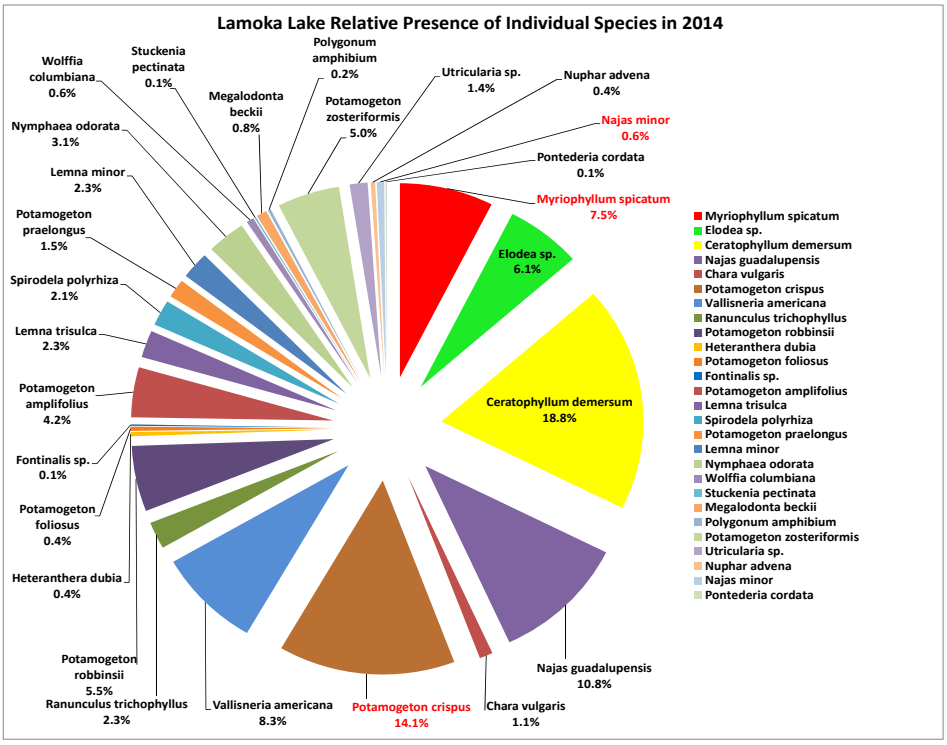
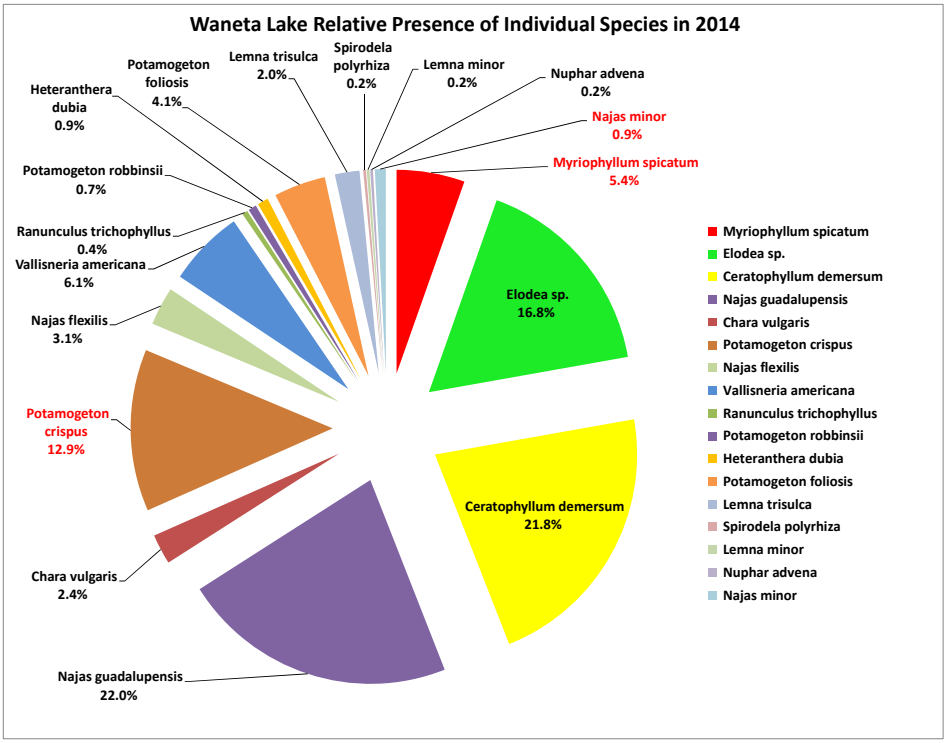
2014 Lamoka and Waneta Lakes' Plant Community Response to the 2008 through 2014 Triclopyr Applications to Control Eurasian watermilfoil





Racine-Johnson Aquatic Ecologists

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Contents

Cover

Pie Charts of Lamoka and Waneta Lake's Relative Presence of Individual Aquatic Plant Species in 2014 after herbicide treatments in both lakes in 2008, 2009, 2012 and 2013. In 2014, only Lamoka Lake received treatment with the herbicide triclopyr to control Eurasian watermilfoil.

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Introduction and Executive Summary

This report summarizes the 2014 aquatic plant survey by Racine-Johnson Aquatic Ecologists for the Lamoka Waneta Lakes' Association, following the protocol and format we used in 2010 through 2013 and in previous years by the Cornell University Research Ponds, Department of Ecology and Evolutionary Biology, Cornell University, Ithaca, NY. In 2014, we continued to conduct evaluations of the aquatic plant communities in Waneta and Lamoka Lakes for the Lamoka Waneta Lakes' Association to evaluate the role and impact of the 2008, 2009, 2012, and 2013 herbicide treatments of these two lakes with only Lamoka Lake treated in 2014 with triclopyr (Renovate®). Triclopyr treatments in recent years have evolved to treat locations (spot treatments) where surveys conducted in the previous late summer recorded a presence and mass of Eurasian watermilfoil.

Herbicide treatments for 2014 approved by the NYS Department of Environmental Conservation follow. In Waneta Lake, no treatment with Renovate ® (active ingredient triclopyr) for the invasive plant Eurasian watermilfoil took place in 2014. In Lamoka Lake, the application of the aquatic herbicide Renovate ® (active ingredient triclopyr) to treat the invasive plant Eurasian watermilfoil occurred May 21, 2013 on 12.4 acres of Lamoka Lake and 32 acres of Mill Pond.

The herbicide treatment history is very different between the two lakes with the historical 2003 fluridone (Sonar®) whole lake herbicide application to Waneta Lake but not to Lamoka Lake. This 2003 treatment removed all but trace plant fragments from Waneta Lake in 2003 with the following two years of 2004 and 2005 showing very little recovery of any plant growth. In 2006 and 2007, Eurasian watermilfoil returned to become the overwhelming dominant species leading to the 2008 and 2009 herbicide treatment with triclopyr (Renovate®). This early sequence of management likely influenced some of the native plant species population differences measured between the two lakes from 2008 through 2014.

We contrast 2014 results with our 2003-2013 studies in Waneta Lake (Johnson *et al*. 2003, Lord *et al*. 2005, Johnson *et al*. 2006, Johnson and Keith 2006, Johnson *et al*. 2008, Johnson *et al*. 2009, Johnson *et al*. 2011, Johnson *et al*. 2012 A, Johnson *et al*. 2012 B and Johnson *et al*. 2013), along with the earlier pretreatment study (Madsen *et al*. 2001, Madsen *et al*. 2008). In addition, we report the results of our 2014 aquatic plant community study of Lamoka Lake as we did in Waneta using a rake-toss method to determine plant species presence, location and an estimate of species abundance. We did not measure plant biomass in 2011, 2012, 2013 or 2014 in either lake. We contrast Lamoka species occurrence in 2014 to data collected in 2000, 2006, 2008, 2009, 2010, 2011, 2012, 2013 (Madsen *et al*. 2001, Johnson and Keith 2006, Johnson *et al*. 2008, Johnson *et al*. 2009, Johnson *et al*, Johnson *et al*. 2012 A, Johnson *et al*. 2012 B and Johnson *et al.* 2013).

The data collected in 2014 replicates the documentation of Lamoka and Waneta Lakes' plant communities by methods specified in Madsen *et al*. (2001, 2008), and by personal communication (Madsen, 2003). Further, in 2003 we refined and greatly expanded our plant measurement rake-toss method to include an estimate of abundance of each species that we can extrapolate to an estimate of biomass.

This and all our previously cited reports of these lakes attempt to address the criticism of the term "plant or species diversity", used widely in the pre-treatment report of Madsen *et al*. (2001). Therefore we depart from using the term, however, the original measures taken in 2000 and reported in Madsen *et al*. (2001), Johnson *et al*. (2003), Lord *et al*. (2005), Johnson *et al*. (2006), Johnson and Keith (2006), Johnson *et al*. (2008), Johnson *et al*. (2009), Johnson *et al.* (2011), Johnson *et al*. (2012) A, Johnson *et al*. (2012) B and Johnson *et al*. 2013 remain part of this report in a similar format.

For example, where Madsen *et al*. (2001) states "Change in diversity as measured by average number species per sample site", or "Waneta Lake plant diversity was lower than for Lamoka, with only 2.16 species per littoral zone point and 1.37 native species per littoral zone point". We use, for this report, the term species occurrence or presence and the number of species per sample point (SP). We will use in some instances the term richness where reporting the number of species.

Our reporting of aquatic plant species presence in Lamoka and Waneta Lakes uses predetermined sampling points (SPs) located and recorded by GPS. These SPs are at the line intercepts of 100m X 100m UTM transect grids (NAD27 datum and true north) predetermined in 2000 to determine presence, richness, littoral zone coverage and biomass of plant species. We added additional SPs requested by the Lamoka Waneta Lakes' Association and the NYSDEC in later years. Each original SP is at the center of a 100m X 100m quadrant, or 1 hectare, of the original littoral zones of Waneta and Lamoka Lakes as defined by Madsen *et al*. (2001). We conducted our 2014 macrophyte samplings for plant species presence and abundance at locations identified by GPS to be able to define lake-wide trends in species richness and plant community structure spatially and temporally.

In 2014, the presence of watermilfoil continues to be found at a low number of locations but more wide spread in Waneta Lake recorded at 30 SP locations (Figure 9), up from the 5 SP locations in 2013. Mass of watermilfoil remains quite low as displayed in Figure 15. Lamoka Lake "proper" shows 11 locations (Figure 18) with low mass (Figure 25). Mill Pond and Mud Channel had 53 SP locations with watermilfoil compared to 21 in 2013 (Figure 19).

Primary native species remain stable in both lakes with the Mill Pond area showing a slight increase of Elodea sp. that declined significantly after the 2009 herbicide treatment. The native *Ceratophyllum* demersum (coontail) with the non-natives *Myriophyllum spicatum* (Eurasian watermilfoil) and *Potamogeton crispus* (curly-leafed pondweed) continued to increase within Mill Pond as they had in 2012 and 2013.

An additional survey we conducted in 2014 was to search with rake-toss for the presence of the non-native aquatic plant *Hydrilla verticillata* (hydrilla) in the channel between the two lakes within the Waneta - Lamoka Wildlife Management Area. In 2013, this survey was a visual search in the channel. The 2014 survey did not find any hydrilla. Additionally, our actual rake-toss survey in both lakes did not locate any presence of hydrilla. Concern for the presence of hydrilla is because of its presence within the nearby Cayuga Inlet and Fall Creek flowing into southern Cayuga Lake at Ithaca, NY.

2014 Findings – Waneta Lake

- We did find in 2014, Eurasian watermilfoil by the rake-toss sampling method in Waneta Lake at 30 locations (Tables 2, 3, 4; Figure 9; Appendix Table A).

- Native plant frequency in Waneta Lake (*expressed as the number of sampling points (SPs) where we found at least one native species by two rake tosses per point*) decreased to 101 from the 102 SPs recorded each year for 2013, 2012, 2011, 2010 and 2009. This compared to 100, 57, 45, 37, 50, 54 and 64 in 2008, 2007, 2006, 2005, 2004, 2003 and 2000 respectively (Tables 2, 3).

- Native plant species occurrence in Waneta Lake at 3.64 increased from 3.44 in 2013, 2.95 in 2012 and 3.06 species per SP in 2011 this contrasted to 3.39, 3.57, 3.49, 1.29, 0.91, 0.60, 0.58, 0.79 and 1.37 in 2010, 2009, 2008, 2007, 2006, 2005, 2004, 2003 and 2000 respectively (Table 2).

- Native plant species richness in Waneta Lake by the rake-toss method (Tables 2, 3; Appendix Table A) is 14 the same as 2013. This shows an increase from previous years following the 2009 herbicide treatment. Rake-toss and biomass measures in earlier years combined showed 8, 11, 13, 17, 15, 15, 12, 10 and 9 in 2012, 2011, 2010, 2009, 2008, 2007, 2006, 2005 and 2004 respectively (Tables 1; Madsen *et al*. 2001; Lord *et al*. 2005; Johnson *et al*. 2006; Johnson and Keith 2006, Johnson *et al*. 2008, Johnson *et al*. 2009, Johnson *et al*. 2011, Johnson *et al*. 2012 A, Johnson *et al*. 2012 B and Johnson *et al*. 2013).

- The measure of native plant species abundance made with the rake-toss in 2014 shows 33 SPs with a Dense mean rake abundance down sharply from 57 and 55 SPs in 2013 and 2012. It is down significantly from 83 SPs, 96 SPs and 69 SPs in 2011, 2010 and 2009 respectively out of the 138 SPs measured (Appendix Table A, Johnson *et al*. 2013, Johnson *et al*. 2012 A, Johnson *et al*. 2012 B, Johnson *et al*. 2011, Johnson *et al*. 2009).

- Non-native plant species occurrence (*number of non-native species per SP*) that can include *Myriophyllum spicatum*, *Potamogeton crispus, Najas minor, and Nitellopsis obtusa* in Waneta Lake at 0.86 species per SP in 2014 up from 0.57, 0.30, 0.13, and 0.42 in 2013, 2012, 2011, and 2010 respectively.

- Non-native plant species richness identified by rake-toss in Waneta Lake in 2014 is three species, *Myriophyllum spicatum*, *Potamogeton crispus* and *Najas minor* (Tables 2, 3; Appendix Table A).

- Waneta Lake's all plant species frequency (*expressed as the number of SPs where we found at least one native and/or non-native species by two rake tosses per point out of the original 102*) was 101 with 2013, 2012, 2011, 2010 and 2009 at 102 SPs. This value remains up from 100, 96, 68, 58, 53, 55 and 91 in 2008, 2007, 2006, 2005, 2004, 2003 and 2000 respectively (Table 2).

- Plant species occurrence (*native and non-native per SP*) in Waneta Lake increased to 4.5 in 2014 from 4.0 species per SP in 2013, from 3.3 and 3.2 in 2012 and 2011, 3.8 in 2010, 4.0 in 2009 and 4.1 in 2008. However, plant species occurrence remains greater than 2.6, 1.6, 1.0, 0.8 and 0.8 species per SP in 2007, 2006, 2005, 2004 and 2003 respectively (Table 2).

- The number of all plant species combined (*native and non-native*), expressed as richness, is 17 for Waneta Lake in 2014 (*14 native and 3 non-natives)* same as 2013. We found 11 plant species in 2012 (*8 native and 3 non-natives)*, 13 plant species in 2011 *(11 native and 2 non-native)*, 2010 (*13 native and 2 non-native)* and 19 plant species in 2009 (*17 native and 2 non-native).*

- Mean Waneta Lake water depth at the sample points measured in 2014 at 1.89 m was at the average depth of the last several years with the exception of 2012 a low-level year.

2014 Findings – Lamoka Lake (including Mud Channel and Mill Pond)

- In 2014, we found Eurasian watermilfoil by the rake-toss sampling method in Lamoka Lake "proper" at 11 SP locations. In Mill Pond and Mud Channel, we recorded 53 SP locations having watermilfoil presence (Tables 5, 7; Figures 18, 19; Appendix Table B).

- Native plant frequency in Lamoka Lake / Mill Pond (*expressed as the number of sampling points (SPs) where we found at least one native species by two rake tosses per point*) was 165 in 2014 compared to 160 SPs in 2013, 163 SPs in 2012, 166 SPs in 2011, 161 SPs in 2010 and 165 SPs in 2009 (Tables 5, 7).

- Native plant species occurrence (*number of native species per SP*) in Lamoka Lake in 2014 was 3.87 native species per SP compared to 3.5 in 2013, 3.8 found in 2012, 4.0 in 2011 and 3.7 in 2010. The 3.87 native species per SP for 2014 is also down from the 6.4 in 2009, 5.4 in 2008 and the 5.6 in 2006 before the herbicide treatment (Table 5) due largely to loss of specific species.

- Native plant species richness identified in Lamoka Lake by the two rake tosses at 169 SPs is 24, compared to 28 in 2013, higher than 23 in 2012, 26 species in 2011, 2009 and 2006. (Tables 5, 6; Appendix Table B).

- Non-native plant species occurrence (*number of non-native species per SP*) in Lamoka Lake increased to 1.11 from 0.89 in 2013, 0.64 in 2012, 0.63 in 2011, 0.48 in 2010, 0.50 in 2009 and 0.64 in 2008, but comparable to 1.0 in 2006 (Table 5).

- Lamoka Lake's all plant species frequency (*expressed as the number of SPs where we found at least one native and/or non-native species by two rake tosses per point*) in 2014 is 166 SPs, contrasted to 160 SPs in 2013, 164 SPs in 2012, 167 SPs in 2011, 163 SPs in 2010, 165 SPs in 2009, 161 SPs in 2008, and 166 SPs in 2006 before the herbicide treatment (Table 5).

- Plant species occurrence (*native and non-native per SP*) in Lamoka Lake in 2014 is 5, higher than 4.3 in 2013, 4.5 in 2012, 4.6 in 2011, 4.1 in 2010, but down from 6.9 species per SP in 2009, 6.0 in 2008 and 6.6 in 2006 (Table 5).

- Mean littoral zone depth on Lamoka Lake at the SPs measured in 2014 was at 1.49m compared to 1.6 in 2013, 1.3m in 2012, 1.5m in 2011, 2010 and 2009, 1.6m in 2008 and 1.7m in 2006 before herbicide treatment (Table 5). Madsen *et al*. 2001 reported Lamoka's mean littoral zone depth at 1.5 meters in 2000 (Table 5).

Methods

Plant Species Sampling

The sampling for aquatic plant species presence and abundance in Waneta and Lamoka Lakes uses predetermined sampling points (SPs) located at the line intercepts of 100m X 100m UTM transect grids (NAD27 datum and true north) supplemented with additional SPs added through the years to determine presence, richness, littoral zone coverage, relative abundance, and biomass. Each original sample point (SP) is at the center of a 100m X 100m quadrant or 1 hectare.

We conducted our macrophyte samplings to determine plant species presence and, in the past biomass, at locations identified by GPS to be able to identify lake-wide trends in species richness and plant community structure spatially and temporally. The principal data accumulated replicates the Lamoka and Waneta Lakes pre-treatment methods specified by Madsen *et al*. (2001, 2008) and expanded upon in personal communication (Madsen, 2003). We used hand-held GPS equipment to guide us to and record all SPs in this study.

We used the point sampling and line intercept methods (Madsen, 1999) initiated for this study in 2000 (Madsen *et al*. 2001). At each SP we used a grapple hook (throw-rake) formed by connecting the "heads" of two garden rakes back-to-back attached to a line and tossed approximately 10m from the boat to sample the plants on the lake bottom. At each SP our crew threw two rake tosses to record plant species presence required by this study's criteria since the Madsen *et al*. (2001) study used two rake tosses (Madsen, 2003).

In addition to the basic (Madsen, 1999) "presence or absence" method, we make an estimate of total plant abundance on the rake as "dense", "medium", "sparse", "trace" or "zero" along with an estimate of the percentage of each individual species. We transcribed all information on-site onto data sheets for later entry into a data spreadsheet. In 2014, we recorded two rake tosses at each SP in Lamoka Lake and Waneta Lakes.

The monitoring team then separated each plant mass collected by rake into individual species, analyzed the separations by recording the species identification (Borman *et al*. 1999, Crow and Hellquist 1999) and assigned a percentage estimate of mass to each species on the lake (Figure 5). We use a classification of dense, medium, sparse, trace or zero to classify the overall plant biomass of each individual rake toss. A rating of "dense" is more than an armful and difficult to get into the boat while an arm-full or when all rake tines are full receives a "medium" rating. Continuing, a "sparse" is when two hands are full or about 50% of the tines on the rake are full, a "trace" is less than a small handful or when plants are on a couple of rake tines, and a "zero" is a bare rake.

We sampled 138 SPs (Figure 1), for Waneta Lake plant species presence, location and littoral zone coverage while estimating relative abundance by the rake-toss method August 6 - 26, 2014.

We sampled Lamoka Lake at 180 SPs (Figure 2, 3), for plant species presence, location and littoral zone coverage while estimating relative abundance by the rake-toss method September 3 - 17, 2014.

We sampled the Waneta - Lamoka Wildlife Management Area (Figure 4), where we conducted rake-toss measurements from August 6 - September 17, 2014 recording the same measures taken for Waneta and Lamoka Lakes.

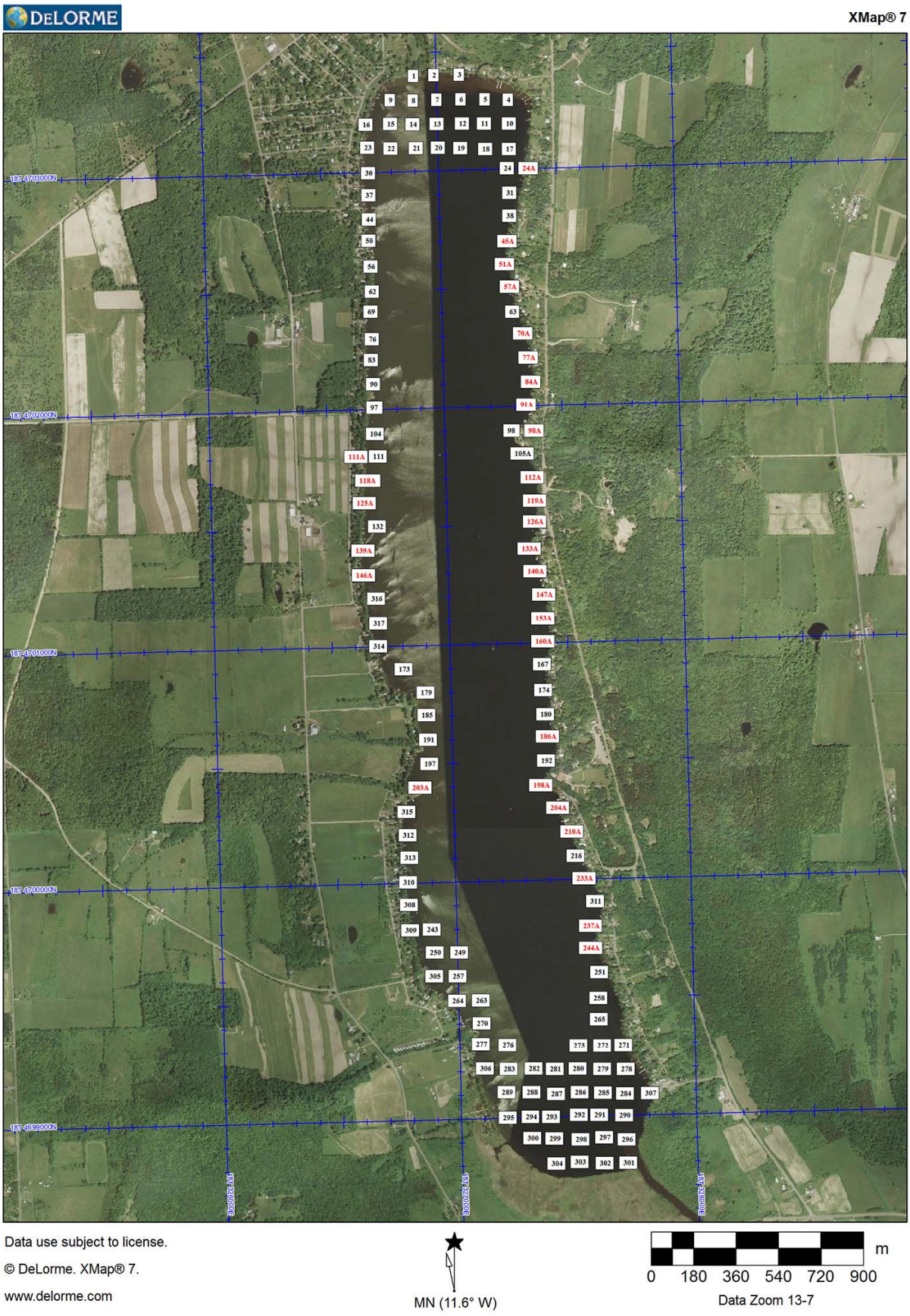

Figure 1. Sample Point (SP) Locations in Waneta Lake where rake-toss measurements were taken in August 6 - 26, 2014. The red type SPs are locations added in 2008 to the revised 2006 SPs in black type (See Methods, Johnson and Keith 2006).

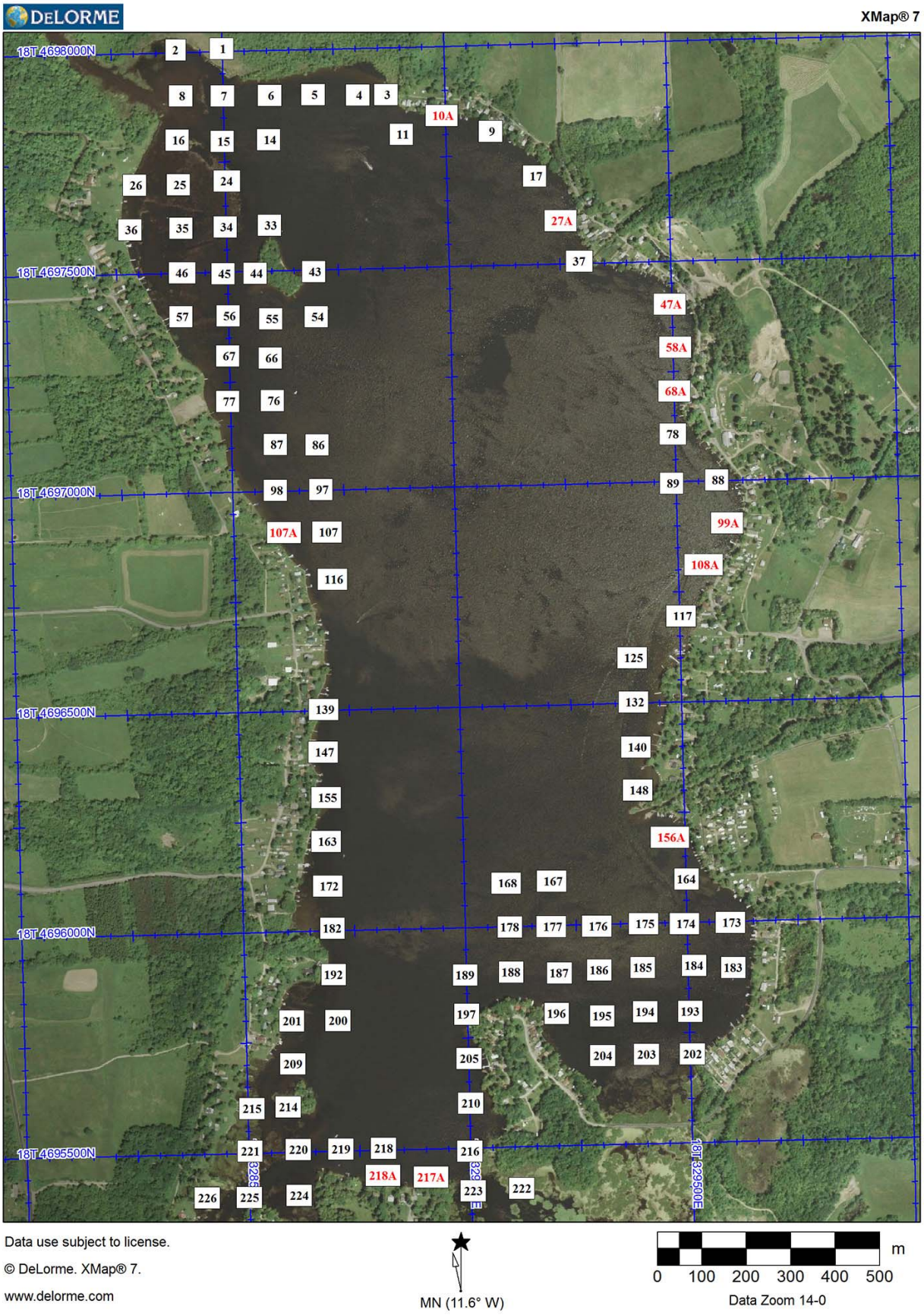

Figure 2. Sample Point (SP) Locations in Lamoka Lake where rake-toss measurements were taken in September 3 - 17, 2014. The red type SPs are locations added in 2008 to the 2006 SPs in black type.

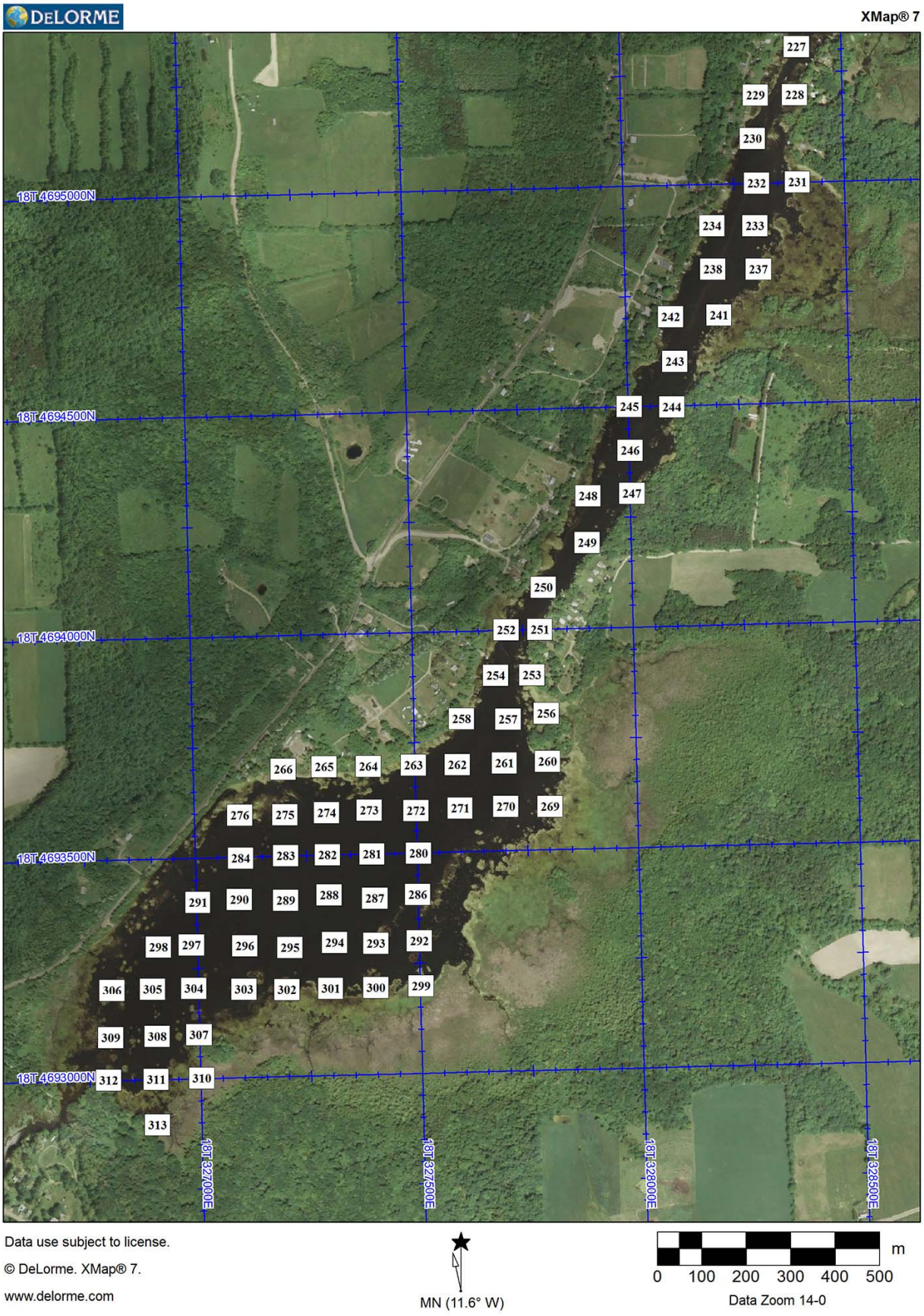

Figure 3. Sample Point (SP) Locations in Mud Channel and Mill Pond where rake-toss measurements were taken September 3 - 17, 2014.

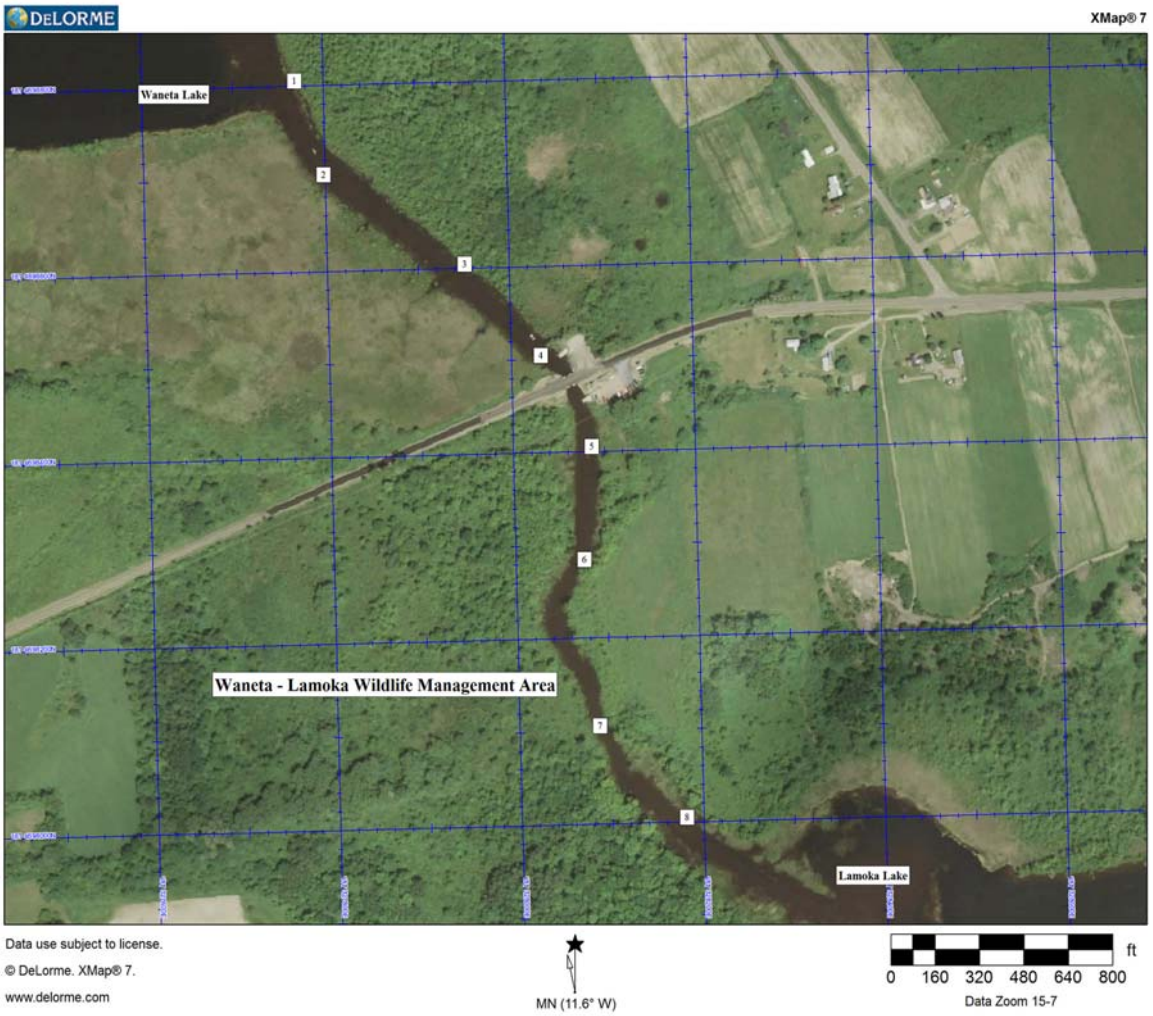

Figure 4. Sample Point (SP) Locations in Waneta - Lamoka Wildlife Management Area where we conducted rake-toss measurements from August 6 - September 17, 2014.

To obtain an all-species combined (native and non-native) abundance value at a specific location for the pictorial abundance maps in Waneta Lake, Lamoka Lake and the Waneta - Lamoka Wildlife Management Area we simply average the two on-water estimated rake abundance categories for the two rake tosses at each location to produce a mean abundance value for that location. For example, at the sample location if rake-toss one is an armful or all the rake tines very full, that plant mass is recorded as a medium or abundance rating of 3 (Table 1). If the second rake-toss at that location amounts to a small handful or less and about two tines full on a rake that results as a trace or abundance rating of 1 (Table 1). We calculate the mean of 3 (medium) and 1 (trace) as 2 or sparse for that location. If we recorded one rake-toss as a medium and the second as a bare rake or O, the mean would be 1.5, also a sparse (Table 1).

We base our abundance analysis for each rake toss on our broad rake-toss abundance categories reported in the field. Our abundance ratings originate from assumptions based on the biomass relationship to rake toss shown in Figure 6 and determined by previous field experiments.

Figure 5. Sampling team processing a dense macrophyte sample from dual-headed rakes by separating to individual species for an estimate of each species' percentage of the whole mass.

Table 1. Abundance categories or rake-toss ratings used to describe a collected sample assumes mean dry weight ranges for spreadsheet processing of field data. Our estimate of abundance allows the use of a visual depiction of the mass of all individual species combined as well as the mass of individual species.

Abundance Categories	Rake-toss Abundance Rating	Dry Weight (g/m^2) Ranges associated with Total Plants Abundance	~ Range Midpoint (g/m2) for calculation	Dry Weight (g/m^2) Ranges associated with Single Species Abundance
"O" = no plant(s)	0	0	0	same
"T" = trace plant(s)	1	~ 0.0001 – 0.999	0.5	same
"S" = sparse plant(s)	2	~ 1 – 24.999	13	same
"M" = medium plant(s)	3	~ 25 – 99.99	62.5	same
"D" = dense plant(s)	4	~ 100 – 400+	250	same

After observational data collected from pre-determined locations in Lamoka – Waneta Lakes arrives at our office members of our team enter the information into MS Excel spreadsheets, check the spreadsheet for data entry errors, preform analysis and list in this report. We specifically summarize the individual rake-toss results from the data tables and show in Tables 2 and 5 of this report. Appendix, Tables A, B and C are the actual field collected observations that we further transform into pictorial depictions that appear as abundance values on the lake maps in Figures 10 - 17 for Waneta Lake and Figures 20 - 28 for Lamoka Lake.

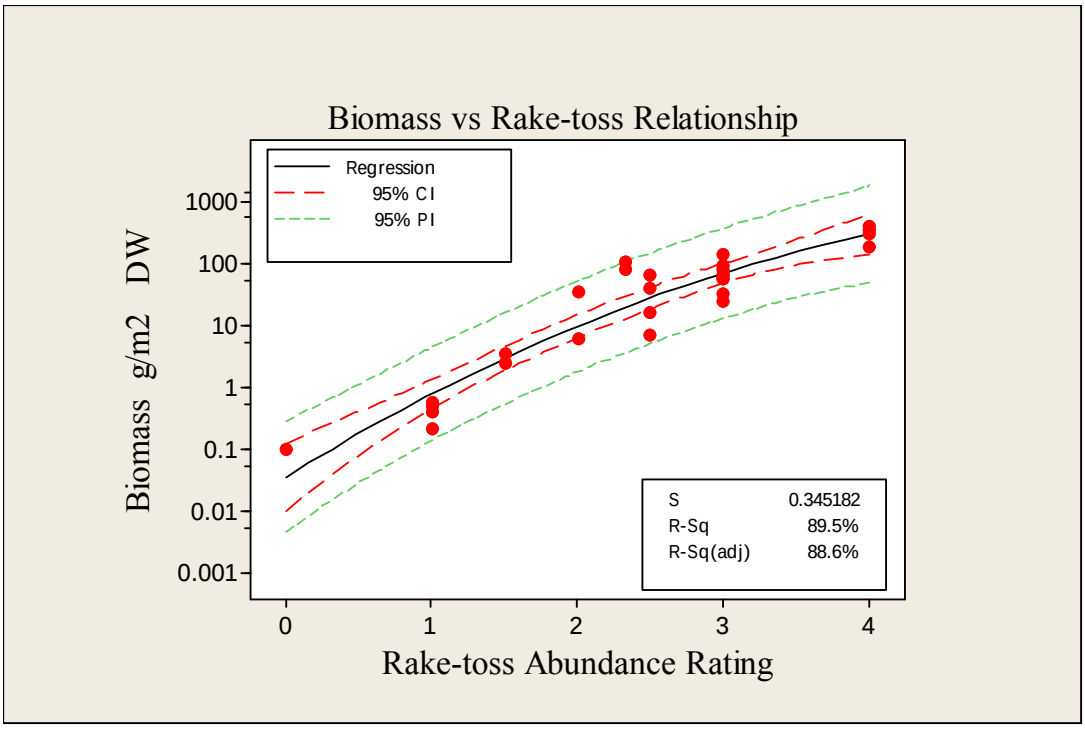

Figure 6. Best-fit line to describe the relationship between onsite estimates of abundance made with the rake-toss method of collection contrasted with an estimate of biomass (Three individual in-lake biomass quadrat experiments sampled by diver with a description following determine the regression equation).

To analyze the abundance data of individual species we used the values in Table 1. Specifically the standard assumed abundance rating or category as it relates to dry biomass (g/m^2). Figure 6, the best-fit regression line describes the basis for Table 1 concluded from experiments conducted in Chautauqua Lake, NY during 2006 and 2007 (Johnson 2008). Along with additional data collected in 2011, we contrasted the "rake-toss" estimates at specific locations to the absolute dry biomass data collected from the same locations at the same time. We used 28 lake locations, collected five $0.25m^2$ quadrat samples from each location by diver for 140 biomass samples and determined dry mass by drying the quadrat samples to 105°C. We calculated a mean biomass dry weight (g/m^2) for each of the 28 locations. From this quadrat biomass sampling and the accompanying rake-toss estimate of abundance, we determined the best-fit regression line shown in Figure 6.

In practice using the relationships in Table 1 and the 2014 rake-toss data sets we calculated mean species abundances for each location sampled by using the field percent estimate of each biologist's rake toss. With the use of GIS, we placed the resulting abundance values as icons on individual species maps for each sampled location to create a visual record of the relative species abundance of selected species for Waneta and Lamoka Lakes.

Results

We summarize and display the results of our 2014 aquatic plant species monitoring at Waneta and Lamoka Lakes in the text, tables and figures that follow. We have listed in the Executive Summary main results summarized from the data tables in this section.

Waneta Lake

Figure 1 (page 10) shows the locations of original Waneta Lake sampling points in black type with the red number type indicating sampling points added later and measured in 2008 through 2014.

Table 2 (page 17) summarizes the primary results of 2014 compared with the historical results reported in previous years. Table 2 summarizes the 2000 pre-treatment measurements (Madsen *et al*. 2001) before the April 2003 whole lake treatment with the herbicide fluridone. Fluridone post-treatment measurements were collected from 2003 - 2007 and summarized in the table. We collected further measurements in 2008 and 2009 during the application of the herbicide triclopyr to control Eurasian watermilfoil growth. This table is a summary of species occurrences and lake depths at the same 102 sample points (SPs) in Waneta Lake for August 2000, 2003, 2004, September 2, 2005, August 10, 2006, August 2007, August 6 - 12, 2008, August 4 - 5, 2009, August 2010, August 8 - 25, 2011, August 7 - 9, 2012, August 6 - 16, 2013 and August 6 - 26, 2014.

Our measures of Waneta Lake's mean littoral zone water depth at the SPs in 2014 show a mean of 1.89 meters similar to measurements from recent previous years except for the low level in 2012 (Table 2).

Table 4 (pages 19 - 22) depicts aquatic plant species' presence in 2014 at a total of 138 SPs (the 102 original pretreatment SPs from 2000 plus 5 of the 18 additional SPs chosen by the NYSDEC for 2003 - 2006 and the 31 new SPs added in 2008) in Waneta Lake from two rake tosses in August 6 - 26, 2014. Appendix Table A (pages 61 - 70) shows the results of two rake tosses in detail, listing species presence, location and an estimated relative abundance. We compiled species presence in Table 4 from this rake-toss data.

Lamoka Lake

Figure 2 (page 11) shows the locations of previous Lamoka Lake sampling points in black type with the red number type indicating new sampling points measured in 2008 through 2014.

Figure 3 (page 12) shows the locations of the sampling points for Mud Channel and Mill Pond measured in September 3 - 17, 2014.

Table 5 (page 23) is a summary of species occurrences and lake depths at 169 sample points (SPs) in Lamoka Lake from September 3 - 17, 2014 contrasted to August 22 - September 4, 2013, August 8 - 15, 2012, August 8 - 25, 2011, August 2010, July 23 - 30, 2009, August 27 - September 15, 2008, July 25 - August 1, 2006 and August 2000.

The mean littoral zone depth on Lamoka Lake at the SPs measured in 2014 is at 1.5m, similar to 1.6m in 2013. We recorded 1.3 in 2012, 1.5m in 2011, 1.5m in 2010, 2009, 2008 and 1.7m in 2006 (Table 5). Madsen *et al*. (2001) reported Lamoka's littoral zone depth at 1.5m in 2000 (Table 5).

Table 7 (pages 25 - 30) depicts aquatic plant species' presence at 180 SPs in Lamoka Lake from two rake tosses in September 3 - 17, 2014. For Lamoka Lake, Appendix Table B (pages 71 - 85) shows the results of the two rake tosses in detail, listing the species presence, location and relative abundance, and is the data used to complete species presence in Table 7.

Table 2. Total species occurrences at 102 sample points (SPs) in Waneta Lake in August 2000, 2003, 2004, Sept. 2, 2005, August 10, 2006, August 6-12, 2008, August 4-5, 2009, August 2010, August 8-25, 2011, August 7-9, 2012, August 6-16, 2013 and August 6-26, 2014. We made two rake tosses to determine a plant species presence and measured lake depth at each SP.

Scientific Name	Common Name	Madsen 2000 Littoral Zone (Z<12')		2003 Littoral Zone (in 2000)		2004 Littoral Zone (in 2000)		2005 Littoral Zone (in 2000)		2006 Littoral Zone (in 2000)		2007 Littoral Zone (in 2000)		2008 Littoral Zone (in 2000)		2009 Littoral Zone (in 2000)		2010 Littoral Zone (in 2000)		2011 Littoral Zone (in 2000)		2012 Littoral Zone (in 2000)		2013 Littoral Zone (in 2000)		2014 Littoral Zone (in 2000)	
		FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%
Ceratophyllum demersum	coontail	42	41	47	46	2	2	2	2	12	12	5	5	40	39	71	70	86	84	89	87	95	93	100	98	100	98
Chara vulgaris	chara, muskgrass	4	4	8	8	20	20	2	2	13	13	20	20	29	28	11	11	6	6	5	5	1	1	7	7	11	11
Elodea sp.	elodea	17	17	0	0	0	0	0	0	2	2	7	7	79	77	97	95	96	94	74	73	81	79	90	88	77	75
Fontanalis sp.	water moss	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heteranthera dubia	water stargrass	2	2	0	0	2	2	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	2	2	4	4
Lemna minor	duckweed	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	1	1
Lemna trisulca	star duckweed	0	0	0	0	0	0	0	0	0	0	0	0	4	4	2	2	1	1	2	2	1	1	1	1	9	9
Myriophyllum spicatum	**Eurasian watermilfoil**	**80**	**78**	**1**	**1**	**0**	**0**	**5**	**5**	**50**	**49**	**94**	**92**	**5**	**5**	**0**	**0**	**1**	**1**	**1**	**1**	**10**	**10**	**4**	**4**	**25**	**25**
Najas flexilis	bushy naiad	9	9	0	0	0	0	13	13	16	16	19	19	30	29	10	10	3	3	4	4	1	1	7	7	14	14
Najas guadalupensis	southern naiad	29	28	0	0	0	0	4	4	11	11	35	34	99	97	102	100	102	100	102	100	102	100	102	100	101	99
Najas minor	**minor naiad**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**5**	**5**	**5**	**16**	**16**	**3**	**3**	**0**	**0**	**0**	**0**	**1**	**1**	**1**	**1**	**4**	**4**
Nitella flexilis	nitella, stonewort	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	3	3	0	0	0	0	0	0	0	0
Nitellopsis obstusa	**starry stonewort**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Nuphar advena	yellow water lily	2	2	1	1	1	1	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
Nymphaea odorata	white water lily	4	4	1	1	2	2	0	0	1	1	2	2	1	1	2	2	1	1	0	0	0	0	0	0	0	0
Potamogeton amplifolius	wideleaf pondweed	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Potamogeton crispus	**curly-leaf pondweed**	**0**	**0**	**1**	**1**	**20**	**20**	**40**	**39**	**19**	**19**	**29**	**28**	**43**	**42**	**41**	**40**	**42**	**41**	**12**	**12**	**20**	**20**	**53**	**52**	**59**	**58**
Potamogeton diversifolius	water-thread pondweed	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Potamogeton foliosus	leafy pondweed	0	0	0	0	14	14	28	27	27	26	27	26	10	10	1	1	3	3	0	0	0	0	5	5	19	19
Potamogeton praelongus	tall pondweed	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Potamogeton pusillus	small pondweed	2	2	0	0	0	0	0	0	0	0	2	2	38	37	17	17	9	9	7	7	0	0	0	0	0	0
Potamogeton robbinsii	Robbin's pondweed	8	8	24	24	18	18	1	1	0	0	1	1	5	5	2	2	4	4	1	1	0	0	3	3	3	3
Potamogeton zosteriformis	flatstem pondweed	2	2	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
Ranunculus trichophyllus	water buttercup	0	0	0	0	0	0	0	0	0	0	0	0	3	3	12	12	2	2	0	0	3	3	2	2	2	2
Spirodela polyrhiza	great duckweed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	2	2	0	0	1	1	1	1
Stuckenia pectinata	sago pondweed	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vallisneria americana	eel grass, water celery	12	12	0	0	0	0	7	7	8	8	13	13	16	16	28	27	32	31	24	24	17	17	29	28	28	27
Wolffia columbiana	water-meal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	2	2	0	0	0	0	0	0
Total occurrences, at all 102 SPs, of all species		220		83		81		106		167		260		421		408		391		325		332		409		459	
		mean		mean		mean		mean		mean		mean		mean		mean		mean		mean		mean		mean		mean	
Plant Species Occurrence (species per SP)		**2.16**		**0.81**		**0.79**		**1.04**		**1.64**		**2.55**		**4.13**		**4.00**		**3.83**		**3.19**		**3.25**		**4.01**		**4.50**	
Non-native Species Occurrence (species per SP)		**0.78**		**0.02**		**0.20**		**0.44**		**0.73**		**1.25**		**0.64**		**0.43**		**0.42**		**0.13**		**0.30**		**0.57**		**0.86**	
Native Plant Occurrence (species per SP)		**1.37**		**0.79**		**0.58**		**0.60**		**0.91**		**1.29**		**3.49**		**3.57**		**3.41**		**3.06**		**2.95**		**3.44**		**3.64**	
		FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%
Native Plant Frequency (SPs with a native plant)		**64**	63	**54**	53	**50**	49	**37**	36	**45**	44	**57**	56	**100**	98	**102**	100	**102**	100	**102**	100	**102**	100	**102**	100	**101**	99
Plant Frequency (SPs with a plant species)		**91**	89	**55**	54	**53**	52	**58**	57	**68**	67	**96**	94	**100**	98	**102**	100	**102**	100	**102**	100	**102**	100	**102**	100	**101**	99
		mean	SE	mean	SE	mean	SE	mean	SE	mean	SE	mean	SE	mean	SE	mean	SE	mean	SE	mean	SE	mean	SE	mean	SE	mean	SE
Depth (ft)		5.91	0.25	5.96	0.30	5.86	0.33	5.65	0.28	5.71	0.26	6.16	0.27	6.26	0.28	6.22	0.26	6.29	0.27	6.29	0.27	5.73	0.28	6.33	0.28	6.19	0.24
Depth (m)		1.80	0.08	1.82	0.09	1.79	0.10	1.72	0.08	1.74	0.08	1.88	0.08	1.91	0.09	1.90	0.08	1.92	0.08	1.92	0.08	1.75	0.09	1.93	0.08	1.89	0.07
Number of Sampling Points		102		102		102		102		102		102		102		102		102		102		102		102		102	

Table 3. Proportion an individual species is out of the of the total species found at the 102 sample points (SPs) in Waneta Lake in August 2000, 2003, 2004, Sept. 2, 2005, August 10, 2006, August 12, 2007, August 6-12, 2008, August 4-5, 2009, August 2010, August 8-25, 2011, August 7-9, 2012, August 6-16 2013 and August 6-26, 2014. We made two rake-tosses to determine a plant species presence at each SP, with (FREQ) equal to the number of SPs having a species out of the 102 SPs.

Scientific Name	Common Name	Madsen 2000		2003		2004		2005		2006		2007		2008		2009		2010		2011		2012		2013		2014	
		Littoral Zone (Z<12')		Littoral Zone (in 2000)		Littoral Zone (in 2000)		Littoral Zone (in 2000)		Littoral Zone (in 2000)		Littoral Zone (in 2000)		Littoral Zone (in 2000)		Littoral Zone (in 2000)		Littoral Zone (in 2000)		Littoral Zone (in 2000)		Littoral Zone (in 2000)		Littoral Zone (in 2000)		Littoral Zone (in 2000)	
		FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%
Ceratophyllum demersum	coontail	42	19.1	47	56.6	2	2.5	2	1.9	12	7.2	5	1.9	40	9.5	71	17.4	86	22.0	89	27.4	95	28.6	100	24.4	100	21.8
Chara vulgaris	chara, muskgrass	4	1.8	8	9.6	20	24.7	2	1.9	13	7.8	20	7.7	29	6.9	11	2.7	6	1.5	5	1.5	1	0.3	7	1.7	11	2.4
Elodea sp.	elodea	17	7.7	0	0.0	0	0.0	0	0.0	2	1.2	7	2.7	79	18.8	97	23.8	96	24.6	74	22.8	81	24.4	90	22.0	77	16.8
Fontanalis sp.	water moss	0	0.0	0	0.0	1	1.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Heteranthera dubia	water stargrass	2	0.9	0	0.0	2	2.5	1	0.9	1	0.6	1	0.4	1	0.2	1	0.2	0	0.0	0	0.0	0	0.0	2	0.5	4	0.9
Lemna minor	duckweed	0	0.0	0	0.0	1	1.2	0	0.0	0	0.0	0	0.0	0	0.0	2	0.5	0	0.0	0	0.0	0	0.0	0	0.0	1	0.2
Lemna trisulca	star duckweed	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	4	1.0	2	0.5	1	0.3	2	0.6	1	0.3	1	0.2	9	2.0
Myriophyllum spicatum	**Eurasian watermilfoil**	**80**	**36.4**	**1**	**1.2**	**0**	**0.0**	**5**	**4.7**	**50**	**29.9**	**94**	**36.2**	**5**	**1.2**	**0**	**0.0**	**1**	**0.3**	**1**	**0.3**	**10**	**3.0**	**4**	**1.0**	**25**	**5.4**
Najas flexilis	bushy naiad	9	4.1	0	0.0	0	0.0	13	12.3	16	9.6	19	7.3	30	7.1	10	2.5	3	0.8	4	1.2	1	0.3	7	1.7	14	3.1
Najas guadalupensis	southern naiad	29	13.2	0	0.0	0	0.0	4	3.8	11	6.6	35	13.5	99	23.5	102	25.0	102	26.1	102	31.4	102	30.7	102	24.9	101	22.0
Najas minor	**minor naiad**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**5**	**3.0**	**5**	**1.9**	**16**	**3.8**	**3**	**0.7**	**0**	**0.0**	**0**	**0.0**	**1**	**0.3**	**1**	**0.2**	**4**	**0.9**
Nitella flexilis	nitella, stonewort	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.2	1	0.2	3	0.8	0	0.0	0	0.0	0	0.0	**0**	0.0
Nitellopsis obstusa	**starry stonewort**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**1**	**0.2**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**
Nuphar advena	yellow water lily	2	0.9	1	1.2	1	1.2	2	1.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.2	1	0.2
Nymphaea odorata	white water lily	4	1.8	1	1.2	2	2.5	0	0.0	1	0.6	2	0.8	1	0.2	2	0.5	1	0.3	0	0.0	0	0.0	0	0.0	0	0.0
Potamogeton amplifolius	wideleaf pondweed	4	1.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Potamogeton crispus	**curly-leaf pondweed**	**0**	**0.0**	**1**	**1.2**	**20**	**24.7**	**40**	**37.7**	**19**	**11.4**	**29**	**11.2**	**43**	**10.2**	**41**	**10.0**	**42**	**10.7**	**12**	**3.7**	**20**	**6.0**	**53**	**13.0**	**59**	**12.9**
Potamogeton diversifolius	water-thread pondweed	1	0.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Potamogeton foliosus	leafy pondweed	0	0.0	0	0.0	14	17.3	28	26.4	27	16.2	27	10.4	10	2.4	1	0.2	3	0.8	0	0.0	0	0.0	5	1.2	19	4.1
Potamogeton praelongus	tall pondweed	2	0.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Potamogeton pusillus	small pondweed	2	0.9	0	0.0	0	0.0	0	0.0	0	0.0	2	0.8	38	9.0	17	4.2	9	2.3	7	2.2	0	0.0	0	0.0	0	0.0
Potamogeton robbinsii	Robbin's pondweed	8	3.6	24	28.9	18	22.2	1	0.9	0	0.0	1	0.4	5	1.2	2	0.5	4	1.0	1	0.3	0	0.0	3	0.7	3	0.7
Potamogeton zosteriformis	flatstem pondweed	2	0.9	0	0.0	0	0.0	0	0.0	1	0.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.2	0	0.0
Ranunculus trichophyllus	water buttercup	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	0.7	12	2.9	2	0.5	0	0.0	3	0.9	2	0.5	2	0.4
Spirodela polyrhiza	great duckweed	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	0.7	0	0.0	2	0.6	0	0.0	1	0.2	1	0.2
Stuckenia pectinata	sago pondweed	0	0.0	0	0.0	0	0.0	1	0.9	1	0.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Vallisneria americana	eel grass, water celery	12	5.5	0	0.0	0	0.0	7	6.6	8	4.8	13	5.0	16	3.8	28	6.9	32	8.2	24	7.4	17	5.1	29	7.1	28	6.1
Wolffia columbiana	water-meal	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.5	0	0.0	2	0.6	0	0.0	0	0.0	0	0.0
Total occurrences, at all 102 SPs, of all species		220		83		81		106		167		260		421		408		391		325		332		409		459	

Table 4. Aquatic plant species' presence in Waneta Lake from two rake tosses in August 6-26, 2014. Entries of "1" indicate species identified at that sample point (SP). Sample points are on a 100-meter UTM grid. Each sampled point is theoretically at the center of a 100m X 100m square or 1 hectare.

Sample Point (SP)	NAD27 X coord East 18T	NAD27 Y coord North	◘ 91 original vegetated SP's	■ 11 original nonvegetated SP's	● 5 remaining DEC SP's	○ 31 added 2008 SP's	2014 Depth (m) at sampling	Ceratophyllum demersum	Chara vulgaris	Elodea sp.	Heteranthera dubia	Lemna minor	Lemna trisulca	Myriophyllum spicatum	Najas flexilis	Najas guadalupensis	Najas minor	Nuphar advena	Potamogeton crispus	Potamogeton foliosis	Potamogeton robbinsii	Ranunculus trichophyllus	Spirodela polyrhiza	Vallisneria americana	Total	Presence of a Species	Non-Native Species	Presence of Native Species
1	327100	4703400	◘				0.75	1		1				1	1	1	1		1	1					8	1	1	1
2	327000	4703400	◘				0.75	1		1				1		1				1				1	6	1	1	1
3	326900	4703400	◘				0.75	1		1				1		1								1	5	1	1	1
4	327300	4703300	◘				1.00	1		1				1		1								1	5	1	1	1
5	327200	4703300	◘				1.50	1	1	1				1		1									5	1	1	1
6	327100	4703300	◘				2.00	1		1				1		1									4	1	1	1
7	327000	4703300	◘				2.25	1		1				1		1				1					5	1	1	1
8	326900	4703300	◘				2.25	1		1					1	1			1						5	1	1	1
9	326800	4703300	◘				2.20	1		1				1		1			1						5	1	1	1
10	327300	4703200	◘				2.20	1		1				1		1			1						5	1	1	1
11	327200	4703200	◘				2.90	1						1		1			1						4	1	1	1
12	327100	4703200	◘				3.00	1								1			1						3	1	1	1
13	327000	4703200	◘				3.00	1								1									2	1	0	1
14	326900	4703200		■			3.30	1		1						1			1						4	1	1	1
15	326800	4703200	◘				2.60	1		1						1									3	1	0	1
16	326700	4703200	◘				0.75	1		1				1		1			1	1					6	1	1	1
17	327300	4703100	◘				3.00	1								1			1						3	1	1	1
18	327200	4703100			●		4.30	1								1									2	1	0	1
19	327100	4703100			●		4.30																		0	0	0	0
20	327000	4703100			●		4.70																		0	0	0	0
21	326900	4703100			●		4.70	1								1									2	1	0	1
22	326800	4703100			●		4.10	1		1				1		1									4	1	1	1
23	326700	4703100	◘				0.90	1		1					1	1								1	5	1	0	1
24	327300	4703000		■			3.10	1								1			1	1					4	1	1	1
24A	327343	4703000				○	1.50	1		1				1		1								1	5	1	1	1
30	326700	4703000	◘				1.70	1		1						1				1					4	1	0	1
31	327300	4702900	◘				2.30	1	1	1					1	1			1	1					7	1	1	1
37	326700	4702900	◘				1.40	1		1				1		1									4	1	1	1
38	327300	4702800	◘				0.60	1		1					1	1									4	1	0	1
44	326700	4702800	◘				1.00	1	1	1				1		1				1					6	1	1	1
45A	327274	4702700				○	1.50	1		1						1			1	1				1	6	1	1	1
50	326700	4702700	◘				0.90	1	1	1				1	1	1			1	1					8	1	1	1
51A	327269	4702600				○	1.50	1							1	1				1				1	5	1	0	1
56	326700	4702600	◘				0.70	1		1				1	1	1									5	1	1	1
57A	327283	4702500				○	1.50	1							1	1			1	1					5	1	1	1
62	326700	4702500	◘				0.90	1	1	1				1	1	1				1					7	1	1	1
63	327300	4702400	◘				2.10	1								1				1				1	4	1	0	1

Table 4. (continued) Aquatic plant species' presence in Waneta Lake from two rake tosses in August 6-26, 2014. Entries of "1" indicate species identified at that sample point (SP). Sample points are on a 100-meter UTM grid. Each sampled point is theoretically at the center of a 100m X 100m square or 1 hectare.

Sample Point (SP)	NAD27 X coord East 18T	NAD27 Y coord North	◘ 91 original vegetated SP's	■ 11 original nonvegetated SP's	● 5 remaining DEC SP's	○ 31 added 2008 SP's	2014 Depth (m) at sampling	Ceratophyllum demersum	Chara vulgaris	Elodea sp.	Heteranthera dubia	Lemna minor	Lemna trisulca	Myriophyllum spicatum	Najas flexilis	Najas guadalupensis	Najas minor	Nuphar advena	Potamogeton crispus	Potamogeton foliosis	Potamogeton robbinsii	Ranunculus trichophyllus	Spirodela polyrhiza	Vallisneria americana	Total	Presence of a Species	Non-Native Species	Presence of Native Species
69	326700	4702400	◘				1.25	1	1	1					1	1				1				1	7	1	0	1
70A	327330	4702300				○	1.50	1								1									2	1	0	1
76	326700	4702300	◘				1.90	1		1						1			1						4	1	1	1
77A	327346	4702200				○	1.50	1								1			1					1	4	1	1	1
83	326700	4702200	◘				1.20	1		1						1			1						4	1	1	1
84A	327364	4702100				○	1.50	1						1		1								1	4	1	1	1
90	326700	4702100	◘				1.40	1		1						1									3	1	0	1
91A	327352	4702000				○	1.50	1		1						1									3	1	0	1
97	326700	4702000	◘				1.80	1		1						1									3	1	0	1
98	327300	4701900		■			1.30	1		1						1				1				1	5	1	0	1
98A	327304	4701900				○	1.50	1								1									2	1	0	1
104	326700	4701900	◘				2.40																		0	0	0	0
105A	327334	4701800				○	2.00	1								1									2	1	0	1
111	326700	4701800	◘				2.20	1							1	1	1			1					5	1	1	1
111A	326670	4701800				○	1.50	1							1	1	1			1				1	6	1	1	1
112A	327368	4701700				○	1.50	1								1					1			1	4	1	0	1
118A	326670	4701700				○	1.50	1		1						1			1						4	1	1	1
119A	327375	4701600				○	1.50	1								1									2	1	0	1
125A	326655	4701600				○	1.20	1							1	1	1								4	1	1	1
126A	327370	4701508				○	1.50	1								1									2	1	0	1
132	326700	4701500	◘				1.80	1		1						1			1						4	1	1	1
133A	327356	4701400				○	1.50	1								1				1				1	4	1	0	1
139A	326650	4701400				○	1.60	1		1						1									3	1	0	1
140A	327378	4701300				○	1.50	1								1				1				1	4	1	0	1
146A	326654	4701300				○	1.50	1		1						1									3	1	0	1
147A	327405	4701200				○	1.50	1								1									2	1	0	1
153A	327416	4701100				○	1.50	1								1									2	1	0	1
160A	327408	4701000				○	1.50	1								1									2	1	0	1
167	327400	4700900	◘				1.40	1		1						1									3	1	0	1
173	326800	4700900	◘				2.00	1		1				1		1			1						5	1	1	1
174	327400	4700800	◘				2.00	1								1									2	1	0	1
179	326900	4700800	◘				1.20	1	1		1			1	1	1			1	1				1	9	1	1	1
180	327400	4700700	◘				1.60									1									1	1	0	1
185	326900	4700700	◘				1.30	1	1						1	1				1				1	6	1	0	1
186A	327422	4700600				○	1.50	1		1						1				1				1	5	1	0	1
191	326900	4700600	◘				1.75	1		1				1	1	1			1	1				1	8	1	1	1
192	327400	4700500	◘				1.20	1								1									2	1	0	1

Table 4. (continued) Aquatic plant species' presence in Waneta Lake from two rake tosses in August 6-26, 2014. Entries of "1" indicate species identified at that sample point (SP). Sample points are on a 100-meter UTM grid. Each sampled point is theoretically at the center of a 100m X 100m square or 1 hectare.

Sample Point (SP)	NAD27 X coord East 18T	NAD27 Y coord North	◘ 91 original vegetated SP's	■ 11 original nonvegetated SP's	● 5 remaining DEC SP's	○ 31 added 2008 SP's	2014 Depth (m) at sampling	Ceratophyllum demersum	Chara vulgaris	Elodea sp.	Heteranthera dubia	Lemna minor	Lemna trisulca	Myriophyllum spicatum	Najas flexilis	Najas guadalupensis	Najas minor	Nuphar advena	Potamogeton crispus	Potamogeton foliosis	Potamogeton robbinsii	Ranunculus trichophyllus	Spirodela polyrhiza	Vallisneria americana	Total	Presence of a Species	Non-Native Species	Presence of Native Species
197	326900	4700500	◘				2.75	1								1									2	1	0	1
198A	327371	4700400				○	1.50	1	1	1	1				1	1			1	1	1			1	10	1	1	1
203A	326860	4700400				○	1.50	1		1				1		1			1						5	1	1	1
204A	327437	4700300				○	1.50	1		1						1			1					1	5	1	1	1
210A	327500	4700200				○	1.50	1		1						1			1						4	1	1	1
216	327500	4700100	◘				1.60	1		1						1			1						4	1	1	1
223A	327539	4700000				○	1.50	1								1			1					1	4	1	1	1
237A	327566	4699800				○	1.50	1		1				1		1			1						5	1	1	1
243	326900	4699800	◘				2.30	1						1		1			1						4	1	1	1
244A	327567	4699700				○	1.50	1		1						1			1						4	1	1	1
249	327000	4699700		■			4.00	1								1									2	1	0	1
250	326900	4699700	◘				2.00	1		1						1			1						4	1	1	1
251	327600	4699600	◘				1.50	1		1				1		1								1	5	1	1	1
257	327000	4699600		■			3.30	1								1			1						3	1	1	1
258	327600	4699500	◘				2.25	1								1			1						3	1	1	1
263	327100	4699500		■			4.00	1						1		1			1						4	1	1	1
264	327000	4699500	◘				2.00	1		1						1									3	1	0	1
265	327600	4699400		■			3.20	1								1			1						3	1	1	1
270	327100	4699400		■			2.75	1		1						1			1						4	1	1	1
271	327700	4699300	◘				1.00	1	1	1						1			1					1	6	1	1	1
272	327600	4699300	◘				3.25	1		1						1			1						4	1	1	1
273	327500	4699300		■			3.75	1		1						1			1						4	1	1	1
276	327200	4699300		■			3.20	1								1			1						3	1	1	1
277	327100	4699300	◘				1.75	1		1						1			1						4	1	1	1
278	327700	4699200	◘				1.75	1		1			1			1			1						5	1	1	1
279	327600	4699200	◘				2.75	1		1						1			1						4	1	1	1
280	327500	4699200	◘				3.00	1		1			1			1			1						5	1	1	1
281	327400	4699200		■			3.00	1		1						1			1						4	1	1	1
282	327300	4699200	◘				3.15	1		1						1			1						4	1	1	1
283	327200	4699200	◘				2.50	1		1				1		1			1						5	1	1	1
284	327700	4699100	◘				1.60	1		1						1			1					1	5	1	1	1
285	327600	4699100	◘				2.25	1		1			1			1			1						5	1	1	1
286	327500	4699100	◘				2.35	1		1						1								1	4	1	0	1
287	327400	4699100	◘				2.50	1								1			1					1	4	1	1	1
288	327300	4699100	◘				2.60	1		1						1			1						4	1	1	1
289	327200	4699100	◘				1.80	1		1						1			1						4	1	1	1
290	327700	4699000	◘				1.50	1		1			1			1	1		1					1	7	1	1	1

Table 4. (continued) Aquatic plant species' presence in Waneta Lake from two rake tosses in August 6-26, 2014. Entries of "1" indicate species identified at that sample point (SP). Sample points are on a 100-meter UTM grid. Each sampled point is theoretically at the center of a 100m X 100m square or 1 hectare.

Sample Point (SP)	NAD27 X coord East 18T	NAD27 Y coord North	◘ 91 original vegetated SP's	■ 11 original nonvegetated SP's	● 5 remaining DEC SP's	○ 31 added 2008 SP's	2014 Depth (m) at sampling	Ceratophyllum demersum	Chara vulgaris	Elodea sp.	Heteranthera dubia	Lemna minor	Lemna trisulca	Myriophyllum spicatum	Najas flexilis	Najas guadalupensis	Najas minor	Nuphar advena	Potamogeton crispus	Potamogeton foliosis	Potamogeton robbinsii	Ranunculus trichophyllus	Spirodela polyrhiza	Vallisneria americana	Total	Presence of a Species	Non-Native Species	Presence of Native Species
291	327600	4699000	◘				1.80	1		1			1			1			1						5	1	1	1
292	327500	4699000	◘				1.90	1	1	1						1									4	1	0	1
293	327400	4699000	◘				2.00	1		1						1			1						4	1	1	1
294	327300	4699000	◘				2.00	1		1						1			1		1				5	1	1	1
295	327200	4699000	◘				1.60	1		1						1			1						4	1	1	1
296	327700	4698900	◘				1.25	1		1	1					1			1					1	6	1	1	1
297	327600	4698900	◘				1.50	1		1						1			1		1			1	6	1	1	1
298	327500	4698900	◘				1.50	1		1			1			1								1	5	1	0	1
299	327400	4698900	◘				1.50	1		1						1			1					1	5	1	1	1
300	327300	4698900	◘				1.50	1		1						1			1					1	5	1	1	1
301	327700	4698800	◘				0.80	1		1		1	1			1			1					1	7	1	1	1
302	327600	4698800	◘				1.50	1		1			1			1				1				1	6	1	0	1
303	327500	4698800	◘				1.10	1		1						1			1					1	5	1	1	1
304	327400	4698800	◘				1.10	1		1	1					1			1					1	6	1	1	1
305	326900	4699600	◘				1.50	1		1				1		1			1						5	1	1	1
306	327100	4699200	◘				1.00	1	1	1					1	1						1		1	7	1	0	1
307	327800	4699100	◘				0.50	1		1	1		1			1	1	1		1		1	1	1	11	1	1	1
308	326800	4699900	◘				0.90	1		1				1		1									4	1	1	1
309	326800	4699800	◘				0.50	1								1			1						3	1	1	1
310	326800	4700000	◘				1.25	1		1						1									3	1	0	1
311	327600	4699900	◘				1.00	1		1						1			1		1			1	6	1	1	1
312	326800	4700200	◘				2.00	1		1						1									3	1	0	1
313	326800	4700100	◘				1.60	1								1									2	1	0	1
314	326700	4701000	◘				1.50	1		1						1									3	1	0	1
315	326800	4700300	◘				2.00	1								1			1						3	1	1	1
316	326700	4701200	◘				2.00	1		1						1			1						4	1	1	1
317	326700	4701100	◘				1.75	1		1						1									3	1	0	1
Totals for 138 sampling points								134	12	91	5	1	9	30	19	135	6	1	70	27	5	2	1	41	589	135	89	135
Totals for 102 sampling points								100	11	77	4	1	9	25	14	101	4	1	59	19	3	2	1	28	459	101	73	101
Totals for 91 sampling points								89	11	72	4	1	9	24	14	90	4	1	50	17	3	2	1	27	419	90	64	90

Table 5. Total species occurrences at 169 sample points (SPs) in Lamoka Lake from August 2000 (Madsen *et al*. 2001), July 25-August 1, 2006 (Johnson and Keith 2006), August 27-September 15, 2008 (Johnson *et al.* 2008), July 23-July 30, 2009 (Johnson *et al.* 2009), August 2010 (Johnson *et al.* 2011), August 8-25, 2011, August 8-15, 2012, August 22-September 4, 2013 and September 3-17, 2014.

Scientific Name	Common Name	2000		2006		2008		2009		2010		2011		2012		2013		2014	
		Littoral Zone (in 2000)		Littoral Zone (in 2000)		Littoral Zone (in 2000)		Littoral Zone (in 2000)		Littoral Zone (in 2000)		Littoral Zone (in 2000)		Littoral Zone (in 2000)		Littoral Zone (in 2000)		Littoral Zone (in 2000)	
		FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%
Azolla caroliniana	Carolina mosquito fern	0	0	0	0	4	2	0	0	4	2	1	1	7	4	0	0	0	0
Brasenia schreberi	water shield	0	0	2	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0
Ceratophyllum demersum	coontail, hornwort	108	64	140	83	152	90	152	90	146	86	162	96	159	94	156	92	158	93
Chara vulgaris	chara, muskgrass	2	1	16	9	10	6	19	11	5	3	11	7	10	6	8	5	9	5
Decodon verticillatus	swamp loosestrife	0	0	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	0
Eleocharis acicularis	needle spikerush	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
Elodea sp.	elodea	89	53	106	63	107	63	108	64	62	37	65	38	50	30	47	28	51	30
Heteranthera dubia	water stargrass	33	20	50	30	32	19	7	4	5	3	8	5	8	5	10	6	3	2
Fontinalis sp.	water moss	0	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	1	1
Lemna minor	small duckweed	0	0	77	46	20	12	90	53	14	8	25	15	38	22	9	5	19	11
Lemna trisulca	star duckweed	3	2	52	31	65	38	76	45	15	9	20	12	6	4	10	6	19	11
Megalodonta beckii	water marigold	0	0	8	5	6	4	1	1	1	1	2	1	1	1	2	1	7	4
Myriophyllum spicatum	**Eurasian watermilfoil**	**130**	**77**	**153**	**91**	**67**	**40**	**0**	**0**	**3**	**2**	**57**	**34**	**41**	**24**	**46**	**27**	**63**	**37**
Najas flexilis	bushy naiad	4	2	7	4	3	2	2	1	2	1	0	0	1	1	4	2	0	0
Najas guadalupensis	southern naiad	41	24	66	39	79	47	75	44	75	44	90	53	80	47	67	40	91	54
Najas minor	**minor naiad**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**7**	**4**	**5**	**3**
Nitella flexilis	nitella, stonewort	0	0	0	0	9	5	2	1	2	1	0	0	0	0	2	1	0	0
Nuphar advena	yellow water lily	24	14	23	14	31	18	16	9	3	2	10	6	0	0	5	3	3	2
Nymphaea odorata	white water lily	40	24	28	17	12	7	21	12	24	14	20	12	17	10	19	11	26	15
Polygonum amphibium	water smartweed	0	0	3	2	4	2	4	2	3	2	3	2	3	2	4	2	2	1
Pontederia cordata	pickerel-weed	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1
Potamogeton amplifolius	large-leaf pondweed	13	8	20	12	37	22	50	30	36	21	32	19	37	22	33	20	35	21
Potamogeton crispus	**curly-leaf pondweed**	**1**	**1**	**18**	**11**	**41**	**24**	**85**	**50**	**78**	**46**	**49**	**29**	**67**	**40**	**97**	**57**	**119**	**70**
Potamogeton foliosus	leafy pondweed	0	0	2	1	0	0	0	0	0	0	1	1	1	1	2	1	3	2
Potamogeton hillii	Hill's pondweed	0	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Potamogeton illinoensis	Illinois pondweed	0	0	0	0	1	1	5	3	2	1	2	1	0	0	2	1	0	0
Potamogeton nodosus	long-leaf pondweed	0	0	0	0	1	1	1	1	0	0	0	0	0	0	1	1	0	0
Potamogeton praelongus	white-stem pondweed	8	5	0	0	1	1	1	1	11	7	7	4	5	3	11	7	13	8
Potamogeton pusillus	small pondweed	0	0	1	1	3	2	5	3	0	0	5	3	0	0	0	0	0	0
Potamogeton robbinsii	Robbin's pondweed	36	21	81	48	107	63	118	70	72	43	56	33	46	27	43	25	46	27
Potamogeton zosteriformis	flat-stem pondweed	18	11	55	33	53	31	25	15	19	11	27	16	31	18	47	28	42	25
Ranunculus trichophyllus	water buttercup	4	2	50	30	48	28	44	26	16	9	7	4	13	8	16	9	19	11
Spirodela polyrhiza	great duckweed	0	0	48	28	22	13	81	48	21	12	31	18	32	19	11	7	18	11
Stuckenia pectinata	sago pondweed	0	0	1	1	1	1	0	0	0	0	0	0	0	0	2	1	1	1
Stuckenia vaginata	sheathed pondweed	0	0	0	0	0	0	0	0	3	2	0	0	0	0	0	0	0	0
Typha latifolia	broad-leaved cattail	3	2	4	2	1	1	3	2	2	1	2	1	1	1	1	1	0	0
Utricularia sp.	bladderwort	16	9	11	7	34	20	49	29	4	2	10	6	0	0	6	4	12	7
Vallisneria americana	eel grass, wild celery	27	16	52	31	51	30	47	28	55	33	52	31	51	30	52	31	70	41
Wolffia columbiana	common watermeal	0	0	33	20	10	6	75	44	15	9	28	17	48	28	12	7	5	3
Zanichellia palustris	horned pondweed	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total species occurrence for all 169 SPs		602		1110		1014		1163		700		785		754		733		841	
		mean		mean		mean		mean		mean		mean		mean		mean		mean	
Plant Species Occurrence (# species per SP)		**3.56**		**6.57**		**6.00**		**6.88**		**4.14**		**4.64**		**4.46**		**4.34**		**4.98**	
Non-Native Species Occurrence (# species per SP)		**0.78**		**1.01**		**0.64**		**0.50**		**0.48**		**0.63**		**0.64**		**0.89**		**1.11**	
Native Plant Occurrence (# species per SP)		**2.79**		**5.56**		**5.36**		**6.38**		**3.66**		**4.01**		**3.82**		**3.45**		**3.87**	
		FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%
Native Plant Frequency (SPs with a native plant)		**142**	84	**153**	91	**161**	95	**165**	98	**161**	95	**166**	98	**163**	96	**160**	95	**165**	98
Plant Frequency (SPs with a plant species)		**163**	96	**166**	98	**161**	95	**165**	98	**163**	96	**167**	99	**164**	97	**160**	95	**166**	98
		mean	SE	mean	SE	mean	SE	mean	SE	mean	SE	mean	SE	mean	SE	mean	SE	mean	SE
Depth (ft)		5.02	0.20	5.48	0.23	5.09	0.20	4.94	0.21	4.97	0.18	5.02	0.20	4.29	0.18	5.21	0.18	4.90	0.18
Depth (m)		1.53	0.06	1.67	0.07	1.55	0.06	1.51	0.06	1.51	0.05	1.53	0.06	1.31	0.05	1.59	0.05	1.49	0.05
Number of Sampling Points		169		169		169		169		169		169		169		169		169	

Table 6. Proportion an individual species is out of the of the total species found at 169 sample points (SPs) in Lamoka Lake from August 2000 (Madsen *et al*. 2001), July 25-August 1, 2006 (Johnson and Keith 2006), August 27-September 15, 2008 (Johnson *et al.* 2008), July 23-July 30, 2009 (Johnson *et al.* 2009), August 2010 (Johnson *et al.* 2011), August 8-25, 2011, August 8-15, 2012, August 22-September 4, 2013 and September 3-17, 2014.

Scientific Name	Common Name	2000		2006		2008		2009		2010		2011		2012		2013		2014	
		Littoral Zone (in 2000)		Littoral Zone (in 2000)		Littoral Zone (in 2000)		Littoral Zone (in 2000)		Littoral Zone (in 2000)		Littoral Zone (in 2000)		Littoral Zone (in 2000)		Littoral Zone (in 2000)		Littoral Zone (in 2000)	
		FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%	FREQ	%
Azolla caroliniana	Carolina mosquito fern	0	0.0	0	0.0	4	0.4	0	0.0	4	0.6	1	0.1	7	0.9	0	0.0	0	0.0
Brasenia schreberi	water shield	0	0.0	2	0.2	2	0.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Ceratophyllum demersum	coontail, hornwort	108	17.9	140	12.6	152	15.0	152	13.1	146	20.9	162	20.6	159	21.1	156	21.3	158	18.8
Chara vulgaris	chara, muskgrass	2	0.3	16	1.4	10	1.0	19	1.6	5	0.7	11	1.4	10	1.3	8	1.1	9	1.1
Decodon verticillatus	swamp loosestrife	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	1	0.1	0	0.0	0	0.0
Eleocharis acicularis	needle spikerush	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0
Elodea sp.	elodea	89	14.8	106	9.5	107	10.6	108	9.3	62	8.9	65	8.3	50	6.6	47	6.4	51	6.1
Heteranthera dubia	water stargrass	33	5.5	50	4.5	32	3.2	7	0.6	5	0.7	8	1.0	8	1.1	10	1.4	3	0.4
Fontinalis sp.	water moss	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	1	0.1	1	0.1
Lemna minor	small duckweed	0	0.0	77	6.9	20	2.0	90	7.7	14	2.0	25	3.2	38	5.0	9	1.2	19	2.3
Lemna trisulca	star duckweed	3	0.5	52	4.7	65	6.4	76	6.5	15	2.1	20	2.5	6	0.8	10	1.4	19	2.3
Megalodonta beckii	water marigold	0	0.0	8	0.7	6	0.6	1	0.1	1	0.1	2	0.3	1	0.1	2	0.3	7	0.8
Myriophyllum spicatum	**Eurasian watermilfoil**	**130**	**21.6**	**153**	**13.8**	**67**	**6.6**	**0**	**0.0**	**3**	**0.4**	**57**	**7.3**	**41**	**5.4**	**46**	**6.3**	**63**	**7.5**
Najas flexilis	bushy naiad	4	0.7	7	0.6	3	0.3	2	0.2	2	0.3	0	0.0	1	0.1	4	0.5	0	0.0
Najas guadalupensis	southern naiad	41	6.8	66	5.9	79	7.8	75	6.4	75	10.7	90	11.5	80	10.6	67	9.1	91	10.8
Najas minor	**minor naiad**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**1**	**0.1**	**0**	**0.0**	**7**	**1.0**	**5**	**0.6**
Nitella flexilis	nitella, stonewort	0	0.0	0	0.0	9	0.9	2	0.2	2	0.3	0	0.0	0	0.0	2	0.3	0	0.0
Nuphar advena	yellow water lily	24	4.0	23	2.1	31	3.1	16	1.4	3	0.4	10	1.3	0	0.0	5	0.7	3	0.4
Nymphaea odorata	white water lily	40	6.6	28	2.5	12	1.2	21	1.8	24	3.4	20	2.5	17	2.3	19	2.6	26	3.1
Polygonum amphibium	water smartweed	0	0.0	3	0.3	4	0.4	4	0.3	3	0.4	3	0.4	3	0.4	4	0.5	2	0.2
Pontederia cordata	pickerel-weed	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	1	0.1
Potamogeton amplifolius	large-leaf pondweed	13	2.2	20	1.8	37	3.6	50	4.3	36	5.1	32	4.1	37	4.9	33	4.5	35	4.2
Potamogeton crispus	**curly-leaf pondweed**	**1**	**0.2**	**18**	**1.6**	**41**	**4.0**	**85**	**7.3**	**78**	**11.1**	**49**	**6.2**	**67**	**8.9**	**97**	**13.2**	**119**	**14.1**
Potamogeton foliosus	leafy pondweed	0	0.0	2	0.2	0	0.0	0	0.0	0	0.0	1	0.1	1	0.1	2	0.3	3	0.4
Potamogeton hillii	Hill's pondweed	0	0.0	3	0.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Potamogeton illinoensis	Illinois pondweed	0	0.0	0	0.0	1	0.1	5	0.4	2	0.3	2	0.3	0	0.0	2	0.3	0	0.0
Potamogeton nodosus	long-leaf pondweed	0	0.0	0	0.0	1	0.1	1	0.1	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0
Potamogeton praelongus	white-stem pondweed	8	1.3	0	0.0	1	0.1	1	0.1	11	1.6	7	0.9	5	0.7	11	1.5	13	1.5
Potamogeton pusillus	small pondweed	0	0.0	1	0.1	3	0.3	5	0.4	0	0.0	5	0.6	0	0.0	0	0.0	0	0.0
Potamogeton robbinsii	Robbin's pondweed	36	6.0	81	7.3	107	10.6	118	10.1	72	10.3	56	7.1	46	6.1	43	5.9	46	5.5
Potamogeton zosteriformis	flat-stem pondweed	18	3.0	55	5.0	53	5.2	25	2.1	19	2.7	27	3.4	31	4.1	47	6.4	42	5.0
Ranunculus trichophyllus	water buttercup	4	0.7	50	4.5	48	4.7	44	3.8	16	2.3	7	0.9	13	1.7	16	2.2	19	2.3
Spirodela polyrhiza	great duckweed	0	0.0	48	4.3	22	2.2	81	7.0	21	3.0	31	3.9	32	4.2	11	1.5	18	2.1
Stuckenia pectinata	sago pondweed	0	0.0	1	0.1	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0	2	0.3	1	0.1
Stuckenia vaginata	sheathed pondweed	0	0.0	0	0.0	0	0.0	0	0.0	3	0.4	0	0.0	0	0.0	0	0.0	0	0.0
Typha latifolia	broad-leaved cattail	3	0.5	4	0.4	1	0.1	3	0.3	2	0.3	2	0.3	1	0.1	1	0.1	0	0.0
Utricularia sp.	bladderwort	16	2.7	11	1.0	34	3.4	49	4.2	4	0.6	10	1.3	0	0.0	6	0.8	12	1.4
Vallisneria americana	eel grass, wild celery	27	4.5	52	4.7	51	5.0	47	4.0	55	7.9	52	6.6	51	6.8	52	7.1	70	8.3
Wolffia columbiana	common watermeal	0	0.0	33	3.0	10	1.0	75	6.4	15	2.1	28	3.6	48	6.4	12	1.6	5	0.6
Zanichellia palustris	horned pondweed	2	0.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Total species occurrence for all 169 SPs		602		1110		1014		1163		700		785		754		733		841	

Table 7. Aquatic plant species' presence in Lamoka Lake recorded by summarizing two rake tosses in September 3-17, 2014. Entries of "1" indicate species identified at that sample point (SP). Points are on a UTM 100-meter grid. Each sampled point is theoretically at the center of a 100m X 100m square or 1 hectare.

Sample Point (SP)	NAD27 X coord East 18T	NAD27 Y coord North 18T	◘ 169 original SPs	■ 11 added SPs	Depth 2014 (m) at sampling	Ceratophyllum demersum	Chara vulgaris	Elodea sp.	Fontinalis sp.	Heteranthera dubia	Lemna minor	Lemna trisulca	Megalodonta beckii	Myriophyllum spicatum	Najas guadalupensis	Najas minor	Nuphar advena	Nymphaea odorata	Polygonum amphibium	Pontederia cordata	Potamogeton amplifolius	Potamogeton crispus	Potamogeton foliosus	Potamogeton praelongus	Potamogeton robbinsii	Potamogeton zosteriformis	Ranunculus trichophyllus	Spirodela polyrhiza	Stuckenia pectinata	Utricularia sp.	Vallisneria americana	Wolffia columbiana	Total	Non-Native Species	Native Species	Presence of a Species	Presence of Native Species
1	328500	4698000	◘		0.50	1		1			1	1			1			1				1			1	1		1			1	1	12	1	11	1	1
2	328400	4698000	◘		0.80	1		1							1							1									1		5	1	4	1	1
3	328870	4697900	◘		0.90	1	1	1							1																1		5	0	5	1	1
4	328800	4697900	◘		2.25	1									1	1															1		4	1	3	1	1
5	328700	4697900	◘		2.00	1		1					1	1	1								1		1		1			1	1		10	1	9	1	1
6	328600	4697900	◘		1.75	1		1				1			1						1	1		1	1	1					1		10	1	9	1	1
7	328500	4697900	◘		1.30	1		1							1	1					1	1		1	1	1							9	1	7	1	1
8	328400	4697900	◘		0.50	1									1	1															1		4	1	3	1	1
9	329100	4697800	◘		2.40	1	1			1					1										1	1							6	0	6	1	1
10A	328700	4697800		■	1.60	1									1																		2	0	2	1	1
11	328900	4697800	◘		2.60	1									1																		2	0	2	1	1
14	328600	4697800	◘		1.85	1		1							1						1	1		1	1	1					1		9	1	8	1	1
15	328500	4697800	◘		1.40	1									1						1	1			1						1		6	1	5	1	1
16	328400	4697800	◘		1.10	1									1							1											3	1	2	1	1
17	329200	4697700	◘		3.20	1									1							1											3	1	2	1	1
24	328500	4697700	◘		1.30	1						1			1							1			1		1				1		7	1	6	1	1
25	328400	4697700	◘		1.20	1									1	1						1			1								5	1	3	1	1
26	328300	4697700	◘		0.60	1									1																		2	0	2	1	1
27A	329225	4697700		■	2.30	1																			1						1		3	0	3	1	1
33	328600	4697600	◘		2.20	1									1							1				1					1		5	1	4	1	1
34	328500	4697600	◘		1.00	1		1				1			1						1	1									1		7	1	6	1	1
35	328400	4697600	◘		1.25	1									1							1											3	1	2	1	1
36	328300	4697600	◘		0.75	1		1							1	1						1											5	1	3	1	1
37	329300	4697500	◘		0.50																												0	0	0	0	0
43	328700	4697500	◘		1.50	1									1										1	1					1		5	0	5	1	1
44	328570	4697500	◘		0.70	1	1								1			1			1	1		1		1					1		9	1	8	1	1
45	328500	4697500	◘		1.00	1									1										1						1		4	0	4	1	1
46	328400	4697500	◘		1.00	1		1						1	1			1			1	1									1		8	1	6	1	1
47A	329544	4697360		■	1.50	1									1						1					1					1		5	0	5	1	1
54	328700	4697400	◘		2.80																												0	0	0	0	0

Table 7. (continued) Aquatic plant species' presence in Lamoka Lake recorded by summarizing two rake tosses in September 3-17, 2014. Entries of "1" indicate species identified at that sample point (SP). Points are on a UTM 100-meter grid. Each sampled point is theoretically at the center of a 100m X 100m square or 1 hectare.

Sample Point (SP)	NAD27 X coord East 18T	NAD27 Y coord North 18T	¤ 169 original SPs	■ 11 added SPs	Depth 2014 (m) at sampling	Ceratophyllum demersum	Chara vulgaris	Elodea sp.	Fontinalis sp.	Heteranthera dubia	Lemna minor	Lemna trisulca	Megalodonta beckii	Myriophyllum spicatum	Najas guadalupensis	Najas minor	Nuphar advena	Nymphaea odorata	Polygonum amphibium	Pontederia cordata	Potamogeton amplifolius	Potamogeton crispus	Potamogeton foliosus	Potamogeton praelongus	Potamogeton robbinsii	Potamogeton zosteriformis	Ranunculus trichophyllus	Spirodela polyrhiza	Stuckenia pectinata	Utricularia sp.	Vallisneria americana	Wolffia columbiana	Total	Non-Native Species	Native Species	Presence of a Species	Presence of Native Species
55	328600	4697400	¤		2.00	1		1							1						1	1		1	1						1		8	1	7	1	1
56	328500	4697400	¤		1.20	1	1	1				1			1										1	1					1		8	0	8	1	1
57	328400	4697400	¤		1.00	1	1	1						1	1							1									1		7	1	5	1	1
58A	329510	4697300		■	1.50	1									1							1									1		4	1	3	1	1
66	328600	4697300	¤		2.30	1									1							1		1	1	1					1		7	1	6	1	1
67	328500	4697300	¤		1.50	1		1							1										1	1					1		6	0	6	1	1
68A	329510	4697200		■	1.50	1									1																1		3	0	3	1	1
76	328600	4697200	¤		2.30	1									1						1			1	1	1					1		7	0	7	1	1
77	328500	4697200	¤		1.50	1		1							1											1					1		5	0	5	1	1
78	329500	4697100	¤		3.20	1									1																		2	0	2	1	1
87	328600	4697100	¤		2.20	1									1						1			1	1	1					1		7	0	7	1	1
88	329600	4697000	¤		2.20	1		1							1										1						1		5	0	5	1	1
97	328700	4697000	¤		3.70	1			1																								2	0	2	1	1
98	328600	4697000	¤		2.10	1									1							1				1					1		5	1	4	1	1
99A	329616	4696910		■	1.50	1									1											1					1		4	0	4	1	1
107	328700	4696900	¤		3.00										1																		1	0	1	1	1
107A	328666	4696853		■	1.50	1		1							1																1		4	0	4	1	1
108A	329567	4696800		■	1.50	1	1	1							1											1					1		6	0	6	1	1
116	328700	4696800	¤		2.20	1									1																1		3	0	3	1	1
117	329500	4696700	¤		1.20	1	1								1																1		4	0	4	1	1
125	329400	4696600	¤		2.30	1									1							1				1					1		5	1	4	1	1
132	329400	4696500	¤		1.70	1	1							1	1							1			1	1					1		8	1	6	1	1
139	328700	4696500	¤		1.90	1									1																1		3	0	3	1	1
140	329400	4696400	¤		0.70	1	1								1																1		4	0	4	1	1
147	328700	4696400	¤		1.90	1									1											1					1		4	0	4	1	1
148	329400	4696300	¤		1.30	1		1							1																1		4	0	4	1	1
155	328700	4696300	¤		0.90	1		1							1																1		4	0	4	1	1
156A	329490	4696200		■	1.90	1									1											1					1		4	0	4	1	1
163	328700	4696200	¤		2.00	1									1							1									1		4	1	3	1	1
164	329500	4696100	¤		2.30	1									1						1				1	1							5	0	5	1	1

Table 7. (continued) Aquatic plant species' presence in Lamoka Lake recorded by summarizing two rake tosses in September 3-17, 2014. Entries of "1" indicate species identified at that sample point (SP). Points are on a UTM 100-meter grid. Each sampled point is theoretically at the center of a 100m X 100m square or 1 hectare.

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167	329200	4696100	▫		3.00	1									1											1							3	0	3	1	1
168	329100	4696100	▫		3.00			1							1							1											3	1	2	1	1
172	328700	4696100	▫		2.30																	1									1		2	1	1	1	1
173	329600	4696000	▫		1.60	1															1			1	1						1		5	0	5	1	1
174	329500	4696000	▫		2.50		1								1								1										3	0	3	1	1
175	329400	4696000	▫		2.90	1									1											1							3	0	3	1	1
176	329300	4696000	▫		3.00										1						1	1											3	1	2	1	1
177	329200	4696000	▫		2.80	1									1							1			1								4	1	3	1	1
178	329100	4696000	▫		2.90	1															1	1											3	1	2	1	1
182	328700	4696000	▫		1.60	1									1							1									1		4	1	3	1	1
183	329600	4695900	▫		1.50	1									1						1				1	1					1		6	0	6	1	1
184	329500	4695900	▫		2.70	1									1							1											3	1	2	1	1
185	329400	4695900	▫		2.65	1									1							1											3	1	2	1	1
186	329300	4695900	▫		2.50	1									1							1			1								4	1	3	1	1
187	329200	4695900	▫		2.25	1									1							1				1							4	1	3	1	1
188	329100	4695900	▫		2.25	1									1							1			1								4	1	3	1	1
189	329000	4695900	▫		3.00																	1											1	1	0	1	0
192	328700	4695900	▫		1.80	1		1							1							1			1	1	1				1		8	1	7	1	1
193	329500	4695800	▫		1.90	1		1							1									1		1	1				1		7	0	7	1	1
194	329400	4695800	▫		2.40	1									1							1			1	1							5	1	4	1	1
195	329300	4695800	▫		2.20	1									1							1		1		1					1		6	1	5	1	1
196	329200	4695800	▫		1.20	1		1			1			1	1			1			1	1		1		1					1		11	1	9	1	1
197	329000	4695800	▫		0.80	1									1																1		3	0	3	1	1
200	328700	4695800	▫		4.20	1																				1							2	0	2	1	1
201	328600	4695800	▫		1.00	1		1						1	1							1									1		6	1	4	1	1
202	329500	4695700	▫		1.10	1		1				1	1		1			1			1				1	1				1	1		11	0	11	1	1
203	329400	4695700	▫		1.50	1		1							1						1				1	1				1			7	0	7	1	1
204	329300	4695700	▫		1.40	1		1							1						1				1	1					1		7	0	7	1	1
205	329000	4695700	▫		1.50	1							1		1						1	1		1	1	1				1	1		10	1	9	1	1
209	328600	4695700	▫		1.00	1		1						1	1							1			1						1		7	1	5	1	1
210	329000	4695600	▫		1.80	1									1						1				1	1					1		6	0	6	1	1

Table 7. (continued) Aquatic plant species' presence in Lamoka Lake recorded by summarizing two rake tosses in September 3-17, 2014. Entries of "1" indicate species identified at that sample point (SP). Points are on a UTM 100-meter grid. Each sampled point is theoretically at the center of a 100m X 100m square or 1 hectare.

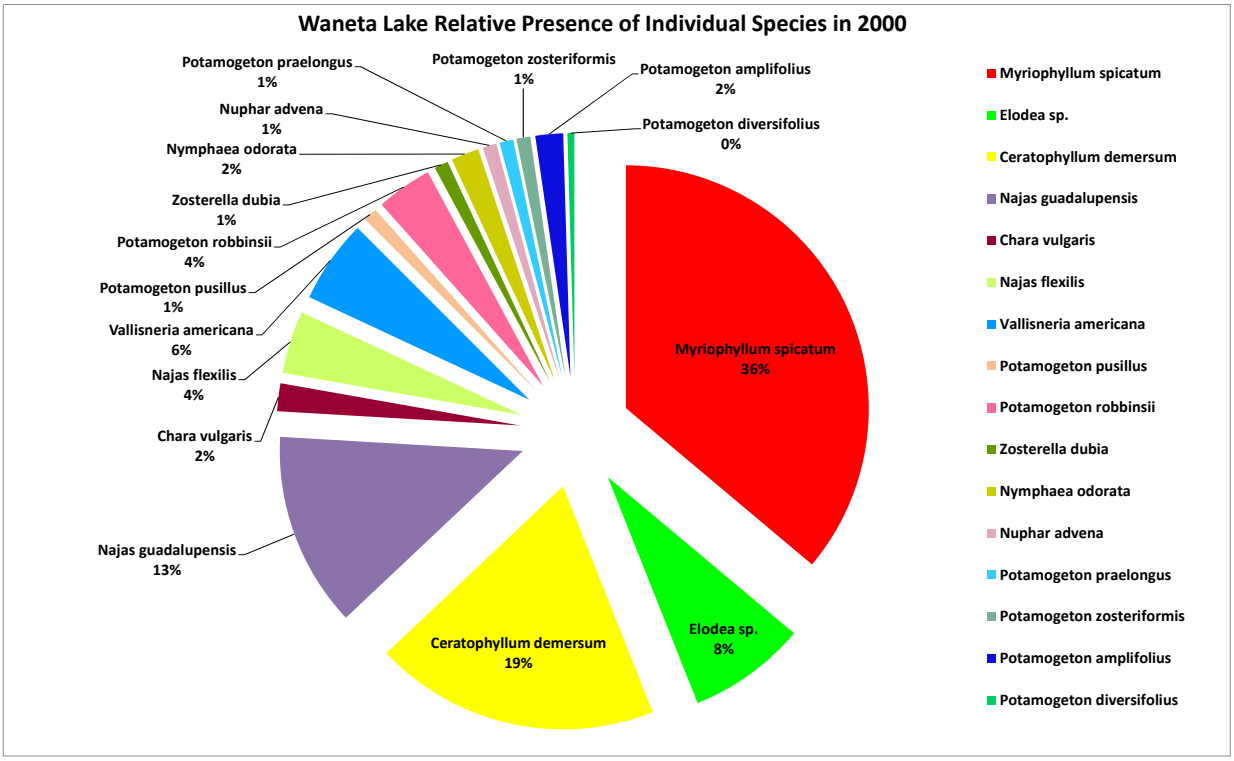
Sample Point (SP)	NAD27 X coord East 18T	NAD27 Y coord North 18T	▫ 169 original SPs	▪ 11 added SPs	Depth 2014 (m) at sampling	Ceratophyllum demersum	Chara vulgaris	Elodea sp.	Fontinalis sp.	Heteranthera dubia	Lemna minor	Lemna trisulca	Megalodonta beckii	Myriophyllum spicatum	Najas guadalupensis	Najas minor	Nuphar advena	Nymphaea odorata	Polygonum amphibium	Pontederia cordata	Potamogeton amplifolius	Potamogeton crispus	Potamogeton foliosus	Potamogeton praelongus	Potamogeton robbinsii	Potamogeton zosteriformis	Ranunculus trichophyllus	Spirodela polyrhiza	Stuckenia pectinata	Utricularia sp.	Vallisneria americana	Wolffia columbiana	Total	Non-Native Species	Native Species	Presence of a Species	Presence of Native Species
214	328600	4695600	▫		0.80	1		1						1	1		1	1			1	1			1	1					1		11	1	9	1	1
215	328500	4695600	▫		0.60	1					1				1			1			1						1	1				1	8	0	8	1	1
216	329000	4695500	▫		1.40	1									1						1				1	1					1		6	0	6	1	1
217A	328895	4695441		▪	1.30	1							1	1	1					1	1				1	1					1		9	1	8	1	1
218	328800	4695500	▫		4.00																												0	0	0	0	0
218A	328806	4695442		▪	1.50	1							1		1							1			1	1					1		7	1	6	1	1
219	328700	4695500	▫		2.20	1									1							1			1	1					1		6	1	5	1	1
220	328600	4695500	▫		1.75	1									1							1			1						1		5	1	4	1	1
221	328500	4695500	▫		0.75	1		1						1	1			1			1	1									1		8	1	6	1	1
222	329100	4695400	▫		0.75	1		1			1	1	1	1	1						1					1		1	1	1	1		13	1	12	1	1
223	329000	4695400	▫		1.00	1		1					1		1						1	1			1	1	1			1			10	1	9	1	1
224	328600	4695400	▫		0.90	1		1					1		1						1	1			1	1				1	1		10	1	9	1	1
225	328500	4695400	▫		0.90	1												1							1						1		4	0	4	1	1
226	328400	4695400	▫		0.75	1						1			1			1			1	1			1		1				1		9	1	8	1	1
227	328400	4695300	▫		1.90																	1			1								2	1	1	1	1
228	328400	4695200	▫		0.80	1					1	1						1			1	1						1			1		8	1	7	1	1
229	328300	4695200	▫		0.80	1					1			1	1						1	1			1	1		1			1		10	1	8	1	1
230	328300	4695100	▫		1.40	1								1								1									1		4	1	2	1	1
231	328400	4695000	▫		1.00	1									1			1				1					1						5	1	4	1	1
232	328300	4695000	▫		1.20	1																1			1								3	1	2	1	1
233	328300	4694900	▫		1.50	1								1							1	1												4	1	2	1	1
234	328200	4694900	▫		0.90	1								1									1											3	1	2	1	1
237	328300	4694800	▫		1.25	1								1								1											3	1	1	1	1
238	328200	4694800	▫		1.50	1																1											2	1	1	1	1
241	328200	4694700	▫		1.00	1																1											2	1	1	1	1
242	328100	4694700	▫		1.50	1											1				1												3	0	3	1	1
243	328100	4694600	▫		1.75	1																1			1								3	1	2	1	1
244	328100	4694500	▫		0.60	1		1				1		1				1				1									1		7	1	5	1	1
245	328000	4694500	▫		1.00	1																1									1		3	1	2	1	1
246	328000	4694400	▫		1.50																	1									1		2	1	1	1	1
247	328000	4694300	▫		1.00	1		1														1											3	1	2	1	1

Table 7. (continued) Aquatic plant species' presence in Lamoka Lake recorded by summarizing two rake tosses in September 3-17, 2014. Entries of "1" indicate species identified at that sample point (SP). Points are on a UTM 100-meter grid. Each sampled point is theoretically at the center of a 100m X 100m square or 1 hectare.

Sample Point (SP)	NAD27 X coord East 18T	NAD27 Y coord North 18T	◘ 169 original SPs	■ 11 added SPs	Depth 2014 (m) at sampling	Ceratophyllum demersum	Chara vulgaris	Elodea sp.	Fontinalis sp.	Heteranthera dubia	Lemna minor	Lemna trisulca	Megalodonta beckii	Myriophyllum spicatum	Najas guadalupensis	Najas minor	Nuphar advena	Nymphaea odorata	Polygonum amphibium	Pontederia cordata	Potamogeton amplifolius	Potamogeton crispus	Potamogeton foliosus	Potamogeton praelongus	Potamogeton robbinsii	Potamogeton zosteriformis	Ranunculus trichophyllus	Spirodela polyrhiza	Stuckenia pectinata	Utricularia sp.	Vallisneria americana	Wolffia columbiana	Total	Non-Native Species	Native Species	Presence of a Species	Presence of Native Species
248	327900	4694300	◘		1.25	1																1											2	1	1	1	1
249	327900	4694200	◘		1.25	1																1											2	1	1	1	1
250	327800	4694100	◘		1.35	1								1								1											3	1	1	1	1
251	327800	4694000	◘		1.00	1							1	1				1			1	1									1		7	1	5	1	1
252	327700	4694000	◘		0.95	1								1				1				1					1						5	1	3	1	1
253	327760	4693900	◘		0.75	1		1				1		1				1				1								1			7	1	5	1	1
254	327700	4693900	◘		1.25	1								1								1											3	1	1	1	1
256	327800	4693800	◘		0.60	1		1						1	1			1				1								1	1		8	1	6	1	1
257	327700	4693800	◘		1.25	1								1								1											3	1	1	1	1
258	327600	4693800	◘		0.75	1																1											2	1	1	1	1
260	327800	4693700	◘		0.75	1		1							1							1											4	1	3	1	1
261	327700	4693700	◘		1.25	1								1								1											3	1	1	1	1
262	327600	4693700	◘		0.75	1		1						1	1			1				1					1						7	1	5	1	1
263	327500	4693700	◘		1.00	1								1	1							1											4	1	2	1	1
264	327400	4693700	◘		0.60	1		1			1	1		1						1		1					1	1					9	1	7	1	1
265	327300	4693700	◘		0.70	1		1			1			1				1				1					1						7	1	5	1	1
266	327200	4693700	◘		0.70	1					1							1				1						1				1	6	1	5	1	1
269	327800	4693600	◘		0.75	1		1				1		1								1											5	1	3	1	1
270	327700	4693600	◘		1.25	1								1								1											3	1	1	1	1
271	327600	4693600	◘		1.30	1								1							1	1			1								5	1	3	1	1
272	327500	4693600	◘		1.50	1								1								1											3	1	1	1	1
273	327400	4693600	◘		1.50	1								1								1									1		4	1	2	1	1
274	327300	4693600	◘		1.25	1								1								1											3	1	1	1	1
275	327200	4693600	◘		1.25	1		1			1			1				1	1								1	1					8	1	7	1	1
276	327100	4693600	◘		1.50	1		1			1			1					1			1					1	1				1	9	1	7	1	1
280	327500	4693500	◘		1.35	1								1								1											3	1	1	1	1
281	327400	4693500	◘		1.25	1								1								1											3	1	1	1	1
282	327300	4693500	◘		1.20	1								1								1											3	1	1	1	1
283	327200	4693500	◘		1.00	1		1						1								1											4	1	2	1	1
284	327100	4693500	◘		1.10	1								1																			2	1	1	1	1
286	327500	4693400	◘		1.20	1								1								1											3	1	1	1	1
287	327400	4693400	◘		1.25	1								1								1											3	1	1	1	1

Table 7. (continued) Aquatic plant species' presence in Lamoka Lake recorded by summarizing two rake tosses in September 3-17, 2014. Entries of "1" indicate species identified at that sample point (SP). Points are on a UTM 100-meter grid. Each sampled point is theoretically at the center of a 100m X 100m square or 1 hectare.

Sample Point (SP)	NAD27 X coord East 18T	NAD27 Y coord North 18T	◘ 169 original SPs	■ 11 added SPs	Depth 2014 (m) at sampling	Ceratophyllum demersum	Chara vulgaris	Elodea sp.	Fontinalis sp.	Heteranthera dubia	Lemna minor	Lemna trisulca	Megalodonta beckii	Myriophyllum spicatum	Najas guadalupensis	Najas minor	Nuphar advena	Nymphaea odorata	Polygonum amphibium	Pontederia cordata	Potamogeton amplifolius	Potamogeton crispus	Potamogeton foliosus	Potamogeton praelongus	Potamogeton robbinsii	Potamogeton zosteriformis	Ranunculus trichophyllus	Spirodela polyrhiza	Stuckenia pectinata	Utricularia sp.	Vallisneria americana	Wolffia columbiana	Total	Non-Native Species	Native Species	Presence of a Species	Presence of Native Species
288	327300	4693400	◘		1.25	1								1								1											3	1	1	1	1
289	327200	4693400	◘		1.25	1		1														1											3	1	2	1	1
290	327100	4693400	◘		1.00	1								1								1											3	1	1	1	1
291	327000	4693400	◘		1.25	1								1								1											3	1	1	1	1
292	327500	4693300	◘		1.00	1									1							1											3	1	2	1	1
293	327400	4693300	◘		1.50	1								1								1											3	1	1	1	1
294	327300	4693300	◘		1.50	1								1								1											3	1	1	1	1
295	327200	4693300	◘		1.25	1								1								1											3	1	1	1	1
296	327100	4693300	◘		1.50	1								1								1											3	1	1	1	1
297	327000	4693300	◘		1.50	1								1								1									1		4	1	2	1	1
298	326900	4693300	◘		1.25	1		1						1								1											4	1	2	1	1
299	327500	4693200	◘		0.75	1				1	1	1		1				1										1					7	1	6	1	1
300	327400	4693200	◘		0.75	1				1	1											1					1						5	1	4	1	1
301	327300	4693200	◘		1.25	1								1								1						1					4	1	2	1	1
302	327200	4693200	◘		1.00	1								1								1											3	1	1	1	1
303	327100	4693200	◘		1.00	1																1											2	1	1	1	1
304	327000	4693200	◘		1.25	1		1						1			1					1						1					6	1	4	1	1
305	326900	4693200	◘		1.30	1					1			1								1						1					5	1	3	1	1
306	326800	4693200	◘		1.00	1		1														1											3	1	2	1	1
307	327000	4693100	◘		0.70	1						1		1								1											4	1	2	1	1
308	326900	4693100	◘		1.25	1		1			1	1		1								1						1					7	1	5	1	1
309	326800	4693100	◘		1.00	1		1			1			1								1					1						6	1	4	1	1
310	327000	4693000	◘		0.75	1					1							1				1					1	1		1		1	8	1	7	1	1
311	326900	4693000	◘		1.10	1		1			1	1		1				1				1				1	1	1					10	1	8	1	1
312	326800	4693000	◘		0.80	1					1	1		1				1				1					1	1		1			9	1	7	1	1
313	326900	4692900	◘		0.50	1						1		1				1				1						1		1			7	1	5	1	1
Totals for 180 sampling points						169	10	53	1	3	19	19	9	64	101	5	3	26	2	2	37	121	3	13	49	48	19	18	1	12	80	5	892	130	702	177	176
Totals for 169 original points						**158**	**9**	**51**	**1**	**3**	**19**	**19**	**7**	**63**	**91**	**5**	**3**	**26**	**2**	**1**	**35**	**119**	**3**	**13**	**46**	**42**	**19**	**18**	**1**	**12**	**70**	**5**	**841**	**127**	**654**	**166**	**165**
Totals for 11 new sampling points						11	1	2	0	0	0	0	2	1	10	0	0	0	0	1	2	2	0	0	3	6	0	0	0	0	10	0	51	3	48	11	11



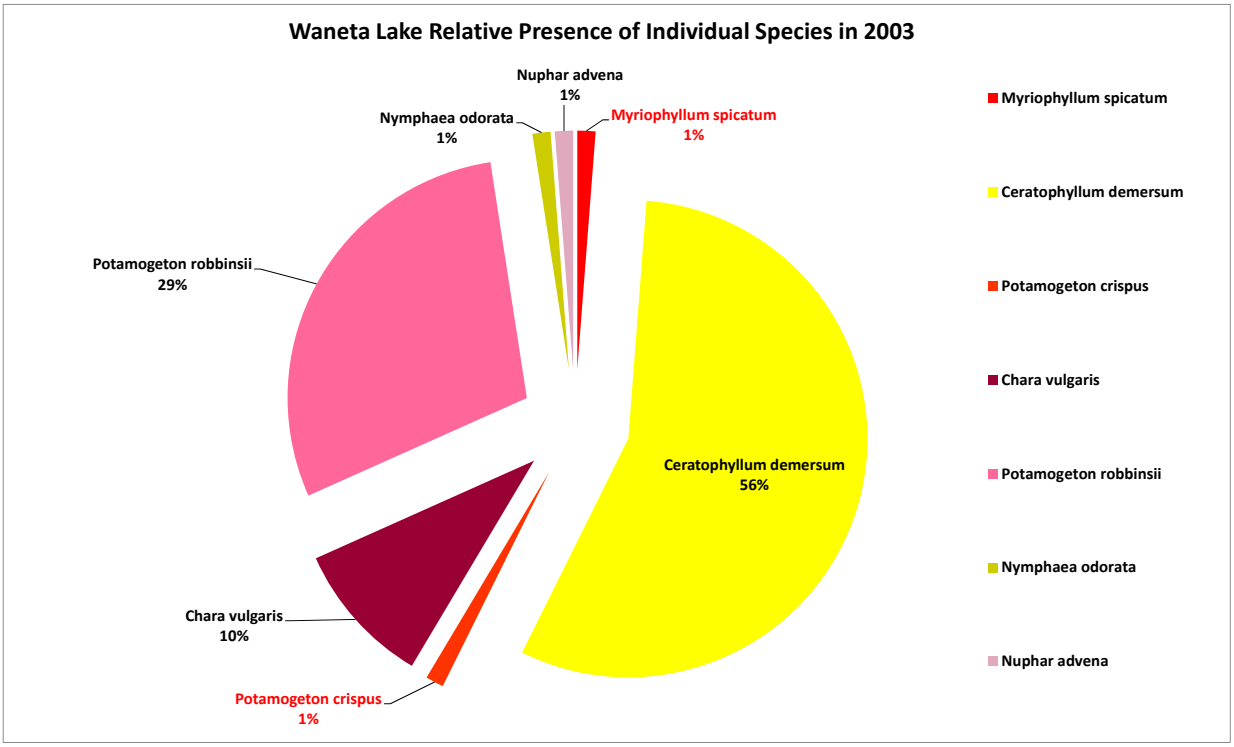
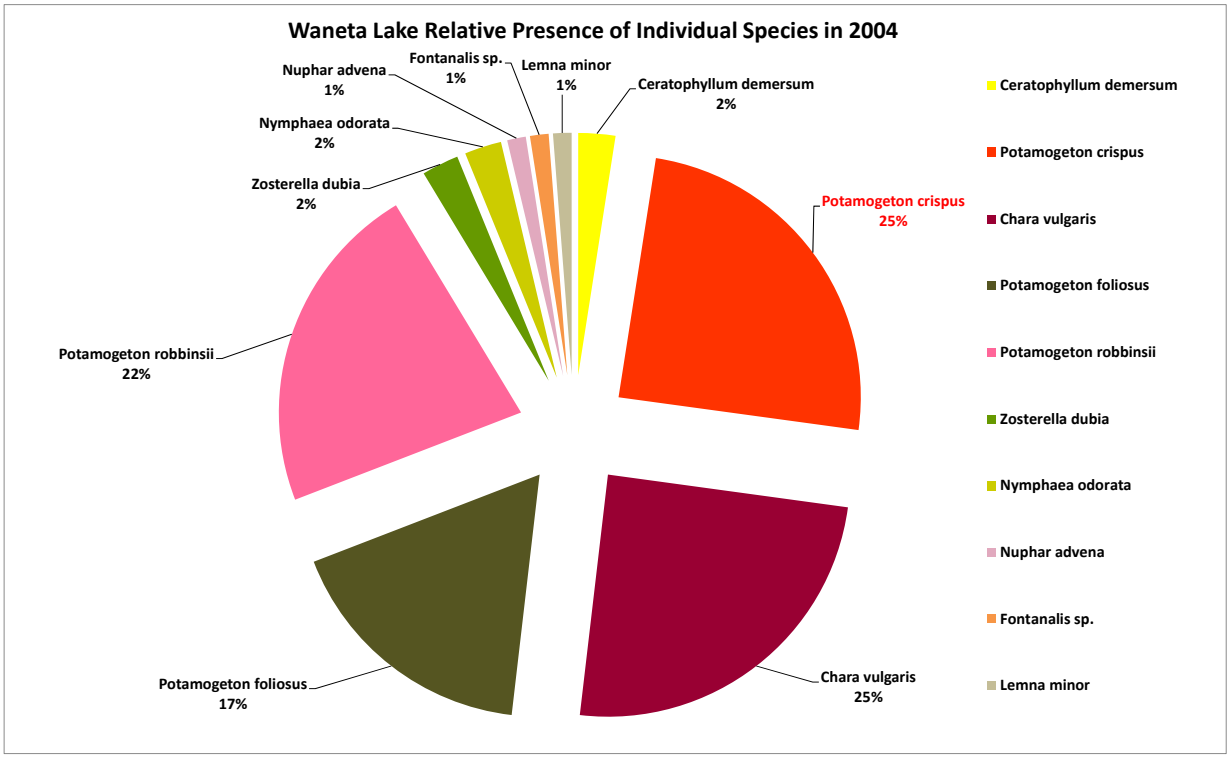
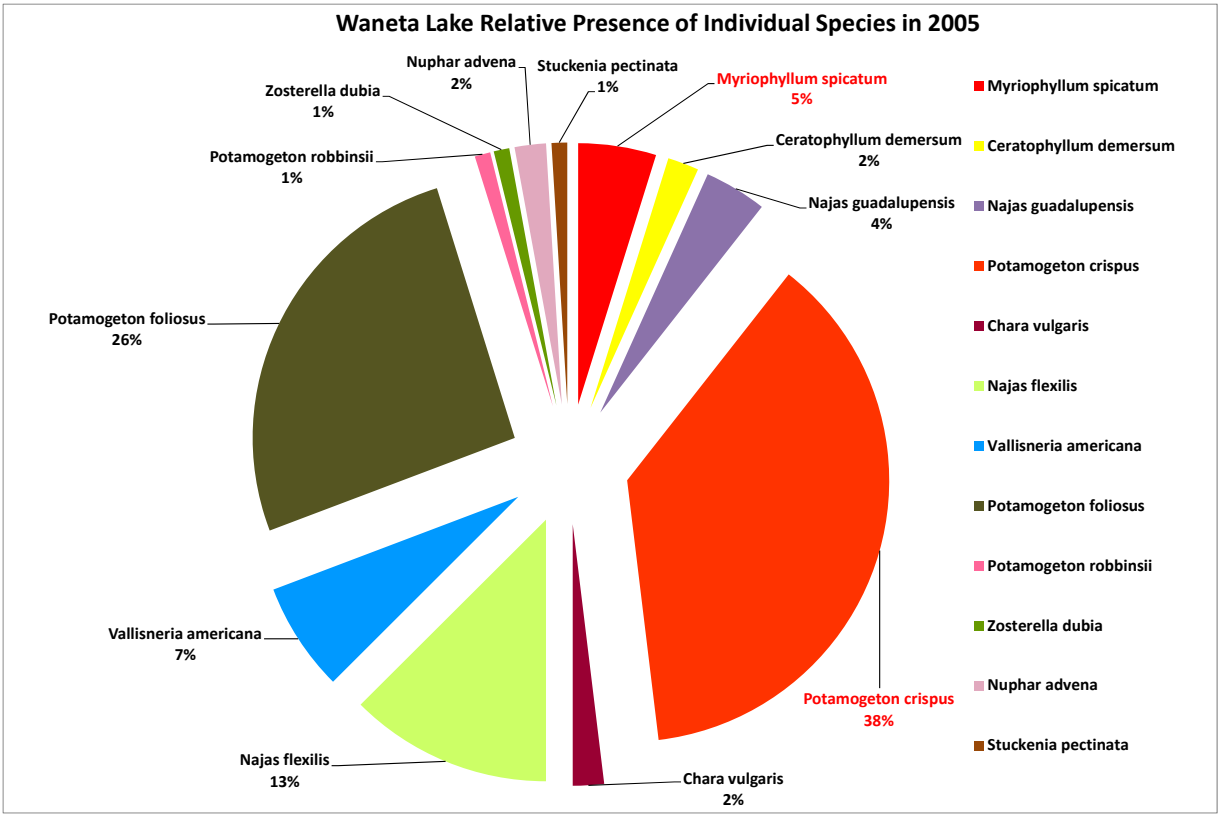


Figure 7. Relative presence of individual species at 102 sample points in Waneta Lake in August 2000, 2003, 2004, Sept. 2, 2005, August 10, 2006, August 12, 2007, August 6-12, 2008, August 4-5, 2009, August 2010, August 8-25, 2011, August 7-9, 2012, August 6-16, 2013 and August 6-26, 2014.





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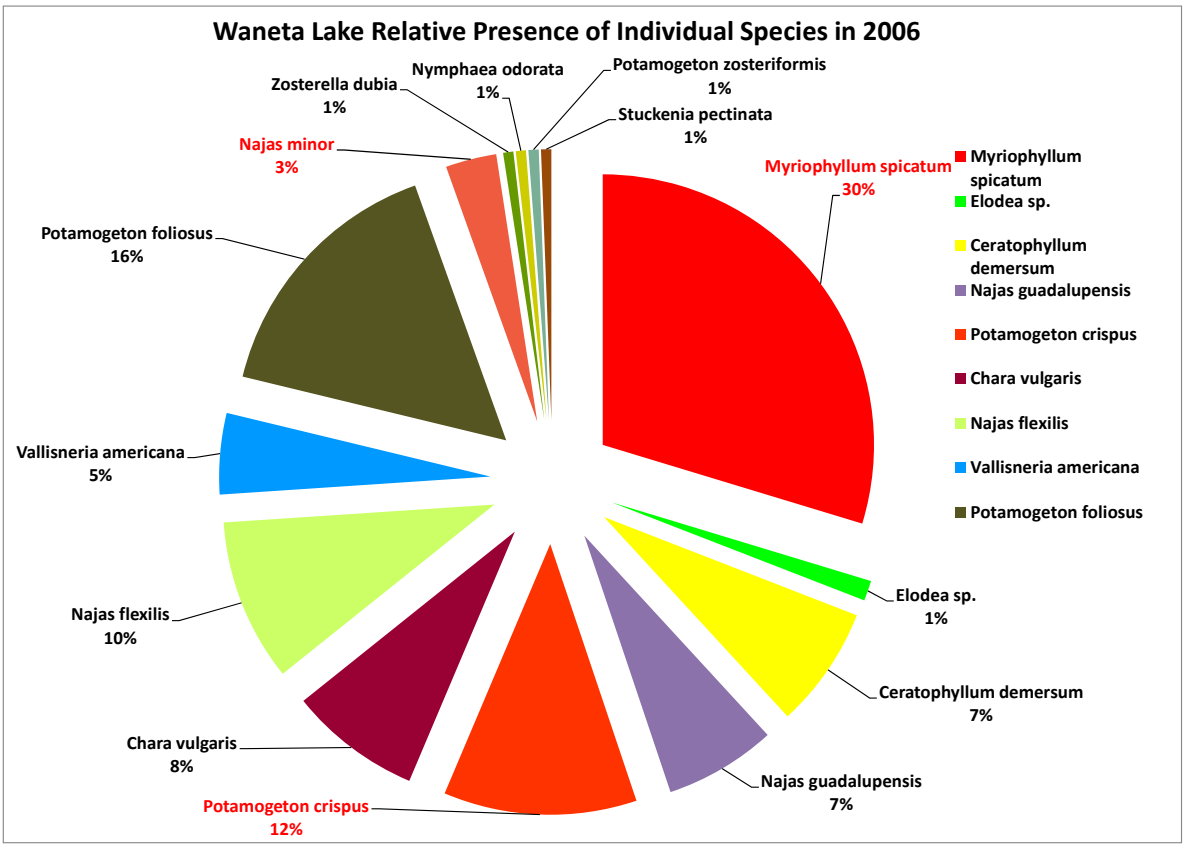

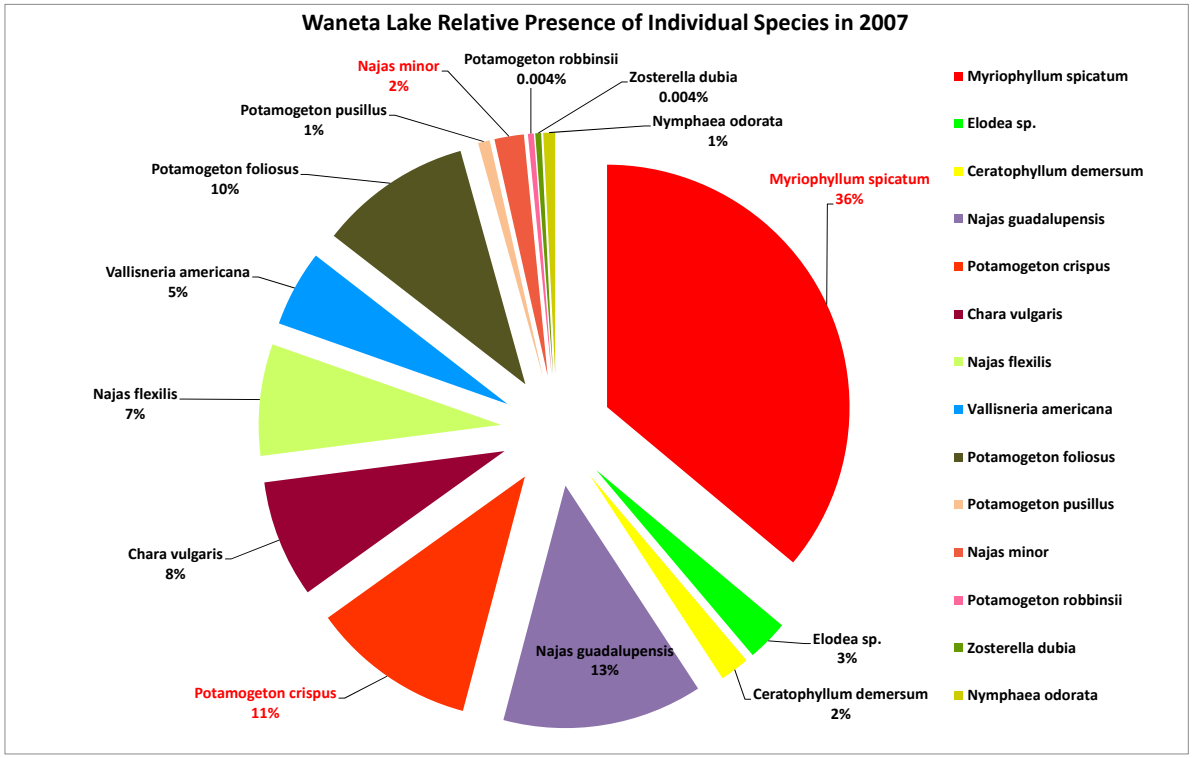

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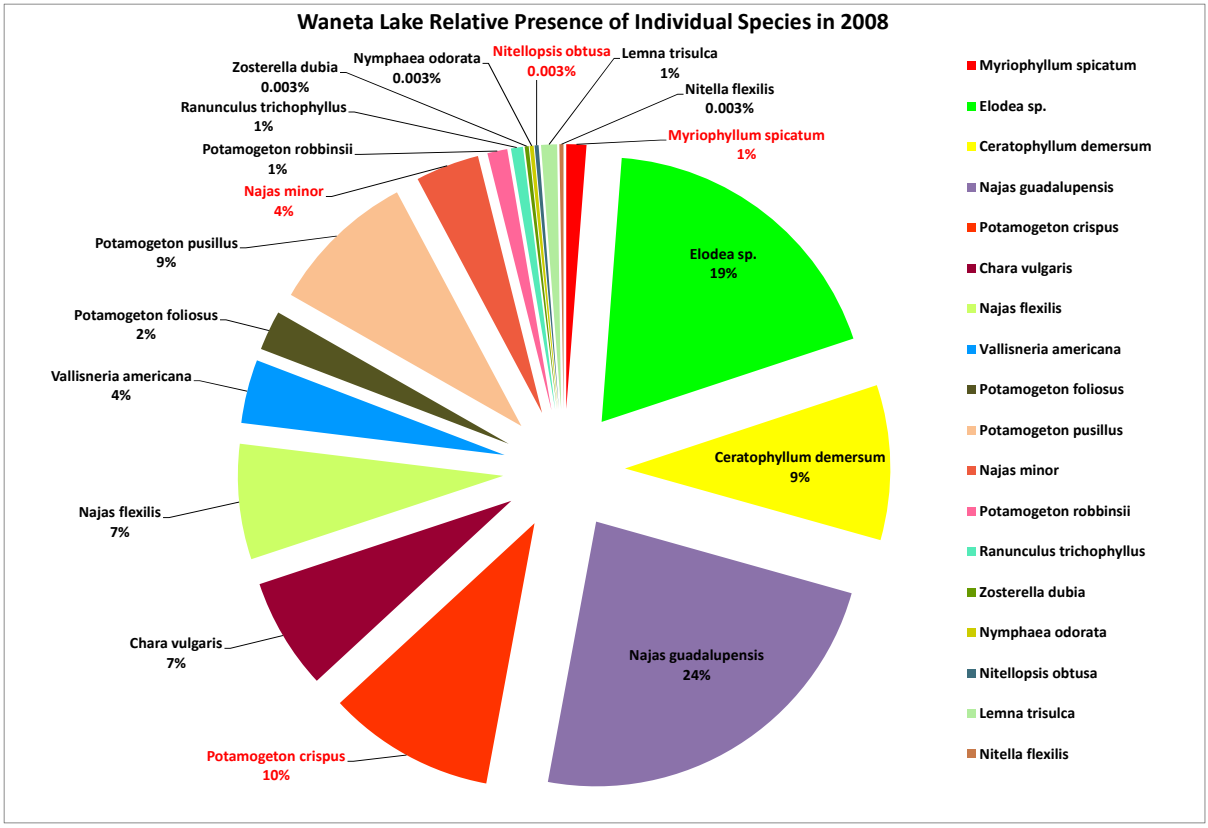

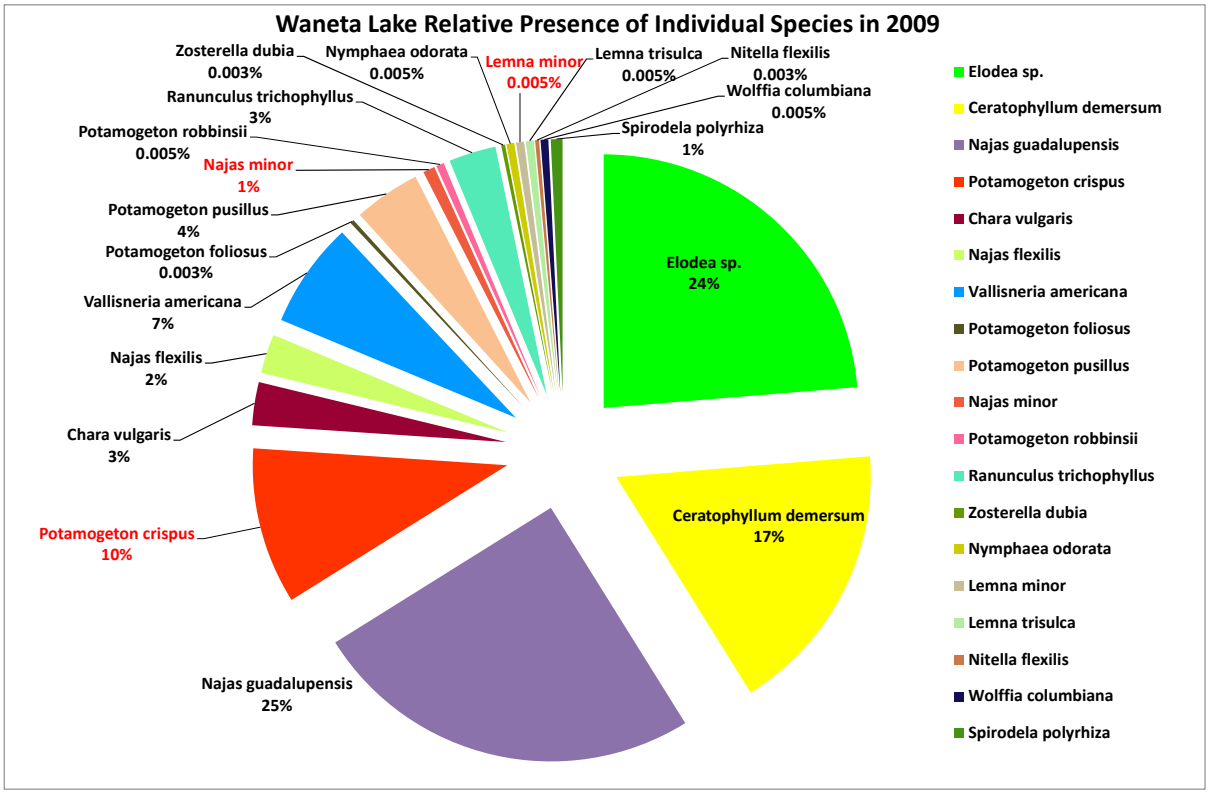

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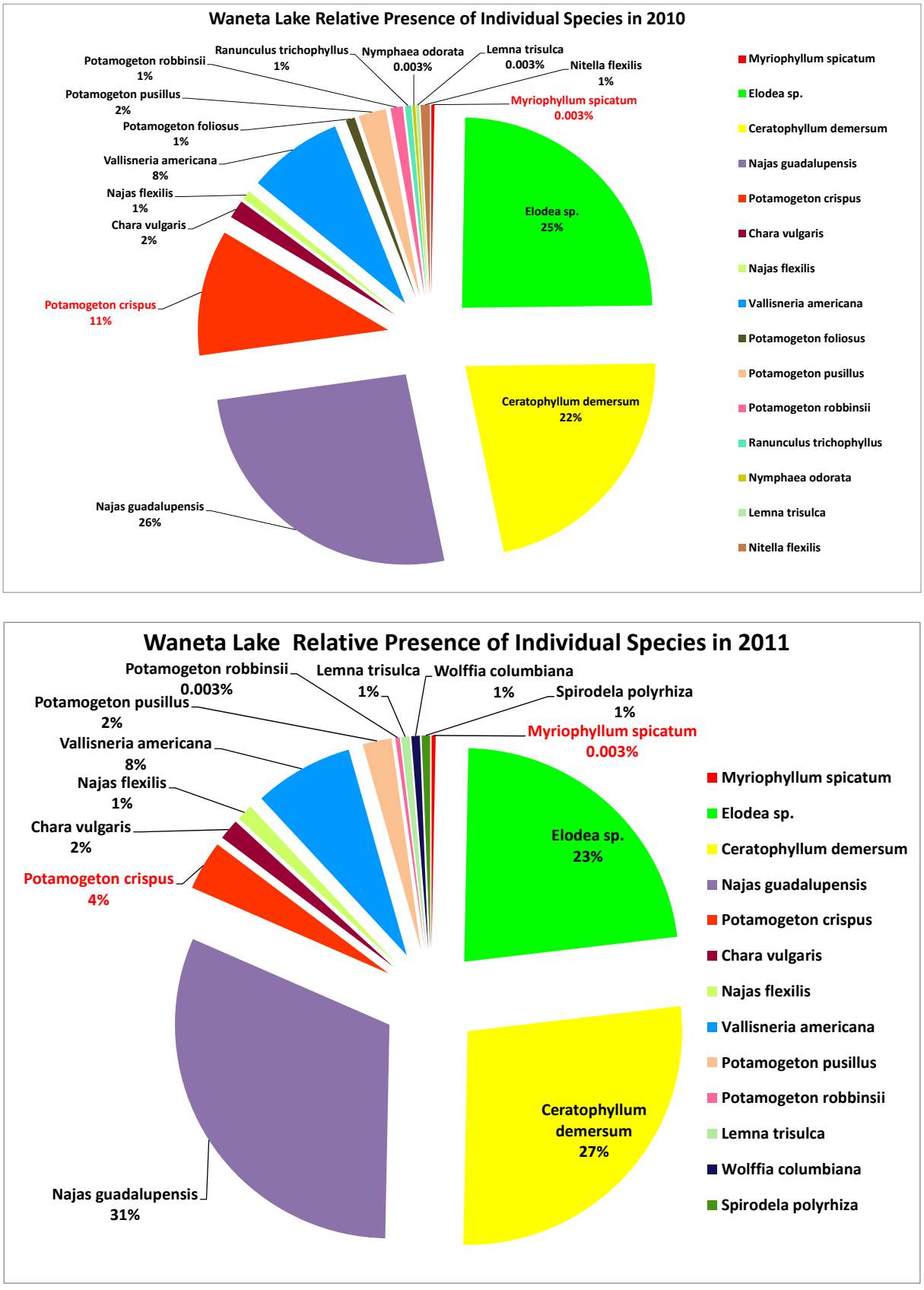

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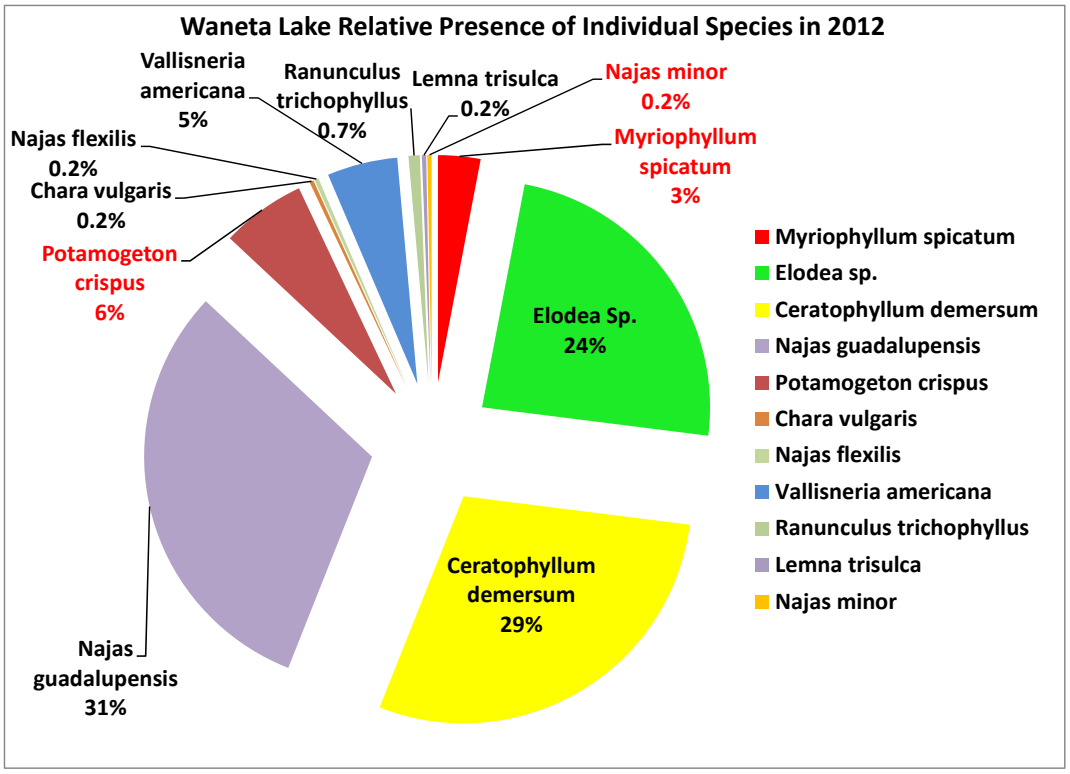

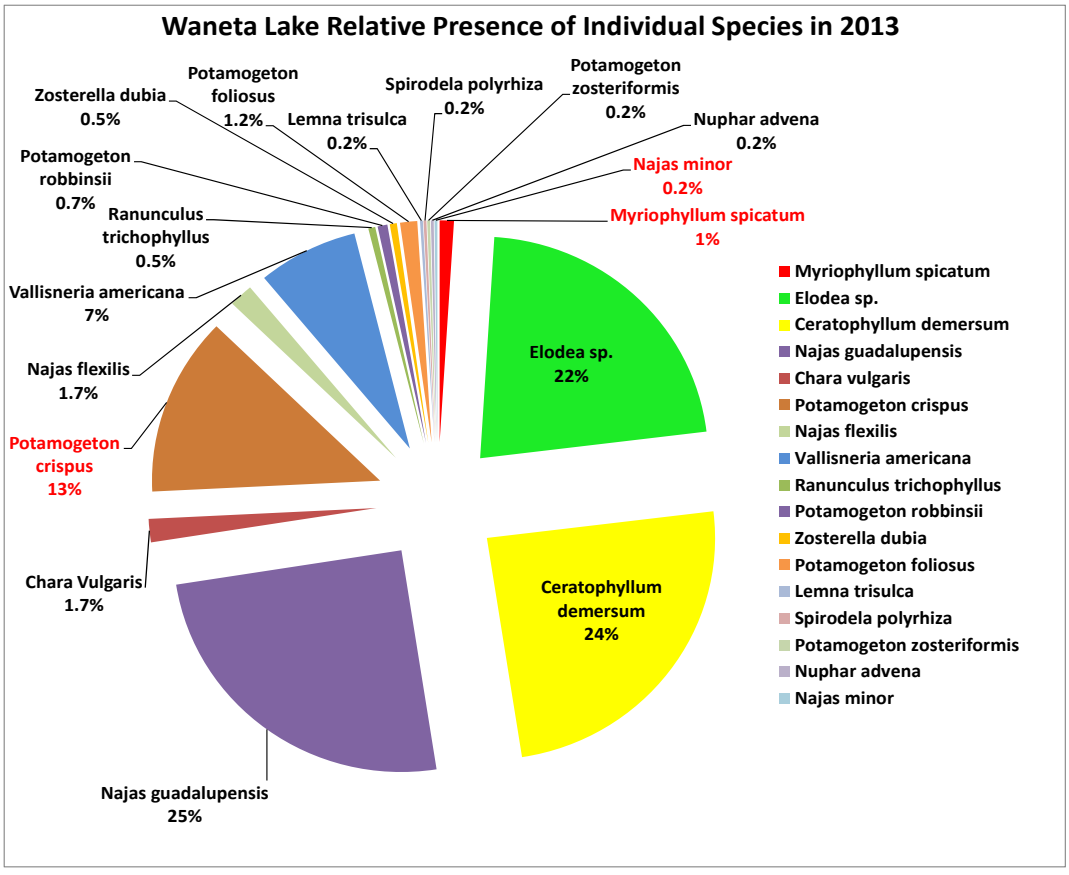

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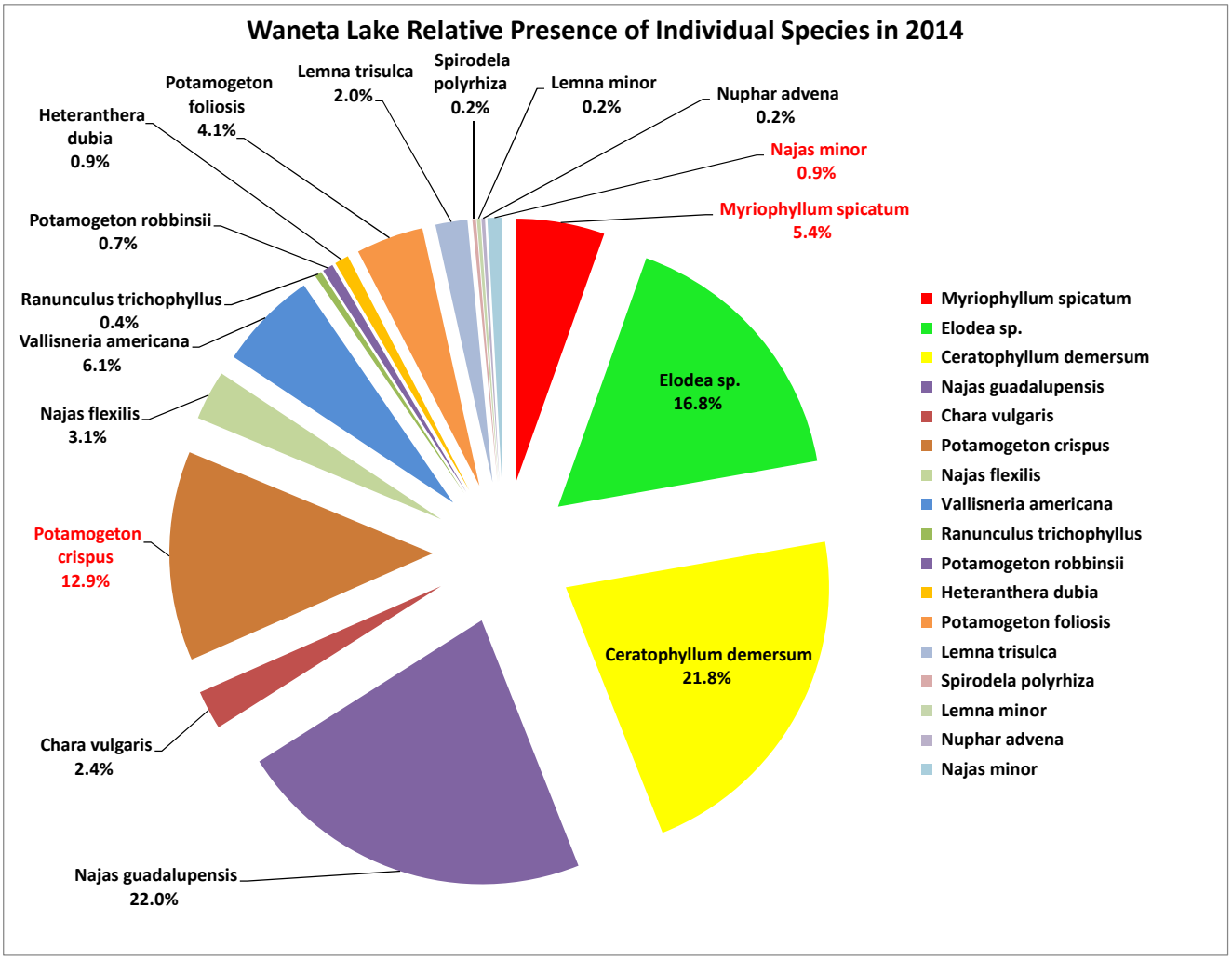

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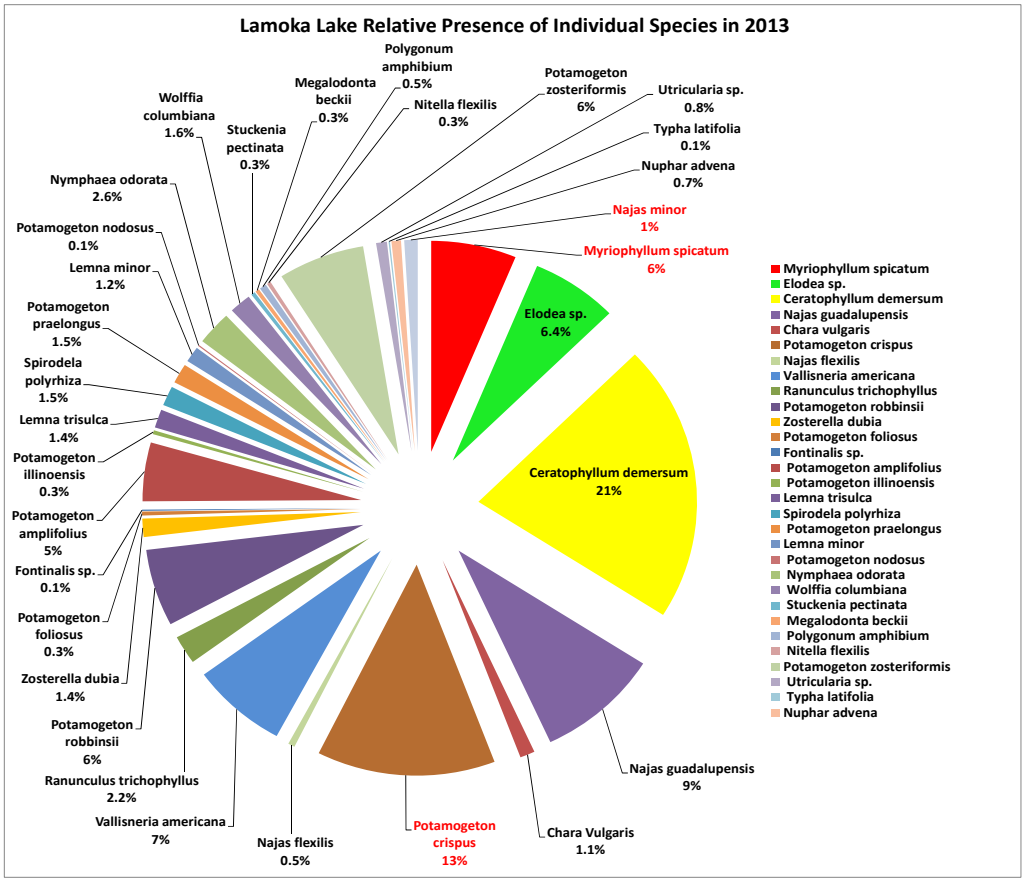

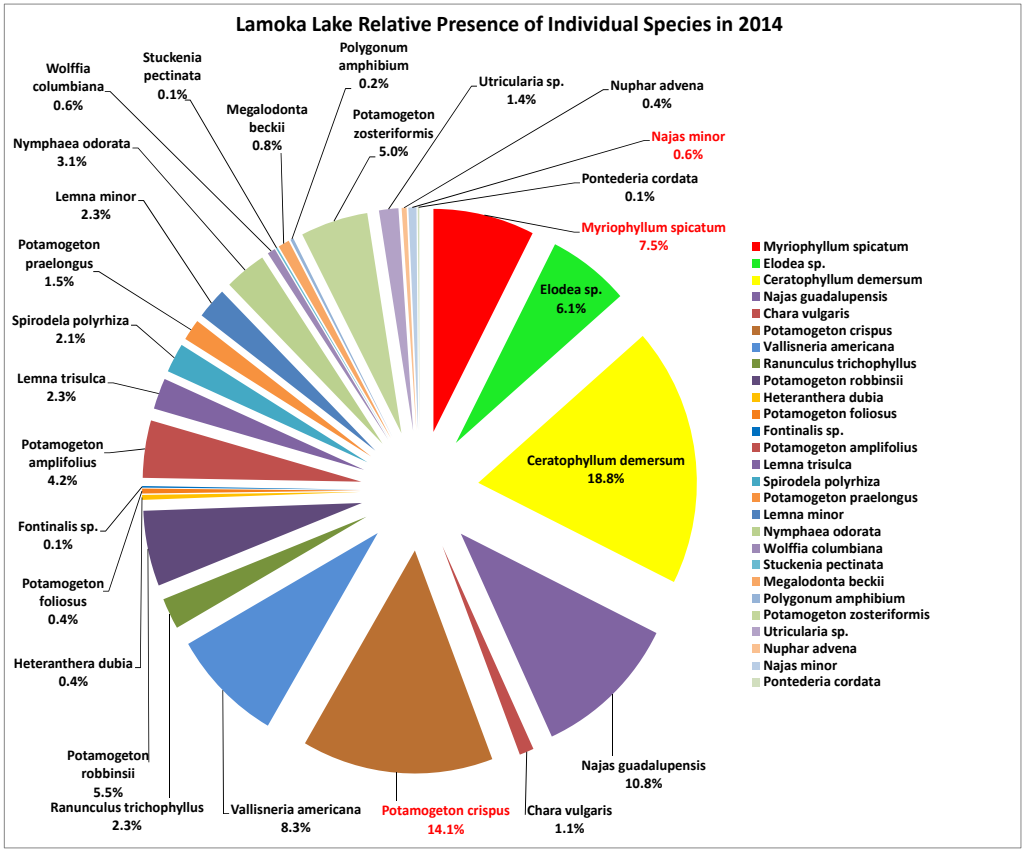

Figure 8. Relative presence of individual species at 169 sample points in Lamoka Lake in August 22-September 4, 2013 and September 3-17, 2014.

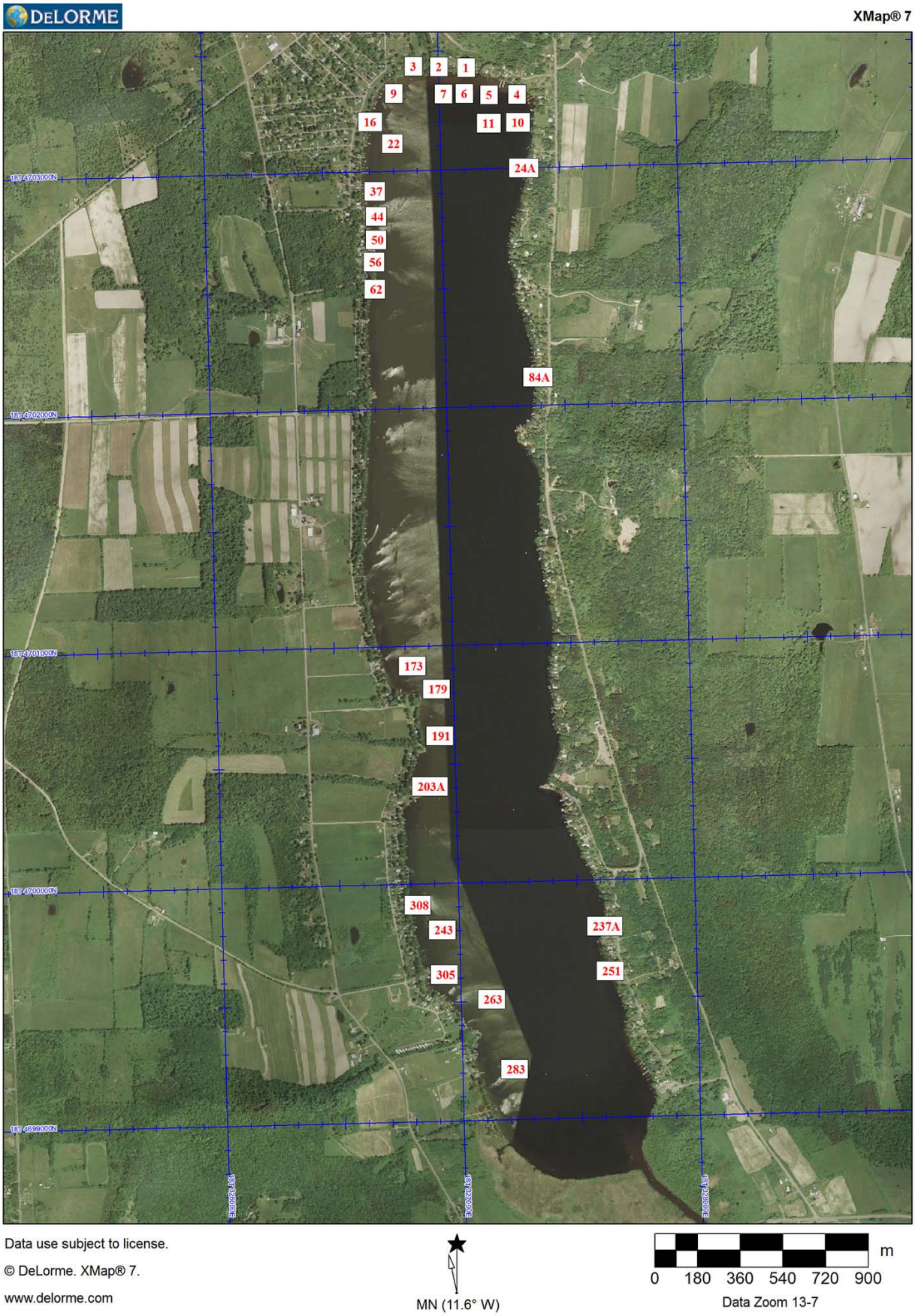

Figure 9. Thirty sample point (SP) locations in Waneta Lake where rake-toss measurements taken during August 6-26, 2014 showed Eurasian watermilfoil.

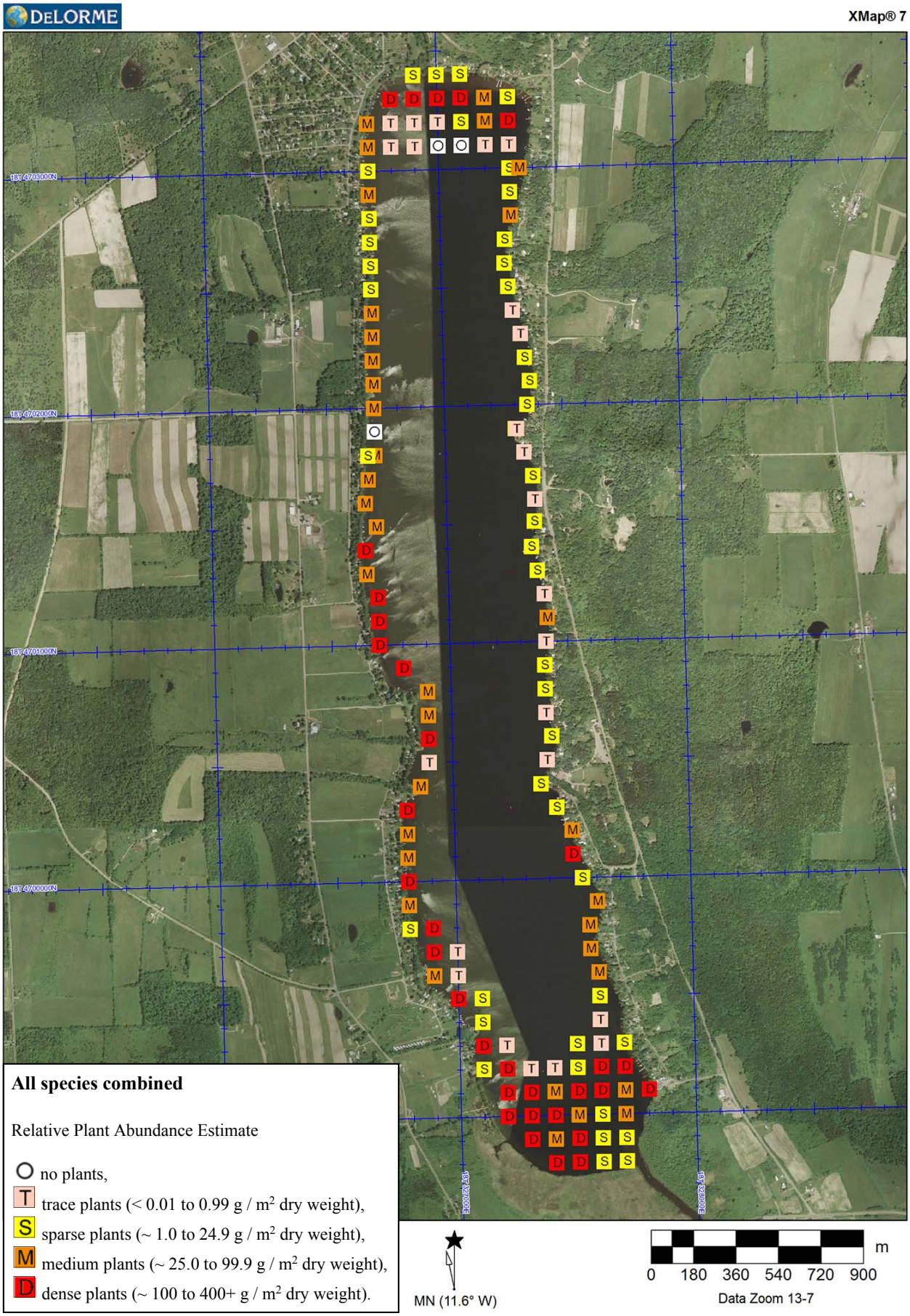

Figure 10. All species combined as abundance by two rake tosses.

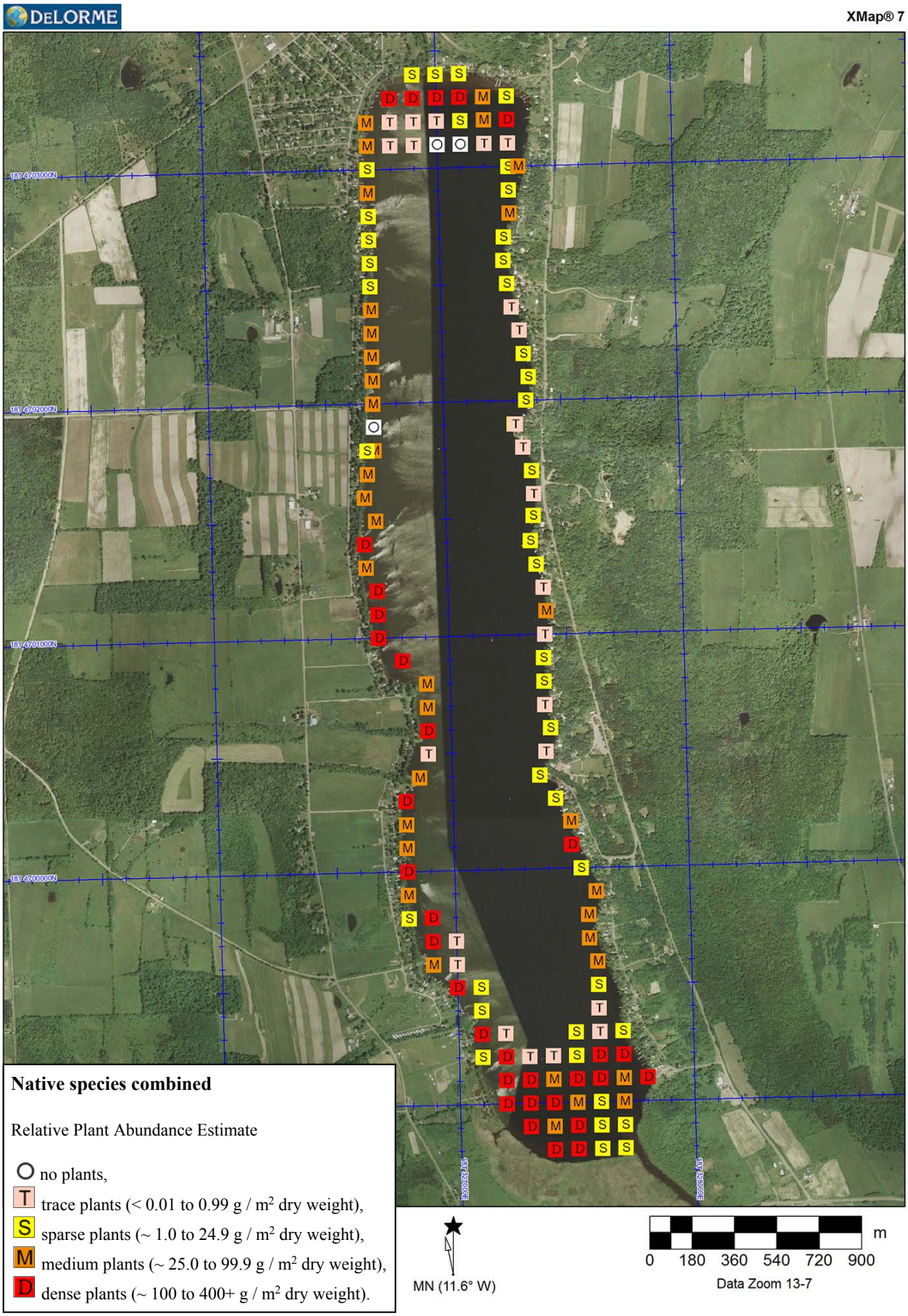

Figure 11. Native species combined as abundance by two rake tosses.

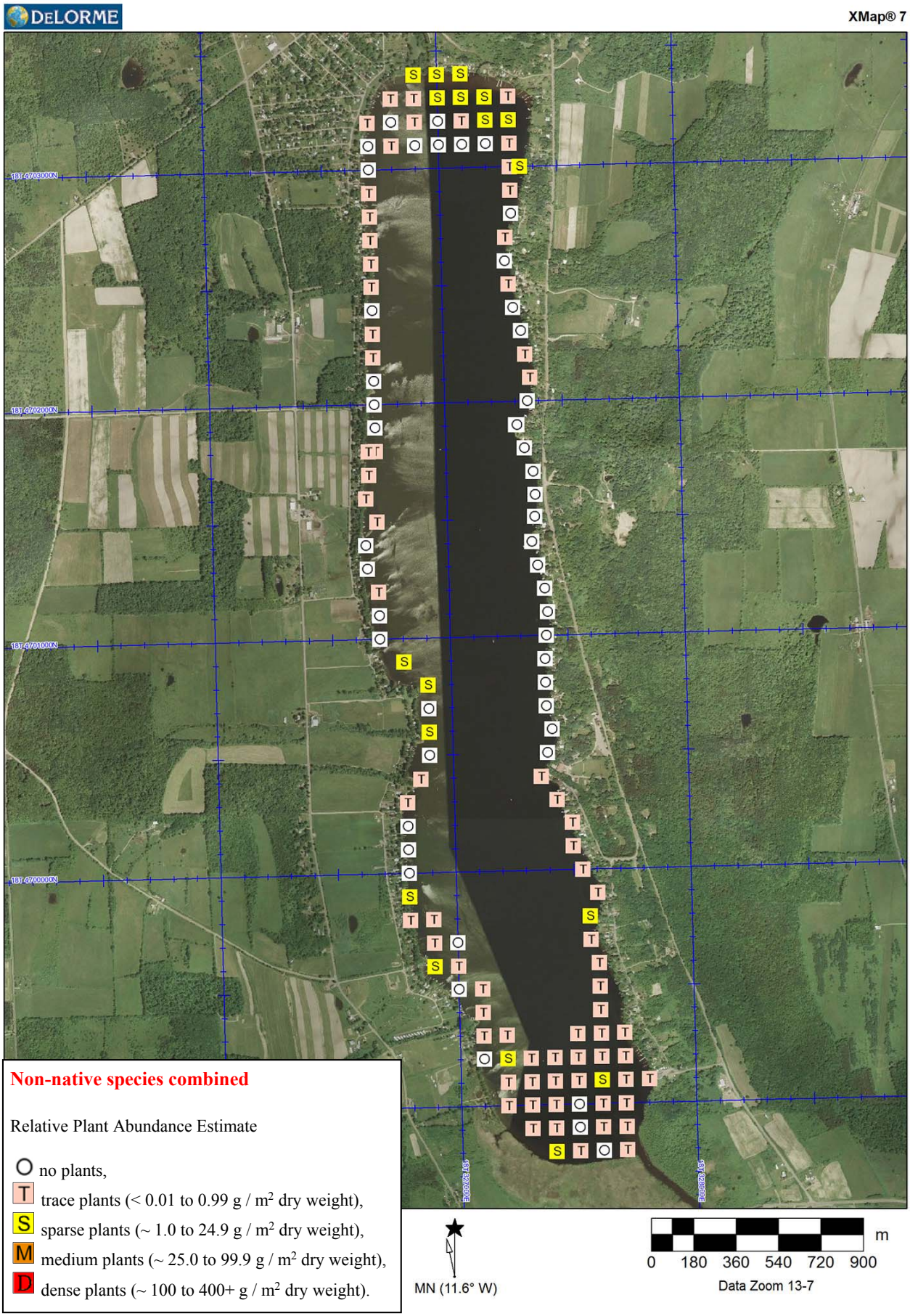

Figure 12. Non-native species combined as abundance by two rake tosses.

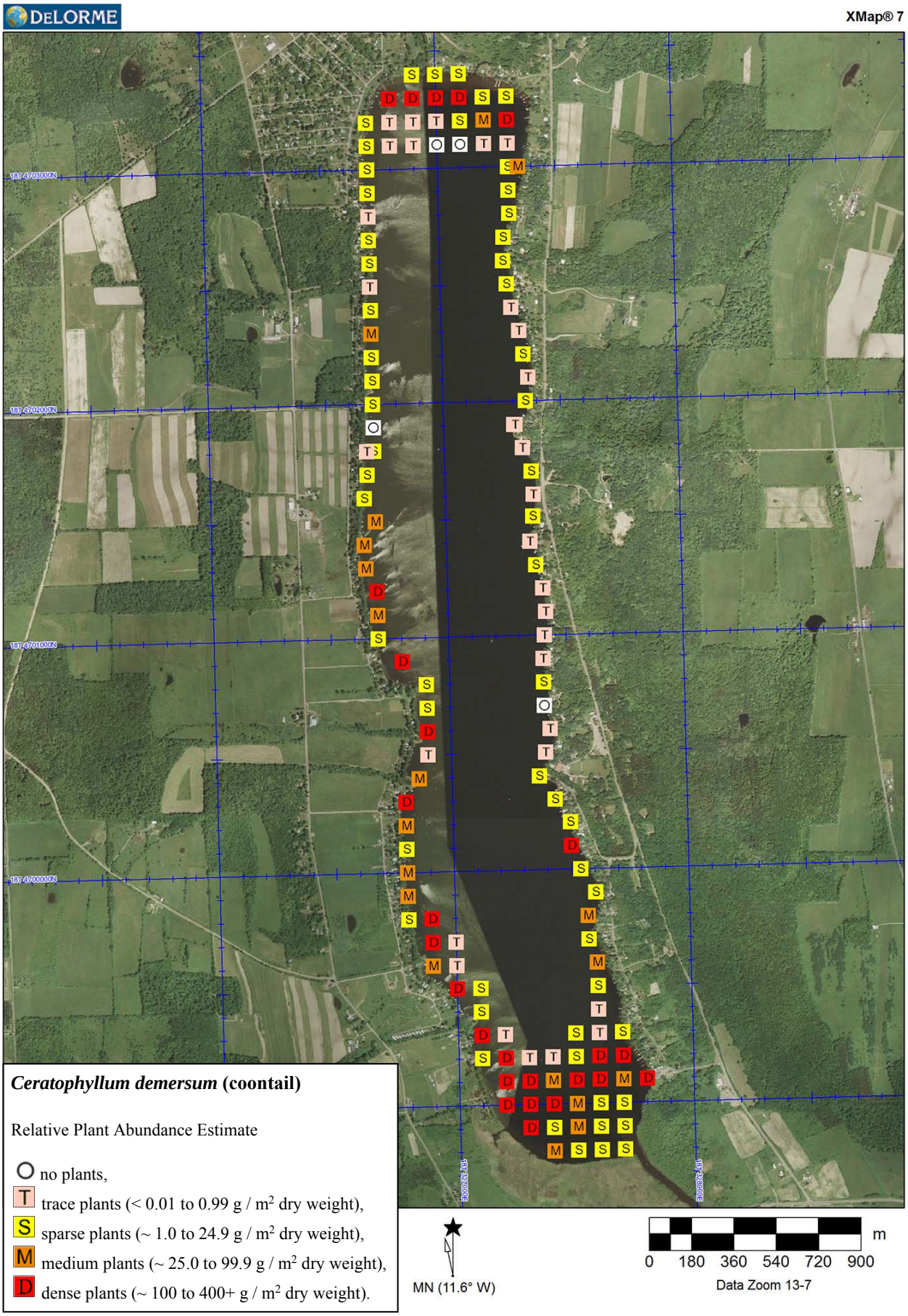

Figure 13. *Ceratophyllum demersum* (coontail) as abundance by two rake tosses.

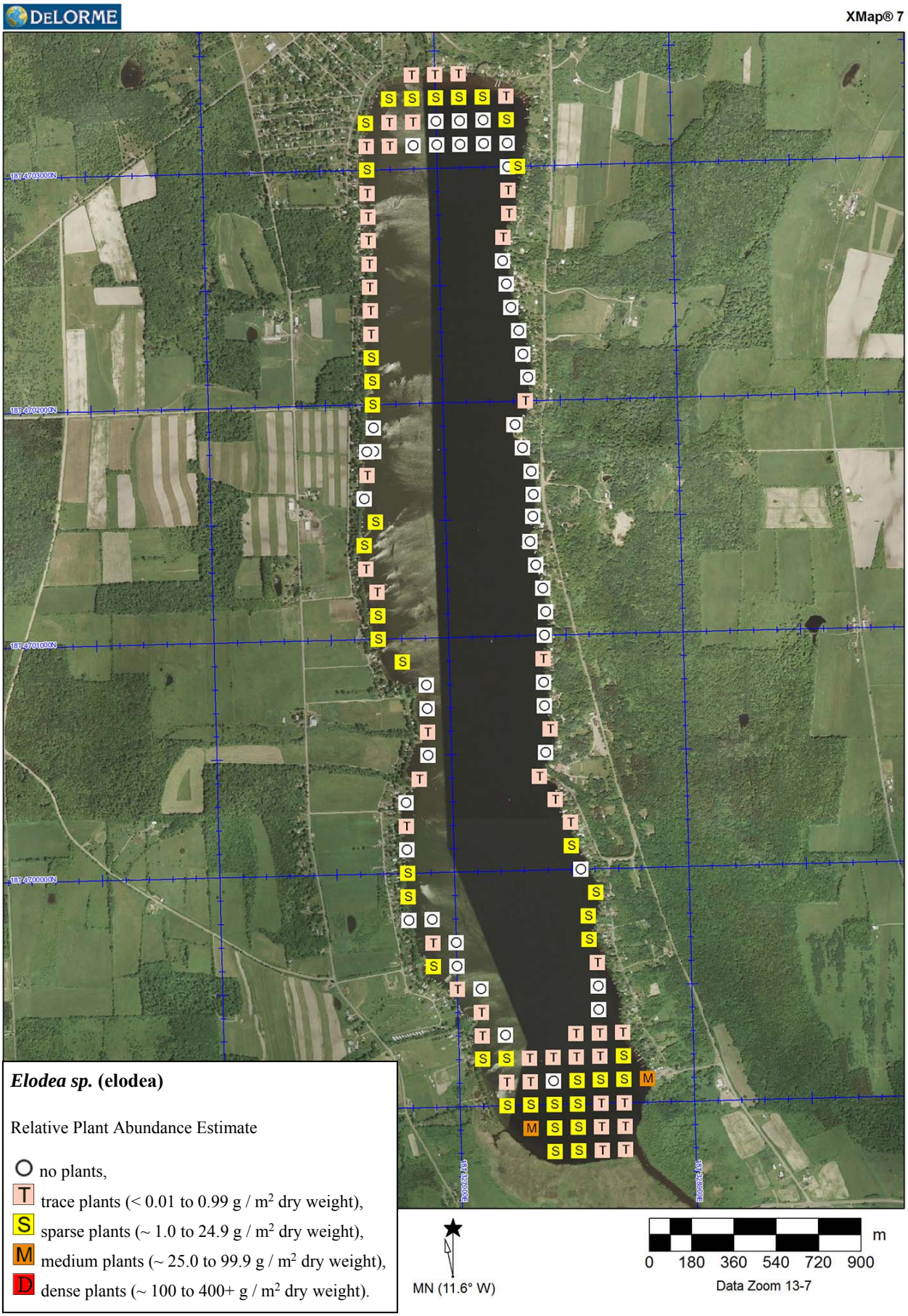

Figure 14. *Elodea sp.* (elodea) as abundance by two rake tosses.

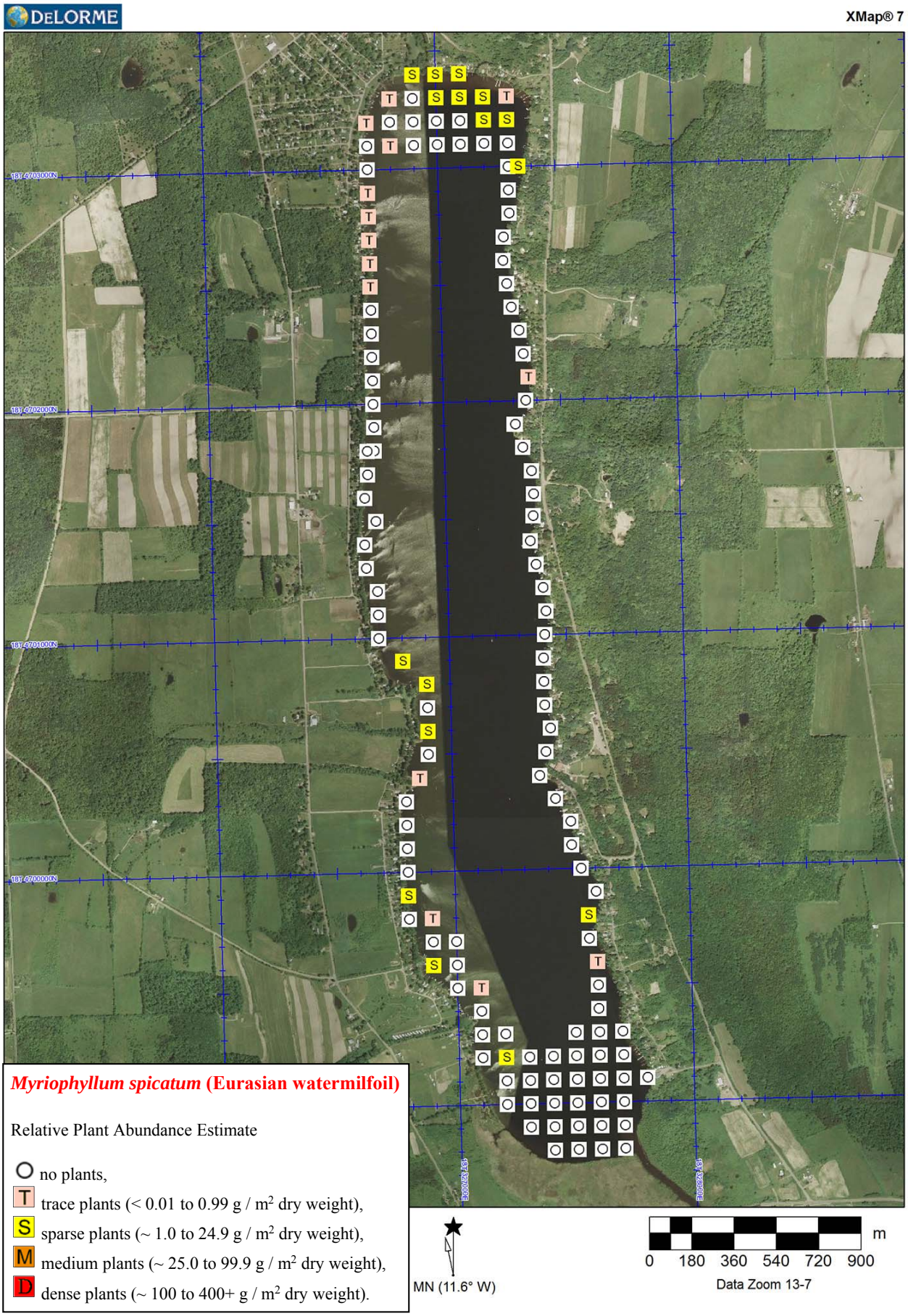

Figure 15. *Myriophyllum spicatum* (Eurasian watermilfoil) as abundance by two rake tosses.

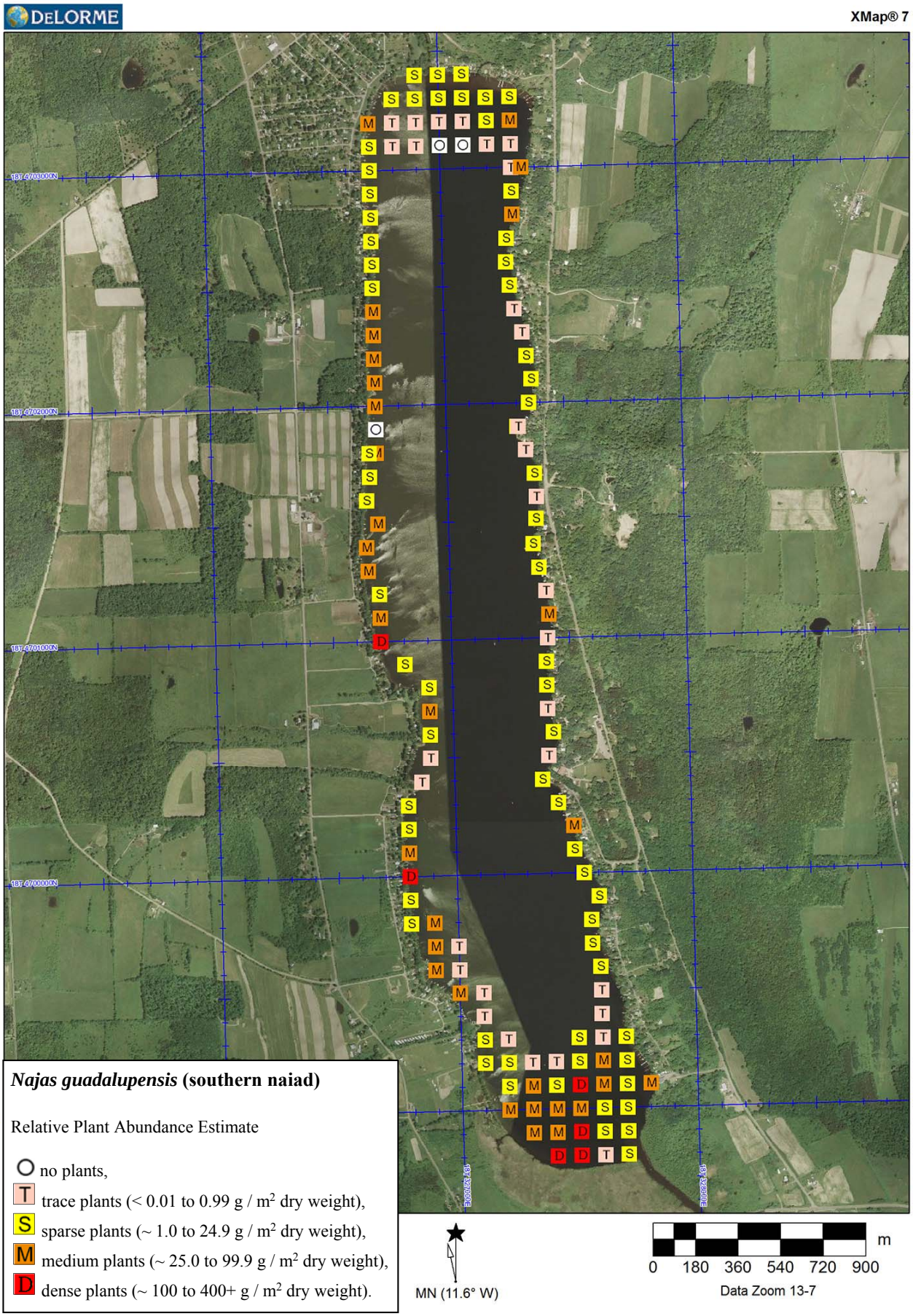

Figure 16. *Najas guadalupensis* (southern naiad) as abundance by two rake tosses.

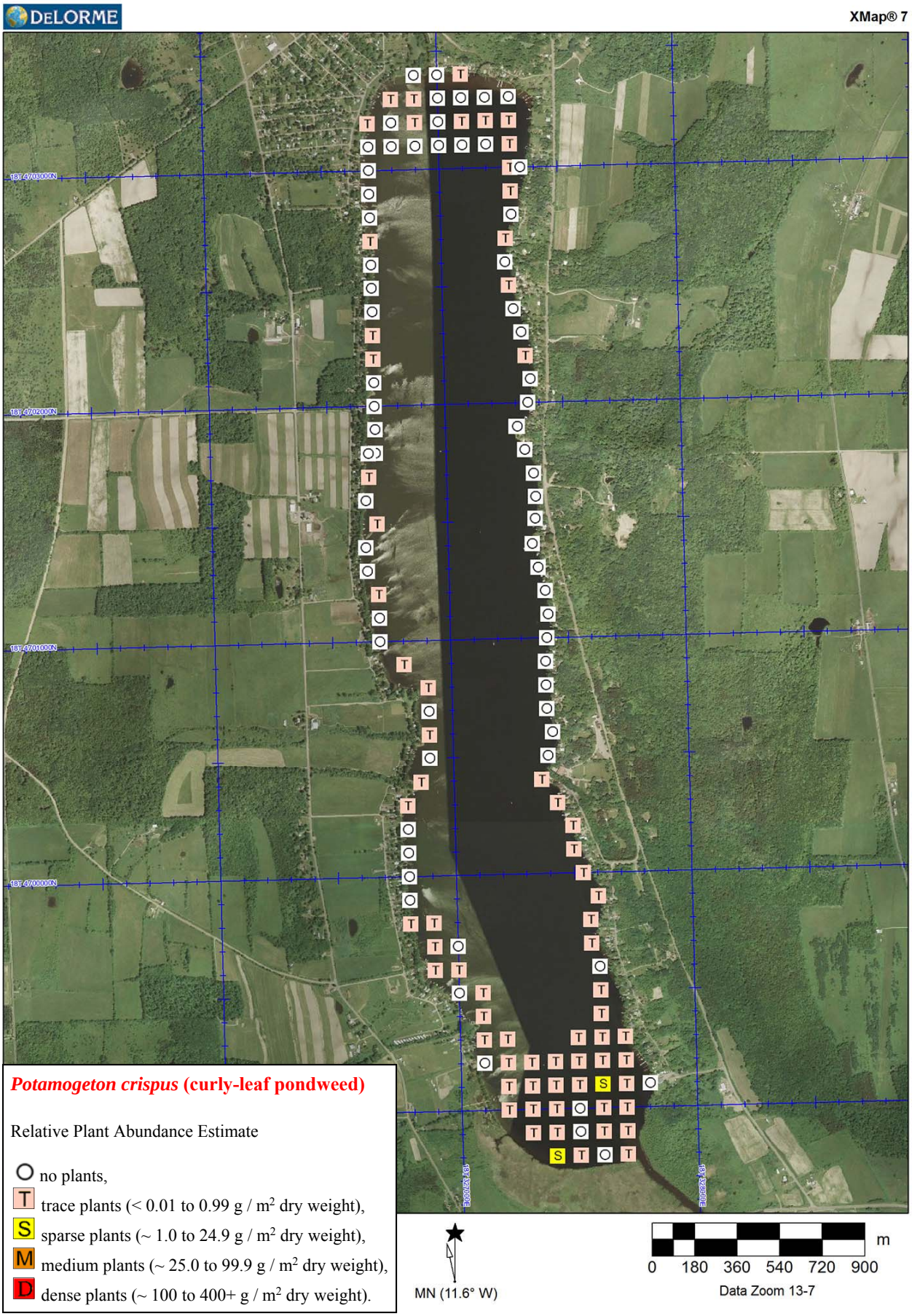

Figure 17. *Potamogeton crispus* (curly-leaf pondweed) as abundance by two rake tosses.

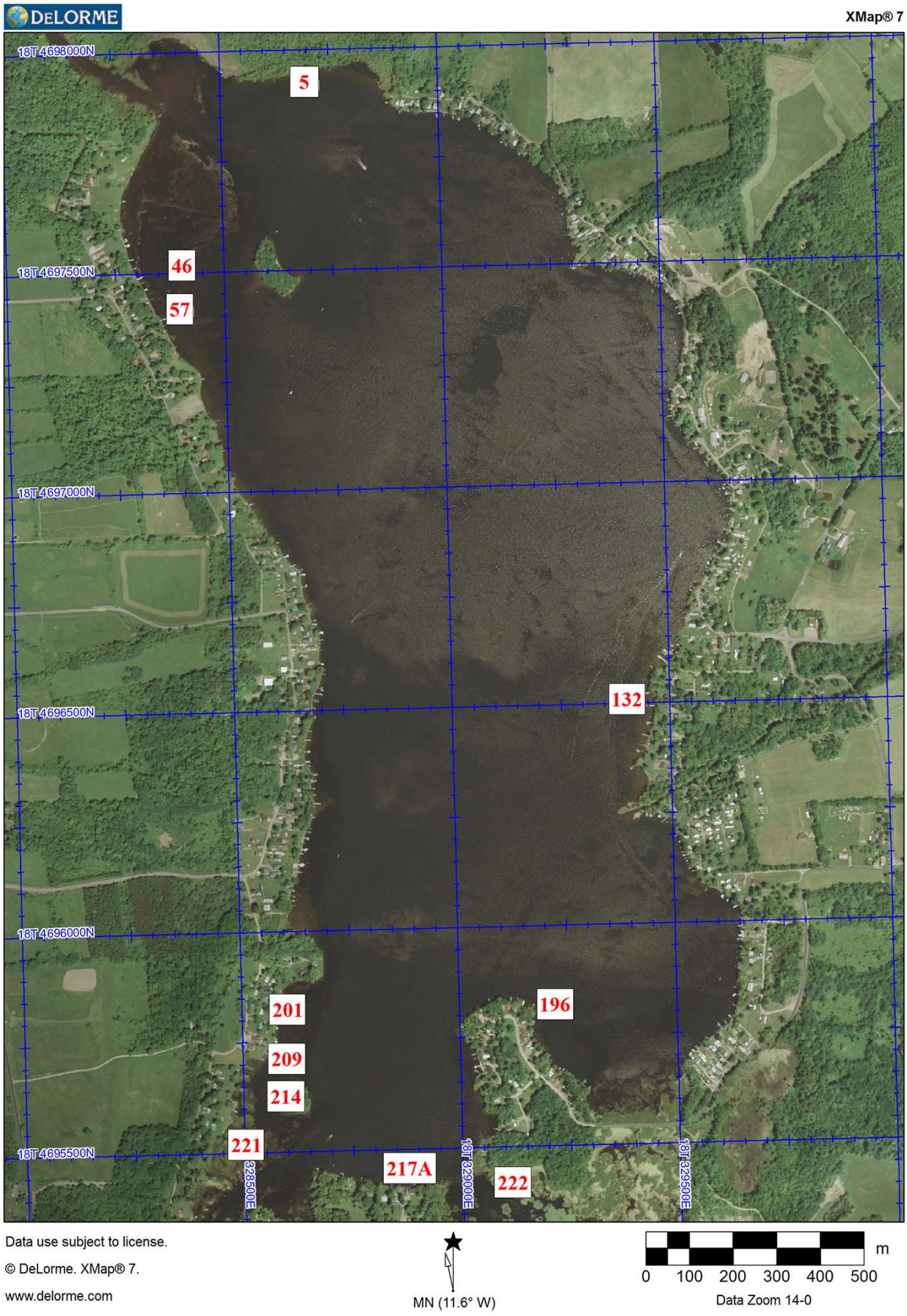

Figure 18. Sample Point (SP) Locations in Lamoka Lake "proper" where rake-toss measurements taken in September 3-17, 2014 showed Eurasian watermilfoil.

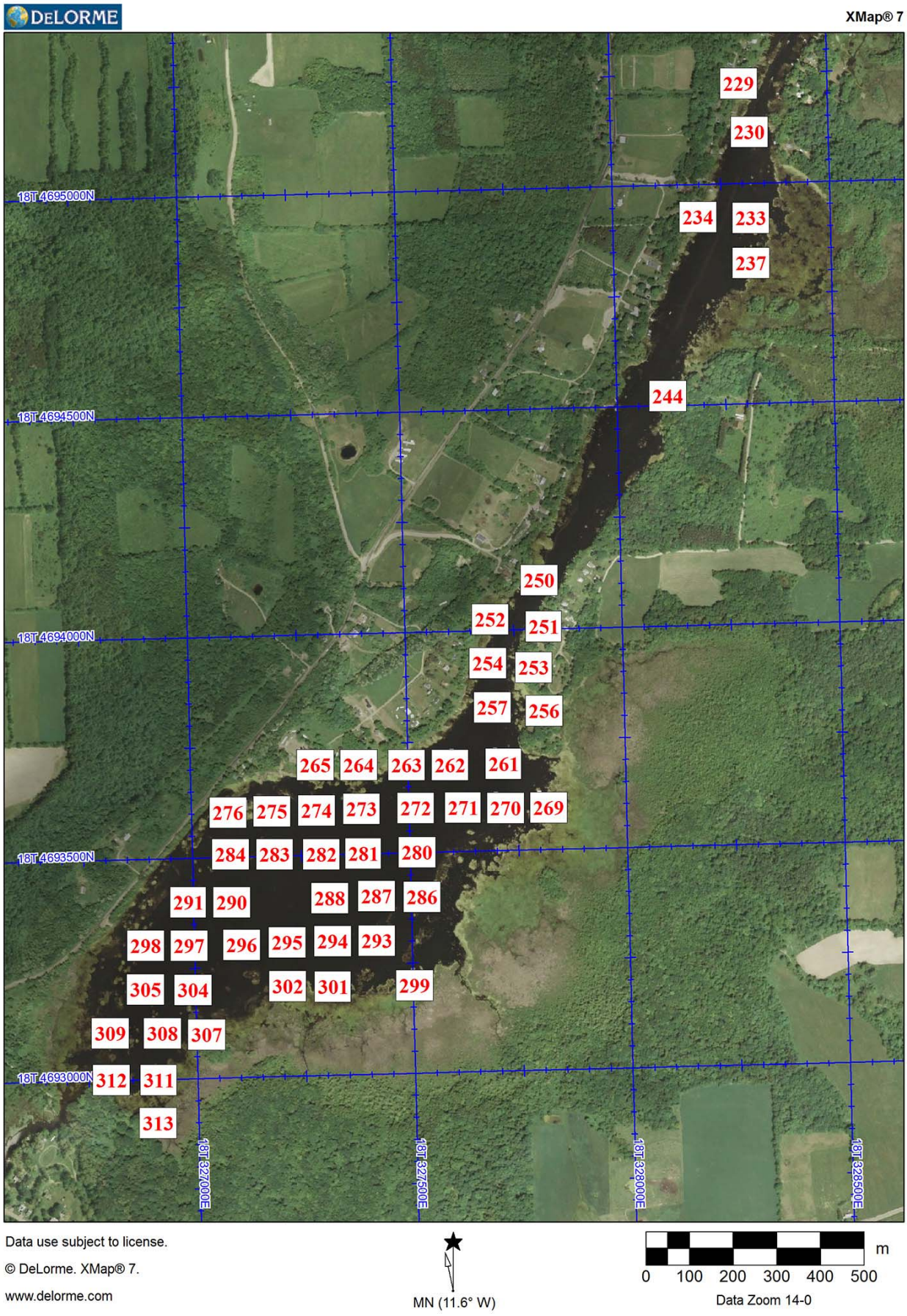

Figure 19. Sample Point (SP) Locations in Mud Channel and Mill Pond where rake-toss measurements taken in September 3-17, 2014 showed Eurasian watermilfoil.

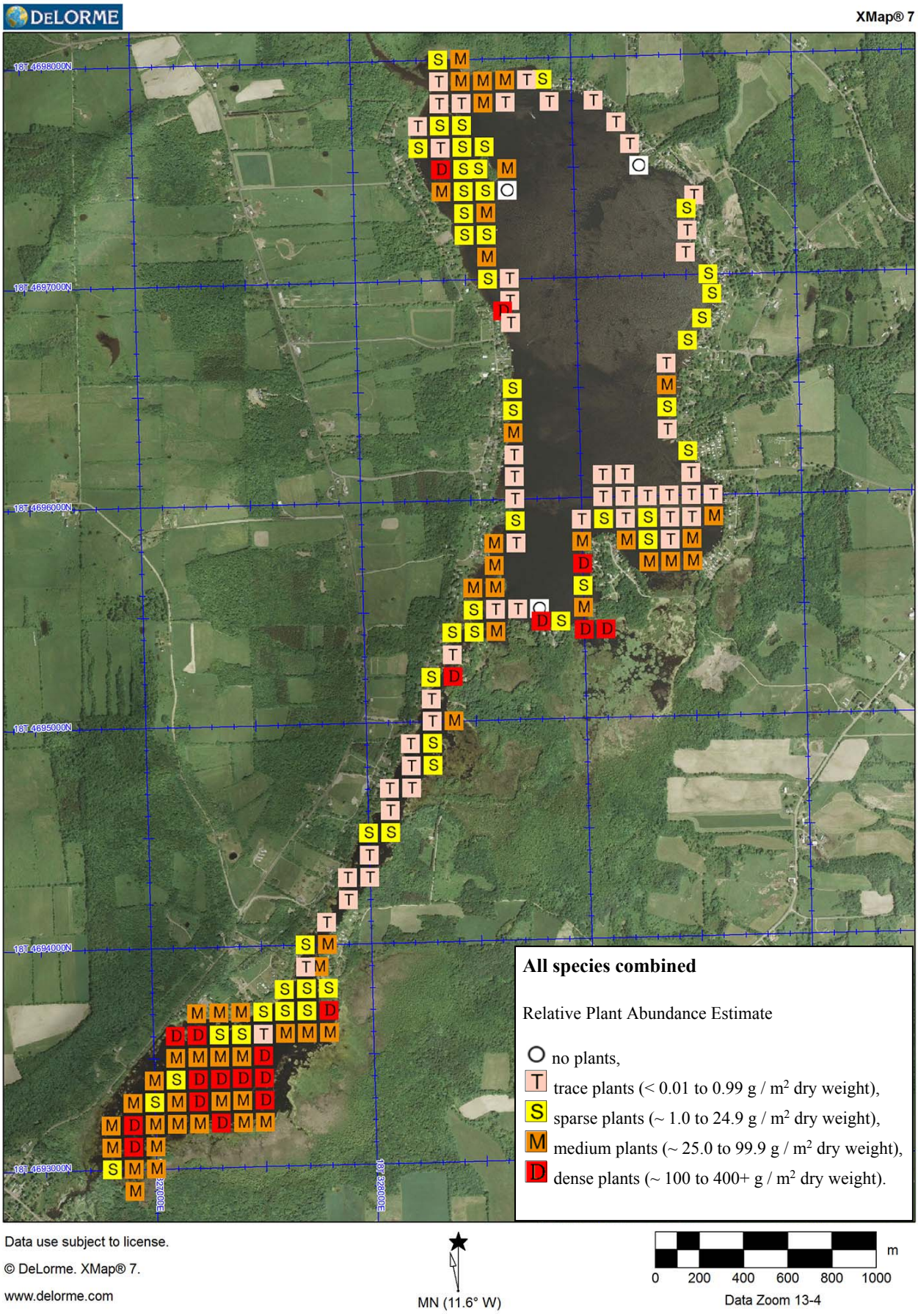

Figure 20. All species combined as abundance by two rake tosses.

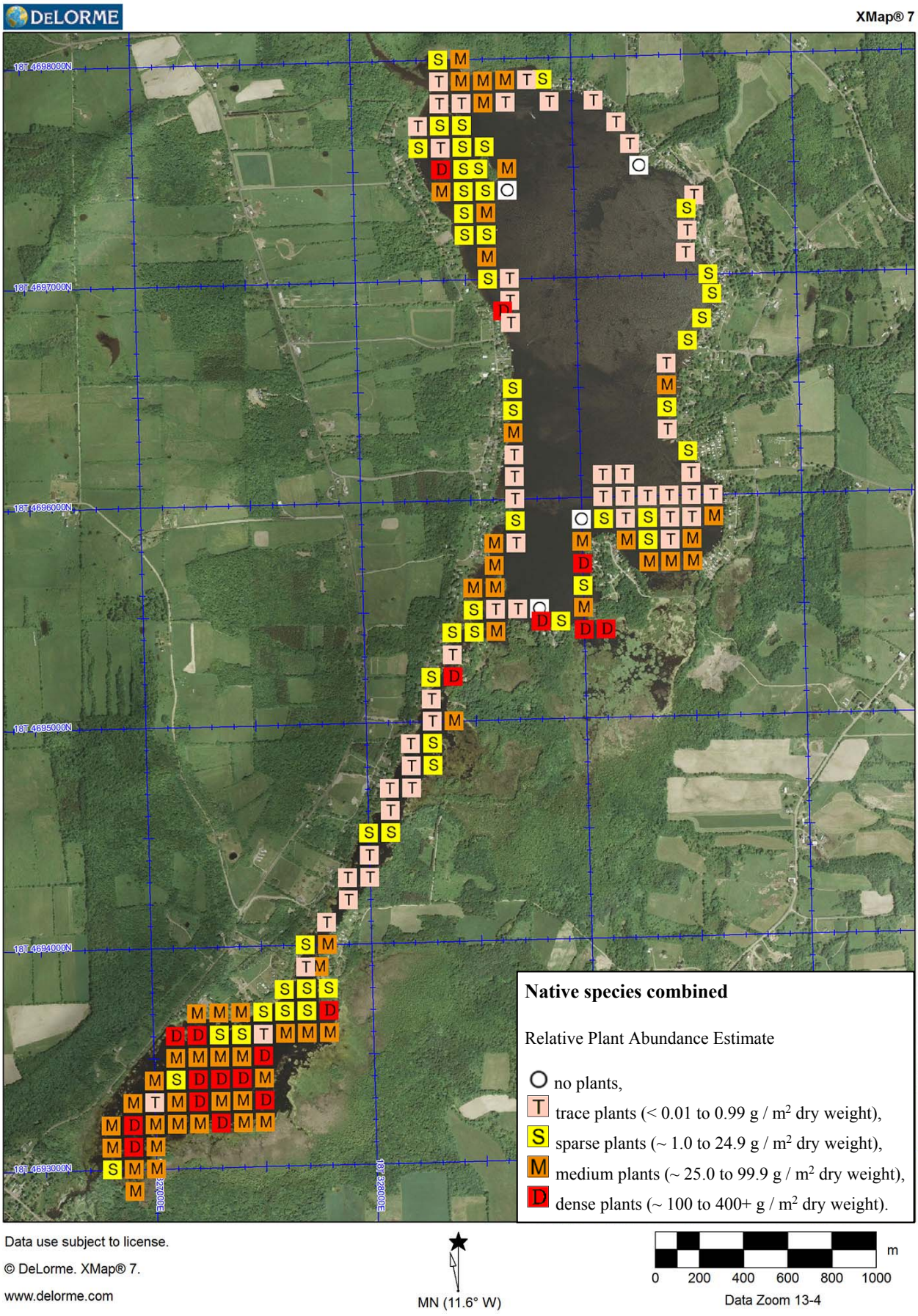

Figure 21. Native species combined as abundance by two rake tosses.

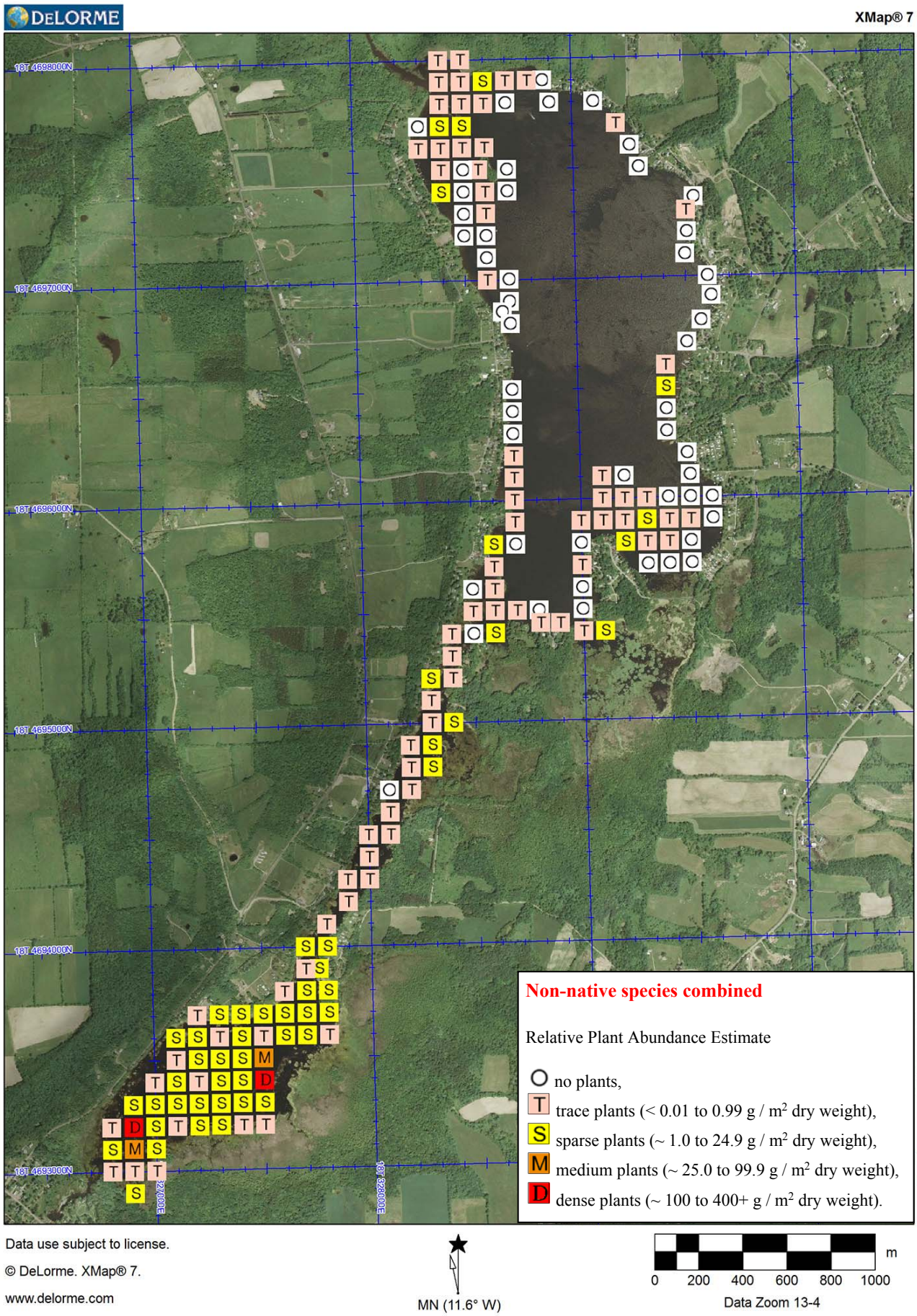

Figure 22. Non-native species combined as abundance by two rake tosses.

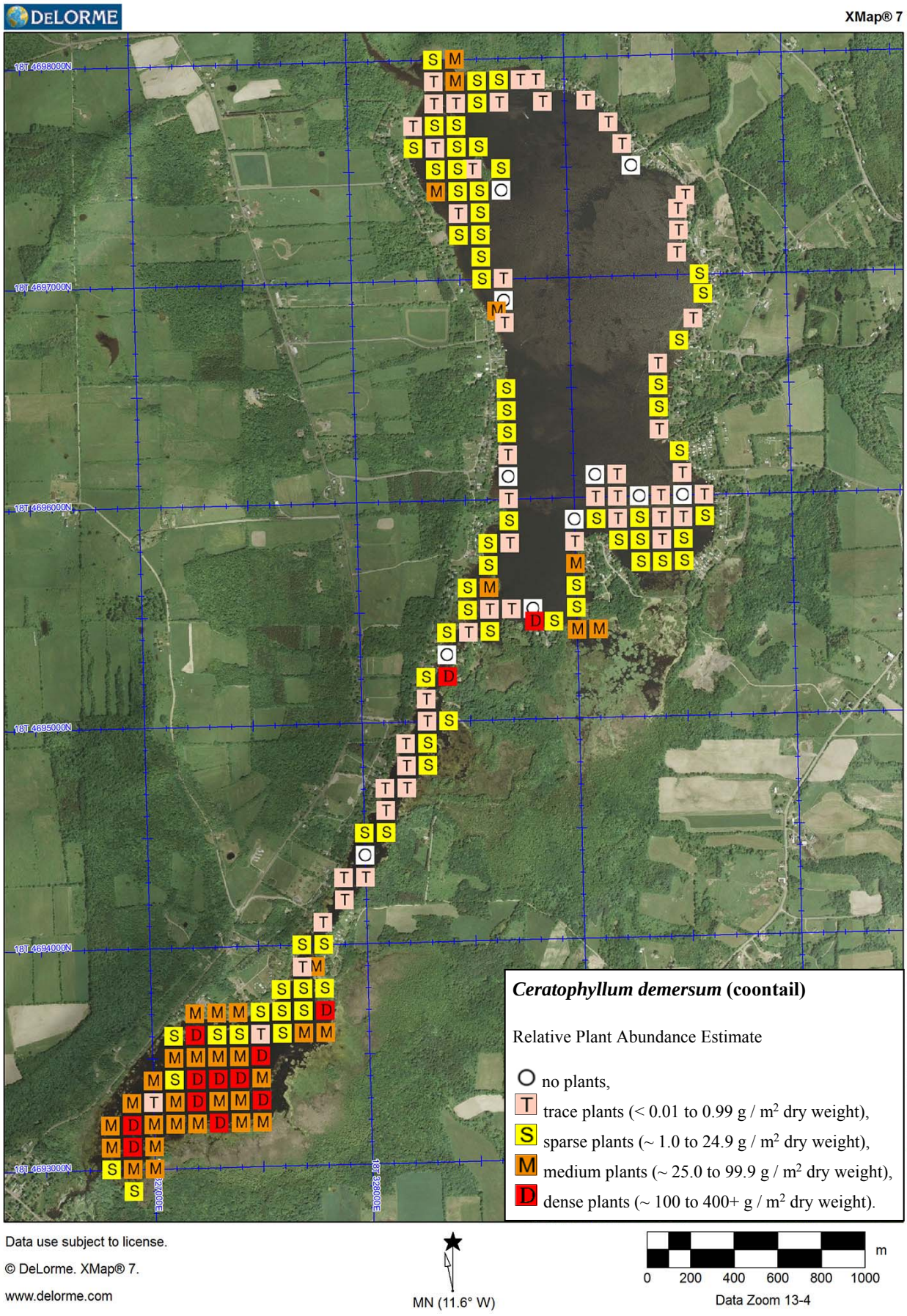

Figure 23. *Ceratophyllum demersum* (coontail) as abundance by two rake tosses.

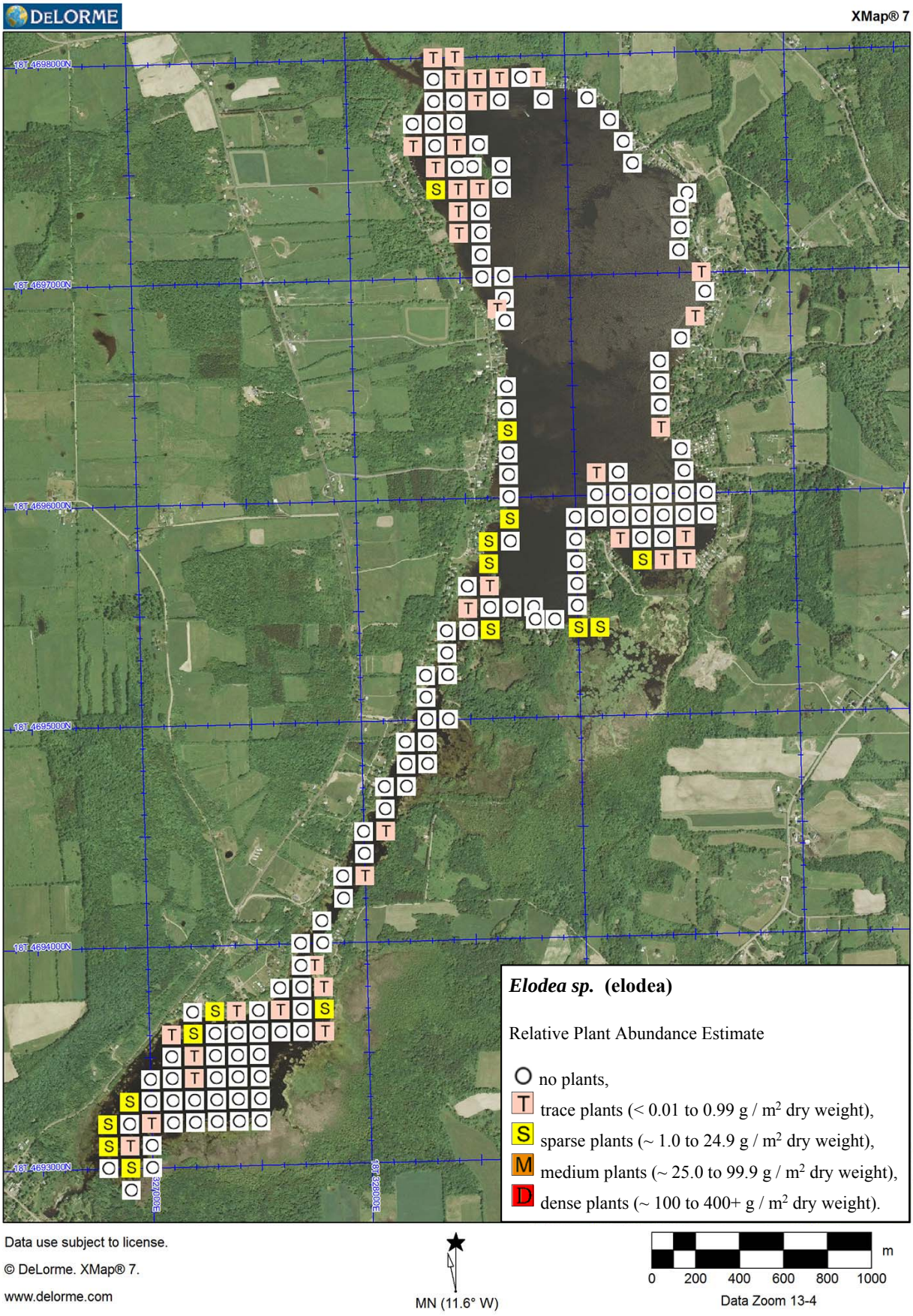

Figure 24. *Elodea sp.* (elodea) as abundance by two rake tosses.

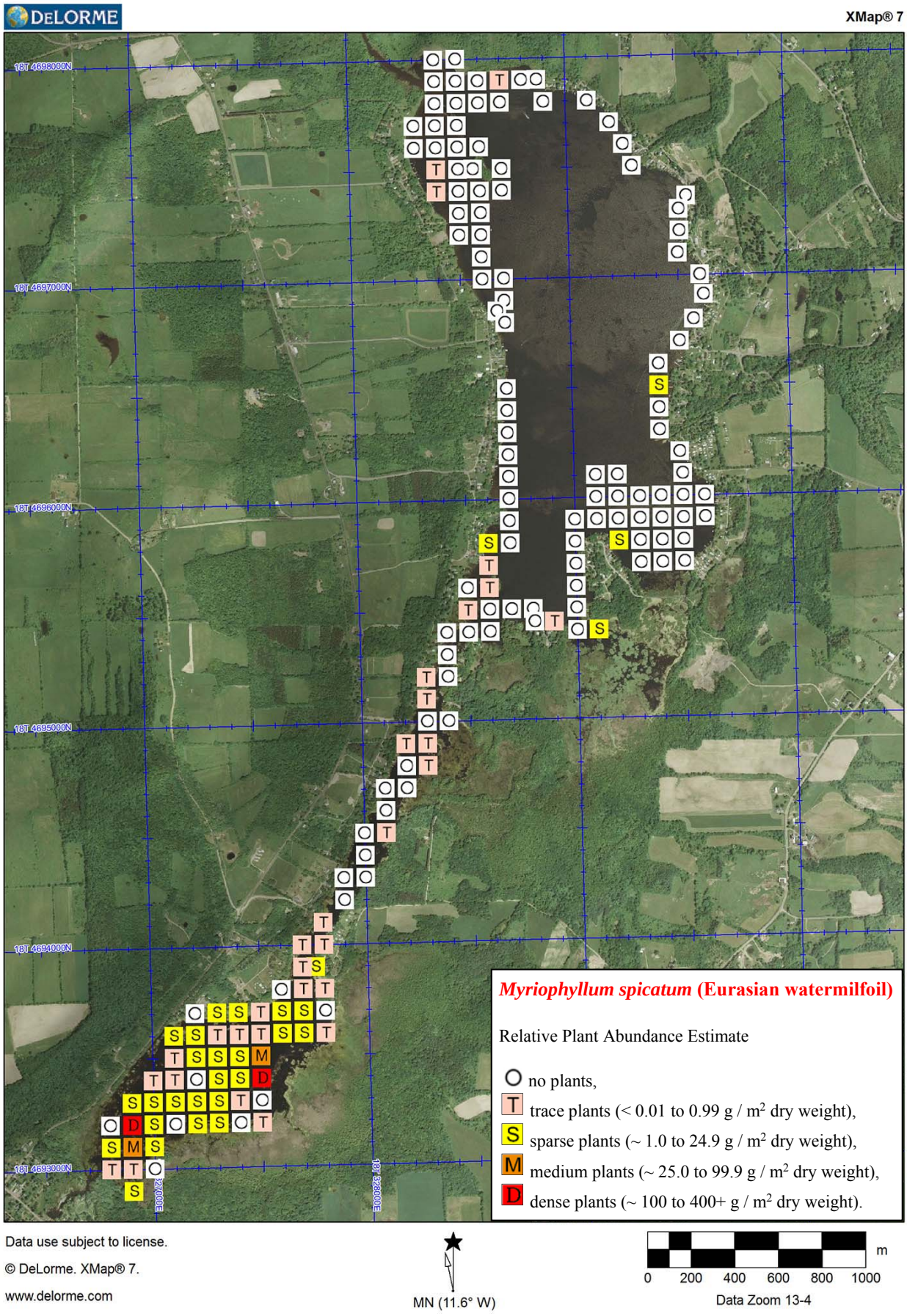

Figure 25. *Myriophyllum spicatum* (Eurasian watermilfoil) as abundance by two rake tosses.

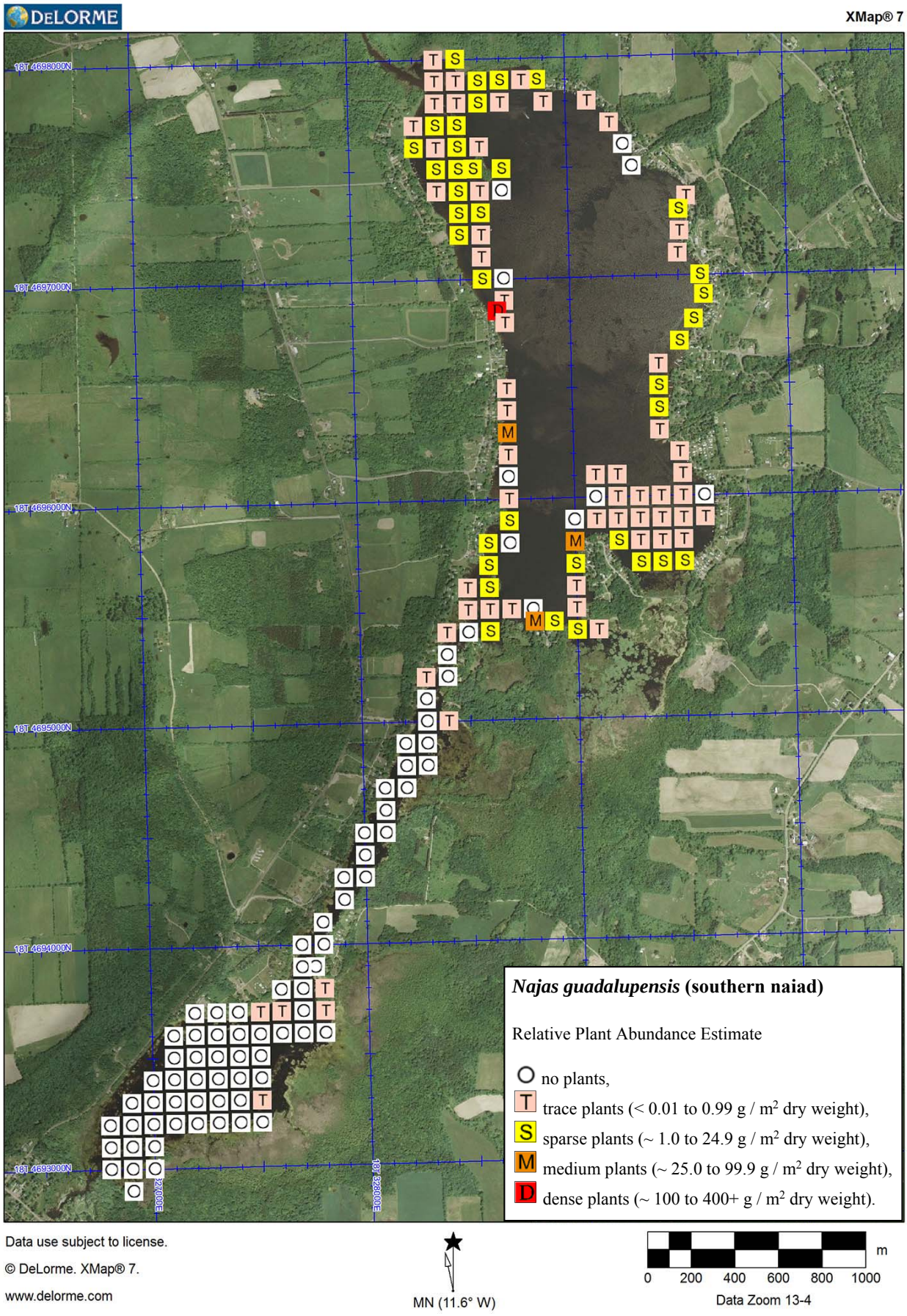

Figure 26. *Najas guadalupensis* (southern naiad) as abundance by two rake tosses.

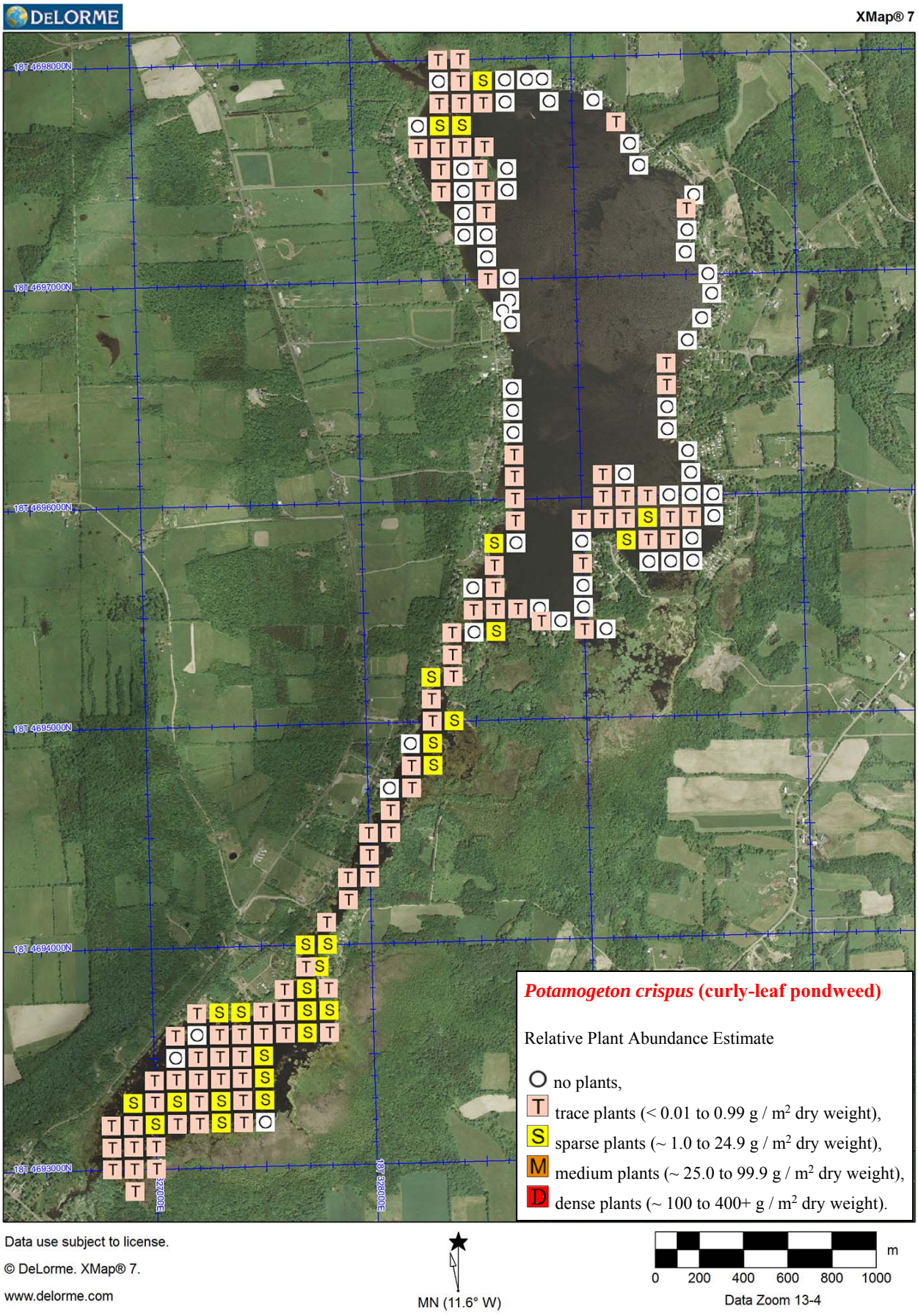

Figure 27. *Potamogeton crispus* (curly-leaf pondweed) as abundance by two rake tosses.

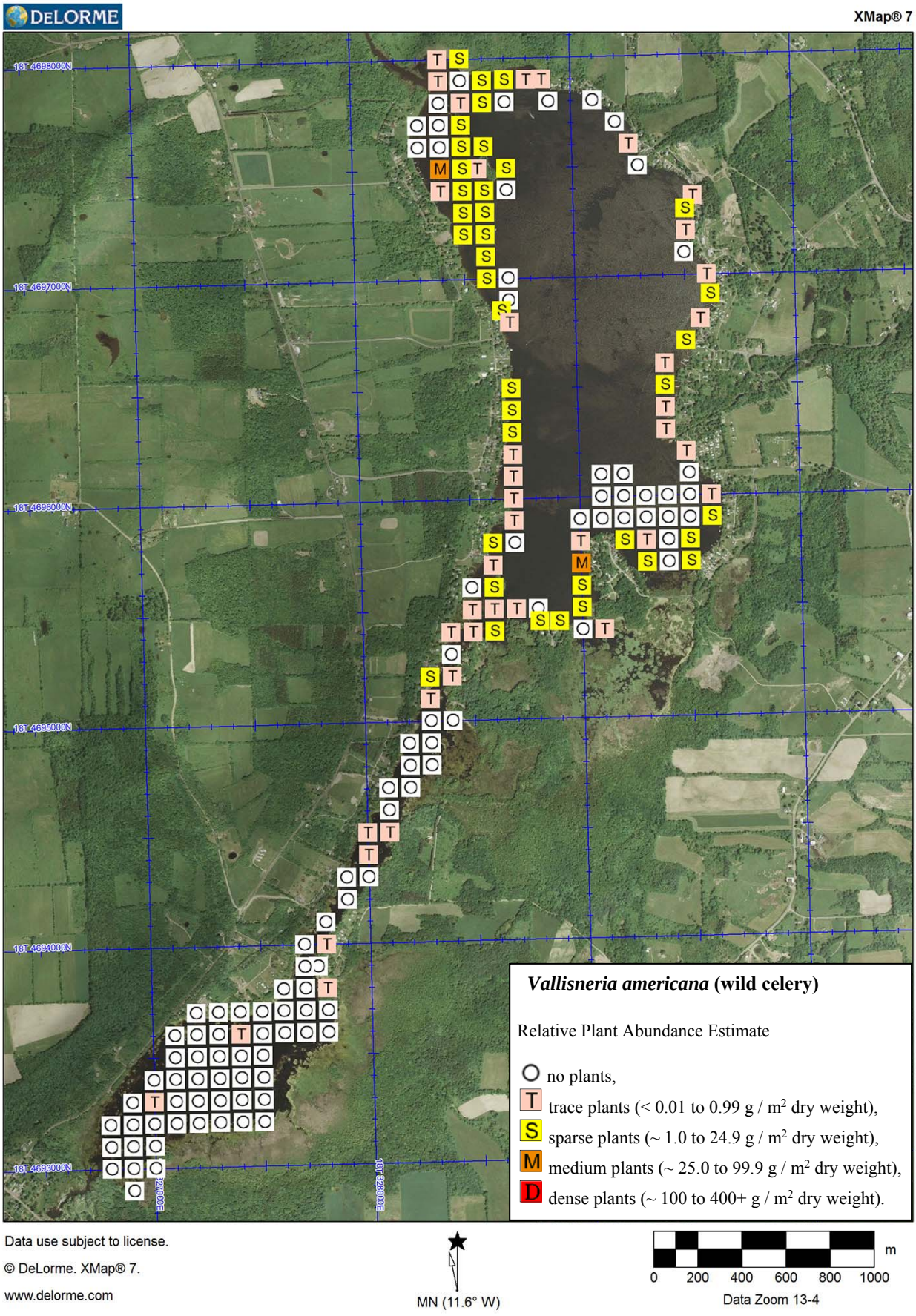

Figure 28. *Vallisneria americana* (wild celery) as abundance by two rake tosses.

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Appendix

Table A. Rake-toss data for Waneta Lake sampled in August 6 - 26, 2014 at 138 sample points (SPs)

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Table B. Rake-toss data for Lamoka Lake sampled in September 3 - 17, 2014 at 180 sample points (SPs)

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Table C. Rake-toss data for Waneta - Lamoka Wildlife Management Area sampled in August 6 - September 17, 2014 at 180 sample points (SPs)

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Table A. Results of the two rake-toss sampling of Waneta Lake in August 6-26, 2014 at 138 sample points (SPs).

Sample Point (SP)	Rake toss #	NAD27 X coord East18T	NAD27 Y coord North	2014 Depth (m) at sampling	Rake Abundance	Ceratophyllum demersum	Chara vulgaris	Elodea sp.	Heteranthera dubia	Lemna minor	Lemna trisulca	Myriophyllum spicatum	Najas flexilis	Najas guadalupensis	Najas minor	Nuphar advena	Potamogeton crispus	Potamogeton foliosis	Potamogeton robbinsii	Ranunculus trichophyllus	Spirodela polyrhiza	Vallisneria americana
1	1	327100	4703400	0.75	S	60		0.01				13	4	14	3		0.01	6				
	2				S	50		5				10	5	10			0.01	20				
2	1	327000	4703400	0.75	S	50		5				5		23				7				10
	2				S	50		2				20		25				0.01				3
3	1	326900	4703400	0.75	S	60		0.01				10		30								
	2				S	20						10		70								0.01
4	1	327300	4703300	1.00	T							10		90								
	2				S	37		3						60								0.01
5	1	327200	4703300	1.50	M	35		5				15		45								
	2				S	40	0.01	10				0.01		50								
6	1	327100	4703300	2.00	D	75		3				15		7								
	2				D	90								10								
7	1	327000	4703300	2.25	D	97		1				1		1								
	2				D	90		0.01				10		0.01				0.01				
8	1	326900	4703300	2.25	D	99		1					0.01									
	2				D	99		0.01						1			0.01					
9	1	326800	4703300	2.20	D	98		0.01				0.01		2								
	2				D	94		3				0.01		3			0.01					
10	1	327300	4703200	2.20	D	80		8				2		10			0.01					
	2				D	70		9				1		20			0.01					
11	1	327200	4703200	2.90	M	99								1			0.01					
	2				M	80						10		10			0.01					
12	1	327100	4703200	3.00	T	100																
	2				S	95								5			0.01					
13	1	327000	4703200	3.00	O																	
	2				T	70								30								
14	1	326900	4703200	3.30	T	90		1						4			5					
	2				T	50								30			20					
15	1	326800	4703200	2.60	T	95								5								
	2				T	95		1						4								

Table A. (continued) Results of the two rake-toss sampling of Waneta Lake in August 6-26, 2014 at 138 sample points (SPs).

Sample Point (SP)	Rake toss #	NAD27 X coord East 18T	NAD27 Y coord North	2014 Depth (m) at sampling	Rake Abundance	Ceratophyllum demersum	Chara vulgaris	Elodea sp.	Heteranthera dubia	Lemna minor	Lemna trisulca	Myriophyllum spicatum	Najas flexilis	Najas guadalupensis	Najas minor	Nuphar advena	Potamogeton crispus	Potamogeton foliosis	Potamogeton robbinsii	Ranunculus trichophyllus	Spirodela polyrhiza	Vallisneria americana
16	1	326700	4703200	0.75	M			2				2		95			1					
	2				M	13		13						70			0.01	4				
17	1	327300	4703100	3.00	T	89								10			1					
	2				T	98								2								
18	1	327200	4703100	4.30	T	75								25								
	2				T	80								20								
19	1	327100	4703100	4.30	O																	
	2				O																	
20	1	327000	4703100	4.70	O																	
	2				O																	
21	1	326900	4703100	4.70	T	80								20								
	2				T	50								50								
22	1	326800	4703100	4.10	T	25		25						50								
	2				T	75						5		20								
23	1	326700	4703100	0.90	T	25		5					5	60								5
	2				M	40		0.01						60								
24	1	327300	4703000	3.10	T	80								15			5					
	2				S	90								8			2	0.01				
24A	1	327343	4703000	1.50	M	50		2				0.01		46								2
	2				M	50		2				5		43								
30	1	326700	4703000	1.70	S	80		10						10				0.01				
	2				S	20		8						70				2				
31	1	327300	4702900	2.30	S	10							10	70				10				
	2				S	15	0.01	0.01					15	55			0.01	15				
37	1	326700	4702900	1.40	M	48		2						50								
	2				S	10		5				15		70								
38	1	327300	4702800	0.60	M	10							10	80								
	2				S	5		0.01					15	80								

Table A. (continued) Results of the two rake-toss sampling of Waneta Lake in August 6-26, 2014 at 138 sample points (SPs).

Sample Point (SP)	Rake toss #	NAD27 X coord East18T	NAD27 Y coord North	2014 Depth (m) at sampling	Rake Abundance	Ceratophyllum demersum	Chara vulgaris	Elodea sp.	Heteranthera dubia	Lemna minor	Lemna trisulca	Myriophyllum spicatum	Najas flexilis	Najas guadalupensis	Najas minor	Nuphar advena	Potamogeton crispus	Potamogeton foliosis	Potamogeton robbinsii	Ranunculus trichophyllus	Spirodela polyrhiza	Vallisneria americana
44	1	326700	4702800	1.00	S	10	15	5				**0.01**		70				0.01				
	2				S	5	7	5						80				3				
45A	1	327274	4702700	1.50	T	3		5						60			**2**					30
	2				S	25								70				5				0.01
50	1	326700	4702700	0.90	S	20	2	0.01				**0.01**	15	61				2				
	2				S	5	1	6					8	75			**3**	2				
51A	1	327269	4702600	1.50	T	15							15	50				20				
	2				S	30								70								0.01
56	1	326700	4702600	0.70	T	20								80								
	2				S	50		0.01				**0.01**	5	45								
57A	1	327283	4702500	1.50	S	15								85								
	2				S	30							5	65			**0.01**	0.01				
62	1	326700	4702500	0.90	T	2							8	90								
	2				S	7	3	0.01				**5**	30	50				5				
63	1	327300	4702400	2.10	T	20								80								
	2				T									94				5				1
69	1	326700	4702400	1.25	M	5	15	0.01					10	70				0.01				0.01
	2				S	25		5						70				0.01				0.01
70A	1	327330	4702300	1.50	T	40								60								
	2				T	50								50								
76	1	326700	4702300	1.90	M	50		0.01						50			**0.01**					
	2				M	48		2						50								
77A	1	327346	4702200	1.50	T	15								85								
	2				S	25								65			**3**					7
83	1	326700	4702200	1.20	M	15		3						82			**0.01**					
	2				M	19		1						80								
84A	1	327364	4702100	1.50	S									99								1
	2				S	5						**5**		90								

Table A. (continued) Results of the two rake-toss sampling of Waneta Lake in August 6-26, 2014 at 138 sample points (SPs).

Sample Point (SP)	Rake toss #	NAD27 X coord East 18T	NAD27 Y coord North	2014 Depth (m) at sampling	Rake Abundance	Ceratophyllum demersum	Chara vulgaris	Elodea sp.	Heteranthera dubia	Lemna minor	Lemna trisulca	Myriophyllum spicatum	Najas flexilis	Najas guadalupensis	Najas minor	Nuphar advena	Potamogeton crispus	Potamogeton foliosis	Potamogeton robbinsii	Ranunculus trichophyllus	Spirodela polyrhiza	Vallisneria americana
90	1	326700	4702100	1.40	M	30		2						68								
	2				M	25		5						70								
91A	1	327352	4702000	1.50	S	15								85								
	2				S	35		3						62								
97	1	326700	4702000	1.80	M	7		3						90								
	2				M	13		2						85								
98	1	327300	4701900	1.30	S	5		3						71				1				20
	2				S	10								90								
98A	1	327304	4701900	1.50	T									100								
	2				T	10								90								
104	1	326700	4701900	2.40	O																	
	2				O																	
105A	1	327334	4701800	2.00	T	30								70								
	2				T	50								50								
111	1	326700	4701800	2.20	M	2							9	85	2			2				
	2				M	5								95								
111A	1	326670	4701800	1.50	S	3							48	48	1			0.01				
	2				S								10	90				0.01				0.01
112A	1	327368	4701700	1.50	T									90					10			
	2				S	25								50								25
118A	1	326670	4701700	1.50	S	50								50			0.01					
	2				M	60		3						37								
119A	1	327375	4701600	1.50	T	10								90								
	2				T	10								90								
125A	1	326655	4701600	1.20	M	38							25	37	0.01							
	2				S	5							3	90	2							
126A	1	327370	4701508	1.50	T	10								90								
	2				S	60								40								

Table A. (continued) Results of the two rake-toss sampling of Waneta Lake in August 6-26, 2014 at 138 sample points (SPs).

Sample Point (SP)	Rake toss #	NAD27 X coord East 18T	NAD27 Y coord North	2014 Depth (m) at sampling	Rake Abundance	Ceratophyllum demersum	Chara vulgaris	Elodea sp.	Heteranthera dubia	Lemna minor	Lemna trisulca	Myriophyllum spicatum	Najas flexilis	Najas guadalupensis	Najas minor	Nuphar advena	Potamogeton crispus	Potamogeton foliosis	Potamogeton robbinsii	Ranunculus trichophyllus	Spirodela polyrhiza	Vallisneria americana
132	1	326700	4701500	1.80	M	49		3						48			**0.01**					
	2				M	50		4						45			**1**					
133A	1	327356	4701400	1.50	T									100								
	2				S	5								85				0.01				10
139A	1	326650	4701400	1.60	M	60		0.01						40								
	2				D	50		2						48								
140A	1	327378	4701300	1.50	T									100								
	2				S	25								50				0.01				25
146A	1	326654	4701300	1.50	M	55		0.01						45								
	2				M	45		0.01						55								
147A	1	327405	4701200	1.50	T	15								85								
	2				T									100								
153A	1	327416	4701100	1.50	M									100								
	2				T	25								75								
160A	1	327408	4701000	1.50	T									100								
	2				T	25								75								
167	1	327400	4700900	1.40	S	2								98								
	2				S	10		0.01						90								
173	1	326800	4700900	2.00	D	95		2				**3**					**0.01**					
	2				D	99		0.01				**0.01**		1			**0.01**					
174	1	327400	4700800	2.00	T									100								
	2				S	70								30								
179	1	326900	4700800	1.20	M	25	20		8			**0.01**	15	25			**0.01**	0.01				7
	2				M	7	25		7			**5**	1	50								5
180	1	327400	4700700	1.60	O																	
	2				T									100								
185	1	326900	4700700	1.30	M	3							2	95								
	2				S	5	30						10	50				0.01				5

Table A. (continued) Results of the two rake-toss sampling of Waneta Lake in August 6-26, 2014 at 138 sample points (SPs).

Sample Point (SP)	Rake toss #	NAD27 X coord East18T	NAD27 Y coord North	2014 Depth (m) at sampling	Rake Abundance	Ceratophyllum demersum	Chara vulgaris	Elodea sp.	Heteranthera dubia	Lemna minor	Lemna trisulca	Myriophyllum spicatum	Najas flexilis	Najas guadalupensis	Najas minor	Nuphar advena	Potamogeton crispus	Potamogeton foliosis	Potamogeton robbinsii	Ranunculus trichophyllus	Spirodela polyrhiza	Vallisneria americana
186A	1	327422	4700600	1.50	S	4		2						90								4
	2				S	0.01								98				2				0.01
191	1	326900	4700600	1.75	D	92						3	0.01	5			0.01					0.01
	2				M	70		0.01				0.01	0.01	30				0.01				
192	1	327400	4700500	1.20	O																	
	2				T	50								50								
197	1	326900	4700500	2.75	T	70								30								
	2				T	90								10								
198A	1	327371	4700400	1.50	S	10			4					50			3	3				30
	2				S	20	3	1					1	45			0.01		5			25
203A	1	326860	4700400	1.50	M	92		2				3		3			0.01					
	2				M	100								0.01			0.01					
204A	1	327437	4700300	1.50	S	35								60			4					1
	2				S	55		0.01						35			5					5
210A	1	327500	4700200	1.50	S	50		2						48			0.01					
	2				M	16		2						80			2					
216	1	327500	4700100	1.60	M	95		0.01						5								
	2				D	95		2						3			0.01					
223A	1	327539	4700000	1.50	S	55								45								0.01
	2				S	60								38			2					
237A	1	327566	4699800	1.50	M	48		2						50								
	2				M	60		5				5		30			0.01					
243	1	326900	4699800	2.30	D	80								20			0.01					
	2				D	100						0.01		0.01								
244A	1	327567	4699700	1.50	S	18		2						80								
	2				M	65		5						30			0.01					
249	1	327000	4699700	4.00	T	95								5								
	2				T	95								5								

Table A. (continued) Results of the two rake-toss sampling of Waneta Lake in August 6-26, 2014 at 138 sample points (SPs).

Sample Point (SP)	Rake toss #	NAD27 X coord East 18T	NAD27 Y coord North	2014 Depth (m) at sampling	Rake Abundance	Ceratophyllum demersum	Chara vulgaris	Elodea sp.	Heteranthera dubia	Lemna minor	Lemna trisulca	Myriophyllum spicatum	Najas flexilis	Najas guadalupensis	Najas minor	Nuphar advena	Potamogeton crispus	Potamogeton foliosis	Potamogeton robbinsii	Ranunculus trichophyllus	Spirodela polyrhiza	Vallisneria americana
250	1	326900	4699700	2.00	D	95		0.01						5								
	2				D	53		0.01						47			0.01					
251	1	327600	4699600	1.50	M	70						0.01		30								
	2				M	60		3						37								0.01
257	1	327000	4699600	3.30	T	60								40								
	2				T	45								45			10					
258	1	327600	4699500	2.25	S	100								0.01			0.01					
	2				S	97								2			1					
263	1	327100	4699500	4.00	T	98								1			1					
	2				S	85						5		10								
264	1	327000	4699500	2.00	D	100		0.01						0.01								
	2				D	70		0.01						30								
265	1	327600	4699400	3.20	T	20								80								
	2				T	70								20			10					
270	1	327100	4699400	2.75	S	95								2			3					
	2				T	82		3						15								
271	1	327700	4699300	1.00	S	20	0.01							20			0.01					60
	2				S	30		0.01						40			0.01					30
272	1	327600	4699300	3.25	T	60								35			5					
	2				T	47		3						50								
273	1	327500	4699300	3.75	T	10		5						80			5					
	2				S	60								40			0.01					
276	1	327200	4699300	3.20	T	2								93			5					
	2				T	85								14			1					
277	1	327100	4699300	1.75	S	96								4			0.01					
	2				D	98		0.01						2			0.01					
278	1	327700	4699200	1.75	D	85		5			0.01			10			0.01					
	2				M	80		3			1			15			1					

Table A. (continued) Results of the two rake-toss sampling of Waneta Lake in August 6-26, 2014 at 138 sample points (SPs).

Sample Point (SP)	Rake toss #	NAD27 X coord East 18T	NAD27 Y coord North	2014 Depth (m) at sampling	Rake Abundance	Ceratophyllum demersum	Chara vulgaris	Elodea sp.	Heteranthera dubia	Lemna minor	Lemna trisulca	Myriophyllum spicatum	Najas flexilis	Najas guadalupensis	Najas minor	Nuphar advena	Potamogeton crispus	Potamogeton foliosis	Potamogeton robbinsii	Ranunculus trichophyllus	Spirodela polyrhiza	Vallisneria americana
279	1	327600	4699200	2.75	D	70		0.01						30			0.01					
	2				D	80		0.01						20			0.01					
280	1	327500	4699200	3.00	S	38		2						60			0.01					
	2				S	80		4			1			15			0.01					
281	1	327400	4699200	3.00	T	45								45			10					
	2				T	27		3						70								
282	1	327300	4699200	3.15	T	45		2						50			3					
	2				T	30		4						65			1					
283	1	327200	4699200	2.50	D	95		1						4								
	2				D	90						2		8			0.01					
284	1	327700	4699100	1.60	M	50		1						40			1					8
	2				M	80		3						17			0.01					
285	1	327600	4699100	2.25	D	70		1			1			27			1					
	2				M	80								10			10					
286	1	327500	4699100	2.35	D	44		1						55								0.01
	2				D	60								40			0.01					
287	1	327400	4699100	2.50	M	90								10			0.01					
	2				S	50								48			2					0.01
288	1	327300	4699100	2.60	D	98								2								
	2				D	80		0.01						20			0.01					
289	1	327200	4699100	1.80	D	95		0.01						5								
	2				D	95		0.01						5			0.01					
290	1	327700	4699000	1.50	S	25		5			0.01			20			0.01					50
	2				M	30		1						30	0.01		0.01					39
291	1	327600	4699000	1.80	S	90		1			1			7			1					
	2				S	55		0.01			2			40			3					
292	1	327500	4699000	1.90	M	45		5						50								
	2				M	50	5	5						40								

Table A. (continued) Results of the two rake-toss sampling of Waneta Lake in August 6-26, 2014 at 138 sample points (SPs).

Sample Point (SP)	Rake toss #	NAD27 X coord East 18T	NAD27 Y coord North	2014 Depth (m) at sampling	Rake Abundance	Ceratophyllum demersum	Chara vulgaris	Elodea sp.	Heteranthera dubia	Lemna minor	Lemna trisulca	Myriophyllum spicatum	Najas flexilis	Najas guadalupensis	Najas minor	Nuphar advena	Potamogeton crispus	Potamogeton foliosis	Potamogeton robbinsii	Ranunculus trichophyllus	Spirodela polyrhiza	Vallisneria americana
293	1	327400	4699000	2.00	D	75		10						15			0.01					
	2				D	60		10						30			0.01					
294	1	327300	4699000	2.00	D	80		2						15			0.01		3			
	2				D	50		10						40			0.01					
295	1	327200	4699000	1.60	D	40		10						50			0.01					
	2				D	60		10						30								
296	1	327700	4698900	1.25	S	55		5	0.01					35			0.01					5
	2				S	50		1						40			1					8
297	1	327600	4698900	1.50	S	45								10			0.01		10			35
	2				S	50		1						8			1					40
298	1	327500	4698900	1.50	D	18		2						80								0.01
	2				D	40		0.01			0.01			60								
299	1	327400	4698900	1.50	M	10		0.01						45								45
	2				M	40		5						55			0.01					0.01
300	1	327300	4698900	1.50	D	50		2						30								18
	2				D	50		25						25			0.01					0.01
301	1	327700	4698800	0.80	S	45		10						40								5
	2				S	50		4		4	1			40			1					
302	1	327600	4698800	1.50	T	50		3						45				1				1
	2				S	75		5			0.01			10								10
303	1	327500	4698800	1.10	M	5		2						93								0.01
	2				D	18		2						70			0.01					10
304	1	327400	4698800	1.10	D	5		2	2					80			1					10
	2				D	27		3	0.01					30								40
305	1	326900	4699600	1.50	M	55		5						40								
	2				M	30		0.01				5		65			0.01					
306	1	327100	4699200	1.00	S	20	0.01	20						20						10		30
	2				S		30	2					5	60								3

Table A. (continued) Results of the two rake-toss sampling of Waneta Lake in August 6-26, 2014 at 138 sample points (SPs).

Sample Point (SP)	Rake toss #	NAD27 X coord East 18T	NAD27 Y coord North	2014 Depth (m) at sampling	Rake Abundance	Ceratophyllum demersum	Chara vulgaris	Elodea sp.	Heteranthera dubia	Lemna minor	Lemna trisulca	Myriophyllum spicatum	Najas flexilis	Najas guadalupensis	Najas minor	Nuphar advena	Potamogeton crispus	Potamogeton foliosis	Potamogeton robbinsii	Ranunculus trichophyllus	Spirodela polyrhiza	Vallisneria americana
307	1	327800	4699100	0.50	D	82		3	0.01		0.01			10	**0.01**			0.01		0.01	0.01	5
	2				D	35		20	0.01		0.01			40		0.01						5
308	1	326800	4699900	0.90	M	25		3						72								
	2				M	85		1				**10**		4								
309	1	326800	4699800	0.50	S	25								75			**0.01**					
	2				S	50								50			**0.01**					
310	1	326800	4700000	1.25	D	20		5						75								
	2				M	20								80								
311	1	327600	4699900	1.00	S	60		20						20								
	2				M	50		20						30			**0.01**		**0.01**			0.01
312	1	326800	4700200	2.00	M	83		2						15								
	2				M	85		0.01						15								
313	1	326800	4700100	1.60	S	65								35								
	2				M	25								75								
314	1	326700	4701000	1.50	M	15		10						75								
	2				D	15		2						83								
315	1	326800	4700300	2.00	D	98								2			**0.01**					
	2				D	95								5								
316	1	326700	4701200	2.00	D	99		0.01						1								
	2				M	97								3			**0.01**					
317	1	326700	4701100	1.75	D	48		2						50								
	2				M	25		5						70								

Table B. Results of the two rake-toss sampling of Lamoka Lake in September 3-17, 2014 at 180 sample points (SPs).

Sample Point (SP)	Rake toss #	NAD27 X coord East 18T	NAD27 Y coord North 18T	Depth 2014 (m) at sampling	Rake Abundance	Ceratophyllum demersum	Chara vulgaris	Elodea sp.	Fontinalis sp.	Heteranthera dubia	Lemna minor	Lemna trisulca	Megalodonta beckii	Myriophyllum spicatum	Najas guadalupensis	Najas minor	Nuphar advena	Nymphaea odorata	Polygonum amphibium	Pontederia cordata	Potamogeton amplifolius	Potamogeton crispus	Potamogeton foliosus	Potamogeton praelongus	Potamogeton robbinsii	Potamogeton zosteriformis	Ranunculus trichophyllus	Spirodela polyrhiza	Stuckenia pectinata	Utricularia sp.	Vallisneria americana	Wolffia columbiana
1	1	328500	4698000	0.50	S	85					0.01	0.01			5			7				3						0.01			0.01	0.01
	2				M	88		0.01			0.01	0.01			5			1				0.01			1	0.01		0.01			5	0.01
2	1	328400	4698000	0.80	S	100									0.01							0.01									0.01	
	2				S	95		0.01							0.01																5	
3	1	328870	4697900	0.90	S		2	2							94																2	
	2				S	3									94																3	
4	1	328800	4697900	2.25	T										100																	
	2				T	65									30	3															2	
5	1	328700	4697900	2.00	M	60							0.01		0.01										6		0.01			4	30	
	2				S	25		5						10	25								5								30	
6	1	328600	4697900	1.75	M	50									2						20			13		15					0.01	
	2				M	30		0.01				0.01			4						25	4			7	0.01					30	
7	1	328500	4697900	1.30	M	70		0.01							0.01	0.01					15	0.01		10	5							
	2				S	64		0.01							0.01						15	3			15	3						
8	1	328400	4697900	0.50	T	100																										
	2				T	80									5	13															2	
9	1	329100	4697800	2.40	T	30	5								15										40	10						
	2				T	50				2					48																	
10A	1	328700	4697800	1.60	O																											
	2				T	60									40																	
11	1	328900	4697800	2.60	T	35									65																	
	2				T	100																										
14	1	328600	4697800	1.85	M	25		2							5						35	2		10	15	4					2	
	2				M	7									1						70			10	3	2					7	

Table B. (continued) Results of the two rake-toss sampling of Lamoka Lake in September 3-17, 2014 at 180 sample points (SPs).

Sample Point (SP)	Rake toss #	NAD27 X coord East 18T	NAD27 Y coord North 18T	Depth 2014 (m) at sampling	Rake Abundance	Ceratophyllum demersum	Chara vulgaris	Elodea sp.	Fontinalis sp.	Heteranthera dubia	Lemna minor	Lemna trisulca	Megalodonta beckii	Myriophyllum spicatum	Najas guadalupensis	Najas minor	Nuphar advena	Nymphaea odorata	Polygonum amphibium	Pontederia cordata	Potamogeton amplifolius	Potamogeton crispus	Potamogeton foliosus	Potamogeton praelongus	Potamogeton robbinsii	Potamogeton zosteriformis	Ranunculus trichophyllus	Spirodela polyrhiza	Stuckenia pectinata	Utricularia sp.	Vallisneria americana	Wolffia columbiana
15	1	328500	4697800	1.40	T	30															60	**5**									5	
	2				T	45									5							**10**			35						5	
16	1	328400	4697800	1.10	T	98																**2**										
	2				T	93									2							**5**										
17	1	329200	4697700	3.20	T	35									30							**35**										
	2				T										100																	
24	1	328500	4697700	1.30	S	15									15							**20**			20		10				20	
	2				S	40						0.01			5							**40**			10						5	
25	1	328400	4697700	1.20	S	20									70	5						**5**										
	2				S	40									40							**15**			5							
26	1	328300	4697700	0.60	T	80									20																	
	2				T	70									30																	
27A	1	329225	4697700	2.30	T	97																									3	
	2				T	90																			8						2	
33	1	328600	4697600	2.20	S	80									2											2					16	
	2				S	60									5							**2**				3					30	
34	1	328500	4697600	1.00	S	5		0.01				0.01			85							**0.01**									10	
	2				S	20									50						0.01	**10**									20	
35	1	328400	4697600	1.25	T	60									20							**20**										
	2				T	70																**30**										
36	1	328300	4697600	0.75	S	70		5							25	0.01						**0.01**										
	2				T	70																**30**										
37	1	329300	4697500	0.50	O																											
	2				O																											

Table B. (continued) Results of the two rake-toss sampling of Lamoka Lake in September 3-17, 2014 at 180 sample points (SPs).

Sample Point (SP)	Rake toss #	NAD27 X coord East 18T	NAD27 Y coord North 18T	Depth 2014 (m) at sampling	Rake Abundance	Ceratophyllum demersum	Chara vulgaris	Elodea sp.	Fontinalis sp.	Heteranthera dubia	Lemna minor	Lemna trisulca	Megalodonta beckii	Myriophyllum spicatum	Najas guadalupensis	Najas minor	Nuphar advena	Nymphaea odorata	Polygonum amphibium	Pontederia cordata	Potamogeton amplifolius	Potamogeton crispus	Potamogeton foliosus	Potamogeton praelongus	Potamogeton robbinsii	Potamogeton zosteriformis	Ranunculus trichophyllus	Spirodela polyrhiza	Stuckenia pectinata	Utricularia sp.	Vallisneria americana	Wolffia columbiana
43	1	328700	4697500	1.50	M	45									20										5	0.01					30	
	2				S	15									70																15	
44	1	328570	4697500	0.70	S	10	10								20			20			20	5				5					10	
	2				T	5									60			5			5			10		5					10	
45	1	328500	4697500	1.00	S	20									35										25						20	
	2				S	5									40										10						45	
46	1	328400	4697500	1.00	D	12		0.01						0.01	10			5			5	0.01									68	
	2				S	45		10							45							0.01										
47A	1	329544	4697360	1.50	T	10									50						5					5					30	
	2				T										100																	
54	1	328700	4697400	2.80	O																											
	2				O																											
55	1	328600	4697400	2.00	S	59		0.01							1						20	0.01									20	
	2				S	65									5						10			5	5						10	
56	1	328500	4697400	1.20	S	35	3								35										10	7					10	
	2				S	5		0.01				0.01			15										0.01	0.01					80	
57	1	328400	4697400	1.00	S	97	0.01	3							0.01																0.01	
	2				M	90		3						2	3							2									0.01	
58A	1	329510	4697300	1.50	S										98							1									1	
	2				S	2									80																18	
66	1	328600	4697300	2.30	M	48									5							0.01		20	2	5					20	
	2				S	80									1									4	5						10	
67	1	328500	4697300	1.50	S			5							60										10	10					15	
	2				S	5		0.01							85										0.01	0.01					10	

Table B. (continued) Results of the two rake-toss sampling of Lamoka Lake in September 3-17, 2014 at 180 sample points (SPs).

Sample Point (SP)	Rake toss #	NAD27 X coord East 18T	NAD27 Y coord North 18T	Depth 2014 (m) at sampling	Rake Abundance	Ceratophyllum demersum	Chara vulgaris	Elodea sp.	Fontinalis sp.	Heteranthera dubia	Lemna minor	Lemna trisulca	Megalodonta beckii	Myriophyllum spicatum	Najas guadalupensis	Najas minor	Nuphar advena	Nymphaea odorata	Polygonum amphibium	Pontederia cordata	Potamogeton amplifolius	Potamogeton crispus	Potamogeton foliosus	Potamogeton praelongus	Potamogeton robbinsii	Potamogeton zosteriformis	Ranunculus trichophyllus	Spirodela polyrhiza	Stuckenia pectinata	Utricularia sp.	Vallisneria americana	Wolffia columbiana
68A	1	329510	4697200	1.50	T										98																2	
	2				T	4									96																	
76	1	328600	4697200	2.30	T	90																		0.01	7						3	
	2				S	60									3						6				5	5					21	
77	1	328500	4697200	1.50	S	10		3							72											5					10	
	2				S	10									80											0.01					10	
78	1	329500	4697100	3.20	T	90									10																	
	2				O																											
87	1	328600	4697100	2.20	M	60															5			3		17					15	
	2				S	95									0.01										0.01	0.01					5	
88	1	329600	4697000	2.20	S	80									10										5						5	
	2				S	60		5							25																10	
97	1	328700	4697000	3.70	T				100																							
	2				T	50			50																							
98	1	328600	4697000	2.10	S	20									30							10				20					20	
	2				T	20									10							10				50					10	
99A	1	329616	4696910	1.50	S	8									85																7	
	2				S	15									65											5					15	
107	1	328700	4696900	3.00	T										100																	
	2				T										100																	
107A	1	328666	4696853	1.50	M	3									97																0.01	
	2				D	20		0.01							70																10	
108A	1	329567	4696800	1.50	S		0.01	2							87											1					10	
	2				T	8									90																2	

Table B. (continued) Results of the two rake-toss sampling of Lamoka Lake in September 3-17, 2014 at 180 sample points (SPs).

Sample Point (SP)	Rake toss #	NAD27 X coord East 18T	NAD27 Y coord North 18T	Depth 2014 (m) at sampling	Rake Abundance	Ceratophyllum demersum	Chara vulgaris	Elodea sp.	Fontinalis sp.	Heteranthera dubia	Lemna minor	Lemna trisulca	Megalodonta beckii	Myriophyllum spicatum	Najas guadalupensis	Najas minor	Nuphar advena	Nymphaea odorata	Polygonum amphibium	Pontederia cordata	Potamogeton amplifolius	Potamogeton crispus	Potamogeton foliosus	Potamogeton praelongus	Potamogeton robbinsii	Potamogeton zosteriformis	Ranunculus trichophyllus	Spirodela polyrhiza	Stuckenia pectinata	Utricularia sp.	Vallisneria americana	Wolffia columbiana
116	1	328700	4696800	2.20	T	49									50																1	
	2				T	20									80																	
117	1	329500	4696700	1.20	S	85	5																								10	
	2				S	10	2								80																8	
125	1	329400	4696600	2.30	T	60									30							5									5	
	2				T	94									4											2						
132	1	329400	4696500	1.70	M	64	3							10	10										3						10	
	2				S	70	5								5							10				5					5	
139	1	328700	4696500	1.90	S	48									4																48	
	2				T	50									2																48	
140	1	329400	4696400	0.70	T	2	5								90																3	
	2				S	20	15								60																5	
147	1	328700	4696400	1.90	T										50																50	
	2				S	25									5											30					40	
148	1	329400	4696300	1.30	T			15							85																	
	2				T	1									98																1	
155	1	328700	4696300	0.90	M	5									45																50	
	2				M	10		4							80																6	
156A	1	329490	4696200	1.90	S	99									1											0.01						
	2				T	97									1											1					1	
163	1	328700	4696200	2.00	T										35							25									40	
	2				T	15									5							15									65	
164	1	329500	4696100	2.30	T																100											
	2				T	5									1						0.01				49	45						

Table B. (continued) Results of the two rake-toss sampling of Lamoka Lake in September 3-17, 2014 at 180 sample points (SPs).

Sample Point (SP)	Rake toss #	NAD27 X coord East 18T	NAD27 Y coord North 18T	Depth 2014 (m) at sampling	Rake Abundance	Ceratophyllum demersum	Chara vulgaris	Elodea sp.	Fontinalis sp.	Heteranthera dubia	Lemna minor	Lemna trisulca	Megalodonta beckii	Myriophyllum spicatum	Najas guadalupensis	Najas minor	Nuphar advena	Nymphaea odorata	Polygonum amphibium	Pontederia cordata	Potamogeton amplifolius	Potamogeton crispus	Potamogeton foliosus	Potamogeton praelongus	Potamogeton robbinsii	Potamogeton zosteriformis	Ranunculus trichophyllus	Spirodela polyrhiza	Stuckenia pectinata	Utricularia sp.	Vallisneria americana	Wolffia columbiana
167	1	329200	4696100	3.00	O																											
	2				T	25									25											50						
168	1	329100	4696100	3.00	T										100																	
	2				T			10							5							85										
172	1	328700	4696100	2.30	T																	50									50	
	2				T																										100	
173	1	329600	4696000	1.60	T	70															30											
	2				T	50																		30	18						2	
174	1	329500	4696000	2.50	T										5								95									
	2				T		90																10									
175	1	329400	4696000	2.90	O																											
	2				T	5									5											90						
176	1	329300	4696000	3.00	T																30	70										
	2				T										20							80										
177	1	329200	4696000	2.80	T										10							90										
	2				T	20									20							40			20							
178	1	329100	4696000	2.90	T																100											
	2				T	90																10										
182	1	328700	4696000	1.60	T	95									5																	
	2				T	80									5							10									5	
183	1	329600	4695900	1.50	S	40									0.01						0.01				35	15					10	
	2				M	40									0.01						11				11	22					16	
184	1	329500	4695900	2.70	T	30									10							60										
	2				T	75																25										

Table B. (continued) Results of the two rake-toss sampling of Lamoka Lake in September 3-17, 2014 at 180 sample points (SPs).

Sample Point (SP)	Rake toss #	NAD27 X coord East 18T	NAD27 Y coord North 18T	Depth 2014 (m) at sampling	Rake Abundance	Ceratophyllum demersum	Chara vulgaris	Elodea sp.	Fontinalis sp.	Heteranthera dubia	Lemna minor	Lemna trisulca	Megalodonta beckii	Myriophyllum spicatum	Najas guadalupensis	Najas minor	Nuphar advena	Nymphaea odorata	Polygonum amphibium	Pontederia cordata	Potamogeton amplifolius	Potamogeton crispus	Potamogeton foliosus	Potamogeton praelongus	Potamogeton robbinsii	Potamogeton zosteriformis	Ranunculus trichophyllus	Spirodela polyrhiza	Stuckenia pectinata	Utricularia sp.	Vallisneria americana	Wolffia columbiana
185	1	329400	4695900	2.65	T	15									25							60										
	2				T										50							50										
186	1	329300	4695900	2.50	S	50									5							15			30							
	2				T	50									5							45										
187	1	329200	4695900	2.25	T	20									25							30				25						
	2				T	45									10							45										
188	1	329100	4695900	2.25	T	30									40										30							
	2				S	95									0.01							5										
189	1	329000	4695900	3.00	T																	100										
	2				O																											
192	1	328700	4695900	1.80	S	40		10							40							4			0.01	6					0.01	
	2				S	33		23							23							8					0.01				13	
193	1	329500	4695800	1.90	S	50									0.01									0.01		10					40	
	2				M	50		0.01							0.01											30	0.01				20	
194	1	329400	4695800	2.40	T	5									15							65			10	5						
	2				T	90									5							5										
195	1	329300	4695800	2.20	S	84									4							4		4		4						
	2				S	72																3		10		5					10	
196	1	329200	4695800	1.20	M	10								15	25			30			5	0.01		10		5						
	2				M	10		0.01			0.01			2	18			20			15	10		5		0.01					20	
197	1	329000	4695800	0.80	S										95																5	
	2				M	2									98																	
200	1	328700	4695800	4.20	O																											
	2				T	95																				5						

Table B. (continued) Results of the two rake-toss sampling of Lamoka Lake in September 3-17, 2014 at 180 sample points (SPs).

Sample Point (SP)	Rake toss #	NAD27 X coord East 18T	NAD27 Y coord North 18T	Depth 2014 (m) at sampling	Rake Abundance	Ceratophyllum demersum	Chara vulgaris	Elodea sp.	Fontinalis sp.	Heteranthera dubia	Lemna minor	Lemna trisulca	Megalodonta beckii	Myriophyllum spicatum	Najas guadalupensis	Najas minor	Nuphar advena	Nymphaea odorata	Polygonum amphibium	Pontederia cordata	Potamogeton amplifolius	Potamogeton crispus	Potamogeton foliosus	Potamogeton praelongus	Potamogeton robbinsii	Potamogeton zosteriformis	Ranunculus trichophyllus	Spirodela polyrhiza	Stuckenia pectinata	Utricularia sp.	Vallisneria americana	Wolffia columbiana
201	1	328600	4695800	1.00	S	10		5							75							5									5	
	2				M	5		10						15	50							10									10	
202	1	329500	4695700	1.10	M	5		0.01				0.01			0.01						5				76	5				5	4	
	2				M	30							9		4			10			4				20	4					19	
203	1	329400	4695700	1.50	M	5																			80	10				5		
	2				M	20		2							40						6				20	10				2		
204	1	329300	4695700	1.40	M	9		5							11						15				40	15					5	
	2				M	45		0.01							10						20				5	10					10	
205	1	329000	4695700	1.50	M	18							17		18						0.01	0.01		4	6						37	
	2				D	20							9		1						2					4				4	60	
209	1	328600	4695700	1.00	M	15		10							60							0.01			15							
	2				S	5								5	90																0.01	
210	1	329000	4695600	1.80	S	30																			30	5					35	
	2				S	20									5						10				30	5					30	
214	1	328600	4695600	0.80	M	25								0.01	5		10	10			10	0.01			20	10					10	
	2				M	60		0.01						0.01	3			20							5	7					5	
215	1	328500	4695600	0.60	M	50					0.01				0.01			45									5	0.01				0.01
	2				M	30												0.01			70											
216	1	329000	4695500	1.40	M	10									0.01						70					15					5	
	2				S	10															70				15	5					0.01	
217A	1	328895	4695441	1.30	S	15							5		30					25						10					15	
	2				S	10								0.01	10					30	30				5	10					5	
218	1	328800	4695500	4.00	O																											
	2				O																											

Table B. (continued) Results of the two rake-toss sampling of Lamoka Lake in September 3-17, 2014 at 180 sample points (SPs).

Sample Point (SP)	Rake toss #	NAD27 X coord East 18T	NAD27 Y coord North 18T	Depth 2014 (m) at sampling	Rake Abundance	Ceratophyllum demersum	Chara vulgaris	Elodea sp.	Fontinalis sp.	Heteranthera dubia	Lemna minor	Lemna trisulca	Megalodonta beckii	Myriophyllum spicatum	Najas guadalupensis	Najas minor	Nuphar advena	Nymphaea odorata	Polygonum amphibium	Pontederia cordata	Potamogeton amplifolius	Potamogeton crispus	Potamogeton foliosus	Potamogeton praelongus	Potamogeton robbinsii	Potamogeton zosteriformis	Ranunculus trichophyllus	Spirodela polyrhiza	Stuckenia pectinata	Utricularia sp.	Vallisneria americana	Wolffia columbiana
218A	1	328806	4695442	1.50	D	65							3		15							**0.01**			2	5					10	
	2				D	50									20											20					10	
219	1	328700	4695500	2.20	T	40									1							**2**			20	5					32	
	2				T	90																**5**									5	
220	1	328600	4695500	1.75	T	35									10							**20**			35							
	2				T										5							**90**									5	
221	1	328500	4695500	0.75	T			1										86			10	**2**									1	
	2				S	80								**0.01**	0.01			20			0.01	**0.01**									0.01	
222	1	329100	4695400	0.75	D	38		9			0.01	0.01		**5**	0.01						4					4		0.01	0.01	40	0.01	
	2				M	10		10					70	**5**							5											
223	1	329000	4695400	1.00	D	30									5						5	**0.01**			15	10	0.01			35		
	2				M	60		5					10												5	10				10		
224	1	328600	4695400	0.90	M	20		10					15		10							**5**			25	5				5	5	
	2				M	25		5					5		30						5	**5**			10	15						
225	1	328500	4695400	0.90	S	3												95							2							
	2				S													100													0.01	
226	1	328400	4695400	0.75	S	80						0.01			0.01							**4**			10		3				3	
	2				S	85									5			5			0.01				5							
227	1	328400	4695300	1.90	T																	**60**			40							
	2				T																	**100**										
228	1	328400	4695200	0.80	D	50					0.01							50			0.01										0.01	
	2				D	100					0.01	0.01										**0.01**						0.01				
229	1	328300	4695200	0.80	S	30					0.01			**12**	0.01						4	**20**			6	4		0.01			24	
	2				T	50																**50**										

Table B. (continued) Results of the two rake-toss sampling of Lamoka Lake in September 3-17, 2014 at 180 sample points (SPs).

Sample Point (SP)	Rake toss #	NAD27 X coord East 18T	NAD27 Y coord North 18T	Depth 2014 (m) at sampling	Rake Abundance	Ceratophyllum demersum	Chara vulgaris	Elodea sp.	Fontinalis sp.	Heteranthera dubia	Lemna minor	Lemna trisulca	Megalodonta beckii	Myriophyllum spicatum	Najas guadalupensis	Najas minor	Nuphar advena	Nymphaea odorata	Polygonum amphibium	Pontederia cordata	Potamogeton amplifolius	Potamogeton crispus	Potamogeton foliosus	Potamogeton praelongus	Potamogeton robbinsii	Potamogeton zosteriformis	Ranunculus trichophyllus	Spirodela polyrhiza	Stuckenia pectinata	Utricularia sp.	Vallisneria americana	Wolffia columbiana
230	1	328300	4695100	1.40	T	34								33								33										
	2				T	50																25									25	
231	1	328400	4695000	1.00	M	40									0.01			40				10					10					
	2				T	80																20										
232	1	328300	4695000	1.20	T	30																65			5							
	2				T	50																50										
233	1	328300	4694900	1.50	S	50								0.01							20	30										
	2				T	98																2										
234	1	328200	4694900	0.90	T	30								35									35										
	2				T																		100									
237	1	328300	4694800	1.25	S	75								5								20										
	2				S	100																0.01										
238	1	328200	4694800	1.50	T	50																50										
	2				T	95																5										
241	1	328200	4694700	1.00	O																											
	2				T	98																2										
242	1	328100	4694700	1.50	T	34											33				33											
	2				O																											
243	1	328100	4694600	1.75	T	25																50			25							
	2				T	30																70										
244	1	328100	4694500	0.60	S	92		0.01				0.01		0.01				0.01				3									5	
	2				S	50								3				42				5										
245	1	328000	4694500	1.00	S	90																0.01									10	
	2				S	97																3										

Table B. (continued) Results of the two rake-toss sampling of Lamoka Lake in September 3-17, 2014 at 180 sample points (SPs).

Sample Point (SP)	Rake toss #	NAD27 X coord East 18T	NAD27 Y coord North 18T	Depth 2014 (m) at sampling	Rake Abundance	Ceratophyllum demersum	Chara vulgaris	Elodea sp.	Fontinalis sp.	Heteranthera dubia	Lemna minor	Lemna trisulca	Megalodonta beckii	Myriophyllum spicatum	Najas guadalupensis	Najas minor	Nuphar advena	Nymphaea odorata	Polygonum amphibium	Pontederia cordata	Potamogeton amplifolius	Potamogeton crispus	Potamogeton foliosus	Potamogeton praelongus	Potamogeton robbinsii	Potamogeton zosteriformis	Ranunculus trichophyllus	Spirodela polyrhiza	Stuckenia pectinata	Utricularia sp.	Vallisneria americana	Wolffia columbiana
246	1	328000	4694400	1.50	T																	99									1	
	2				T																	100										
247	1	328000	4694300	1.00	T	98																2										
	2				T	90		2														8										
248	1	327900	4694300	1.25	T	60																40										
	2				T	90																10										
249	1	327900	4694200	1.25	T	95																5										
	2				T																	100										
250	1	327800	4694100	1.35	T	50								5								45										
	2				T	55								5								40										
251	1	327800	4694000	1.00	M	25												65			5	5									0.01	
	2				T	70							5	5				15				5										
252	1	327700	4694000	0.95	S	90								0.01				10				0.01										
	2				S	75																25					0.01					
253	1	327760	4693900	0.75	M	92		0.01				0.01		5				0.01				3									0.01	
	2				S	86		0.01						4								10										
254	1	327700	4693900	1.25	T									50								50										
	2				T	45								10								45										
256	1	327800	4693800	0.60	S	85								0.01	0.01							0.01									15	0.01	
	2				S	45		8						8				3				8									20	8	
257	1	327700	4693800	1.25	S	70								0.01								30										
	2				T																	100										
258	1	327600	4693800	0.75	S	100																										
	2				S	90																10										

Table B. (continued) Results of the two rake-toss sampling of Lamoka Lake in September 3-17, 2014 at 180 sample points (SPs).

Sample Point (SP)	Rake toss #	NAD27 X coord East 18T	NAD27 Y coord North 18T	Depth 2014 (m) at sampling	Rake Abundance	Ceratophyllum demersum	Chara vulgaris	Elodea sp.	Fontinalis sp.	Heteranthera dubia	Lemna minor	Lemna trisulca	Megalodonta beckii	Myriophyllum spicatum	Najas guadalupensis	Najas minor	Nuphar advena	Nymphaea odorata	Polygonum amphibium	Pontederia cordata	Potamogeton amplifolius	Potamogeton crispus	Potamogeton foliosus	Potamogeton praelongus	Potamogeton robbinsii	Potamogeton zosteriformis	Ranunculus trichophyllus	Spirodela polyrhiza	Stuckenia pectinata	Utricularia sp.	Vallisneria americana	Wolffia columbiana
260	1	327800	4693700	0.75	D	100		0.01							0.01							**0.01**										
	2				D	90		5														**5**										
261	1	327700	4693700	1.25	S	17								**3**								**80**										
	2				S	50								**25**								**25**										
262	1	327600	4693700	0.75	S	85		5							10																	
	2				S	45								**20**				20				**10**					5					
263	1	327500	4693700	1.00	S	85								**10**								**5**										
	2				S	90									7							**3**										
264	1	327400	4693700	0.60	M	57					0.01	0.01		**10**						30		**3**						0.01				
	2				M	85		0.01				0.01		**5**								**10**					0.01					
265	1	327300	4693700	0.70	M	85		5						**5**								**5**										
	2				S	60		5			0.01			**10**				5				**10**					10					
266	1	327200	4693700	0.70	M	85												15														
	2				M	100					0.01							0.01				**0.01**						0.01				0.01
269	1	327800	4693600	0.75	M	100		0.01				0.01		**0.01**								**0.01**										
	2				M	97		3						**0.01**								**0.01**										
270	1	327700	4693600	1.25	M	90								**5**								**5**										
	2				M	95								**0.01**								**5**										
271	1	327600	4693600	1.30	S	90																**10**										
	2				M									**7**							90	**0.01**			3							
272	1	327500	4693600	1.50	T	80								**10**								**10**										
	2				T	77								**20**								**3**										
273	1	327400	4693600	1.50	S	75								**10**								**15**									0.01	
	2				T	85								**5**								**10**										

Table B. (continued) Results of the two rake-toss sampling of Lamoka Lake in September 3-17, 2014 at 180 sample points (SPs).

Sample Point (SP)	Rake toss #	NAD27 X coord East 18T	NAD27 Y coord North 18T	Depth 2014 (m) at sampling	Rake Abundance	Ceratophyllum demersum	Chara vulgaris	Elodea sp.	Fontinalis sp.	Heteranthera dubia	Lemna minor	Lemna trisulca	Megalodonta beckii	Myriophyllum spicatum	Najas guadalupensis	Najas minor	Nuphar advena	Nymphaea odorata	Polygonum amphibium	Pontederia cordata	Potamogeton amplifolius	Potamogeton crispus	Potamogeton foliosus	Potamogeton praelongus	Potamogeton robbinsii	Potamogeton zosteriformis	Ranunculus trichophyllus	Spirodela polyrhiza	Stuckenia pectinata	Utricularia sp.	Vallisneria americana	Wolffia columbiana
274	1	327300	4693600	1.25	S	100																										
	2				T	98								1								1										
275	1	327200	4693600	1.25	D	85		3						7				5														
	2				D	20		5			0.01			5				30	40								0.01	0.01				
276	1	327100	4693600	1.50	S	82								5								10						3				
	2				D	5		0.01			0.01			2					93								0.01	0.01				0.01
280	1	327500	4693500	1.35	D	50								50								0.01										
	2				D	80								10								10										
281	1	327400	4693500	1.25	M	87								10								3										
	2				M	90								10								0.01										
282	1	327300	4693500	1.20	S	100																0.01										
	2				M	90								10								0.01										
283	1	327200	4693500	1.00	M	100																										
	2				M	95		0.01						5								0.01										
284	1	327100	4693500	1.10	S	100								0.01																		
	2				M	100																										
286	1	327500	4693400	1.20	D	30								70								0.01										
	2				D	20								77								3										
287	1	327400	4693400	1.25	M	94								3								3										
	2				D	94								6								0.01										
288	1	327300	4693400	1.25	S	100								0.01								0.01										
	2				D	95								5								0.01										
289	1	327200	4693400	1.25	D	100																0.01										
	2				M	100		0.01														0.01										

Table B. (continued) Results of the two rake-toss sampling of Lamoka Lake in September 3-17, 2014 at 180 sample points (SPs).

Sample Point (SP)	Rake toss #	NAD27 X coord East 18T	NAD27 Y coord North 18T	Depth 2014 (m) at sampling	Rake Abundance	Ceratophyllum demersum	Chara vulgaris	Elodea sp.	Fontinalis sp.	Heteranthera dubia	Lemna minor	Lemna trisulca	Megalodonta beckii	Myriophyllum spicatum	Najas guadalupensis	Najas minor	Nuphar advena	Nymphaea odorata	Polygonum amphibium	Pontederia cordata	Potamogeton amplifolius	Potamogeton crispus	Potamogeton foliosus	Potamogeton praelongus	Potamogeton robbinsii	Potamogeton zosteriformis	Ranunculus trichophyllus	Spirodela polyrhiza	Stuckenia pectinata	Utricularia sp.	Vallisneria americana	Wolffia columbiana
290	1	327100	4693400	1.00	S	90																10										
	2				S	90								10								0.01										
291	1	327000	4693400	1.25	M	100																0.01										
	2				S	90								10								0.01										
292	1	327500	4693300	1.00	D	100									0.01							0.01										
	2				D	97																3										
293	1	327400	4693300	1.50	M	94								3								3										
	2				T	90								10																		
294	1	327300	4693300	1.50	M	60								30								10										
	2				S	100																0.01										
295	1	327200	4693300	1.25	D	85								15								0.01										
	2				S	90								6								4										
296	1	327100	4693300	1.50	M	70								25								5										
	2				S	95								5								0.01										
297	1	327000	4693300	1.50	S	10								80								10									0.01	
	2				T	90								8								2										
298	1	326900	4693300	1.25	M	70		5						15								10										
	2				S	97								0.01								3										
299	1	327500	4693200	0.75	M	100				0.01	0.01																					
	2				M	97				0.01	0.01	0.01		0.01				3										0.01				
300	1	327400	4693200	0.75	S	95				0.01	0.01																5					
	2				M	98				0.01	0.01											2										
301	1	327300	4693200	1.25	D	95								3								2						0.01				
	2				M	80								12								8										

Table B. (continued) Results of the two rake-toss sampling of Lamoka Lake in September 3-17, 2014 at 180 sample points (SPs).

Sample Point (SP)	Rake toss #	NAD27 X coord East 18T	NAD27 Y coord North 18T	Depth 2014 (m) at sampling	Rake Abundance	Ceratophyllum demersum	Chara vulgaris	Elodea sp.	Fontinalis sp.	Heteranthera dubia	Lemna minor	Lemna trisulca	Megalodonta beckii	Myriophyllum spicatum	Najas guadalupensis	Najas minor	Nuphar advena	Nymphaea odorata	Polygonum amphibium	Pontederia cordata	Potamogeton amplifolius	Potamogeton crispus	Potamogeton foliosus	Potamogeton praelongus	Potamogeton robbinsii	Potamogeton zosteriformis	Ranunculus trichophyllus	Spirodela polyrhiza	Stuckenia pectinata	Utricularia sp.	Vallisneria americana	Wolffia columbiana
302	1	327200	4693200	1.00	M	100																										
	2				M	80								20								0.01										
303	1	327100	4693200	1.00	M	100																										
	2				M	100																0.01										
304	1	327000	4693200	1.25	M	80								15			0.01					5						0.01				
	2				M	90		0.01						10								0.01										
305	1	326900	4693200	1.30	D	60					0.01			40														0.01				
	2				D	30								70								0.01										
306	1	326800	4693200	1.00	M	77		20														3										
	2				S	95		5														0.01										
307	1	327000	4693100	0.70	S	100																0.01										
	2				M	95						0.01		5																		
308	1	326900	4693100	1.25	D	55								45								0.01										
	2				D	70		0.01			0.01	0.01		30								0.01						0.01				
309	1	326800	4693100	1.00	S	91		2			0.01			3								2					2					
	2				M	90		5						5																		
310	1	327000	4693000	0.75	M	68					0.01							30				2					0.01	0.01				0.01
	2				S	90					0.01							10												0.01		0.01
311	1	326900	4693000	1.10	S	90					0.01	0.01						3				5				0.01	2	0.01				
	2				M	75		5						0.01				20														
312	1	326800	4693000	0.80	S	94						0.01		0.01				0.01				3									3	
	2				S	95					0.01	0.01						0.01									5	0.01				
313	1	326900	4692900	0.50	S	3								3				91				0.01									3	
	2				M	3						0.01		5				85										0.01		7		

Table C. Results of the two rake-toss sampling of Waneta - Lamoka Wildlife Management Area in August 22-September 4, 2013 at 180 sample points (SPs).

Sample Point (SP)	Rake toss #	NAD27 X coord East 18T	NAD27 Y coord North	2014 Depth (m) at sampling	Rake Abundance	Ceratophyllum demersum	Elodea sp.	Fontinalis sp.	Lemna minor	Lemna trisulca	Megalodonta beckii	Najas flexilis	Najas guadalupensis	Najas minor	Nymphaea odorata	Pontederia cordata	Potamogeton crispus	Potamogeton foliosis	Potamogeton gramineus	Potamogeton robbinsii	Ranunculus trichophyllus	Riccia fluitans	Sagittaria latifolia	Spirodela polyrhiza	Stuckenia vaginata	Utricularia sp.	Vallisneria americana	Wolffia columbiana
1	1	327767	4708800	0.60	M	70	0.01		0.01	0.01		0.01	10	**0.01**	0.01		**1**	9				0.01			10		0.01	
	2	327767	4708800	0.60	M	5	0.01	0.01	0.01	0.01		0.01	5			84	**1**					0.01				0.01	5	
2	1	327796	4708700		M	10	2		0.01	0.01					75	5		0.01				0.01		0.01		5	3	
	2	327796	4708700		M	0.01	0.01			0.01			0.01		60					36		0.01		0.01		4	0.01	
3	1	327949	4708600	0.60	M	10		0.01	0.01	1			0.01		79							0.01					10	
	2	327949	4708600	0.60	M	50	3	0.01	0.01	5			0.01	**0.01**	25				5		5	1		0.01			6	
4	1	328029	4708500		M	2	0.01			0.01			0.01	**0.01**	40			0.01	40			0.01				10	8	
	2	328029	4708500		M	0.01			0.01	5		0.01	0.01	**3**	15	10	**0.01**	2	20			5				35	5	
5	1	328083	4708400		S		2		2	2			2	**2**	79	6						1				2	2	
	2	328083	4708400		S		2		0.01	2					89							1		0.01		5	1	
6	1	328075	4698300	0.7	M	20	0.01		0.01		5.0		1	**20**	50		**0.01**										4	
	2	328075	4698300	0.7	T	40	2		0.01	0.01			3	**2**	50												3	0.01
7	1	328085	4698100		M		10			0.01				**5**	15	50							10				10	
	2	328085	4698100		M		2		2	0.01			13		40	30											13	
8	1	328179	4698000		S					0.01		0.01		**20**	55	15											10	
	2	328179	4698000		T				0.01			0.01			95												5	