

August 23rd, 2012

Loon Lake Homeowners Association
C/O Vincent Pagono, President.

Dear Loon Lake Homeowners Association:

On August 7th 2012 Corey Laxson and Elizabeth Yerger of the Adirondack Watershed Institute conducted the fourth consecutive aquatic plant survey of Loon Lake. The objectives of the survey were to: (1) perform a comprehensive investigation of the aquatic plant community of the lake to determine if any invasive or non-native plants have become established, and (2) map the native aquatic plant beds and quantify their species richness.

We utilized three approaches to survey the plants of Loon Lake. The first approach was to perform a surface survey by slowly trolling a motor boat through the entire littoral zone of the lake in a zigzag fashion, starting at the shoreline and moving out to a depth of approximately 12 -15 feet then back to the shoreline. An observer on the bow of the boat identified the visible plants and collected data on bed location, species composition, and percent cover with a Trimble Geo XT global positioning system. Only plants that existed in dense aggregations were surveyed with this technique. Sparse plants were noted, but not necessarily mapped. Because many plants cannot be detected from the surface, our second approach was to deploy a double sided plant rake into the water, drag it across the bottom and observe the plants on the retrieved rake. The third approach was to swim along 10 underwater transects and closely examine the species composition that occurs from 3 feet deep to approximately 12 feet deep.

We are happy to report that we did not detect any non-native or invasive plants in the lake. The plant community of Loon Lake is typical of low alkaline lakes of the north-central Adirondacks. We identified 20 submerged aquatic plant species in the lake, not including the numerous emergent and semi-aquatic species that fringe the pond margin. We mapped 16 macrophyte beds comprising roughly 19 acres (Map 1). The most common plants to occur in these beds are members of the pondweed genus *Potamogeton*. The species, *praelongus*, *amplifolius*, and *gramineus* are common throughout the lake and make up the majority of the offshore community. Nearshore species such as the white water lily *Nymphaea*, the spatterdock *Nuphar* and the arrowhead *Sagittaria* are scattered around the entire lake. The pipewort *Eriocaulon* is very common in the nearshore environment and occurs along most of the shoreline (Table 1). Aquatic plant coverage in Loon Lake is relatively low, comprising less than 19 acres (5%) of the lake surface area. We performed 45 rake tosses through the littoral zone of the lake (Map 2), and only encountered plants on 30% of the deployments. There were no species detected on the rakes that were not detected in the surface survey (Table 2). On the underwater transects (Map 3) we detected quillwort and Canadian water-weed, two species that we did not encounter in the surface survey or the rake tosses.

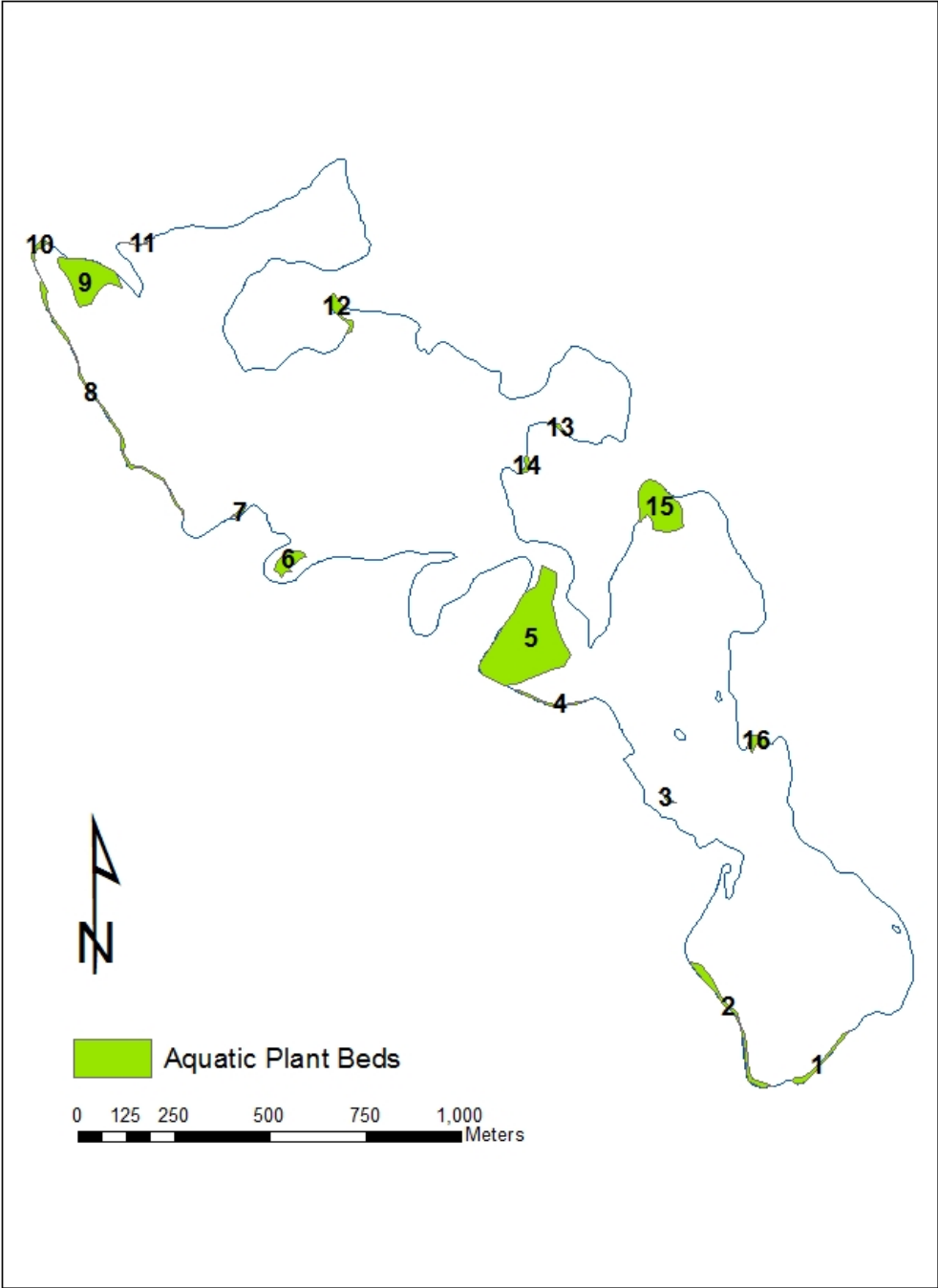
Attached are maps and tables that illustrate the results of the findings. Please do not hesitate to contact us if you have any questions related to this survey. It continues to be a pleasure to work on this project and we look forward to assisting you with it in the future.

Sincerely,

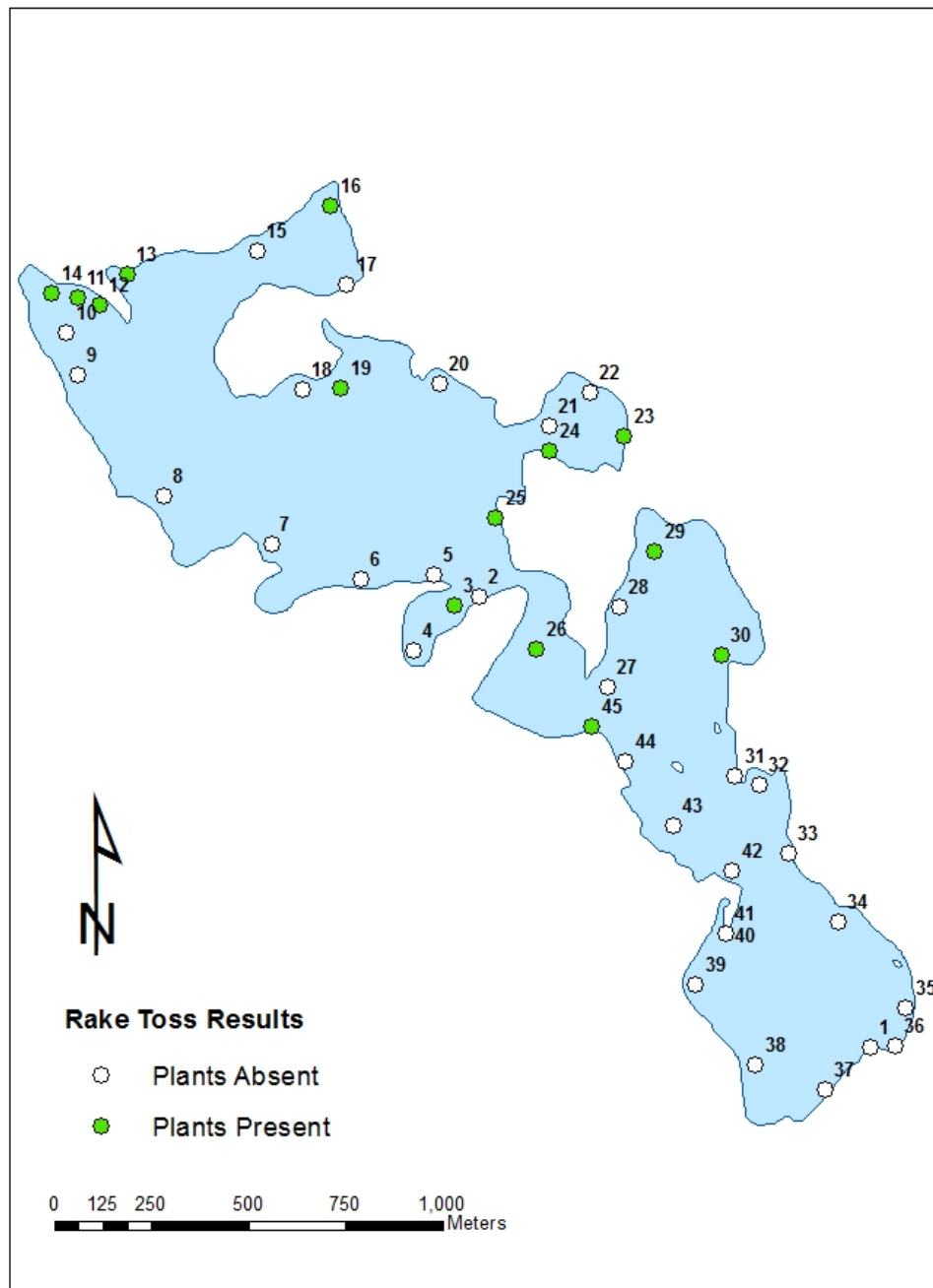
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Daniel L. Kelting

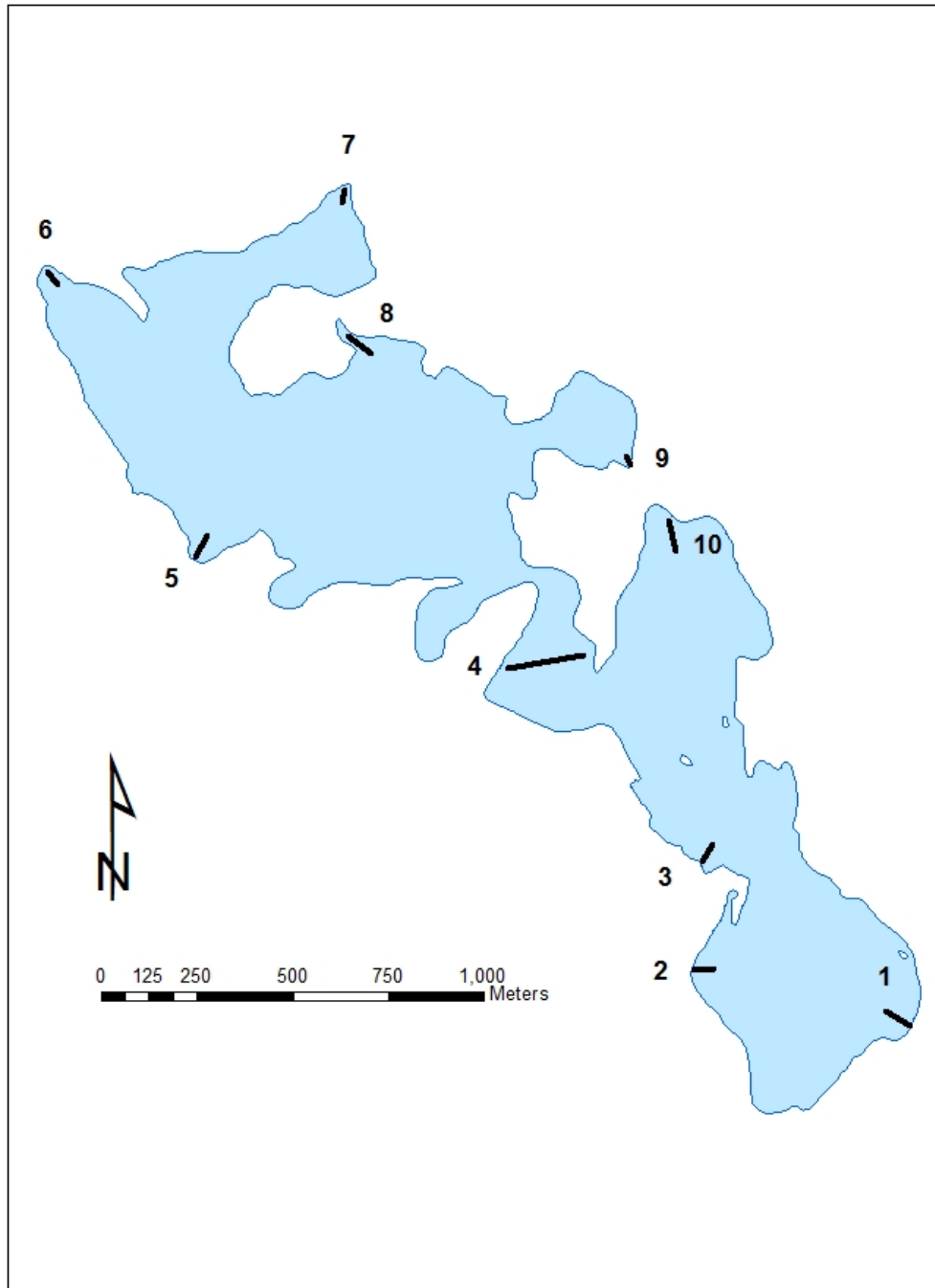
Executive Director, Adirondack Watershed Institute
Paul Smith's College



Map 1. Location of the aquatic plant beds detected in Loon Lake during the surface survey performed on August 7th, 2012.



Map 2. Rake toss locations on Loon Lake, August 7th, 2012. Open circles represent locations where no plants were detected, closed circles represent location where plants were encountered on the rake.



Map 3. Location of the 10 underwater transects on Loon Lake.

		Plant Bed Numbers															
Scientific name	Common name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<i>Brasenia schreberi</i>	water shield	R	R	-	-	O	-	-	O	O	O	-	R	-	-	O	-
<i>Eriocaulon aquaticum</i>	pipewort	P	O	-	-	R	-	-	-	-	P	R	-	-	O	O	R
<i>Lobelia dortmana</i>	water lobelia	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-
<i>Najas flexis</i>	slender water naiad	-	-	-	-	-	-	-	R	-	-	-	R	-	-	O	-
<i>Nuphar variegata</i>	spatterdock	R	O	-	R	O	-	-	R	O	P	-	O	-	-	P	O
<i>Nymphaea odorata</i>	white water lily	R	O	-	R	-	-	-	R	R	P	-	R	-	-	O	O
<i>Potamogeton amplifolius</i>	bass weed	-	-	-	-	P	R	-	-	P	-	-	O	-	R	P	O
<i>Potamogeton epihydrus</i>	ribbon-leaf pondweed	-	-	O	-	R	-	-	-	O	-	-	-	-	-	-	-
<i>Potamogeton gramineus</i>	variable-leaf pondweed	R	O	-	R	P	C	C	R	P	O	O	O	-	R	P	R
<i>Potamogeton natans</i>	floating-leaved pondweed	-	-	-	-	O	-	-	-	O	O	-	-	-	-	O	-
<i>Potamogeton perfoliatus</i>	clasping pondweed	-	-	-	-	R	R	-	-	O	-	-	-	-	-	-	-
<i>Potamogeton praelongus</i>	white-stem pondweed	-	-	-	-	R	-	-	-	O	-	-	-	-	-	R	-
<i>Potamogeton pusillus</i>	small pondweed	-	-	R	-	P	O	-	-	-	-	-	O	C	O	P	-
<i>Potamogeton robbinsii</i>	robbins pondweed	-	-	-	-	R	-	-	-	P	-	-	-	-	-	P	-
<i>Potamogeton spirilus</i>	spiral-fruit pondweed	-	-	O	-	R	R	-	-	-	-	-	-	-	-	-	-
<i>Sagittaria graminea</i>	grass-leaf arrowhead	-	-	-	-	-	-	-	R	-	R	-	-	-	-	-	-
<i>Sparganium species</i>	bur-reed	-	-	-	-	-	-	-	R	-	O	-	-	-	-	O	-
<i>Vallisneria americana</i>	eelgrass	-	-	-	-	-	R	-	-	R	-	-	R	-	-	R	-

Table 1. Percent cover of aquatic plant species detected at each plant bed in Loon Lake. Refer to Map 1 for bed locations. A = abundant (>50% cover), C = common (25-50%), P = present (15-25%), O = occasional (5-15%), and R = rare (<5%).

Scientific Name	Common Name	Rake Toss Number														
		3	11	12	13	14	16	19	23	24	25	26	29	30	40	45
<i>Potamogeton praelongus</i>	white-stem pondweed	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
<i>Potamogeton gramineus</i>	variable-leaf pondweed	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Potamogeton amplifolius</i>	bass weed	0	1	1	0	0	0	0	0	0	0	0	0	1	0	0
<i>Potamogeton spirilus</i>	spiral-fruit pondweed	0	0	1	2	0	0	0	0	0	1	0	0	0	0	0
<i>Vallisneria americana</i>	eelgrass	0	1	0	0	0	2	0	0	0	0	0	2	0	0	0
<i>Potamogeton robbinsii</i>	robbins pondweed	0	0	0	0	1	1	0	0	0	0	2	4	0	0	0
<i>Potamogeton pusillus</i>	small pondweed	2	0	1	0	0	0	0	0	1	1	4	0	0	1	0
<i>Najas flexis</i>	slender water naiad	0	2	2	2	0	0	1	1	0	0	0	0	1	0	1

Table 2. Species present on the rake at each of the rake toss locations. Only locations where plants were encountered are listed. 0= no plants on the rake, 1= finger full of plants on the rake, 2= a handful of plants, 3= greater than a handful, and 4= a rake full of plants.

Scientific Name	Common Name	Transect number										
		1	2	3	4	5	6	7	8	9	10	
<i>Elodea canadensis</i>	Canadian waterweed											X
<i>Isotes species</i>	quilwort					X					X	
<i>Najas flexis</i>	water naiad		X						X			
<i>Potamogeton amplifolius</i>	bass weed				X		X					
<i>Potamogeton epihydrus</i>	ribbon-leaf pondweed										X	
<i>Potamogeton gramineus</i>	variable-leaf pondweed				X		X					X
<i>Potamogeton pusillus</i>	small pondweed		X		X	X	X				X	X
<i>Potamogeton robbinsii</i>	robbins pondweed	X	X	X	X	X	X					X
<i>Vallisneria americana</i>	eelgrass	X			X		X	X			X	
<i>Potamogeton spirilus</i>	spiral-fruit pondweed			X	X				X	X		
<i>Potamogeton praelongus</i>	white-stem pondweed			X	X						X	
<i>Potamogeton natans</i>	floating-leaved pondweed				X							

Table 3. Aquatic plant species encountered at the 10 underwater transects on Loon Lake. See Map 3 for transect locations.