

# 2014 Report: Loon Lake (Franklin Co.)

## Aquatic Plant Survey



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## Acknowledgements

The Adirondack Watershed Institute (AWI) is a program of Paul Smith's College that conducts work broadly focused on protecting and conserving water resources. The narrative and results presented in this report were produced by Virginia Brink, Nathan Mills, Dylan Kirk, and Lindsey Pett, who constituted the AWI Early Detection team in 2014. These individuals also conducted the aquatic plant survey and performed the GIS work needed to develop the aquatic plant maps. The field work and reporting was done under the supervision of Daniel L. Kelting, AWI Executive Director, with assistance from Corey Laxson, AWI Research Associate.



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Cover Photo: Water shield (*Brasenia schreberi*) in flower in Quiver Pond.

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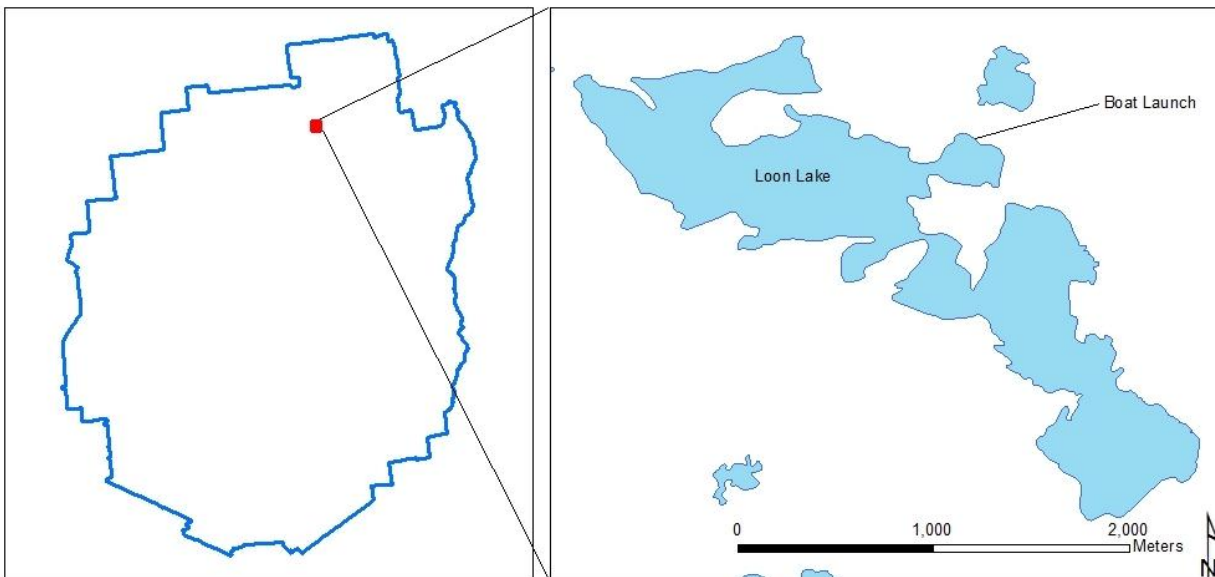
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## Introduction



**Figure 1. Location of Loon Lake.**

An aquatic plant survey of Loon Lake was conducted on 18 August, 2014. Loon Lake is located in the town of Franklin in Franklin County, New York (Figure 1). This 355 acre lake was accessed for surveying at a private canoe launch on the Port Kent-Hopkinton Turnpike in Loon Lake, New York. The water is surrounded by private properties, many with motorboats, but with no public boat launch access.



Photo 1. Private canoe launch.

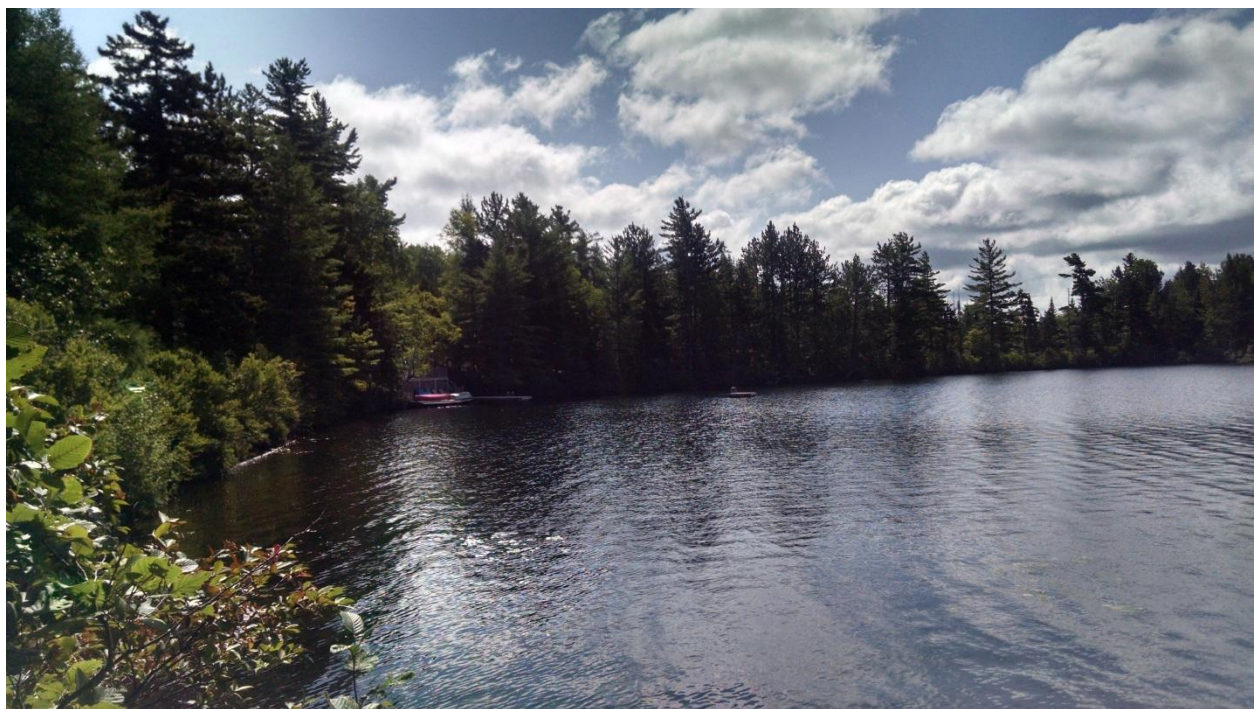


Photo 2. Loon Lake shoreline.



## Methodology

The survey crew performed a whole lake aquatic plant survey of Loon Lake using a combination of visual surveys and rake tossing. The team surveyed the entire littoral zone of the lake in a serpentine search pattern and mapped the location, species composition, and species abundance of all aquatic plant beds. Bed perimeters were mapped with a handheld GPS unit and field data were recorded on a datasheet. Visual surveys were supplemented by periodic rake tossing using a consistent protocol. All field data were entered into ArcGIS to create an aquatic plant map for the lake. The team worked in two person crews in canoes under the supervision of a crew chief. Each crew was equipped with a bathymetric map of the lake, portable depth sounder, handheld GPS unit, two-sided rake, and a digital camera. Depths were checked periodically while surveying to ensure that the far shore edge of the littoral zone was covered. Photos were taken of new species and any AIS encountered.



**Photo 3. Survey Team 2014 (From Left: Virginia Brink, Lindsey Pett, Dylan Kirk, Nathan Mills).**



Photo 4. Bed of pipewort (*Eriocaulon* sp.)

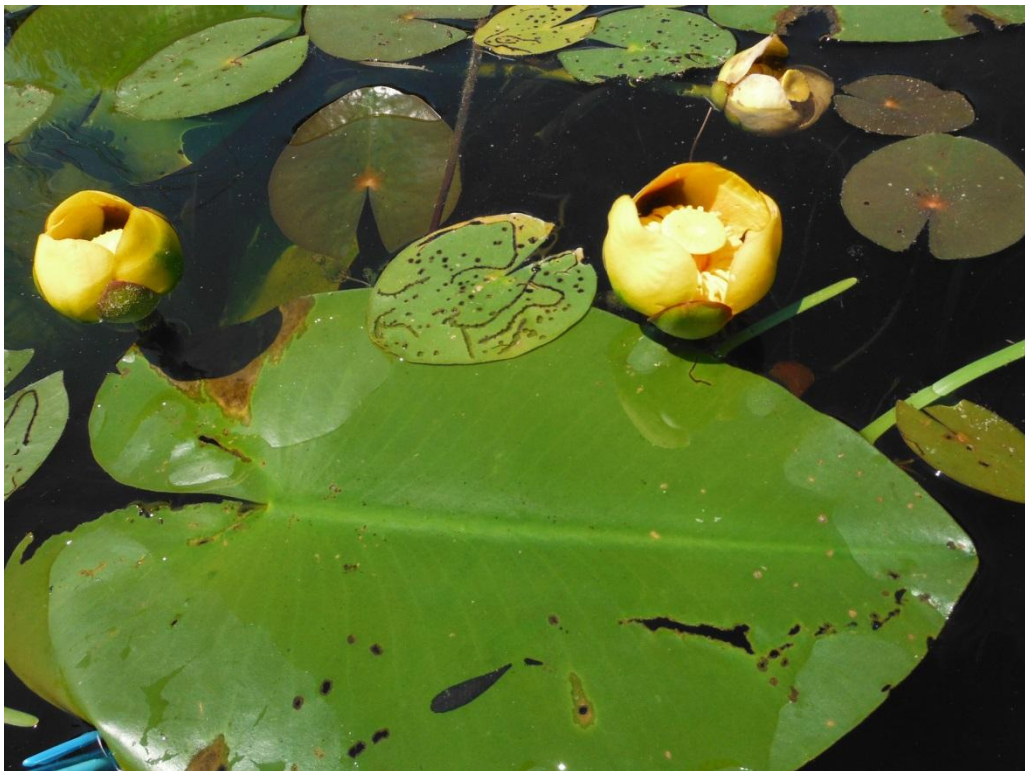


Photo 5. Yellow water lily (*Nuphar variegata*).

## Results

Aquatic plant coverage in Loon Lake was low, comprising of 28 plant beds that collectively covered 53 acres or 15% of the surface area of the lake (Figure 2). Nineteen different aquatic species were identified during the surface survey (Tables 1.1 - 1.3).

Common species in this water body included yellow water lily (*Nuphar variegata*) and pipewort (*Eriocaulon sp.*). Common bladderwort (*Utricularia vulgaris*) was the only species that could be easily confused with invasive species.

Of the 61 rake tosses spaced throughout the littoral zone of the lake (Figure 3), 6 rakes (10%) had acquired plants upon recovery (Table 2.1). All species found on rake tosses were also found during the surface survey.



Figure 2. Location of the aquatic plant beds detected in Loon Lake during the surface survey performed from 18 August, 2014. Data for Plant Beds can be found in Tables 1.1 -1.3

**Table 1.1. Percent cover of aquatic plant species detected at each plant bed in Loon Lake. Refer to Figure 2 for bed locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).**

Loon Lake		Plant Bed Numbers									
Scientific Name	Common Name	1	2	3	4	5	6	7	8	9	10
<i>Brasenia schreberi</i>	Water Shield	P	-	-	-	-	-	-	-	-	-
<i>Eleocharis sp.</i>	Hairgrass	C	-	-	-	-	-	-	-	-	-
<i>Eriocaulon sp.</i>	Pipewort	C	A	C	A	P	P	R	R	-	O
<i>Najas sp.</i>	Roraima	P	-	-	C	-	-	-	-	-	-
<i>Nitella sp.</i>	Brittlewort	P	-	C	-	-	-	-	-	-	-
<i>Nuphar variegata</i>	Yellow Water Lily	O	-	P	O	-	O	R	R	R	-
<i>Nymphaea odorata</i>	White Water Lily	P	R	O	-	-	-	-	-	-	-
<i>Nymphoides cordata</i>	Little Floating Heart	-	-	-	-	-	-	-	-	-	-
<i>Potamogeton amplifolius</i>	Largeleaf Pondweed	-	-	-	-	-	-	-	-	-	-
<i>Potamogeton epihydrus</i>	Ribbonleaf Pondweed	C	O	P	-	-	-	-	-	-	-
<i>Potamogeton gramineus</i>	Variable-leaved Pondweed	-	-	-	-	-	-	R	P	-	-
<i>Potamogeton natans</i>	Broad Leaved Pondweed	-	-	O	R	-	R	-	-	-	-
<i>Potamogeton praelongus</i>	White-stemed Pondweed	O	-	-	-	-	-	-	-	-	-
<i>Potamogeton robbinsii</i>	Fern-leaf Pondweed	O	-	P	-	-	-	-	-	-	-
<i>Potamogeton zosteriformis</i>	Flatstem Pondweed	-	-	-	-	-	-	-	-	-	-
<i>Sagittaria graminea</i>	Grass-leaved Arrowhead	A	A	C	C	-	-	-	-	-	-
<i>Sparganium sp.</i>	Bur-reed	O	O	O	P	-	R	-	P	-	-
<i>Utricularia vulgaris</i>	Common Bladderwort	R	-	-	-	-	-	-	-	-	-
<i>Vallisneria americana</i>	Wild Celery	-	-	O	-	-	-	-	-	-	-
Acres		7	8	12	2	1	1	0	1	0	0

**Table 2.2. Percent cover of aquatic plant species detected at each plant bed in Loon Lake. Refer to Figure 2 for bed locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).**

Loon Lake		Plant Bed Numbers									
Scientific Name	Common Name	11	12	13	14	15	16	17	18	19	20
<i>Brasenia schreberi</i>	Water Shield	-	-	-	P	-	P	-	-	-	C
<i>Eleocharis sp.</i>	Hairgrass	-	-	-	-	-	-	-	-	-	-
<i>Eriocaulon sp.</i>	Pipewort	P	R	R	R	P	P	R	R	P	C
<i>Najas sp.</i>	Roraima	-	-	-	-	-	-	-	-	-	-
<i>Nitella sp.</i>	Brittlewort	-	-	-	-	-	-	-	-	-	-
<i>Nuphar variegata</i>	Yellow Water Lily	-	O	-	R	-	P	R	R	R	O
<i>Nymphaea odorata</i>	White Water Lily	-	P	R	O	-	O	-	-	-	O
<i>Nymphoides cordata</i>	Little Floating Heart	-	-	-	-	-	-	-	-	-	-
<i>Potamogeton amplifolius</i>	Largeleaf Pondweed	-	R	-	-	-	-	-	-	-	-
<i>Potamogeton epihydrus</i>	Ribbonleaf Pondweed	-	-	-	-	R	-	-	-	-	-
<i>Potamogeton gramineus</i>	Variable-leaved Pondweed	-	-	R	-	P	-	-	-	-	-
<i>Potamogeton natans</i>	Broad Leaved Pondweed	-	R	-	-	-	C	-	-	-	-
<i>Potamogeton praelongus</i>	White-stemed Pondweed	-	-	-	-	-	-	-	-	-	-
<i>Potamogeton robbinsii</i>	Fern-leaf Pondweed	-	R	-	-	-	-	-	-	-	-
<i>Potamogeton zosteriformis</i>	Flatstem Pondweed	-	-	-	-	R	-	-	-	-	-
<i>Sagittaria graminea</i>	Grass-leaved Arrowhead	-	P	-	-	-	-	-	-	-	-
<i>Sparganium sp.</i>	Bur-reed	-	R	-	-	O	-	R	-	-	-
<i>Utricularia vulgaris</i>	Common Bladderwort	-	-	-	-	-	-	-	-	-	-
<i>Vallisneria americana</i>	Wild Celery	-	R	-	O	-	R	-	-	-	-
Acres		0	6	2	5	0	0	0	0	1	3

**Table 3.3. Percent cover of aquatic plant species detected at each plant bed in Loon Lake. Refer to Figure 2 for bed locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).**

Loon Lake		Plant Bed Numbers							
Scientific Name	Common Name	21	22	23	24	25	26	27	28
<i>Brasenia schreberi</i>	Water Shield	-	-	-	-	-	-	-	-
<i>Eleocharis sp.</i>	Hairgrass	-	-	-	-	-	-	-	-
<i>Eriocaulon sp.</i>	Pipewort	O	R	P	-	O	-	A	A
<i>Najas sp.</i>	Roraima	-	-	-	-	-	-	-	-
<i>Nitella sp.</i>	Brittlewort	-	-	-	-	-	-	-	-
<i>Nuphar variegata</i>	Yellow Water Lily	O	R	R	O	-	O	-	P
<i>Nymphaea odorata</i>	White Water Lily	O	-	-	-	-	-	O	-
<i>Nymphoides cordata</i>	Little Floating Heart	-	-	-	-	-	-	R	-
<i>Potamogeton amplifolius</i>	Largeleaf Pondweed	-	-	-	-	R	-	-	-
<i>Potamogeton epihydrus</i>	Ribbonleaf Pondweed	R	-	-	-	-	-	-	-
<i>Potamogeton gramineus</i>	Variable-leaved Pondweed	-	-	-	O	-	-	-	-
<i>Potamogeton natans</i>	Broad Leaved Pondweed	-	-	-	-	-	-	R	-
<i>Potamogeton praelongus</i>	White-stemmed Pondweed	-	-	-	-	-	-	-	-
<i>Potamogeton robbinsii</i>	Fern-leaf Pondweed	-	-	-	-	-	-	-	-
<i>Potamogeton zosteriformis</i>	Flatstem Pondweed	-	-	-	-	R	-	-	-
<i>Sagittaria graminea</i>	Grass-leaved Arrowhead	-	-	-	-	-	-	-	-
<i>Sparganium sp.</i>	Bur-reed	R	-	-	-	-	-	-	-
<i>Utricularia vulgaris</i>	Common Bladderwort	-	-	-	-	-	-	-	-
<i>Vallisneria americana</i>	Wild Celery	-	-	-	-	-	-	-	-
Acres		2	0	0	0	0	0	2	0

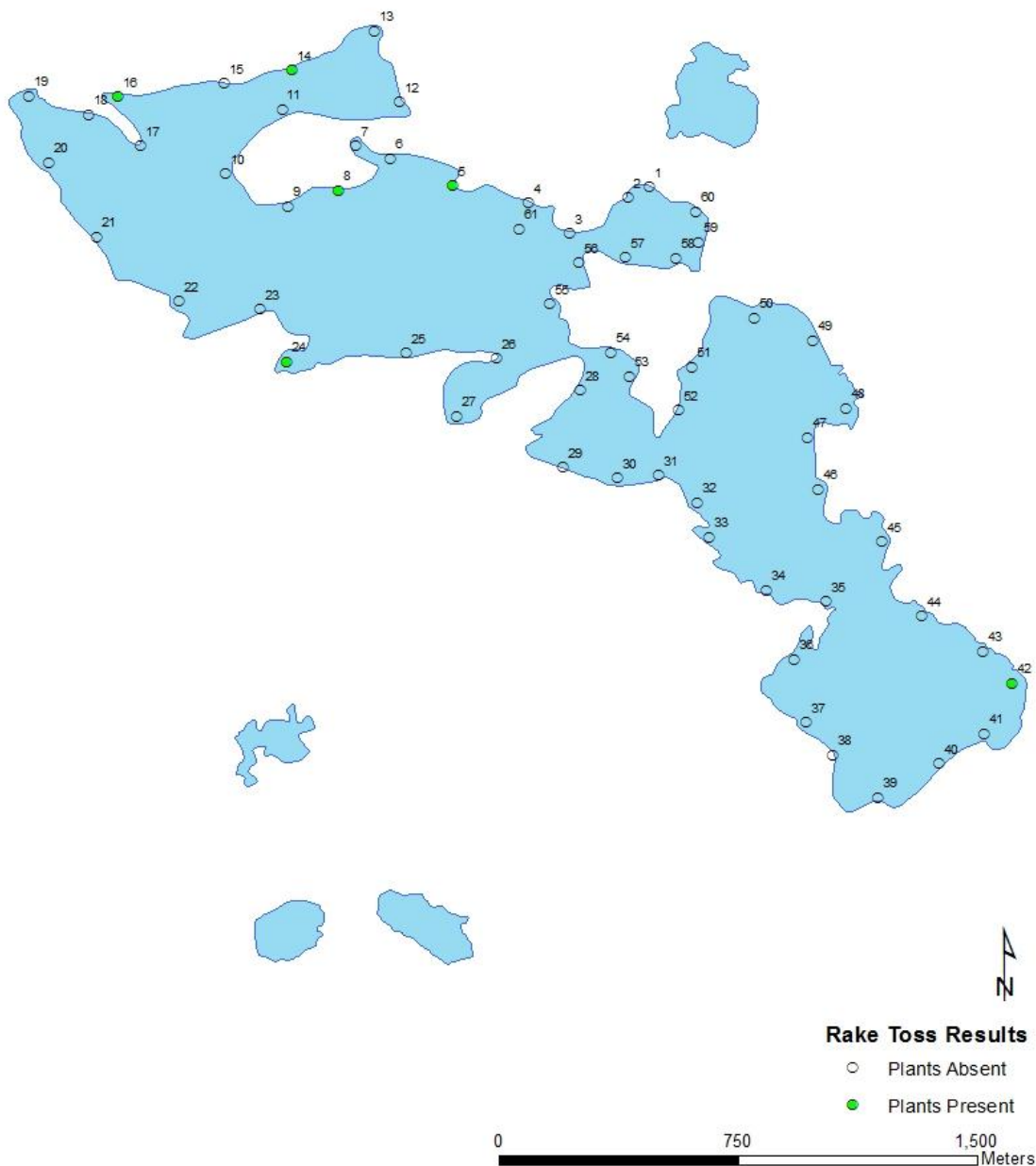


Figure 3. Rake toss locations on Loon Lake, 18 August, 2014. Open circles represent locations where no plants were detected, closed circles represent locations where plants were encountered on the rake. Data for Rake Tosses can be found in Table 2.1.



**Table 2.1. Species present on the rake at each of the rake toss locations and abundance. Refer to Figure 3 for Rake Toss locations.**

Loon Lake		Rake Toss					
Scientific Name	Common Name	5	8	14	16	24	42
<i>Nitella sp.</i>	Brittlewort	R	-	O	-	-	-
<i>Potamogeton amplifolius</i>	Largeleaf Pondweed	-	-	-	-	R	-
<i>Potamogeton epihydrus</i>	Ribbonleaf Pondweed	-	R	-	P	-	-
<i>Sagittaria graminea</i>	Grass-leaved Arrowhead	-	-	-	R	-	-
<i>Sparganium sp.</i>	Bur-reed	-	-	-	-	-	R
Depth (ft)		6	9.1	6.8	6.3	9.1	6.9