45141	2	1	0.07797
2	PotCri		Patch	6/8/2012	12:17:46pm	41.42632	-73.45047	3	1	0.22606
3	PotCri		Patch	6/12/2012	10:20:36am	41.4285	-73.45147	2	1	0.04778
4	PotCri		Patch	6/12/2012	10:24:44am	41.42858	-73.45197	2	3	0.43257
5	PotCri		Patch	6/14/2012	10:24:59am	41.5709	-73.49177	2	1	0.0916
6	PotCri		Patch	6/14/2012	11:01:38am	41.57026	-73.4842	1	1	0.05571
7	MyrSpi		Point	8/3/2012	12:14:30pm	41.47327	-73.44804	0-1	2	0.0002

Appendix Lake Candlewood invasive plant location data (21 of 25)

FID	Invasive Plant Name	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
8	MyrSpi		Point	8/3/2012	12:14:40pm	41.47326	-73.44807	0-1	1	0.0002
9	MyrSpi		Point	8/8/2012	11:26:30am	41.4531	-73.44443	1-3	2	0.0002
10	MyrSpi		Point	8/8/2012	11:26:55am	41.45315	-73.44442	2-3	2	0.0002
11	MyrSpi		Point	8/8/2012	01:09:35pm	41.44357	-73.45119	0-1	1	0.0002
12	MyrSpi		Point	8/8/2012	01:09:50pm	41.44359	-73.4512	0-2	2	0.0002
13	MyrSpi		Point	8/8/2012	01:24:30pm	41.44242	-73.45259	1-3	2	0.0002
14	MyrSpi		Point	8/8/2012	01:25:00pm	41.44242	-73.45269	1-3	2	0.0002
15	MyrSpi		Point	8/8/2012	02:15:40pm	41.43245	-73.45379	0-2	2	0.0002
16	MyrSpi		Point	8/8/2012	02:16:05pm	41.43246	-73.45378	0-1	2	0.0002
17	MyrSpi		Point	8/9/2012	11:36:45am	41.42815	-73.45915	2-3	2	0.0002
18	MyrSpi		Point	8/9/2012	12:03:05pm	41.43534	-73.45902	2-3	1	0.0002
19	MyrSpi		Point	8/9/2012	12:26:00pm	41.44217	-73.45703	2-3	2	0.0002
20	MyrSpi		Point	8/9/2012	12:26:55pm	41.44247	-73.45676	2-3	3	0.0002
21	MyrSpi		Point	8/9/2012	12:27:20pm	41.44251	-73.45667	2-3	1	0.0002
22	MyrSpi		Point	8/9/2012	12:31:40pm	41.4436	-73.45569	0-1	2	0.0002
23	MyrSpi		Point	8/9/2012	12:39:20pm	41.44612	-73.45441	2-3	2	0.0002
24	MyrSpi		Point	8/9/2012	12:51:40pm	41.45578	-73.45073	2-3	2	0.0002
25	MyrSpi		Point	8/9/2012	12:52:00pm	41.45582	-73.45072	2-3	2	0.0002
26	MyrSpi		Point	8/9/2012	01:09:50pm	41.46273	-73.45786	2-3	1	0.0002
27	MyrSpi		Point	8/9/2012	01:10:30pm	41.4626	-73.45773	2-3	1	0.0002
28	MyrSpi		Point	8/9/2012	01:15:30pm	41.46328	-73.45791	2-3	2	0.0002
29	MyrSpi		Point	8/9/2012	01:56:05pm	41.46593	-73.46068	0-2	2	0.0002
32	MyrSpi		Point	8/13/2012	02:08:45pm	41.46873	-73.45003	0-1	2	0.0002
33	MyrSpi		Point	8/13/2012	02:09:05pm	41.46878	-73.45007	0-1	2	0.0002
35	MyrSpi		Point	8/13/2012	02:34:05pm	41.46471	-73.44728	2-3	2	0.0002
36	MyrSpi		Point	8/13/2012	02:34:20pm	41.4647	-73.44728	2-3	2	0.0002
37	MyrSpi		Point	8/15/2012	11:47:50am	41.49257	-73.45817	2-3	3	0.0002
38	MyrSpi		Point	8/15/2012	11:53:35am	41.49106	-73.45843	2-3	3	0.0002
39	MyrSpi		Point	8/15/2012	11:54:45am	41.49069	-73.45843	1-3	2	0.0002
40	MyrSpi		Point	8/15/2012	11:56:15am	41.49046	-73.45841	1-3	2	0.0002

Appendix Lake Candlewood invasive plant location data (22 of 25)

FID	Invasive Plant Name	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
41	MyrSpi		Point	8/15/2012	01:29:05pm	41.49363	-73.46773	1-3	2	0.0002
42	MyrSpi		Point	8/15/2012	01:29:25pm	41.49365	-73.46775	0-2	2	0.0002
43	MyrSpi		Point	8/15/2012	01:29:35pm	41.49366	-73.46776	0-1	2	0.0002
44	MyrSpi		Point	8/15/2012	01:31:50pm	41.49427	-73.46825	0-1	2	0.0002
46	MyrSpi		Point	8/17/2012	11:02:30am	41.50114	-73.44274	2-3	2	0.0002
47	MyrSpi		Point	8/17/2012	11:02:55am	41.50113	-73.44271	2-3	2	0.0002
48	MyrSpi		Point	8/17/2012	11:07:35am	41.50246	-73.44265	2-3	2	0.0002
49	MyrSpi		Point	8/17/2012	11:07:50am	41.50238	-73.44262	2-3	2	0.0002
50	MyrSpi		Point	8/17/2012	11:08:05am	41.5023	-73.44265	2-3	2	0.0002
51	MyrSpi		Point	8/17/2012	11:44:50am	41.50421	-73.43756	0-1	2	0.0002
52	MyrSpi		Point	8/17/2012	11:45:15am	41.50433	-73.43757	0-1	2	0.0002
53	MyrSpi		Point	8/17/2012	11:45:40am	41.50446	-73.43759	0-1	2	0.0002
54	MyrSpi		Point	8/17/2012	11:47:10am	41.50532	-73.43789	1-3	2	0.0002
55	MyrSpi	Sand	Point	8/17/2012	11:57:45am	41.50782	-73.43865	0-1	2	0.0002
56	MyrSpi		Point	8/17/2012	11:58:25am	41.50792	-73.43865	0-1	2	0.0002
57	MyrSpi		Point	8/17/2012	11:58:30am	41.50793	-73.43863	0-1	2	0.0002
58	MyrSpi		Point	8/17/2012	11:59:10am	41.50809	-73.43863	0-1	2	0.0002
59	MyrSpi		Point	8/17/2012	11:59:20am	41.5081	-73.43864	0-1	2	0.0002
60	MyrSpi	Sand	Point	8/17/2012	12:00:00pm	41.50828	-73.43864	0-1	2	0.0002
61	MyrSpi	Sand	Point	8/17/2012	12:00:35pm	41.50839	-73.43864	0-1	2	0.0002
62	MyrSpi	Sand	Point	8/17/2012	12:01:20pm	41.50849	-73.43864	0-1	2	0.0002
63	MyrSpi	Sand	Point	8/17/2012	12:01:40pm	41.50853	-73.43864	0-1	2	0.0002
64	MyrSpi	Sand	Point	8/17/2012	12:03:05pm	41.50918	-73.43876	0-1	2	0.0002
65	MyrSpi	Sand	Point	8/17/2012	12:03:35pm	41.50921	-73.43877	0-1	2	0.0002
66	MyrSpi		Point	8/17/2012	02:01:40pm	41.52392	-73.43638	2-3	3	0.0002
67	MyrSpi		Point	8/17/2012	02:02:05pm	41.52397	-73.4364	2-3	3	0.0002
69	MyrSpi		Point	8/20/2012	01:56:50pm	41.54341	-73.44285	0-1	5	0.0002
70	MyrSpi		Point	8/20/2012	01:57:05pm	41.54343	-73.44285	0-1	5	0.0002
71	MyrSpi		Point	8/20/2012	02:20:10pm	41.54834	-73.44298	0-1	2	0.0002
72	MyrSpi		Point	8/20/2012	02:20:40pm	41.54839	-73.44297	0-1	2	0.0002

Appendix Lake Candlewood invasive plant location data (23 of 25)

FID	Invasive Plant Name	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
73	MyrSpi		Point	8/20/2012	02:21:15pm	41.54843	-73.44301	0-1	4	0.0002
74	MyrSpi		Point	8/20/2012	02:26:40pm	41.55011	-73.44375	0-1	1	0.0002
75	MyrSpi		Point	8/20/2012	02:27:05pm	41.55022	-73.44377	0-1	1	0.0002
76	MyrSpi		Point	8/20/2012	02:33:05pm	41.55138	-73.44392	0-1	2	0.0002
77	MyrSpi		Point	8/20/2012	02:33:30pm	41.55142	-73.4439	0-1	2	0.0002
78	MyrSpi		Point	8/20/2012	02:33:50pm	41.55145	-73.44391	0-1	3	0.0002
79	MyrSpi		Point	8/20/2012	02:34:00pm	41.55146	-73.44391	0-1	2	0.0002
80	MyrSpi		Point	8/20/2012	02:44:45pm	41.55256	-73.44406	0-1	2	0.0002
81	MyrSpi	Sand	Point	8/20/2012	02:45:25pm	41.55271	-73.44388	0-1	2	0.0002
82	MyrSpi		Point	8/20/2012	02:49:45pm	41.55168	-73.44141	0-1	2	0.0002
83	MyrSpi		Point	8/20/2012	03:02:55pm	41.55248	-73.43954	1-3	2	0.0002
84	MyrSpi		Point	8/20/2012	03:14:25pm	41.55519	-73.43954	1-3	3	0.0002
85	MyrSpi		Point	8/21/2012	11:51:40am	41.57184	-73.44577	1-3	2	0.0002
86	MyrSpi		Point	8/21/2012	11:52:10am	41.57171	-73.44576	1-3	2	0.0002
87	MyrSpi		Point	8/21/2012	12:13:45pm	41.56569	-73.44483	1-3	2	0.0002
88	MyrSpi		Point	8/21/2012	12:13:55pm	41.56567	-73.44485	1-3	2	0.0002
89	MyrSpi		Point	8/21/2012	12:14:15pm	41.56564	-73.44483	1-3	2	0.0002
90	MyrSpi		Point	8/21/2012	03:12:30pm	41.50827	-73.44594	2-3	2	0.0002
91	MyrSpi		Point	8/21/2012	03:13:20pm	41.50811	-73.44588	2-3	2	0.0002
92	MyrSpi		Point	8/21/2012	03:33:45pm	41.50144	-73.44506	0-1	3	0.0002
93	MyrSpi		Point	8/21/2012	03:34:25pm	41.50141	-73.44508	0-1	3	0.0002
94	MyrSpi		Point	8/21/2012	03:36:35pm	41.49957	-73.44533	1-3	4	0.0002
95	MyrSpi		Point	8/22/2012	10:55:35am	41.5017	-73.46456	1-3	2	0.0002
96	MyrSpi		Point	8/22/2012	01:15:10pm	41.5038	-73.46028	2-3	2	0.0002
97	MyrSpi		Point	8/22/2012	01:17:35pm	41.50601	-73.46053	1-3	2	0.0002
98	MyrSpi		Point	8/22/2012	01:17:55pm	41.506	-73.46055	1-3	2	0.0002
99	MyrSpi		Point	8/22/2012	01:43:50pm	41.51031	-73.46198	2-3	1	0.0002
100	MyrSpi		Point	8/23/2012	01:52:25pm	41.54519	-73.46324	2-3	2	0.0002
101	MyrSpi		Point	8/24/2012	10:48:05am	41.53031	-73.46446	0-1	2	0.0002
102	MyrSpi		Point	8/24/2012	10:48:40am	41.53045	-73.46453	0-1	2	0.0002

Appendix Lake Candlewood invasive plant location data (24 of 25)

FID	Invasive Plant Name	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
103	MyrSpi		Point	8/24/2012	11:36:40am	41.54334	-73.47262	2-3	2	0.0002
104	MyrSpi		Point	8/24/2012	11:36:55am	41.54345	-73.47261	2-3	2	0.0002
105	MyrSpi		Point	8/24/2012	12:20:20pm	41.55466	-73.48058	1-3	2	0.0002
106	MyrSpi		Point	8/24/2012	12:24:30pm	41.55556	-73.48102	2-3	2	0.0002
107	MyrSpi		Point	8/24/2012	12:24:45pm	41.55567	-73.48103	1-3	2	0.0002
108	MyrSpi		Point	8/27/2012	02:29:30pm	41.5674	-73.4818	2-3	2	0.0002
109	MyrSpi		Point	8/27/2012	02:46:00pm	41.56242	-73.47702	2-3	2	0.0002
110	MyrSpi		Point	8/16/2012	02:39:28pm	41.48246	-73.43538	0-1	5	0.0002
112	MyrSpi		Point	9/18/2012	12:15:20pm	41.47753	-73.44447	0-1	2	0.0002
113	MyrSpi		Point	9/18/2012	12:15:23pm	41.47739	-73.44447	0-1	2	0.0002
114	MyrSpi		Point	9/18/2012	12:15:29pm	41.47721	-73.44446	0-1	2	0.0002
115	MyrSpi		Point	9/18/2012	12:15:32pm	41.47702	-73.44436	0-1	2	0.0002
116	MyrSpi		Point	9/18/2012	12:15:35pm	41.47687	-73.44431	0-1	2	0.0002
117	MyrSpi		Point	9/18/2012	12:15:38pm	41.47671	-73.44434	0-1	2	0.0002
118	MyrSpi		Point	9/18/2012	12:17:52pm	41.53848	-73.47048	0-1	1	0.0002
124	MyrSpi		Point	9/18/2012	01:19:20pm	41.45553	-73.44067	1-3	2	0.0002
125	MyrSpi		Point	9/18/2012	01:24:25pm	41.55438	-73.43964	1-4	2	0.0002
126	MyrSpi		Point	9/18/2012	01:24:40pm	41.55446	-73.43964	1-4	2	0.0002
127	MyrSpi		Point	9/18/2012	01:26:13pm	41.56405	-73.47877	2-3	2	0.0002
30	NajMin	Small Appendix Lake Patch	Point	8/13/2012	12:23:20pm	41.47576	-73.4616	0-1	2	0.0002
31	NajMin		Point	8/13/2012	02:08:30pm	41.46874	-73.45003	0-1	3	0.0002
34	NajMin		Point	8/13/2012	02:09:20pm	41.4688	-73.45005	0-1	3	0.0002
45	NajMin		Point	8/16/2012	01:35:05pm	41.47842	-73.4439	0-1	3	0.0002
68	NajMin		Point	8/20/2012	12:17:00pm	41.52705	-73.43793	0-1	3	0.0002
111	NajMin		Point	8/22/2012	02:39:28pm	41.52098	-73.46584	0-1	5	0.0002
119	NajMin		Point	9/18/2012	12:26:16pm	41.48407	-73.46023	1-3	3	0.0002
120	NajMin		Point	9/18/2012	12:26:25pm	41.48423	-73.46023	1-3	3	0.0002
121	NajMin		Point	8/22/2012	02:40:06pm	41.52106	-73.46585	1-3	5	0.0002
122	NajMin		Point	8/22/2012	02:40:31pm	41.52121	-73.46594	1-3	5	0.0002
123	NajMin		Point	8/22/2012	02:41:35pm	41.52188	-73.46617	0-1	5	0.0002

Appendix Lake Candlewood invasive plant location data (25 of 25)

FID	Invasive Plant Name	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
0	PotCri		Point	6/6/2012	11:52:56am	41.46236	-73.42795	1.8	1	0.0002
1	PotCri		Point	6/6/2012	11:58:47am	41.4631	-73.42785	2	1	0.0002
2	PotCri		Point	6/6/2012	12:00:21pm	41.46321	-73.42789	2	1	0.0002
3	PotCri		Point	6/7/2012	10:14:50am	41.46944	-73.42922	1	1	0.0002
4	PotCri		Point	6/8/2012	10:36:48am	41.42487	-73.45493	1.5	1	0.0002
5	PotCri		Point	6/8/2012	12:15:59pm	41.42619	-73.44979	3	1	0.0002
6	PotCri	dispersed	Point	6/12/2012	10:13:17am	41.42759	-73.45016	1	1	0.0002
7	PotCri		Point	6/12/2012	10:16:04am	41.42788	-73.45069	1	1	0.0002
8	PotCri		Point	6/12/2012	10:17:08am	41.42799	-73.45053	1	1	0.0002
9	PotCri		Point	6/12/2012	10:19:17am	41.42846	-73.45147	1	1	0.0002
10	PotCri		Point	6/14/2012	10:00:47am	41.57222	-73.49076	2.5	1	0.0002
11	PotCri		Point	6/14/2012	10:15:08am	41.57268	-73.49157	1	1	0.0002
12	PotCri		Point	6/14/2012	10:28:34am	41.57061	-73.49161	2.5	1	0.0002
13	PotCri		Point	6/14/2012	10:29:30am	41.57053	-73.49149	2	1	0.0002
14	PotCri		Point	6/14/2012	10:54:58am	41.56868	-73.48393	1.5	1	0.0002
15	PotCri		Point	6/14/2012	10:58:38am	41.56998	-73.48452	1	1	0.0002
16	PotCri		Point	6/14/2012	10:59:48am	41.57013	-73.48451	2	1	0.0002
17	PotCri		Point	6/14/2012	11:00:44am	41.57033	-73.48442	1	2	0.0002

Appendix Lake Zoar invasive plant location data (1 of 16)

FID	Invasive Plant	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
1	MyrSpi		Patch	7/24/2012	10:17:09am	41.381729	-73.175365	1-3	3	0.490477
2	MyrSpi		Patch	7/24/2012	10:38:00am	41.381649	-73.176714	0-1	2	0.016178
3	MyrSpi		Patch	7/24/2012	10:52:56am	41.381836	-73.177212	0-1	1	0.233275
4	MyrSpi		Patch	7/24/2012	02:00:31pm	41.400288	-73.189112	1-3	2	0.053157
5	MyrSpi		Patch	7/24/2012	02:10:39pm	41.400691	-73.188576	1-3	2	0.045870
6	MyrSpi		Patch	7/24/2012	03:13:38pm	41.413549	-73.202170	0-1	2	0.104401
7	MyrSpi		Patch	7/24/2012	03:22:11pm	41.413882	-73.202458	0-1	1	0.189569
8	MyrSpi	Variable	Patch	7/25/2012	10:21:29am	41.424140	-73.206682	0-1	2	2.326503
9	MyrSpi		Patch	7/25/2012	11:56:10am	41.420474	-73.206101	0-1	1	0.041576
10	MyrSpi		Patch	7/25/2012	01:24:39pm	41.410853	-73.188083	0-1	2	0.071517
11	MyrSpi		Patch	7/25/2012	03:09:50pm	41.386730	-73.173986	0-1	2	0.103281
12	MyrSpi		Patch	7/25/2012	03:21:42pm	41.385527	-73.172945	1-3	2	0.025016
13	MyrSpi		Patch	7/25/2012	03:27:00pm	41.385009	-73.172281	1-3	2	0.034278
14	MyrSpi		Patch	7/25/2012	03:36:09pm	41.382033	-73.174398	1-3	3	0.414091
15	MyrSpi		Patch	7/26/2012	12:57:08pm	41.424829	-73.237145	0-1	2	0.074626
16	MyrSpi	Depth 0-3m	Patch	8/7/2012	10:11:56am	41.449897	-73.272542	1-3	3	0.218312
17	MyrSpi		Patch	8/7/2012	10:55:50am	41.450966	-73.273523	1-3	2	0.018648
18	MyrSpi		Patch	8/7/2012	11:04:06am	41.451215	-73.273824	1-3	3	0.026436
19	MyrSpi		Patch	8/7/2012	11:22:40am	41.451625	-73.274556	1-3	1	0.057025
20	MyrSpi		Patch	8/7/2012	12:58:15pm	41.452123	-73.278184	1-3	3	0.907364
21	MyrSpi		Patch	8/8/2012	10:29:10am	41.451615	-73.283007	1-3	1	0.094472
22	MyrSpi		Patch	8/8/2012	10:57:34am	41.451448	-73.283967	1-3	5	0.581651
23	MyrSpi		Patch	8/8/2012	01:02:58pm	41.450986	-73.285368	1-3	2	0.946313
24	MyrSpi		Patch	8/8/2012	01:44:11pm	41.450268	-73.287000	1-3	2	0.416904
25	MyrSpi		Patch	8/8/2012	02:29:45pm	41.451685	-73.286226	1-3	2	0.037995
26	MyrSpi	Depth 0-2m	Patch	8/10/2012	01:01:21pm	41.428003	-73.239052	0-1	4	3.022634
27	MyrSpi	Depth 0-3m	Patch	7/31/2012	01:34:10pm	41.433331	-73.243352	1-3	3	24.254353
28	MyrSpi	Depth 0-3m	Patch	8/2/2012	09:25:26am	41.431551	-73.245158	1-3	2	1.185963
29	MyrSpi		Patch	8/2/2012	10:51:46am	41.435866	-73.244809	1-3	3	0.880500
30	MyrSpi	Depth 0-1m	Patch	8/2/2012	11:08:50am	41.437186	-73.243848	1-3	1	0.203930
31	MyrSpi	Depth 0-3m	Patch	8/2/2012	01:19:35pm	41.436386	-73.265850	1-3	5	0.333662

Appendix Lake Zoar invasive plant location data (2 of 16)

FID	Invasive Plant	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
32	MyrSpi	Depth 0-3m	Patch	8/2/2012	02:13:37pm	41.438265	-73.267782	1-3	3	6.395148
33	MyrSpi	Depth .5-4m	Patch	8/3/2012	10:41:00am	41.440738	-73.267168	1-3	3	3.631336
34	MyrSpi		Patch	8/3/2012	01:02:04pm	41.445982	-73.269651	1-3	4	5.025067
35	MyrSpi		Patch	8/14/2012	09:59:54am	41.450101	-73.289234	1-3	2	0.322665
36	MyrSpi		Patch	8/14/2012	10:16:08am	41.450996	-73.287597	1-3	3	0.227579
37	MyrSpi		Patch	8/14/2012	10:37:21am	41.452042	-73.285086	1-3	2	0.006584
38	MyrSpi		Patch	8/14/2012	10:47:39am	41.452522	-73.282991	0-1	2	0.020034
39	MyrSpi		Patch	8/14/2012	10:59:04am	41.453194	-73.280071	1-3	4	2.430955
40	MyrSpi		Patch	8/14/2012	11:50:04am	41.452970	-73.275497	1-3	2	0.186396
41	MyrSpi		Patch	8/14/2012	11:59:30am	41.452602	-73.274444	1-3	3	0.058705
42	MyrSpi	Depth 0-3m	Patch	8/14/2012	12:33:31pm	41.451571	-73.272753	1-3	3	0.577910
43	MyrSpi	Depth 0-2m	Patch	8/14/2012	01:01:37pm	41.450101	-73.271441	1-3	2	0.347156
44	MyrSpi		Patch	8/14/2012	01:25:05pm	41.447345	-73.268839	1-3	5	2.979720
45	MyrSpi	Depth 0-2m	Patch	8/16/2012	10:05:42am	41.444506	-73.267086	1-3	4	0.140191
46	MyrSpi	Depth 0-2m	Patch	8/16/2012	10:50:24am	41.436002	-73.264177	0-1	5	0.239597
47	MyrSpi	Depth .5-2.5m	Patch	8/16/2012	10:59:26am	41.434956	-73.257647	1-3	4	5.105108
48	MyrSpi		Patch	8/16/2012	11:53:28am	41.436981	-73.253414	0-1	4	0.011918
49	MyrSpi		Patch	8/16/2012	12:54:42pm	41.438283	-73.251312	1-3	2	0.790981
50	MyrSpi		Patch	8/16/2012	02:09:49pm	41.439994	-73.252129	0-1	2	0.272347
51	MyrSpi		Patch	8/17/2012	10:32:54am	41.439172	-73.250424	1-3	1	1.159810
52	MyrSpi		Patch	8/17/2012	11:19:26am	41.439161	-73.249173	1-3	2	0.292564
53	MyrSpi	Depth 0-3m	Patch	8/17/2012	12:52:44pm	41.440095	-73.245582	1-3	3	10.292665
54	MyrSpi	Depth 0-3m	Patch	7/24/2012	01:14:33pm	41.398601	-73.190504	1-3	2	0.191857
55	MyrSpi		Patch	7/24/2012	03:01:07pm	41.413139	-73.201710	0-1	2	0.424191
56	MyrSpi		Patch	7/25/2012	01:16:15pm	41.411501	-73.190706	0-1	1	0.021316
57	MyrSpi		Patch	7/27/2012	10:11:46am	41.431662	-73.227434	0-1	1	0.075918
58	MyrSpi		Patch	7/27/2012	02:18:17pm	41.437061	-73.251110	1-3	1	0.095860
59	MyrSpi	Depth 0-3m	Patch	7/27/2012	02:45:36pm	41.433039	-73.259078	1-3	1	0.302566
60	MyrSpi		Patch	12/31/2012	10:49:15am	41.435315	-73.243399	0-1	2	0.228303
61	MyrSpi	Depth 0-2m	Patch	8/2/2012	12:06:09pm	41.435112	-73.264902	1-3	2	0.106439
62	MyrSpi	Depth 0-3m	Patch	8/7/2012	01:48:25pm	41.451847	-73.281910	1-3	2	0.269717

Appendix Lake Zoar invasive plant location data (3 of 16)

FID	Invasive Plant	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
63	MyrSpi		Patch	1/3/2013	11:40:15am	41.445770	-73.270564	0-1	2	4.838505
64	MyrSpi		Patch	1/3/2013	01:44:20pm	41.439887	-73.250522	0-1	1	0.434942
65	MyrSpi		Patch	1/3/2013	02:51:20pm	41.432317	-73.240646	0-1	1	0.009422
66	MyrSpi		Patch	1/3/2013	01:35:20pm	41.440576	-73.253591	0-1	2	0.528735
1	NajMin		Patch	7/24/2012	10:26:10am	41.381689	-73.175247	0-1	2	0.221074
2	NajMin		Patch	7/24/2012	01:06:32pm	41.397998	-73.190590	0-1	2	0.038742
3	NajMin	Depth 0-3m	Patch	7/24/2012	01:14:33pm	41.398600	-73.190513	1-3	5	0.191247
4	NajMin		Patch	7/24/2012	03:01:07pm	41.413130	-73.201711	0-1	4	0.404086
5	NajMin		Patch	7/25/2012	09:57:43am	41.423949	-73.207457	0-1	3	0.014436
6	NajMin		Patch	7/25/2012	10:49:10am	41.424149	-73.206231	0-1	2	0.134382
7	NajMin		Patch	7/25/2012	10:57:33am	41.424846	-73.206473	0-1	1	0.055216
8	NajMin		Patch	7/25/2012	01:16:15pm	41.411499	-73.190708	0-1	4	0.019565
9	NajMin		Patch	7/25/2012	02:51:01pm	41.391782	-73.174327	0-1	2	0.013211
10	NajMin		Patch	7/26/2012	01:02:36pm	41.424879	-73.237303	0-1	3	0.034242
11	NajMin		Patch	7/26/2012	02:22:12pm	41.428801	-73.233507	0-1	2	2.222222
12	NajMin		Patch	7/27/2012	10:11:46am	41.431661	-73.227435	0-1	3	0.073621
13	NajMin		Patch	7/27/2012	10:33:20am	41.431062	-73.226757	1-3	3	0.039832
14	NajMin		Patch	7/27/2012	10:44:54am	41.431007	-73.226454	1-3	2	0.070461
15	NajMin	Depth 0-3m	Patch	7/27/2012	11:06:49am	41.430830	-73.224879	1-3	2	0.085938
16	NajMin		Patch	7/27/2012	11:22:47am	41.430806	-73.222060	1-3	2	0.011433
17	NajMin		Patch	7/27/2012	12:24:38pm	41.429376	-73.244430	1-3	3	0.077268
18	NajMin	Depth 0-3m	Patch	7/27/2012	01:50:17pm	41.437273	-73.248478	1-3	1	0.021866
19	NajMin		Patch	7/27/2012	01:57:39pm	41.437084	-73.248946	0-1	1	0.008686
20	NajMin		Patch	7/27/2012	02:18:17pm	41.437060	-73.251113	1-3	2	0.091520
21	NajMin		Patch	8/7/2012	11:43:18am	41.451515	-73.274345	0-1	2	0.003505
22	NajMin	Depth 0-2m	Patch	8/10/2012	10:32:46am	41.428048	-73.239093	1-3	4	2.329047
23	NajMin		Patch	7/31/2012	02:48:00pm	41.435612	-73.243706	0-1	3	0.232769
24	NajMin		Patch	8/2/2012	09:56:33am	41.434323	-73.245980	0-1	3	0.022987
25	NajMin		Patch	8/2/2012	10:11:41am	41.435469	-73.245467	0-1	5	0.018793
26	NajMin		Patch	8/2/2012	11:58:55am	41.434692	-73.264437	0-1	4	0.011314
27	NajMin	Depth 0-2m	Patch	8/2/2012	12:57:55pm	41.436325	-73.265804	0-1	3	0.464258

Appendix Lake Zoar invasive plant location data (4 of 16)

FID	Invasive Plant	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
28	NajMin		Patch	8/2/2012	10:32:25am	41.436804	-73.243981	0-1	2	0.088818
29	NajMin		Patch	8/16/2012	09:28:58am	41.445546	-73.270343	0-1	4	5.656791
30	NajMin		Patch	8/16/2012	10:30:51am	41.443639	-73.266660	0-1	3	0.007028
31	NajMin		Patch	8/16/2012	01:56:33pm	41.440584	-73.253615	0-1	4	0.467892
32	NajMin		Patch	8/17/2012	10:06:40am	41.439461	-73.250636	0-1	2	0.047471
33	NajMin		Patch	8/17/2012	10:49:14am	41.439295	-73.249346	0-1	2	1.234472
34	NajMin		Patch	8/17/2012	01:38:00pm	41.439465	-73.243342	0-1	5	1.410163
35	NajMin	Depth 0-2m	Patch	8/17/2012	01:58:35pm	41.436021	-73.241472	0-1	4	0.234488
36	NajMin		Patch	8/17/2012	02:09:37pm	41.434881	-73.241043	0-1	3	0.070906
37	NajMin		Patch	8/17/2012	02:19:38pm	41.433156	-73.240710	0-1	2	0.072090
38	NajMin		Patch	8/17/2012	02:28:34pm	41.432318	-73.240643	0-1	3	0.007268
39	NajMin		Patch	8/17/2012	02:34:10pm	41.431686	-73.240533	0-1	3	0.016088
40	NajMin		Patch	8/17/2012	02:39:23pm	41.430854	-73.240438	0-1	2	0.034232
41	NajMin		Patch	7/24/2012	10:52:56am	41.381839	-73.177218	0-1	1	0.223888
42	NajMin		Patch	7/24/2012	03:34:10pm	41.400720	-73.188630	0-1	2	0.007703
43	NajMin		Patch	7/25/2012	01:24:39pm	41.410853	-73.188087	0-1	2	0.068978
44	NajMin	Depth 0-3m	Patch	7/27/2012	02:45:36pm	41.433039	-73.259061	1-3	2	0.288480
45	NajMin	Depth 0-2m	Patch	8/2/2012	12:06:09pm	41.435107	-73.264895	1-3	4	0.085873
46	NajMin		Patch	12/31/2012	11:41:20am	41.440269	-73.267196	0-1	2	0.597632
47	NajMin		Patch	12/31/2012	02:40:51pm	41.448108	-73.271272	0-1	3	0.264324
48	NajMin	Depth 0-2m	Patch	8/7/2012	10:21:02am	41.449744	-73.272464	0-1	2	0.115990
49	NajMin	Depth 0-1.5m	Patch	8/7/2012	12:58:15pm	41.452108	-73.278110	0-1	2	0.587745
50	NajMin	Depth 0-2m	Patch	8/7/2012	01:48:25pm	41.451845	-73.281901	1-3	4	0.239650
51	NajMin		Patch	8/8/2012	10:29:10am	41.451580	-73.282993	0-1	1	0.090710
52	NajMin		Patch	1/3/2013	09:48:25am	41.452534	-73.282992	0-1	2	0.008994
53	NajMin	Depth 0-1.5m	Patch	1/3/2013	09:58:56am	41.453228	-73.280810	0-1	2	0.611311
54	NajMin		Patch	1/3/2013	10:20:12am	41.451572	-73.272681	0-1	2	0.160597
55	NajMin	Depth 1-2m	Patch	1/3/2012	11:23:12am	41.447468	-73.268859	1-3	4	1.591093
56	NajMin		Patch	1/3/2013	11:53:23am	41.444499	-73.267038	0-1	3	0.067898
57	NajMin		Patch	1/3/2013	11:57:10am	41.436021	-73.264138	0-1	3	0.134957
58	NajMin		Patch	1/3/2013	01:06:10pm	41.434958	-73.257982	0-1	3	2.481521

Appendix Lake Zoar invasive plant location data (5 of 16)

FID	Invasive		Type	Date	Time	Latitude	Longitude	Depth	Abundance	Area (acres)
	Plant	Notes						(m)		
59	NajMin		Patch	1/3/2013	01:31:15pm	41.438339	-73.251497	0-1	3	0.661000
60	NajMin		Patch	1/3/2013	01:37:42pm	41.440002	-73.252099	0-1	3	0.250784
61	NajMin		Patch	1/3/2013	01:43:15pm	41.439891	-73.250527	0-1	2	0.321914
62	NajMin	Depth 0-2m	Patch	1/3/2013	02:40:09pm	41.440320	-73.246479	0-1	2	5.868795
63	NajMin		Patch	1/4/2013	10:18:13am	41.439080	-73.268529	0-1	2	0.510477
64	NajMin		Patch	1/4/2013	10:20:20am	41.438657	-73.269514	0-1	1	0.205355
65	NajMin		Patch	1/4/2013	10:25:30am	41.438137	-73.267427	0-1	1	2.135137
66	NajMin		Patch	1/4/2013	11:35:12am	41.437796	-73.268075	0-1	2	0.086776
1	PotCri	Depth 0-3m	Patch	7/27/2012	02:45:36pm	41.433042	-73.259057	1-3	3	0.260502
2	PotCri	Depth 0-2m	Patch	8/7/2012	10:21:02am	41.449742	-73.272450	0-1	3	0.115990
3	PotCri	Depth 0-3m	Patch	8/7/2012	11:28:57am	41.451543	-73.274390	1-3	3	0.021226
4	PotCri	Depth 0-3m	Patch	8/7/2012	01:48:25pm	41.451454	-73.283517	1-3	2	0.939312
5	PotCri	Depth 0-2m	Patch	8/2/2012	12:06:09pm	41.435108	-73.264903	1-3	4	0.097301
6	PotCri		Patch	8/14/2012	12:53:34pm	41.451789	-73.272943	1-3	2	0.107201
7	PotCri		Patch	8/17/2012	10:13:32am	41.439415	-73.250554	0-1	1	0.202603
8	PotCri		Patch	12/31/2012	10:49:15am	41.435300	-73.243403	0-1	2	0.200482
9	PotCri	Depth 0-3m	Patch	8/2/2012	01:19:35pm	41.436392	-73.265845	1-3	4	0.317495
10	PotCri		Patch	12/31/2012	11:41:20am	41.440274	-73.267201	0-1	2	0.535066
11	PotCri	Depth 0-2m	Patch	12/31/2012	02:40:51pm	41.448107	-73.271261	1-3	3	0.264324
12	PotCri	Depth 0-2m	Patch	8/7/2012	12:58:15pm	41.452116	-73.278168	1-3	2	0.769355
13	PotCri		Patch	8/14/2012	09:59:54am	41.450097	-73.289265	0-1	1	0.207911
14	PotCri		Patch	1/3/2013	09:46:13am	41.450956	-73.287791	0-1	1	0.085370
15	PotCri	Depth 0-1.5m	Patch	1/3/2013	09:58:56am	41.453239	-73.280773	0-1	2	0.484238
16	PotCri	Depth 1-2m	Patch	1/3/2013	11:23:12am	41.447473	-73.268844	1-3	1	1.247085
17	PotCri		Patch	1/3/2013	11:42:50am	41.445697	-73.270481	0-1	1	3.531717
18	PotCri		Patch	1/3/2013	11:59:25am	41.436033	-73.264130	0-1	2	0.094023
19	PotCri		Patch	1/3/2013	01:06:10pm	41.434977	-73.257957	0-1	2	1.877677
20	PotCri	Depth .5-1.5m	Patch	1/3/2013	01:33:54pm	41.438362	-73.251326	1-3	2	0.844440
21	PotCri		Patch	1/3/2013	01:45:52pm	41.439899	-73.250536	0-1	2	0.154502
22	PotCri		Patch	8/17/2012	10:49:14am	41.439311	-73.249350	0-1	2	1.109048
23	PotCri	Depth 0-2m	Patch	1/3/2013	02:41:52pm	41.440286	-73.246131	0-1	1	1.778066

Appendix Lake Zoar invasive plant location data (6 of 16)

FID	Invasive Plant	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
24	PotCri		Patch	1/3/2013	02:43:15pm	41.439881	-73.243740	0-1	1	0.304133
25	PotCri		Patch	1/4/2013	10:19:25am	41.439072	-73.268592	0-1	1	0.273306
26	PotCri		Patch	1/4/2013	10:21:58am	41.438688	-73.269595	0-1	1	0.069090
27	PotCri		Patch	1/4/2013	10:26:13am	41.438069	-73.267353	0-1	1	1.383205
28	PotCri		Patch	1/4/2013	11:35:45am	41.437800	-73.268080	0-1	3	0.051238
1	MarQua		Patch	8/2/2012	01:58:35pm	41.438950	-73.268979	0-1	4	0.018802
2	MarQua		Patch	8/2/2012	02:03:06pm	41.439083	-73.268868	0-1	2	0.002312
3	MarQua		Patch	8/2/2012	02:05:09pm	41.439152	-73.268623	0-1	4	0.017079
4	MarQua		Patch	8/2/2012	02:09:24pm	41.439259	-73.268577	0-1	3	0.005154
5	MarQua		Patch	8/2/2012	02:11:31pm	41.439440	-73.268590	0-1	2	0.006277
6	MarQua		Patch	8/3/2012	09:40:51am	41.438910	-73.269884	0-1	3	0.006293
7	MarQua		Patch	8/3/2012	09:45:51am	41.438964	-73.269943	0-1	3	0.003749
8	MarQua		Patch	8/3/2012	10:01:26am	41.438376	-73.268642	0-1	2	0.003494
9	MarQua		Patch	8/3/2012	10:02:49am	41.438303	-73.268566	0-1	3	0.014762
10	MarQua		Patch	8/3/2012	10:08:17am	41.438267	-73.268723	0-1	2	0.003964
11	MarQua		Patch	8/14/2012	02:27:34pm	41.447313	-73.272050	0-1	3	0.006560
12	MarQua		Patch	8/14/2012	02:30:41pm	41.447354	-73.272172	0-1	3	0.038663
13	MarQua		Patch	8/14/2012	02:43:15pm	41.446955	-73.272034	0-1	3	0.097342
14	MarQua		Patch	1/4/2013	10:46:59am	41.447199	-73.272132	0-1	4	0.012187
1	MyrSpi		Point	7/24/2012	11:01:37am	41.38221	-73.17727	1-3	3	0.0002
2	MyrSpi		Point	7/24/2012	11:03:23am	41.38251	-73.17726	1-3	1	0.0002
3	MyrSpi		Point	7/24/2012	11:04:17am	41.38284	-73.17709	1-3	1	0.0002
4	MyrSpi		Point	7/24/2012	11:06:08am	41.38307	-73.17715	0-1	2	0.0002
5	MyrSpi		Point	7/24/2012	11:07:40am	41.38318	-73.17721	0-1	2	0.0002
6	MyrSpi		Point	7/24/2012	11:10:38am	41.38326	-73.17724	1-3	2	0.0002
7	MyrSpi		Point	7/24/2012	11:11:22am	41.38331	-73.17725	1-3	1	0.0002
8	MyrSpi		Point	7/24/2012	11:14:29am	41.38453	-73.17818	1-3	1	0.0002
9	MyrSpi		Point	7/24/2012	11:15:44am	41.38493	-73.17856	1-3	1	0.0002
10	MyrSpi		Point	7/24/2012	11:18:08am	41.38495	-73.1788	0-1	2	0.0002
11	MyrSpi		Point	7/24/2012	11:55:39am	41.38932	-73.18638	0-1	2	0.0002
12	MyrSpi		Point	7/24/2012	11:58:28am	41.38937	-73.18678	1-3	2	0.0002

Appendix Lake Zoar invasive plant location data (7 of 16)

FID	Invasive Plant	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
13	MyrSpi		Point	7/24/2012	12:04:10pm	41.38958	-73.18667	1-3	1	0.0002
14	MyrSpi		Point	7/24/2012	01:10:15pm	41.39812	-73.19055	0-1	1	0.0002
15	MyrSpi		Point	7/24/2012	01:10:48pm	41.39818	-73.19037	1-3	2	0.0002
16	MyrSpi		Point	7/24/2012	01:23:20pm	41.39879	-73.18999	1-3	1	0.0002
17	MyrSpi		Point	7/24/2012	01:23:39pm	41.39878	-73.19003	1-3	1	0.0002
18	MyrSpi		Point	7/24/2012	01:23:54pm	41.3988	-73.19006	0-1	2	0.0002
19	MyrSpi		Point	7/24/2012	01:25:37pm	41.39881	-73.18987	1-3	2	0.0002
20	MyrSpi		Point	7/25/2012	09:50:31am	41.42346	-73.20737	1-3	1	0.0002
21	MyrSpi		Point	7/25/2012	09:54:23am	41.42384	-73.20751	0-1	1	0.0002
22	MyrSpi		Point	7/25/2012	11:44:09am	41.42121	-73.20653	1-3	1	0.0002
23	MyrSpi		Point	7/25/2012	11:47:18am	41.42108	-73.20651	1-3	2	0.0002
24	MyrSpi		Point	7/25/2012	11:49:03am	41.42084	-73.20651	0-1	2	0.0002
25	MyrSpi		Point	7/25/2012	01:17:49pm	41.4116	-73.19084	0-1	1	0.0002
26	MyrSpi		Point	7/25/2012	01:31:30pm	41.41054	-73.1879	1-3	1	0.0002
27	MyrSpi		Point	7/25/2012	01:33:21pm	41.41025	-73.18764	0-1	1	0.0002
28	MyrSpi		Point	7/25/2012	01:34:05pm	41.41034	-73.18771	0-1	2	0.0002
29	MyrSpi		Point	7/25/2012	01:35:57pm	41.4101	-73.18755	1-3	1	0.0002
30	MyrSpi		Point	7/25/2012	02:03:20pm	41.39548	-73.18488	0-1	1	0.0002
31	MyrSpi		Point	7/25/2012	02:04:14pm	41.39547	-73.18483	0-1	1	0.0002
32	MyrSpi		Point	7/25/2012	02:08:19pm	41.39513	-73.1846	1-3	1	0.0002
33	MyrSpi		Point	7/25/2012	02:44:11pm	41.39164	-73.17459	0-1	2	0.0002
34	MyrSpi		Point	7/25/2012	03:04:02pm	41.38778	-73.17464	1-3	1	0.0002
35	MyrSpi		Point	7/25/2012	03:05:21pm	41.38762	-73.17465	1-3	2	0.0002
36	MyrSpi		Point	7/25/2012	03:14:29pm	41.38611	-73.17375	1-3	1	0.0002
37	MyrSpi		Point	7/25/2012	03:16:49pm	41.38552	-73.1732	1-3	1	0.0002
38	MyrSpi		Point	7/25/2012	03:30:05pm	41.38491	-73.17207	1-3	1	0.0002
39	MyrSpi		Point	7/26/2012	12:46:47pm	41.42508	-73.23678	0-1	1	0.0002
40	MyrSpi		Point	7/26/2012	01:19:20pm	41.42784	-73.23507	0-1	2	0.0002
41	MyrSpi		Point	7/26/2012	01:22:13pm	41.42799	-73.23446	0-1	1	0.0002
42	MyrSpi		Point	7/26/2012	01:24:19pm	41.42803	-73.23445	1-3	2	0.0002
43	MyrSpi		Point	7/26/2012	01:44:42pm	41.42809	-73.23436	1-3	2	0.0002

Appendix Lake Zoar invasive plant location data (8 of 16)

FID	Invasive Plant	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
44	MyrSpi		Point	7/26/2012	01:55:05pm	41.42889	-73.23348	1-3	1	0.0002
45	MyrSpi		Point	7/26/2012	01:56:21pm	41.42898	-73.23335	1-3	1	0.0002
46	MyrSpi		Point	7/26/2012	01:57:29pm	41.42912	-73.23322	1-3	1	0.0002
47	MyrSpi		Point	7/26/2012	02:00:24pm	41.42943	-73.2325	1-3	1	0.0002
48	MyrSpi		Point	7/26/2012	02:02:23pm	41.42962	-73.23173	1-3	1	0.0002
49	MyrSpi		Point	8/7/2012	10:33:09am	41.45063	-73.27312	1-3	1	0.0002
50	MyrSpi		Point	8/7/2012	10:33:33am	41.45059	-73.27312	1-3	1	0.0002
51	MyrSpi		Point	8/7/2012	10:35:40am	41.45053	-73.2731	1-3	1	0.0002
52	MyrSpi		Point	8/7/2012	10:36:20am	41.45051	-73.27306	1-3	3	0.0002
53	MyrSpi		Point	8/7/2012	10:36:59am	41.4505	-73.27305	1-3	3	0.0002
54	MyrSpi		Point	8/7/2012	10:40:51am	41.45035	-73.27285	1-3	2	0.0002
55	MyrSpi		Point	8/7/2012	10:41:23am	41.45031	-73.27283	1-3	2	0.0002
56	MyrSpi		Point	8/7/2012	10:41:50am	41.45028	-73.27281	1-3	2	0.0002
57	MyrSpi		Point	8/7/2012	10:44:38am	41.45068	-73.27322	1-3	2	0.0002
58	MyrSpi		Point	8/7/2012	10:45:35am	41.45066	-73.27319	1-3	2	0.0002
59	MyrSpi		Point	8/7/2012	10:45:53am	41.45066	-73.27316	1-3	1	0.0002
60	MyrSpi		Point	8/7/2012	10:46:42am	41.45073	-73.27327	1-3	3	0.0002
61	MyrSpi		Point	8/7/2012	10:47:04am	41.45073	-73.27325	1-3	1	0.0002
62	MyrSpi		Point	8/7/2012	10:48:54am	41.4508	-73.27331	1-3	3	0.0002
63	MyrSpi		Point	8/7/2012	10:52:39am	41.45113	-73.2737	1-3	2	0.0002
64	MyrSpi		Point	8/7/2012	10:54:07am	41.4511	-73.27366	1-3	1	0.0002
65	MyrSpi		Point	8/7/2012	11:01:48am	41.4513	-73.27398	1-3	2	0.0002
66	MyrSpi		Point	8/7/2012	11:11:16am	41.45135	-73.27405	1-3	1	0.0002
67	MyrSpi		Point	8/7/2012	11:15:03am	41.45145	-73.27418	1-3	1	0.0002
68	MyrSpi		Point	8/7/2012	11:15:47am	41.45148	-73.27426	1-3	1	0.0002
69	MyrSpi		Point	8/7/2012	02:00:59pm	41.45166	-73.28278	1-3	1	0.0002
70	MyrSpi		Point	8/8/2012	12:02:24pm	41.45134	-73.28366	0-1	1	0.0002
71	MyrSpi		Point	8/8/2012	12:02:55pm	41.45131	-73.28383	0-1	1	0.0002
72	MyrSpi		Point	8/8/2012	01:31:12pm	41.44954	-73.2884	0-1	1	0.0002
73	MyrSpi		Point	8/8/2012	01:33:47pm	41.45048	-73.28732	1-3	1	0.0002
74	MyrSpi		Point	8/8/2012	01:34:34pm	41.45042	-73.28728	1-3	2	0.0002

Appendix Lake Zoar invasive plant location data (9 of 16)

FID	Invasive Plant	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
75	MyrSpi		Point	8/8/2012	01:34:56pm	41.45046	-73.28727	1-3	2	0.0002
76	MyrSpi		Point	8/8/2012	01:39:05pm	41.45038	-73.28658	1-3	2	0.0002
77	MyrSpi		Point	8/8/2012	01:53:34pm	41.44954	-73.28852	1-3	1	0.0002
78	MyrSpi		Point	8/8/2012	01:54:28pm	41.44948	-73.2887	1-3	1	0.0002
79	MyrSpi		Point	8/8/2012	02:21:51pm	41.45157	-73.28648	1-3	1	0.0002
80	MyrSpi		Point	8/8/2012	02:22:05pm	41.45157	-73.28653	1-3	2	0.0002
81	MyrSpi		Point	8/8/2012	02:23:18pm	41.45155	-73.28657	1-3	1	0.0002
82	MyrSpi		Point	8/9/2012	09:18:38am	41.44824	-73.29111	1-3	2	0.0002
83	MyrSpi		Point	8/10/2012	09:43:30am	41.42747	-73.2363	0-1	2	0.0002
84	MyrSpi		Point	8/10/2012	09:45:55am	41.42747	-73.23651	0-1	2	0.0002
85	MyrSpi		Point	8/10/2012	09:47:03am	41.42743	-73.23666	0-1	2	0.0002
86	MyrSpi		Point	8/10/2012	09:47:17am	41.42745	-73.23665	0-1	2	0.0002
87	MyrSpi		Point	8/10/2012	09:48:07am	41.42743	-73.23688	0-1	2	0.0002
88	MyrSpi		Point	8/10/2012	09:52:40am	41.42738	-73.23733	0-1	1	0.0002
89	MyrSpi		Point	8/10/2012	10:07:03am	41.42716	-73.23697	0-1	1	0.0002
90	MyrSpi		Point	8/2/2012	09:58:17am	41.43436	-73.24598	0-1	1	0.0002
91	MyrSpi		Point	8/2/2012	10:02:11am	41.43483	-73.24593	1-3	2	0.0002
92	MyrSpi		Point	8/2/2012	10:38:14am	41.43765	-73.24386	0-1	1	0.0002
93	MyrSpi		Point	8/2/2012	11:13:38am	41.43761	-73.24377	0-1	2	0.0002
94	MyrSpi		Point	8/2/2012	11:16:05am	41.43721	-73.24356	1-3	1	0.0002
95	MyrSpi		Point	8/2/2012	11:17:22am	41.43726	-73.24358	1-3	1	0.0002
96	MyrSpi		Point	8/2/2012	11:52:09am	41.43441	-73.26397	1-3	2	0.0002
97	MyrSpi		Point	8/2/2012	12:48:30pm	41.43609	-73.26561	0-1	1	0.0002
98	MyrSpi		Point	8/2/2012	12:49:55pm	41.43605	-73.2658	0-1	1	0.0002
99	MyrSpi		Point	8/2/2012	01:38:25pm	41.43717	-73.26585	0-1	1	0.0002
100	MyrSpi		Point	8/3/2012	11:29:21am	41.4441	-73.26886	1-3	1	0.0002
101	MyrSpi		Point	8/14/2012	10:28:42am	41.45156	-73.28653	0-1	2	0.0002
102	MyrSpi		Point	8/14/2012	10:29:00am	41.45155	-73.28656	0-1	1	0.0002
103	MyrSpi		Point	8/14/2012	10:29:30am	41.45157	-73.28649	0-1	1	0.0002
104	MyrSpi		Point	8/14/2012	10:32:47am	41.45178	-73.28595	0-1	2	0.0002
105	MyrSpi		Point	8/14/2012	10:33:27am	41.45181	-73.28585	1-3	2	0.0002

Appendix Lake Zoar invasive plant location data (10 of 16)

FID	Invasive Plant	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
106	MyrSpi		Point	8/14/2012	10:34:23am	41.45183	-73.28577	0-1	2	0.0002
107	MyrSpi		Point	8/14/2012	10:41:07am	41.45219	-73.28423	0-1	1	0.0002
108	MyrSpi		Point	8/14/2012	10:44:02am	41.45233	-73.2835	1-3	2	0.0002
109	MyrSpi		Point	8/14/2012	10:44:53am	41.45238	-73.28326	1-3	1	0.0002
110	MyrSpi		Point	8/14/2012	10:45:29am	41.45238	-73.28331	1-3	3	0.0002
111	MyrSpi		Point	8/14/2012	11:45:28am	41.45314	-73.27658	1-3	2	0.0002
112	MyrSpi		Point	8/14/2012	11:46:23am	41.45313	-73.27645	0-1	2	0.0002
113	MyrSpi		Point	8/14/2012	12:31:19pm	41.45225	-73.27384	0-1	2	0.0002
114	MyrSpi		Point	8/14/2012	12:32:39pm	41.45213	-73.27362	0-1	1	0.0002
115	MyrSpi		Point	8/16/2012	10:28:49am	41.4436	-73.26664	0-1	2	0.0002
116	MyrSpi		Point	8/16/2012	10:29:18am	41.44356	-73.26662	0-1	2	0.0002
117	MyrSpi		Point	8/16/2012	10:47:09am	41.43681	-73.2648	0-1	4	0.0002
118	MyrSpi		Point	8/16/2012	12:42:34pm	41.43763	-73.2527	0-1	2	0.0002
119	MyrSpi		Point	8/16/2012	01:29:52pm	41.43909	-73.25081	1-3	1	0.0002
120	MyrSpi		Point	8/16/2012	01:33:03pm	41.43924	-73.25107	1-3	1	0.0002
121	MyrSpi		Point	8/16/2012	01:33:20pm	41.43921	-73.25109	0-1	2	0.0002
122	MyrSpi		Point	8/16/2012	01:45:15pm	41.44129	-73.25516	0-1	1	0.0002
123	MyrSpi		Point	8/16/2012	01:46:03pm	41.4414	-73.25526	0-1	2	0.0002
124	MyrSpi		Point	8/16/2012	01:46:32pm	41.44144	-73.25537	1-3	2	0.0002
125	MyrSpi		Point	8/16/2012	01:48:19pm	41.44114	-73.25494	0-1	4	0.0002
126	MyrSpi		Point	8/16/2012	01:49:06pm	41.44113	-73.25501	1-3	4	0.0002
127	MyrSpi		Point	8/16/2012	01:49:29pm	41.44119	-73.255	0-1	2	0.0002
128	MyrSpi		Point	8/16/2012	01:50:11pm	41.44104	-73.25478	0-1	1	0.0002
129	MyrSpi		Point	8/16/2012	01:50:25pm	41.44102	-73.25471	0-1	2	0.0002
130	MyrSpi		Point	8/16/2012	01:50:43pm	41.44103	-73.25473	0-1	1	0.0002
131	MyrSpi		Point	8/16/2012	02:07:19pm	41.44039	-73.25345	1-3	1	0.0002
132	MyrSpi		Point	8/17/2012	10:05:26am	41.4395	-73.25085	0-1	2	0.0002
133	MyrSpi		Point	8/17/2012	10:10:39am	41.43947	-73.25087	0-1	1	0.0002
134	MyrSpi		Point	8/17/2012	02:32:33pm	41.4317	-73.24055	1-3	2	0.0002
1	NajMin		Point	7/24/2012	11:29:12am	41.38781	-73.18115	0-1	2	0.0002
2	NajMin		Point	7/24/2012	02:15:09pm	41.40079	-73.18827	0-1	1	0.0002

Appendix Lake Zoar invasive plant location data (11 of 16)

FID	Invasive Plant	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
3	NajMin		Point	7/25/2012	02:48:37pm	41.39167	-73.17447	0-1	2	0.0002
4	NajMin		Point	7/25/2012	02:35:48pm	41.3904	-73.17572	0-1	3	0.0002
5	NajMin		Point	7/25/2012	02:05:16pm	41.3955	-73.18485	0-1	2	0.0002
6	NajMin		Point	7/25/2012	02:06:05pm	41.39549	-73.18479	0-1	2	0.0002
7	NajMin		Point	7/25/2012	11:52:42am	41.42055	-73.20604	0-1	2	0.0002
8	NajMin		Point	7/25/2012	11:53:28am	41.4206	-73.20602	0-1	1	0.0002
9	NajMin		Point	7/25/2012	11:45:54am	41.42124	-73.20651	0-1	2	0.0002
10	NajMin		Point	7/26/2012	12:49:25pm	41.4249	-73.23697	0-1	1	0.0002
11	NajMin		Point	7/26/2012	12:51:18pm	41.42486	-73.23699	0-1	3	0.0002
12	NajMin		Point	7/26/2012	11:09:12am	41.42692	-73.21707	0-1	2	0.0002
13	NajMin		Point	7/26/2012	12:46:19pm	41.42509	-73.23676	0-1	1	0.0002
14	NajMin		Point	7/27/2012	10:24:37am	41.43141	-73.22698	0-1	1	0.0002
15	NajMin		Point	7/27/2012	10:28:04am	41.43122	-73.22692	0-1	2	0.0002
16	NajMin		Point	7/31/2012	02:36:38pm	41.43212	-73.24364	0-1	1	0.0002
17	NajMin		Point	7/31/2012	02:54:58pm	41.4361	-73.24317	0-1	2	0.0002
18	NajMin		Point	8/2/2012	11:38:00am	41.4336	-73.26205	0-1	2	0.0002
19	NajMin		Point	8/2/2012	11:38:46am	41.43361	-73.26208	0-1	1	0.0002
20	NajMin		Point	8/2/2012	11:44:05am	41.43379	-73.26265	0-1	1	0.0002
21	NajMin		Point	8/2/2012	12:01:58pm	41.43484	-73.26463	0-1	2	0.0002
22	NajMin		Point	8/2/2012	12:12:19pm	41.43538	-73.26517	0-1	1	0.0002
23	NajMin		Point	8/2/2012	12:12:55pm	41.4354	-73.26518	0-1	1	0.0002
24	NajMin		Point	8/3/2012	11:25:06am	41.44385	-73.26836	0-1	1	0.0002
25	NajMin		Point	8/3/2012	11:26:47am	41.44389	-73.26846	0-1	1	0.0002
26	NajMin		Point	8/3/2012	11:27:01am	41.4439	-73.26847	0-1	1	0.0002
27	NajMin		Point	8/7/2012	11:14:29am	41.45143	-73.27424	0-1	1	0.0002
28	NajMin		Point	8/7/2012	11:33:59am	41.45159	-73.27449	0-1	1	0.0002
29	NajMin		Point	8/7/2012	10:39:51am	41.45042	-73.27295	0-1	1	0.0002
30	NajMin		Point	8/8/2012	11:22:46am	41.45124	-73.28426	0-1	2	0.0002
31	NajMin		Point	8/8/2012	12:44:52pm	41.45111	-73.28459	0-1	1	0.0002
32	NajMin		Point	8/8/2012	12:47:22pm	41.45109	-73.28467	0-1	1	0.0002
33	NajMin		Point	8/8/2012	12:47:35pm	41.45108	-73.28468	0-1	1	0.0002

Appendix Lake Zoar invasive plant location data (12 of 16)

FID	Invasive Plant	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
34	NajMin		Point	8/8/2012	12:47:51pm	41.45106	-73.28468	0-1	1	0.0002
35	NajMin		Point	8/8/2012	01:10:48pm	41.45072	-73.28567	0-1	1	0.0002
36	NajMin		Point	8/8/2012	01:14:57pm	41.4505	-73.28614	0-1	1	0.0002
37	NajMin		Point	8/8/2012	01:16:08pm	41.45057	-73.28603	0-1	1	0.0002
38	NajMin		Point	8/8/2012	01:24:39pm	41.44964	-73.2881	0-1	2	0.0002
39	NajMin		Point	8/8/2012	01:25:43pm	41.44969	-73.28806	0-1	1	0.0002
40	NajMin		Point	8/8/2012	01:27:52pm	41.44964	-73.28821	0-1	1	0.0002
41	NajMin		Point	8/8/2012	01:28:49pm	41.4496	-73.28829	0-1	2	0.0002
42	NajMin		Point	8/8/2012	01:29:08pm	41.44958	-73.28831	0-1	1	0.0002
43	NajMin		Point	8/8/2012	01:30:24pm	41.44959	-73.28836	0-1	1	0.0002
44	NajMin		Point	8/8/2012	01:30:38pm	41.44956	-73.28834	0-1	1	0.0002
45	NajMin		Point	8/14/2012	01:16:09pm	41.44967	-73.27102	0-1	2	0.0002
46	NajMin		Point	8/14/2012	01:16:18pm	41.44966	-73.27099	0-1	2	0.0002
47	NajMin		Point	8/14/2012	01:16:25pm	41.44965	-73.27098	0-1	2	0.0002
48	NajMin		Point	8/14/2012	01:17:06pm	41.44961	-73.27096	0-1	2	0.0002
49	NajMin		Point	8/16/2012	10:26:33am	41.44373	-73.26672	0-1	3	0.0002
50	NajMin		Point	8/16/2012	10:43:18am	41.4376	-73.26485	0-1	2	0.0002
51	NajMin		Point	8/16/2012	10:43:58am	41.43753	-73.26484	0-1	2	0.0002
52	NajMin		Point	8/16/2012	10:44:15am	41.43749	-73.26483	0-1	2	0.0002
53	NajMin		Point	8/16/2012	10:44:39am	41.43745	-73.2648	0-1	2	0.0002
54	NajMin		Point	8/16/2012	12:43:51pm	41.4376	-73.25262	0-1	1	0.0002
55	NajMin		Point	8/16/2012	12:54:24pm	41.43889	-73.25056	0-1	2	0.0002
56	NajMin		Point	8/16/2012	01:28:41pm	41.43903	-73.25078	0-1	2	0.0002
57	NajMin		Point	8/16/2012	01:33:35pm	41.4392	-73.25111	0-1	2	0.0002
58	NajMin		Point	8/16/2012	01:34:31pm	41.43929	-73.25133	0-1	3	0.0002
59	NajMin		Point	8/16/2012	01:51:12pm	41.44098	-73.25468	0-1	1	0.0002
60	NajMin		Point	8/16/2012	01:52:16pm	41.44094	-73.25462	0-1	3	0.0002
61	NajMin		Point	8/16/2012	01:53:05pm	41.44089	-73.25446	0-1	5	0.0002
62	NajMin		Point	8/16/2012	01:29:37pm	41.43905	-73.25086	0-1	1	0.0002
63	NajMin		Point	8/16/2012	02:08:54pm	41.44022	-73.25255	0-1	1	0.0002
64	NajMin		Point	8/16/2012	02:22:23pm	41.43968	-73.25128	0-1	1	0.0002

Appendix Lake Zoar invasive plant location data (13 of 16)

FID	Invasive Plant	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
65	NajMin		Point	8/17/2012	10:03:06am	41.43956	-73.25104	0-1	1	0.0002
66	NajMin		Point	8/17/2012	10:03:53am	41.43953	-73.25092	0-1	2	0.0002
67	NajMin		Point	8/17/2012	10:04:08am	41.43952	-73.2509	0-1	2	0.0002
68	NajMin		Point	8/17/2012	10:04:34am	41.43954	-73.25088	0-1	3	0.0002
69	NajMin		Point	8/17/2012	10:06:00am	41.43952	-73.25083	0-1	2	0.0002
70	NajMin		Point	8/17/2012	01:55:27pm	41.43711	-73.24203	0-1	1	0.0002
71	NajMin		Point	8/17/2012	02:25:52pm	41.43253	-73.24063	0-1	2	0.0002
1	PotCri		Point	7/24/2012	10:31:09am	41.38174	-73.17528	0-1	2	0.0002
2	PotCri		Point	7/24/2012	10:44:29am	41.38166	-73.17708	0-1	2	0.0002
3	PotCri		Point	7/24/2012	03:09:02pm	41.41329	-73.20184	0-1	2	0.0002
4	PotCri		Point	7/24/2012	03:11:39pm	41.41335	-73.20179	0-1	1	0.0002
5	PotCri		Point	7/25/2012	10:03:18am	41.42443	-73.20657	0-1	2	0.0002
6	PotCri		Point	7/25/2012	10:07:50am	41.42503	-73.20648	0-1	1	0.0002
7	PotCri		Point	7/25/2012	10:09:39am	41.42491	-73.20647	0-1	1	0.0002
8	PotCri		Point	7/25/2012	10:10:19am	41.42494	-73.2065	0-1	1	0.0002
9	PotCri		Point	7/25/2012	10:14:56am	41.42413	-73.20646	0-1	2	0.0002
10	PotCri		Point	7/26/2012	12:54:59pm	41.42487	-73.23726	0-1	3	0.0002
11	PotCri		Point	7/31/2012	02:13:23pm	41.43276	-73.24283	0-1	1	0.0002
12	PotCri		Point	8/2/2012	10:20:42am	41.43616	-73.24457	1-3	1	0.0002
13	PotCri		Point	8/2/2012	11:37:37am	41.4336	-73.26204	0-1	3	0.0002
14	PotCri		Point	8/2/2012	12:50:15pm	41.43605	-73.26575	0-1	1	0.0002
15	PotCri		Point	8/2/2012	11:56:16am	41.43471	-73.26449	0-1	1	0.0002
16	PotCri		Point	8/7/2012	10:29:00am	41.45019	-73.27279	0-1	2	0.0002
17	PotCri		Point	8/7/2012	10:34:18am	41.45061	-73.27313	1-3	1	0.0002
18	PotCri		Point	8/7/2012	10:43:04am	41.45035	-73.27287	1-3	1	0.0002
19	PotCri		Point	8/7/2012	10:47:26am	41.45072	-73.27322	1-3	1	0.0002
20	PotCri		Point	8/7/2012	10:49:35am	41.45084	-73.27337	1-3	1	0.0002
21	PotCri		Point	8/7/2012	11:02:18am	41.45129	-73.27396	1-3	2	0.0002
22	PotCri		Point	8/7/2012	11:10:39am	41.45133	-73.27405	0-1	1	0.0002
23	PotCri		Point	8/7/2012	11:15:38am	41.45148	-73.27425	1-3	2	0.0002
24	PotCri		Point	8/8/2012	10:39:48am	41.45161	-73.28289	0-1	2	0.0002

Appendix Lake Zoar invasive plant location data (14 of 16)

FID	Invasive Plant	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
25	PotCri		Point	8/8/2012	10:41:36am	41.45162	-73.28282	0-1	2	0.0002
26	PotCri		Point	8/8/2012	10:42:14am	41.45164	-73.28292	1-3	2	0.0002
27	PotCri		Point	8/8/2012	10:43:34am	41.4516	-73.28294	0-1	2	0.0002
28	PotCri		Point	8/8/2012	10:45:37am	41.45158	-73.28318	1-3	2	0.0002
29	PotCri		Point	8/8/2012	10:47:30am	41.45153	-73.28335	1-3	2	0.0002
30	PotCri		Point	8/8/2012	10:48:23am	41.45154	-73.28328	0-1	2	0.0002
31	PotCri		Point	8/8/2012	12:01:01pm	41.45148	-73.28322	0-1	2	0.0002
32	PotCri		Point	8/8/2012	01:12:57pm	41.4507	-73.2857	0-1	2	0.0002
33	PotCri		Point	8/8/2012	01:23:24pm	41.44972	-73.28806	0-1	1	0.0002
34	PotCri		Point	8/8/2012	01:28:29pm	41.44961	-73.28824	0-1	2	0.0002
35	PotCri		Point	8/8/2012	01:53:17pm	41.44953	-73.2885	0-1	1	0.0002
36	PotCri		Point	8/8/2012	02:00:47pm	41.44916	-73.29069	0-1	1	0.0002
37	PotCri		Point	8/10/2012	10:05:17am	41.42716	-73.23763	0-1	2	0.0002
38	PotCri		Point	8/10/2012	11:02:23am	41.42758	-73.23873	0-1	2	0.0002
39	PotCri		Point	8/10/2012	12:49:29pm	41.4278	-73.23903	0-1	1	0.0002
40	PotCri		Point	8/10/2012	12:55:48pm	41.42707	-73.23825	0-1	1	0.0002
41	PotCri		Point	8/10/2012	01:14:57pm	41.4282	-73.23952	0-1	1	0.0002
42	PotCri		Point	8/14/2012	01:00:46pm	41.45069	-73.27202	1-3	3	0.0002
43	PotCri		Point	8/16/2012	12:48:10pm	41.43892	-73.25045	0-1	1	0.0002
44	PotCri		Point	8/16/2012	02:18:46pm	41.44003	-73.25207	0-1	1	0.0002
45	PotCri		Point	8/16/2012	02:19:33pm	41.44002	-73.25211	1-3	2	0.0002
46	PotCri		Point	8/16/2012	02:22:12pm	41.43968	-73.2513	0-1	3	0.0002
47	PotCri		Point	8/17/2012	10:03:44am	41.43953	-73.25093	0-1	3	0.0002
48	PotCri		Point	8/17/2012	10:06:23am	41.43953	-73.25079	0-1	3	0.0002
49	PotCri		Point	8/17/2012	02:03:33pm	41.43617	-73.24149	0-1	2	0.0002
50	PotCri		Point	8/17/2012	02:36:14pm	41.43156	-73.24052	0-1	2	0.0002
51	PotCri		Point	8/17/2012	02:06:22pm	41.43611	-73.24152	0-1	3	0.0002
1	MarQua		Point	8/2/2012	01:58:20pm	41.43885	-73.26896	0-1	3	0.0002
2	MarQua		Point	8/2/2012	02:04:14pm	41.43911	-73.26878	0-1	3	0.0002
3	MarQua		Point	8/2/2012	02:04:27pm	41.43911	-73.26875	0-1	2	0.0002
4	MarQua		Point	8/2/2012	02:04:38pm	41.43912	-73.26876	0-1	2	0.0002

Appendix Lake Zoar invasive plant location data (15 of 16)

FID	Invasive Plant	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
5	MarQua		Point	8/2/2012	02:04:51pm	41.43912	-73.26875	0-1	2	0.0002
6	MarQua		Point	8/2/2012	02:07:42pm	41.43911	-73.2685	0-1	3	0.0002
7	MarQua		Point	8/2/2012	02:08:07pm	41.4391	-73.26843	0-1	2	0.0002
8	MarQua		Point	8/2/2012	02:10:56pm	41.43934	-73.26858	0-1	2	0.0002
9	MarQua		Point	8/2/2012	03:05:26pm	41.43941	-73.26844	0-1	3	0.0002
10	MarQua		Point	8/3/2012	09:32:14am	41.43882	-73.26906	0-1	2	0.0002
11	MarQua		Point	8/3/2012	09:33:04am	41.43883	-73.26903	0-1	3	0.0002
12	MarQua		Point	8/3/2012	09:40:08am	41.4389	-73.26984	0-1	2	0.0002
13	MarQua		Point	8/3/2012	10:10:15am	41.43821	-73.26869	0-1	2	0.0002
14	MarQua		Point	8/3/2012	10:10:34am	41.4382	-73.26868	0-1	2	0.0002
15	MarQua		Point	8/3/2012	11:47:28am	41.44592	-73.27158	0-1	1	0.0002
16	MarQua		Point	8/3/2012	11:49:22am	41.44599	-73.27159	0-1	1	0.0002
17	MarQua		Point	8/3/2012	11:49:48am	41.44603	-73.2716	0-1	2	0.0002
18	MarQua		Point	8/3/2012	11:50:16am	41.44606	-73.2716	0-1	1	0.0002
19	MarQua		Point	8/3/2012	11:50:50am	41.44611	-73.27161	0-1	1	0.0002
20	MarQua		Point	8/3/2012	11:51:25am	41.44617	-73.27162	0-1	1	0.0002
21	MarQua		Point	8/3/2012	11:52:30am	41.44625	-73.27164	0-1	1	0.0002
22	MarQua		Point	8/3/2012	11:53:07am	41.44628	-73.27166	0-1	1	0.0002
23	MarQua		Point	8/3/2012	11:54:19am	41.44632	-73.2717	0-1	1	0.0002
24	MarQua		Point	8/3/2012	11:54:41am	41.44635	-73.27171	0-1	1	0.0002
25	MarQua		Point	8/3/2012	11:55:17am	41.44637	-73.27173	0-1	1	0.0002
26	MarQua		Point	8/3/2012	11:55:48am	41.44639	-73.27174	0-1	1	0.0002
27	MarQua		Point	8/3/2012	11:56:17am	41.44642	-73.27176	0-1	1	0.0002
28	MarQua		Point	8/3/2012	11:56:48am	41.44645	-73.27179	0-1	1	0.0002
29	MarQua		Point	8/3/2012	11:57:12am	41.44648	-73.2718	0-1	1	0.0002
30	MarQua		Point	8/3/2012	11:57:52am	41.44652	-73.27184	0-1	1	0.0002
31	MarQua		Point	8/3/2012	11:58:41am	41.44655	-73.27188	0-1	3	0.0002
32	MarQua		Point	8/3/2012	12:00:51pm	41.44659	-73.27189	0-1	3	0.0002
33	MarQua		Point	8/3/2012	12:01:07pm	41.4466	-73.27189	0-1	3	0.0002
34	MarQua		Point	8/3/2012	12:02:07pm	41.44662	-73.27191	0-1	3	0.0002
35	MarQua		Point	8/3/2012	12:02:34pm	41.44664	-73.27189	0-1	2	0.0002

Appendix Lake Zoar invasive plant location data (16 of 16)

FID	Invasive Plant	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
36	MarQua		Point	8/3/2012	12:03:33pm	41.44666	-73.27191	0-1	2	0.0002
37	MarQua		Point	8/3/2012	12:04:41pm	41.44666	-73.27194	0-1	2	0.0002
38	MarQua		Point	8/7/2012	02:21:22pm	41.4465	-73.27127	0-1	2	0.0002
39	MarQua		Point	8/7/2012	02:24:03pm	41.44692	-73.27149	0-1	2	0.0002
40	MarQua		Point	8/7/2012	02:24:16pm	41.44692	-73.2715	0-1	2	0.0002
41	MarQua		Point	8/7/2012	02:24:43pm	41.44693	-73.27154	0-1	1	0.0002
42	MarQua		Point	8/7/2012	02:25:08pm	41.447	-73.2716	0-1	2	0.0002
43	MarQua		Point	8/7/2012	02:25:21pm	41.447	-73.2716	0-1	2	0.0002
44	MarQua		Point	8/7/2012	02:26:05pm	41.44709	-73.27169	0-1	1	0.0002
45	MarQua		Point	8/7/2012	02:26:15pm	41.4471	-73.27169	0-1	1	0.0002
46	MarQua		Point	8/7/2012	02:27:02pm	41.44706	-73.27165	0-1	1	0.0002
47	MarQua		Point	8/7/2012	02:27:14pm	41.44707	-73.27164	0-1	1	0.0002
48	MarQua		Point	8/7/2012	02:27:27pm	41.4471	-73.27164	0-1	1	0.0002
49	MarQua		Point	8/7/2012	02:27:38pm	41.44712	-73.27163	0-1	1	0.0002
50	MarQua		Point	8/7/2012	02:27:53pm	41.44714	-73.27165	0-1	1	0.0002
51	MarQua		Point	8/7/2012	02:28:07pm	41.44713	-73.27166	0-1	1	0.0002
52	MarQua		Point	8/7/2012	02:28:20pm	41.44712	-73.27166	0-1	2	0.0002
53	MarQua		Point	8/7/2012	02:28:49pm	41.44716	-73.27162	0-1	1	0.0002
54	MarQua		Point	8/7/2012	02:29:12pm	41.44716	-73.27163	0-1	2	0.0002
55	MarQua		Point	8/7/2012	02:30:42pm	41.44705	-73.2717	0-1	1	0.0002
56	MarQua		Point	8/14/2012	02:14:44pm	41.44675	-73.27199	0-1	5	0.0002
57	MarQua		Point	8/14/2012	02:15:08pm	41.44675	-73.27199	0-1	2	0.0002
58	MarQua		Point	8/14/2012	02:25:17pm	41.44717	-73.27194	0-1	2	0.0002
59	MarQua		Point	8/14/2012	02:25:31pm	41.44718	-73.27195	0-1	2	0.0002
60	MarQua		Point	8/14/2012	02:26:16pm	41.44722	-73.27198	0-1	3	0.0002

Appendix, Lake Zoar Curly leaf pondweed location data spring survey (1 of 3)

FID	Invasive Plant Name	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
0	PotCri		Patch	5/30/2012	02:12:48pm	41.427518	-73.236828	0-1	3	1.654
1	PotCri		Patch	5/30/2012	02:33:29pm	41.428939	-73.233343	1-3	2	0.146
2	PotCri		Patch	5/31/2012	11:38:30am	41.427455	-73.236667	0-1	4	0.344
3	PotCri		Patch	5/31/2012	01:02:18pm	41.429696	-73.240342	0-1	2	0.068
4	PotCri		Patch	5/31/2012	01:31:55pm	41.439727	-73.243520	1-3	2	0.297
5	PotCri		Patch	5/31/2012	01:55:24pm	41.440013	-73.244477	1-3	3	1.145
6	PotCri		Patch	5/31/2012	02:05:22pm	41.440430	-73.245220	1-3	3	0.330
7	PotCri		Patch	5/31/2012	02:17:22pm	41.440785	-73.246350	0-1	3	0.886
8	PotCri		Patch	6/1/2012	11:11:47am	41.438360	-73.251269	0-1	3	0.515
9	PotCri		Patch	6/1/2012	11:25:14am	41.436469	-73.253998	0-1	2	0.460
10	PotCri		Patch	6/1/2012	11:44:05am	41.434265	-73.257891	0-1	2	0.055
11	PotCri		Patch	6/1/2012	11:50:58am	41.434133	-73.258849	0-1	2	0.138
12	PotCri		Patch	6/1/2012	12:03:05pm	41.434287	-73.261024	1-3	3	0.809
13	PotCri		Patch	6/1/2012	01:13:15pm	41.434775	-73.262716	1-3	2	0.176
14	PotCri		Patch	6/1/2012	01:37:50pm	41.448121	-73.269473	1-3	4	0.608
15	PotCri		Patch	6/5/2012	10:31:57am	41.447027	-73.270492	0-1	2	1.253
16	PotCri		Patch	6/5/2012	11:14:02am	41.440013	-73.267027	0-1	3	1.550
17	PotCri		Patch	6/5/2012	11:38:04am	41.438029	-73.267397	0-1	1	4.252
18	PotCri		Patch	6/5/2012	12:52:12pm	41.436333	-73.265808	0-1	2	0.125
19	PotCri		Patch	6/5/2012	01:16:47pm	41.433061	-73.259298	0-1	2	0.168
20	PotCri		Patch	6/6/2012	11:03:01am	41.433680	-73.243644	1-3	3	28.973
21	PotCri		Patch	6/6/2012	12:59:25pm	41.431494	-73.245133	1-3	2	1.606
0	PotCri		Points	5/30/2012	12:00:47pm	41.41333	-73.20179	0-1	2	0.0002
1	PotCri		Points	5/30/2012	12:01:42pm	41.41332	-73.20174	0-1	2	0.0002
2	PotCri		Points	5/30/2012	02:28:15pm	41.42977	-73.23217	0-1	1	0.0002
3	PotCri		Points	5/31/2012	11:03:07am	41.41158	-73.19087	0-1	1	0.0002
4	PotCri		Points	5/31/2012	12:55:12pm	41.42916	-73.24014	0-1	3	0.0002
5	PotCri		Points	5/31/2012	12:56:28pm	41.42933	-73.24019	0-1	2	0.0002
6	PotCri		Points	5/31/2012	12:56:59pm	41.42924	-73.24019	0-1	4	0.0002
7	PotCri		Points	5/31/2012	12:57:32pm	41.42917	-73.24014	0-1	1	0.0002

Appendix, Lake Zoar Curly leaf pondweed location data spring survey (2 of 3)

FID	Invasive Plant Name	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
8	PotCri		Points	5/31/2012	12:58:45pm	41.42936	-73.2402	0-1	3	0.0002
9	PotCri		Points	5/31/2012	01:06:53pm	41.43157	-73.24051	0-1	1	0.0002
10	PotCri		Points	5/31/2012	01:20:30pm	41.43901	-73.24286	0-1	2	0.0002
11	PotCri		Points	5/31/2012	01:21:22pm	41.43908	-73.24294	1-3	3	0.0002
12	PotCri		Points	5/31/2012	01:23:33pm	41.43954	-73.2432	0-1	2	0.0002
13	PotCri		Points	5/31/2012	01:24:45pm	41.43938	-73.24329	1-3	2	0.0002
14	PotCri		Points	5/31/2012	01:26:51pm	41.43963	-73.2434	1-3	3	0.0002
15	PotCri		Points	5/31/2012	01:27:38pm	41.43975	-73.24331	0-1	2	0.0002
16	PotCri		Points	5/31/2012	01:28:03pm	41.43976	-73.24346	0-1	3	0.0002
17	PotCri		Points	5/31/2012	01:28:21pm	41.43981	-73.24349	0-1	3	0.0002
18	PotCri		Points	5/31/2012	02:16:18pm	41.44038	-73.24721	0-1	1	0.0002
19	PotCri		Points	5/31/2012	02:32:55pm	41.4393	-73.24916	0-1	2	0.0002
20	PotCri		Points	5/31/2012	02:33:15pm	41.43924	-73.24909	0-1	1	0.0002
21	PotCri		Points	6/1/2012	10:28:30am	41.43985	-73.25177	1-3	1	0.0002
22	PotCri		Points	6/1/2012	10:47:52am	41.44208	-73.25583	1-3	1	0.0002
23	PotCri		Points	6/1/2012	11:05:20am	41.43912	-73.25095	0-1	3	0.0002
24	PotCri		Points	6/1/2012	11:32:30am	41.43556	-73.25496	0-1	2	0.0002
25	PotCri		Points	6/1/2012	11:33:17am	41.43531	-73.25531	0-1	2	0.0002
26	PotCri		Points	6/1/2012	11:33:46am	41.43528	-73.25543	0-1	2	0.0002
27	PotCri		Points	6/1/2012	11:34:32am	41.43509	-73.25577	0-1	2	0.0002
28	PotCri		Points	6/1/2012	11:34:44am	41.43513	-73.25567	0-1	2	0.0002
29	PotCri		Points	6/1/2012	11:34:57am	41.43518	-73.25564	0-1	2	0.0002
30	PotCri		Points	6/1/2012	11:35:20am	41.43522	-73.25554	0-1	2	0.0002
31	PotCri		Points	6/1/2012	11:35:41am	41.43526	-73.25545	0-1	2	0.0002
32	PotCri		Points	6/1/2012	11:36:04am	41.4353	-73.25538	0-1	2	0.0002
33	PotCri		Points	6/1/2012	11:37:48am	41.43496	-73.25599	0-1	3	0.0002
34	PotCri		Points	6/1/2012	11:38:55am	41.43478	-73.25636	0-1	4	0.0002
35	PotCri		Points	6/1/2012	11:39:58am	41.43462	-73.25672	0-1	2	0.0002
36	PotCri		Points	6/1/2012	11:41:13am	41.43438	-73.25741	0-1	4	0.0002
37	PotCri		Points	6/1/2012	01:18:35pm	41.43625	-73.2643	1-3	2	0.0002

Appendix, Lake Zoar Curly leaf pondweed location data spring survey (3 of 3)

FID	Invasive Plant Name	Notes	Type	Date	Time	Latitude	Longitude	Depth (m)	Abundance	Area (acres)
38	PotCri		Points	6/1/2012	02:22:05pm	41.44849	-73.27149	0-1	2	0.0002
39	PotCri		Points	6/1/2012	02:22:30pm	41.44863	-73.2716	0-1	3	0.0002
40	PotCri		Points	6/1/2012	02:22:56pm	41.44872	-73.27168	0-1	3	0.0002
41	PotCri		Points	6/5/2012	10:54:41am	41.44509	-73.27046	0-1	2	0.0002
42	PotCri		Points	6/5/2012	10:55:27am	41.445	-73.2703	0-1	3	0.0002
43	PotCri		Points	6/5/2012	10:55:53am	41.44495	-73.27027	0-1	1	0.0002
44	PotCri		Points	6/5/2012	01:06:50pm	41.43494	-73.26475	0-1	1	0.0002
45	PotCri		Points	6/5/2012	01:38:07pm	41.4377	-73.24379	0-1	1	0.0002
46	PotCri		Points	6/5/2012	01:38:38pm	41.43763	-73.24368	1-3	2	0.0002
47	PotCri		Points	6/5/2012	01:39:42pm	41.43736	-73.24356	1-3	2	0.0002
48	PotCri		Points	6/6/2012	01:11:49pm	41.42938	-73.24439	0-1	1	0.0002

Transect Data

Appendix Lake Candlewood transect data (1 of 4)

Transect	Point	Distance from Shore (m)	Surveyor	Latitude	Longitude	Date	Depth (m)	Substrate	Notes	CerDem	ElaSp	EleSp	LemMin	MyrSpi	NajMin	NymOdo	PotFol	PotPer	StuPec	ValAme
1	1	1.0	Greg Bugbee	41.4238	-73.45255	8/30/2012	0.10	Sand		0	0	0	0	3	0	0	0	0	0	0
1	2	5.0	Greg Bugbee	41.4239	-73.45257	8/30/2012	0.40	Muck		2	0	0	0	4	0	0	0	0	0	0
1	3	10.0	Greg Bugbee	41.4239	-73.45259	8/30/2012	0.80	Muck		2	0	0	0	4	0	0	0	0	0	0
1	4	20.0	Greg Bugbee	41.424	-73.45263	8/30/2012	1.00	Muck		2	0	0	0	4	0	0	0	0	0	0
1	5	30.0	Greg Bugbee	41.4241	-73.45266	8/30/2012	1.30	Muck		2	0	0	0	5	0	0	0	0	0	0
1	6	40.0	Greg Bugbee	41.4242	-73.4527	8/30/2012	1.60	Muck		3	0	0	0	4	0	0	0	0	0	0
1	7	50.0	Greg Bugbee	41.4243	-73.45272	8/30/2012	2.00	Muck		3	0	0	0	4	0	0	0	0	0	0
1	8	60.0	Greg Bugbee	41.4244	-73.45277	8/30/2012	2.00	Muck		2	0	0	0	4	2	0	0	0	0	0
1	9	70.0	Greg Bugbee	41.4245	-73.45284	8/30/2012	1.60	Muck		2	0	0	0	4	2	0	0	0	0	0
1	10	80.0	Greg Bugbee	41.4245	-73.45288	8/30/2012	1.50	Muck		2	0	0	0	5	2	0	0	0	0	0
2	1	0.5	Greg Bugbee	41.4276	-73.44931	8/30/2012	0.10	Sand		0	0	0	0	3	0	0	0	0	0	0
2	2	5.0	Greg Bugbee	41.4276	-73.44938	8/30/2012	1.80	Sand		2	0	0	0	4	0	0	0	0	0	0
2	3	10.0	Greg Bugbee	41.4276	-73.44942	8/30/2012	2.50	Sand		0	0	0	0	5	0	0	0	0	0	0
2	4	20.0	Greg Bugbee	41.4275	-73.44949	8/30/2012	3.00	Sand		2	0	0	0	4	0	0	0	0	0	0
2	5	30.0	Greg Bugbee	41.4275	-73.44958	8/30/2012	3.00	Silt		2	0	0	0	5	0	0	0	0	0	0
2	6	40.0	Greg Bugbee	41.4274	-73.44971	8/30/2012	1.50	Gravel		0	0	0	0	2	0	0	0	0	0	0
2	7	50.0	Greg Bugbee	41.4273	-73.4498	8/30/2012	1.60	Gravel		0	0	0	0	2	0	0	0	0	0	0
2	8	60.0	Greg Bugbee	41.4273	-73.4499	8/30/2012	2.50	Gravel		2	0	0	0	4	0	0	0	0	0	0
2	9	70.0	Greg Bugbee	41.4272	-73.44995	8/30/2012	3.00	Silt		0	0	0	0	4	0	0	0	0	0	0
2	10	80.0	Greg Bugbee	41.4272	-73.45003	8/30/2012	3.00	Silt		0	0	0	0	4	0	0	0	0	0	0
3	1	0.5	Greg Bugbee	41.4703	-73.43529	8/30/2012	0.20	Gravel		0	2	2	0	2	0	0	0	0	2	0
3	2	5.0	Greg Bugbee	41.4703	-73.43523	8/30/2012	1.00	Sand		0	0	0	0	0	2	0	0	0	2	0
3	3	10.0	Greg Bugbee	41.4703	-73.43517	8/30/2012	2.00	Silt		0	0	0	0	4	0	0	0	0	0	0
3	4	20.0	Greg Bugbee	41.4703	-73.43502	8/30/2012	4.20	Silt		0	0	0	0	0	0	0	0	0	0	0
3	5	30.0	Greg Bugbee	41.4703	-73.43492	8/30/2012	8.00	Silt		0	0	0	0	0	0	0	0	0	0	0
3	6	40.0	Greg Bugbee	41.4703	-73.43479	8/30/2012	8.80	Silt		0	0	0	0	0	0	0	0	0	0	0
3	7	50.0	Greg Bugbee	41.4703	-73.43467	8/30/2012	8.80	Silt		0	0	0	0	0	0	0	0	0	0	0
3	8	60.0	Greg Bugbee	41.4703	-73.43458	8/30/2012	8.80	Silt		0	0	0	0	0	0	0	0	0	0	0
3	9	70.0	Greg Bugbee	41.4703	-73.43443	8/30/2012	9.00	Silt		0	0	0	0	0	0	0	0	0	0	0
3	10	80.0	Greg Bugbee	41.4703	-73.43432	8/30/2012	9.00	Silt		0	0	0	0	0	0	0	0	0	0	0
4	1	0.5	Greg Bugbee	41.5712	-73.48836	8/29/2012	0.20	Muck		0	0	0	0	2	0	0	0	0	0	0

Appendix Lake Candlewood transect data (2 of 4)

Transect	Point	Distance from Shore (m)	Surveyor	Latitude	Longitude	Date	Depth (m)	Substrate	Notes	CerDem	ElaSp	EleSp	LemMin	MyrSpi	NajMin	NymOdo	PotFol	PotPer	StuPec	ValAme
4	2	5.0	Greg Bugbee	41.5711	-73.48837	8/29/2012	1.00	Muck		0	0	0	0	2	0	0	0	0	0	0
4	3	10.0	Greg Bugbee	41.5711	-73.4884	8/29/2012	0.80	Muck		0	0	0	0	0	0	0	0	0	0	0
4	4	20.0	Greg Bugbee	41.571	-73.48842	8/29/2012	1.50	Muck		0	0	0	0	2	0	2	0	0	0	0
4	5	30.0	Greg Bugbee	41.571	-73.48846	8/29/2012	1.60	Muck		0	0	0	0	3	0	0	0	0	0	0
4	6	40.0	Greg Bugbee	41.5708	-73.48854	8/29/2012	2.00	Silt		0	0	0	0	3	0	0	0	0	0	0
4	7	50.0	Greg Bugbee	41.5708	-73.48862	8/29/2012	2.00	Silt		0	0	0	0	3	0	0	0	0	0	0
4	8	60.0	Greg Bugbee	41.5707	-73.4887	8/29/2012	2.00	Silt		2	0	0	0	3	0	0	0	0	0	0
4	9	70.0	Greg Bugbee	41.5706	-73.48872	8/29/2012	2.50	Silt		0	3	0	0	2	0	0	0	0	0	0
4	10	80.0	Greg Bugbee	41.5705	-73.48869	8/29/2012	2.50	Silt		0	0	0	0	0	0	0	0	0	0	0
5	1	0.5	Greg Bugbee	41.5022	-73.45151	8/29/2012	0.20	Sand		0	0	0	0	1	0	0	0	0	0	0
5	2	5.0	Greg Bugbee	41.5022	-73.45158	8/29/2012	1.00	Sand		0	0	0	0	3	2	0	0	0	0	0
5	3	10.0	Greg Bugbee	41.5022	-73.45164	8/29/2012	1.50	Sand		2	0	0	0	4	0	0	0	0	0	0
5	4	20.0	Greg Bugbee	41.5022	-73.45176	8/29/2012	2.00	Silt		0	0	0	0	4	0	0	0	0	0	0
5	5	30.0	Greg Bugbee	41.5022	-73.45187	8/29/2012	2.00	Silt		0	0	0	0	4	0	0	0	0	0	0
5	6	40.0	Greg Bugbee	41.5022	-73.45202	8/29/2012	2.80	Silt		0	0	0	0	4	0	0	0	0	0	0
5	7	50.0	Greg Bugbee	41.5022	-73.45212	8/29/2012	4.00	Silt		2	0	0	0	0	0	0	0	0	0	0
5	8	60.0	Greg Bugbee	41.5022	-73.45227	8/29/2012	5.00	Silt		0	0	0	0	0	0	0	0	0	0	0
5	9	70.0	Greg Bugbee	41.5021	-73.45232	8/29/2012	5.30	Silt		0	0	0	0	0	0	0	0	0	0	0
5	10	80.0	Greg Bugbee	41.5021	-73.45249	8/29/2012	5.00	Silt		0	0	0	0	0	0	0	0	0	0	0
6	1	0.5	Greg Bugbee	41.5139	-73.45335	8/29/2012	0.20	Muck		0	0	0	0	2	0	0	0	0	0	0
6	2	5.0	Greg Bugbee	41.5139	-73.45336	8/29/2012	0.50	Muck		0	0	0	0	5	0	0	0	0	0	0
6	3	10.0	Greg Bugbee	41.514	-73.45338	8/29/2012	1.20	Muck		0	0	0	0	5	0	0	0	0	0	0
6	4	20.0	Greg Bugbee	41.5141	-73.45338	8/29/2012	1.80	Sand		0	0	0	0	5	0	0	0	0	0	0
6	5	30.0	Greg Bugbee	41.5141	-73.45341	8/29/2012	2.00	Silt		0	0	0	0	4	0	0	0	0	0	0
6	6	40.0	Greg Bugbee	41.5142	-73.45342	8/29/2012	2.00	Silt		0	0	0	0	4	0	0	0	0	0	0
6	7	50.0	Greg Bugbee	41.5143	-73.4534	8/29/2012	2.00	Sand		0	0	0	0	3	0	0	0	0	0	0
6	8	0.0	Greg Bugbee	41.5144	-73.45351	8/29/2012	2.00	Silt		0	0	0	0	2	0	0	0	0	0	0
6	9	70.0	Greg Bugbee	41.5145	-73.4534	8/29/2012	3.00	Silt		0	0	0	0	0	0	0	0	0	0	0
6	10	80.0	Greg Bugbee	41.5146	-73.45346	8/29/2012	5.00	Silt		0	0	0	0	0	0	0	0	0	0	0
7	1	0.5	Greg Bugbee	41.5715	-73.44279	8/29/2012	0.20	Sand		0	0	0	0	2	0	0	0	0	0	0
7	2	5.0	Greg Bugbee	41.5715	-73.44285	8/29/2012	1.00	Sand		0	0	0	0	5	0	0	0	0	0	0

Appendix Lake Candlewood transect data (3 of 4)

Transect	Point	Distance from Shore (m)	Surveyor	Latitude	Longitude	Date	Depth (m)	Substrate	Notes	CerDem	ElaSp	EleSp	LemMin	MyrSpi	NajMin	NymOdo	PotFol	PotPer	StuPec	ValAme
7	3	10.0	Greg Bugbee	41.5715	-73.44293	8/29/2012	2.00	Gravel		0	0	0	0	5	0	0	0	0	0	0
7	4	20.0	Greg Bugbee	41.5715	-73.44304	8/29/2012	2.00	Rock		0	0	0	0	5	0	0	0	0	0	0
7	5	30.0	Greg Bugbee	41.5715	-73.44318	8/29/2012	3.00	Silt		0	0	0	0	4	0	0	0	0	0	0
7	6	40.0	Greg Bugbee	41.5715	-73.44329	8/29/2012	4.50	Silt		0	0	0	0	0	0	0	0	0	0	0
7	7	50.0	Greg Bugbee	41.5716	-73.4434	8/29/2012	5.50	Silt		0	0	0	0	0	0	0	0	0	0	0
7	8	60.0	Greg Bugbee	41.5716	-73.44351	8/29/2012	6.00	Silt		0	0	0	0	0	0	0	0	0	0	0
7	9	70.0	Greg Bugbee	41.5716	-73.44362	8/29/2012	6.60	Silt		0	0	0	0	0	0	0	0	0	0	0
7	10	80.0	Greg Bugbee	41.5716	-73.44375	8/29/2012	7.00	Silt		0	0	0	0	0	0	0	0	0	0	0
8	1	0.5	Greg Bugbee	41.5129	-73.44122	8/29/2012	0.20	Sand		0	0	0	0	1	0	0	0	0	0	0
8	2	10.0	Greg Bugbee	41.5129	-73.44118	8/29/2012	1.00	Sand		0	0	0	0	2	0	0	0	0	0	0
8	3	10.0	Greg Bugbee	41.5129	-73.44118	8/29/2012	1.50	Sand		0	0	0	0	4	0	0	0	0	0	0
8	4	20.0	Greg Bugbee	41.5128	-73.44118	8/29/2012	1.60	Sand		0	0	0	0	4	0	0	0	0	0	0
8	5	30.0	Greg Bugbee	41.5127	-73.44117	8/29/2012	1.80	Sand		0	0	0	0	4	0	0	0	0	0	0
8	6	40.0	Greg Bugbee	41.5126	-73.44124	8/29/2012	1.50	Sand		0	0	0	0	4	0	0	0	0	0	0
8	7	50.0	Greg Bugbee	41.5125	-73.4412	8/29/2012	1.80	Sand		0	0	0	0	5	0	0	0	0	0	0
8	8	60.0	Greg Bugbee	41.5124	-73.44123	8/29/2012	2.00	Silt		0	0	0	0	4	0	0	0	0	0	0
8	9	70.0	Greg Bugbee	41.5123	-73.44119	8/29/2012	3.50	Silt		0	0	0	0	3	0	0	0	0	0	0
8	10	80.0	Greg Bugbee	41.5122	-73.44124	8/29/2012	3.00	Silt		0	0	0	0	2	0	0	0	0	0	0
9	1	0.5	Greg Bugbee	41.4805	-73.43464	8/29/2012	0.50	Sand		0	2	2	0	2	0	0	2	2	0	0
9	2	5.0	Greg Bugbee	41.4805	-73.43472	8/29/2012	1.00	Sand		0	0	0	0	4	2	0	0	0	0	0
9	3	10.0	Greg Bugbee	41.4805	-73.43476	8/29/2012	1.00	Sand		0	0	0	0	3	2	0	0	0	0	0
9	4	20.0	Greg Bugbee	41.4804	-73.43491	8/29/2012	1.50	Silt		0	0	0	0	3	0	0	0	0	0	0
9	5	30.0	Greg Bugbee	41.4804	-73.43499	8/29/2012	2.00	Silt		0	0	0	0	4	0	0	0	0	0	0
9	6	40.0	Greg Bugbee	41.4804	-73.43513	8/29/2012	2.00	Silt		0	0	0	0	4	0	0	0	0	0	0
9	7	50.0	Greg Bugbee	41.4803	-73.43522	8/29/2012	1.80	Silt		0	0	0	0	4	0	0	0	0	0	0
9	8	60.0	Greg Bugbee	41.4803	-73.43533	8/29/2012	1.80	Silt		0	0	0	0	4	0	0	0	0	0	0
9	9	70.0	Greg Bugbee	41.4802	-73.43542	8/29/2012	1.80	Silt		0	0	0	0	3	0	0	0	0	0	0
9	10	80.0	Greg Bugbee	41.4803	-73.43558	8/29/2012	1.30	Silt		0	0	0	0	4	0	0	0	0	0	0
10	1	0.5	Greg Bugbee	41.4474	-73.42952	8/30/2012	0.10	Sand		2	0	0	2	3	2	0	0	0	0	0
10	2	5.0	Greg Bugbee	41.4473	-73.42957	8/30/2012	0.50	Sand		2	0	0	0	4	2	0	0	0	0	0
10	3	10.0	Greg Bugbee	41.4473	-73.42961	8/30/2012	0.80	Muck		2	0	0	2	2	2	0	0	0	1	3

Appendix Lake Candlewood transect data (4 of 4)

Transect	Point	Distance from Shore (m)	Surveyor	Latitude	Longitude	Date	Depth (m)	Substrate	Notes	CerDem	ElaSp	EleSp	LemMin	MyrSpi	NajMin	NymOdo	PotFol	PotPer	StuPec	ValAme
10	4	20.0	Greg Bugbee	41.4472	-73.42966	8/30/2012	1.10	Sand		0	0	0	0	2	0	0	0	0	0	3
10	5	30.0	Greg Bugbee	41.4471	-73.42975	8/30/2012	0.80	Muck		2	0	0	0	3	2	0	0	0	0	3
10	6	40.0	Greg Bugbee	41.4471	-73.42985	8/30/2012	0.10	Muck		3	0	0	2	5	2	0	0	0	0	2
10	7	50.0	Greg Bugbee	41.447	-73.42993	8/30/2012	0.10	Muck		0	0	0	2	2	0	0	0	0	0	0

Appendix, Lake Lilinonah transect data (1 of 4)

Transect	Point	Distance	Surveyor	Latitude	Longitude	Date	Depth	Substrate	Notes	CerDem	LemMin	MyrSpi	NajMin	PotCri	PotFol	PotNod	PotPus
		from					(m)										
1	1	0.5	Mark June-Wells	41.4661	-73.3012	8/13/2012	0.60	Bedrock		0	0	0	0	0	0	0	0
1	2	5	Mark June-Wells	41.4662	-73.3012	8/13/2012	3.45	Muck		0	0	0	0	0	0	0	0
1	3	10	Mark June-Wells	41.4661	-73.3011	8/13/2012	3.30	Muck		0	0	0	0	0	0	0	0
1	4	20	Mark June-Wells	41.4661	-73.301	8/13/2012	7.40	Muck		0	0	0	0	0	0	0	0
1	5	30	Mark June-Wells	41.4663	-73.3009	8/13/2012	9.20	Muck		0	0	0	0	0	0	0	0
1	6	40	Mark June-Wells	41.4663	-73.3008	8/13/2012	10.80	Muck		0	0	0	0	0	0	0	0
1	7	50	Mark June-Wells	41.4663	-73.3007	8/13/2012	11.20	Muck		0	0	0	0	0	0	0	0
1	8	60	Mark June-Wells	41.4663	-73.3006	8/13/2012	11.60	Muck		0	0	0	0	0	0	0	0
1	9	70	Mark June-Wells	41.4664	-73.3004	8/13/2012	12.60	Muck		0	0	0	0	0	0	0	0
1	10	80	Mark June-Wells	41.4664	-73.3003	8/13/2012	16.10	Muck		0	0	0	0	0	0	0	0
2	1	0.5	Mark June-Wells	41.5387	-73.4056	8/10/2012	0.50	Gravel		0	0	0	0	0	0	0	0
2	2	5	Mark June-Wells	41.5387	-73.4056	8/10/2012	1.23	Muck		0	1	3	0	0	0	0	0
2	3	10	Mark June-Wells	41.5387	-73.4055	8/10/2012	0.99			0	1	3	0	0	0	0	0
2	4	20	Mark June-Wells	41.5387	-73.4054	8/10/2012	0.64	Muck		0	1	3	3	0	1	0	0
2	5	30	Mark June-Wells	41.5386	-73.4053	8/10/2012	0.67	Muck		0	1	3	3	0	0	0	0
2	6	40	Mark June-Wells	41.5386	-73.4051	8/10/2012	0.70	Muck		1	0	2	4	1	0	0	0
2	7	50	Mark June-Wells	41.5386	-73.405	8/10/2012	0.70	Muck		3	0	0	4	1	0	2	0
2	8	60	Mark June-Wells	41.5386	-73.4049	8/10/2012	0.76	Muck		0	0	1	4	0	0	0	0
2	9	70	Mark June-Wells	41.5386	-73.4048	8/10/2012	0.75	Muck		0	0	1	3	1	0	0	0
2	10	80	Mark June-Wells	41.5385	-73.4046	8/10/2012	0.92	Muck		0	0	2	3	3	0	3	2
3	1	0.5	Mark June-Wells	41.5234	-73.399	8/10/2012	0.50	Gravel		0	0	0	0	0	0	0	0
3	2	5	Mark June-Wells	41.5234	-73.3991	8/10/2012	1.90	Gravel		0	0	0	0	0	0	0	0
3	3	10	Mark June-Wells	41.5233	-73.3991	8/10/2012	3.23	Muck		0	0	0	0	0	0	0	0
3	4	20	Mark June-Wells	41.5233	-73.3992	8/10/2012	3.27	Muck		0	0	0	0	0	0	0	0
3	5	30	Mark June-Wells	41.5232	-73.3993	8/10/2012	3.04	Muck		0	0	0	0	0	0	0	0
3	6	40	Mark June-Wells	41.5231	-73.3994	8/10/2012	2.58	Muck		0	0	1	0	0	0	0	0
3	7	50	Mark June-Wells	41.5231	-73.3995	8/10/2012	0.00	Muck		0	0	2	0	0	0	0	0
3	8	60	Mark June-Wells	41.5231	-73.3996	8/10/2012	2.29	Muck		0	0	2	0	0	0	0	0
3	9	70	Mark June-Wells	41.523	-73.3997	8/10/2012	1.93	Muck		0	0	3	0	0	0	0	0
3	10	80	Mark June-Wells	41.523	-73.3998	8/10/2012	2.11	Muck		0	0	3	0	0	0	0	0
4	1	0.5	Mark June-Wells	41.5	-73.3737	8/10/2012	0.10	Gravel		0	0	0	2	0	0	0	0

Appendix, Lake Lilinonah transect data (2 of 4)

Transect	Point	Distance	Surveyor	Latitude	Longitude	Date	Depth	Substrate	Notes	CerDem	LemMin	MyrSpi	NajMin	PotCri	PotFol	PotNod	PotPus
		from Shore (m)					(m)										
4	2	5	Mark June-Wells	41.5	-73.3737	8/10/2012	1.21	Muck		0	0	3	0	0	0	0	0
4	3	10	Mark June-Wells	41.4999	-73.3738	8/10/2012	1.85	Muck		0	0	3	0	0	0	0	0
4	4	20	Mark June-Wells	41.4999	-73.3739	8/10/2012	2.17	Muck		0	0	4	0	0	0	0	0
4	5	30	Mark June-Wells	41.4998	-73.3741	8/10/2012	2.34	Muck		0	0	3	0	0	0	0	0
4	6	40	Mark June-Wells	41.4998	-73.3741	8/10/2012	0.00	Muck		0	0	3	0	0	0	0	0
4	7	50	Mark June-Wells	41.4998	-73.3743	8/10/2012	3.07	Muck		0	0	1	0	0	0	0	0
4	8	60	Mark June-Wells	41.4997	-73.3744	8/10/2012	3.44	Muck		0	0	0	0	0	0	0	0
4	9	70	Mark June-Wells	41.4997	-73.3745	8/10/2012	3.76	Muck		0	0	0	0	0	0	0	0
4	10	80	Mark June-Wells	41.4997	-73.3746	8/10/2012	4.35	Muck		0	0	0	0	0	0	0	0
5	1	0.5	Mark June-Wells	41.4971	-73.3272	8/12/2012	0.09	Sand		0	0	0	0	0	0	0	0
5	2	5	Mark June-Wells	41.4971	-73.3272	8/12/2012	0.67	Sand		0	0	1	1	0	0	0	0
5	3	10	Mark June-Wells	41.497	-73.3272	8/12/2012	1.28	Muck		0	0	0	3	0	0	0	0
5	4	20	Mark June-Wells	41.4969	-73.327	8/12/2012	2.11	Muck		0	0	3	2	0	0	0	0
5	5	30	Mark June-Wells	41.4969	-73.327	8/12/2012	2.17	Muck		0	0	4	3	0	0	0	0
5	6	40	Mark June-Wells	41.4969	-73.3268	8/12/2012	2.83	Muck		0	0	2	1	0	0	0	0
5	7	50	Mark June-Wells	41.4969	-73.3266	8/12/2012	3.15	Muck		0	0	0	0	0	0	0	0
5	8	60	Mark June-Wells	41.4968	-73.3266	8/12/2012	4.25	Muck		0	0	0	0	0	0	0	0
5	9	70	Mark June-Wells	41.4967	-73.3265	8/12/2012	4.22	Muck		0	0	0	0	0	0	0	0
5	10	80	Mark June-Wells	41.4967	-73.3264	8/12/2012	4.27	Muck		0	0	0	0	0	0	0	0
6	1	0.5	Mark June-Wells	41.4839	-73.3237	8/12/2012	0.34	Bedrock		0	0	0	0	0	0	0	0
6	2	5	Mark June-Wells	41.4839	-73.3238	8/12/2012	1.61	Bedrock		0	0	0	0	0	0	0	0
6	3	10	Mark June-Wells	41.4838	-73.3238	8/12/2012	4.80	Bedrock		0	0	0	0	0	0	0	0
6	4	20	Mark June-Wells	41.4838	-73.3239	8/12/2012	8.10	Muck		0	0	0	0	0	0	0	0
6	5	30	Mark June-Wells	41.4837	-73.324	8/12/2012	9.00	Muck		0	0	0	0	0	0	0	0
6	6	40	Mark June-Wells	41.4836	-73.3241	8/12/2012	10.50	Muck		0	0	0	0	0	0	0	0
6	7	50	Mark June-Wells	41.4836	-73.3242	8/12/2012	12.60	Muck		0	0	0	0	0	0	0	0
6	8	60	Mark June-Wells	41.4835	-73.3243	8/12/2012	13.30	Muck		0	0	0	0	0	0	0	0
6	9	70	Mark June-Wells	41.4835	-73.3244	8/12/2012	13.60	Muck		0	0	0	0	0	0	0	0
6	10	80	Mark June-Wells	41.4834	-73.3245	8/12/2012	14.00	Muck		0	0	0	0	0	0	0	0
7	1	0.5	Mark June-Wells	41.4727	-73.3139	8/12/2012	0.08	Sand		0	0	1	1	0	0	0	0
7	2	5	Mark June-Wells	41.4726	-73.3139	8/12/2012	0.63	Sand		0	0	2	2	0	0	0	0

Appendix, Lake Lilionah transect data (3 of 4)

Transect	Point	Distance	Surveyor	Latitude	Longitude	Date	Depth	Substrate	Notes	CerDem	LemMin	MyrSpi	NajMin	PotCri	PotFol	PotNod	PotPus
		from					(m)										
7	3	10	Mark June-Wells	41.4726	-73.3138	8/12/2012	1.60	Gravel		0	0	2	3	0	0	0	0
7	4	20	Mark June-Wells	41.4725	-73.3137	8/12/2012	3.98	Muck		0	0	1	0	0	0	0	0
7	5	30	Mark June-Wells	41.4724	-73.3137	8/12/2012	4.28	Muck		0	0	0	0	0	0	0	0
7	6	40	Mark June-Wells	41.4723	-73.3136	8/12/2012	5.60	Muck		0	0	0	0	0	0	0	0
7	7	50	Mark June-Wells	41.4722	-73.3135	8/12/2012	6.30	Muck		0	0	0	0	0	0	0	0
7	8	60	Mark June-Wells	41.4722	-73.3135	8/12/2012	6.40	Muck		0	0	0	0	0	0	0	0
7	9	70	Mark June-Wells	41.4721	-73.3134	8/12/2012	6.90	Muck		0	0	0	0	0	0	0	0
7	10	80	Mark June-Wells	41.4721	-73.3133	8/12/2012	7.10	Muck		0	0	0	0	0	0	0	0
8	1	0.5	Mark June-Wells	41.4484	-73.303	8/13/2012	0.38	Gravel		0	0	0	0	0	0	0	0
8	2	5	Mark June-Wells	41.4484	-73.3029	8/13/2012	2.14	Gravel		0	0	0	0	0	0	0	0
8	3	10	Mark June-Wells	41.4484	-73.3028	8/13/2012	2.90	Gravel		0	0	0	0	0	0	0	0
8	4	20	Mark June-Wells	41.4483	-73.3028	8/13/2012	8.00	Muck		0	0	0	0	0	0	0	0
8	5	30	Mark June-Wells	41.4484	-73.3026	8/13/2012	10.50	Muck		0	0	0	0	0	0	0	0
8	6	40	Mark June-Wells	41.4484	-73.3025	8/13/2012	14.00	Muck		0	0	0	0	0	0	0	0
8	7	50	Mark June-Wells	41.4483	-73.3024	8/13/2012	16.20	Muck		0	0	0	0	0	0	0	0
8	8	60	Mark June-Wells	41.4483	-73.3023	8/13/2012	18.70	Muck		0	0	0	0	0	0	0	0
8	9	70	Mark June-Wells	41.4483	-73.3022	8/13/2012	20.10	Muck		0	0	0	0	0	0	0	0
8	10	80	Mark June-Wells	41.4482	-73.302	8/13/2012	20.30	Muck		0	0	0	0	0	0	0	0
9	1	0.5	Mark June-Wells	41.5104	-73.3178	8/12/2012	0.55	Gravel		0	0	1	1	0	0	0	0
9	2	5	Mark June-Wells	41.5103	-73.3178	8/12/2012	1.62	Gravel		0	0	2	1	0	0	0	0
9	3	10	Mark June-Wells	41.5103	-73.3179	8/12/2012	1.39	Muck		0	0	1	0	0	0	0	0
9	4	20	Mark June-Wells	41.5103	-73.318	8/12/2012	1.68	Muck		0	0	1	0	0	0	0	0
9	5	30	Mark June-Wells	41.5103	-73.3181	8/12/2012	1.54	Muck		0	0	1	0	0	0	0	0
9	6	40	Mark June-Wells	41.5102	-73.3182	8/12/2012	1.82	Muck		0	0	1	0	0	0	0	0
9	7	50	Mark June-Wells	41.5102	-73.3184	8/12/2012	2.09	Muck		0	0	0	0	0	0	0	0
9	8	60	Mark June-Wells	41.5102	-73.3185	8/12/2012	2.31	Muck		0	0	0	0	0	0	0	0
9	9	70	Mark June-Wells	41.5102	-73.3186	8/12/2012	2.42	Muck		0	0	0	1	0	0	0	0
9	10	80	Mark June-Wells	41.5101	-73.3187	8/12/2012	3.46	Muck		0	0	1	0	0	0	0	0
10	1	0.5	Mark June-Wells	41.4903	-73.3831	8/10/2012	0.20	Gravel		0	0	0	0	0	0	0	0
10	2	5	Mark June-Wells	41.4903	-73.3831	8/10/2012	0.82			0	0	0	0	0	0	0	0
10	3	10	Mark June-Wells	41.4903	-73.3832	8/10/2012	1.44	Muck		0	0	2	0	0	0	0	0

Appendix, Lake Lilionah transect data (4 of 4)

Transect	Point	Distance from Shore (m)	Surveyor	Latitude	Longitude	Date	Depth (m)	Substrate	Notes	CerDem	LemMin	MyrSpi	NajMin	PotCri	PotFol	PotNod	PotPus
10	4	20	Mark June-Wells	41.4904	-73.3833	8/10/2012	2.19	Muck		0	0	3	0	0	0	0	0
10	5	30	Mark June-Wells	41.4904	-73.3834	8/10/2012	0.00	Muck		0	0	3	0	0	0	0	0
10	6	40	Mark June-Wells	41.4904	-73.3835	8/10/2012	2.78	Muck		0	0	0	0	0	0	0	0
10	7	50	Mark June-Wells	41.4905	-73.3836	8/10/2012	2.83	Muck		0	0	0	0	0	0	0	0
10	8	60	Mark June-Wells	41.4905	-73.3837	8/10/2012	2.10	Muck		0	0	4	0	0	0	0	0
10	9	70	Mark June-Wells	41.4906	-73.3838	8/10/2012	1.45	Muck		0	0	4	0	0	0	0	0
10	10	80	Mark June-Wells	41.4906	-73.3839	8/10/2012	0.50	Gravel		0	0	0	0	0	0	0	0

Appendix, Lake Zoar transect data (1 of 4)

Transect	Point	Distance from Shore (m)	Surveyor	Latitude	Longitude	Date	Depth (m)	Substrate Notes	CerDem	EloNut	MyrSpi	NajMin	PotCri	ValAme	ZosDub
1	1	0.5	Mark June-Wells	41.4284	-73.23944	8/22/2012	0.20	Sand	0	0	0	0	0	0	0
1	2	5	Mark June-Wells	41.42839	-73.23949	8/22/2012	0.43	Sand	0	0	0	0	0	0	0
1	3	10	Mark June-Wells	41.42836	-73.23953	8/22/2012	0.52	Sand	0	0	0	2	2	3	0
1	4	20	Mark June-Wells	41.42827	-73.2396	8/22/2012	1.50	Sand	0	0	1	4	0	3	0
1	5	30	Mark June-Wells	41.42821	-73.23968	8/22/2012	2.33	Muck	0	0	0	0	0	1	0
1	6	40	Mark June-Wells	41.42813	-73.23973	8/22/2012	3.27	Muck	0	0	0	0	0	0	0
1	7	50	Mark June-Wells	41.42802	-73.23982	8/22/2012	4.07	Muck	0	0	0	0	0	0	0
1	8	60	Mark June-Wells	41.42793	-73.23987	8/22/2012	3.90	Muck	0	0	0	0	0	0	0
1	9	70	Mark June-Wells	41.42787	-73.23988	8/22/2012	4.10	Muck	0	0	0	0	0	0	0
1	10	80	Mark June-Wells	41.42779	-73.23993	8/22/2012	4.20	Muck	0	0	0	0	0	0	0
2	1	0.5	Mark June-Wells	41.43682	-73.25175	8/22/2012	1.37	Bedrock	0	0	0	0	0	0	0
2	2	5	Mark June-Wells	41.43688	-73.25174	8/22/2012	3.00	Bedrock	0	0	0	0	0	0	0
2	3	10	Mark June-Wells	41.4369	-73.25188	8/22/2012	6.69	Muck	0	0	0	0	0	0	0
2	4	20	Mark June-Wells	41.43699	-73.25193	8/22/2012	6.30	Muck	0	0	0	0	0	0	0
2	5	30	Mark June-Wells	41.43702	-73.25202	8/22/2012	6.50	Muck	0	0	0	0	0	0	0
2	6	40	Mark June-Wells	41.43711	-73.25202	8/22/2012	6.50	Muck	0	0	0	0	0	0	0
2	7	50	Mark June-Wells	41.43719	-73.25212	8/22/2012	6.60	Muck	0	0	0	0	0	0	0
2	8	60	Mark June-Wells	41.43724	-73.25219	8/22/2012	6.30	Muck	0	0	0	0	0	0	0
2	9	70	Mark June-Wells	41.43728	-73.25234	8/22/2012	6.00	Muck	0	0	0	0	0	0	0
2	10	80	Mark June-Wells	41.43736	-73.25245	8/22/2012	5.80	Muck	0	0	0	0	0	0	0
3	1	0.5	Mark June-Wells	41.43726	-73.2664	8/22/2012	0.00	Gravel	0	0	1	2	0	1	0
3	2	5	Mark June-Wells	41.43732	-73.26638	8/22/2012	0.94	Muck	0	2	2	2	2	3	3
3	3	10	Mark June-Wells	41.4374	-73.2664	8/22/2012	0.76	Muck	0	0	2	2	1	3	0
3	4	20	Mark June-Wells	41.43749	-73.26639	8/22/2012	0.61	Muck	0	0	3	3	2	3	0
3	5	30	Mark June-Wells	41.43755	-73.26636	8/22/2012	0.65	Muck	1	0	2	2	3	0	0
3	6	40	Mark June-Wells	41.43766	-73.26636	8/22/2012	0.74	Muck	0	0	0	3	3	0	0
3	7	50	Mark June-Wells	41.43773	-73.26637	8/22/2012	1.00	Muck	0	0	2	3	2	3	0
3	8	60	Mark June-Wells	41.43784	-73.26636	8/22/2012	1.45	Muck	0	0	2	1	1	0	0
3	9	70	Mark June-Wells	41.43793	-73.26634	8/22/2012	3.23	Muck	1	0	2	0	0	0	1
3	10	80	Mark June-Wells	41.43803	-73.26636	8/22/2012	3.24	Muck	0	0	0	0	0	0	0

Appendix, Lake Zoar transect data (2 of 4)

Transect	Point	Distance	Surveyor	Latitude	Longitude	Date	Depth	Substrate	Notes	CerDem	EloNut	MyrSpi	NajMin	PotCri	ValAme
		from Shore (m)					(m)								
4	1	0.5	Mark June-Wells	41.45331	-73.28122	8/22/2012	1.11	Gravel		0	0	2	0	0	0
4	2	5	Mark June-Wells	41.45325	-73.2812	8/22/2012	1.55	Muck		0	0	3	0	0	1
4	3	10	Mark June-Wells	41.45321	-73.28118	8/22/2012	1.46	Muck		3	0	4	0	1	1
4	4	20	Mark June-Wells	41.45313	-73.28113	8/22/2012	2.10	Muck		0	0	4	0	0	3
4	5	30	Mark June-Wells	41.45306	-73.28109	8/22/2012	3.71	Muck		0	0	0	0	0	0
4	6	40	Mark June-Wells	41.45297	-73.28098	8/22/2012	3.86	Muck		0	0	0	0	0	0
4	7	50	Mark June-Wells	41.4529	-73.28093	8/22/2012	3.89	Muck		0	0	0	0	0	0
4	8	60	Mark June-Wells	41.45281	-73.2809	8/22/2012	4.02	Muck		0	0	0	0	0	0
4	9	70	Mark June-Wells	41.45273	-73.28088	8/22/2012	3.98	Muck		0	0	0	0	0	0
4	10	80	Mark June-Wells	41.45263	-73.28088	8/22/2012	3.85	Muck		0	0	0	0	0	0
5	1	0.5	Mark June-Wells	41.43215	-73.22735	8/22/2012	0.12	Sand		0	0	0	0	0	0
5	2	5	Mark June-Wells	41.43211	-73.22734	8/22/2012	0.18	Sand		0	0	0	0	0	0
5	3	10	Mark June-Wells	41.43208	-73.22736	8/22/2012	0.33	Sand		0	0	0	0	0	0
5	4	20	Mark June-Wells	41.43198	-73.22735	8/22/2012	0.30	Muck		0	0	0	0	0	0
5	5	30	Mark June-Wells	41.43189	-73.2274	8/22/2012	0.48	Muck		0	0	0	0	0	0
5	6	40	Mark June-Wells	41.4318	-73.22741	8/22/2012	0.70	Muck		0	0	0	0	0	0
5	7	50	Mark June-Wells	41.4317	-73.22743	8/22/2012	1.00	Muck		0	0	0	2	0	0
5	8	60	Mark June-Wells	41.43161	-73.22748	8/22/2012	1.17	Muck		0	0	0	2	0	0
5	9	70	Mark June-Wells	41.43153	-73.22749	8/22/2012	1.39	Muck		0	0	0	2	0	0
5	10	80	Mark June-Wells	41.43144	-73.22754	8/22/2012	1.40	Muck		0	0	0	3	0	0
6	1	0.5	Mark June-Wells	41.42408	-73.20746	8/22/2012	0.26	Sand		0	0	0	0	0	0
6	2	5	Mark June-Wells	41.42409	-73.2074	8/22/2012	0.74	Sand		0	0	0	0	0	0
6	3	10	Mark June-Wells	41.42406	-73.20733	8/22/2012	0.95	Sand		0	0	0	0	0	0
6	4	20	Mark June-Wells	41.42411	-73.2072	8/22/2012	1.19	Muck		0	0	0	0	0	0
6	5	30	Mark June-Wells	41.42414	-73.20711	8/22/2012	1.22	Muck		2	0	0	0	0	0
6	6	40	Mark June-Wells	41.42415	-73.207	8/22/2012	1.24	Muck		0	0	0	0	0	0
6	7	50	Mark June-Wells	41.42421	-73.20686	8/22/2012	1.26	Muck		2	0	0	0	0	0
6	8	60	Mark June-Wells	41.42423	-73.20676	8/22/2012	1.45	Muck		1	0	0	0	0	0
6	9	70	Mark June-Wells	41.42424	-73.20667	8/22/2012	1.39	Muck		0	0	1	0	0	0
6	10	80	Mark June-Wells	41.42424	-73.20653	8/22/2012	1.12	Muck		0	0	2	0	0	0

Appendix, Lake Zoar transect data (3 of 4)

Transect	Point	Distance	Surveyor	Latitude	Longitude	Date	Depth	Substrate	Notes	CerDem	EloNut	MyrSpi	NajMin	PotCri	ValAme
		from					(m)								
7	1	0.5	Mark June-Wells	41.41217	-73.2013	8/23/2012	0.36	Bedrock		0	0	0	0	0	0
7	2	5	Mark June-Wells	41.4122	-73.20129	8/23/2012	2.33	Gravel		0	0	0	0	0	0
7	3	10	Mark June-Wells	41.41221	-73.20119	8/23/2012	2.95	Muck		0	0	0	0	0	0
7	4	20	Mark June-Wells	41.41232	-73.20115	8/23/2012	2.89	Muck		0	0	0	0	0	0
7	5	30	Mark June-Wells	41.41239	-73.20113	8/23/2012	2.80	Muck		0	0	0	0	0	0
7	6	40	Mark June-Wells	41.41245	-73.20103	8/23/2012	2.59	Muck		0	0	0	0	0	0
7	7	50	Mark June-Wells	41.41254	-73.20104	8/23/2012	2.32	Muck		0	0	0	0	0	0
7	8	60	Mark June-Wells	41.41262	-73.20097	8/23/2012	2.50	Muck		0	0	0	0	0	0
7	9	70	Mark June-Wells	41.41273	-73.201	8/23/2012	2.50	Muck		0	0	0	0	0	0
7	10	80	Mark June-Wells	41.41281	-73.20097	8/23/2012	2.60	Muck		0	0	0	0	0	0
8	1	0.5	Mark June-Wells	41.3984	-73.19036	8/23/2012	1.02	Bedrock		0	0	0	0	0	0
8	2	5	Mark June-Wells	41.39842	-73.19033	8/23/2012	1.54	Gravel		0	0	0	0	0	0
8	3	10	Mark June-Wells	41.39844	-73.19024	8/23/2012	3.10	Bedrock		0	0	0	1	0	0
8	4	20	Mark June-Wells	41.39846	-73.19011	8/23/2012	4.33	Muck		0	0	0	0	0	0
8	5	30	Mark June-Wells	41.39843	-73.19	8/23/2012	4.10	Muck		0	0	0	0	0	0
8	6	40	Mark June-Wells	41.39846	-73.18991	8/23/2012	4.30	Muck		0	0	0	0	0	0
8	7	50	Mark June-Wells	41.39842	-73.1898	8/23/2012	4.80	Muck		0	0	0	0	0	0
8	8	60	Mark June-Wells	41.39844	-73.18965	8/23/2012	5.60	Muck		0	0	0	0	0	0
8	9	70	Mark June-Wells	41.39847	-73.18955	8/23/2012	6.40	Muck		0	0	0	0	0	0
8	10	80	Mark June-Wells	41.3985	-73.18941	8/23/2012	8.10	Muck		0	0	0	0	0	0
9	1	0.5	Mark June-Wells	41.39186	-73.1744	8/23/2012	0.32	Sand		0	0	0	0	0	0
9	2	5	Mark June-Wells	41.39183	-73.17443	8/23/2012	1.15	Muck		0	0	0	0	0	0
9	3	10	Mark June-Wells	41.39176	-73.1744	8/23/2012	1.00	Muck		0	0	0	0	0	0
9	4	20	Mark June-Wells	41.39167	-73.17442	8/23/2012	1.01	Muck		0	0	0	0	0	0
9	5	30	Mark June-Wells	41.3916	-73.17449	8/23/2012	2.19	Muck		0	0	0	0	0	0
9	6	40	Mark June-Wells	41.39151	-73.17453	8/23/2012	3.98	Muck		0	0	0	0	0	0
9	7	50	Mark June-Wells	41.39145	-73.1746	8/23/2012	4.10	Muck		0	0	0	0	0	0
9	8	60	Mark June-Wells	41.39137	-73.17467	8/23/2012	4.80	Muck		0	0	0	0	0	0
9	9	70	Mark June-Wells	41.3913	-73.17474	8/23/2012	5.30	Muck		0	0	0	0	0	0
9	10	80	Mark June-Wells	41.39122	-73.17477	8/23/2012	6.20	Muck		0	0	0	0	0	0

Appendix, Lake Zoar transect data (4 of 4)

Transect	Point	Distance from Shore (m)	Surveyor	Latitude	Longitude	Date	Depth (m)	Substrate	Notes	CerDem	EloNut	MyrSpi	NajMin	PotCri	ValAme	ZosDub
10	1	0.5	Mark June-Wells	41.38144	-73.17504	8/23/2012	0.10	Sand		0	0	0	0	0	0	0
10	2	5	Mark June-Wells	41.38149	-73.17504	8/23/2012	0.20	Sand		0	0	0	0	0	0	0
10	3	10	Mark June-Wells	41.38153	-73.17505	8/23/2012	0.37	Muck		0	0	0	0	0	0	0
10	4	20	Mark June-Wells	41.38161	-73.17514	8/23/2012	0.79	Muck		0	0	0	0	0	0	0
10	5	30	Mark June-Wells	41.38169	-73.17519	8/23/2012	1.01	Muck		0	0	0	1	0	0	0
10	6	40	Mark June-Wells	41.38179	-73.17519	8/23/2012	2.97	Muck		0	0	0	2	0	0	0
10	7	50	Mark June-Wells	41.38192	-73.17522	8/23/2012	3.75	Muck		0	0	0	0	0	0	0
10	8	60	Mark June-Wells	41.38196	-73.17527	8/23/2012	3.90	Muck		0	0	0	0	0	0	0
10	9	70	Mark June-Wells	41.38204	-73.17533	8/23/2012	4.00	Muck		0	0	0	0	0	0	0
10	10	80	Mark June-Wells	41.38211	-73.17538	8/23/2012	4.30	Muck		0	0	0	0	0	0	0