Final Project Report 2010

Eastern Lake Ontario Upper Watershed AIS Response Team

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Eastern Lake Ontario – Upper Watershed AIS Response Team

Project Summary

The Eastern Lake Ontario – Upper Watershed AIS Response Team was established in September 2010 as a landscape level aquatic invasive species Early Detection / Rapid Response (EDRR) team. The EDRR team worked within the Great Lakes portion of the Adirondack Park (Figure 1). The EDRR team began work in the summer of 2011 with an initial focus on rapid response work in the Fulton Chain of Lakes to eradicate a new population of Eurasian watermilfoil that was discovered during a lake survey in 2010. During the winter of 2011/2012 a priority waters list for surveillance was developed collaboratively with Hilary Smith and Meghan Johnstone of the Adirondack Park Invasive Plant Program (APIPP), and early detection surveillance work commenced in the summer of 2012. We performed EDRR using two teams, an Early Detection (ED) team surveyed lakes and a Rapid Response (RR) team performed eradication.

The ED team surveyed 30 lakes in 2012. Ten of these lakes had AIS present (1 Eurasian watermilfoil (EWM) and 9 Variable-leaf milfoil (VLM)), with 9 of these lakes with well established populations of VLM and 1 of these lakes with a scattered low-density population of EWM. The EWM was found in Meacham Lake in late summer and we decided to forgo any management until the following year. The RR team performed EWM eradication in Second, Fourth, and Fifth Lakes within the Fulton Chain of Lakes. EWM eradication from Second and Fourth Lakes was initiated prior to this project and no new plants were observed in either of these lakes in 2011 or 2012. EWM eradication from Fifth Lake was initiated in 2011, with 4,050 pounds removed that summer and 175 pounds removed in 2012. The lack of EWM regrowth in Second and Fourth Lakes in the two years proceeding removal indicate a successful eradication and the large year-to-year reduction in EWM removal from Fifth Lake suggests eradication is likely within this water body as well, though more years of removal effort and follow-up monitoring will be needed. Our very positive results with EWM removal from the Fulton Chain highlight the value of EDRR in managing AIS, as in the absence of the EDRR team EWM and other AIS could rapidly become established. The Eastern Lake Ontario – Upper Watershed AIS Response Team continues its early detection and rapid response work.

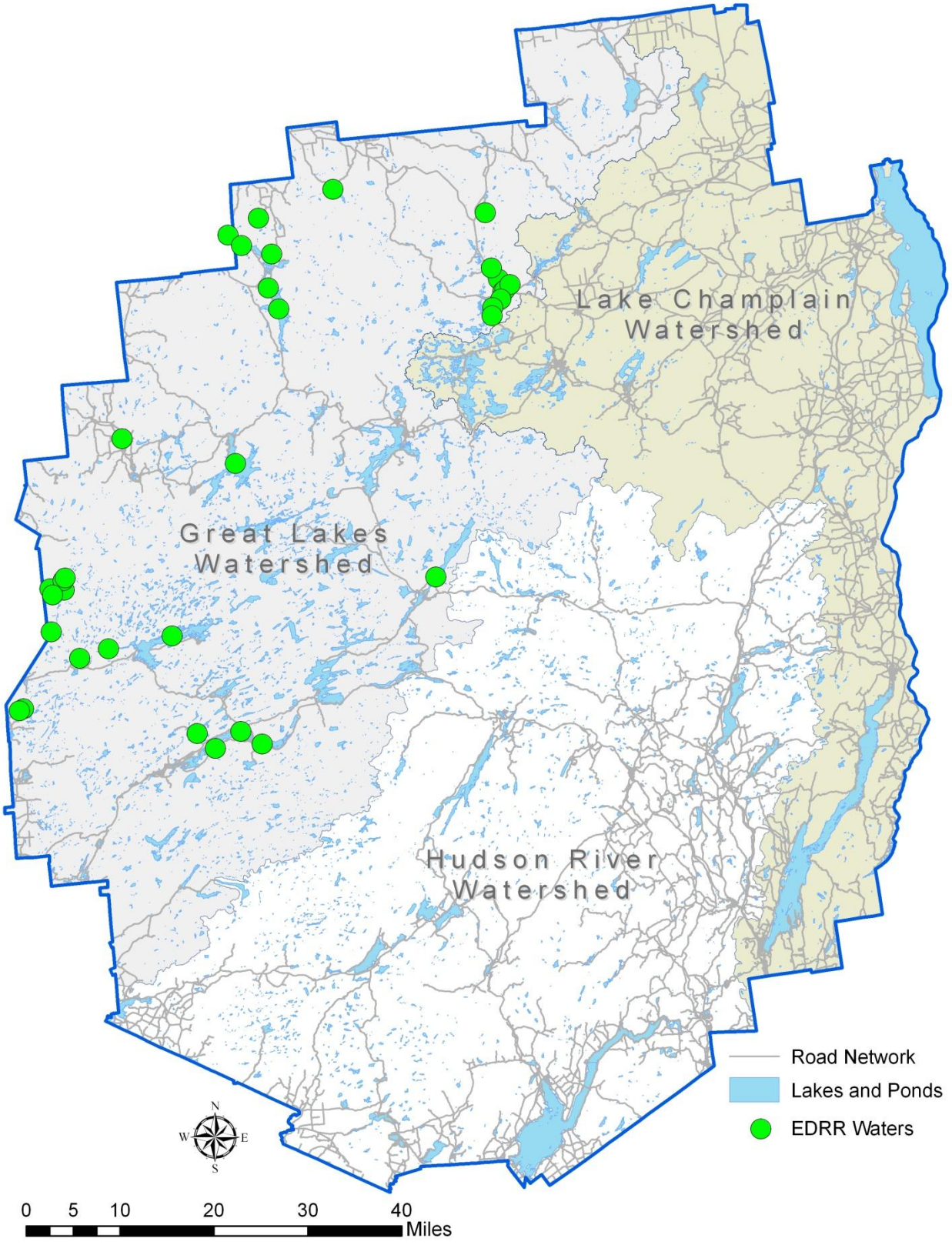


Figure 1. Three major drainage basins within the Adirondack Park and locations of lakes worked on by the EDRR teams in 2011 and 2012.

Early Detection

The ED team performed whole lake aquatic plant surveys using a combination of visual surveys and rake tossing. The team surveyed the entire littoral zone of each 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 (Appendix 1). Visual surveys were supplemented by periodic rake tossing using a consistent protocol (Appendix 2). All field data were entered into ArcGIS to create aquatic plant maps for each lake. When AIS were encountered, separate maps that showed the locations and abundance of the AIS were created. The ED team received two weeks of intensive training on native aquatic species and AIS identification, as well as field survey techniques, prior to performing any lake surveys. When deployed, the ED team worked in two person crews under the supervision of a crew chief (Photo 1). The surveys were generally done by canoe (Photos 1, 2, and 4), but a motor boat was used when possible in larger water bodies (Photo 3). 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 1. Early detection survey team shown with the canoes used for most surveys. From left to right they are Josh Fitzgerald, Virginia Brink, Kimberly Forrest, and Josh Pierce (crew chief).

Photo 2. Kim Forrest and Josh Pierce identify and map species of aquatic plants in Barnum Pond from a canoe.

Photo 3. Josh Fitzgerald conducts a surface survey of Stillwater Reservoir. When possible large lakes are surveyed using a combination of canoes and motorboats.

Photo 4. Josh Pierce identifies a species of aquatic plant after performing a rake toss in Lake Meacham.

Rapid Response

The RR team followed best management practices for hand-harvesting aquatic plants. Invasive plants were hand-harvested using three divers (1 lead and 2 support divers) with breathing air supplied by a floating hookah rig. The divers carefully removed the entire aboveground portion of the plant and as much root material as possible. The plants were placed in mesh bags that weighed approximately 50 pounds when full. Full bags were brought to the surface and handed off to a top water support person in a kayak. The top water support person handed the diver an empty bag and dumped the full bag in a disposal boat. The top water support person also collected plant fragments floating on the surface and warned other boats away from the dive area. Before entering the water, the lead diver marked the work area with buoys and decided on the approach for harvesting the area; either quadrant harvesting in dense areas or line harvesting in more sparse areas. In quadrant diving each diver worked their own area, while in line harvesting the divers swam a straight line in sight of each other to harvest scattered plants. The team maintained a daily log of activities. The team was provided with a map of the lake, a GPS unit (Garmin ETrex Vista), and data sheets. The team filled out a new data sheet for each work area each day. This data was then transferred into ArcGIS to produce an operational survey and accounting of removals for tracking and reporting progress. Harvested material was disposed of at designated sites approved by local and state authorities. The RR team also took precautions to sanitize their gear and watercraft before traveling between waterways.

Photo 5. Rapid response management team with boat and diver gear preparing to travel to the Fulton Chain of Lakes. From left to right they are Zach Davidson, Alex Lecheminant, Sean Regalado, and Tim Worth (crew chief).

Photo 6. Rapid response management team hand harvesting Eurasian watermilfoil in the Fulton Chain. Note yellow hoses supplying air to the divers from the hookah rig and the green bags filled with milfoil on the deck of the kayak.

Results

Early Detection Team

The ED team surveyed 30 lakes and found AIS in 10 of these water bodies (Figure 1 and Table 1). Complete reports for each lake listed in Table 1 are located in Appendix 3. Nine of the 10 invaded lakes had VLM present and the remaining invaded lake had EWM present. Six of the 9 lakes with VLM were part of chains of reservoirs (Blake Falls, Five Falls, Rainbow Falls, Soft Maple, Stark Falls, and Stillwater Reservoirs) operated by a hydroelectric power utility. With the exception of Soft Maple Reservoir, these reservoirs had well established populations of VLM ranging from 14 to 30 acres of plant beds. Cranberry Lake and Long Lake both had very well established populations of VLM with 386 and 377 acres of plant beds, respectively. Meacham Lake was the one lake with EWM present, and had about 3 acres of low-density EWM. Owing to the low acreage and low density of EWM, Meacham Lake was considered a candidate for rapid response. A more detailed assessment of Meacham Lake was conducted in 2013 under the second USFS/GLRI grant award.

Underwater and surface photographs of EWM and VLM are shown in Photos 7-11.

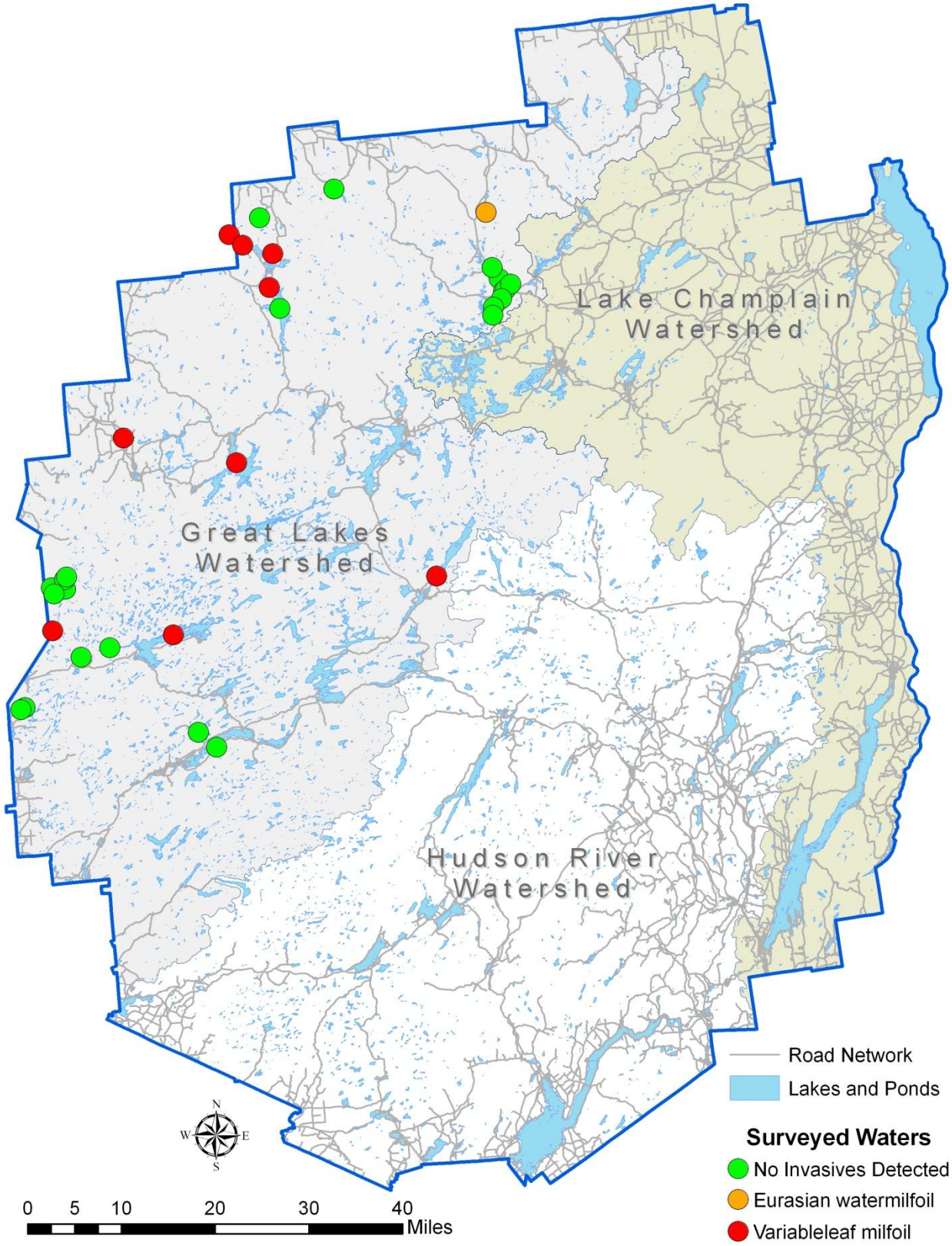


Figure 2. Locations of the 30 lakes and ponds surveyed in 2012 within the Great Lakes Watershed region of the Adirondack Park, New York. Colored circles indicate the species of aquatic invasive plants detected.

Table 1. Names and locations of the 30 lakes and ponds surveyed in 2012 within the Great Lakes Region of the Adirondack Park, New York, and the species of aquatic invasive plants detected in each waterbody.

Waterbody Name	Location		Invasive Species Detected*
	Latitude	Longitude	
----------*detection*----------			
Meacham Lake	44.5620	-74.2861	EWM
Blake Falls Reservoir	44.4999	-74.7482	VLM
Cranberry Lake	44.1771	-74.8273	VLM
Five Falls Reservoir	44.5297	-74.8418	VLM
Little River Flow	44.2153	-75.0705	VLM
Long Lake	44.0007	-74.3990	VLM
Rainbow Falls Reservoir	44.5135	-74.8130	VLM
Soft Maple Reservoir	43.9174	-75.2211	VLM
Stark Falls Reservoir	44.4479	-74.7557	VLM
Stillwater Reservoir	43.9115	-74.9627	VLM
----------*no detection*----------			
Barnum Pond	44.4595	-74.2593	None
Beaver Lake	43.8766	-75.1601	None
Carry Falls Reservoir	44.4155	-74.7333	None
Church Pond	44.4401	-74.2497	None
Clear Pond	43.9838	-75.2241	None
Clear Pond	44.5559	-74.7764	None
Cleveland Lake	43.7986	-75.2799	None
Lake Ozonia	44.5995	-74.6152	None
Lake Rondaxe	43.7608	-74.9101	None
Little Osgood Pond	44.4426	-74.2458	None
Long Pond	43.9820	-75.1942	None
Lower St Regis Lake	44.4285	-74.2543	None
Moshier Reservoir	43.8913	-75.0989	None
Mountain Pond	44.4765	-74.2742	None
Mud Pond	43.9745	-75.2185	None
Osgood Pond	44.4511	-74.2342	None
Payne Lake	43.7957	-75.2889	None
Quiver Pond	43.7379	-74.8710	None
Rock Pond	43.9963	-75.1960	None
Spitfire Lake	44.4156	-74.2721	None
Trout Lake	44.0006	-75.1916	None
Upper St Regis Lake	44.4032	-74.2740	None

*EWM is Eurasian watermilfoil and VLM is Variable-leaf milfoil

Invasive Plant Images

Photo 7. Underwater photograph of Eurasian watermilfoil taken in Lake Colby on July 13, 2012. Note white rootlets midway down stem.

Photo 8. Surface water photograph of Eurasian watermilfoil taken in Lake Colby on July 13, 2012. Note spikes emerging from the water at the end of the stem that give this species its name.

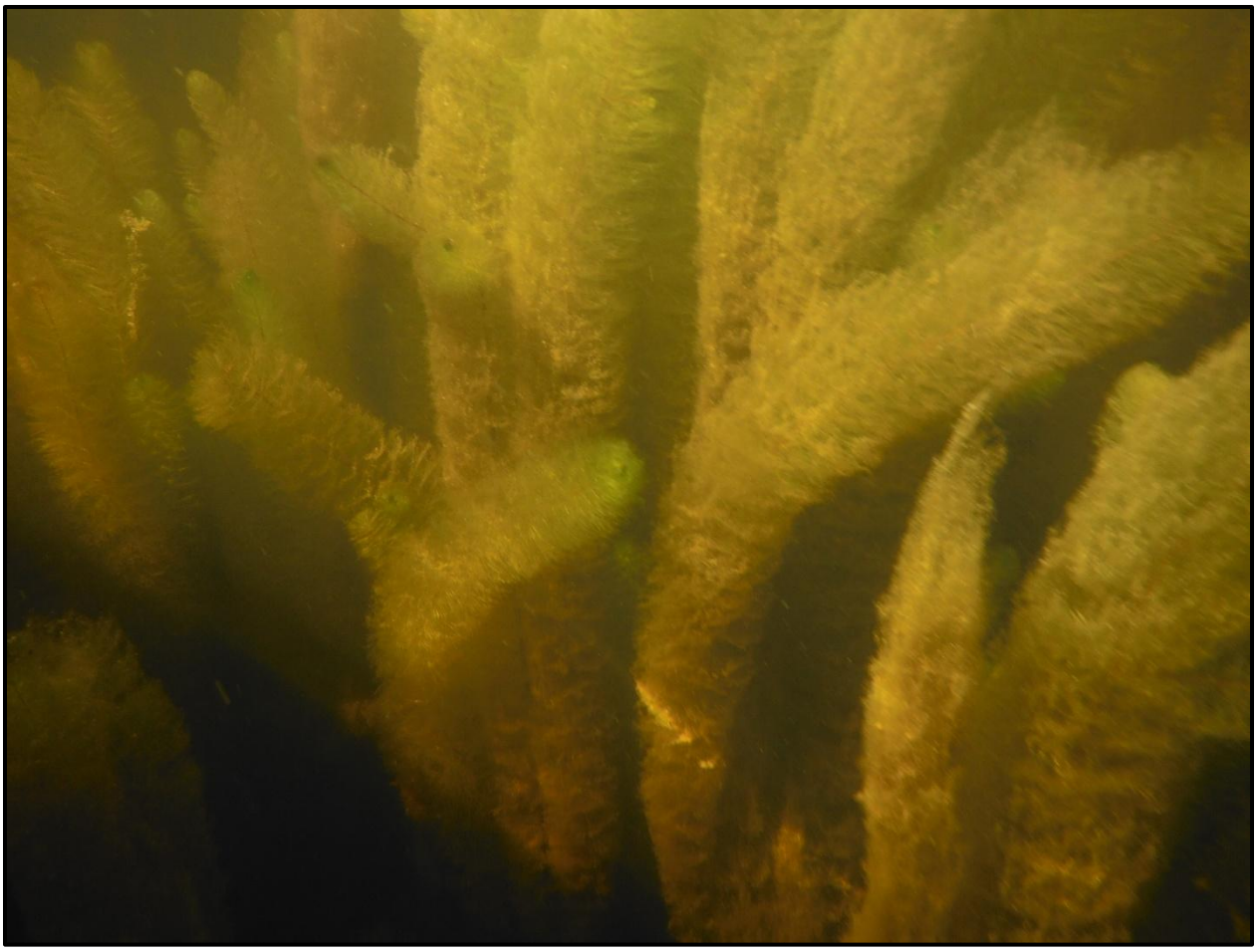


Photo 9. Underwater photograph of Variable-leaf milfoil taken in Stark Falls Reservoir on June 19, 2012. Note the "foxtail" like growth form and algae on leaves.

Photo 10. Surface water photograph of Variable-leaf milfoil taken in Stark Falls Reservoir on June 19, 2012. Note the flowering structure emerging from the water at the end of the stem.

Photo 11. Photograph of flowering structures of Variable-leaf milfoil taken from Stark Falls Reservoir on June 19, 2012. Note the entire and finely-divided leaves that give this species its name are easily seen.

Rapid Response Team

The RR team worked in the Fulton Chain of Lakes in 2011 and 2012 performing EWM eradication in Second, Fourth, and Fifth Lakes (Figure 3). EWM eradication from Second and Fourth Lakes was initiated in 2010 prior to this award, while eradication from Fifth Lake was initiated in 2011 under this award. No EWM was found growing in Second or Fourth Lakes in 2011 and 2012, as indicated by zero removals in Table 2. Four thousand and fifty pounds of EWM were removed from Fifth Lake in 2011 and 175 pound of EWM were removed from Fifth Lake in 2012, for a total of 4,225 pounds of EWM removed under this award. The large year to year reduction in EWM removals from Fifth Lake indicate that the eradication work is succeeding, but more years of removal effort and follow-up monitoring will be needed.

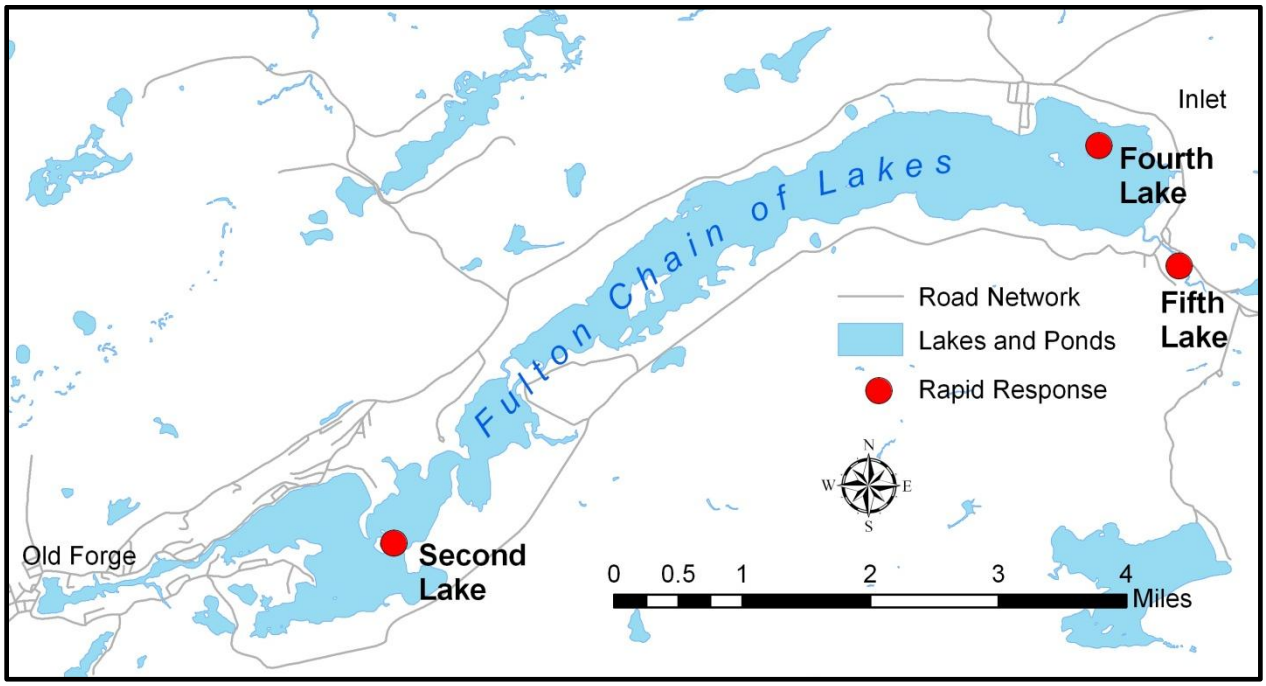


Figure 3. Locations of rapid response work in Second, Fourth, and Fifth Lakes within the Fulton Chain of Lakes.

Table 2. Dates, locations, and Eurasian watermilfoil removals conducted by the Rapid Response Team within the Great Lakes Region of the Adirondack Park during the summers of 2011 and 2012.

Date	Location	Milfoil Removed (pounds)
7/19/2011	2nd and 4th Lakes, Fulton Chain	0
7/20/2011	5th Lake, Fulton Chain	300
7/21/2011	5th Lake	400
7/25/2011	5th Lake	350
7/26/2011	5th Lake	400
7/27/2011	5th Lake	500
7/28/2011	5th Lake	450
8/1/2011	5th Lake	550
8/2/2011	5th Lake	300
8/3/2011	5th Lake	600
8/4/2011	5th Lake	200
2011		4,050
7/23/2012	5th Lake	50
7/24/2012	5th Lake	50
7/25/2012	5th Lake	75
7/26/2012	2nd and 4th Lakes, Fulton Chain	0
2012		175
Total		4,225

Appendix 1. Field Datasheet for Early Detection Team

Lake Name: _____ **Crew Initials:** _____ **GPS #:** ___

Waypoint #s	Comments*	Species Codes - Abundance

*Enter date, weather, depth for rake tosses and other comments in this field

Appendix 2. Rake Toss Protocol

SAMPLES PER LAKE

- Minimum of 30 samples from lakes less than 250 acres
- Minimum of 50 samples from lakes greater than 250 acres
- More samples should be taken when visibility is poor and you do not have a good sense of the lake bottom

SAMPLING LOCATIONS

- Sampling locations should be approximately equally distributed along the lake shore
- Samples should be collected from across the range of littoral zone depths

SAMPLING METHOD

- Record waypoint at sampling location
- Record depth at sampling location
- Toss rake length of line and retrieve rake slowly into the boat
- Separate plant species into individual piles
- Estimate plant abundance by species using the following scale:

  0 = zero plants = no plants on rake

  1 = trace plants = fingerful on rake

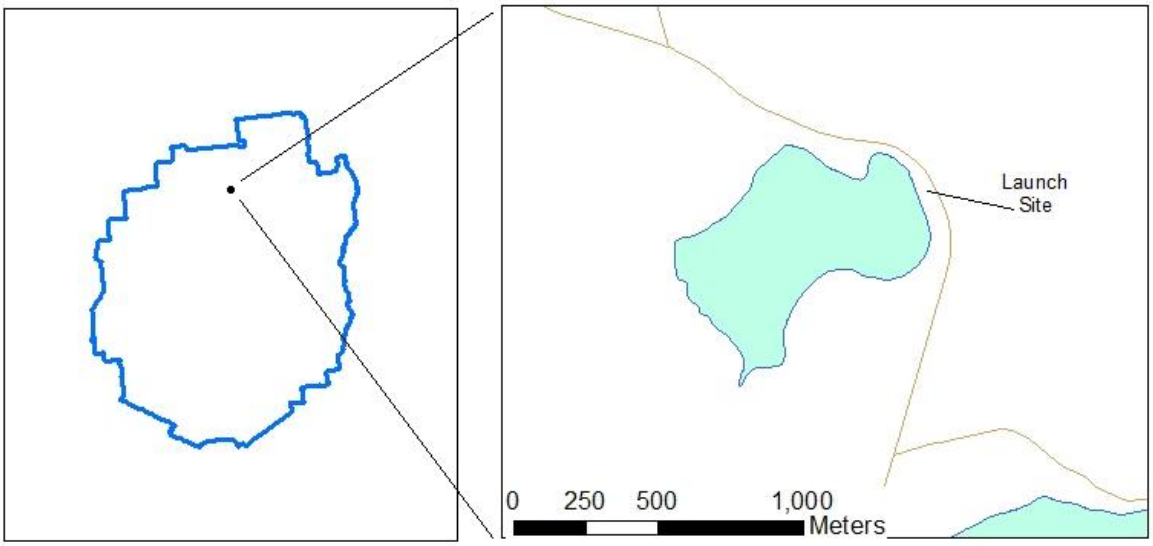
  2 = sparse plants = handful on rake

  3 = medium plants = greater than a handful but rake not full of plants

  4 = dense plants = rake full of plants

Appendix 3. Aquatic Plant Surveys

Barnum Pond Aquatic Plant Survey 2012

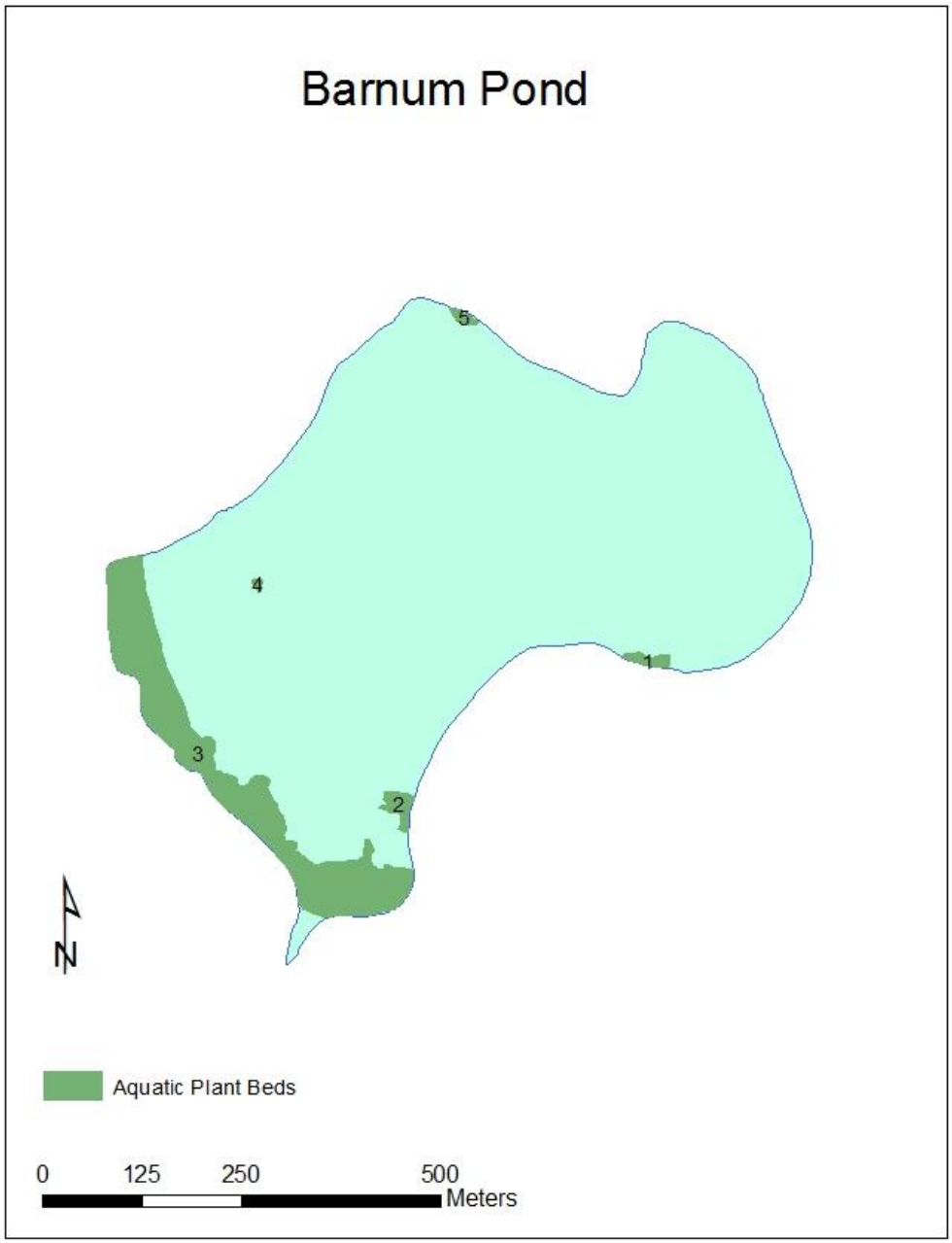


Map 1: Location of Barnum Pond.

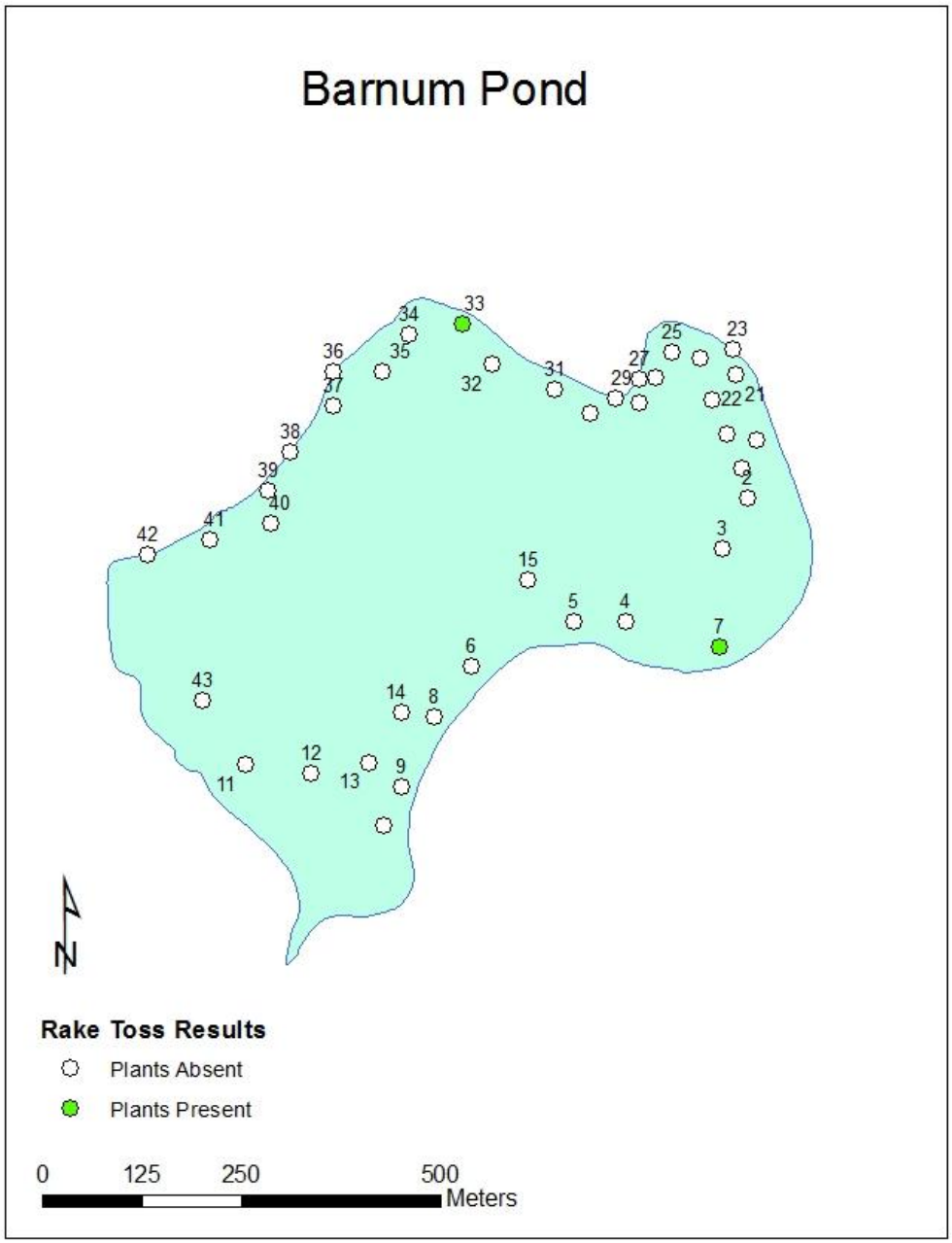
Barnum Pond is located the town of Brighton in Franklin County, New York (Map 1). The 84 acre pond was accessed by a hardtop launch on the eastern shore just off from State Route 30, 1.7 miles north of Paul Smiths, New York.

An aquatic plant survey of Barnum Pond was conducted on 8-August-2012. No invasive aquatic plants were detected during the survey. Aquatic plant coverage in Barnum Pond was moderate, comprised of 5 plant beds that collectively covered 8 acres or 9.5% of the surface area of the lake (Map 2). Only 4 different aquatic species were identified during the survey. The most common species were Spatterdock (*Nuphar variegata*), White waterlily (*Nymphaea odorata*), Bur-reed (*Sparganium sp.*), and Common bladderwort (*Utricularia vulgaris*). When this survey was preformed there was an algal bloom which may have had an effect on data collected as visibility into the water only reached a depth of 1-2 feet, therefore more rakes were deployed to gain a better understanding of what species could be found in the water. Common bladderwort could easily be confused as an invasive species (Table 1)

Of the 43 rake tosses spaced throughout the littoral zone of the lake (Map 3), only 2 had acquired plants upon their recovery (4.7%). All species found during the rake tosses were detected during the surface survey of Barnum Pond (Table 2).



Map 2: Location of the aquatic plant beds detected in Barnum Pond during the surface survey performed on 08 Aug, 2012.
Data for Plant Beds can be found on Table 1.



Map 3: Rake toss locations on Barnum Pond, 08 Aug, 2012. 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 on Table 2.

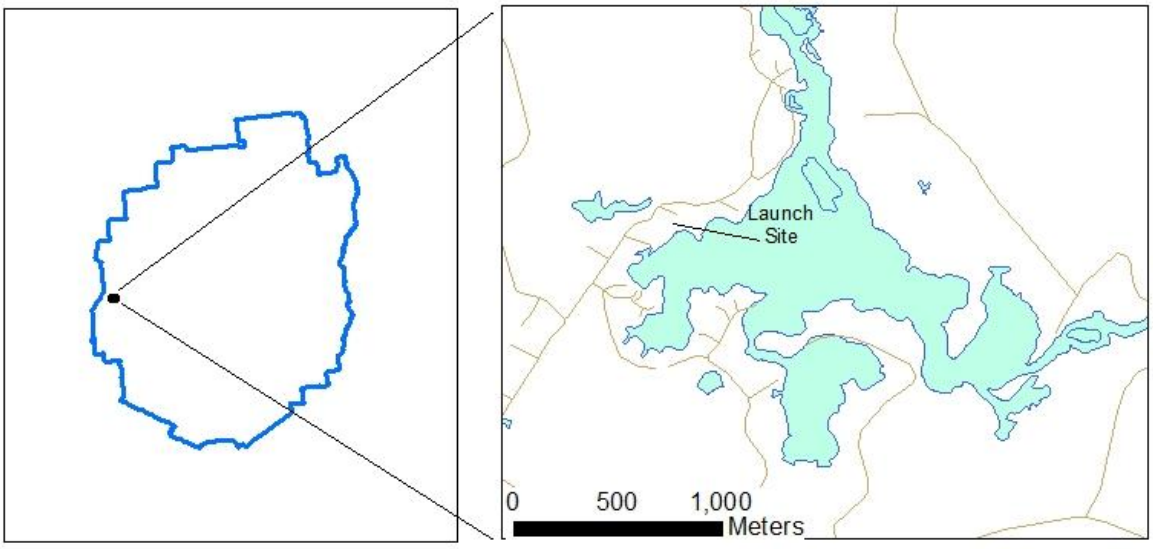
Table 1: Percent cover of aquatic plant species detected at each plant bed in Barnum Pond. Refer to Map 2 for bed locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Barnum Pond			**Plant Bed Number**				
			1	2	3	4	5
Scientific Name	**Common Name**	**AREA (M^2)**	779	1229	29963	180	471
Nuphar variegata	Spatterdock		P	-	P	A	-
Nymphaea odorata	White waterlily		-	R	P	-	-
Sparganium sp.	Bur-reed		C	A	P	-	C
Utricularia vulgaris	Common bladderwort		-	-	R	-	-

Table 2: Species present on the rake at each of the rake toss locations and abundance. Refer to Map 3 for Rake locations.

Barnum Pond		**Rake Toss Number**		
Scientific Name	**Common Name**		7	33
Nuphar variegata	Spatterdock		R	-
Utricularia vulgaris	Common bladderwort		-	R

Beaver Lake Aquatic Plant Survey 2012



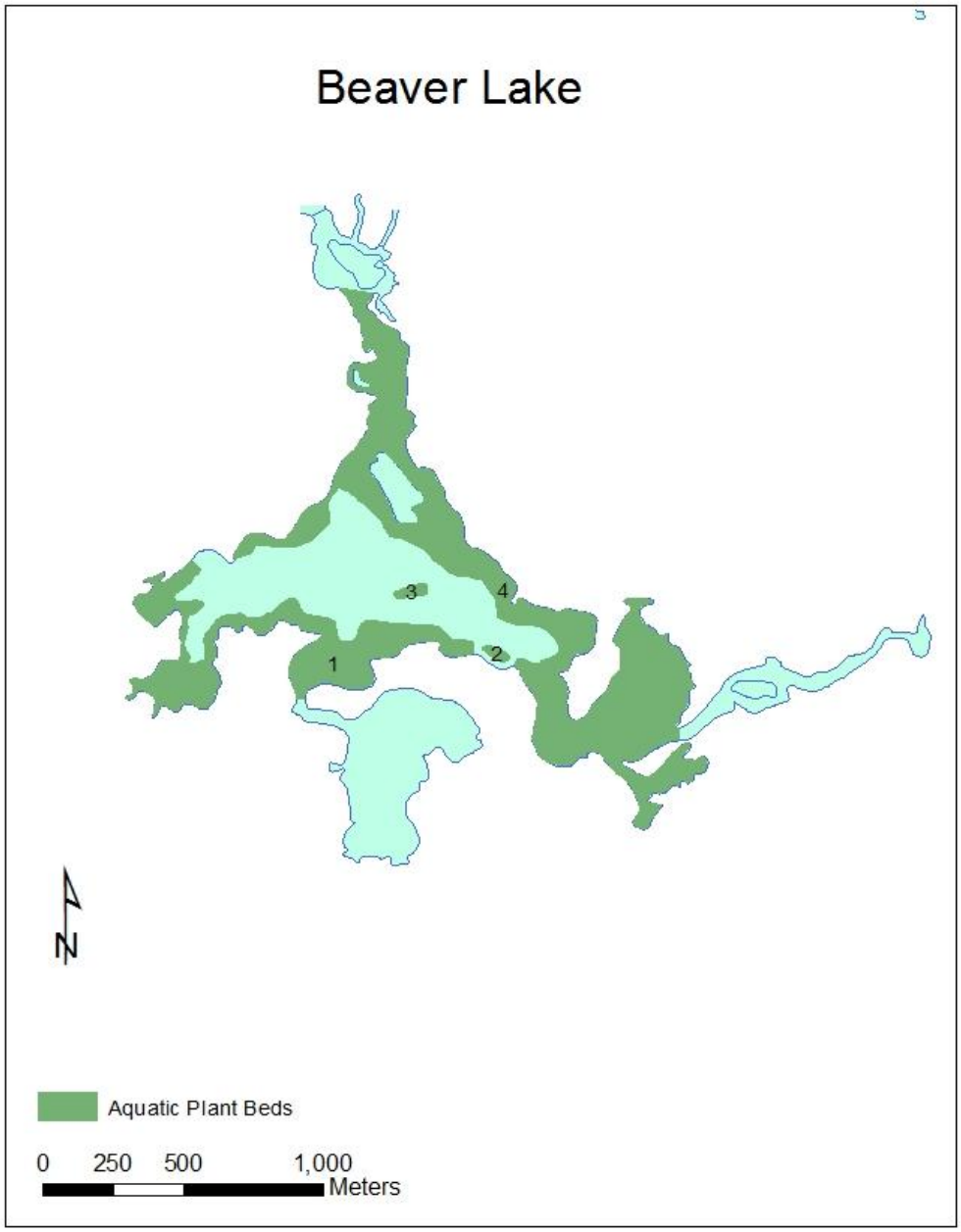
Map 4: Location of Beaver Lake.

Beaver Lake is located the town of Watson in Lewis County, New York (Map 4). The 238 acre lake was accessed through Beaver Camp, a private camp which allowed the use of their launch. The launch was located on Buck Point Road off from Stillwater Road north of the town of Inlet.

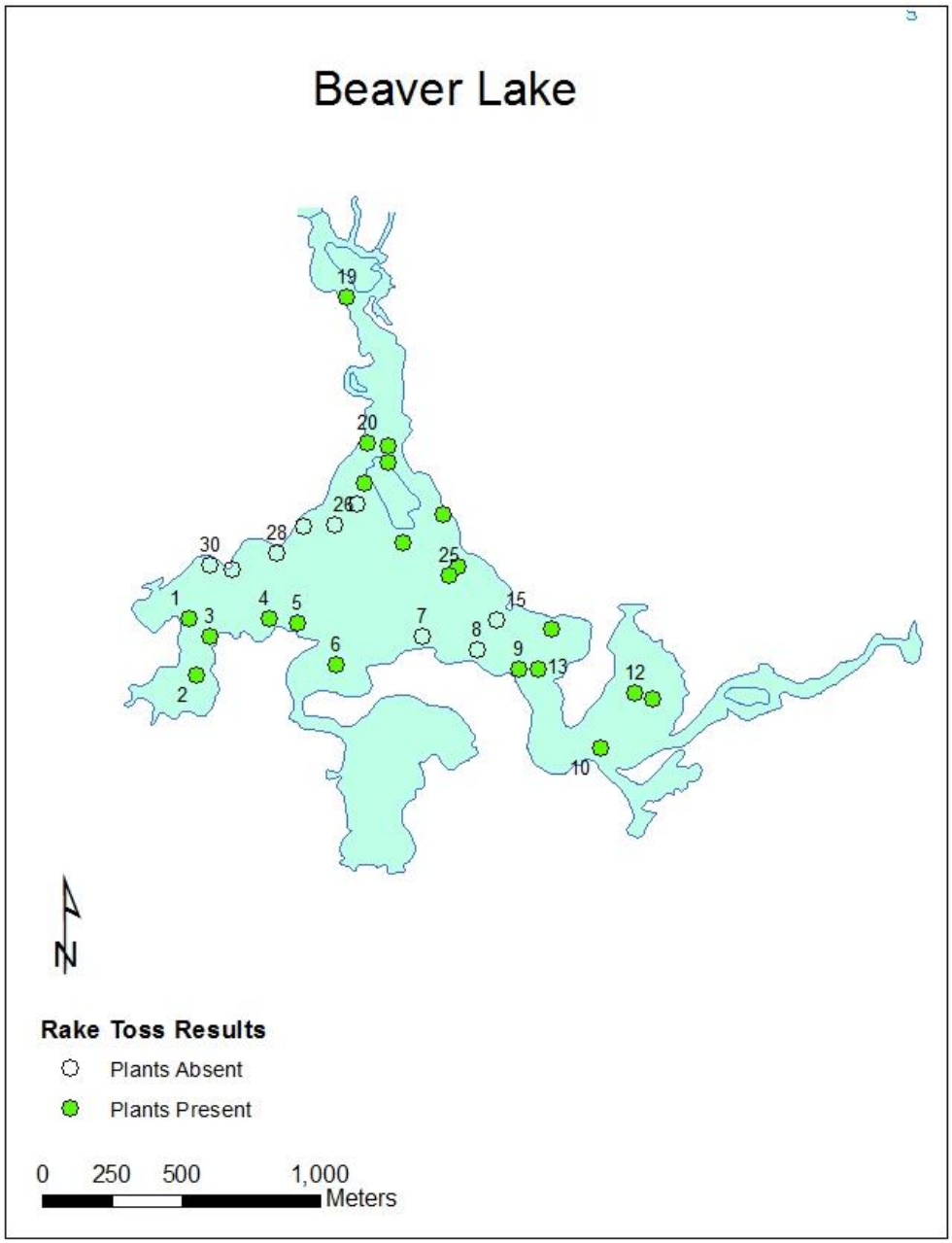
An aquatic plant survey of Beaver Lake was conducted on 15-August-2012. A species of concern, Little floating heart (*Nymphoides cordata*), was detected during this survey (Map 7). Aquatic plant coverage in Beaver Lake was relatively low, comprised of 4 plant beds that collectively covered 16.8 acres or 7.2% of the surface area of the lake (Map 5). Fourteen different aquatic species were identified during this survey. Species most common within the water body included Little floating heart, Brittlewort (*Nitella sp.*), and Hairgrass (*Eliocharis sp.*). Purple bladderwort (*Utricularia purprea*), Common bladderwort (*Utricularia* vulgaris), and Coontail (*Ceratophyllum sp.*) were common species that could be easy to confuse with invasive species (Table 3).

Of the 30 rakes deployed throughout the littoral zone of the lake (Map 6), 21 had acquired plants upon their recovery (70%). Coontail (*Ceratophyllum sp.*), Water naiad (*Najas sp.*), and Brittlewort (*Nitella sp.*) were species brought up on the rakes that were not detected in the surface survey (Table 4).

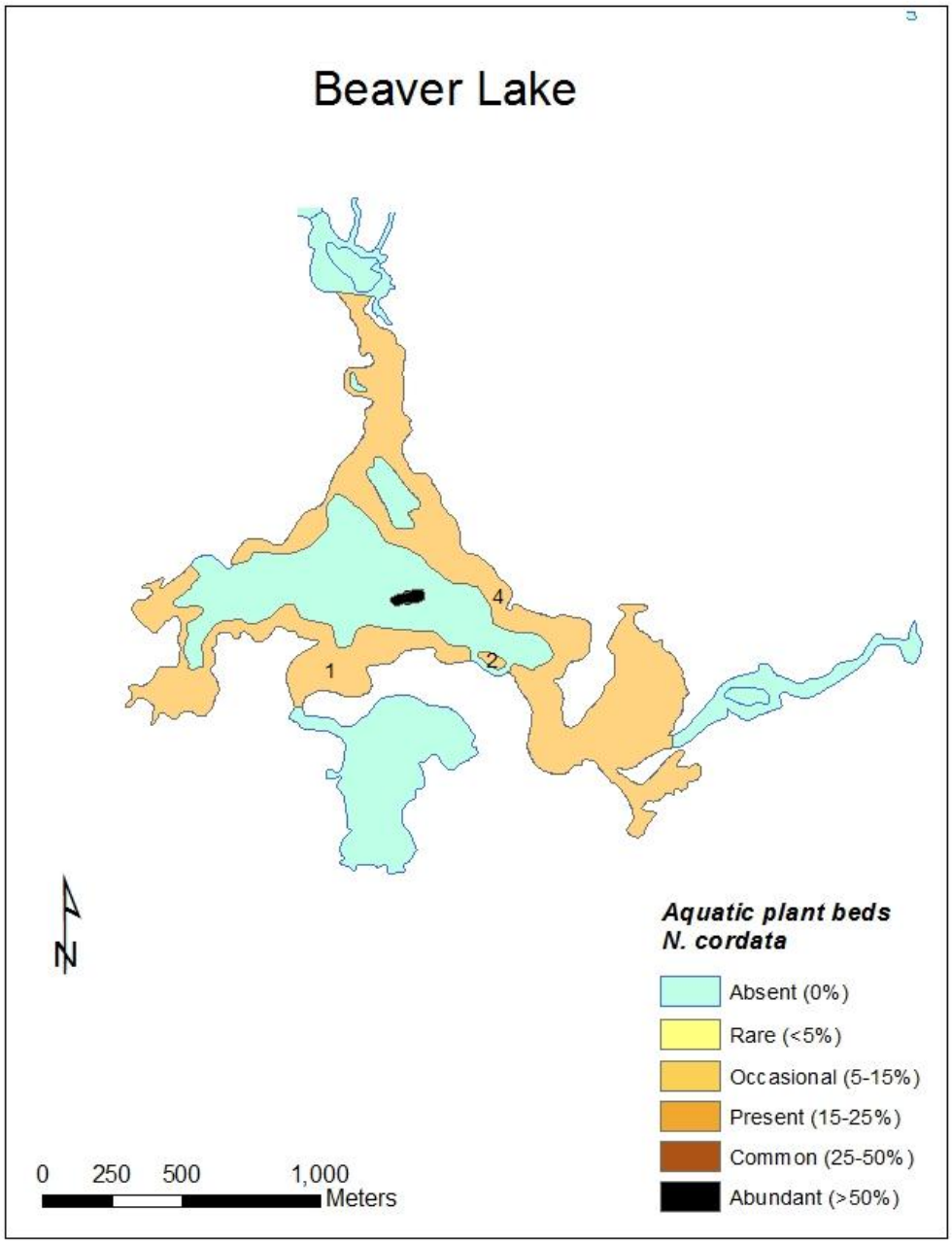
Little floating heart in Beaver Lake was found in 4 beds that covered 16.8 acres. This was 7.2% of the surface area of Beaver Lake and 100% of the total aquatic plant coverage in the lake (Map 7 & Table 5).



Map 5: Location of the aquatic plant beds detected in Beaver Lake during the surface survey performed on 15 Aug, 2012.
Data for Plant Beds can be found on Table 3.



Map 6: Rake toss locations on Beaver Lake, 15 Aug, 2012. 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 on Table 4.



Map 7: Location of *Nymphoides cordata* detected in Beaver Lake during the surface survey performed on 15 Aug, 2012.
Data for *N. cordata* can be found on Table 5.

Table 3: Percent cover of aquatic plant species detected at each plant bed in Beaver Lake. Refer to Map 5 for bed locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Beaver Lake			**Plant Bed Numbers**			
			1	2	3	4
Scientific Name	**Common Name**	**AREA (M^2)**	191018	3362	4615	481832
Brasenia schreberi	Water shield		R	R	-	R
Eleocharis sp.	Hairgrass		P	-	-	P
Nuphar variegata	Spatterdock		R	-	-	-
Nymphaea odorata	White waterlily		P	P	-	P
Nymphoides cordata	Little floatingheart		O	O	A	O
Potamogeton epihydrus	Ribbon-leaf pondweed		R	-	-	P
Potamogeton natans	Floating pondweed		P	-	-	R
Sagittaria graminea	Grassy arrowhead		-	R	-	-
Sparganium sp.	Bur-reed		R	-	-	R
Utricularia purprea	Purple bladderwort		-	R	-	R
Utricularia vulgaris	Common bladderwort		P	R	-	O

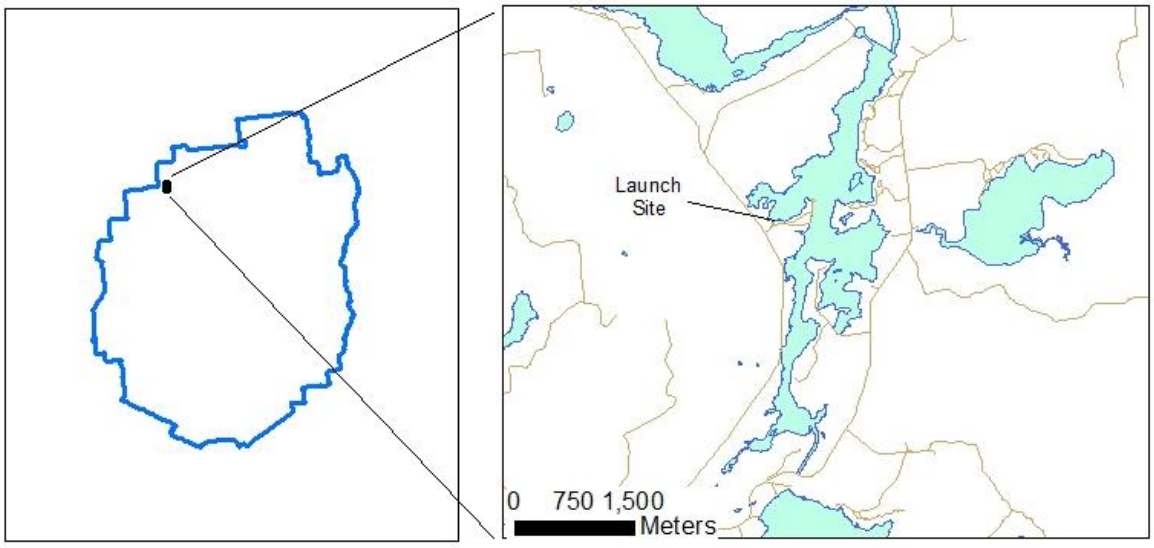
Table 4: Species present on the rake at each of the rake toss locations and abundance. Refer to Map 6 for Rake locations.

Beaver Lake		**Rake Toss Numbers**																				
		1	2	3	4	5	6	9	10	11	12	13	14	16	17	18	19	20	21	22	24	25
Scientific Name	**Common Name**																					
Ceratophyllum sp.	Coontail	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-
Eleocharis sp.	Hairgrass	O	-	-	-	-	-	-	C	-	-	O	A	-	-	P	C	-	O	-	-	-
Najas sp.	Water naiad	-	O	-	-	-	O	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitella sp.	Brittlewort	R	R	R	R	R	O	R	-	-	-	-	-	R	R	-	-	R	O	R	-	-
Nuphar variegata	Spatterdock	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-
Nymphoides cordata	Little floatingheart	-	-	-	-	-	-	R	-	R	-	-	-	-	R	-	-	-	-	-	R	-
Sparganium sp.	Bur-reed	-	-	-	-	-	O	R	-	-	-	O	-	-	-	-	-	-	-	-	-	-
Utricularia purprea	Purple bladderwort	P	-	-	-	-	P	-	-	-	-	-	-	-	-	R	-	-	P	C	-	R

Table 5: Percent cover of *Nymphoides cordata* detected in Beaver Lake. Refer to Map 7 for *N cordata* locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Beaver Lake			**Plant Bed Numbers**			
			1	2	3	4
Scientific Name	**Common Name**	**AREA (M^2)**	191018	3362	4615	481832
Nymphoides cordata	Little floatingheart		O	O	A	O

Blake Falls Reservoir Aquatic Plant Survey 2012



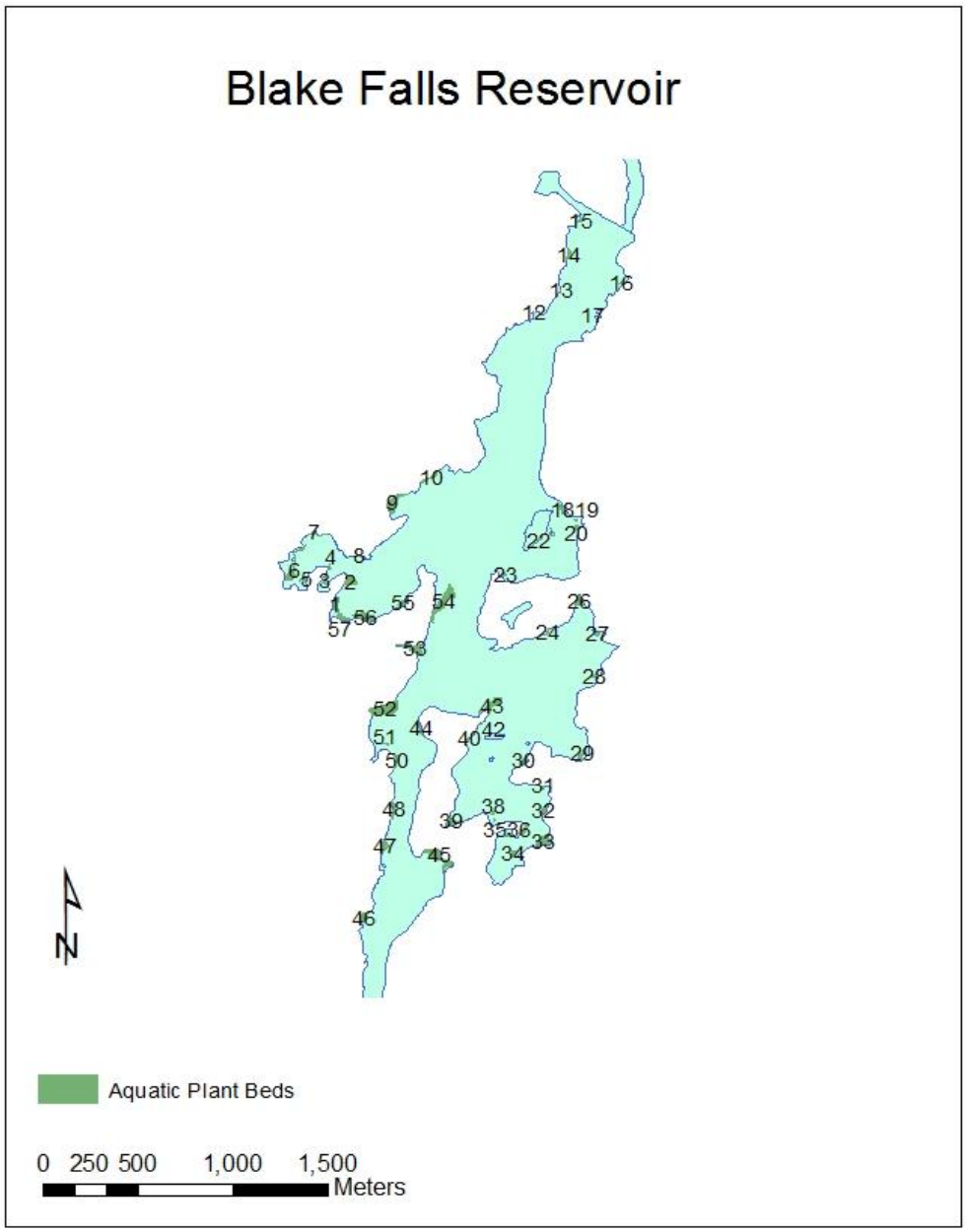
Map 8: Location of Blake Falls Reservoir.

Blake Falls Reservoir is located in the town of Parishville in St. Lawrence County, New York (Map 8). The 642 acre lake was accessed by a hardtop DEC boat launch on the western shore. The launch can be found on the Raquette River Road off from State Route 56, approximately 6 miles south of South Colton and 12.6 miles north of the intersection of 56 and State Route 3.

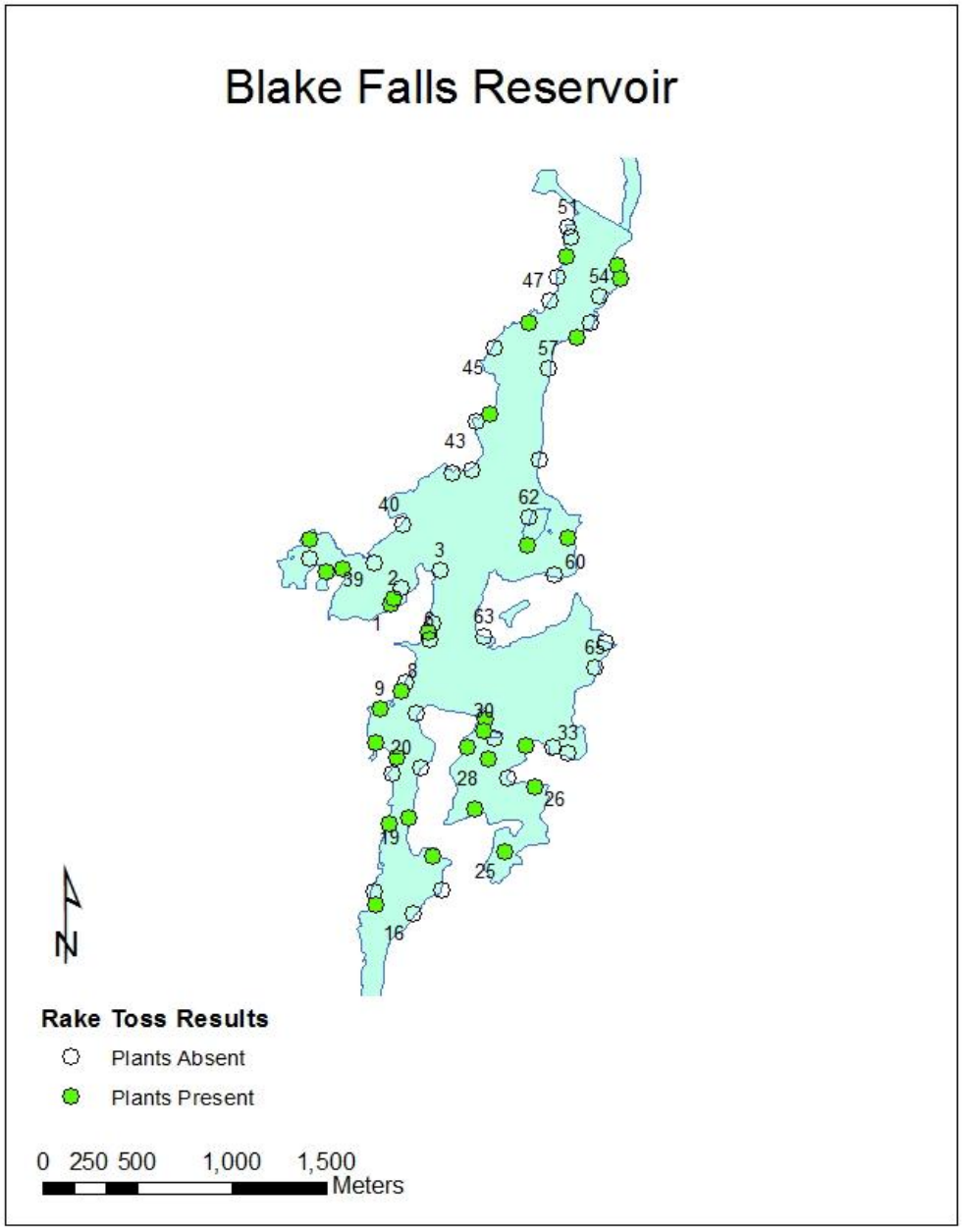
An aquatic plant survey of Blake Falls Reservoir was conducted on 21-June-2012. Twoleaf or Variable-leaf watermilfoil (*Myriophyllum heterophyllum*) was detected during this survey (Map 11). The range in which this plant is deemed native or non-native is under debate and in some states this plant is classified as invasive. Aquatic plant coverage in Blake Falls Reservoir was relatively low, comprised of 57 plant beds that collectively covered 22.8 acres or 3.5% of the surface area of the lake (Map 9). Seventeen different aquatic species were identified during this survey. Common species of this water body included many members of the pondweed genus *Potamogeton*, of which the most common was Ribbon-leaf (*P. epihydris*). Purple bladderwort (*Utricularia purprea*) was a native species found which could easily be confused as an invasive species (Table 6).

Of the 65 rake tosses spaced throughout the littoral zone of the lake (Map 10), 30 rakes had acquired plants upon recovery (46%). All plants found on the rakes after retrieval were detected during the surface survey (Table 7).

Variable-leaf watermilfoil in Blake Falls Reservoir consisted of 35 beds that covered 14.3 acres. This was 2.2% of the surface area of the reservoir and 62.7% of the total aquatic plant coverage in the reservoir (Map 11 & Table 8).

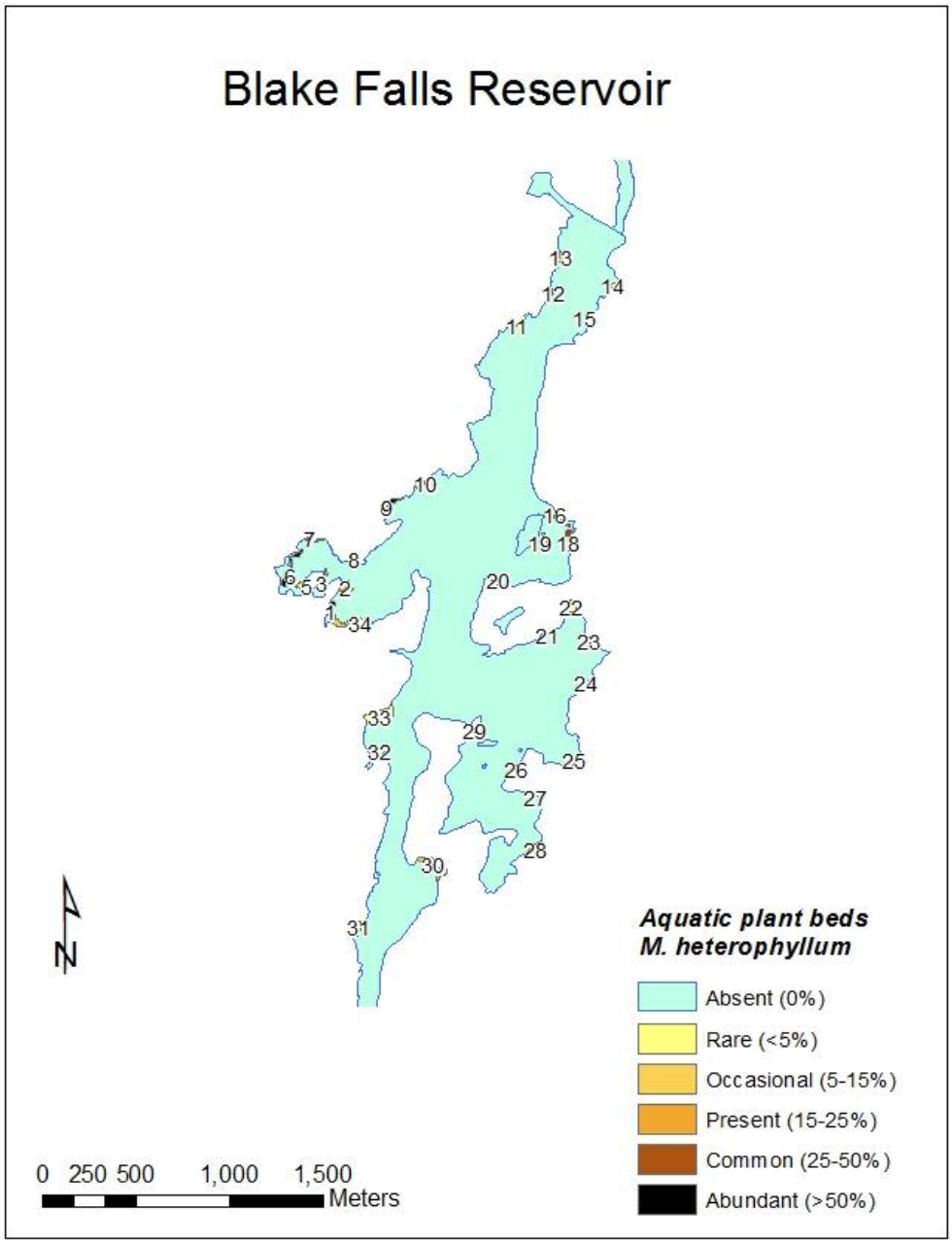


Map 9: Location of the aquatic plant beds detected in Blake Falls Reservoir during the surface survey performed on 21 June, 2012.
Data for Plant Beds can be found on Table 6.



Map 10: Rake toss locations on Blake Falls Reservoir, 21 June, 2012. 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 on Table 7.



Map 11: Location of the *Myriophyllum heterophyllum* beds detected in Blake Falls Reservoir during the surface survey performed on 21 June, 2012.
Data for *M. heterophyllum* beds can be found on Table 8.

Table 6: Percent cover of aquatic plant species detected at each plant bed in Blake Falls Reservoir. Refer to Map 9 for bed locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Blake Falls Reservoir			**Plant Bed Number**																												
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
Scientific Name	**Common Name**	**AREA (M^2)**	2266	2993	719	384	816	4493	997	430	4170	1751	36	176	121	1467	753	434	27	1374	352	1010	809	916	316	441	88	1997	607	525	1463
Brasenia schreberi	Water shield		-	-	-	-	-	-	-	-	-	-	-	C	-	-	-	-	-	-	-	-	-	-	-	-	-	A	-	-	-
Eleocharis sp.	Hairgrass		-	-	-	-	C	-	O	-	-	-	-	-	-	-	-	-	-	-	-	-	O	-	-	-	-	-	-	-	-
Eriocaulon sp.	Pipewort		-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	O	-	-	-	-	-	-	-	-
Isoetes sp.	Quillwort		-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lobelia dortmanna	Water lobelia		R	-	-	R	P	-	O	-	R	-	-	-	-	-	R	-	-	-	-	-	R	-	-	-	-	-	R	-	-
Myriophyllum heterophyllum	Twoleaf watermilfoil		A	P	C	O	R	A	A	O	A	P	O	-	O	O	-	R	A	R	C	C	O	-	P	-	R	R	O	R	C
Nitella sp.	Brittlewort		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nuphar variegata	Spatterdock		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	R
Potamogeton amplifolius	Large-leaf pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-
Potamogeton epihydrus	Ribbon-leaf pondweed		O	P	P	R	R	O	P	O	P	C	-	-	-	O	P	P	-	A	-	R	P	O	-	-	C	R	P	P	P
Potamogeton perfoliatus	Clasping-leaf pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton pusillus	Small pondweed		-	-	-	A	-	R	-	R	R	-	-	-	-	-	-	-	-	-	-	-	C	O	-	-	-	-	-	-	-
Potamogeton robbinsii	Robbins pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sagittaria graminea	Grassy arrowhead		-	-	A	-	A	O	O	O	O	-	-	-	-	-	-	-	-	-	-	-	C	-	-	-	-	-	-	-	R
Sparganium sp.	Bur-reed		-	R	R	-	O	-	-	-	-	A	-	R	-	A	A	A	-	C	-	-	O	-	-	C	R	-	-	-	-
Utricularia purprea	Purple bladderwort		-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vallisneria americana	Eel-grass		-	C	-	R	-	-	O	R	O	P	-	P	P	-	-	-	-	-	-	-	-	-	-	-	-	-	A	A	-

			Plant Bed Number																												
			30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	
Scientific Name	**Common Name**	**AREA (M^2)**	1320	323	1242	3328	980	630	1420	280	404	2047	833	135	336	4220	1204	6371	1898	1759	2006	182	1443	575	8580	4021	7887	1468	3812	1833	
Brasenia schreberi	Water shield		-	-	-	-	-	-	-	A	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Eleocharis sp.	Hairgrass		-	-	R	-	O	-	-	-	-	-	-	-	-	-	-	O	R	O	-	-	P	-	R	R	O	O	R	R	
Eriocaulon sp.	Pipewort		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	O	-	-	-	-	-	-	-	-	-	
Isoetes sp.	Quillwort		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Lobelia dortmanna	Water lobelia		-	R	R	R	O	R	-	-	-	-	-	R	R	-	-	O	-	-	R	-	-	-	O	R	O	O	O	P	
Myriophyllum heterophyllum	Twoleaf watermilfoil		P	R	-	O	-	-	-	-	-	-	-	-	R	-	-	O	C	-	-	-	-	R	R	-	-	-	R	O	
Nitella sp.	Brittlewort		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	
Nuphar variegata	Spatterdock		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Potamogeton amplifolius	Large-leaf pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Potamogeton epihydrus	Ribbon-leaf pondweed		-	O	P	P	P	P	P	-	P	O	P	P	A	C	C	P	A	P	P	A	P	P	C	C	O	O	O	-	
Potamogeton perfoliatus	Clasping-leaf pondweed		P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	O	-	-	-	-	-	-	-	-	-	
Potamogeton pusillus	Small pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Potamogeton robbinsii	Robbins pondweed		-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	
Sagittaria graminea	Grassy arrowhead		-	R	R	R	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	R	O	-	-	-	-	R	
Sparganium sp.	Bur-reed		O	-	-	-	-	-	-	-	-	-	-	-	O	P	C	P	-	O	R	-	P	-	O	-	P	-	-	-	
Utricularia purprea	Purple bladderwort		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Vallisneria americana	Eel-grass		-	-	-	O	-	-	-	-	-	-	P	-	-	R	-	O	-	-	-	-	-	-	-	-	O	R	P	P	

Table 7: Species present on the rake at each of the rake toss locations and abundance. Refer to Map 10 for Rake locations.

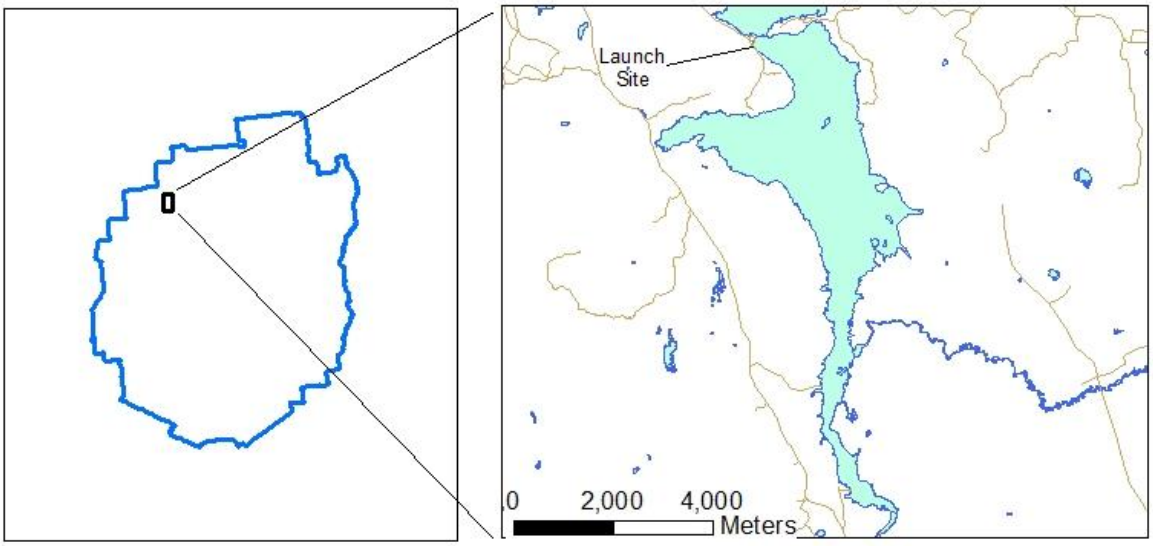
Blake Falls Reservoir		**Rake Toss Numbers**																														
Scientific Name	**Common Name**	1	2	5	8	9	10	11	13	15	18	19	22	23	24	25	26	28	30	31	35	36	38	44	46	49	52	53	56	59	61
Eleocharis sp.	Hairgrass	O	-	-	-	R	-	O	C	P	-	-	R	R	R	-	-	R	-	-	-	R	-	-	-	R	-	O	R	R	-
Myriophyllum heterophyllum	Twoleaf watermilfoil	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitella sp.	Brittlewort	-	-	-	-	-	P	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton epihydrus	Ribbon-leaf pondweed	-	-	-	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sagittaria graminea	Grassy arrowhead	-	-	-	R	R	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sparganium sp.	Bur-reed	-	-	R	-	-	-	O	-	R	P	R	-	-	-	R	-	-	-	-	-	-	-	R	O	O	-	-	-	O	-
Utricularia purprea	Purple bladderwort	R	R	O	R	R	O	-	-	-	O	-	-	-	-	O	R	-	C	R	-	R	R	-	-	R	R	-	-	R	R
Vallisneria americana	Eel-grass	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-

Table 8: Percent cover of *Myriophyllum heterophyllum* detected at each plant bed in Blake Falls Reservoir. Refer to Map 11 for *M. heterophyllum* locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Blake Falls Reservoir			**Plant Bed Number**																	
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Scientific Name	**Common Name**	**AREA (M^2)**	2266	2993	719	384	816	4493	997	430	4170	1751	36	121	1467	434	27	1374	352	1010
Myriophyllum heterophyllum	Twoleaf watermilfoil		A	P	C	O	R	A	A	O	A	P	O	O	O	R	A	R	C	C

			Plant Bed Number																	
				19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Scientific Name	**Common Name**	**AREA (M^2)**		809	316	88	1997	607	525	1463	1320	323	3328	336	6371	1898	575	8580	3812	1833
Myriophyllum heterophyllum	Twoleaf watermilfoil			O	P	R	R	O	R	C	P	R	O	R	O	C	R	R	R	O

Carry Falls Reservoir Aquatic Plant Survey 2012

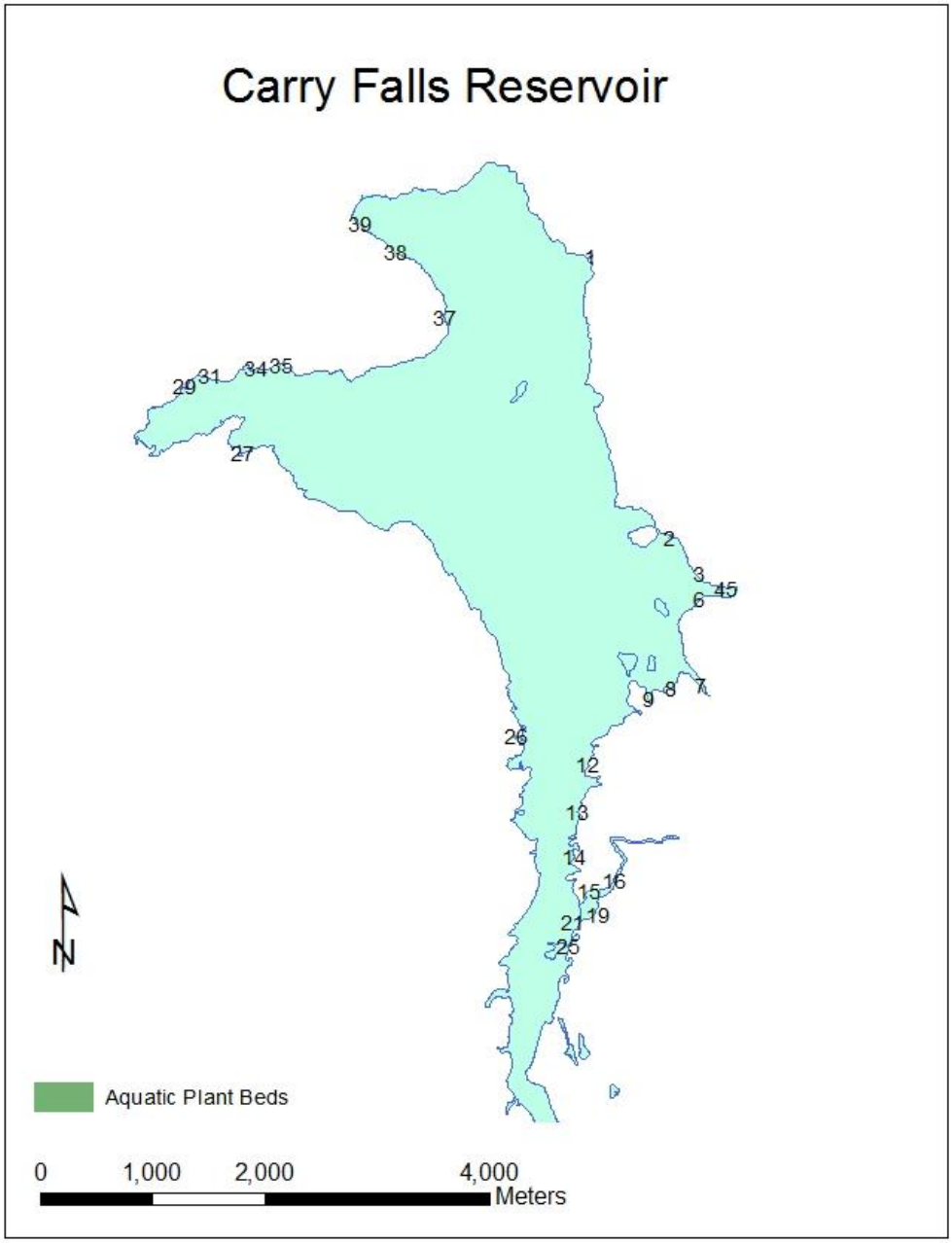


Map 12: Location of Carry Falls Reservoir.

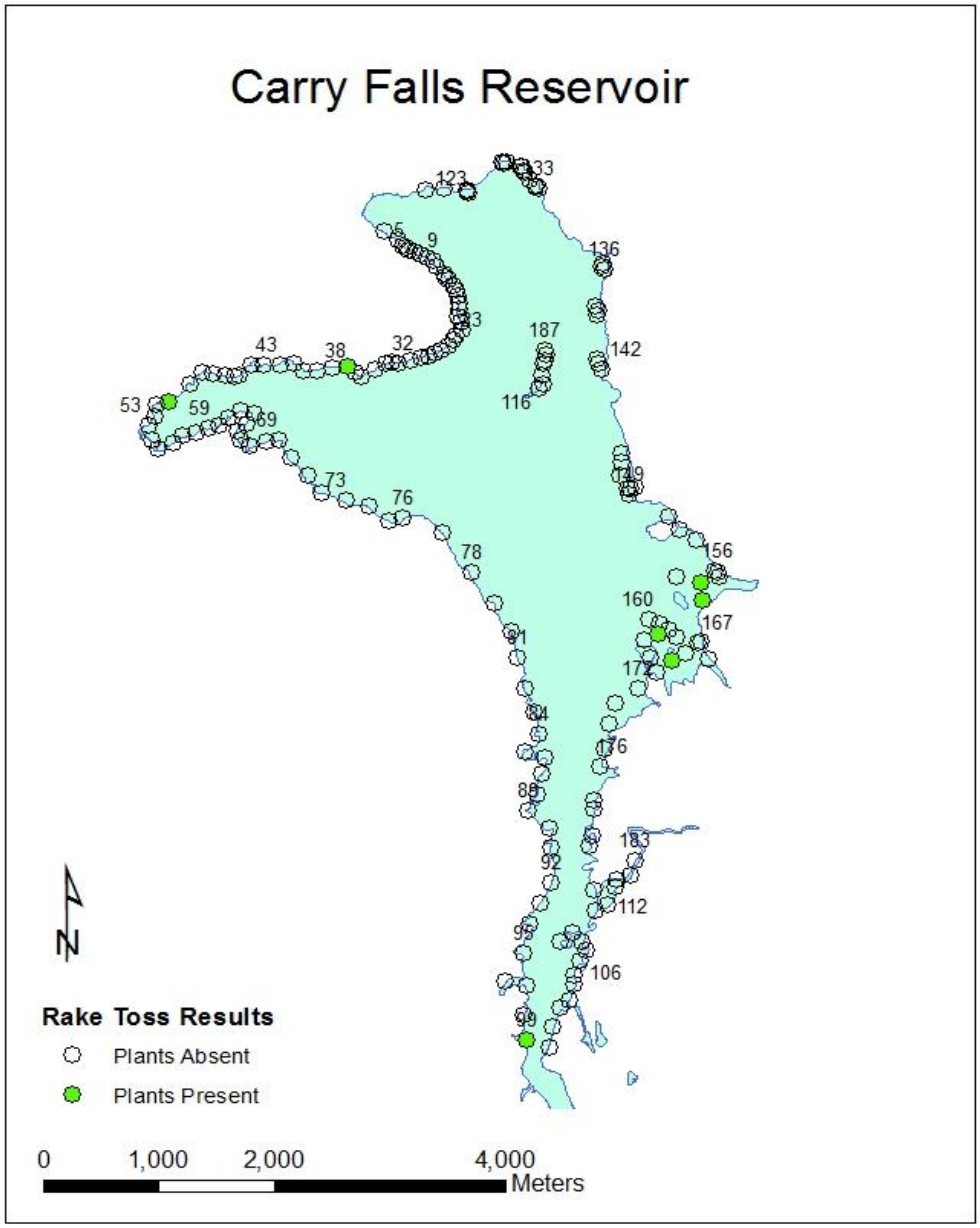
Carry Falls Reservoir is located in the town of Colton in St. Lawrence County, New York (Map 12). The 3009 acre reservoir was accessed by a hardtop DEC boat launch on the western shore. The launch can be found on the Raquette River Road off from State Route 56, approximately 6 miles south of South Colton and 12.6 miles north of the intersection of 56 and State Route 3.

An aquatic plant survey of Carry Falls Reservoir was conducted on 21-June-2012. No invasive species were detected during the surface survey of the reservoir. Aquatic plant coverage in Carry Falls Reservoir was quite low comprised of 39 beds that collectively covered 2.4 acres total or less than 1 % of the surface area of the reservoir (Map 13). Six different aquatic species were identified during this survey. The most common of this reservoir was one from the Knotweed family (*Polygonum sp.*), followed by Bur-reed (*Sparganium sp.*) which were mostly found near inlets to the water body (Map 13). There were no species in Carry Falls Reservoir which could easily be confused with an invasive species (Table 9).

Of the 187 rake tosses spaced throughout the littoral zone of the reservoir (Map 14), only 7 rakes had acquired plants upon recovery (3.7%). All species found on the rakes during retrieval had been detected during the surface survey (Table 10).



Map 13: Location of the aquatic plant beds detected in Carry Falls Reservoir during the surface survey performed on 21 June, 2012.
Data for Plant Beds can be found on Table 9.



Map 14: Rake toss locations on Carry Falls Reservoir, 21 June, 2012. 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 on Table 10.

Table 9: Percent cover of aquatic plant species detected at each plant bed in Carry Falls Reservoir. Refer to Map 13 for bed locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

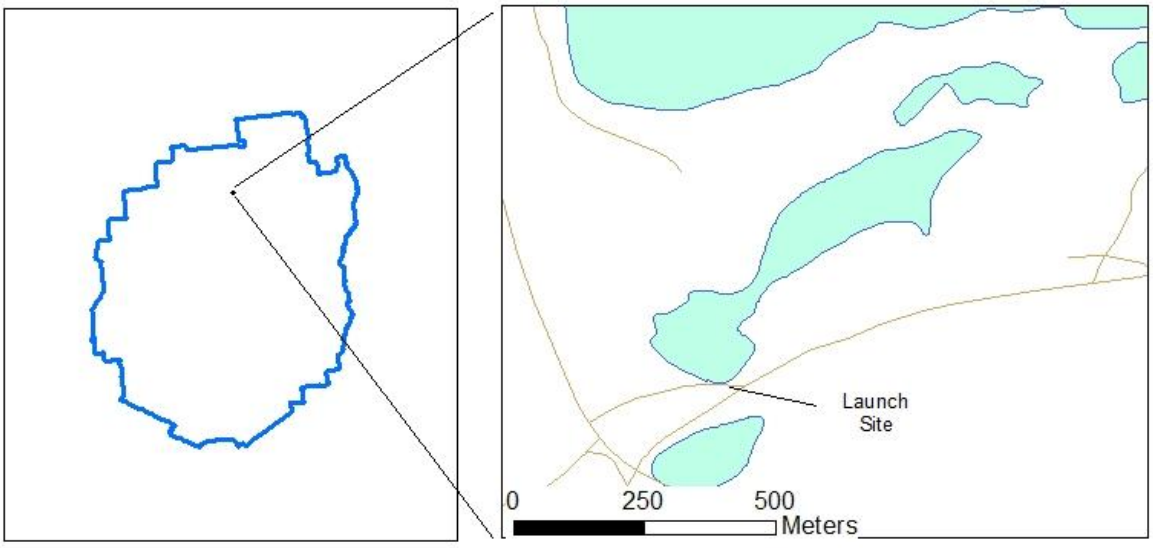
Carry Falls Reservoir			**Plant Bed Numbers**																			
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Scientific Name	**Common Name**	**AREA (M^2)**	99	85	65	697	120	553	1479	453	862	20	13	247	37	79	204	5	3	3	4	3
Eleocharis sp.	Hairgrass		P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eriocaulon sp.	Pipewort		P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Polygonum sp.	Polygonum		-	P	P	A	P	A	-	-	-	P	P	A	A	C	C	P	P	P	P	P
Sagittaria graminea	Grassy arrowhead		P	-	-	-	-	P	-	-	A	-	-	-	-	-	-	-	-	-	-	-
Sparganium sp.	Bur-reed		-	-	-	-	-	-	P	P	C	-	-	-	-	-	-	-	-	-	-	-

			Plant Bed Numbers																			
			21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	
Scientific Name	**Common Name**	**AREA (M^2)**	40	5	4	422	540	916	29	13	10	4	4	6	1	12	42	22	97	1412	1122	
Eleocharis sp.	Hairgrass		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	
Eriocaulon sp.	Pipewort		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Polygonum sp.	Polygonum		P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	-	O	
Sagittaria graminea	Grassy arrowhead		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	
Sparganium sp.	Bur-reed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	

Table 10: Species present on the rake at each of the rake toss locations and abundance. Refer to Map 14 for Rake locations.

Carry Falls Reservoir		**Rake Toss Numbers**						
Scientific Name	**Common Name**	36	50	99	157	163	164	169
Eleocharis sp.	Hairgrass	-	-	-	R	R	-	R
Eriocaulon sp.	Pipewort	-	-	-	R	-	R	-
Nitella sp.	Brittlewort	R	R	R	-	-	-	-

Church Pond & Little Osgood Aquatic Plant Survey 2012

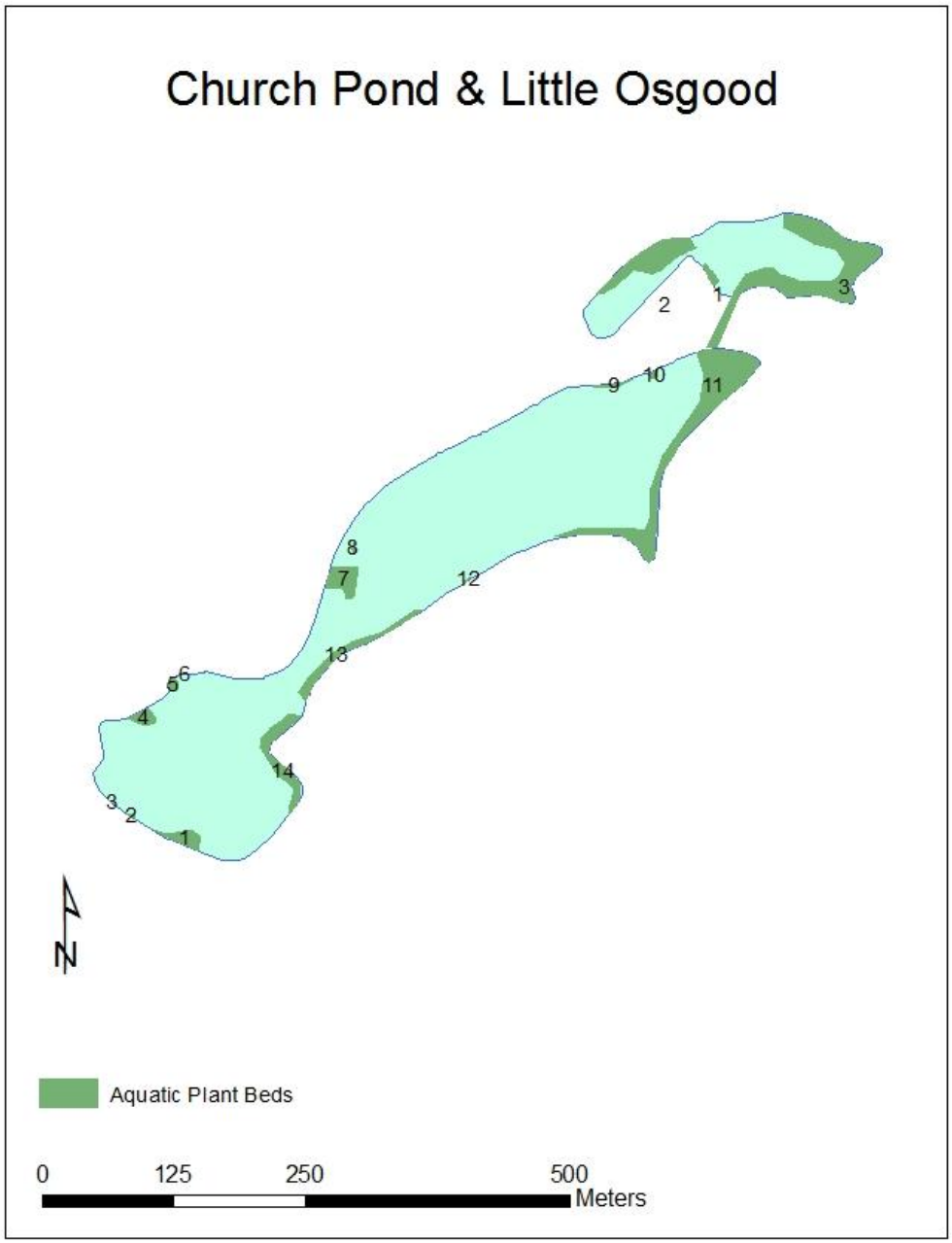


Map 15: Location of Church Pond and Little Osgood.

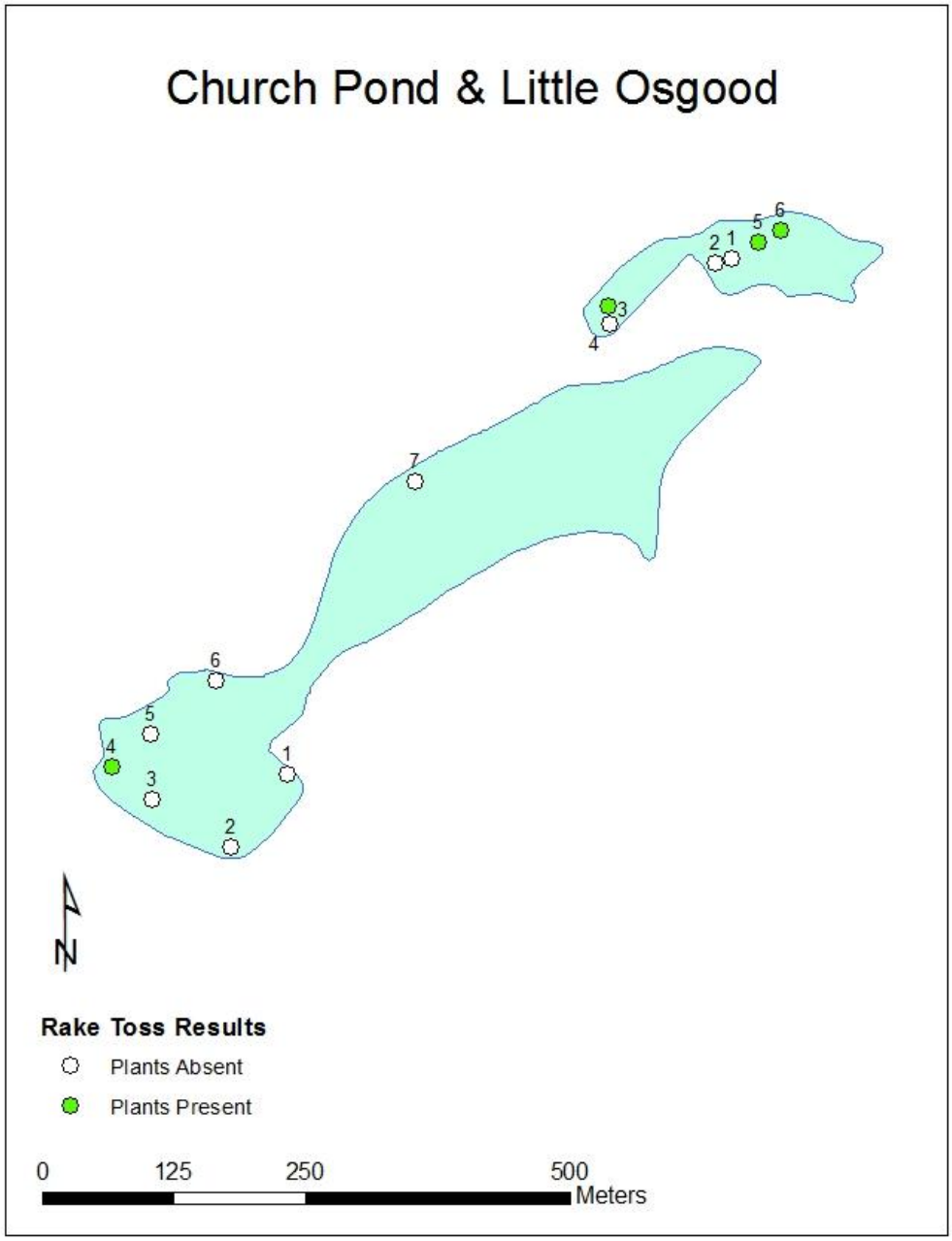
Church Pond and Little Osgood are located in the town of Brighton in Franklin County, New York (Map 15). The water bodies are 20 acres and 4 acres respectively. Little Osgood was accessed through a canal to the north end of Church Pond, Church Pond was accessed from the intersection of Hoffman Road and State Route 86, 0.25 miles north-east of Paul Smith's college.

An aquatic plant survey of Church Pond and Little Osgood Pond was conducted 12-June-2012. No invasive aquatic species were detected during the survey. Aquatic plant coverage in Church Pond and Little Osgood was moderate, comprised of 14 and 3 beds respectively. These beds covered 2 acres (10%) and 1.6 acres (40%) respectively or a combined 3.6 acres (15%) of the surface area of the waters (Map 16). Eleven different aquatic species were identified during this survey. Common species of these water bodies included many members of the pondweed genus *Potamogeton*, of which the most common was Ribbon leaf (*P. epihydris*). Other common species found included Grassy arrowhead (*Sagittaria graminea*) and Spatterdock (*Nuphar variegata*). There were no native species in these water bodies that could easily be confused with invasive species (Table 11).

Of the 13 rake tosses spaced throughout the littoral zone of both waters (Map 17), 4 had acquired plants upon their recovery (31%). Brittlewort (*Nitella sp.*) and White-stem pondweed (*P. prealongus*) were recovered on the rakes but not detected during the surface survey (Table 12).



Map 16: Location of the aquatic plant beds detected in Church Pond & Little Osgood during the surface survey performed on 12 June, 2012.
Data for Plant Beds can be found on Table 11.



Map 17: Rake toss locations on Church Pond & Little Osgood, 12 June, 2012. 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 on Table 12.

Table 11: Percent cover of aquatic plant species detected at each plant bed in Church Pond & Little Osgood. Refer to Map 16 for bed locations. A = Abundant (>50% cover), C - Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Church Pond			**Plant Bed Number**													
			1	2	3	4	5	6	7	8	9	10	11	12	13	14
Scientific Name	**Common Name**	**AREA (M^2)**	451	23	11	307	115	2	683	48	113	69	4414	20	908	1059
Eriocaulon sp.	Pipewort		O	P	-	O	O	-	R	-	A	-	R	-	-	-
Nuphar variegata	Spatterdock		-	P	-	-	O	A	O	R	R	O	R	-	R	R
Potamogeton amplifolius	Large-leaf pondweed		-	-	-	-	-	-	-	-	-	-	O	-	-	-
Potamogeton epihydrus	Ribbon-leaf pondweed		R	R	-	-	-	-	R	C	-	-	O	R	-	O
Potamogeton gramineus	Variable-leaf pondweed		R	R	P	-	O	-	-	-	-	-	-	-	-	-
Potamogeton natans	Floating pondweed		-	-	-	-	-	-	-	-	O	C	-	-	-	-
Potamogeton pusillus	Small pondweed		-	-	-	-	-	-	R	-	-	-	-	-	-	-
Potamogeton zosterformis	Flatstem pondweed		-	-	-	R	-	-	-	-	-	-	-	-	-	-
Sagittaria graminea	Grassy arrowhead		R	R	R	P	-	-	-	-	-	-	O	R	P	P
Sparganium sp.	Bur-reed		-	R	-	-	-	-	P	-	O	-	R	-	O	O
Vallisneria americana	Eel-grass		R	-	-	R	-	-	R	-	-	-	R	-	-	-

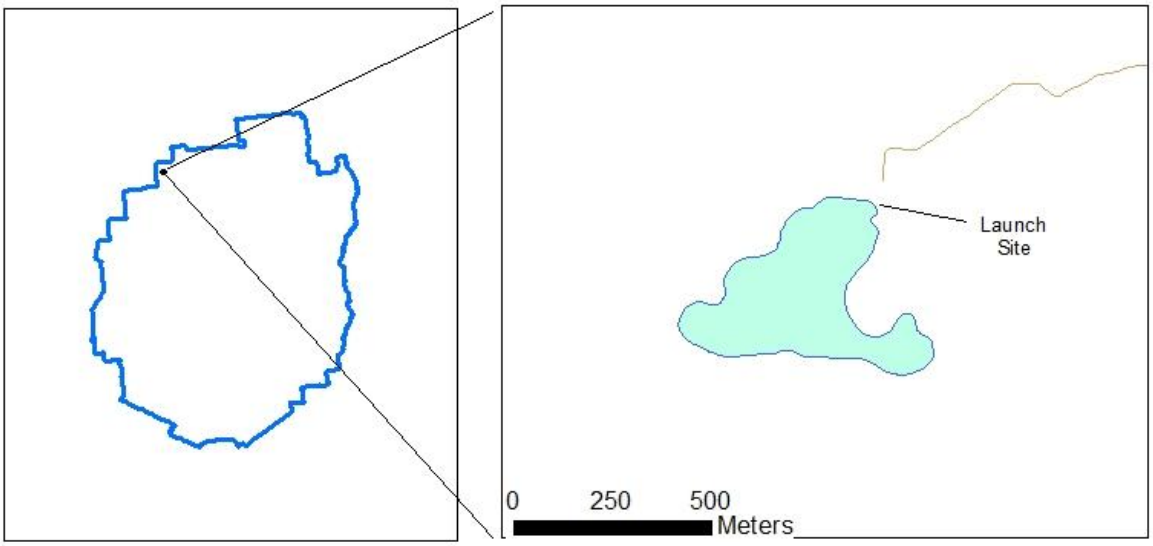
Little Osgood			Plant Bed Number		
			1	2	3
Scientific Name	**Common Name**	**AREA (M^2)**	151	1593	4559
Eleocharis sp.	Hairgrass		-	-	O
Elodea nuttalia	Western waterweed		-	-	R
Eriocaulon sp.	Pipewort		P	O	-
Nuphar variegata	Spatterdock		O	R	R
Nymphaea odorata	White waterlily		-	A	R
Potamogeton amplifolius	Large-leaf pondweed		-	-	R
Potamogeton epihydrus	Ribbon-leaf pondweed		R	R	R
Potamogeton gramineus	Variable-leaf pondweed		P	O	O
Sagittaria graminea	Grassy arrowhead		-	R	O
Sparganium sp.	Bur-reed		O	C	R
Vallisneria americana	Eel-grass		-	-	R

Table 12: Species present on the rake at each of the rake toss locations and abundance. Refer to Map 17 for Rake locations.

Church Pond		**Rake Toss Number**		
Scientific Name	**Common Name**		4	
Nitella sp.	Brittlewort		R	

Little Osgood		**Rake Toss Number**		
Scientific Name	**Common Name**	3	5	6
Potamogeton prealongus	White-stem pondweed	-	A	-
Nitella sp.	Brittlewort	-	-	A
Vallisneria americana	Eel-grass	R	-	-
Potamogeton gramineus	Variable-leaf pondweed	-	A	-

Clear Pond (Parishville) Aquatic Plant Survey 2012

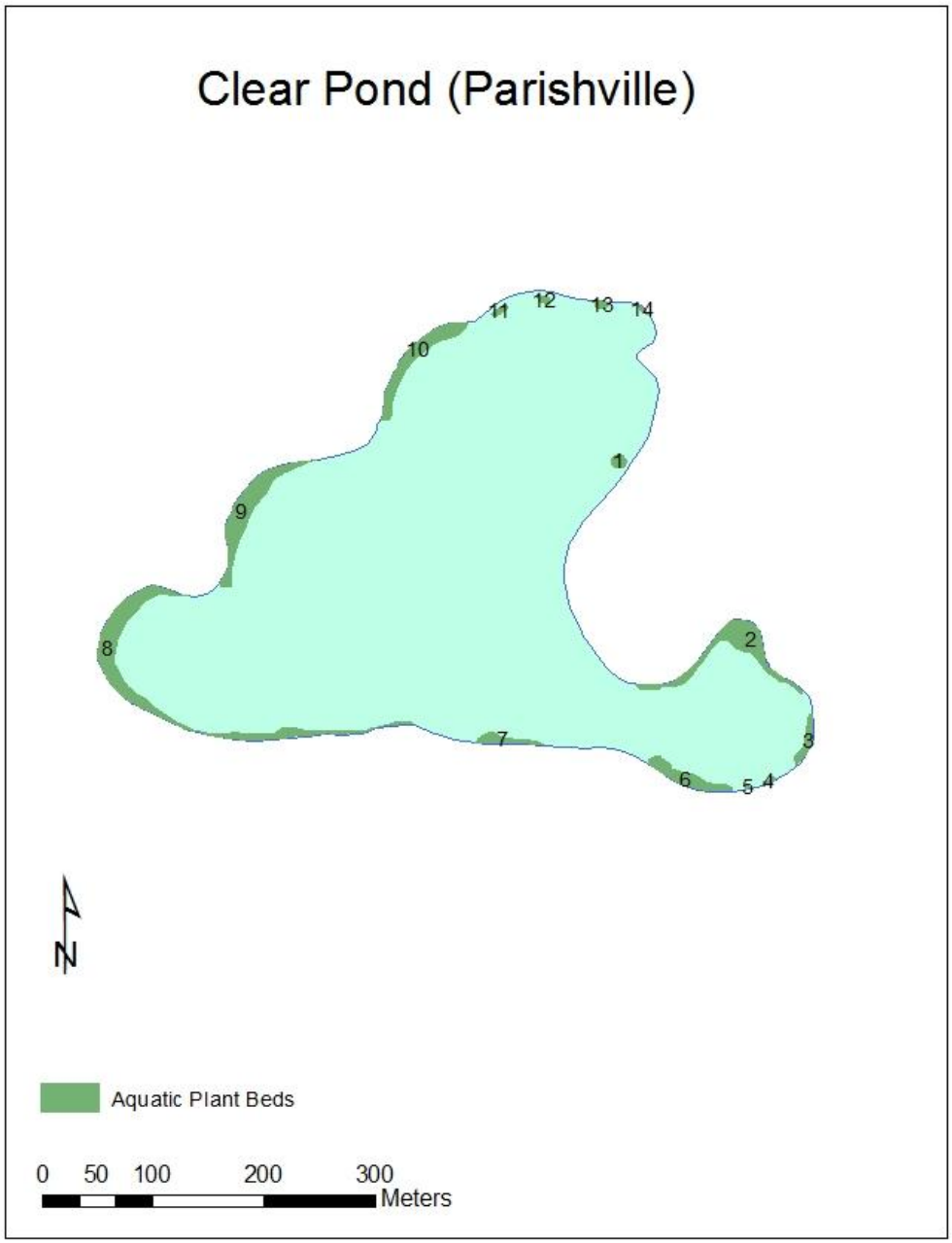


Map 18: Location of Clear Pond (Parishville).

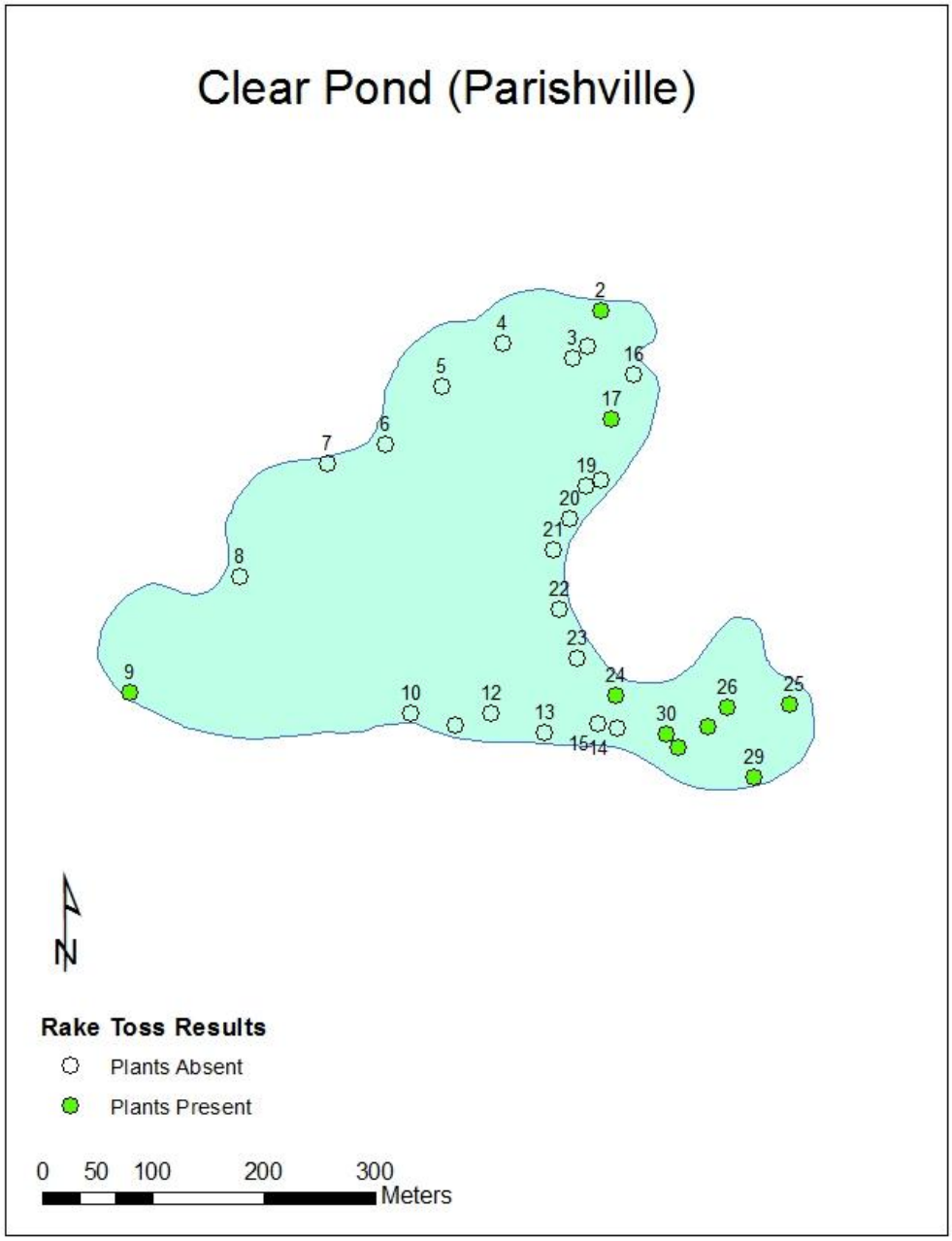
Clear Pond is located in the town of Parishville in St. Lawrence County, New York (Map 18). The 36 acre pond was accessed by the Clear Pond Road off from the White Hill Road which comes off from the south of State Route 72 in Parishville, New York. Clear Pond is approximately 7.3 miles south of Parishville.

An aquatic plant survey of Clear Pond was conducted 5-July-2012. No invasive aquatic species were detected during the survey. Aquatic plant coverage in Clear Pond was relatively low, comprised of 14 aquatic plant beds that collectively covered 2.4 acres or 6.7% of the surface area of the pond (Map 19). Eleven different aquatic species were identified during this survey. The most common species found in the pond included White waterlily (*Nymphaea odorata*), and Grassy arrowhead (*Sagittaria graminea*). Common bladderwort (*Utricularia vulgaris*) and Purple bladderwort (*U. purprea*) were the two native species which could easily be confused with invasive species (Table 13).

Of the 30 rake tosses spaced throughout the littoral zone of Clear Pond (Map 20), 10 had acquired plants upon recovery (33%). Species retrieved by the rakes that were not detected during the surface survey included Brittlewort (*Nitella sp.*) and Robbins pondweed (*P. robbinsii*) (Table 14).



Map 19: Location of the aquatic plant beds detected in Clear Pond (Parishville) during the surface survey performed on 05 July, 2012.
Data for Plant Beds can be found on Table 13.



Map 20: Rake toss locations on Clear Pond (Parishville), 05 July, 2012. 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 on Table 14.

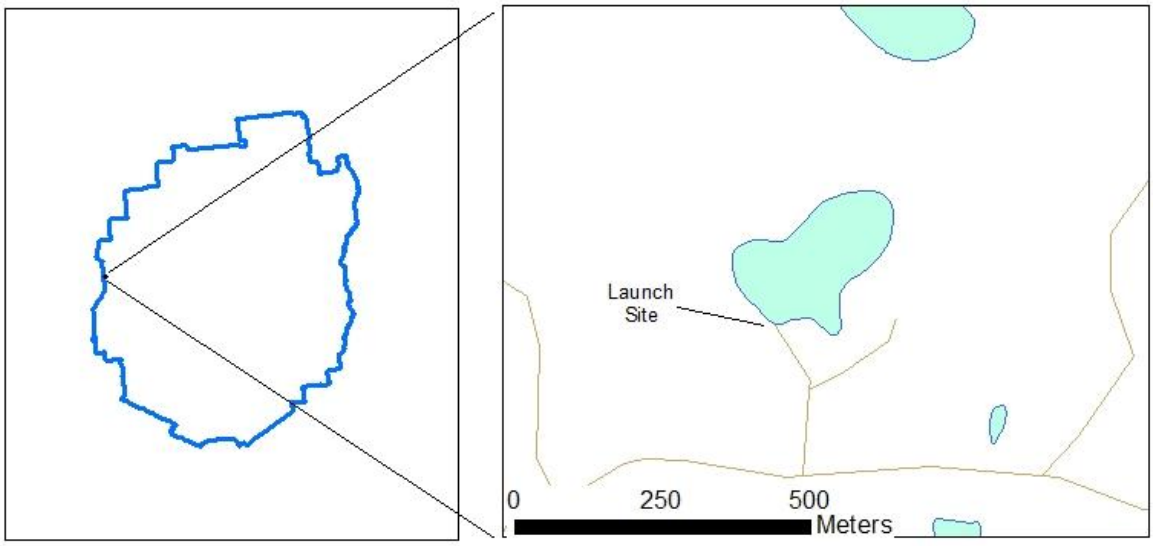
Table 13: Percent cover of aquatic plant species detected at each plant bed in Clear Pond (Parishville). Refer to Map 19 for bed locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Clear Pond (Parishville)			**Plant Bed Numbers**													
			1	2	3	4	5	6	7	8	9	10	11	12	13	14
Scientific Name	**Common Name**	**AREA (M^2)**	153	1669	324	50	19	788	371	3146	1748	1265	76	78	99	37
Brasenia schreberi	Water shield		-	-	-	P	-	-	C	P	C	C	-	-	-	-
Eriocaulon sp.	Pipewort		-	C	-	-	-	-	-	-	-	R	-	-	-	-
Nuphar variegata	Spatterdock		-	-	-	R	-	P	O	O	R	R	-	-	-	-
Nymphaea odorata	White waterlily		-	A	P	P	C	C	-	C	P	O	P	P	O	O
Potamogeton amplifolius	Large-leaf pondweed		C	-	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton natans	Floating pondweed		-	-	-	-	-	-	-	-	-	O	-	-	-	-
Sagittaria graminea	Grassy arrowhead		-	R	R	-	-	R	-	R	R	O	-	P	O	O
Utricularia purprea	Purple bladderwort		-	C	-	-	-	-	-	-	-	-	-	-	-	-

Table 14: Species present on the rake at each of the rake toss locations and abundance. Refer to Map 20 for Rake locations.

Clear Pond (Parishville)		**Rake Toss Numbers**									
Scientific Name	**Common Name**	2	9	17	24	25	26	27	28	29	30
Potamogeton robbinsii	Robbins pondweed	-	-	-	-	-	C	P	-	-	-
Nymphaea odorata	White waterlily	-	O	-	-	-	-	-	-	-	R
Nitella sp.	Brittlewort	-	-	-	R	-	-	-	-	-	-
Utricularia vulgaris	Common bladderwort	C	-	-	-	-	-	-	-	-	-
Utricularia purprea	Purple bladderwort	-	R	R	-	A	O	R	C	P	-

Clear Pond (Lewis County) Aquatic Plant Survey 2012

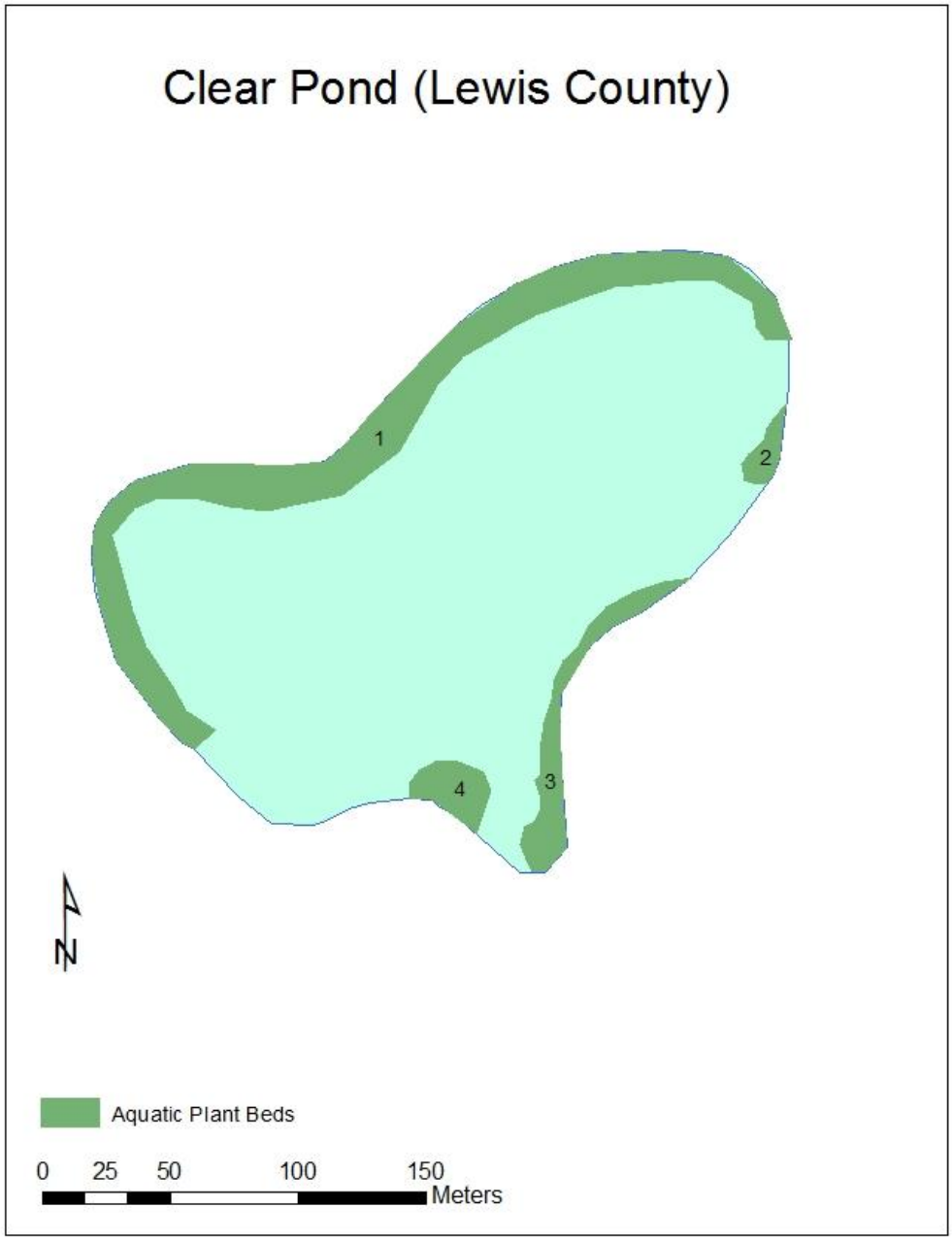


Map 21: Location of Clear Pond (Lewis County).

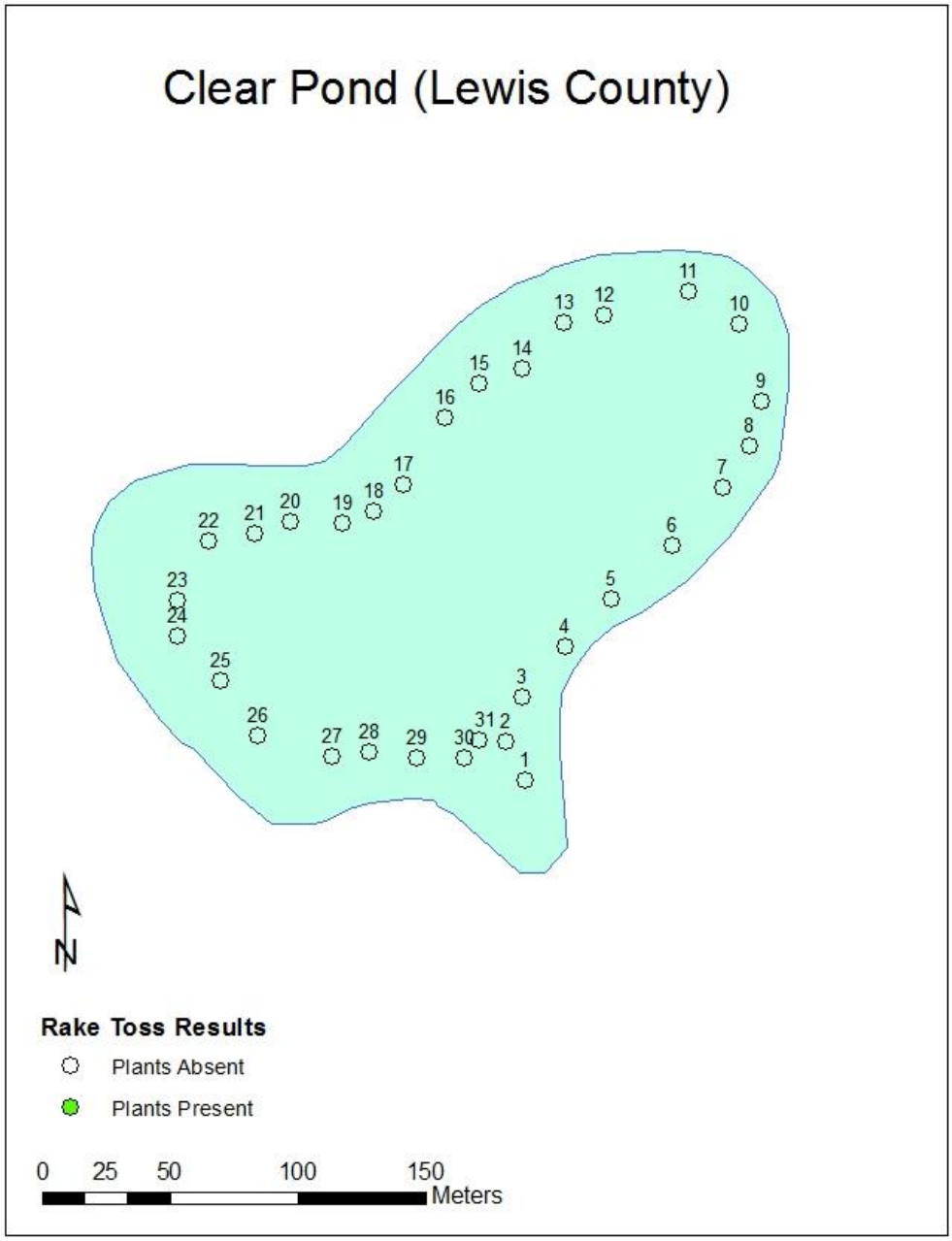
Clear Pond is located in the town of Croghan in Lewis County, New York (Map 21). The 34 acre pond was accessed by the Clear Pond Road off from the Long Pond Road which comes off from the south end of Erie Canal Road off from State Route 812. Clear Pond is approximately 21.7 miles north-east of Lowville, NY.

An aquatic plant survey of Clear Pond was conducted 25-July-2012. No invasive aquatic species were detected during the survey. Aquatic plant coverage in Clear Pond was relatively low, comprised of 4 aquatic plant beds that collectively covered 1.8 acres or 5.3% of the surface area of the pond (Map 22). Three different aquatic species were identified during this survey. The most common species found in the pond was Spatterdock (*Nuphar variegata*). The other two species detected were Grassy arrowhead (*Sagittaria graminea*) and Bur-reed (*Sparganium sp.*) None of these species can be easily confused with invasive species that could inhabit the water (Table 15).

Of the 31 rake tosses spaced throughout the littoral zone of Clear Pond (Map 23), none had acquired plants upon recovery (0%).



Map 22: Location of the aquatic plant beds detected in Clear Pond (Lewis County) during the surface survey performed on 25 July, 2012.
Data for Plant Beds can be found on Table 15.



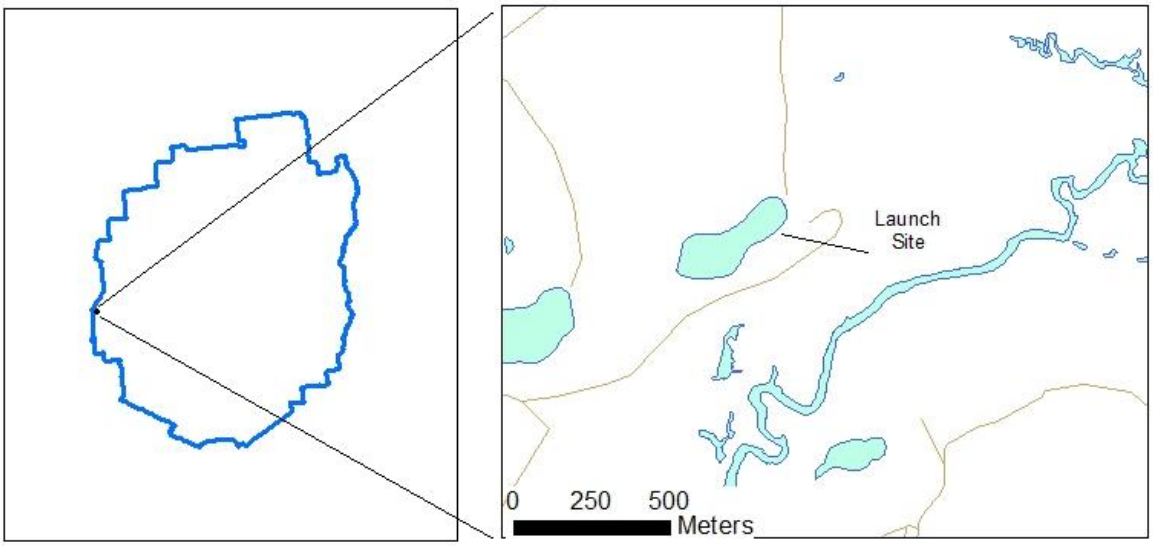
Map 23: Rake toss locations on Clear Pond (Lewis County), 25 July, 2012. Open circles represent locations where no plants were detected, closed circles represent locations where plants were encountered on the rake.
No rakes had acquired plants upon recovery.

Table 15: Percent cover of aquatic plant species detected at each plant bed in Clear Pond (Lewis County). Refer to Map 22 for bed locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Clear Pond (Lewis County)			**Plant Bed Numbers**			
			1	2	3	4
Scientific Name	**Common Name**	**AREA (M^2)**	5281	260	1111	556
Nuphar variegata	Spatterdock		A	A	A	A
Sagittaria graminea	Grassy arrowhead		-	-	R	-
Sparganium sp.	Bur-reed		-	-	C	-

No rakes returned with plant materials during the aquatic plant survey of Clear Pond (Lewis County)
25-July-2012

Cleveland Lake Aquatic Plant Survey 2012

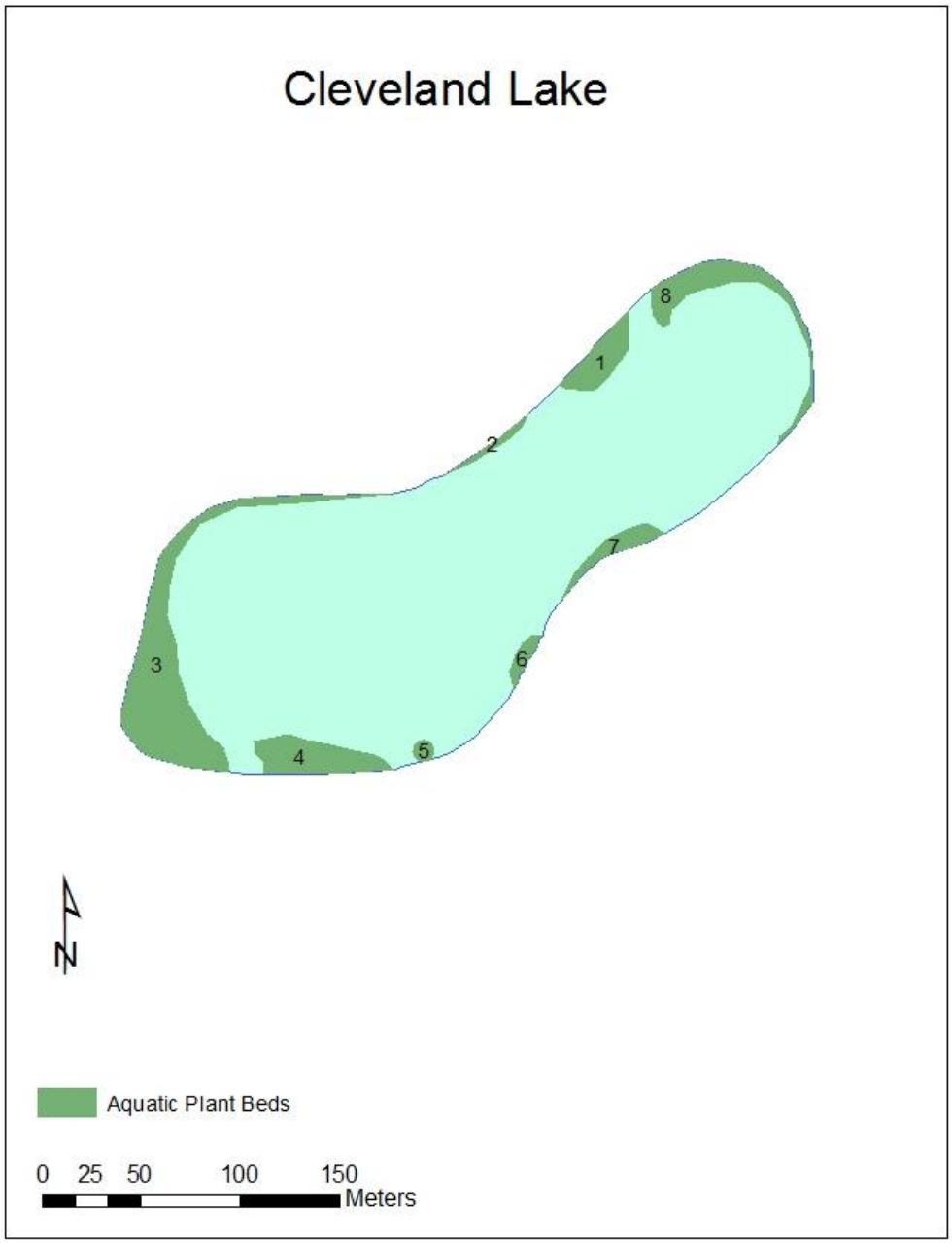


Map 24: Location of Cleveland Lake.

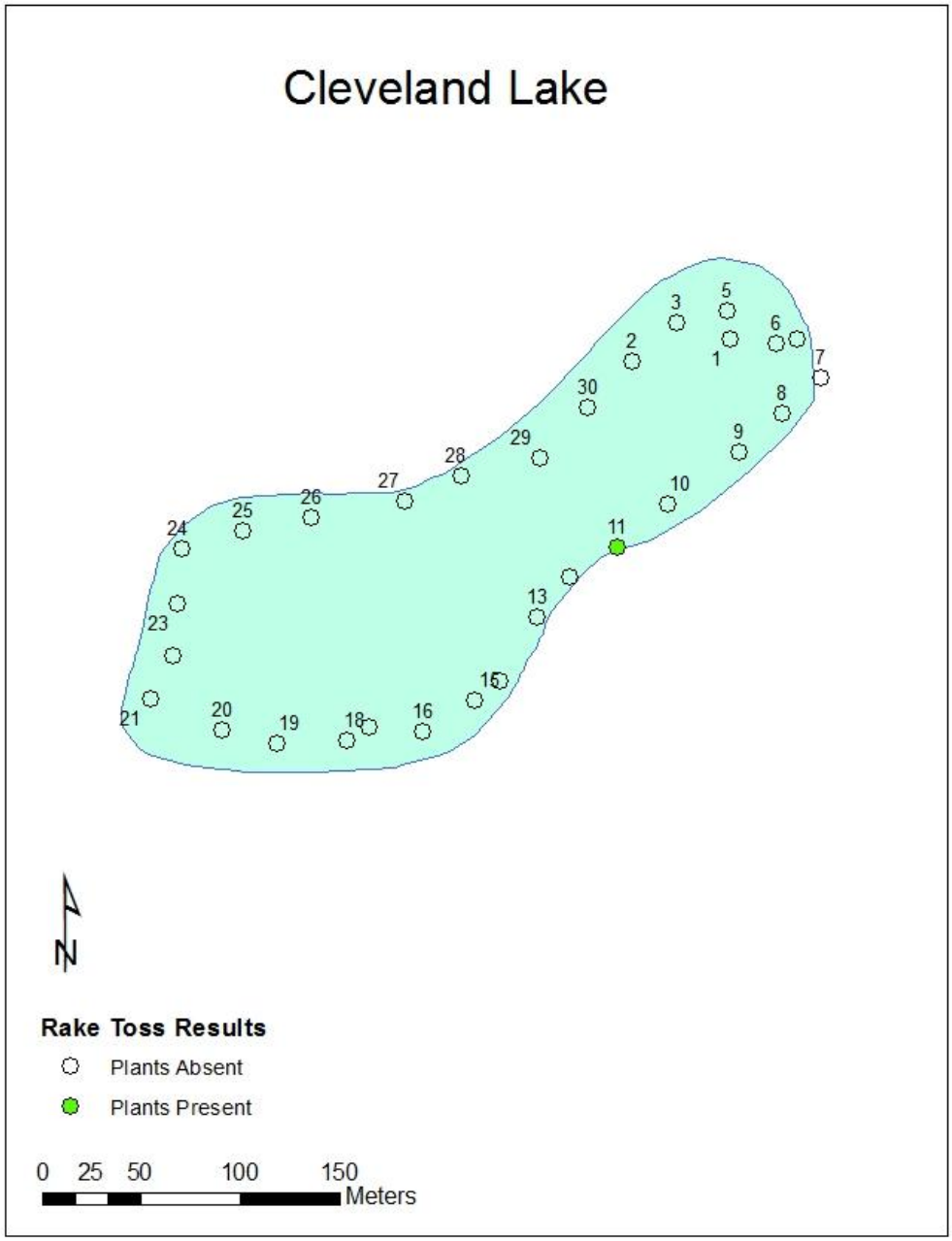
Cleveland Lake is located in the town of Watson in Lewis County, New York (Map 24). The 10 acre lake was accessed by the Cleveland Lake Road off from Beach Mill Road from the Erie Canal Road.

An aquatic plant survey of Cleveland Lake was conducted on 25-July-2012. No invasive aquatic plants were detected during the survey. Aquatic plant coverage in Cleveland Lake was relatively high, comprised of 8 aquatic plant beds that collectively covered 1.6 acres or 16% of the surface area of the lake (Map 25). Two different aquatic species were identified during this survey. The more common of the two was Spatterdock (*Nuphar variegata*) followed by Grassy arrowhead (*Sagittaria graminea*). Neither of these native species could easily be confused with potentially invasive species (Table 16)

Of the 30 rake tosses spaced throughout the littoral zone of Cleveland Lake (Map 26), only 1 had acquired plants upon recovery (3.3%). The species recovered on the rake toss were already detected during the surface survey (Table 17).



Map 25: Location of the aquatic plant beds detected in Cleveland Lake during the surface survey performed on 25 July, 2012.
Data for Plant Beds can be found on Table 16.



Map 26: Rake toss locations on Cleveland Lake, 25 July, 2012. 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 on Table 17.

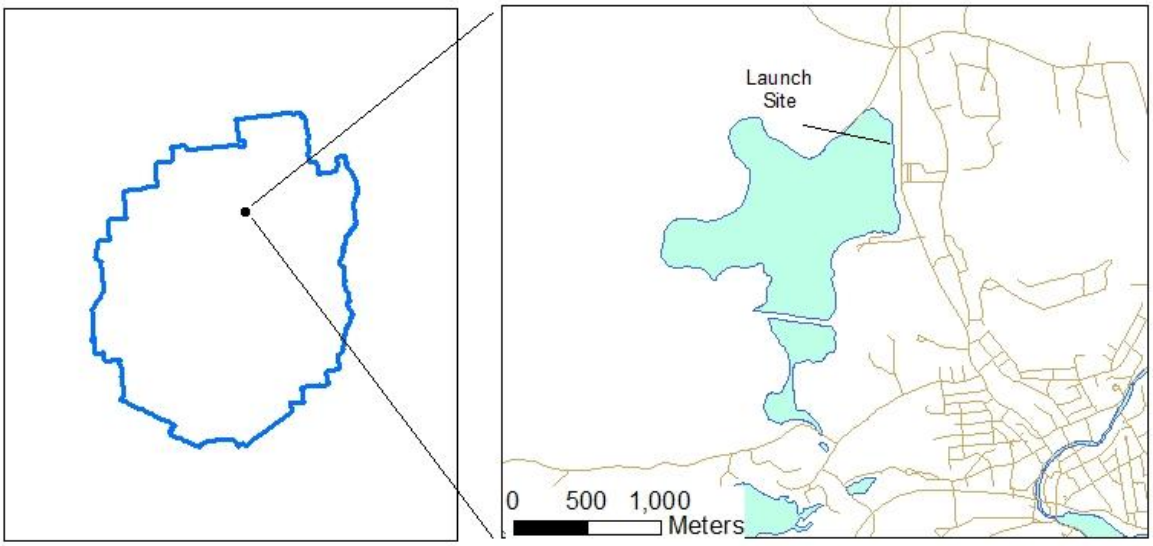
Table 16: Percent cover of aquatic plant species detected at each plant bed in Cleveland Lake. Refer to Map 25 for bed locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Cleveland Lake			**Plant Bed Numbers**							
			1	2	3	4	5	6	7	8
Scientific Name	**Common Name**	AREA (M^2)	609	139	2985	937	96	163	373	1078
Nuphar variegata	Spatterdock		C	C	C	C	A	P	C	A
Sagittaria graminea	Grassy arrowhead		-	R	R	-	-	-	R	R

Table 17: Species present on the rake at each of the rake toss locations and abundance. Refer to Map 26 for Rake locations.

Cleveland Lake		**Rake Toss Number**
Scientific Name	**Common Name**	11
Nuphar variegata	Spatterdock	R
Sagittaria graminea	Grassy arrowhead	R

Colby Lake & Little Colby Aquatic Plant Survey 2012



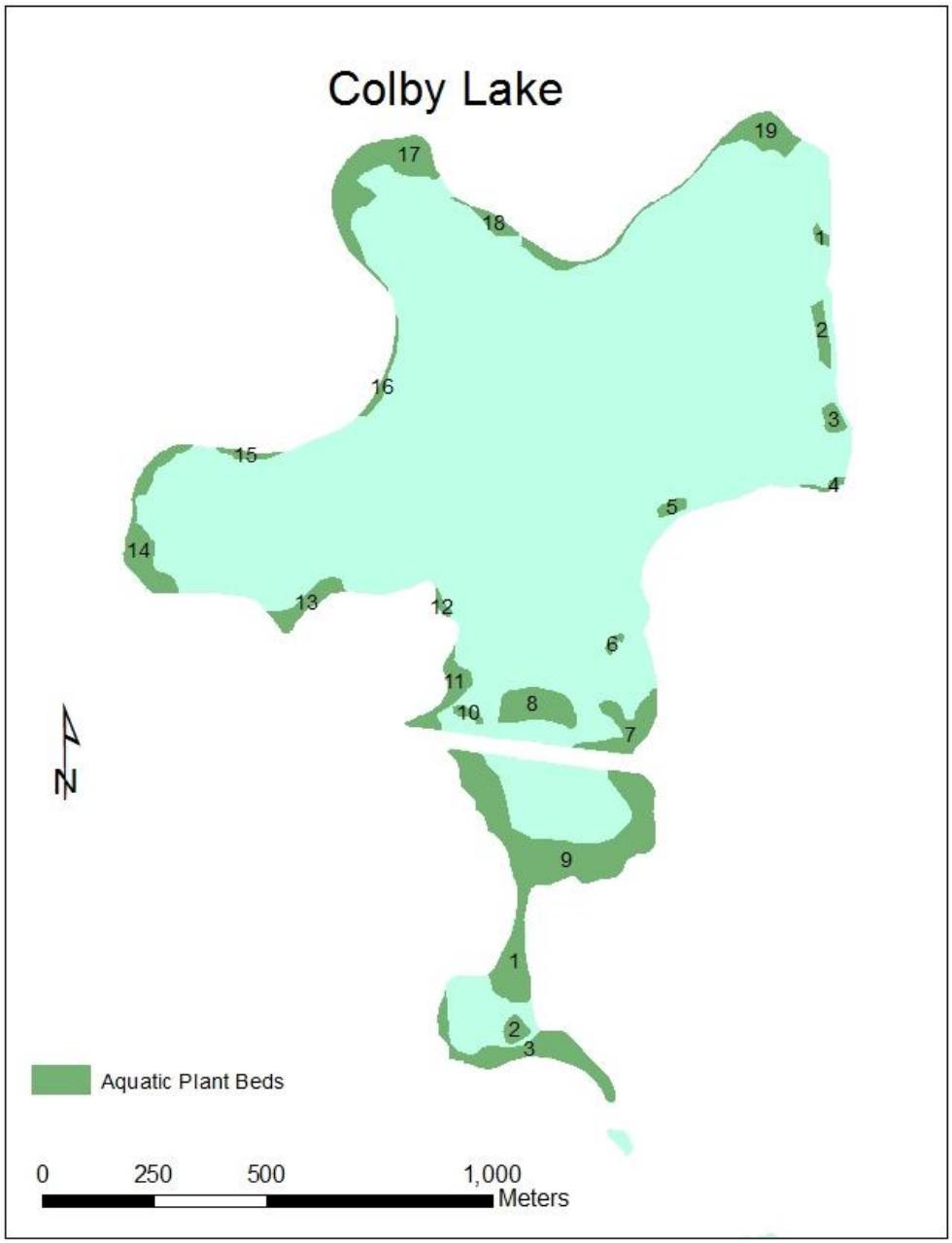
Map 27: Location of Colby Lake

Colby Lake is located in the town of Harrietstown in Franklin County, New York (Map 27). The 286 acre lake was accessed by hardtop launch off from State Route 86 just west of the Village of Saranac Lake. Little Colby is the smaller section of the lake located to the south of the narrows past the railroad tracks.

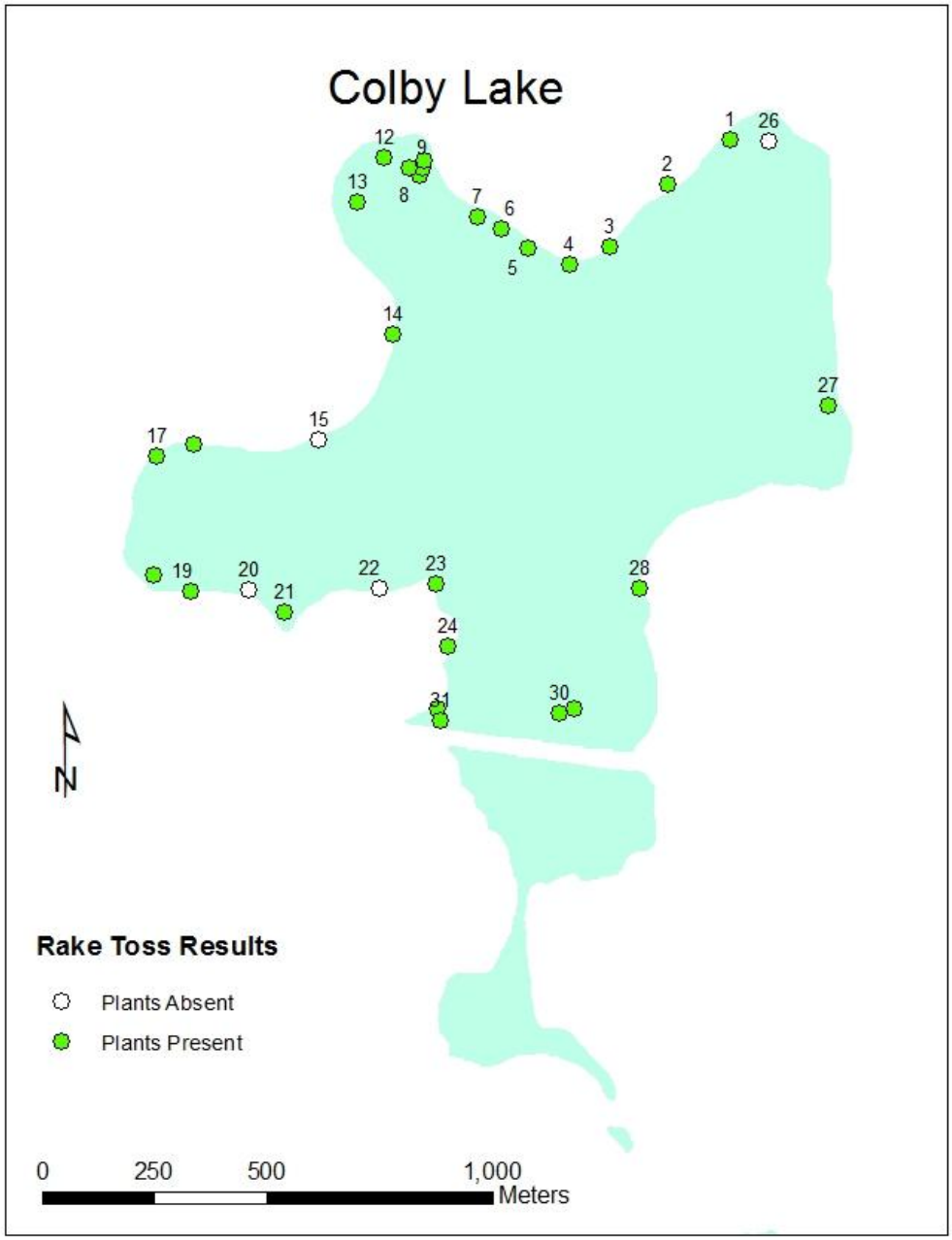
An aquatic plant survey of Colby Lake was conducted on 18-June-2012. Eurasian watermilfoil (*Myriophyllum spicatum*) was detected during the survey (Map 31). Aquatic plant coverage in Colby Lake was relatively high, comprised of 22 beds that collectively covered 47.8 acres or 16.7% of the surface area of the lake (Map 28). Twenty-one different aquatic species were identified during this survey. The most common species were Clasping-leaf pondweed (*Potamogeton perfoliatus)* White-stem pondweed (*P. prealongus),* Canada waterweed (*Elodea canadensis*) and Eurasian watermilfoil. Common bladderwort (*Utricularia vulgaris*), Purple bladderwort (*U. purprea*), and a fairly rare species, Water marigold (*Megalodonta beckii*) could all be easily confused with invasive species (Table 18).

An additional survey to specifically locate beds of Eurasian watermilfoil was conducted on 09-August-2012, specific data is separate (Maps 30 & 31 and Tables 20 & 21). Beds identified in this survey only accounted for Eurasian watermilfoil and included isolated plants as individual beds. One-hundred-twenty-one beds were identified during this survey, though 3 overlap previous beds to show particularly dense areas. These beds collectively covered 11.4 acres, 4% of the total surface area of the lake and 24% of the total plant coverage in the lake (Table 20).

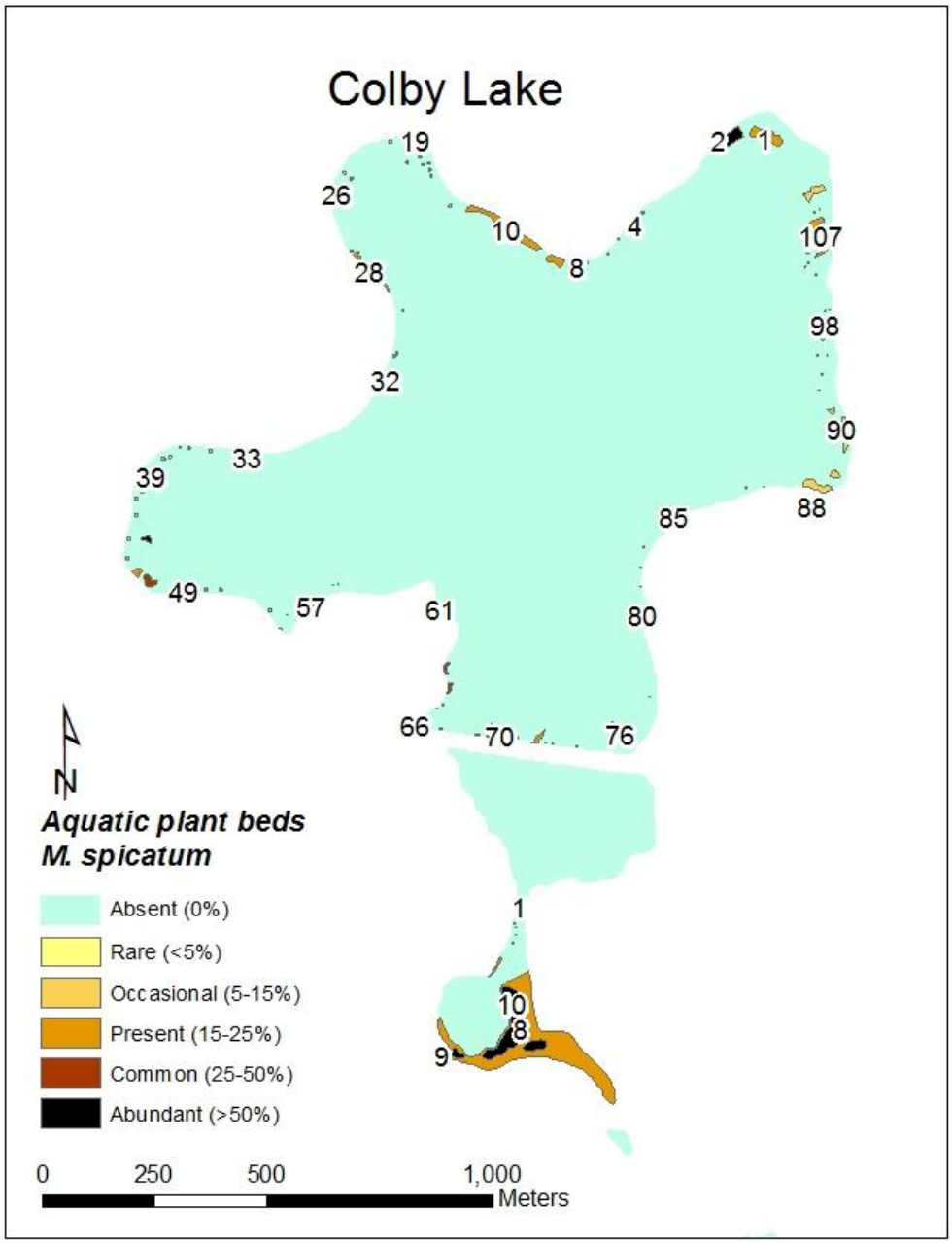
In the first survey 31 rake were tossed throughout the littoral zone of the lake (Map 29), 27 had acquired plants upon their recovery (87.1%). Western waterweed (*Elodea nuttallii*) was the only species brought up on the rakes that was not detected in the surface survey (Table 19). The Rapid Response survey included 42 rake tosses, only two of which recovered and Eurasian watermilfoil (4.8%) (Table 21).



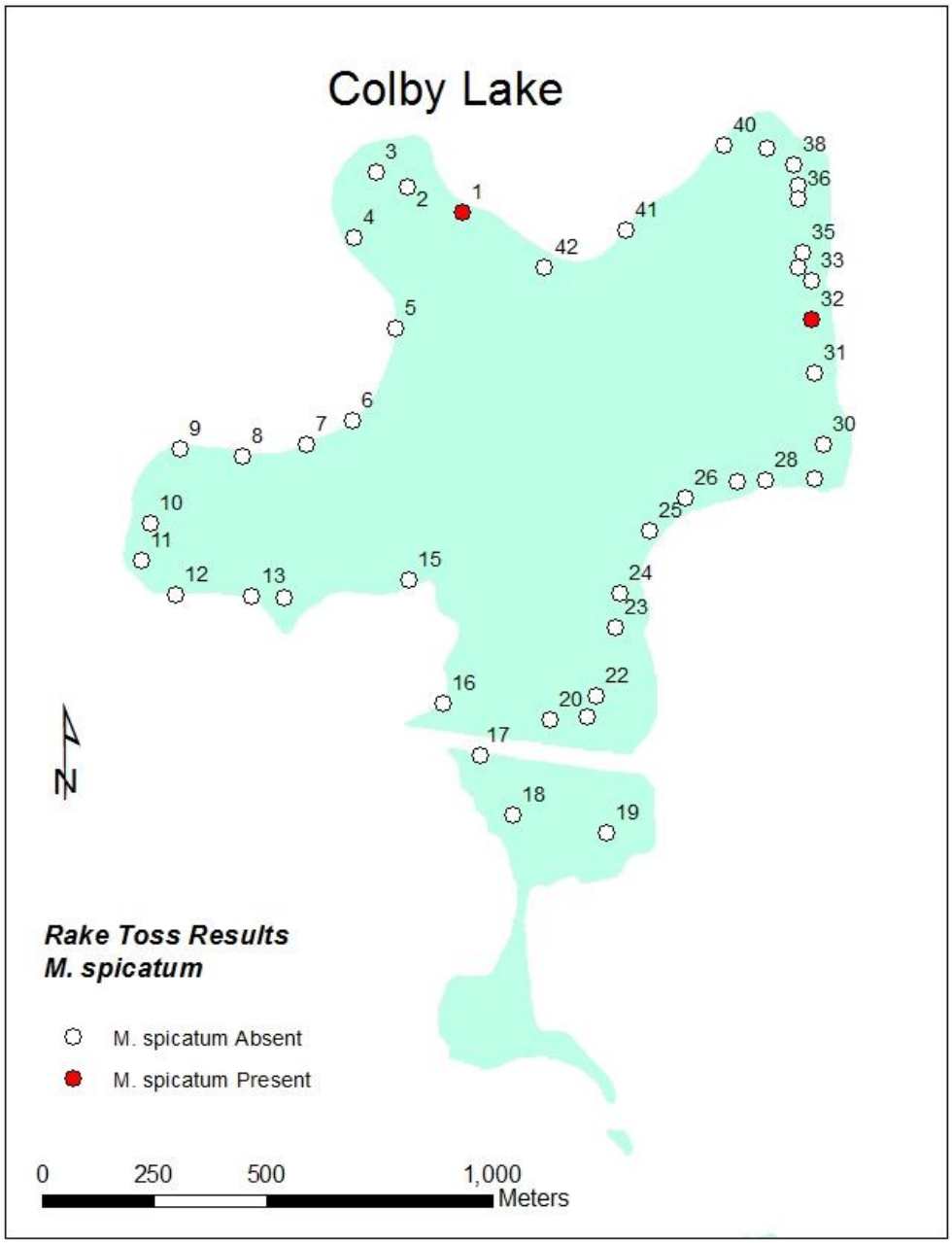
Map 28: Location of the aquatic plant beds detected in Colby Lake during the surface survey performed on 13 June, 2012.
Data for Plant Beds can be found on Tables 23-24.



Map 29. Rake toss locations on Colby Lake, 13 Jun, 2012. Open Circles represent where no plants were detected. Closed circles represent locations where plants were encountered on the rake. Data for Rake Tosses can be found on Table 25.



Map 30: Location of the *Myriophyllum spicatum* beds detected in Colby Lake during the surface survey performed on 09 Aug, 2012.
Data for *M. spicatum* beds can be found on Tables 26-27.



Map 31: Rake toss locations on Colby Lake, 09 Aug, 2012. Open Circles represent where no *M. spicatum* was detected. Closed circles represent locations where M. spicatum was encountered on the rake. Data for *M. spicatum* Rake Tosses can be found on Table 28.

Table 18: Percent cover of aquatic plant species detected at each plant bed in Colby Lake. Refer to Map 28 for bed locations. A = Abundant (>50% cover), C - Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Colby Lake			**Plant Bed Number**																		
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Scientific Name	**Common Name**	**AREA (M^2)**	1119	3693	2534	1285	1784	922	10588	11607	49735	1468	7132	963	6551	14451	1837	2643	23506	3065	15203
Brasenia schreberi	Water shield		-	-	-	C	-	-	A	-	P	-	-	-	R	R	R	-	-	-	-
Ceratophyllum sp.	Coontail		-	-	-	-	-	-	-	-	-	-	-	-	R	R	-	-	R	P	-
Eleocharis sp.	Hairgrass		-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	R
Elodea canadensis	Canadian waterweed		-	-	P	C	R	-	-	O	-	-	P	R	R	O	-	R	O	P	C
Megalodonta beckii	Water Marigold		-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-
Myriophyllum spicatum	Eurasian watermilfoil		A	A	A	P	O	-	-	A	R	O	R	O	R	O	-	R	R	-	R
Nitella sp.	Brittlewort		-	-	-	-	-	-	-	-	-	-	O	-	O	P	-	R	O	R	-
Nuphar variegata	Spatterdock		-	-	-	-	-	-	P	-	O	-	O	-	R	R	-	-	O	-	-
Nymphaea odorata	White waterlily		-	-	-	O	-	-	C	-	A	P	R	R	R	R	R	O	O	-	-
Potamogeton amplifolius	Large-leaf pondweed		R	P	R	-	A	-	-	-	-	-	-	-	-	-	R	O	-	-	R
Potamogeton epihydrus	Ribbon-leaf pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P
Potamogeton gramineus	Variable-leaf pondweed		-	-	O	O	-	-	-	-	-	-	O	-	-	P	-	-	P	O	P
Potamogeton perfoliatus	Clasping-leaf pondweed		O	O	O	-	-	-	-	-	-	R	O	-	R	P	-	O	O	-	R
Potamogeton prealongus	White-stem pondweed		O	P	-	-	O	A	-	O	-	-	O	-	-	-	-	O	O	P	C
Potamogeton robbinsii	Robbins pondweed		-	-	-	-	-	-	-	-	R	-	-	-	-	R	-	-	A	-	-
Sagittaria graminea	Grassy arrowhead		-	-	-	-	-	-	-	-	-	-	C	R	R	O	R	O	O	-	P
Sparganium sp.	Bur-reed		-	-	-	-	-	-	-	-	R	-	-	-	-	R	-	-	-	-	R
Utricularia purprea	Purple bladderwort		-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-
Utricularia vulgaris	Common bladderwort		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	O

Little Colby			**Plant Bed Number**		
			1	2	3
Scientific Name	**Common Name**	**AREA (M^2)**	12623	2673	17912
Brasenia schreberi	Water shield		-	-	P
Myriophyllum spicatum	Eurasian watermilfoil		P	A	C
Nuphar variegata	Spatterdock		C	R	P
Nymphaea odorata	White waterlily		A	-	C
Potamogeton amplifolius	Large-leaf pondweed		R	-	-
Potamogeton natans	Floating pondweed		-	-	R
Potamogeton prealongus	White-stem pondweed		O	-	-
Potamogeton robbinsii	Robbins pondweed		R	-	R

Table 19: Species present on the rake at each of the rake toss locations and abundance. Refer to Map 29 or Rake locations.

Colby Lake	**Rake Toss Number**																												
Scientific Name		1	2	3	4	5	6	7	8	9	10	11	12	13	14	16	17	18	19	21	23	24	25	27	28	29	30	31
Brasenia schreberi		-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ceratophyllum sp.		-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-
Eleocharis sp.		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P	-	-
Elodea canadensis		A	-	-	-	-	C	-	-	-	-	-	-	-	-	-	R	R	-	-	R	-	-	P	-	-	P	-
Elodea nuttalia		-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Myriophyllum spicatum		-	-	-	-	-	-	-	-	-	O	-	-	-	-	-	-	-	-	-	-	R	-	O	-	-	R	R
Nitella sp.		-	O	-	-	O	R	-	R	-	R	-	A	O	O	R	-	P	R	C	-	-	C	R	R	P	-	O
Nuphar variegata		-	-	R	-	-	-	-	O	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nymphaea odorata		-	-	-	-	-	-	-	-	-	-	O	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-
Potamogeton gramineus		-	-	-	-	-	-	O	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	O	-	-
Potamogeton perfoliatus		-	-	-	-	-	-	-	-	-	O	-	-	-	-	-	-	-	-	-	-	R	-	-	R	-	-	-
Potamogeton prealongus		-	-	-	P	-	-	O	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-
Potamogeton robbinsii		-	-	-	-	-	-	-	-	A	-	-	-	-	-	-	-	-	-	-	-	-	-	O	-	-	-	-
Sagittaria graminea		O	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	R	R	-	-	-	-	-	-

No rakes returned with plant material during the aquatic plant survey of Little Colby
09-August-2012

Table 20. Percent Cover of *Myriophyllum spicatum* detected in Colby Lake. Refer to Map 30 for *M. heterophyllum* locations. A = Abundant (>50% cover), C - Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Colby Lake			Plant Bed Number																													
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Scientific Name	**Common Name**	**AREA (M^2)**	1554	1339	15	15	13	15	15	19	582	2517	30	24	27	20	27	31	28	26	36	17	35	37	39	36	18	202	23	770	27	23
Myriophyllum spicatum	Eurasian Watermilfoil		P	A	P	R	R	R	P	P	P	P	O	R	R	R	R	R	R	R	O	C	R	R	R	R	R	P	R	P	O	R
			31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Scientific Name	**Common Name**	**AREA (M^2)**	29	272	18	25	32	14	30	49	321	37	41	45	36	36	227	41	244	468	713	36	36	55	1	1	1	3	253	3	3	3
Myriophyllum spicatum	Eurasian Watermilfoil		R	P	R	R	R	R	R	R	C	O	O	O	R	R	A	O	P	C	C	P	O	R	P	P	P	P	P	P	P	P
			61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90
Scientific Name	**Common Name**	**AREA (M^2)**	254	153	183	4	3	554	6	7	34	1224	249	6	4	6	6	7	6	6	7	15	6	3	4	3	11	5	5	912	253	1264
Myriophyllum spicatum	Eurasian Watermilfoil		P	C	C	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	O	O	O
			91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110										
Scientific Name	**Common Name**	**AREA (M^2)**	121	4	4	4	4	4	112	985	4	4	4	5	5	4	9	11	1238	3	3	683										
Myriophyllum spicatum	Eurasian Watermilfoil		O	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	O										

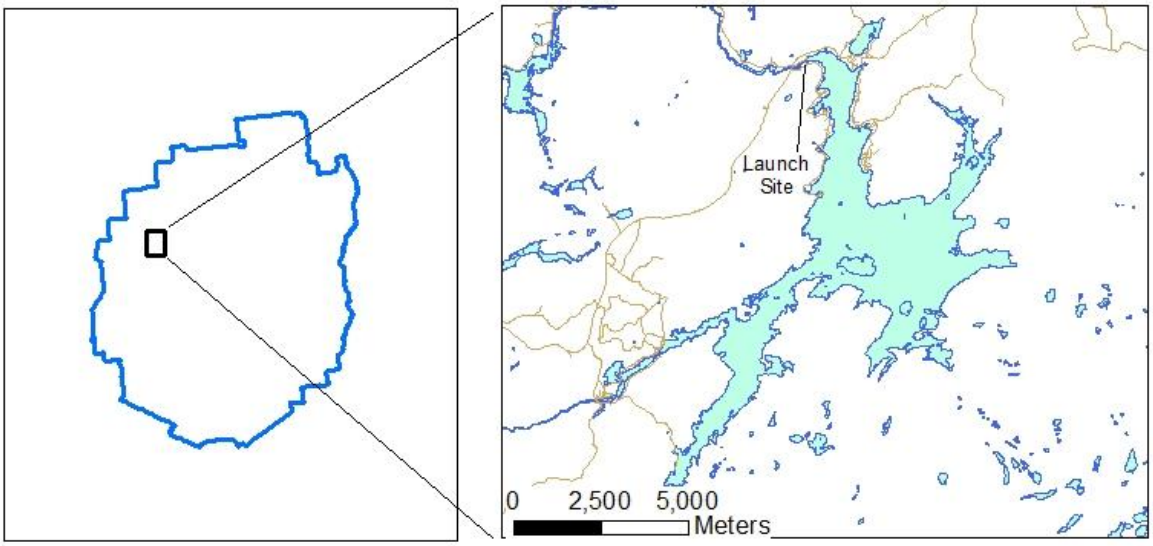
Little Colby			Plant Bed Number										
			1	2	3	4	5	6	7	8	9	10	11
Scientific Name	**Common Name**	**AREA (M^2)**	150	3	6	3	3	3	196	26716	381	5236	984
Myriophyllum spicatum	Eurasian Watermilfoil		P	P	P	P	P	P	P	P	A	A	A

Table 21. *Myriophyllum spicatum* present on the rake at each of the rake toss locations and abundance. Refer to Map 32 for *M. spicatum* Rake locations.

Colby Lake		Rake Toss Number		
Scientific Name	**Common Name**		1	32
Myriophyllum spicatum	Eurasian Watermilfoil		O	R

No rakes returned with *M. spicatum* during the rapid response survey of Little Colby
09-August-2012

Cranberry Lake Aquatic Plant Survey 2012



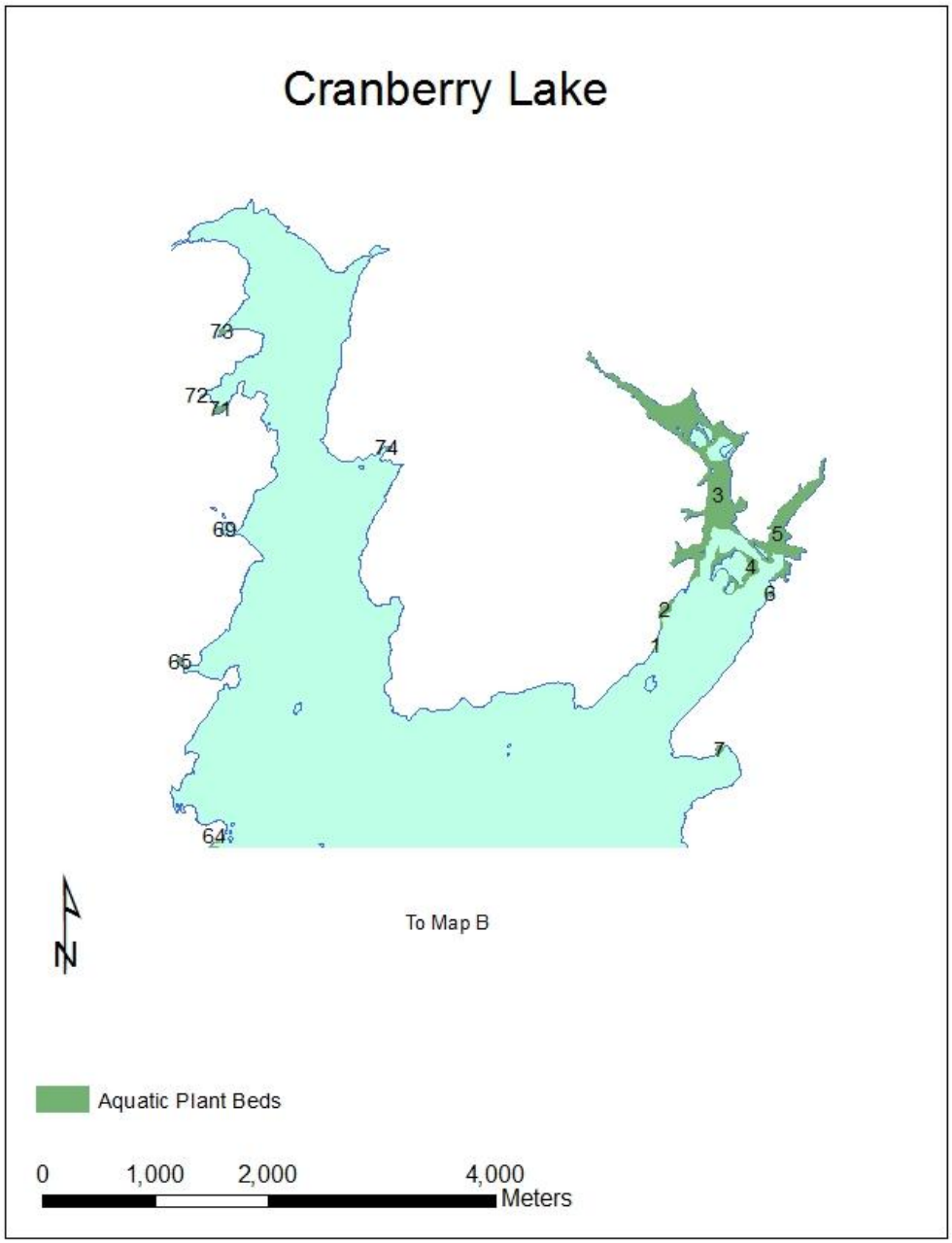
Map 32: Location of Cranberry Lake.

Cranberry Lake is located in the town of Clifton in St. Lawrence County, New York (Map 32). The 6995 acre lake was accessed by two access points, a hardtop DEC boat launch on the northern shore and a canoe launch out of Wanakena at the SUNY-ESF Ranger School. The DEC launch is found just off from State route 3 just west of Silver Lake.

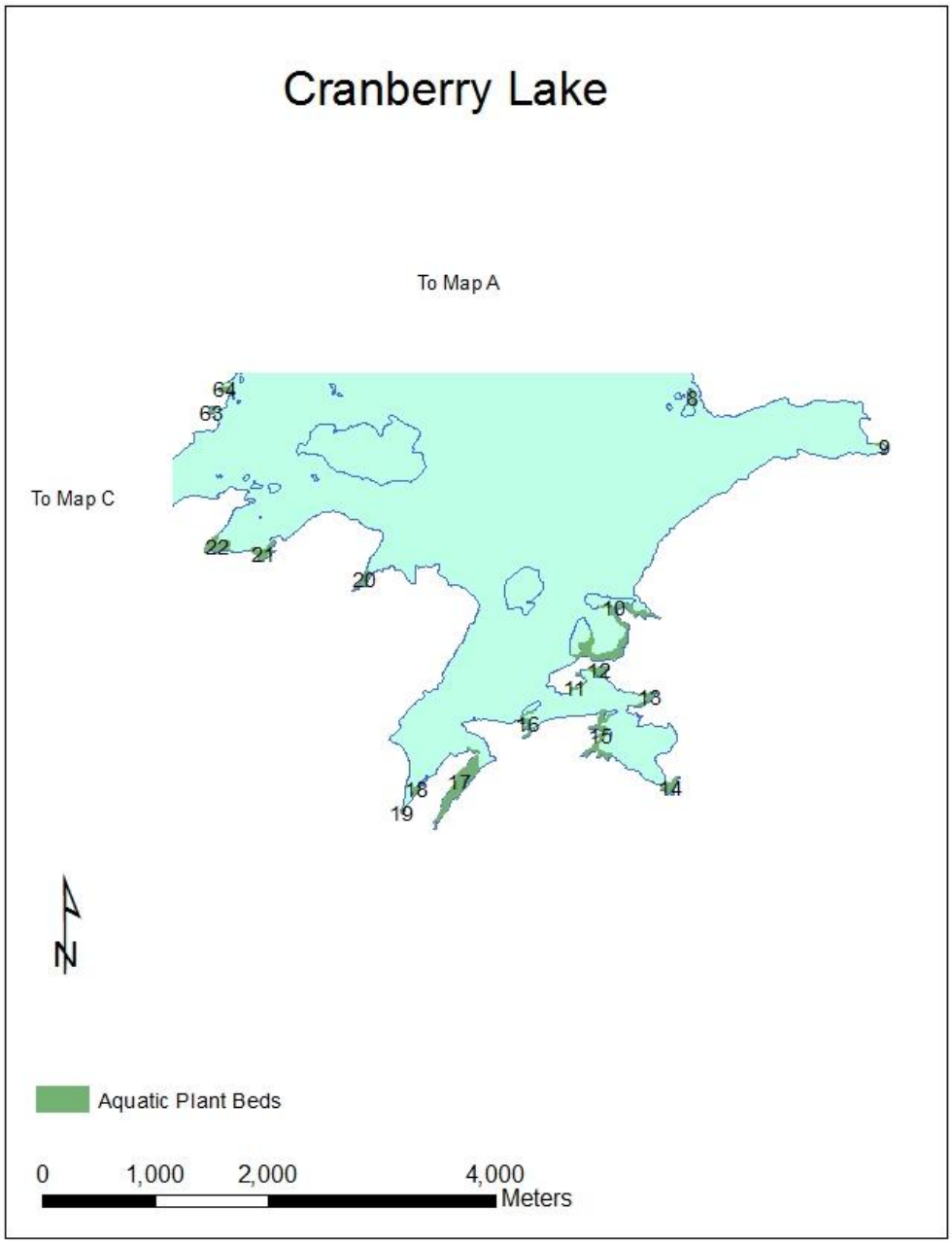
An aquatic plant survey of Cranberry Lake was conducted on 09-August-2012. Twoleaf or Variable-leaf watermilfoil (*Myriophyllum heterophyllum*) was detected during this survey (Map 35). The range in which this plant is deemed native or non-native is under debate and in some states this plant is classified as invasive. Aquatic plant coverage in Cranberry Lake was moderate, comprised of 74 plant beds that collectively covered 558 acres or 8% of the surface area of the lake (Map 33). Twenty-four different aquatic species were identified during this survey. Common species of this water body included many members of the pondweed genus *Potamogeton*, of which the most common was Ribbon leaf (*P. epihydris*), and Bur-reed (*Sparganium sp.*). Purple bladderwort (*Utricularia purprea*), Flatleaf bladderwort (*U. intermedia*), Lesser bladderwort (*U. minor*), and Common bladderwort (*U. vulgaris*) were the species detected which could be easily confused with invasive species (Table 22).

Of the 213 rake tosses spaced throughout the littoral zone of the lake (Map 34), 54 rakes had acquired plants upon recovery (25%). All plants found on the rakes after their retrieval were detected during the surface survey (Table 23).

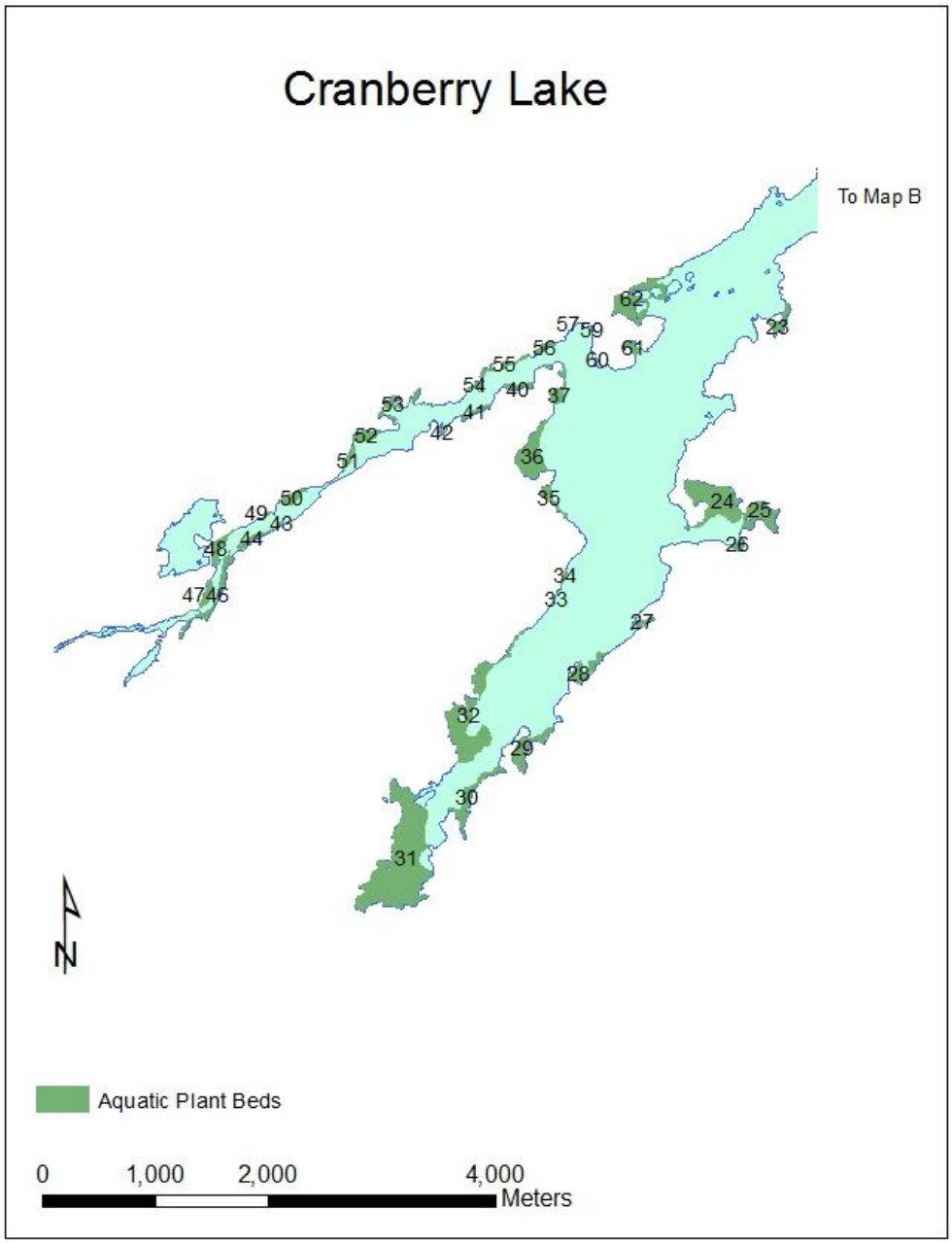
Variable-leaf watermilfoil in Cranberry Lake was found in 38 beds which covered 386 acres. This was 5.5% of the surface area of the Lake and 69.2% of the total aquatic plant coverage in the lake (Map 35 & Table 24).



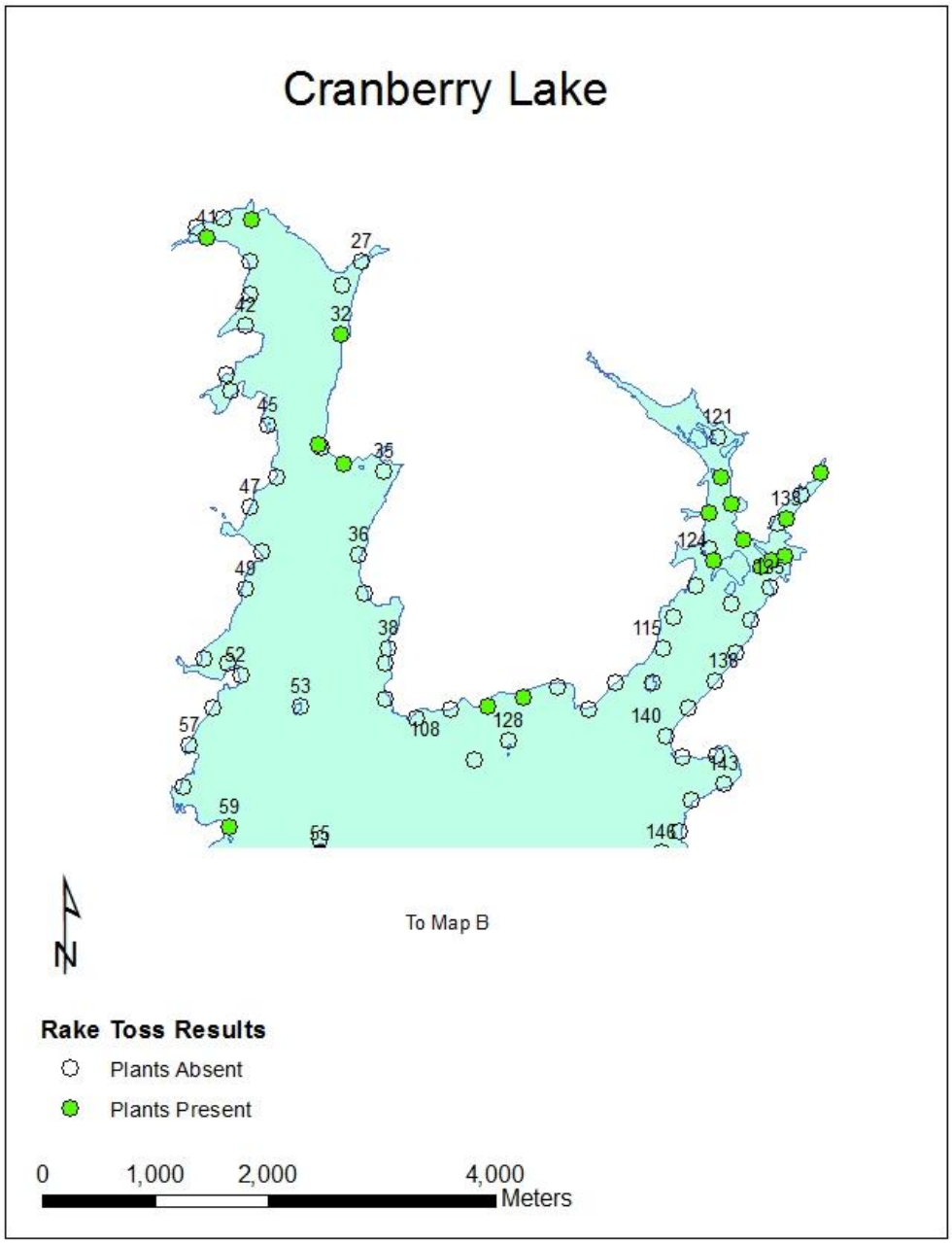
Map 33A: Location of the aquatic plant beds detected in Cranberry Lake during the surface survey performed on 09 Aug, 2012.
Data for Plant Beds can be found on Table 22.



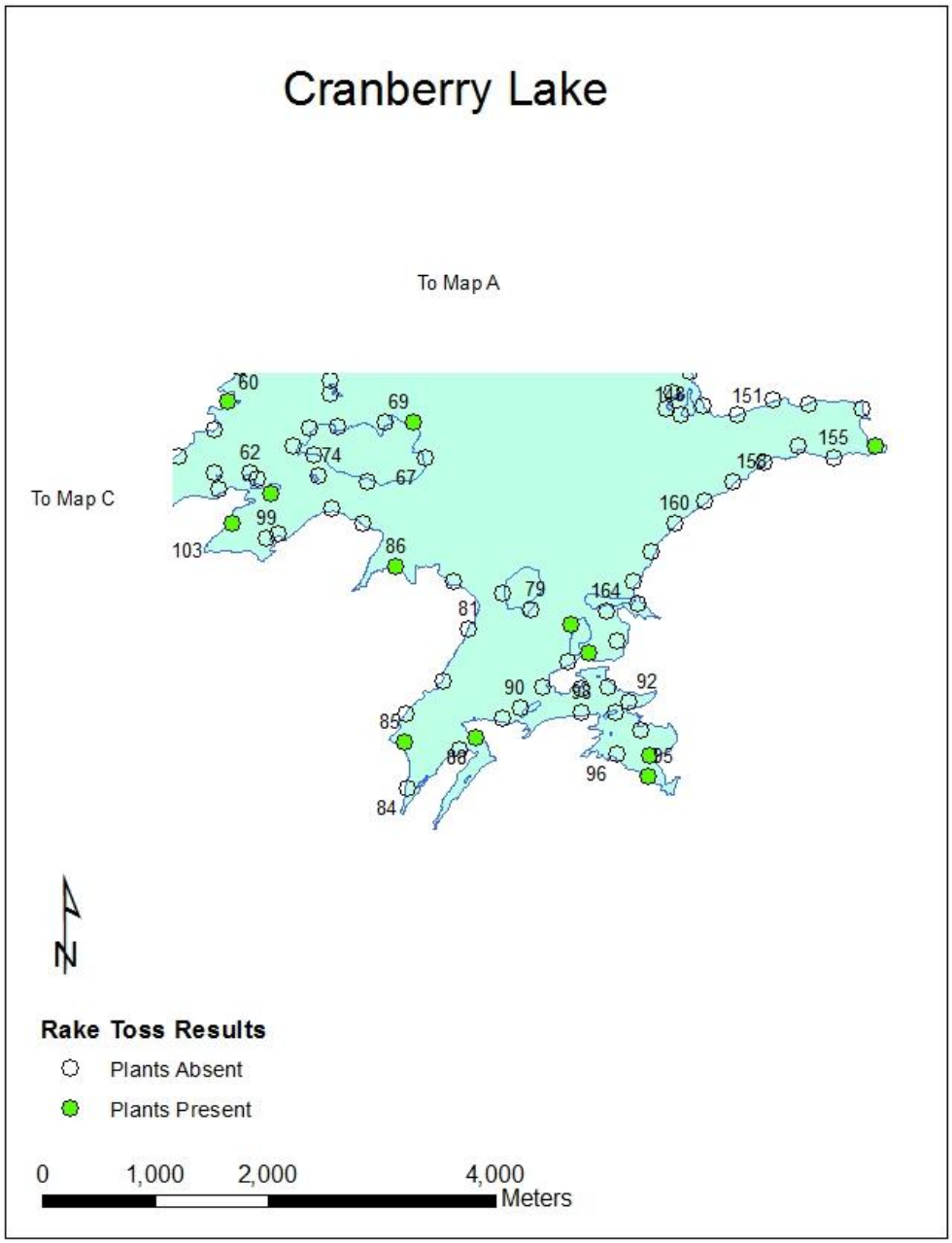
Map 33B: Location of the aquatic plant beds detected in Cranberry Lake during the surface survey performed on 09 Aug, 2012.
Data for Plant Beds can be found on Table 22.



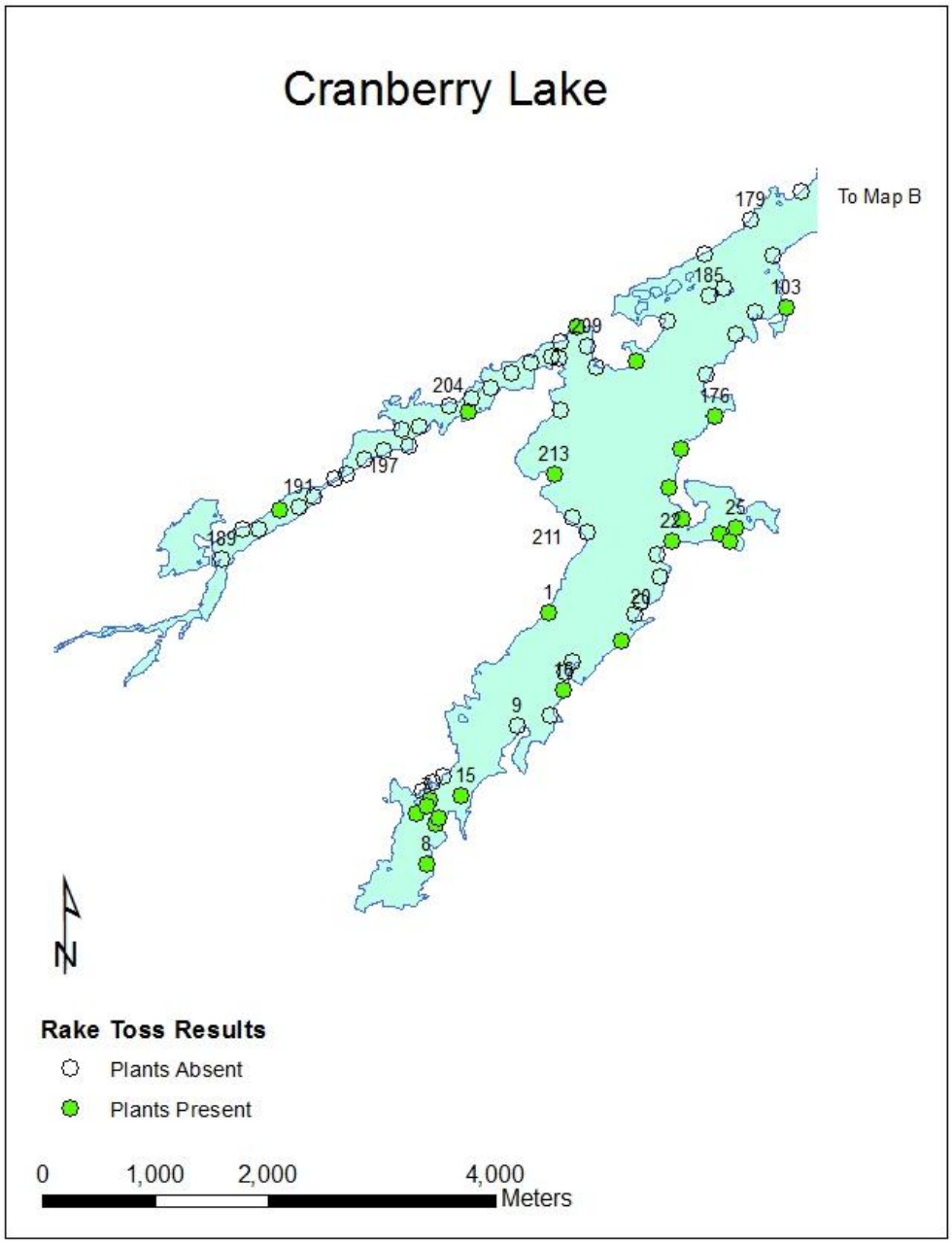
Map 33C: Location of the aquatic plant beds detected in Cranberry Lake during the surface survey performed on 09 Aug, 2012.
Data for Plant Beds can be found on Table 22.



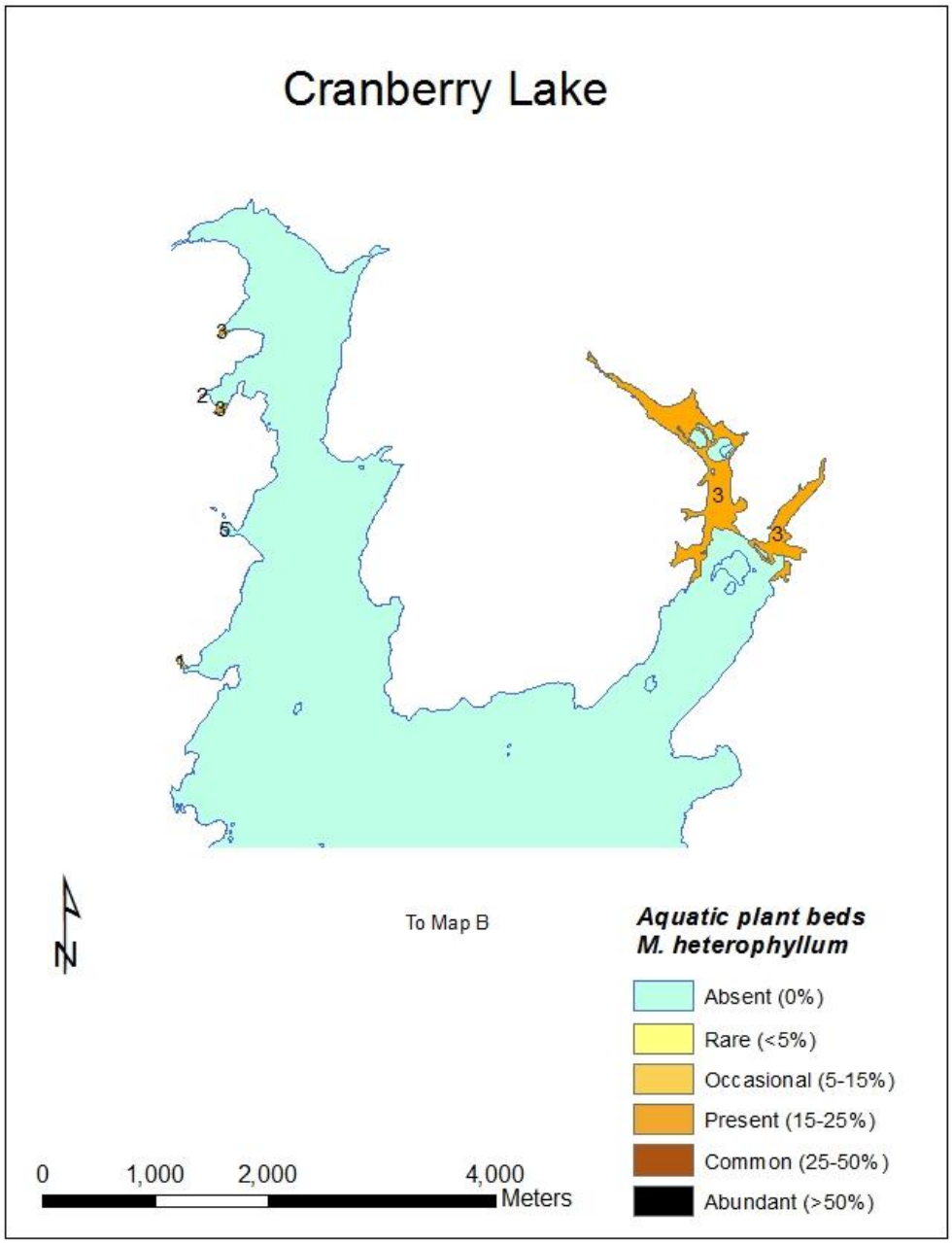
Map 34A. Rake toss locations on Cranberry Lake, 09 Aug, 2012. Open circles represent locations where no plants were detected, closed circles represent locations where plants were encountered on the rake. Data for Rake Tosses can be found on Table 23.



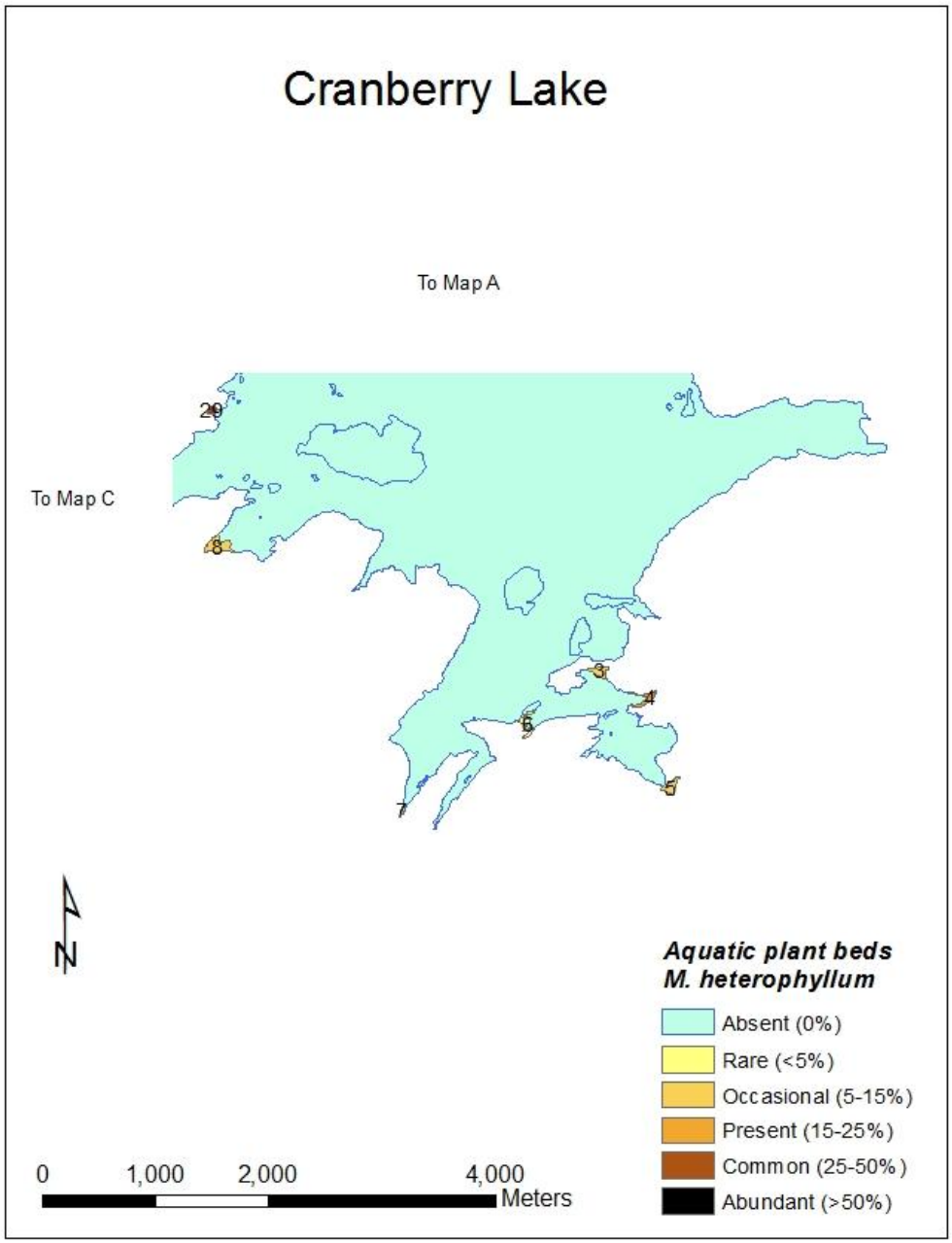
Map 34B: Rake toss locations on Cranberry Lake, 09 Aug, 2012. Open circles represent locations where no plants were detected, closed circles represent locations where plants were encountered on the rake. Data for Rake Tosses can be found on Table 23.



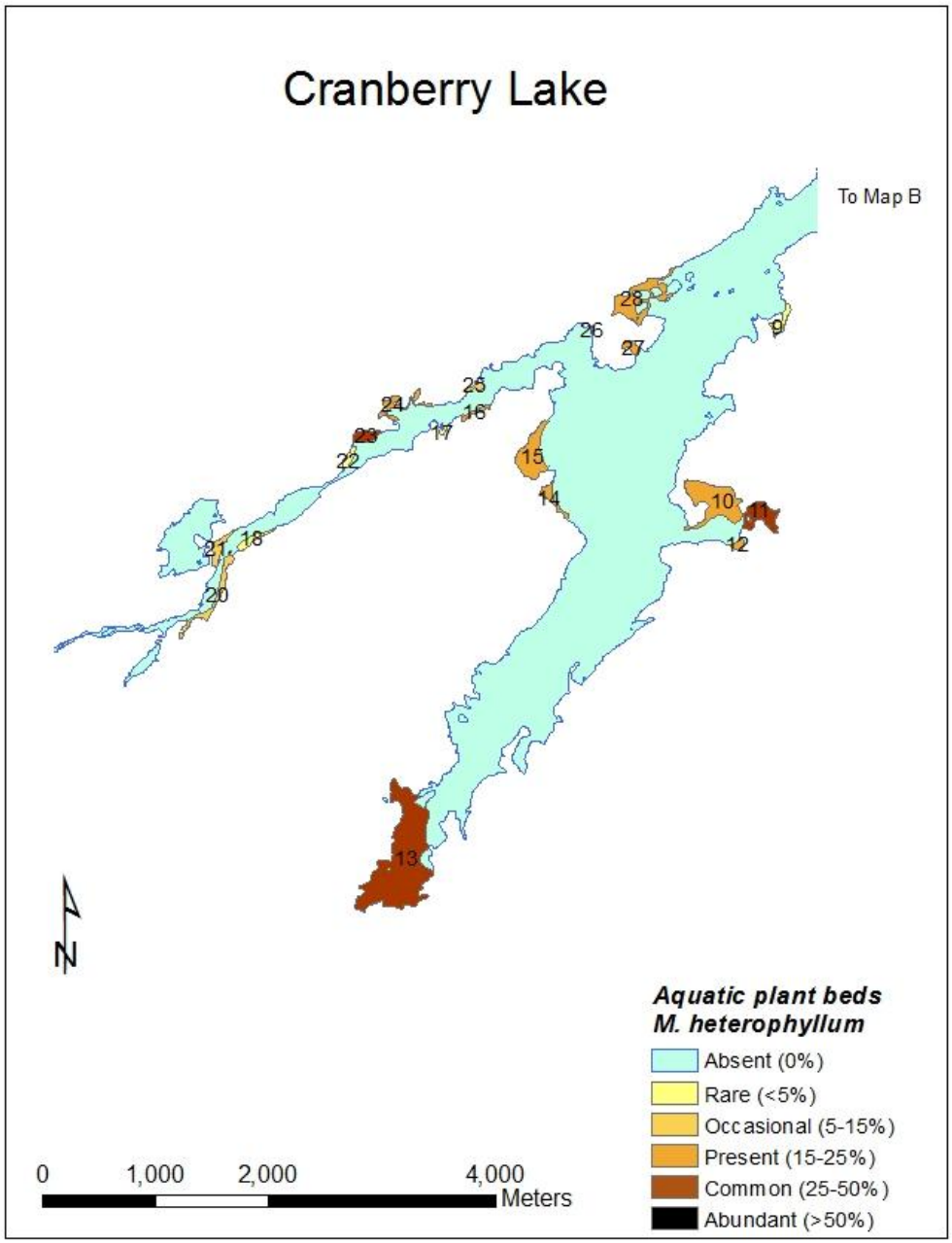
Map 34C: Rake toss locations on Cranberry Lake, 09 Aug, 2012. Open circles represent locations where no plants were detected, closed circles represent locations where plants were encountered on the rake. Data for Rake Tosses can be found on Table 23.



Map 35A: Location of *Myriophyllum heterophyllum* beds detected in Cranberry Lake during the surface survey performed on 09 Aug, 2012.
Data for *M. heterophyllum* beds can be found on Table 24.



Map 35B: Location of *Myriophyllum heterophyllum* beds detected in Cranberry Lake during the surface survey performed on 09 Aug, 2012.
Data for *M. heterophyllum* beds can be found on Table 24.



Map 35C: Location of *Myriophyllum heterophyllum* beds detected in Cranberry Lake during the surface survey performed on 09 Aug, 2012.
Data for *M. heterophyllum* beds can be found on Table 24.

Table 22: Percent cover of aquatic plant species detected at each plant bed in Cranberry Lake. Refer to Map 33 series for bed locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Cranberry Lake			Plant Bed Numbers																								
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Scientific Name	**Common Name**	**AREA (M^2)**	1742	13617	425297	50136	149528	1597	4939	5744	2454	77517	6072	11080	10494	10738	36059	11821	62217	4698	1617	9996	17019	21524	17900	118759	50864
Brasenia schreberi	Water shield		R	C	O	P	R	O	O	O	-	P	P	P	C	-	P	P	P	P	-	P	O	P	R	A	C
Eleocharis sp.	Hairgrass		-	-	-	-	-	-	-	-	-	-	-	O	-	P	-	-	-	-	-	-	-	-	-	-	-
Elodea nuttalia	Western waterweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	R
Eriocaulon sp.	Pipewort		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	O	-	-	-	-	-
Lobelia dortmanna	Water lobelia		-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Myriophyllum heterophyllum	Twoleaf watermilfoil		-	-	P	-	P	-	-	-	-	-	-	O	P	O	-	R	-	-	A	-	-	O	R	P	C
Najas sp.	Water naiad		-	-	R	-	R	-	-	-	-	R	-	R	R	O	R	-	R	-	-	R	-	-	R	R	-
Nitella sp.	Brittlewort		-	-	R	O	R	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	O	R	-
Nuphar variegata	Spatterdock		P	R	R	R	R	R	R	-	-	R	-	-	R	-	R	R	R	-	-	O	R	O	O	O	O
Nymphaea odorata	White waterlily		-	-	R	R	R	-	-	-	R	-	R	R	-	-	-	-	-	-	-	-	-	-	-	R	-
Potamogeton amplifolius	Large-leaf pondweed		-	-	R	R	O	R	-	-	-	R	-	-	R	-	-	O	-	-	-	C	-	R	R	-	-
Potamogeton epihydrus	Ribbon-leaf pondweed		-	O	O	R	R	-	-	R	R	R	R	-	O	R	O	R	O	-	O	R	-	R	O	R	-
Potamogeton natans	Floating pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R
Potamogeton pusillus	Small pondweed		-	-	R	-	-	-	-	-	-	-	-	O	-	R	R	-	-	-	-	R	-	-	-	-	-
Potamogeton robbinsii	Robbins pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton spirillus	Spiral-fruit pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	R
Potamogeton zosterformis	Flatstem pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R
Sagittaria graminea	Grassy arrowhead		-	R	R	R	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sparganium sp.	Bur-reed		R	R	R	R	R	R	O	R	P	R	R	R	O	O	R	-	A	A	P	A	O	O	O	R	C
Utricularia intermedia	Flatleaf bladderwort		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	R	-	-	-	R	-
Utricularia minor	Lesser bladderwort		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Utricularia purprea	Purple bladderwort		-	-	R	R	C	-	-	-	-	R	-	O	R	-	-	-	-	-	R	R	-	-	R	R	O
Utricularia vulgaris	Common bladderwort		-	-	R	R	O	-	-	-	-	-	-	R	-	R	-	-	P	-	-	R	-	-	R	O	-
Vallisneria americana	Eel-grass		-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

			Plant Bed Numbers																								
			26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
Scientific Name	**Common Name**	**AREA (M^2)**	8948	6299	29325	42227	45195	366967	166564	410	3641	19058	75592	22068	2181	7	11617	8559	2969	1899	15325	514	34871	16605	20461	1615	17101
Brasenia schreberi	Water shield		C	R	A	A	C	C	A	A	C	A	A	A	C	C	A	C	O	C	C	-	C	C	A	A	P
Eleocharis sp.	Hairgrass		-	-	-	-	-	-	-	-	-	-	-	-	-	-	O	-	-	-	O	-	R	P	O	-	C
Elodea nuttalia	Western waterweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eriocaulon sp.	Pipewort		-	-	-	-	-	-	-	-	-	O	-	-	-	-	-	-	-	-	-	-	-	-	-	O	-
Lobelia dortmanna	Water lobelia		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Myriophyllum heterophyllum	Twoleaf watermilfoil		P	-	-	-	-	C	-	-	-	P	P	-	-	-	-	P	R	-	R	A	O	-	O	-	-
Najas sp.	Water naiad		-	-	-	O	C	R	-	-	-	-	R	R	C	-	P	C	C	-	-	-	P	P	O	P	C
Nitella sp.	Brittlewort		-	-	-	-	R	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nuphar variegata	Spatterdock		O	R	O	O	R	R	-	-	-	R	R	R	O	-	O	O	-	-	O	-	P	O	P	O	O
Nymphaea odorata	White waterlily		-	-	-	-	-	-	-	-	-	-	-	O	-	-	-	-	-	-	-	-	R	-	-	-	-
Potamogeton amplifolius	Large-leaf pondweed		-	-	O	-	-	-	-	-	-	P	P	O	-	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton epihydrus	Ribbon-leaf pondweed		-	-	-	-	R	R	-	R	O	-	R	P	-	-	R	O	O	-	R	-	R	O	-	R	R
Potamogeton natans	Floating pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	O
Potamogeton pusillus	Small pondweed		-	O	O	-	-	-	P	O	C	-	-	O	-	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton robbinsii	Robbins pondweed		-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton spirillus	Spiral-fruit pondweed		-	C	P	-	R	R	-	-	-	O	-	-	-	-	R	R	-	-	-	-	R	R	R	-	-
Potamogeton zosterformis	Flatstem pondweed		-	A	R	-	-	-	R	-	-	P	-	R	-	-	-	-	-	-	-	-	R	-	R	-	R
Sagittaria graminea	Grassy arrowhead		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sparganium sp.	Bur-reed		O	O	R	O	R	P	R	-	-	R	C	P	P	C	R	O	-	C	P	-	C	C	C	C	P
Utricularia intermedia	Flatleaf bladderwort		-	-	-	R	R	-	R	-	-	-	-	-	-	-	-	R	-	-	R	-	R	-	-	R	R
Utricularia minor	Lesser bladderwort		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Utricularia purprea	Purple bladderwort		P	P	R	C	-	R	-	-	-	R	P	-	O	-	R	-	-	-	-	-	-	-	-	-	-
Utricularia vulgaris	Common bladderwort		-	-	-	-	-	-	-	-	-	-	-	-	R	-	O	-	O	-	-	-	O	-	-	-	-
Vallisneria americana	Eel-grass		-	-	-	-	-	R	-	-	-	R	R	-	-	-	-	-	-	-	-	-	R	-	-	-	-

			Plant																								
			51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
Scientific Name	**Common Name**	**AREA (M^2)**	10451	19446	26526	7434	16173	10612	6	7	783	111	10979	83759	3933	5694	4376	68	58	70	76	31	5950	1364	3910	1833
Brasenia schreberi	Water shield		A	A	C	C	A	A	O	R	-	R	P	A	P	P	C	-	-	-	-	-	-	-	-	R
Eleocharis sp.	Hairgrass		-	-	-	-	R	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	C
Elodea nuttalia	Western waterweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eriocaulon sp.	Pipewort		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lobelia dortmanna	Water lobelia		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Myriophyllum heterophyllum	Twoleaf watermilfoil		R	C	P	O	-	-	-	-	R	-	P	P	C	-	R	A	A	A	A	A	P	O	P	-
Najas sp.	Water naiad		-	-	A	P	P	-	-	-	C	A	R	R	O	-	P	-	-	-	-	-	A	A	A	-
Nitella sp.	Brittlewort		-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	R	-	-
Nuphar variegata	Spatterdock		R	R	P	R	O	O	R	-	-	O	-	-	O	R	-	-	-	-	-	-	O	O	R	-
Nymphaea odorata	White waterlily		-	-	-	-	-	-	-	-	-	-	O	-	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton amplifolius	Large-leaf pondweed		-	-	-	-	-	R	-	-	-	-	O	-	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton epihydrus	Ribbon-leaf pondweed		-	-	O	O	R	-	O	P	P	O	R	O	O	O	O	-	-	-	-	O	C	C	P	P
Potamogeton natans	Floating pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton pusillus	Small pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P	R
Potamogeton robbinsii	Robbins pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R
Potamogeton spirillus	Spiral-fruit pondweed		R	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P	-
Potamogeton zosterformis	Flatstem pondweed		-	O	-	-	-	O	-	-	O	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sagittaria graminea	Grassy arrowhead		-	-	-	-	-	-	-	-	-	-	-	-	O	-	R	-	-	-	-	-	R	-	-	P
Sparganium sp.	Bur-reed		C	P	P	O	P	-	R	P	C	-	O	O	R	P	P	-	-	-	-	R	R	R	-	-
Utricularia intermedia	Flatleaf bladderwort		-	-	O	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P	R	-	-
Utricularia minor	Lesser bladderwort		-	-	-	-	-	-	-	-	-	-	R	R	-	-	-	-	-	-	-	-	-	-	-	-
Utricularia purprea	Purple bladderwort		-	-	-	-	-	-	-	-	O	-	-	R	-	-	C	-	-	-	-	-	R	-	-	R
Utricularia vulgaris	Common bladderwort		-	R	O	-	O	-	-	-	R	-	P	O	O	-	-	-	-	-	-	-	-	-	-	-
Vallisneria americana	Eel-grass		-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-

Table 23: Species present on the rake at each of the rake toss locations and abundance. Refer to Map 34 series for Rake locations.

Cranberry Lake		Rake Toss Numbers																											
Scientific Name	**Common Name**	1	5	6	7	8	13	14	15	16	17	22	23	24	25	31	32	33	34	41	59	60	64	68	85	86	88	94
Brasenia schreberi	Water shield	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eleocharis sp.	Hairgrass	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	O	R	R	-	-	-	-	-	-	R	-	R
Elodea nuttalia	Western waterweed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eriocaulon sp.	Pipewort	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-
Myriophyllum heterophyllum	Twoleaf watermilfoil	-	C	-	R	-	-	-	C	-	-	-	-	-	O	-	-	-	-	-	-	-	-	-	-	-	-	-
Najas sp.	Water naiad	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitella sp.	Brittlewort	-	-	R	R	A	O	O	-	R	-	-	O	-	-	R	-	-	-	O	R	R	R	R	R	-	-	R
Potamogeton epihydrus	Ribbon-leaf pondweed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton gramineus	Variable-leaf pondweed	-	O	-	-	-	-	-	O	-	R	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton pusillus	Small pondweed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R
Potamogeton spirillus	Spiral-fruit pondweed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton zosterformis	Flatstem pondweed	R	-	-	-	-	-	-	-	-	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sagittaria graminea	Grassy arrowhead	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sparganium sp.	Bur-reed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-
Utricularia intermedia	Flatleaf bladderwort	-	-	-	O	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Utricularia minor	Lesser bladderwort	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Utricularia purprea	Purple bladderwort	-	-	-	-	-	-	-	R	O	R	-	-	O	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Utricularia vulgaris	Common bladderwort	-	-	-	-	-	-	-	-	-	-	R	-	O	R	-	-	-	-	-	-	-	-	-	-	-	-	-

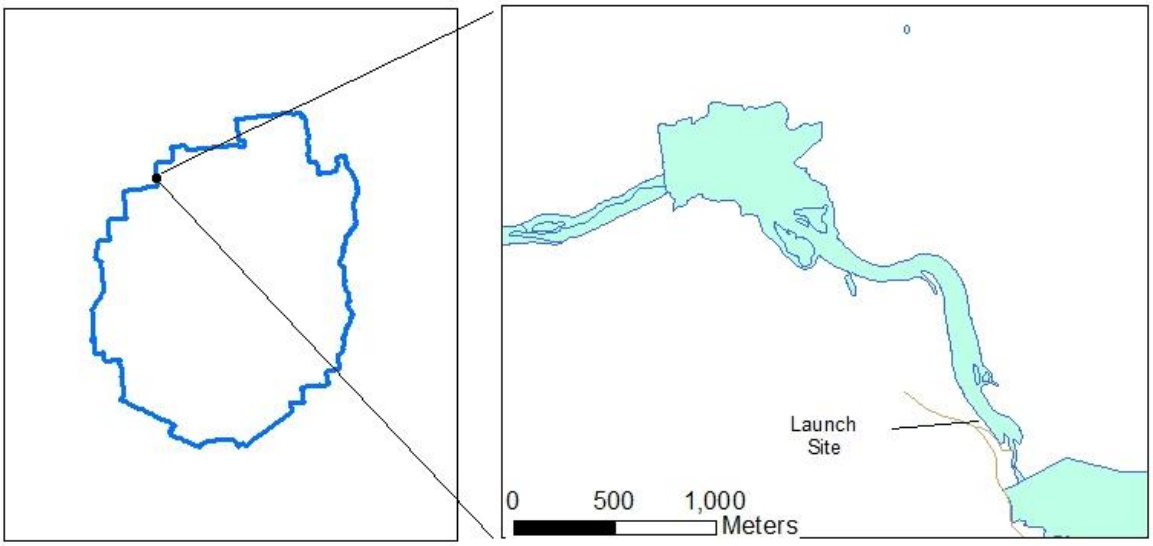
		Rake Toss Numbers																											
Scientific Name	**Common Name**	95	100	103	109	110	119	120	122	123	124	125	129	132	133	134	154	166	170	171	172	175	176	182	187	199	206	213
Brasenia schreberi	Water shield	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eleocharis sp.	Hairgrass	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Elodea nuttalia	Western waterweed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	R	-	-	-	-	-	-	-	-
Eriocaulon sp.	Pipewort	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Myriophyllum heterophyllum	Twoleaf watermilfoil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Najas sp.	Water naiad	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P	R	
Nitella sp.	Brittlewort	-	R	O	R	R	-	-	C	-	C	A	R	-	-	-	R	R	R	-	R	-	-	-	-	R	-	-
Potamogeton epihydrus	Ribbon-leaf pondweed	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton gramineus	Variable-leaf pondweed	-	-	-	-	-	-	-	-	O	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-
Potamogeton pusillus	Small pondweed	-	-	-	-	-	-	-	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton spirillus	Spiral-fruit pondweed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A	-	P	P	R	-	-	-	-
Potamogeton zosterformis	Flatstem pondweed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sagittaria graminea	Grassy arrowhead	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sparganium sp.	Bur-reed	-	-	-	-	-	O	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Utricularia intermedia	Flatleaf bladderwort	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Utricularia minor	Lesser bladderwort	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-
Utricularia purprea	Purple bladderwort	R	R	-	-	-	-	-	-	-	-	-	-	-	C	-	-	-	R	O	-	-	R	-	-	-	-	-
Utricularia vulgaris	Common bladderwort	-	-	-	-	-	-	-	-	-	-	-	-	-	C	-	-	-	-	-	-	-	-	-	O	-	-	-

Table 24: Percent cover of *Myriophyllum heterophyllum* detected at each plant bed in Cranberry Lake. Refer to Map 35 series for *M. heterophyllum* locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Cranberry Lake			**Plant Bed Numbers**																		
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Scientific Name	**Common Name**	**AREA (M^2)**	425297	149528	11080	10494	10738	11821	1617	21524	17900	118759	50864	8948	366967	19058	75592	8559	2969	15325	514
Myriophyllum heterophyllum	Twoleaf watermilfoil		P	P	O	P	O	R	A	O	R	P	C	P	C	P	P	P	R	R	A

Cranberry Lake			**Plant Bed Numbers**																		
			20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
Scientific Name	**Common Name**	**AREA (M^2)**	34871	20461	10451	19446	26526	7434	783	10979	83759	3933	4376	68	58	70	76	31	5950	1364	3910
Myriophyllum heterophyllum	Twoleaf watermilfoil		O	O	R	C	P	O	R	P	P	C	R	A	A	A	A	A	P	O	P

Five Falls Reservoir Aquatic Plant Survey 2012



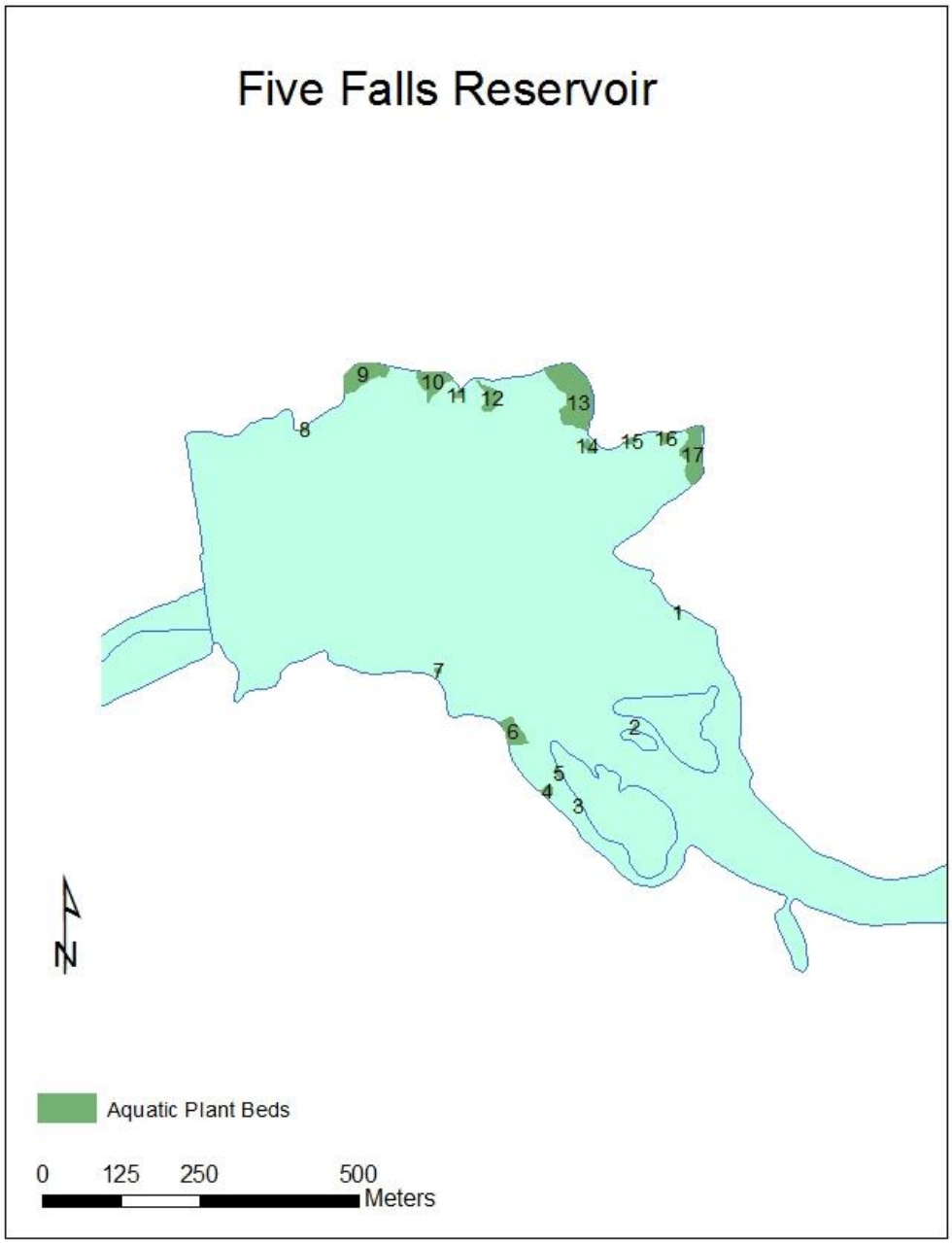
Map 36: Location of Five Falls Reservoir.

Five Falls Reservoir is located in the town of Colton in St. Lawrence County, New York (Map 36). The 107 acre reservoir was accessed by a hardtop DEC boat launch on the southern shore. The launch can be found on the Raquette River Road off from State Route 56, approximately 6 miles south of South Colton and 12.6 miles north of the intersection of 56 and State Route 3.

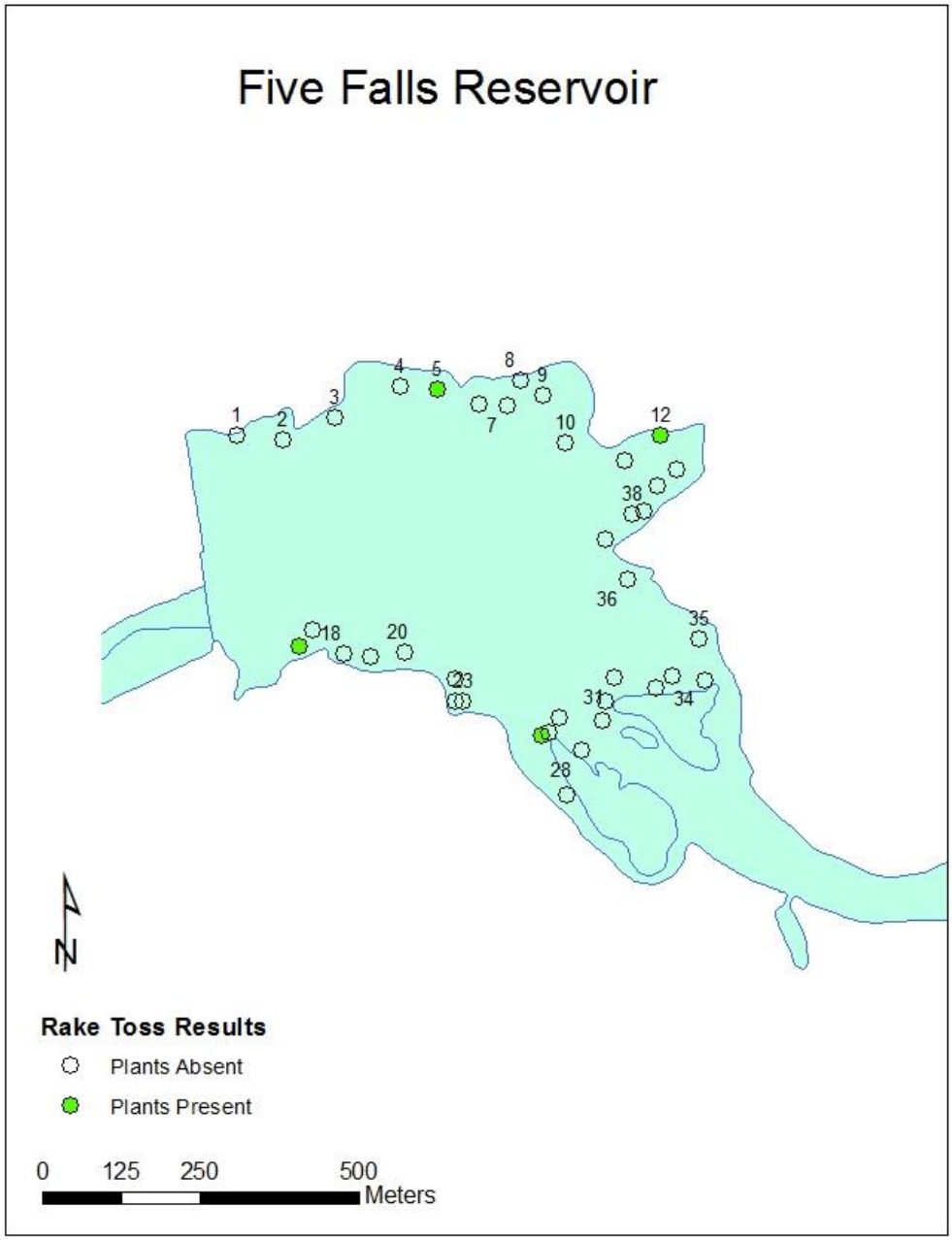
An aquatic plant survey of Five Falls Reservoir was conducted on 27-June-2012. Twoleaf or Variable-leaf watermilfoil (*Myriophyllum heterophyllum*) was detected during this survey (Map 39). The range in which this plant is deemed native or non-native is under debate and in some states this plant is classified as invasive. Aquatic plant coverage in Five Falls Reservoir was relatively low, comprised of 17 plant beds that collectively covered 3.7 acres or 3.4% of the surface area of the lake (Map 37). Nine different aquatic species were identified during this survey. Ribbon-leaf pondweed (*Potamogeton epihydris*), and Bur-reed (*Sparganium sp.*) were the most common species detected. Purple bladderwort (*Utricularia purprea*) was the only species found that could easily be confused as an invasive species (Table 25).

Of the 38 rake tosses spaced throughout the littoral zone of the lake (Map 38), 4 rakes had acquired plants upon recovery (10.5%). Purple bladderwort was the only species recovered on a rake that was not detected during the surface survey (Table 26).

Variable-leaf watermilfoil in Five Falls Reservoir was detected in 4 beds which covered 2.1 acres. This was 2.0% of the surface area of the reservoir and 56.8% of the total aquatic plant coverage in the reservoir (Map 39 & Table 27).

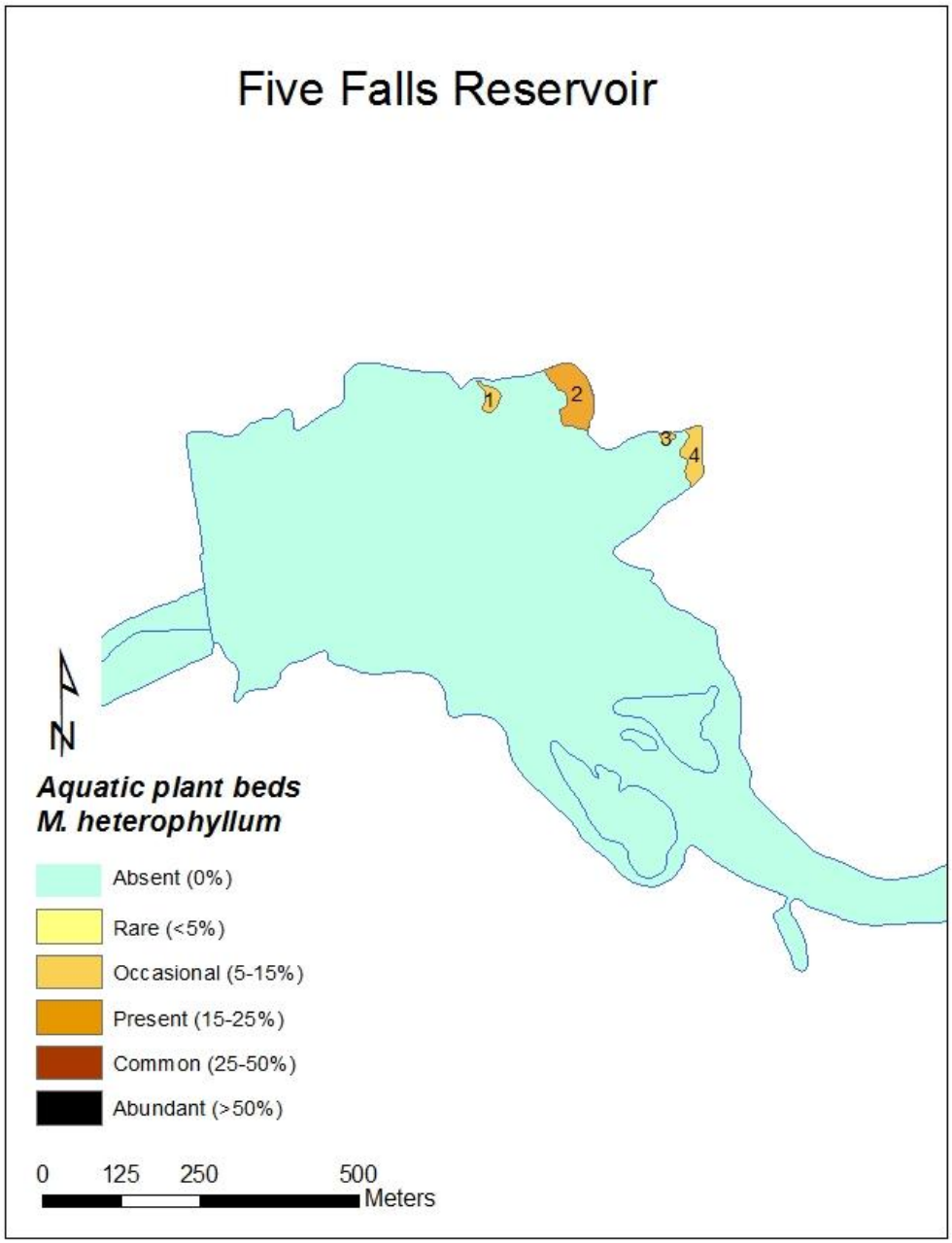


Map 37: Location of the aquatic plant beds detected in Five Falls Reservoir during the surface survey performed on 27 June, 2012.
Data for Plant Beds can be found on Table 25.



Map 38: Rake toss locations on Five Falls Reservoir, 27 June, 2012. 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 on Table 26.



Map 39: Location of *Myriophyllum heterophyllum* beds detected in Five Falls Reservoir during the surface survey performed on 27 June, 2012.
Data for *M. heterophyllum* beds can be found on Table 27.

Table 25: Percent cover of aquatic plant species detected at each plant bed in Five Falls Reservoir. Refer to Map 37 for bed locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Five Falls Reservoir		**Plant Bed Numbers**																	
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Scientific Name	**Common Name**	**AREA (M^2)**	64	49	69	280	148	1186	84	116	2071	1530	208	905	4920	279	202	315	2409
Eriocaulon sp.	Pipewort		-	-	A	O	C	P	-	-	O	-	-	-	-	-	-	-	-
Lobelia dortmanna	Water lobelia		-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-
Myriophyllum heterophyllum	Twoleaf watermilfoil		-	-	-	-	-	-	-	-	-	-	-	O	P	-	-	O	O
Potamogeton amplifolius	Large-leaf pondweed		C	-	-	-	-	-	-	-	O	P	-	R	O	O	-	O	R
Potamogeton epihydrus	Ribbon-leaf pondweed		A	C	-	A	R	-	P	-	O	-	-	O	P	O	-	O	O
Sagittaria graminea	Grassy arrowhead		-	-	C	-	R	-	R	-	O	-	-	-	-	-	-	-	-
Sparganium sp.	Bur-reed		-	-	O	P	-	A	A	O	O	P	P	C	P	O	P	O	O
Vallisneria americana	Eel-grass		-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-

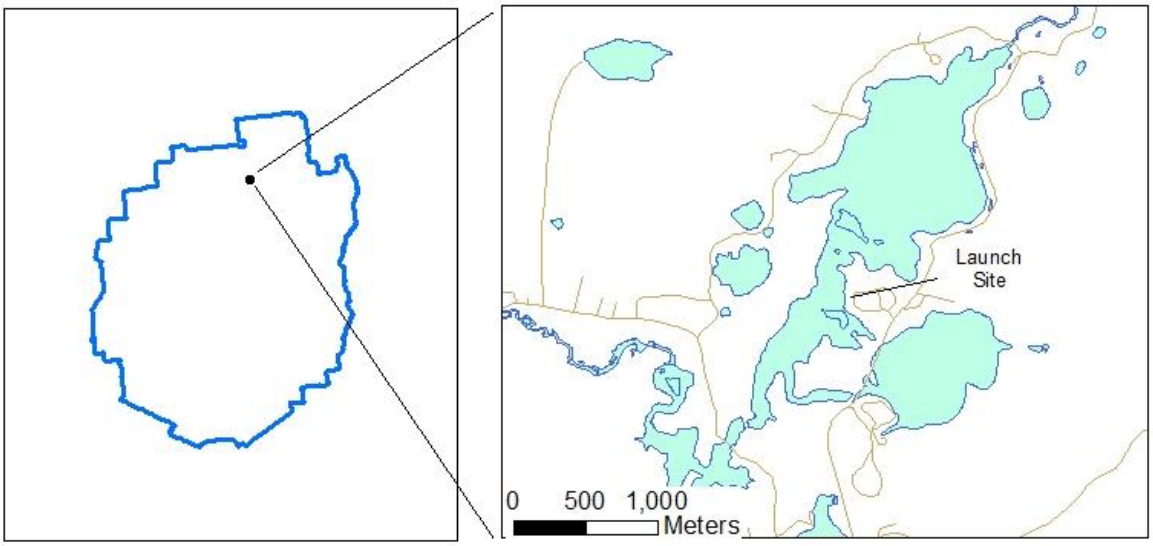
Table 26: Species present on the rake at each of the rake toss locations and abundance. Refer to Map 38 for Rake locations.

Five Falls Reservoir		**Rake Toss Numbers**			
Scientific Name	**Common Name**	5	12	16	24
Myriophyllum heterophyllum	Twoleaf watermilfoil	-	R	-	-
Sagittaria graminea	Grassy arrowhead	-	-	R	-
Sparganium sp.	Bur-reed	O	-	-	-
Utricularia purprea	Purple bladderwort	-	-	O	R

Table 27: Percent cover of *Myriophyllum heterophyllum* detected at each plant bed in Five Falls Reservoir. Refer to Map 39 for *M. heterophyllum* locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Five Falls Reservoir		**Plant Bed Numbers**				
			1	2	3	4
Scientific Name	**Common Name**	**AREA (M^2)**	905	4920	315	2409
Myriophyllum heterophyllum	Twoleaf watermilfoil		O	P	O	O

Kushaqua Lake Aquatic Plant Survey 2012

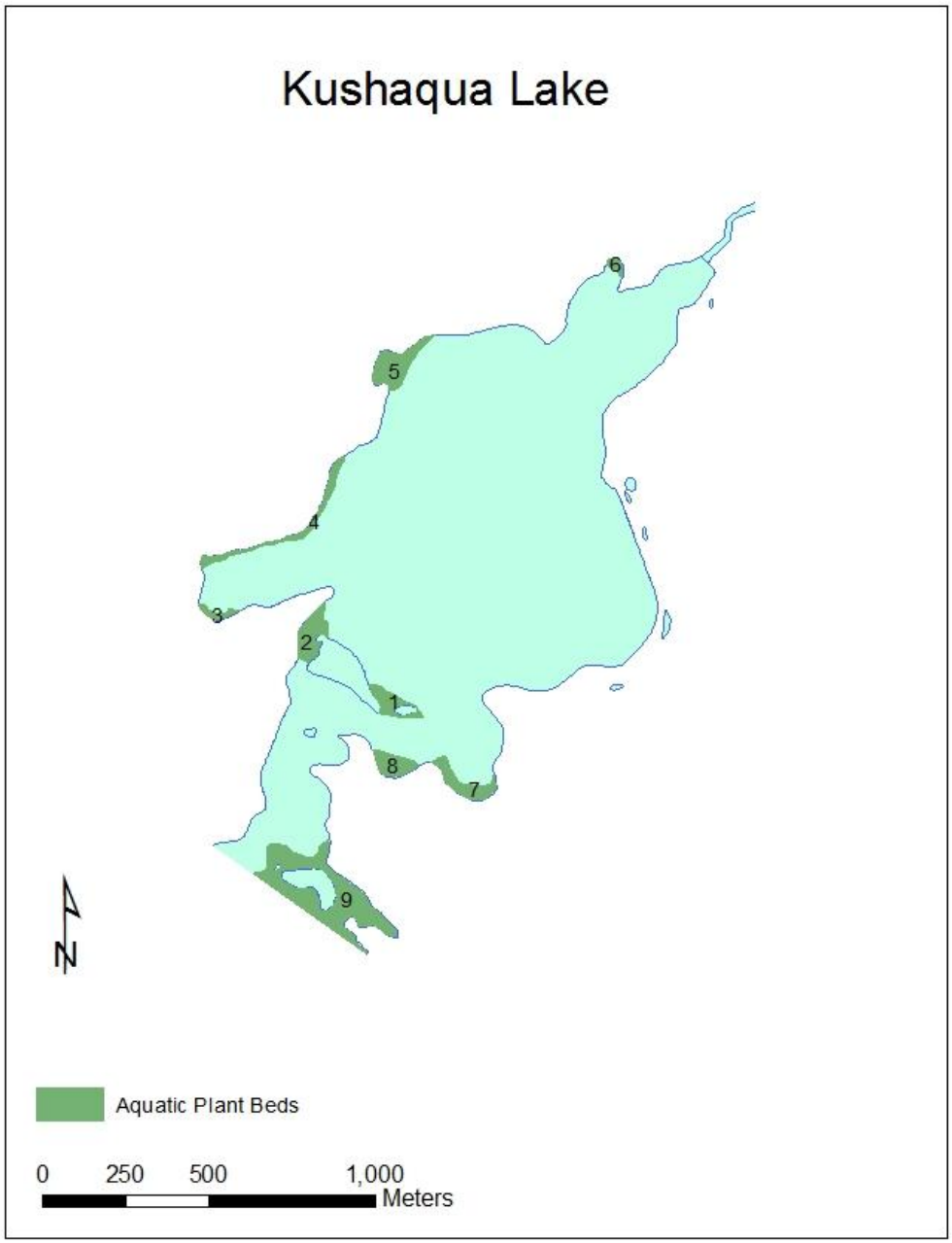


Map 40: Location of Kushaqua Lake.

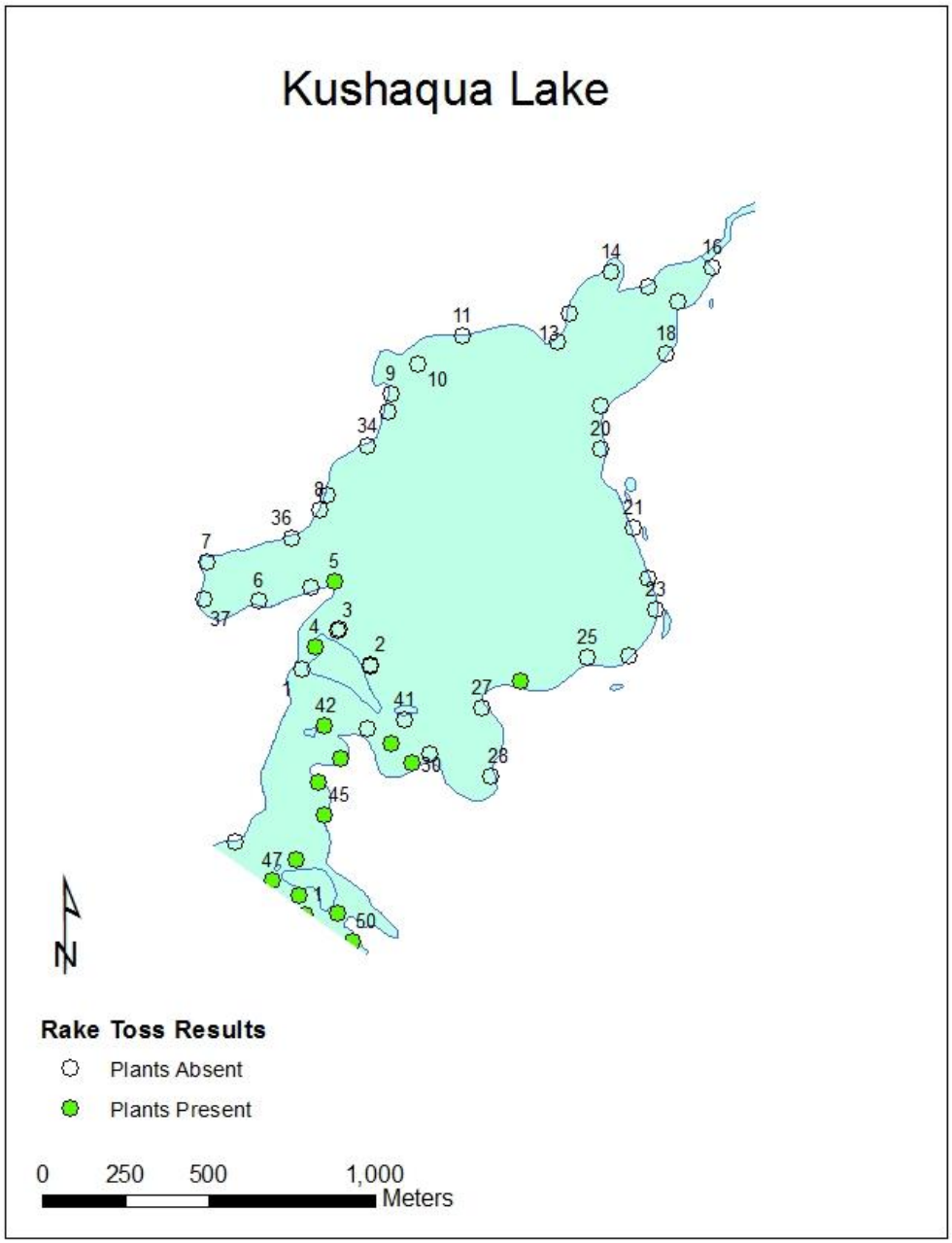
Kushaqua Lake is located in the town of Franklin in Franklin County, New York (Map 40). The 377 acre lake was accessed through the Rainbow Lake Narrows from the Camp Road, off from the Kushaqua-Mud Pond Road in Onchiota, New York.

An aquatic plant survey of Kushaqua Lake was conducted 23-August-2012. No invasive aquatic species were detected during the survey. Aquatic plant coverage in Kushaqua was relatively low, comprised of 9 beds that covered 27.5 acres or 7.3% of the surface area of the lake (Map 41). Thirteen different aquatic species were identified during this survey. Common species of these water bodies included Watershield (*Brasenia schreberi*) and Water naiad (*Najas sp.*). There were no native species in these water bodies that could easily be confused with invasive species (Table 28).

Of the 50 rake tosses spaced throughout the littoral zone of Kushaqua Lake (Map 42), 14 had acquired plants upon recovery (28%). Brittlewort (*Nitella sp.*) and Small pondweed (*Potamogeton pusillus*) were acquired on the rake tosses but not detected during the surface survey (Table 29).



Map 41: Location of the aquatic plant beds detected in Kushaqua Lake during the surface survey performed on 23 Aug, 2012.
Data for Plant Beds can be found on Table 28.



Map 42: Rake toss locations on Kushaqua Lake, 23 August, 2012. 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 on Table 29.

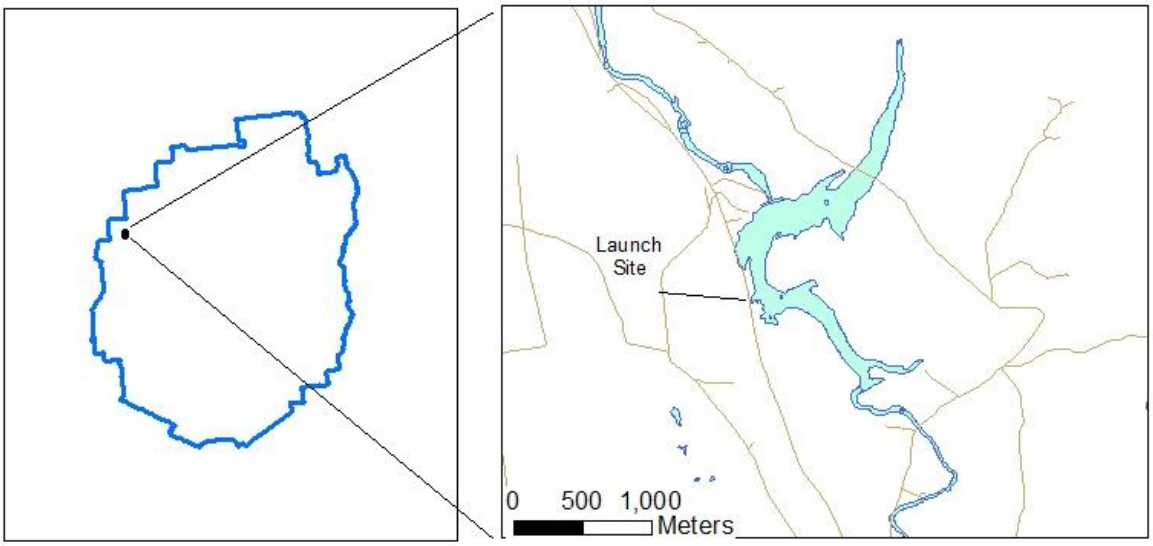
Table 28: Percent cover of aquatic plant species detected at each plant bed in Kushaqua Lake. Refer to Map 41 for bed locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Kushaqua Lake			**Plant Bed Numbers**								
			1	2	3	4	5	6	7	8	9
Scientific Name	**Common Name**	**AREA (M^2)**	7176	10150	2709	10439	12498	1768	8685	7134	50593
Brasenia schreberi	Water shield		O	R	O	R	O	R	O	O	O
Elodea canadensis	Canadian waterweed		-	-	-	-	R	-	-	-	-
Najas sp.	Water naiad		O	O	-	-	O	R	O	-	P
Nuphar variegata	Spatterdock		-	R	R	-	R	-	R	O	R
Nymphaea odorata	White waterlily		-	-	R	P	P	R	-	R	-
Potamogeton amplifolius	Large-leaf pondweed		O	O	-	R	R	O	R	-	-
Potamogeton epihydrus	Ribbon-leaf pondweed		O	O	O	-	-	-	O	O	-
Potamogeton prealongus	White-stem pondweed		-	O	-	-	-	-	-	-	-
Sparganium sp.	Bur-reed		-	-	-	R	-	-	-	R	-
Utricularia purprea	Purple bladderwort		-	-	-	-	-	-	-	-	R
Vallisneria americana	Eel-grass		-	-	-	-	O	O	-	-	-

Table 29: Species present on the rake at each of the rake toss locations and abundance. Refer to Map 42 for Rake locations.

Kushaqua Lake		**Rake Toss Numbers**													
Scientific Name	**Common Name**	4	5	26	30	31	42	43	44	45	46	47	48	49	50
Najas sp.	Water naiad	R	-	R	-	R	R	R	R	R	P	C	P	C	A
Nitella sp.	Brittlewort	-	R	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton amplifolius	Large-leaf pondweed	O	-	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton pusillus	Small pondweed	-	-	-	R	-	-	-	-	-	-	-	-	-	-
Utricularia purprea	Purple bladderwort	-	-	-	-	-	-	-	-	-	R	R	-	-	-

Little River Flow Aquatic Plant Survey 2012



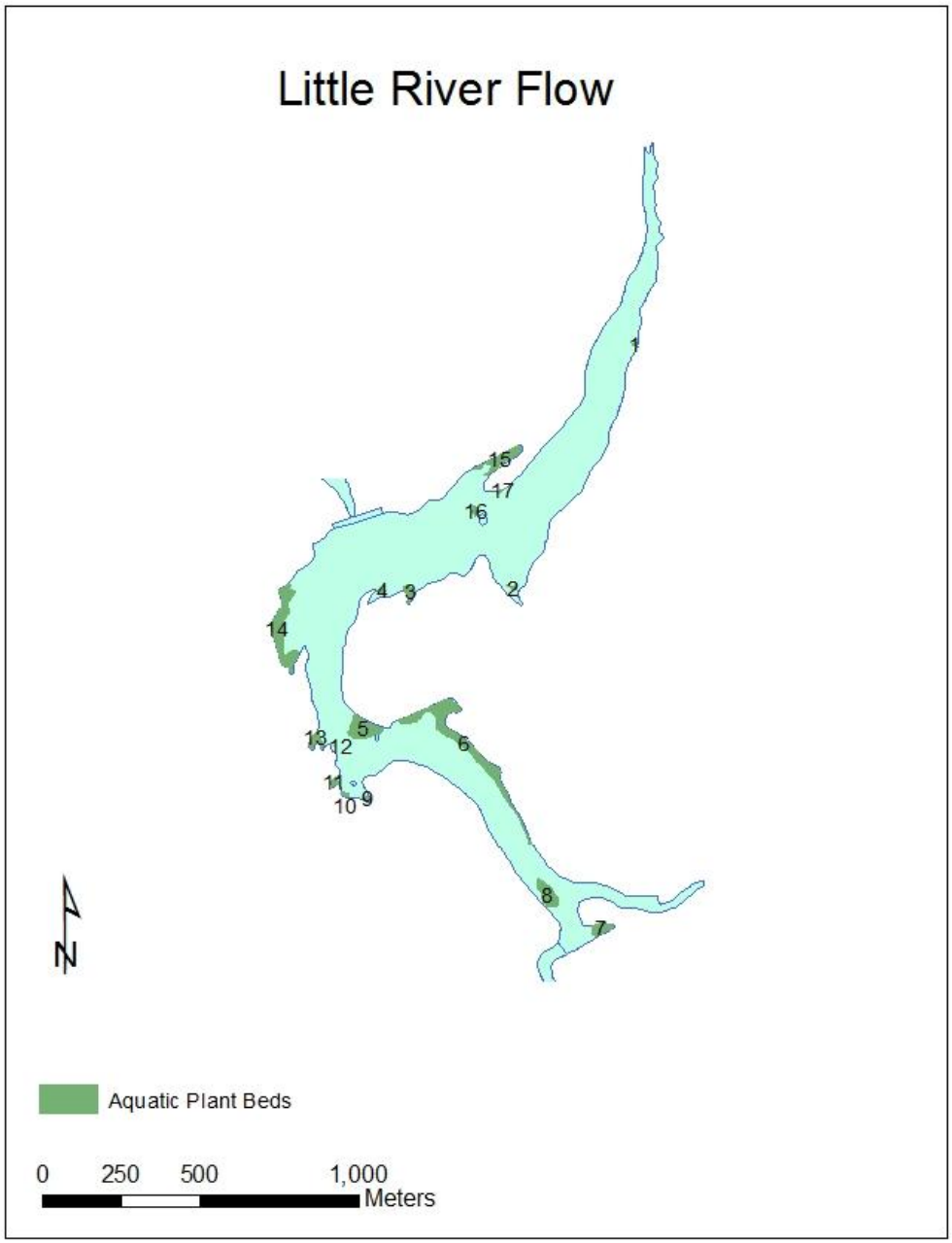
Map 43: Location of Little River Flow.

Little River Flow is located in the town of Fine in St. Lawrence County, New York (Map 3). The 222 acre water body was accessed by canoe carry from New York State Route 3, about 4 miles south-west of Fine.

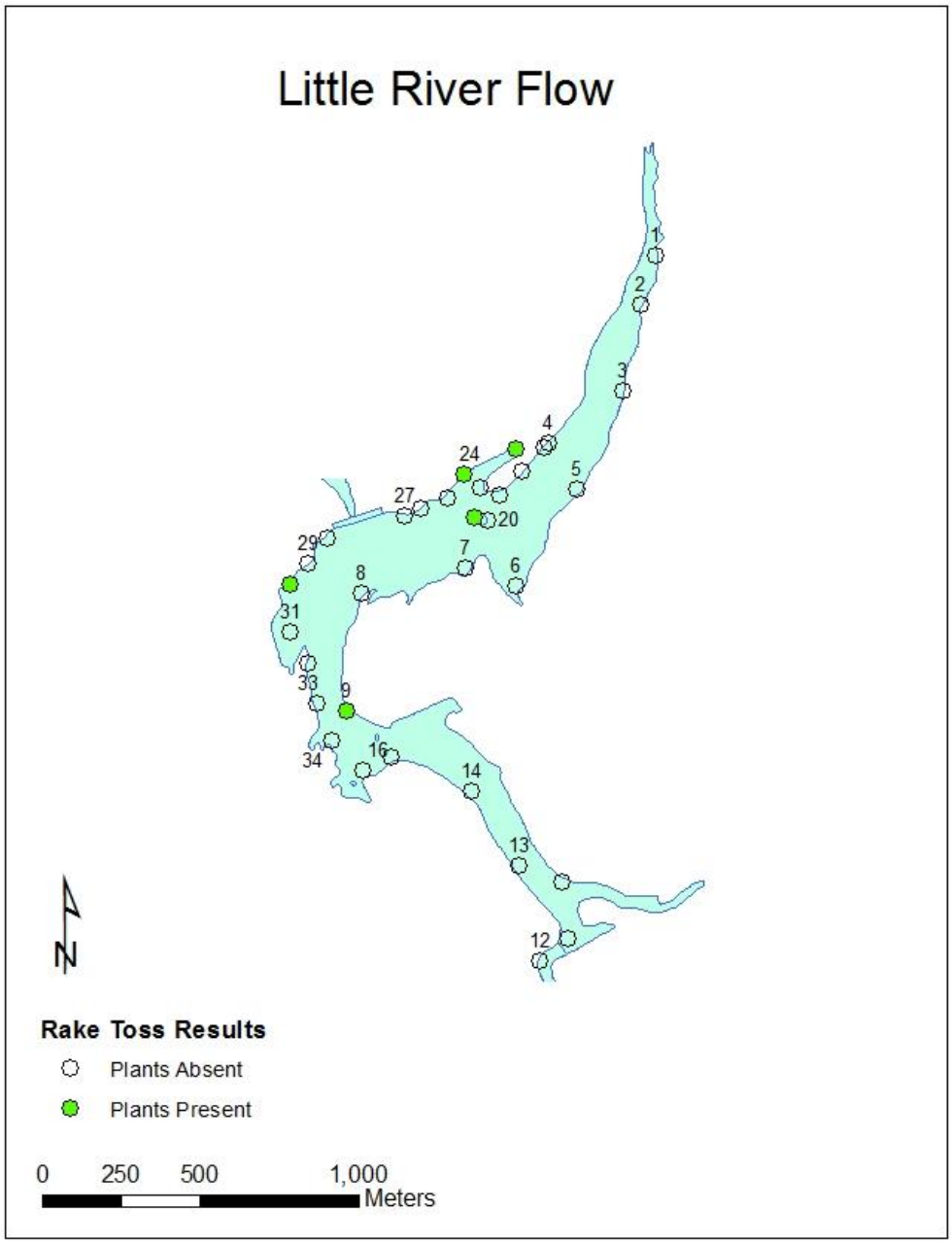
An aquatic plant survey of Little River Flow was conducted on 09-August-2012. Twoleaf or Variable-leaf watermilfoil (*Myriophyllum heterophyllum*) was detected during this survey (Map 46). The range in which this plant is deemed native or non-native is under debate and in some states this plant is classified as invasive. Aquatic plant coverage in Little River Flow was relatively low, comprised of 17 plant beds that collectively covered 12.2 acres or 5.5% of the surface area of the lake (Map 44). Eighteen different aquatic species were identified during this survey. Common species of this water body included Ribbon-leaf pondweed (*Potamogeton. epihydris*), and Bur-reed (*Sparganium sp.*). Purple bladderwort (*Utricularia purprea*), Flatleaf bladderwort (*U. intermedia*), and Coontail (*Ceratophyllum sp.*) could easily be confused with invasive species (Table 30).

Of the 34 rake tosses spaced throughout the littoral zone of Little River Flow (Map 45), 5 rakes had acquired plants upon recovery (14.7%). Shortspike watermilfoil (*Myriophyllum sibiricum*) was the only aquatic plant species recovered on the rake that was not detected during the surface survey (Table 31).

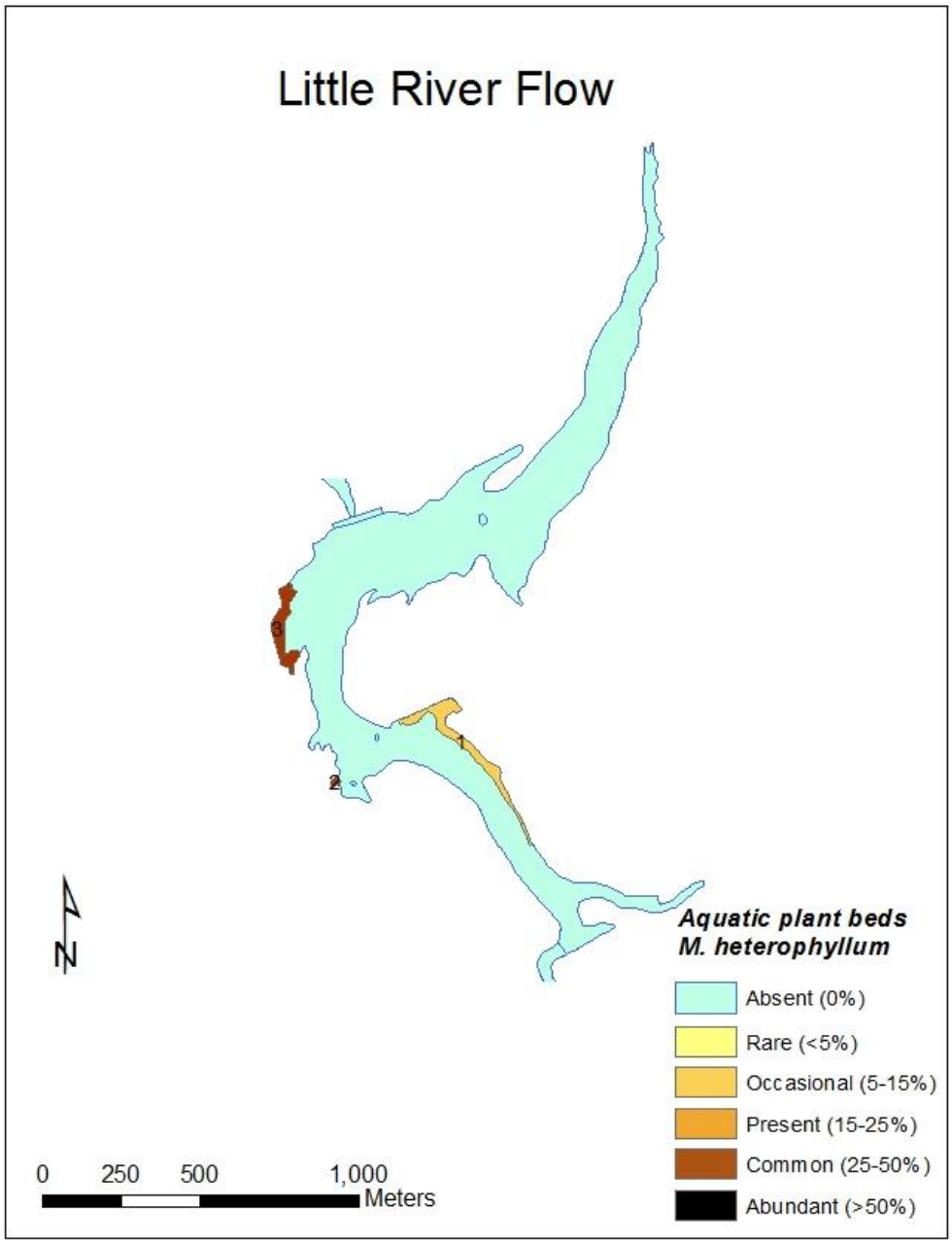
Variable-leaf watermilfoil in Little River Flow was found in 3 beds which covered 6.8 acres. This was 3.1% of the surface area of Little River Flow and 55.7% of the total aquatic plant coverage in the lake (Map 46 & Table 32).



Map 44: Location of the aquatic plant beds detected in Little River Flow during the surface survey performed on 09 Aug, 2012.
Data for Plant Beds can be found on Table 30.



Map 45: Rake toss locations on Little River Flow, 09 Aug, 2012. 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 on Table 31.



Map 46: Location of the *Myriophyllum heterophyllum* detected in Little River Flow during the surface survey performed on 09 Aug, 2012.
Data for *M. heterophyllum* beds can be found on Table 32.

Table 30: Percent cover of aquatic plant species detected at each plant bed in Little River Flow. Refer to Map 44 for bed locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Little River Flow			**Plant Bed Numbers**																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Scientific Name	**Common Name**	**AREA (M^2)**	265	447	1270	361	5824	16352	1985	3740	351	383	725	9	1681	10570	4445	664	351
Ceratophyllum sp.	Coontail		-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-
Eleocharis sp.	Hairgrass		O	R	-	-	-	O	O	-	-	P	R	-	O	-	O	-	C
Eriocaulon sp.	Pipewort		-	-	-	-	-	-	-	-	-	-	-	-	O	C	-	-	-
Myriophyllum heterophyllum	Twoleaf watermilfoil		-	-	-	-	-	O	-	-	-	-	C	-	-	C	-	-	-
Najas sp.	Water naiad		C	C	C	P	C	A	C	-	-	-	C	-	A	C	C	R	-
Nitella sp.	Brittlewort		-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-
Potamogeton epihydrus	Ribbon-leaf pondweed		C	P	P	C	C	A	P	C	P	C	O	C	O	-	P	P	O
Potamogeton perfoliatus	Clasping-leaf pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	P	-	-	-
Potamogeton pusillus	Small pondweed		-	-	-	-	-	A	-	-	C	-	-	-	-	-	-	-	-
Potamogeton spirillus	Spiral-fruit pondweed		-	-	-	-	-	-	-	-	-	-	O	-	R	-	-	-	-
Potamogeton zosterformis	Flatstem pondweed		-	-	-	-	-	-	-	-	-	R	-	-	C	R	-	-	-
Sagittaria graminea	Grassy arrowhead		P	-	R	-	-	-	R	-	-	-	P	-	O	O	P	A	C
Sparganium sp.	Bur-reed		O	R	R	O	P	P	C	C	O	-	-	P	O	O	O	O	-
Utricularia intermedia	Flatleaf bladderwort		-	-	-	-	-	-	-	-	-	O	-	-	-	-	-	-	-
Utricularia purprea	Purple bladderwort		-	-	-	-	-	-	-	-	-	-	-	-	-	-	O	-	-
Utricularia vulgaris	Common bladderwort		-	-	-	-	-	-	-	-	-	O	O	-	-	-	O	-	-
Vallisneria americana	Eel-grass		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R

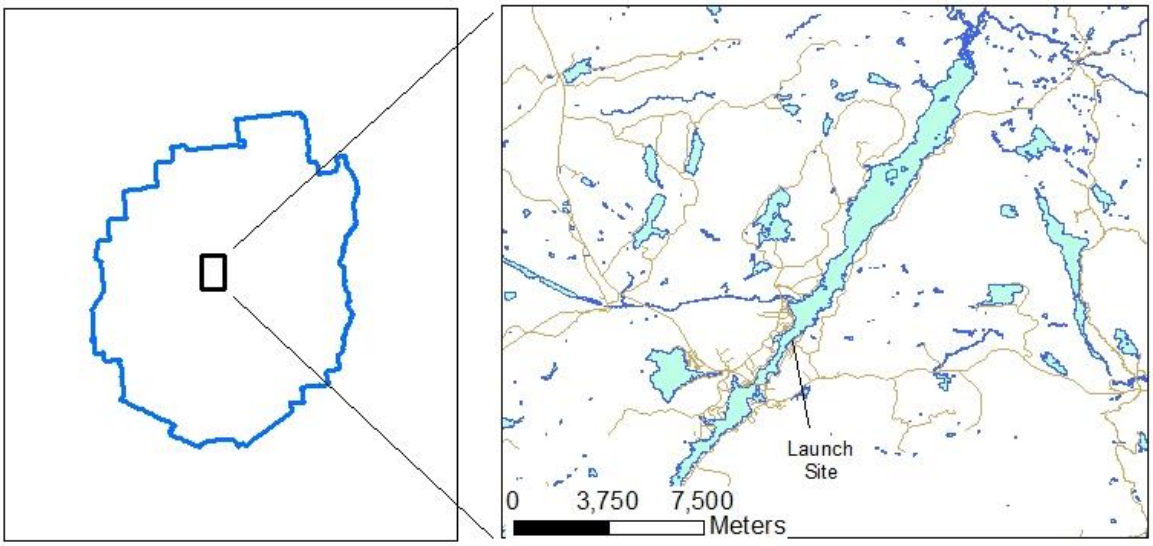
Table 31: Species present on the rake at each of the rake toss locations and abundance. Refer to Map 45 for Rake locations.

Little River Flow		**Rake Toss Numbers**				
Scientific Name	**Common Name**	9	21	23	24	30
Eleocharis sp.	Hairgrass	-	-	-	R	O
Myriophyllum sibiricum	Shortspike watermilfoil	-	-	-	-	O
Najas sp.	Water naiad	-	O	-	-	P
Nitella sp.	Brittlewort	R	-	O	-	-

Table 32: Percent cover of *Myriophyllum heterophyllum* detected at each plant bed in Little River Flow. Refer to Map 46 for *M. heterophyllum* locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Little River Flow			**Plant Bed**		
			1	2	3
Scientific Name	**Common Name**	**AREA (M^2)**	16352	725	10570
Myriophyllum heterophyllum	Twoleaf watermilfoil		O	C	C

Long Lake Aquatic Plant Survey 2012



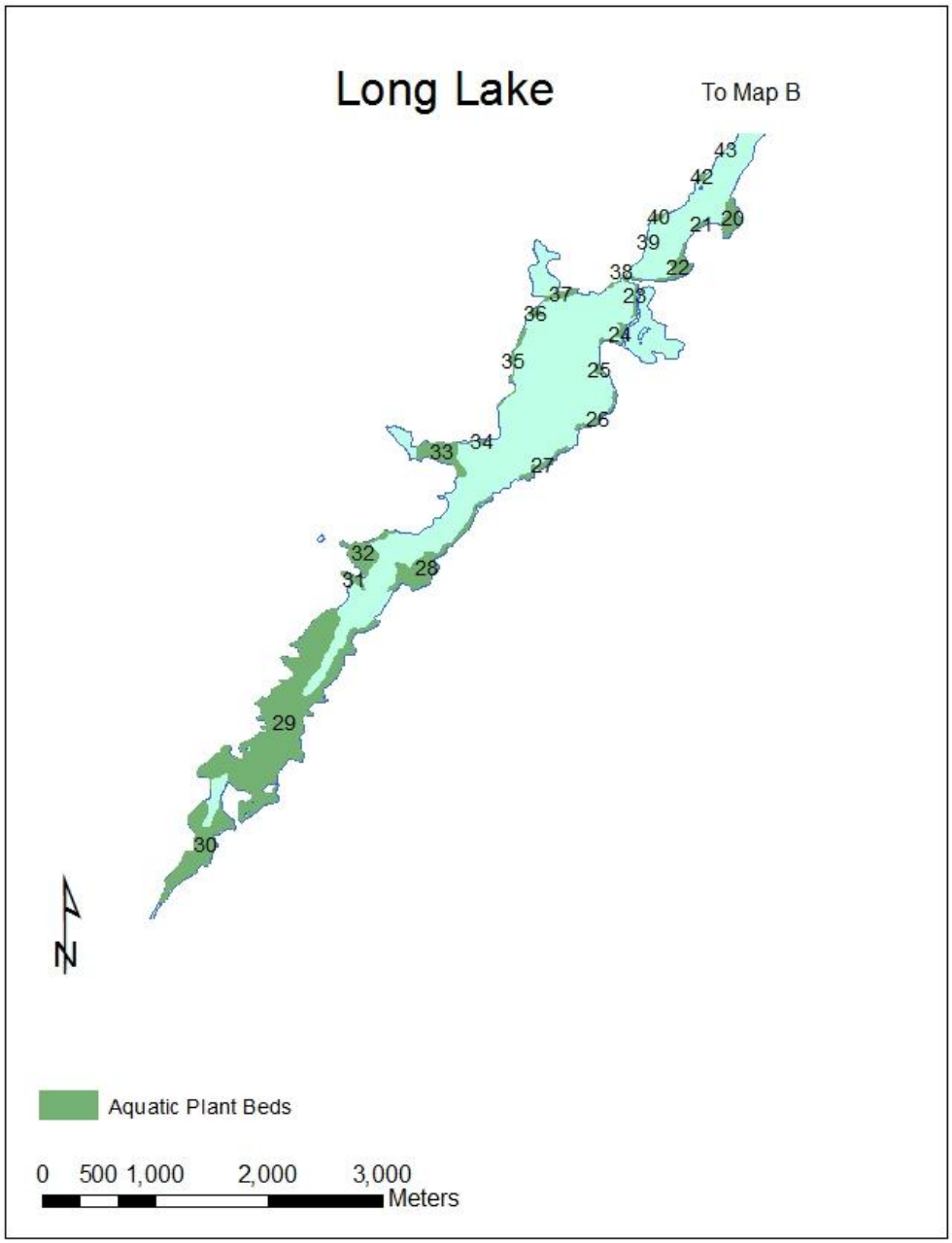
Map 47: Location of Long Lake.

Long Lake is located in the town of Long Lake in Hamilton County, New York (Map 47). The 3904 acre lake was accessed by a hardtop DEC boat launch on the south-eastern shore. The launch is located on Tarbell Road, roughly 1.5 miles down State Route 28 from its intersection with State Route 30.

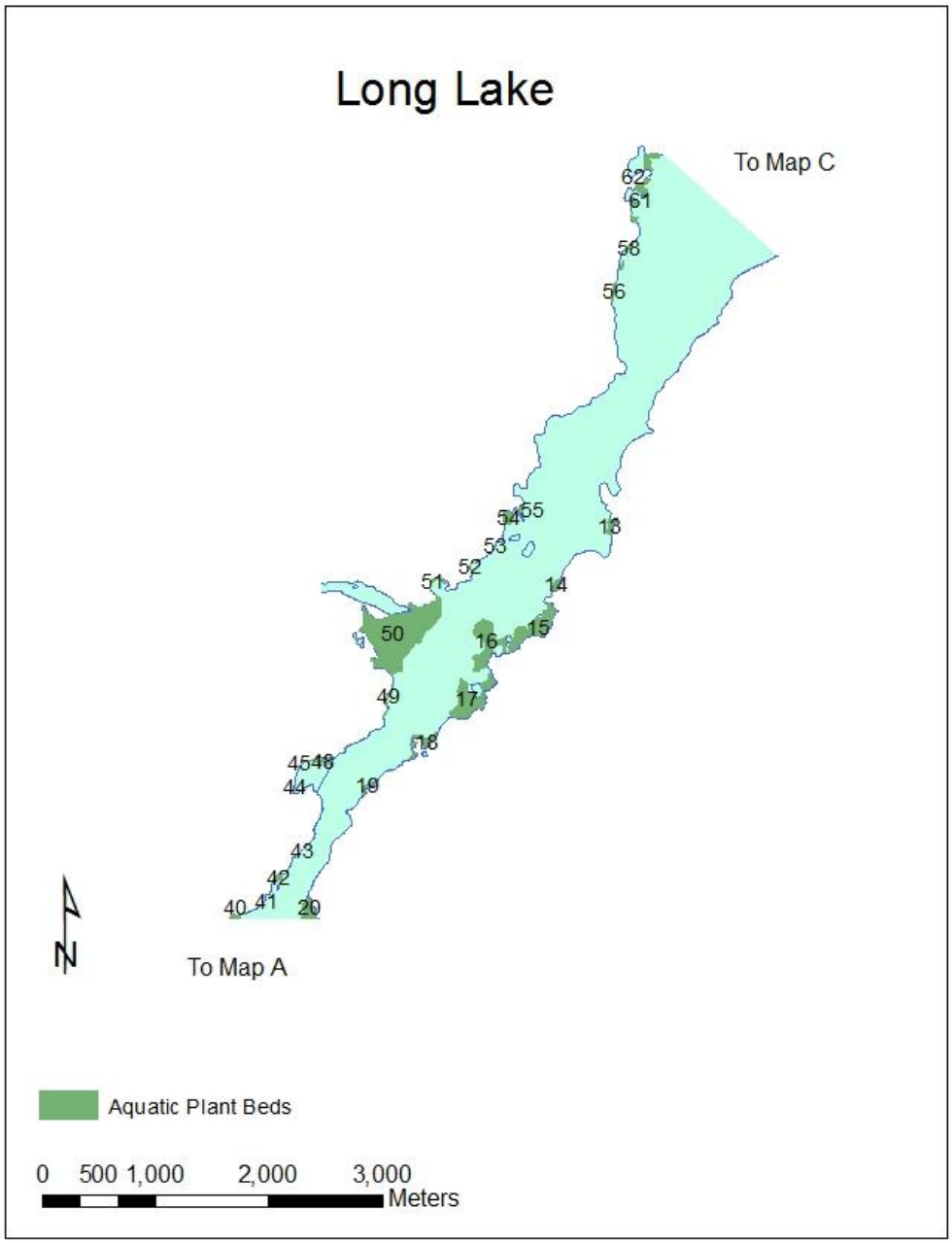
An aquatic plant survey of Long- Lake was conducted on 16-July-2012. Both Twoleaf or Variable-leaf watermilfoil (Myriophyllum heterophyllum) and Little floating heart (*Nymphoides cordata*) were detected during this survey. Variable-leaf watermilfoil is sometimes deemed invasive, Little floating heart is a species of concern. Aquatic plant coverage in Long Lake was moderate, comprised of 83 aquatic plant beds that collectively covered 530 acres or 13.6% of the surface area of the lake (Map 48). Twenty-four different aquatic species were identified during this survey. Common species of this lake included Ribbon leaf pondweed (*Potamogeton epihydris*), Clasping-leaf pondweed (*P. perfoliatus*), Bur-reed (Sparganium sp.) and White waterlily (*Nymphaea odorata*). Purple bladderwort (*Utricularia purprea*), Flatleaf bladderwort (*U. intermedia*), Common bladderwort (*U. vulgaris*), and Coontail (*Ceratophyllum sp.*) could all be confused with invasive species (Table 33).

Of the 169 rake tosses spaced throughout the littoral zone of the lake (Map 49), 62 rakes had acquired plants upon recovery (37%). Robbins pondweed (P. robbinsii.) and Flatleaf bladderwort were species brought up on the rakes that were not detected in the surface survey (Table 34).

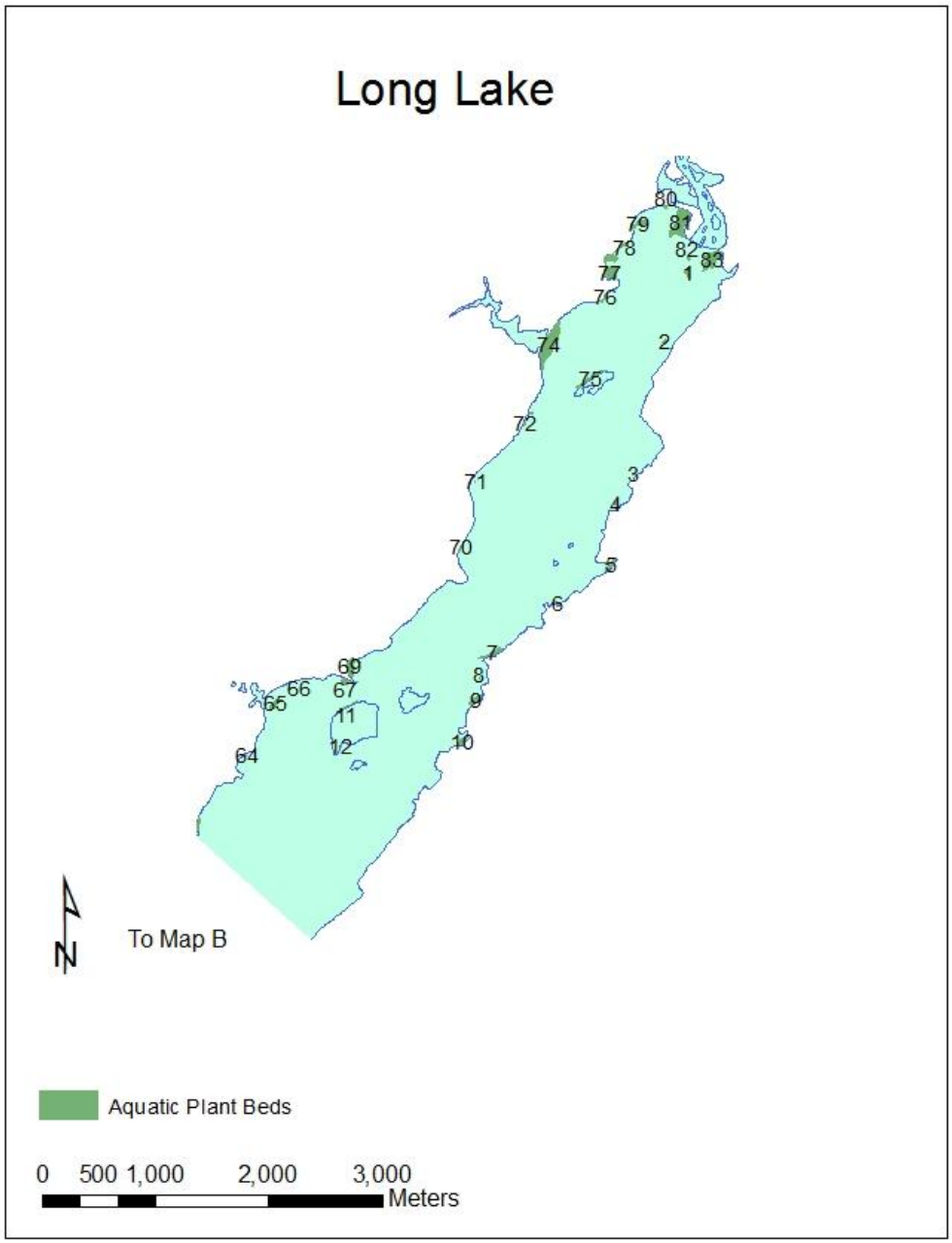
Variable-leaf watermilfoil in Long Lake was found in 22 beds that covered 377 acres. This was 9.7% of the surface area of Long Lake and 71.1% of the total aquatic plant coverage in the lake (Map 50 & Table 35). Little floating heart in Long Lake was found in 19 beds that covered 354 acres. This was 9.1% of the surface area of Long Lake and 66.8% of the total aquatic plant coverage in the lake (Map 51 & Table 36)



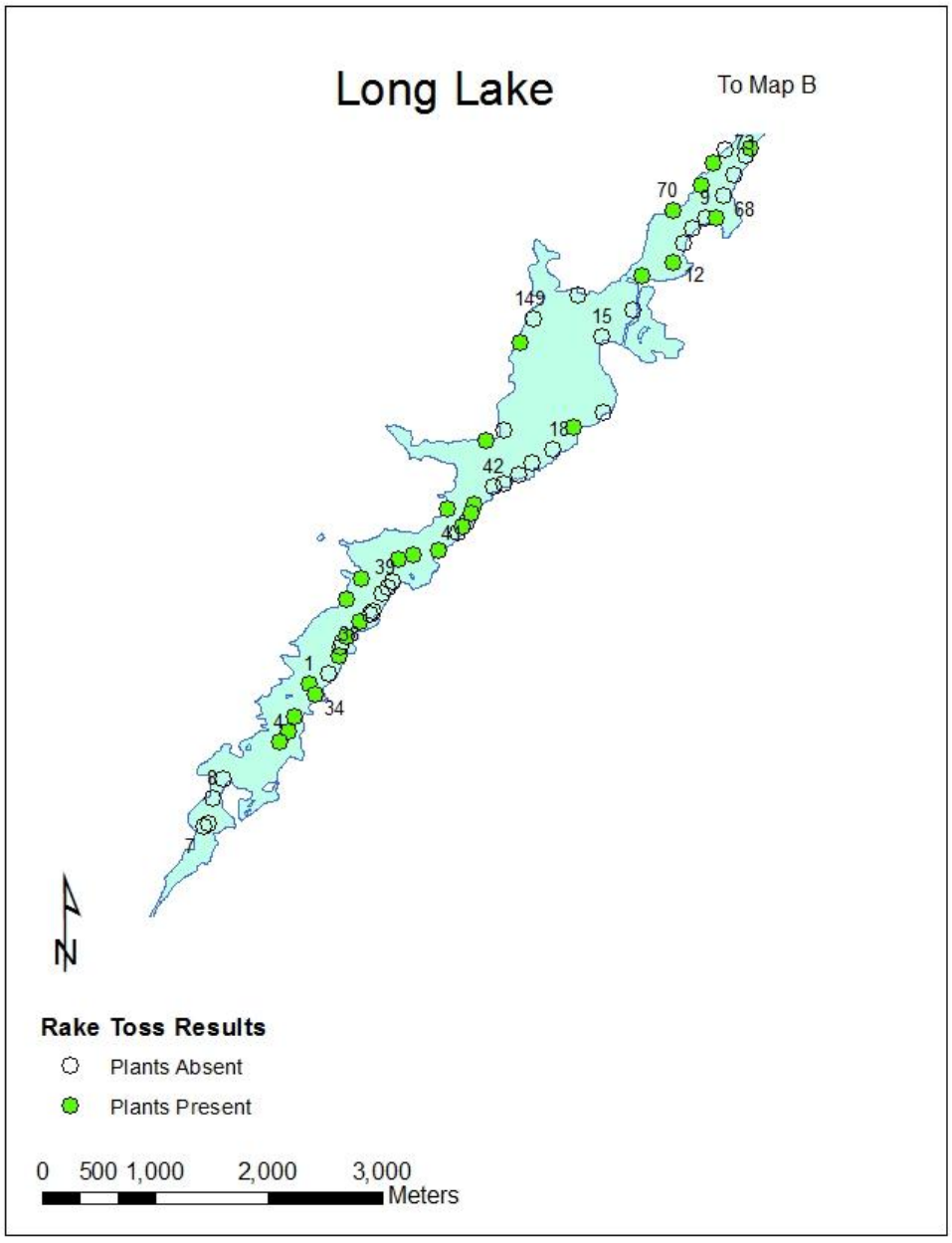
Map 48A: Location of the aquatic plant beds detected in Long Lake during the surface survey performed on 16 July, 2012.
Data for Plant Beds can be found on Table 33.



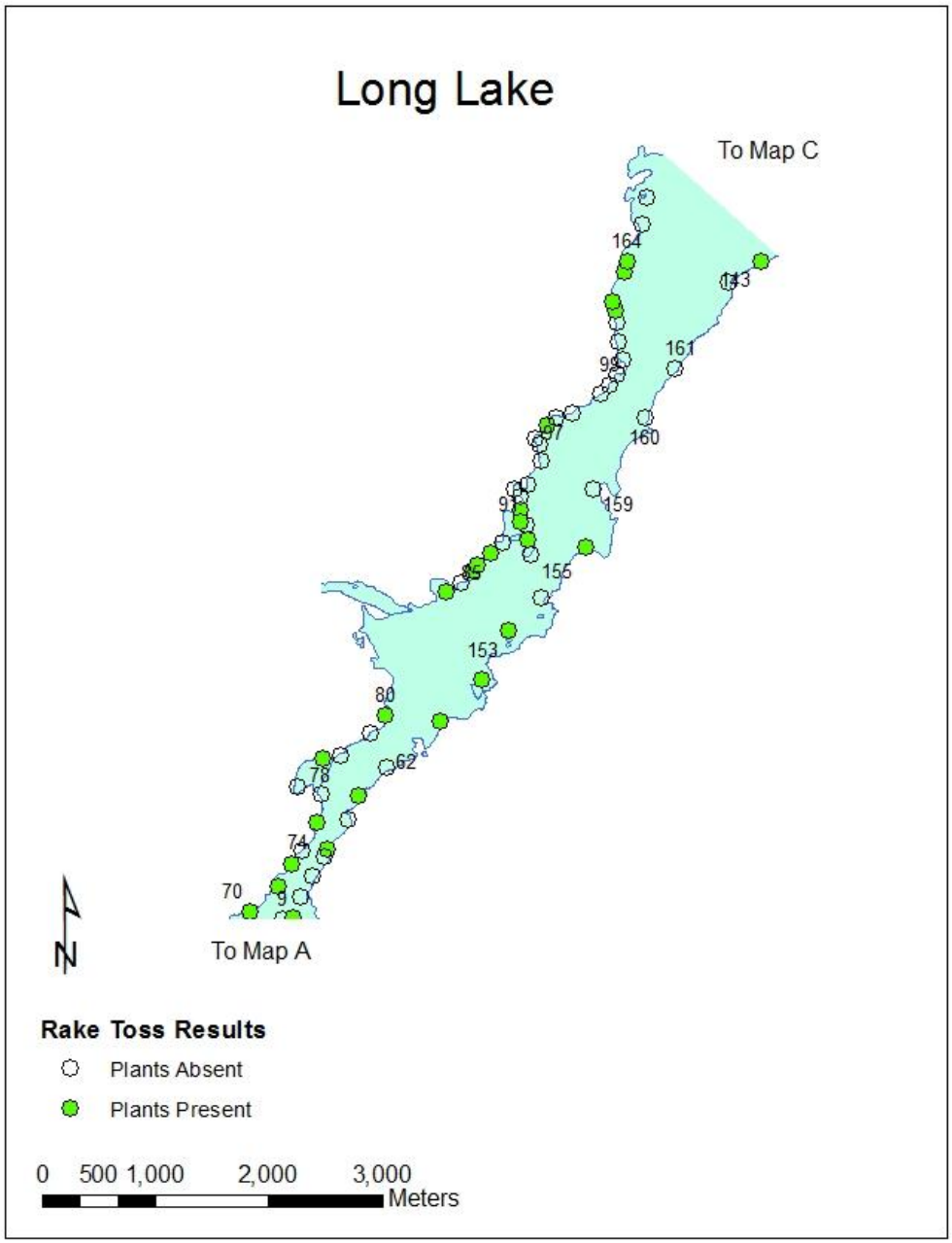
Map 48B: Location of the aquatic plant beds detected in Long Lake during the surface survey performed on 16 July, 2012.
Data for Plant Beds can be found on Table 33.



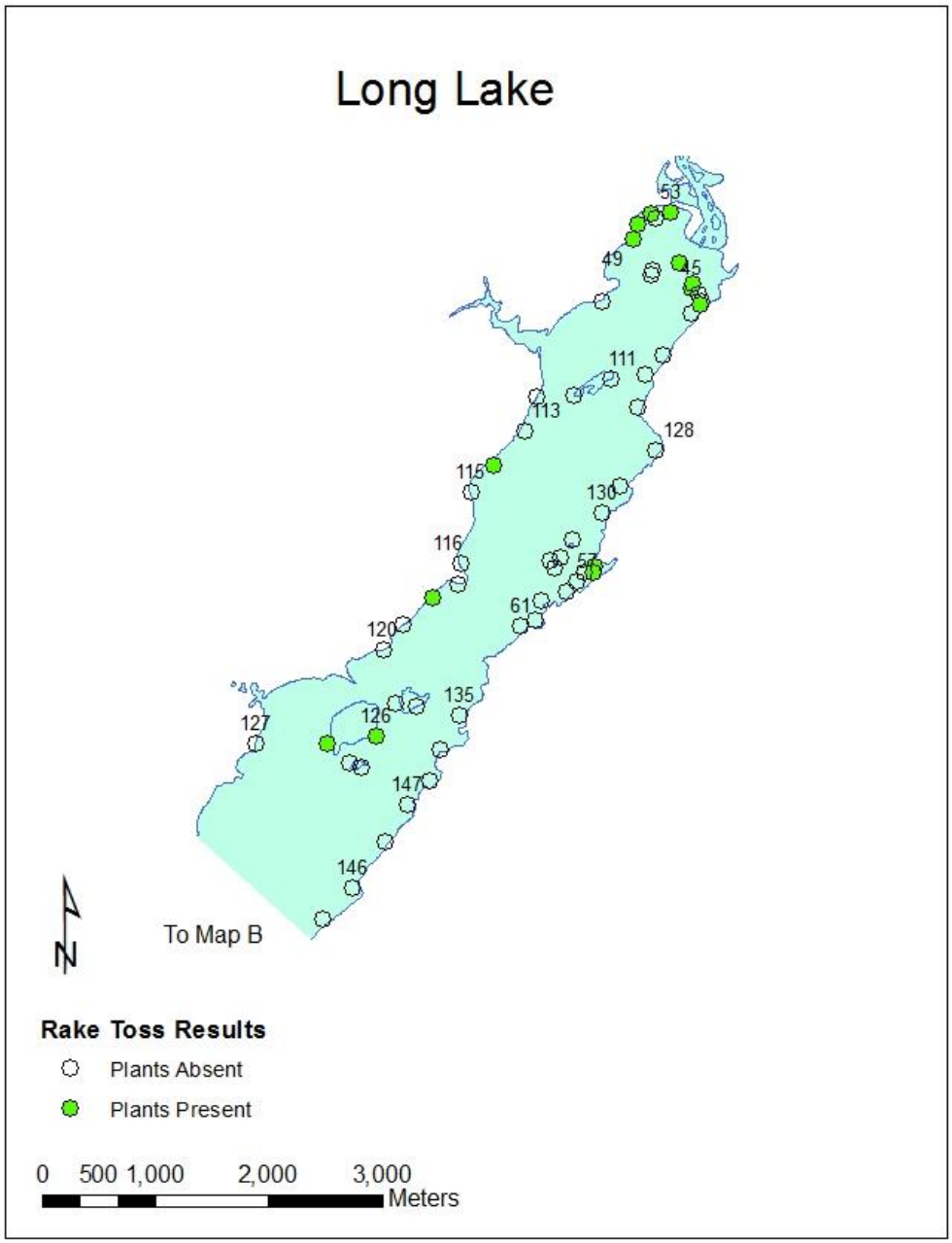
Map 48C: Location of the aquatic plant beds detected in Long Lake during the surface survey performed on 16 July, 2012.
Data for Plant Beds can be found on Table 33.



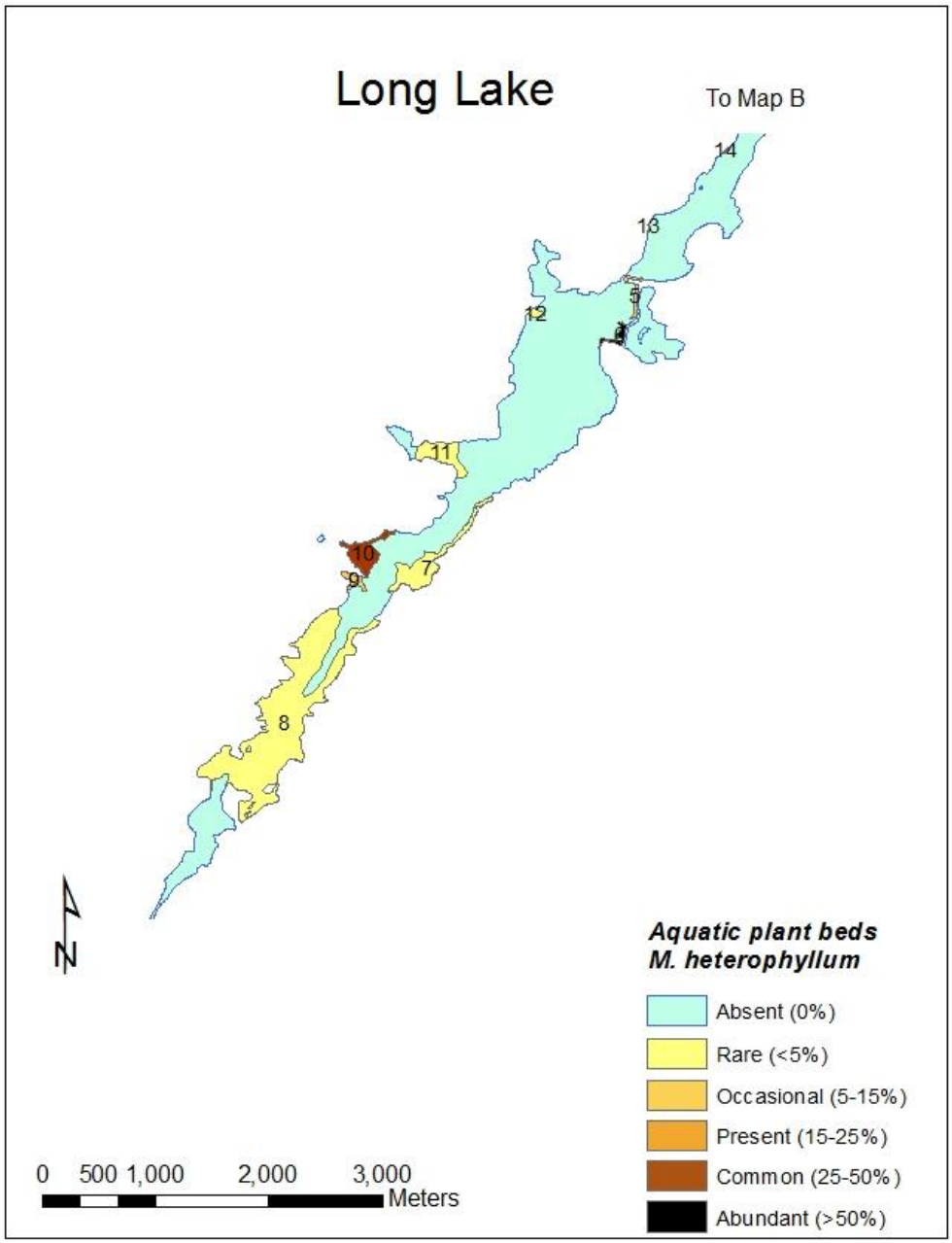
Map 49A: Rake toss locations on Long Lake, 16 July, 2012. Open circles represent locations where no plants were detected, closed circles represent locations where plants were encountered on the rake. Data for Rake Tosses can be found on Table 34.



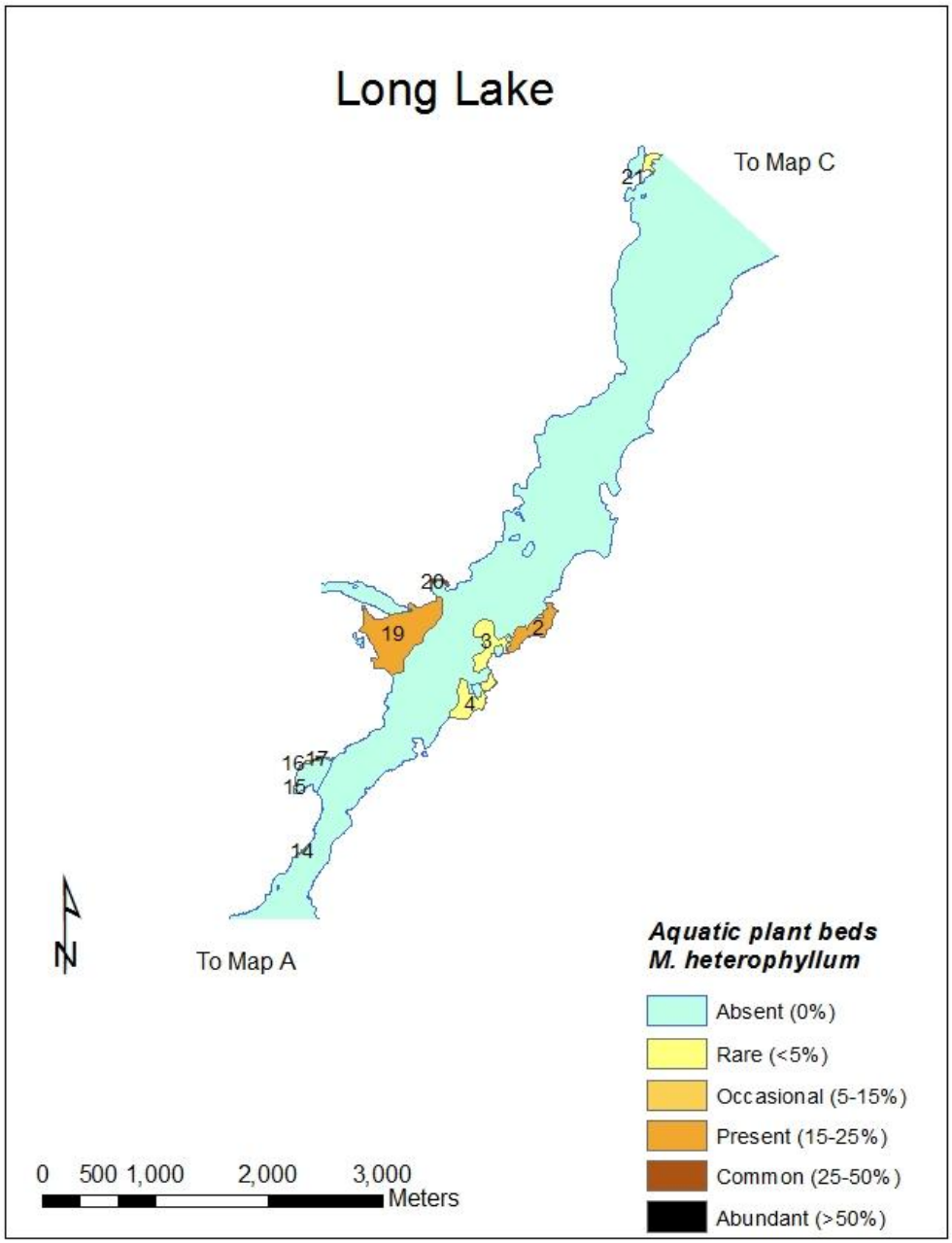
Map 49B: Rake toss locations on Long Lake, 16 July, 2012. Open circles represent locations where no plants were detected, closed circles represent locations where plants were encountered on the rake. Data for Rake Tosses can be found on Table 34.



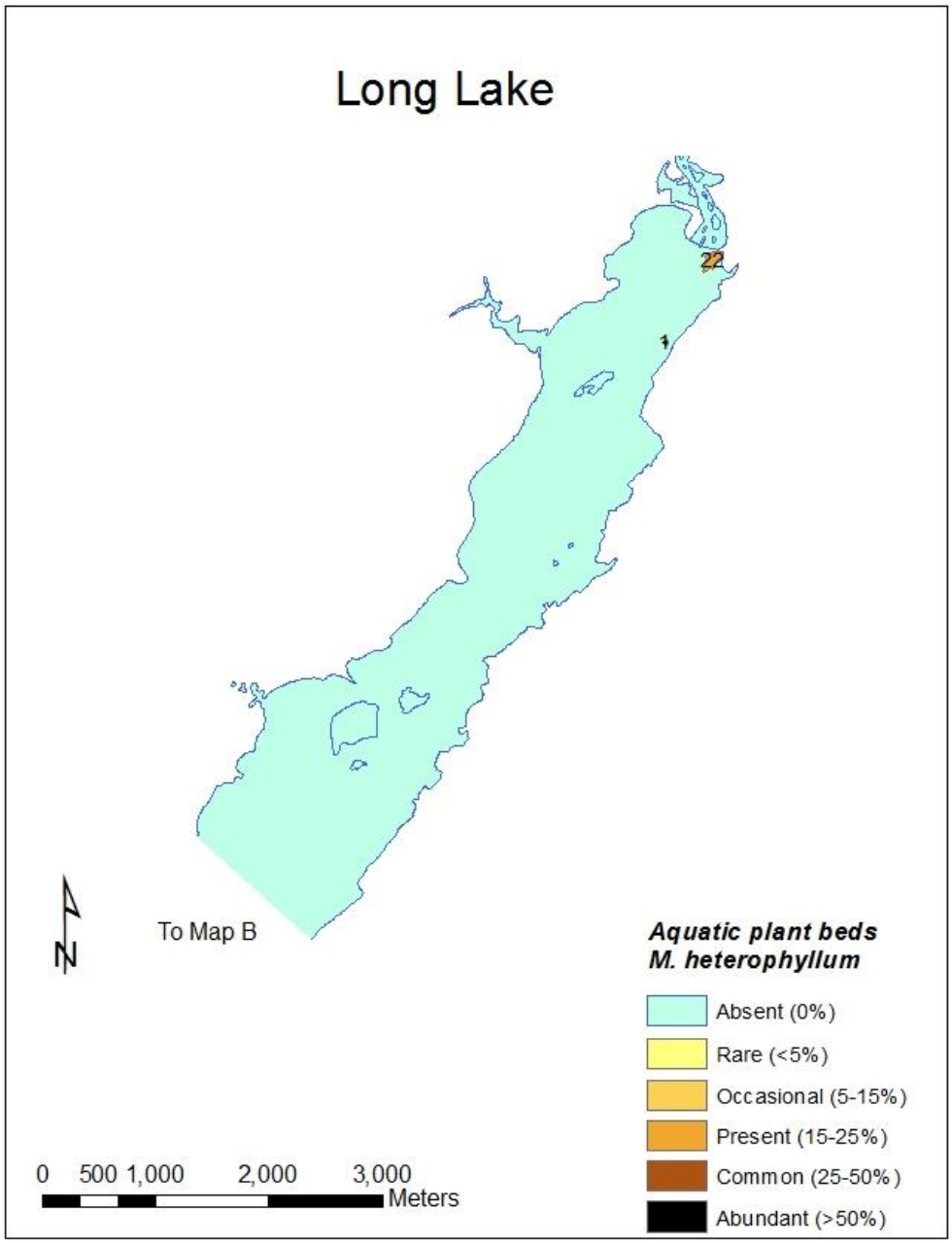
Map 49C: Rake toss locations on Long Lake, 16 July, 2012. Open circles represent locations where no plants were detected, closed circles represent locations where plants were encountered on the rake. Data for Rake Tosses can be found on Table 34.



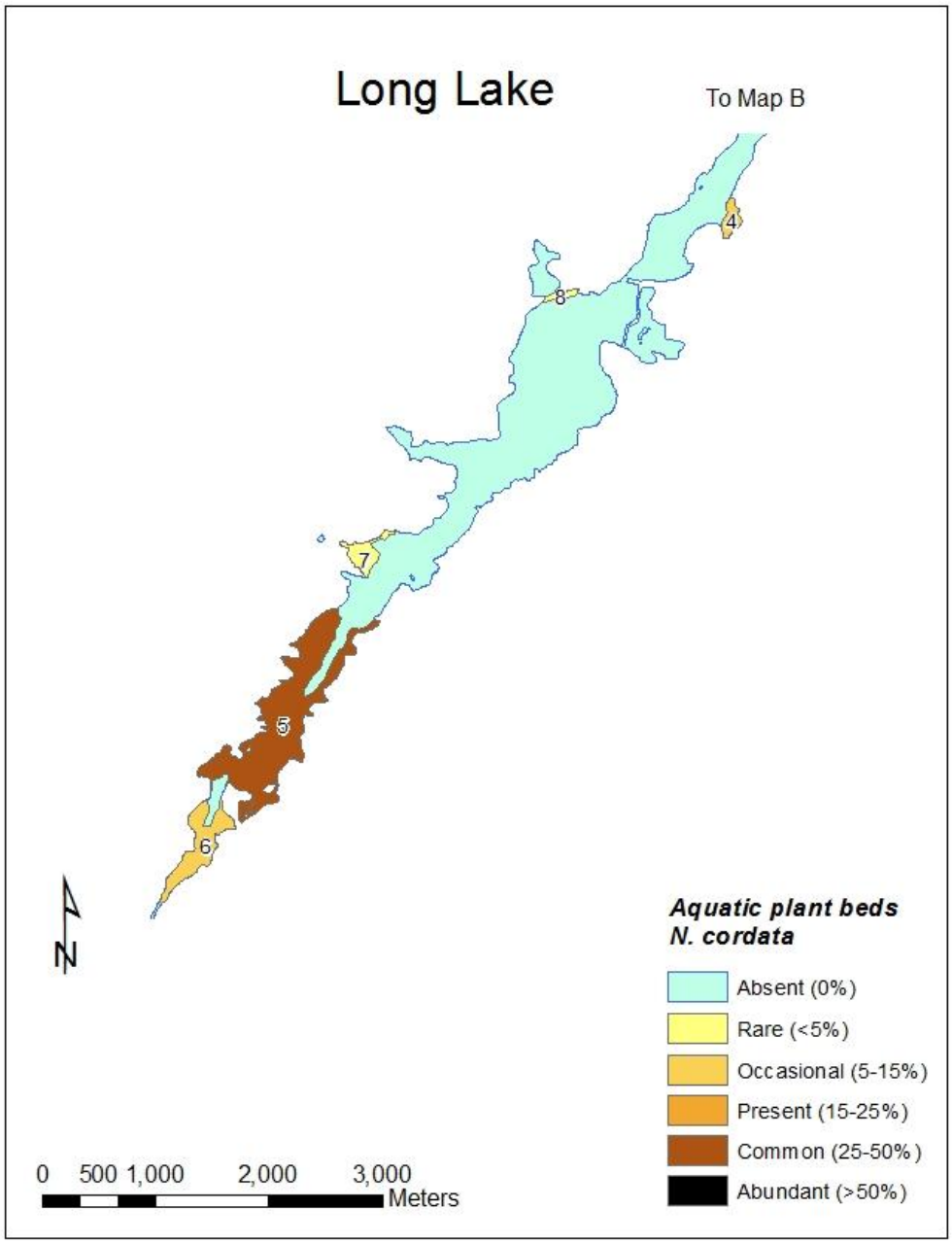
Map 50A: Location of *Myriophyllum heterophyllum* beds detected in Long Lake during the surface survey performed on 16 July, 2012.
Data for *M. heterophyllum* Beds can be found on Table 35.



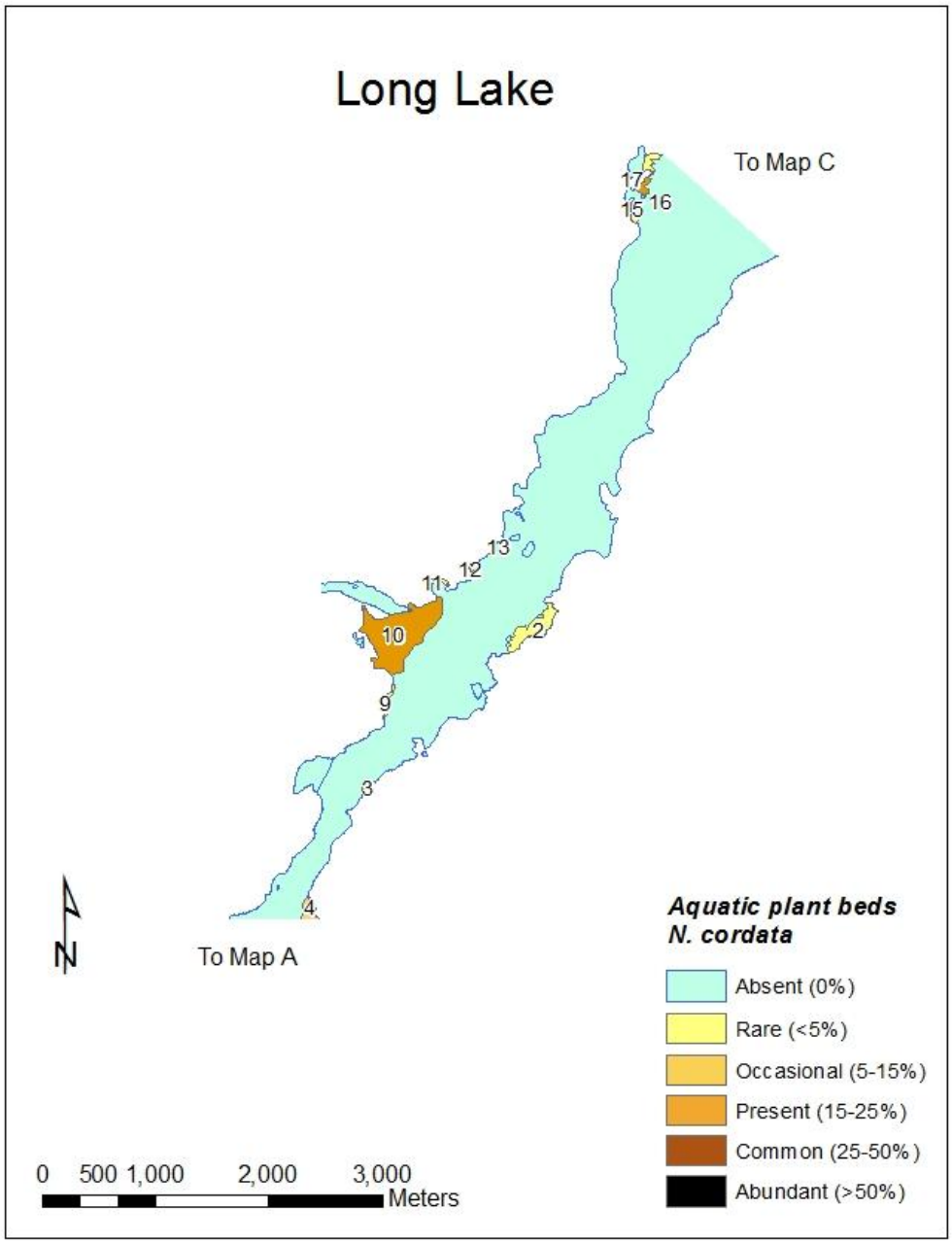
Map 50B: Location of *Myriophyllum heterophyllum* beds detected in Long Lake during the surface survey performed on 16 July, 2012.
Data for *M. heterophyllum* Beds can be found on Table 35.



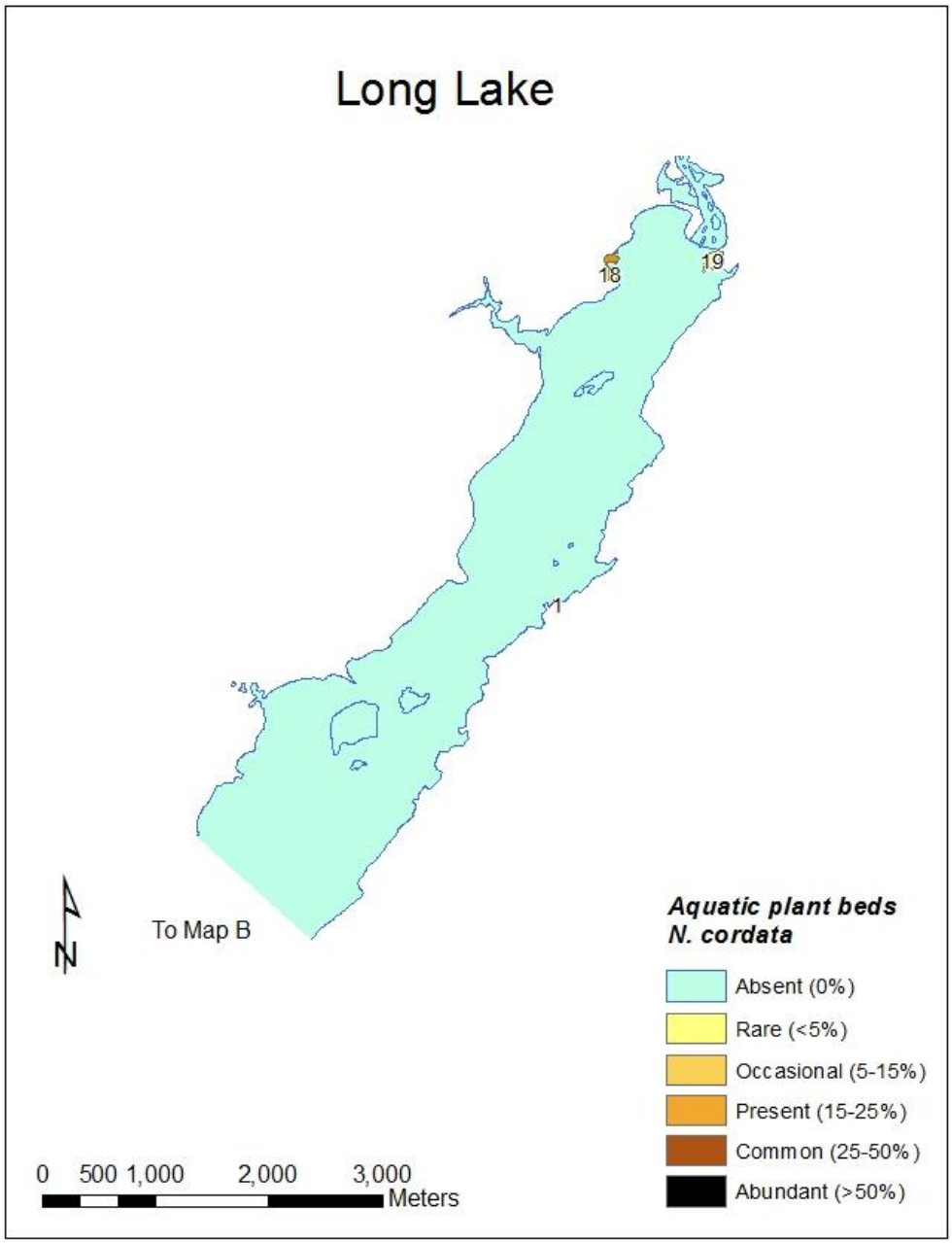
Map 50C: Location of *Myriophyllum heterophyllum* beds detected in Long Lake during the surface survey performed on 16 July, 2012.
Data for *M. heterophyllum* Beds can be found on Table 35.



Map 51A: Location of *Nymphoides cordata* beds detected in Long Lake during the surface survey performed on 16 July, 2012.
Data for *N. cordata* Beds can be found on Table 36.



Map 51B: Location of *Nymphoides cordata* beds detected in Long Lake during the surface survey performed on 16 July, 2012.
Data for *N. cordata* Beds can be found on Table 36.



Map 51C: Location of *Nymphoides cordata* beds detected in Long Lake during the surface survey performed on 16 July, 2012.
Data for *N. cordata* Beds can be found on Table 36.

Table 33: Percent cover of aquatic plant species detected at each plant bed in Long Lake. Refer to Map 48 series for bed locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Long Lake			Plant Bed Numbers																											
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Scientific Name	**Common Name**	**AREA (M^2)**	5038	1520	248	1146	4471	1279	7079	599	5941	4031	2402	316	7320	6466	61944	69342	70155	18296	4902	37919	4369	33831	13760	14370	6090	17277	22447	106940
Brasenia schreberi	Water shield		-	-	-	-	-	-	-	-	R	-	-	-	-	-	P	-	C	O	C	O	-	R	-	R	-	-	R	R
Ceratophyllum sp.	Coontail		-	-	-	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eleocharis sp.	Hairgrass		-	-	-	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	C	-	-	-	P	-	R	R	R
Eriocaulon sp.	Pipewort		R	-	-	-	O	A	R	P	P	P	O	-	-	-	-	-	R	-	-	R	-	-	R	-	-	-	-	-
Lobelia dortmanna	Water lobelia		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	R	-
Myriophyllum heterophyllum	Twoleaf watermilfoil		-	A	-	-	-	-	-	-	-	-	-	-	-	-	P	R	R	-	-	-	-	-	O	A	-	-	-	R
Nitella sp.	Brittlewort		-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	R	-	-	-	-	-	-	R
Nuphar variegata	Spatterdock		R	-	-	-	R	-	-	O	-	R	-	A	-	-	R	-	-	-	R	R	R	R	R	R	-	R	R	R
Nymphaea odorata	White waterlily		C	-	-	-	-	O	-	R	R	-	-	-	R	O	O	R	O	C	O	A	R	O	R	R	R	R	R	R
Nymphoides cordata	Little floatingheart		-	-	-	-	-	R	-	-	-	-	-	-	-	-	R	-	-	-	P	O	-	-	-	-	-	-	-	-
Potamogeton amplifolius	Large-leaf pondweed		O	-	-	-	-	-	-	-	-	-	-	-	O	C	R	C	P	R	O	O	-	R	O	-	O	-	-	-
Potamogeton epihydrus	Ribbon-leaf pondweed		R	-	P	R	-	O	O	C	-	C	P	R	O	R	O	P	C	R	P	O	P	O	R	R	R	R	P	R
Potamogeton gramineus	Variable-leaf pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-
Potamogeton natans	Floating pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton perfoliatus	Clasping-leaf pondweed		P	-	-	-	-	-	-	-	P	-	-	-	P	R	O	-	O	R	O	P	R	R	R	R	R	-	R	R
Potamogeton prealongus	White-stem pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton pusillus	Small pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sagittaria graminea	Grassy arrowhead		-	-	-	-	-	-	-	O	R	O	-	-	-	-	R	-	R	R	-	-	R	-	-	-	R	R	R	-
Sparganium sp.	Bur-reed		-	-	-	-	O	-	-	P	R	-	-	-	R	O	R	-	R	O	P	O	R	R	R	-	R	R	R	R
Utricularia purprea	Purple bladderwort		R	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	R	-
Utricularia vulgaris	Common bladderwort		-	-	-	-	-	R	-	-	-	R	-	-	-	-	-	-	R	-	R	-	-	-	-	-	-	-	-	-
Vallisneria americana	Eel-grass		-	-	-	-	-	-	-	-	-	-	-	-	-	-	O	-	-	R	-	-	-	-	-	-	-	-	-	R

			Plant Bed Numbers																											
			29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
Scientific Name	**Common Name**	**AREA (M^2)**	734920	174911	16283	66393	67359	3710	20854	8301	17155	4864	750	6153	80	4859	1038	1150	1752	2178	621	4954	6548	247806	4660	1652	1139	11366	2351	5431
Brasenia schreberi	Water shield		O	C	-	-	R	-	R	R	R	O	C	C	C	O	R	P	A	O	C	-	-	-	C	C	P	C	P	-
Ceratophyllum sp.	Coontail		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eleocharis sp.	Hairgrass		C	P	C	P	C	-	R	-	P	O	-	-	-	P	-	-	-	-	-	-	-	P	O	-	-	-	-	-
Eriocaulon sp.	Pipewort		-	-	-	-	R	-	R	-	R	R	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	P
Lobelia dortmanna	Water lobelia		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R
Myriophyllum heterophyllum	Twoleaf watermilfoil		R	-	O	C	R	-	-	R	-	-	R	-	-	-	O	R	R	A	P	-	-	P	C	-	-	-	-	-
Nitella sp.	Brittlewort		R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nuphar variegata	Spatterdock		R	O	-	O	-	R	-	-	R	R	-	R	-	R	-	-	-	O	-	-	P	-	-	-	P	-	O	P
Nymphaea odorata	White waterlily		A	A	O	A	C	R	P	P	P	-	C	C	R	A	-	A	-	-	-	-	P	P	P	O	P	A	-	-
Nymphoides cordata	Little floatingheart		C	O	-	R	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	R	P	R	O	O	-	-	-
Potamogeton amplifolius	Large-leaf pondweed		R	-	-	-	P	R	O	O	-	O	C	-	-	P	-	-	-	O	O	A	-	P	-	-	-	O	-	-
Potamogeton epihydrus	Ribbon-leaf pondweed		R	O	R	P	R	C	O	P	O	P	O	-	R	P	P	P	O	-	-	-	P	P	O	P	R	O	-	P
Potamogeton gramineus	Variable-leaf pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-
Potamogeton natans	Floating pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton perfoliatus	Clasping-leaf pondweed		P	R	R	P	R	P	R	R	R	P	R	P	-	-	P	P	O	-	P	-	P	-	O	P	-	O	-	-
Potamogeton prealongus	White-stem pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton pusillus	Small pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	O	P	O	-	-	-	-	O	-	-	-	-	-
Sagittaria graminea	Grassy arrowhead		O	R	R	R	-	-	-	-	-	-	-	-	-	R	O	R	-	-	-	-	R	-	R	-	-	-	R	-
Sparganium sp.	Bur-reed		P	O	-	O	R	-	-	-	R	-	P	R	-	O	O	-	C	-	-	-	-	P	R	O	-	O	-	O
Utricularia purprea	Purple bladderwort		A	R	R	R	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	P	-	-	-	P	-	-
Utricularia vulgaris	Common bladderwort		C	-	R	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vallisneria americana	Eel-grass		O	-	-	-	-	-	-	-	R	-	O	-	-	-	-	O	-	-	-	-	-	-	-	-	-	-	-	-

			Plant Bed Numbers																												
			57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83		
Scientific Name	**Common Name**	**AREA (M^2)**	2402	3674	3234	4435	11820	14642	3760	493	5100	461	3997	575	11695	1764	286	758	736	37270	7158	2777	19595	2177	7358	1271	29198	1194	17997		
Brasenia schreberi	Water shield		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	R	-	-	-	-		
Ceratophyllum sp.	Coontail		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Eleocharis sp.	Hairgrass		-	-	-	-	-	-	-	-	-	-	O	R	-	O	-	-	-	R	-	-	O	-	-	-	-	-	R		
Eriocaulon sp.	Pipewort		-	-	R	-	O	-	R	-	-	-	C	-	-	O	-	A	-	C	A	A	O	P	-	C	P	-	A		
Lobelia dortmanna	Water lobelia		-	-	R	R	-	R	-	-	R	-	-	-	-	-	-	R	-	-	R	-	-	O	-	-	-	-	-		
Myriophyllum heterophyllum	Twoleaf watermilfoil		-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P		
Nitella sp.	Brittlewort		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Nuphar variegata	Spatterdock		O	C	P	P	C	P	P	A	A	A	-	A	C	C	A	-	P	P	R	-	-	-	R	-	R	-	P		
Nymphaea odorata	White waterlily		-	-	R	O	-	-	-	-	-	-	-	-	R	-	-	-	-	P	R	-	C	P	A	R	A	A	R		
Nymphoides cordata	Little floatingheart		-	-	R	O	P	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P	-	-	-	-	-	R		
Potamogeton amplifolius	Large-leaf pondweed		-	-	-	-	P	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	R		
Potamogeton epihydrus	Ribbon-leaf pondweed		P	C	R	O	O	R	-	-	-	-	P	O	O	R	-	-	O	C	P	R	R	-	-	-	R	-	P		
Potamogeton gramineus	Variable-leaf pondweed		-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-		
Potamogeton natans	Floating pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	P	-	-	-		
Potamogeton perfoliatus	Clasping-leaf pondweed		P	-	-	C	R	R	-	-	-	-	-	-	C	P	-	-	C	C	-	-	O	-	R	-	O	-	P		
Potamogeton prealongus	White-stem pondweed		-	-	-	-	-	-	-	-	-	-	-	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Potamogeton pusillus	Small pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Sagittaria graminea	Grassy arrowhead		-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	O	R	-	R	-	-	-	-	-	-		
Sparganium sp.	Bur-reed		-	R	C	-	-	O	-	-	-	-	P	-	O	-	-	-	-	R	-	-	-	-	-	-	-	-	P		
Utricularia purprea	Purple bladderwort		-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	P	-	-	-	-	R	O		
Utricularia vulgaris	Common bladderwort		-	-	-	-	-	-	R	-	R	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Vallisneria americana	Eel-grass		-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	R	R	-	-	-	-	-		

Table 34: Species present on the rake at each of the rake toss locations and abundance. Refer to Map 49 series for Rake locations.

Long Lake		**Rake Toss Numbers**																														
Scientific Name	**Common Name**	1	2	3	4	12	13	17	22	25	26	27	31	34	35	37	40	41	45	49	50	51	53	54	55	63	65	69	70	71	72	74
Ceratophyllum sp.	Coontail	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-
Eleocharis sp.	Hairgrass	-	-	-	-	-	-	R	R	-	-	-	-	-	-	-	-	-	-	-	C	O	R	-	-	-	-	-	-	-	-	-
Eriocaulon sp.	Pipewort	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitella sp.	Brittlewort	-	R	-	-	-	-	R	R	R	R	R	-	R	R	R	R	-	R	R	-	-	-	R	-	-	-	R	-	R	R	R
Nymphaea odorata	White waterlily	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-
Potamogeton epihydrus	Ribbon-leaf pondweed	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton perfoliatus	Clasping-leaf pondweed	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton robbinsii	Robbins pondweed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sagittaria graminea	Grassy arrowhead	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-
Sparganium sp.	Bur-reed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	R	-	-	R	-	-	-	-	-	-	-	-	-
Utricularia intermedia	Flatleaf bladderwort	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	R	-	-	-
Utricularia purprea	Purple bladderwort	A	R	R	R	-	-	-	R	R	-	-	C	O	-	R	-	-	-	R	-	-	-	-	-	O	-	R	-	-	-	-
Utricularia vulgaris	Common bladderwort	-	-	-	-	R	-	-	-	O	-	-	P	-	R	-	-	-	-	-	-	-	R	-	O	-	-	-	-	-	-	-

		Rake Toss Numbers																															
Scientific Name	**Common Name**	77	80	81	83	84	85	88	95	104	105	106	114	118	125	126	138	139	141	143	148	151	152	153	156	157	158	164	166	167	168	169
Ceratophyllum sp.	Coontail	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eleocharis sp.	Hairgrass	-	-	-	-	-	-	-	-	-	-	-	R	-	-	O	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	R
Eriocaulon sp.	Pipewort	-	-	-	-	-	-	-	-	R	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitella sp.	Brittlewort	-	-	R	-	-	R	-	-	-	R	R	-	-	R	-	R	C	-	R	-	-	-	-	-	-	-	R	-	R	-	R
Nymphaea odorata	White waterlily	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton epihydrus	Ribbon-leaf pondweed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton perfoliatus	Clasping-leaf pondweed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton robbinsii	Robbins pondweed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-
Sagittaria graminea	Grassy arrowhead	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-
Sparganium sp.	Bur-reed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Utricularia intermedia	Flatleaf bladderwort	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Utricularia purprea	Purple bladderwort	R	R	R	-	R	-	R	R	-	-	-	R	A	-	-	-	-	O	-	O	R	-	O	R	R	R	R	O	-	C	-
Utricularia vulgaris	Common bladderwort	R	C	-	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P	-	-	-	-	-	-	-	C	R

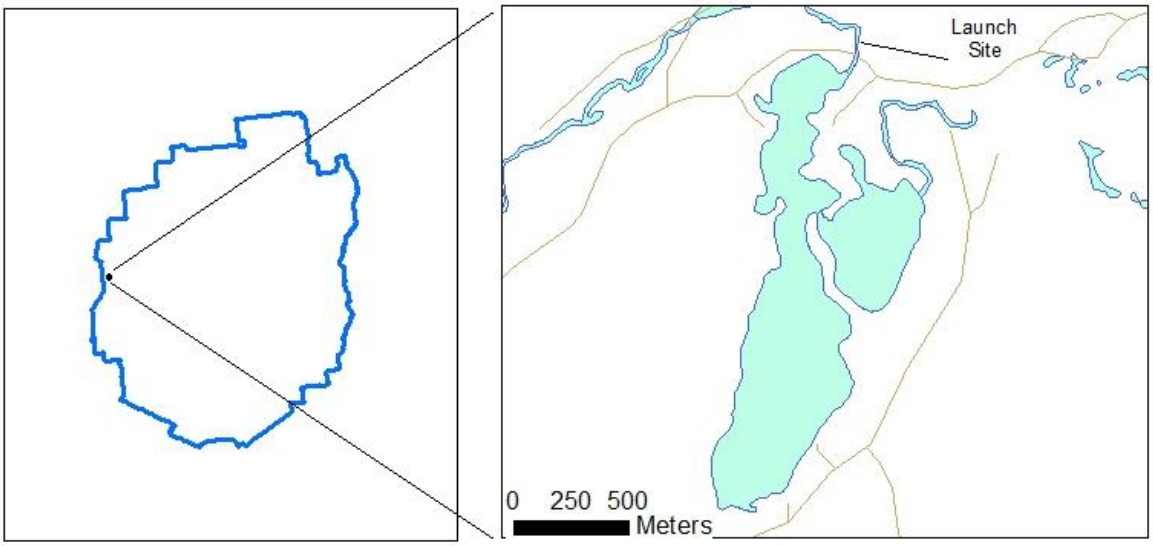
Table 35: Percent cover of *Myriophyllum heterophyllum* detected in Long Lake. Refer to Map 50 series for *M. heterophyllum* locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Long Lake			**Plant Bed Numbers**																					
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Scientific Name	**Common Name**	**AREA (M^2)**	1520	61944	69342	70155	13760	14370	106940	734920	16283	66393	67359	8301	750	1038	1150	1752	2178	621	247806	4660	14642	17997
Myriophyllum heterophyllum	Twoleaf watermilfoil		A	P	R	R	O	A	R	R	O	C	R	R	R	O	R	R	A	P	P	C	R	P

Table 36: Percent cover of *Nymphoides cordata* in Long Lake. Refer to Map 51 series for *N. cordata* locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Long Lake			**Plant Bed Numbers**																	
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Scientific Name	**Common Name**	**AREA (M^2)**	1279	61944	4902	37919	734920	174911	66393	17155	6548	247806	4660	1652	1139	3234	4435	11820	14642	19595	17997
Nymphoides cordata	Little floatingheart		R	R	P	O	C	O	R	R	R	P	R	O	O	R	O	P	R	P	R

Long Pond Aquatic Plant Survey 2012

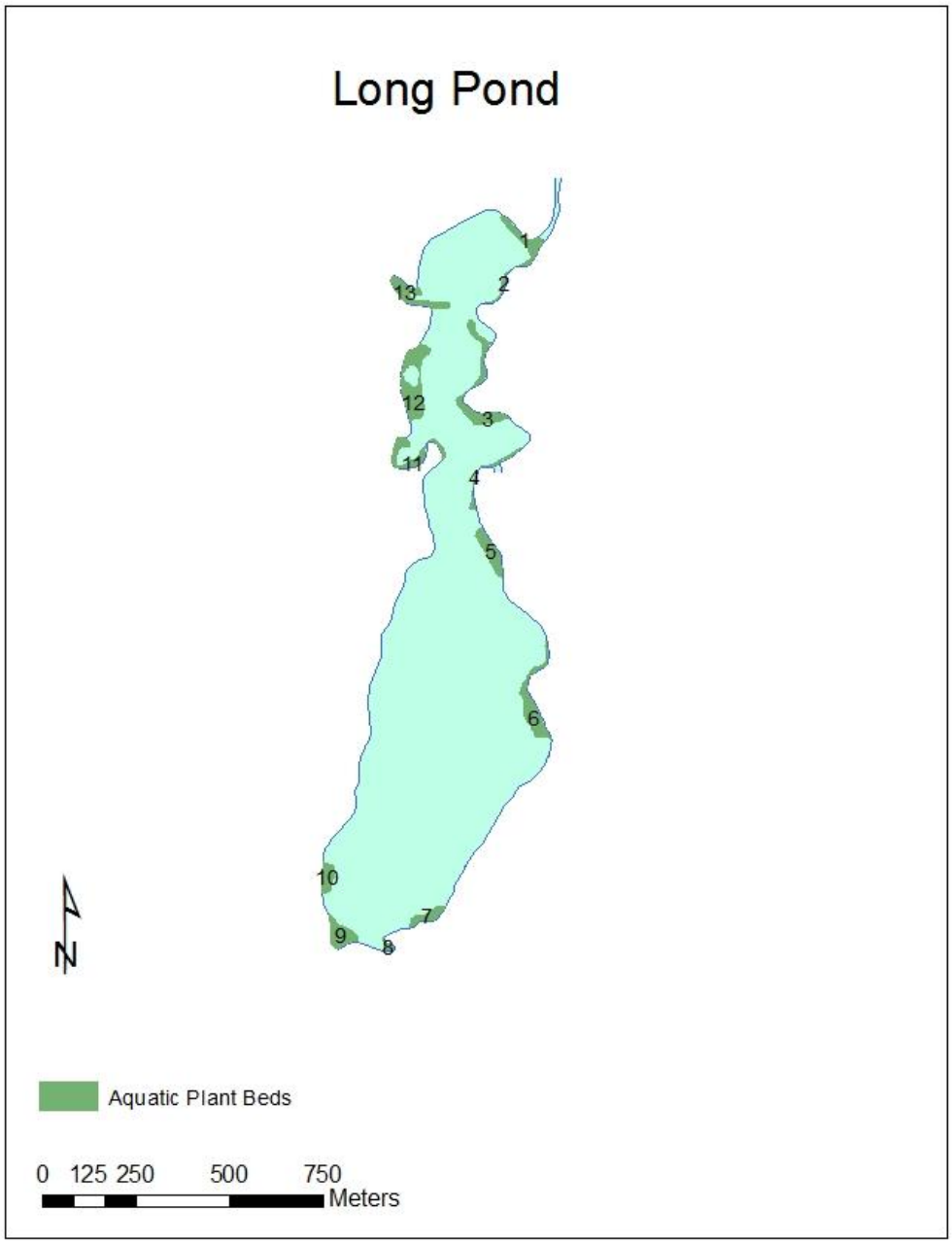


Map 52: Location of Long Pond.

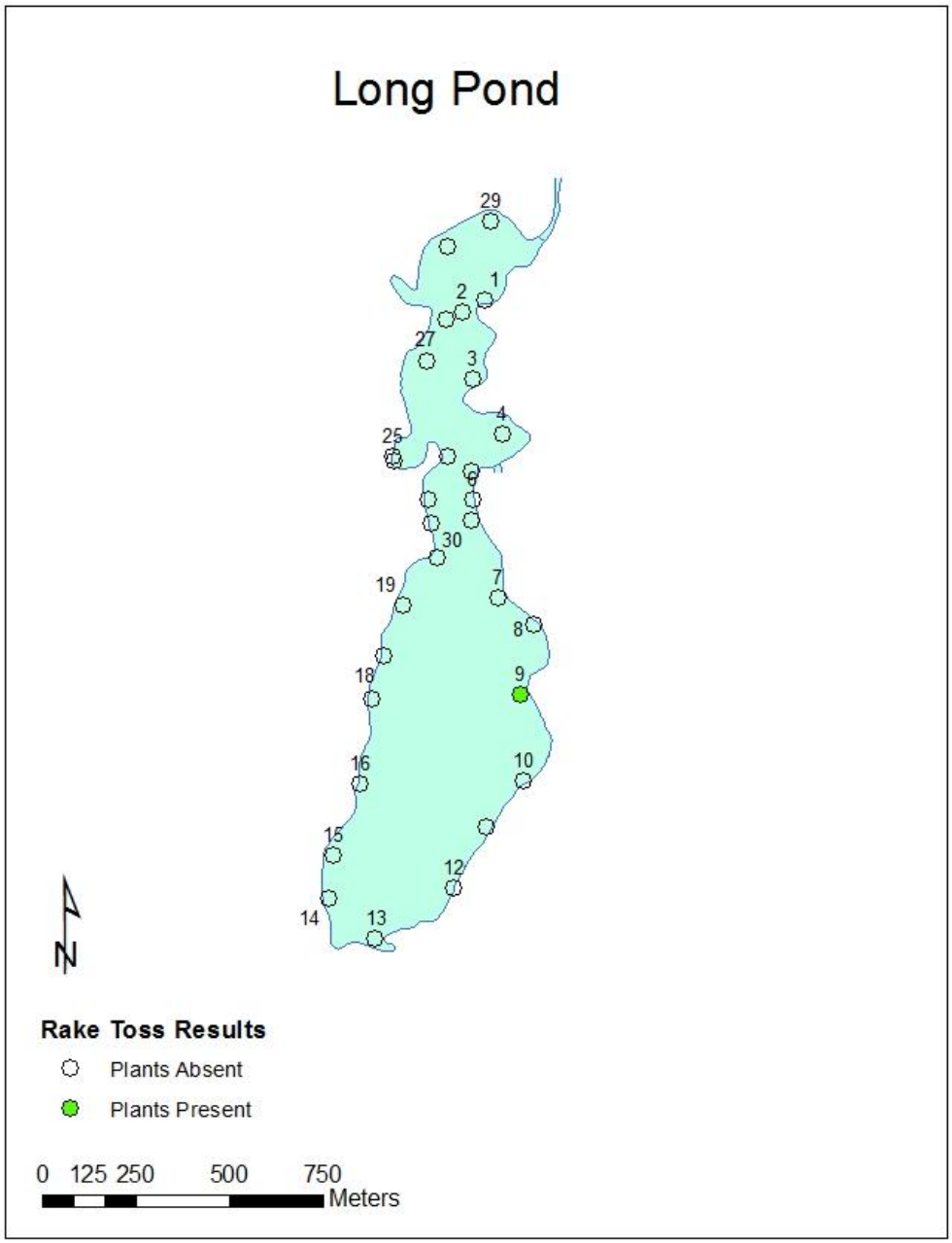
Long Pond is located in the town of Croghan in Lewis County, New York (map 52). The146 acre pond was accessed by canoe launch through the outlet to the north of the pond from the Long Pond Road located off from the Erie Canal Road off from State Route 812.

An aquatic plant survey of Long Pond was conducted on 25-July-2012. No invasive species were detected during the surface survey of the reservoir. Aquatic plant coverage in Long Pond was moderate, comprised of 13 beds that collectively covered 12.5 acres or 8.5 % of the surface area of the lake (Map 53). Nine different aquatic species were identified during this survey. The most common of the pond were Pipewort (*Eriocaulon sp.*) and Spatterdock (*Nuphar variegata*). There were no species that would be easily confused with invasive species that could be found in the water (Table 37).

Of the 30 rake tosses spaced throughout the littoral zone of the pond (Map 54), only 1 rake had acquired plants upon recovery (3.3%). Brittlewort (*Nitella* sp.) was the only species recovered on the rake tosses that was not detected during the surface survey (Table 38)



Map 53: Location of the aquatic plant beds detected in Long Pond during the surface survey performed on 25 July, 2012.
Data for Plant Beds can be found on Table 37.



Map 54: Rake toss locations on Long Pond, 25 July, 2012. 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 on Table 38.

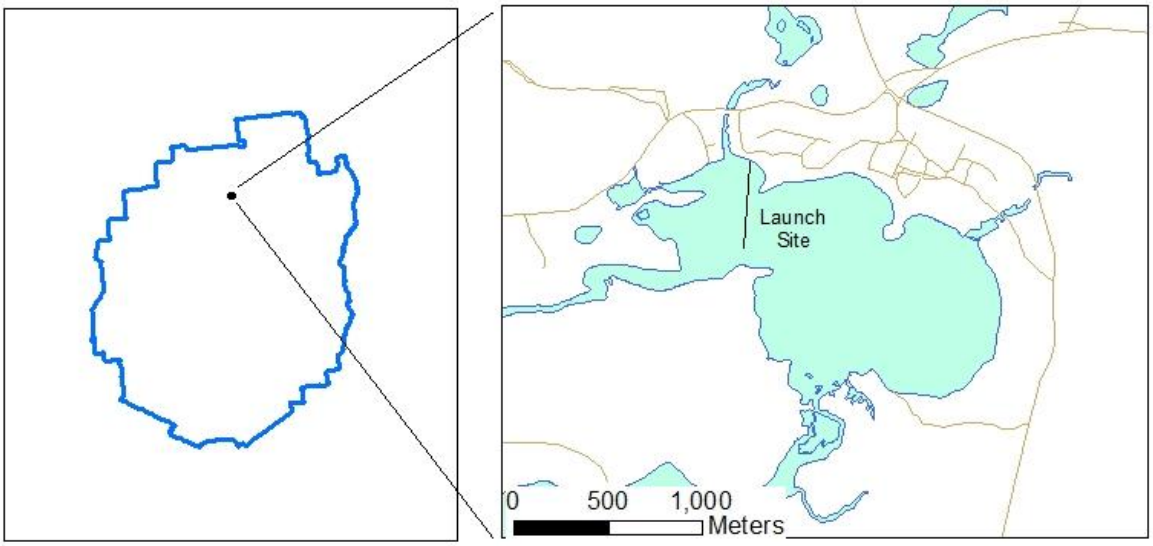
Table 37: Percent cover of aquatic plant species detected at each plant bed in Long Pond. Refer to Map 53 for bed locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Long Pond			**Plant Bed Numbers**												
			1	2	3	4	5	6	7	8	9	10	11	12	13
Scientific Name	**Common Name**	**AREA (M^2)**	3604	946	7397	1798	3909	6129	2186	644	4026	2357	4162	8697	4825
Brasenia schreberi	Water shield		O	P	O	O	-	O	P	P	P	-	R	O	O
Elodea canadensis	Canadian waterweed		-	-	-	-	-	-	-	-	-	-	-	-	-
Eriocaulon sp.	Pipewort		R	O	R	R	R	R	R	O	A	R	R	-	R
Lobelia dortmanna	Water lobelia		R	-	R	-	R	R	-	P	O	O	O	P	R
Nuphar variegata	Spatterdock		O	P	P	P	A	P	-	P	-	O	O	O	O
Nymphaea odorata	White waterlily		P	C	A	A	-	O	-	O	-	O	O	P	P
Potamogeton epihydrus	Ribbon-leaf pondweed		-	-	-	R	R	-	-	-	-	-	-	-	-
Sagittaria graminea	Grassy arrowhead		-	-	-	-	-	-	-	-	-	-	-	R	-

Table 38: Species present on the rake at each of the rake toss locations and abundance. Refer to Map 54 for Rake locations.

Long Pond		**Rake Toss Number**
Scientific Name	**Common Name**	9
Nitella sp.	Brittlewort	R

Lower St. Regis Lake Aquatic Plant Survey 2012

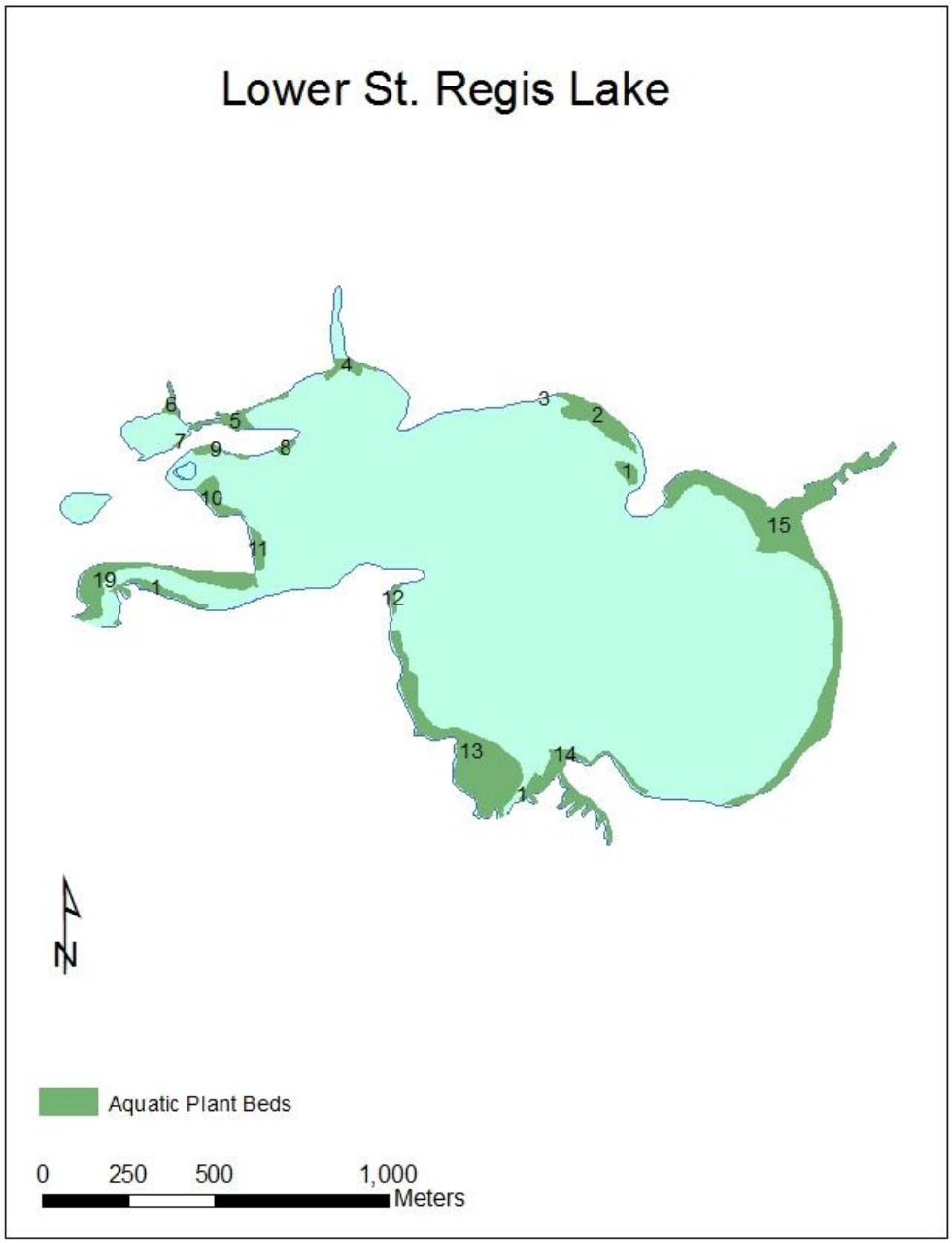


Map 55: Location of Lower St. Regis Lake.

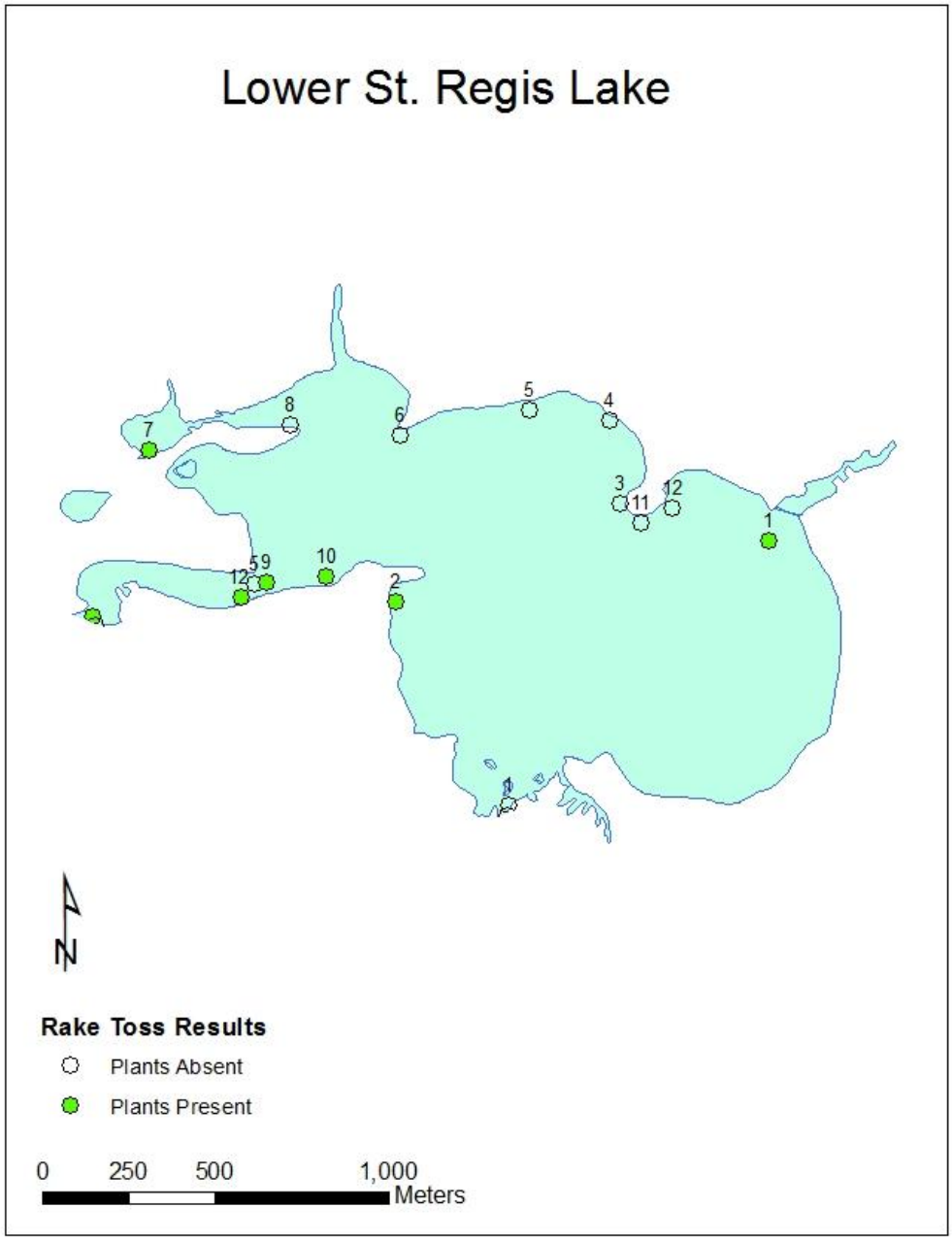
Lower St. Regis Lake is located in the town of Brighton in Franklin County, New York (Map 55). The 365 acre lake was accessed from a state canoe launch on Paul Smith's College campus. The college is located at the intersection of New York State Routes 86 and 30.

An aquatic plant survey of Lower St. Regis Lake was conducted 12-June-2012. No invasive aquatic species were detected during the survey. Aquatic plant coverage in Lower St. Regis Lake moderate, comprised of 15 beds that covered 45 acres or 12.3% of the surface area of the lake (Map 56). Nineteen different aquatic species were identified during this survey. Common species of these water bodies included White waterlily (*Nymphaea odorata*) and Bur-reed (*Sparganium sp.*). Purple bladderwort (*Utricularia purprea*), Common bladderwort (*U. vulgaris*) and Shortspike watermilfoil (*Myriophyllum sibiricum*) could easily be confused with invasive species (Table 39).

Of the 12 rake tosses spaced throughout the littoral zone of Lower St. Regis Lake (Map 57), 5 had acquired plants upon recovery (42%). Flatstem pondweed (*Potamogeton zosterformis*) was the only species collected on the rake tosses that was not detected during the surface survey (Table 40).



Map 56: Location of the aquatic plant beds detected in Lower St. Regis Lake during the surface survey performed on 12 June, 2012.
Data for Plant Beds can be found on Table 39.



Map 57: Rake toss locations on Lower St. Regis Lake, 12 June, 2012. 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 on Table 40.

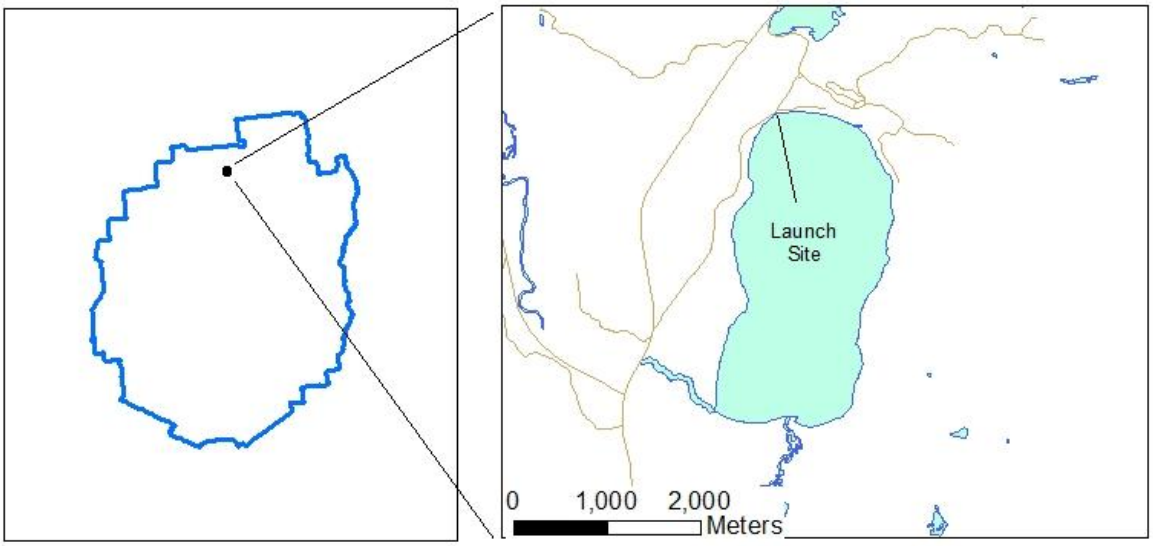
Table 39: Percent cover of aquatic plant species detected at each plant bed in Lower St. Regis Lake. Refer to Map 56 for bed locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Lower St. Regis Lake		**Plant Bed Numbers**															
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Scientific Name	**Common Name**	**AREA (M^2)**	2919	13373	146	4143	5868	1990	494	1177	2592	6051	3750	1458	44868	18936	74508
Brasenia schreberi	Water shield		-	-	-	P	C	-	-	-	O	O	R	R	O	-	O
Eleocharis sp.	Hairgrass		-	O	-	O	-	-	-	-	-	-	-	-	P	-	-
Myriophyllum sibiricum	Shortspike watermilfoil		-	-	-	-	-	-	-	-	-	-	-	-	-	-	O
Nitella sp.	Brittlewort		-	-	-	-	-	-	-	-	-	-	-	-	-	-	P
Nuphar variegata	Spatterdock		-	-	-	P	C	A	C	R	O	R	R	P	C	P	P
Nymphaea odorata	White waterlily		-	O	-	O	C	-	R	A	A	A	A	P	P	C	O
Potamogeton amplifolius	Large-leaf pondweed		C	A	-	C	O	-	-	-	P	R	-	-	C	P	O
Potamogeton epihydrus	Ribbon-leaf pondweed		-	-	-	-	-	-	-	-	-	-	-	-	P	-	O
Potamogeton gramineus	Variable-leaf pondweed		-	P	-	-	-	-	-	-	-	-	-	-	-	R	R
Potamogeton natans	Floating pondweed		-	-	-	R	O	-	R	-	-	-	-	-	-	-	-
Potamogeton perfoliatus	Clasping-leaf pondweed		C	C	-	-	O	-	-	-	R	-	-	O	R	O	O
Potamogeton prealongus	White-stem pondweed		-	R	-	-	-	-	-	-	-	-	-	-	C	-	-
Potamogeton robbinsii	Robbins pondweed		-	-	-	-	-	-	-	-	R	-	-	-	-	-	-
Sagittaria graminea	Grassy arrowhead		-	-	-	-	O	-	-	-	-	-	-	O	O	O	O
Sparganium sp.	Bur-reed		-	O	A	C	A	O	A	-	C	P	O	O	O	P	O
Utricularia purprea	Purple bladderwort		-	-	-	-	-	-	-	-	-	-	-	R	-	-	-
Utricularia vulgaris	Common bladderwort		-	-	-	R	O	-	-	-	-	-	-	-	R	-	P
Vallisneria americana	Eel-grass		-	-	-	-	O	-	P	-	-	-	-	-	O	O	R

Table 40: Species present on the rake at each of the rake toss locations and abundance. Refer to Map 57 for Rake locations.

Lower St. Regis Lake		**Rake Toss Numbers**				
Scientific Name	**Common Name**	1	2	7	9	10
Nitella sp.	Brittlewort	-	-	-	-	R
Potamogeton amplifolius	Large-leaf pondweed	-	-	-	-	R
Potamogeton epihydrus	Ribbon-leaf pondweed	R	-	-	-	-
Potamogeton gramineus	Variable-leaf pondweed	R	-	-	-	-
Potamogeton zosterformis	Flatstem pondweed	-	-	P	R	-
Sagittaria graminea	Grassy arrowhead	R	-	-	-	-
Utricularia purprea	Purple bladderwort	-	R	-	-	-
Utricularia vulgaris	Common bladderwort	C	-	R	-	-

Meacham Lake Aquatic Plant Survey 2012



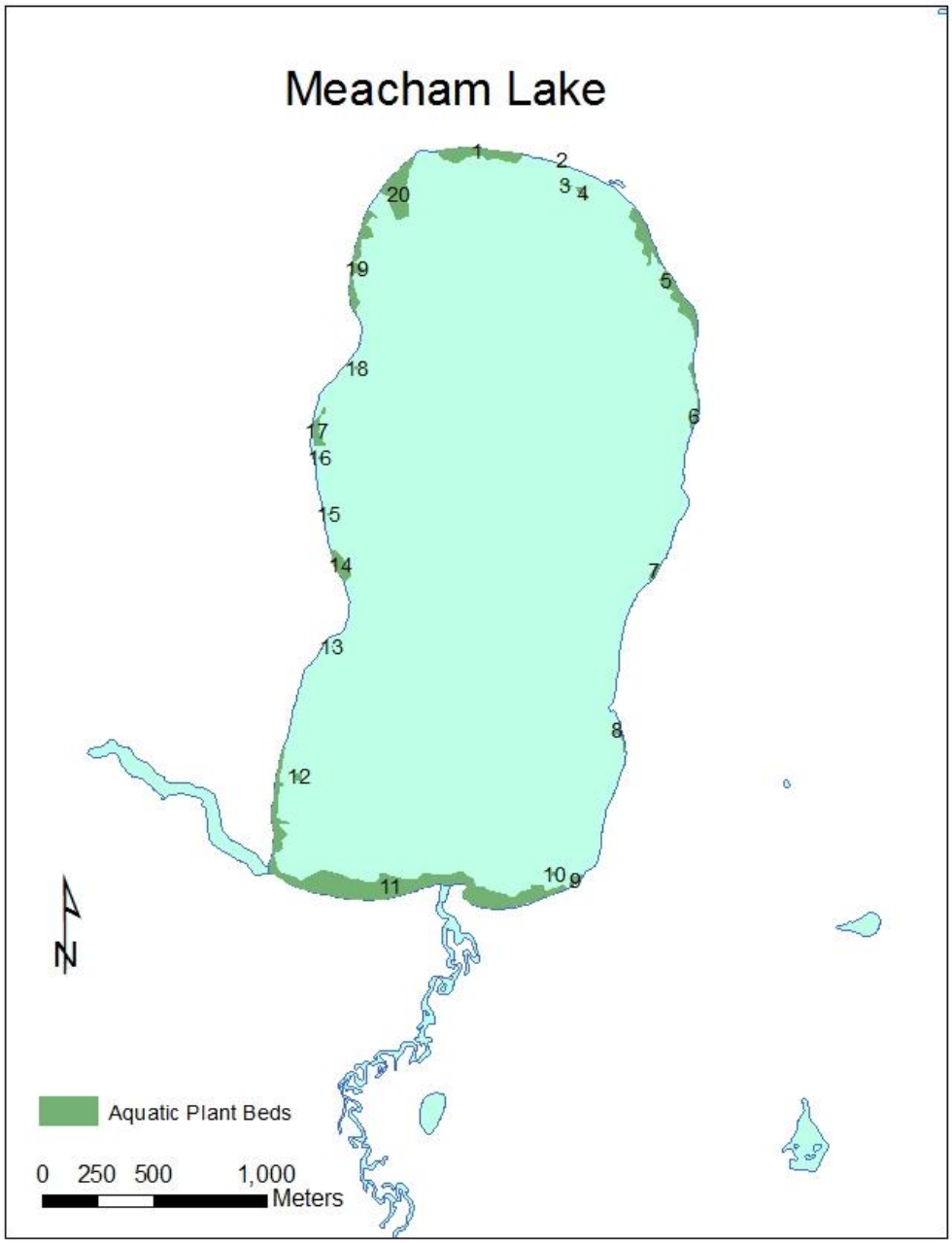
Map 58: Location of Meacham Lake.

Meacham Lake is located in the town of Duane in Franklin County, New York (Map 58). The 1185 acre lake was accessed by a DEC hardtop boat launch on the northern shore of the Lake. The launch is found on the Meacham Road off from New York State Route 30, twenty miles south of Malone and 11 miles north of Paul Smiths, New York.

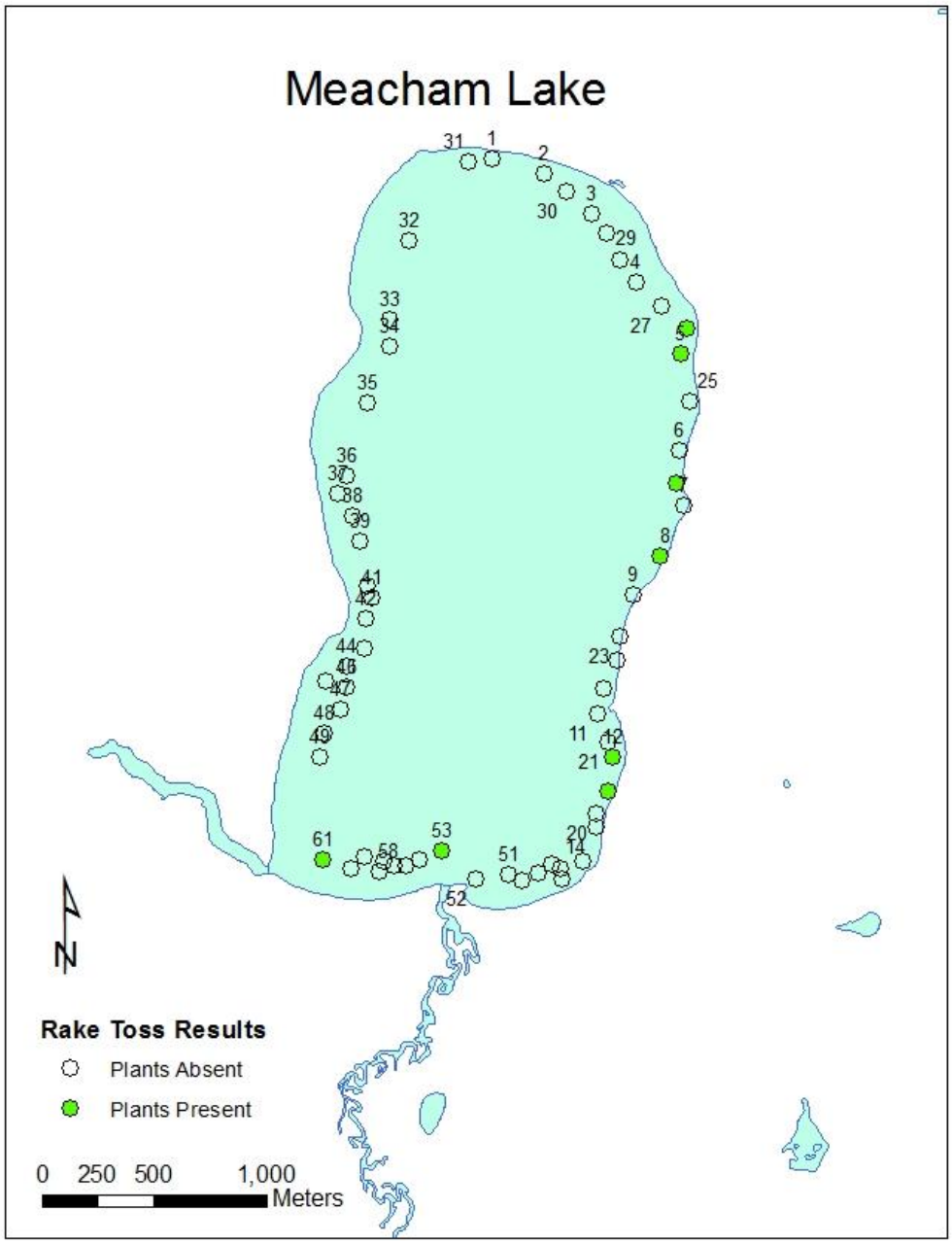
An aquatic plant survey of Meacham Lake was conducted 19-July-2012. Eurasian watermilfoil (*Myriophyllum spicatum*) was detected during this survey (Map 61). Aquatic plant coverage in Meacham Lake was relatively low, comprised of 20 beds that covered 51.3 acres or 4.3% of the surface area of the lake (Map 59). Nineteen different aquatic species were identified during this survey. Common species of these water bodies included Spatterdock (*Nuphar variegata*) and Eel-grass (*Vallisneria americana*). Slender watermilfoil (*Myriophyllum tenellum*) was the only species present that could easily be confused with an invasive species (Table 41).

Of the 61 rake tosses spaced throughout the littoral zone of Meacham Lake (Map 60), 8 had acquired plants upon recovery (13.1%). Brittlewort (*Nitella sp.*) was the only species recovered by the rake tosses that was not detected during the surface survey (Table 42).

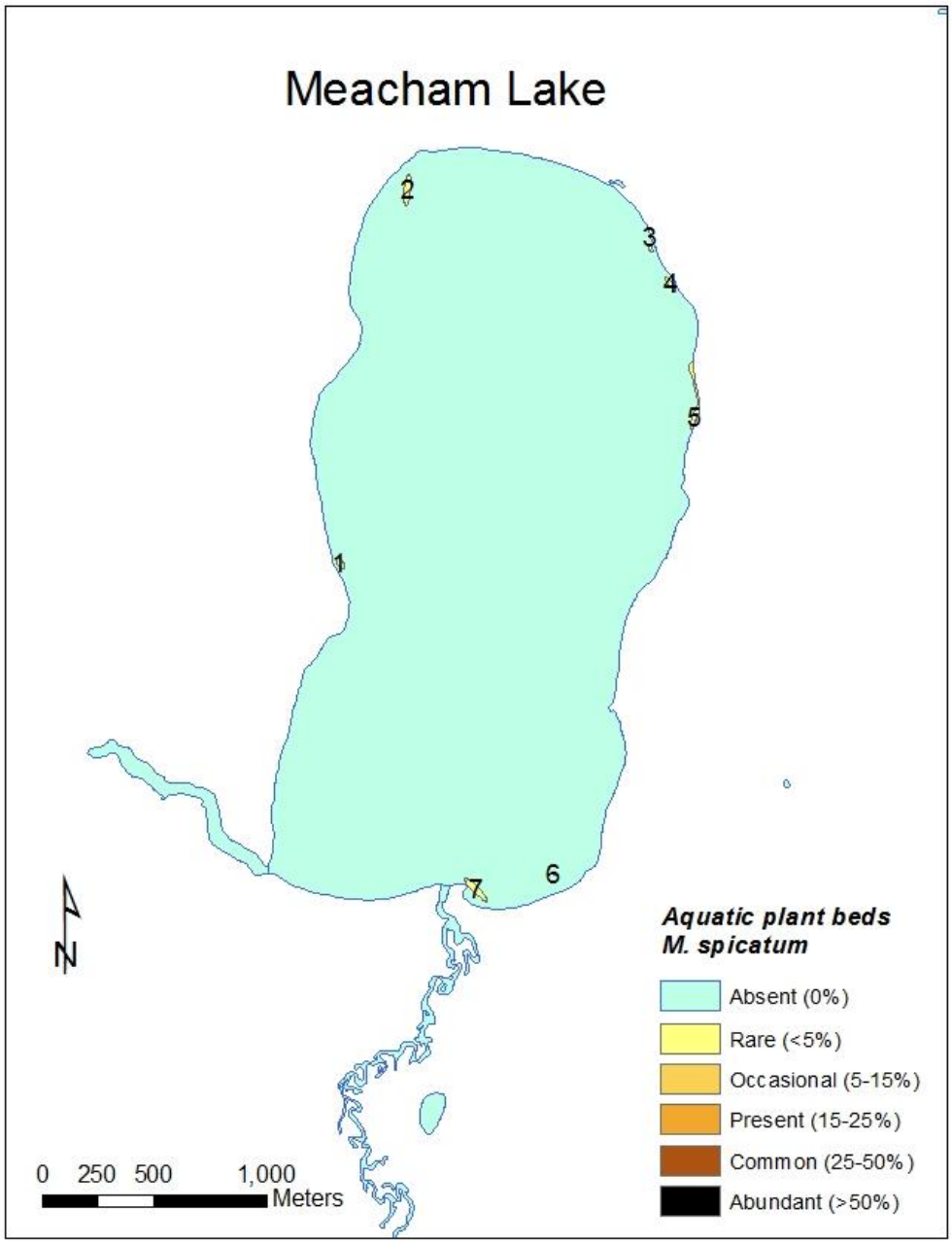
Eurasian watermilfoil in Meacham Lake was found in 7 beds that covered 3.2 acres. This was 0.3% of the surface area of Meacham Lake and 6.2% of the total aquatic plant coverage in the lake (Map 61 & Table 43).



Map 59: Location of the aquatic plant beds detected in Meacham Lake during the surface survey performed on 19 July, 2012.
Data for Plant Beds can be found on Table 41.



Map 60: Rake toss locations on Meacham Lake, 19 July, 2012. 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 on Table 42.



Map 61 Location of the aquatic plant beds detected in Meacham Lake containing *Myriophyllum spicatum* during the surface survey performed on 19 July, 2012.
Data for *M. spicatum* beds can be found on Table 43.

Table 41: Percent cover of aquatic plant species detected at each plant bed in Meacham Lake. Refer to Map 59 for bed locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Meacham Lake			**Plant Bed Numbers**																			
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Scientific Name	**Common Name**	**AREA (M^2)**	16958	409	650	1321	24934	3977	1367	1687	1613	407	105940	1149	80	6637	293	101	4323	231	15069	20529
Brasenia schreberi	Water shield		-	-	-	-	-	-	-	R	O	R	O	-	-	O	-	-	-	-	-	-
Eleocharis sp.	Hairgrass		-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-
Eriocaulon sp.	Pipewort		-	-	-	-	R	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-
Lobelia dortmanna	Water lobelia		-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-
Myriophyllum alteriflorum	Alternate-leaf milfoil		-	-	-	-	R	-	-	O	-	-	-	-	-	-	-	-	-	-	-	-
Myriophyllum spicatum	Eurasian watermilfoil		-	-	-	-	R	R	-	-	-	R	R	-	-	R	-	-	-	-	-	R
Myriophyllum tenellum	Slender watermilfoil		-	A	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-
Nuphar variegata	Spatterdock		R	-	-	-	-	-	-	-	R	-	A	C	P	R	R	O	R	-	O	R
Nymphaea odorata	White waterlily		R	-	-	-	-	-	-	R	O	-	O	-	-	C	-	-	-	-	O	P
Potamogeton amplifolius	Large-leaf pondweed		R	-	C	-	-	-	O	-	-	P	R	-	-	-	-	-	O	-	-	C
Potamogeton epihydrus	Ribbon-leaf pondweed		R	-	-	-	-	-	R	-	-	-	R	-	-	R	O	-	O	C	O	-
Potamogeton gramineus	Variable-leaf pondweed		R	-	-	-	R	-	-	R	-	O	R	-	-	-	-	-	-	-	-	-
Potamogeton natans	Floating pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	O	-	-	-	-	-	-
Potamogeton perfoliatus	Clasping-leaf pondweed		-	-	-	R	O	R	-	-	-	O	-	-	-	O	-	-	O	-	-	P
Potamogeton zosterformis	Flatstem pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-
Sagittaria graminea	Grassy arrowhead		-	-	-	-	-	-	-	A	O	-	-	-	-	-	-	-	-	-	-	-
Sparganium sp.	Bur-reed		-	-	-	-	-	C	P	-	-	-	R	-	-	-	-	-	-	-	R	R
Vallisneria americana	Eel-grass		C	-	R	P	A	P	P	R	-	-	R	-	-	-	-	-	O	-	P	A

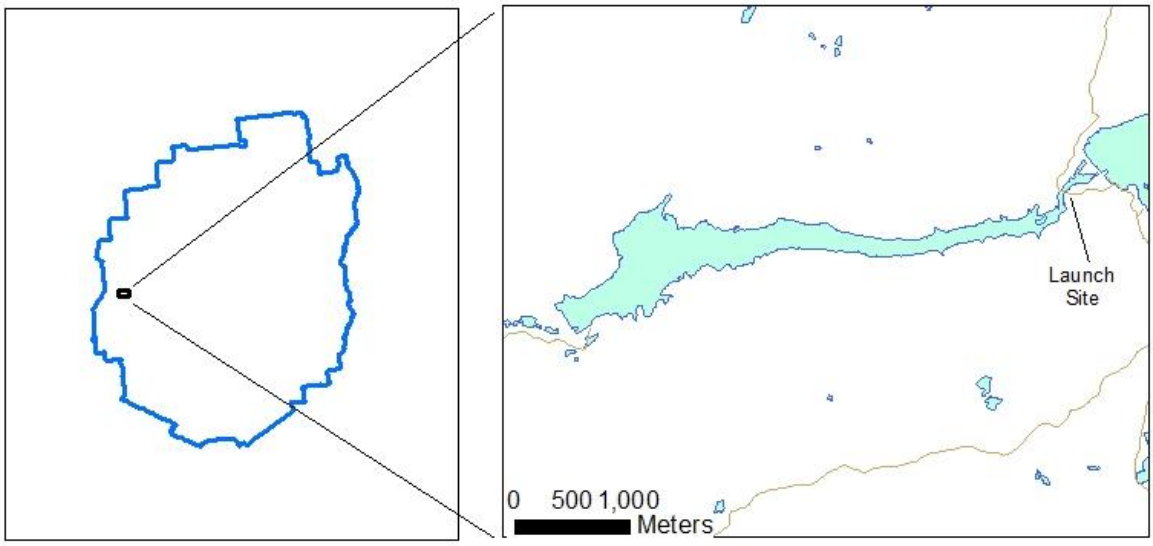
Table 42: Species present on the rake at each of the rake toss locations and abundance. Refer to Map 60 for Rake locations.

Meacham Lake		**Rake Toss Numbers**							
Scientific Name	**Common Name**	5	8	12	13	24	26	53	61
Nitella sp.	Brittlewort	-	-	R	-	-	-	-	-
Potamogeton amplifolius	Large-leaf pondweed	-	-	-	-	-	-	R	-
Potamogeton gramineus	Variable-leaf pondweed	-	-	-	R	-	-	-	-
Sparganium sp.	Bur-reed	R	R	-	-	O	R	R	R

Table 43 Percent cover of *Myriophyllum spicatum* detected at each plant bed in Meacham Lake. Refer to Map 61 for *M. spicatum* locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Meacham Lake									
			1	2	3	4	5	6	7
Scientific Name	**Common Name**	**AREA (M^2)**	1203	3068	366	1152	4043	54	3121
Myriophyllum spicatum	Eurasian watermilfoil		R	R	R	R	R	R	R

Moshier Reservoir Aquatic Plant Survey 2012

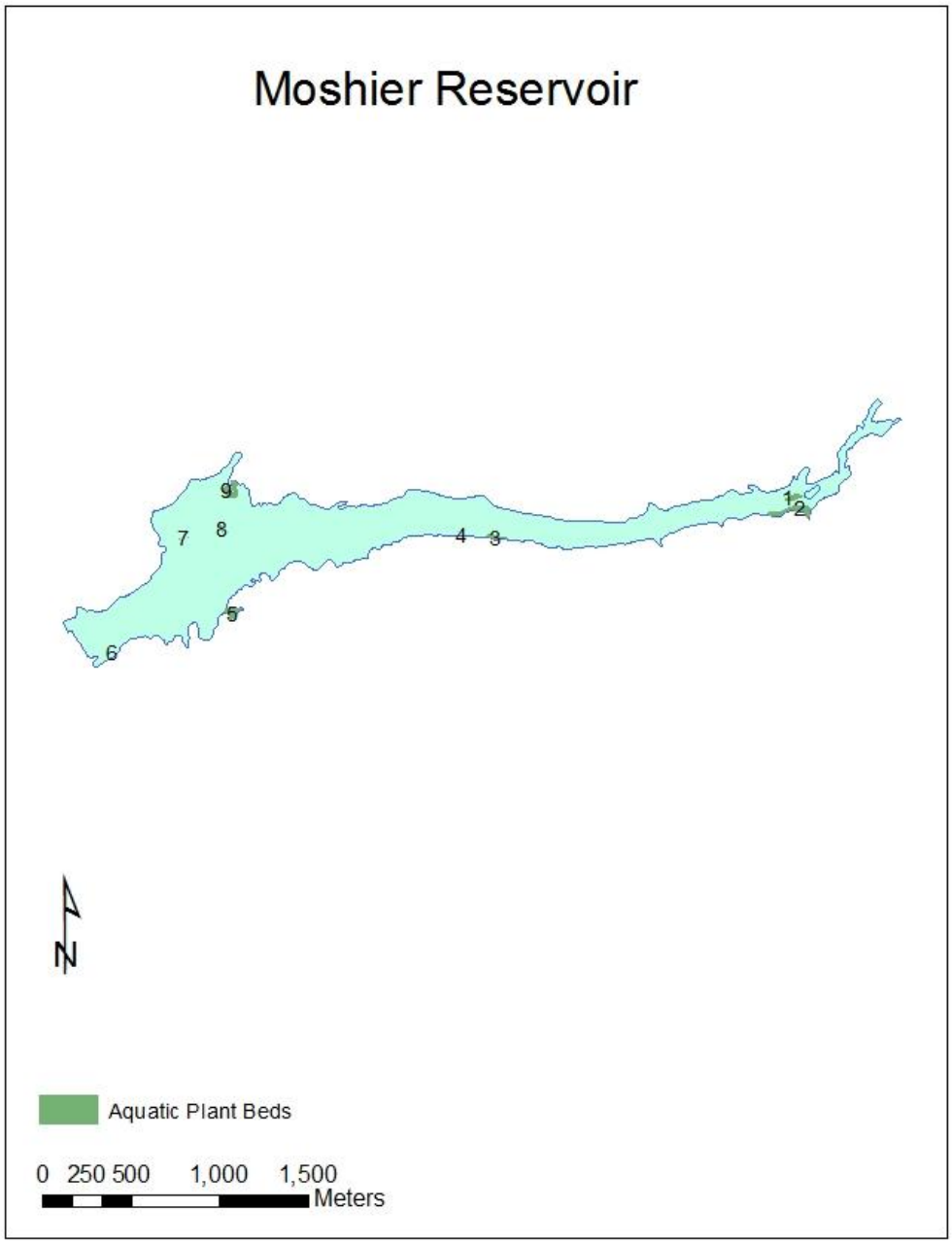


Map 62: Location of Moshier Reservoir.

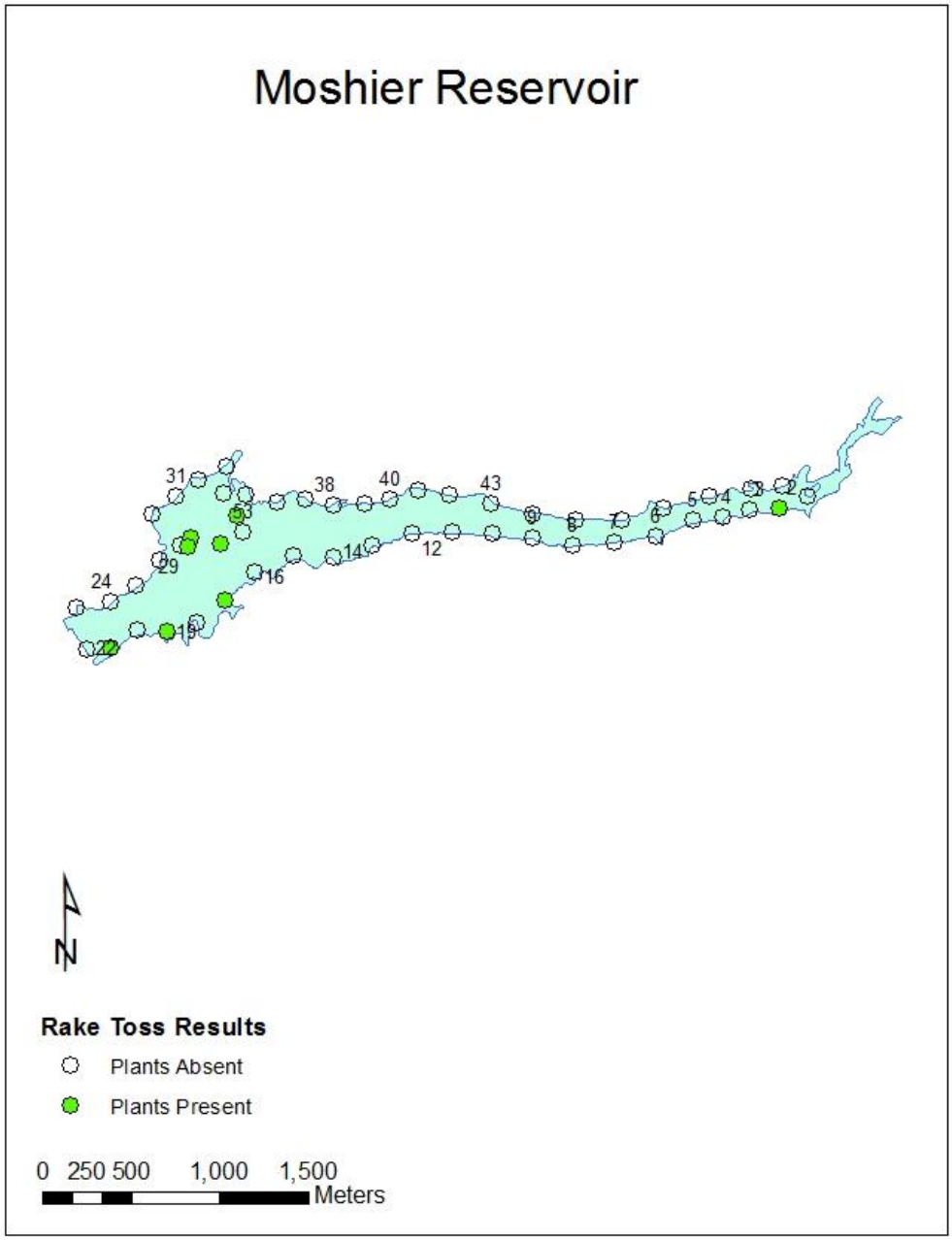
Moshier Reservoir is located in the town of Watson in Lewis County, New York (Map 62). The 275 acre reservoir was accessed by a canoe launch on the eastern end. The launch was found on the Necessary Dam Road off from Stillwater Road which connected from Big Moose Road out of Eagle Bay, New York.

An aquatic plant survey of Moshier Reservoir was conducted on 15-August-2012. No invasive species were detected during the surface survey of the reservoir. Aquatic plant coverage in Moshier Reservoir was relatively low, comprised of 9 beds that collectively covered 5.5 acres or 2.1 % of the surface area of the reservoir (Map 63). Eight different aquatic species were identified during this survey. The most common of the reservoir was Ribbon-leaf pondweed (*Potamogeton epihydris).* Common bladderwort (*Utricularia vulgaris*), Flat-leaf bladderwort (*U. intermedia*), and Purple bladderwort (*U. purprea*) were the species detected which could easily be confused with invasive species (Table 44)

Of the 53 rake tosses spaced throughout the littoral zone of the reservoir (Map 64), 8 rakes had acquired plants upon recovery (15.1 %). Coontail (*Ceratophyllum sp*.) was the only species found on the rakes after retrieval that had not been detected during the surface survey (Table 45).



Map 63: Location of the aquatic plant beds detected in Moshier Reservoir during the surface survey performed on 15 Aug, 2012.
Data for Plant Beds can be found on Table 44.



Map 64: Rake toss locations on Moshier Reservoir, 15 Aug, 2012. 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 on Table 45.

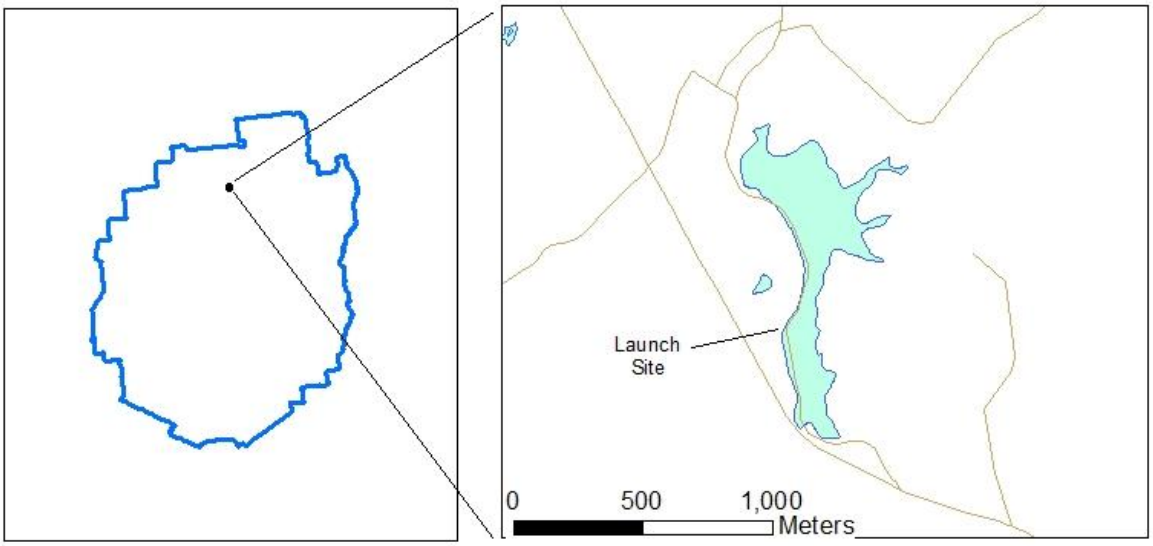
Table 44: Percent cover of aquatic plant species detected at each plant bed in Moshier Reservoir. Refer to Map 63 for bed locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Moshier Reservoir			**Plant Bed Numbers**								
			1	2	3	4	5	6	7	8	9
Scientific Name	**Common Name**	**AREA (M^2)**	2719	7451	2030	140	4056	0	325	363	5221
Eleocharis sp.	Hairgrass		-	-	-	-	-	-	R	-	O
Nitella sp.	Brittlewort		-	-	-	-	R	-	-	-	R
Potamogeton epihydrus	Ribbon-leaf pondweed		A	C	R	R	R	-	P	P	R
Sagittaria graminea	Grassy arrowhead		-	-	-	R	R	-	O	-	R
Sparganium sp.	Bur-reed		R	-	R	R	-	-	-	-	P
Utricularia intermedia	Flatleaf bladderwort		-	-	-	-	-	R	-	-	-
Utricularia vulgaris	Common bladderwort		-	R	-	-	-	-	-	-	-

Table 45: Species present on the rake at each of the rake toss locations and abundance. Refer to Map 64 for Rake locations.

Moshier Reservoir		**Rake Toss Numbers**							
Scientific Name	**Common Name**	2	17	19	21	28	29	51	52
Ceratophyllum sp.	Coontail	R	-	-	-	-	-	-	-
Utricularia purprea	Purple bladderwort	-	O	R	R	R	R	R	R

Mountain Pond Aquatic Plant Survey 2012

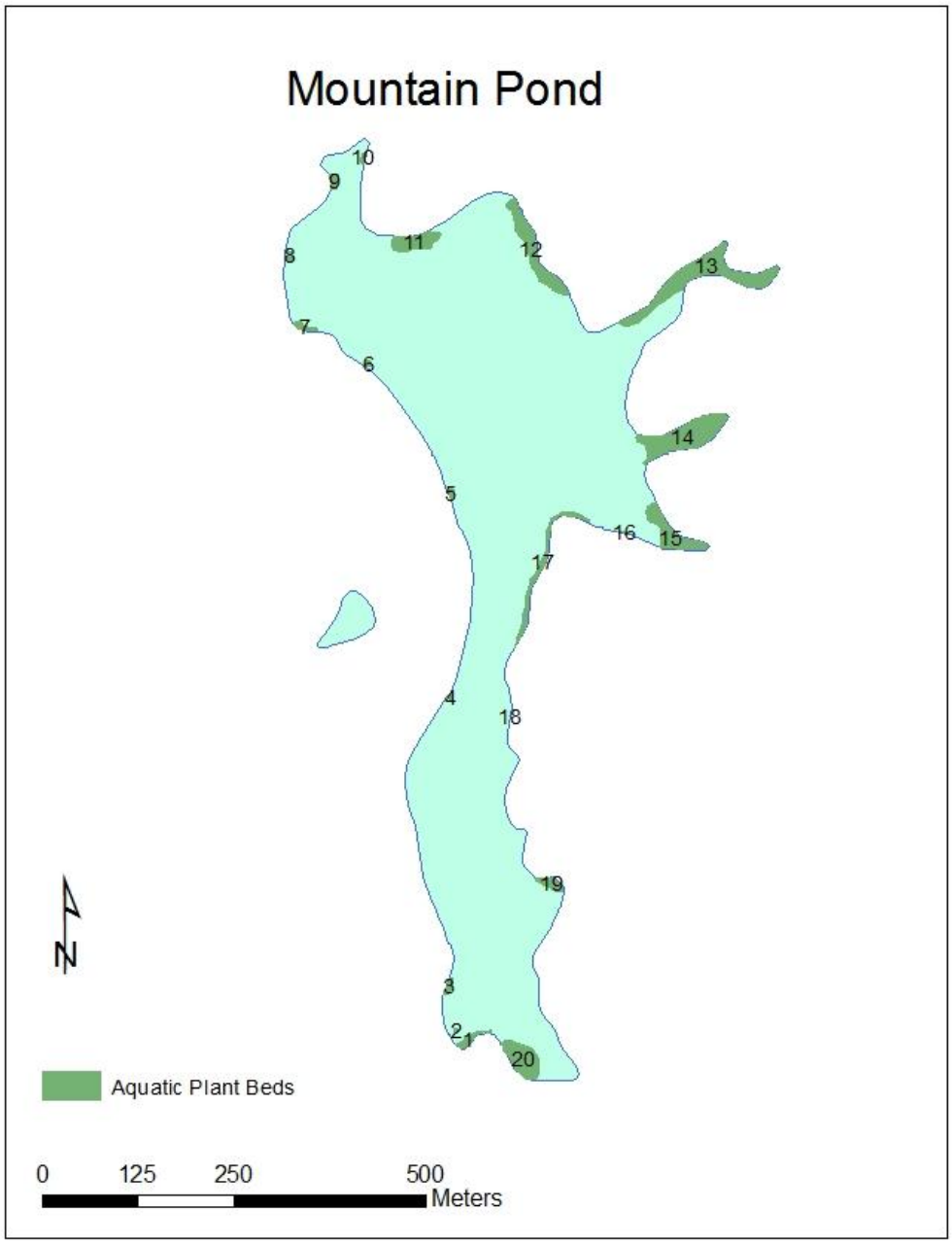


Map 65: Location of Mountain Pond.

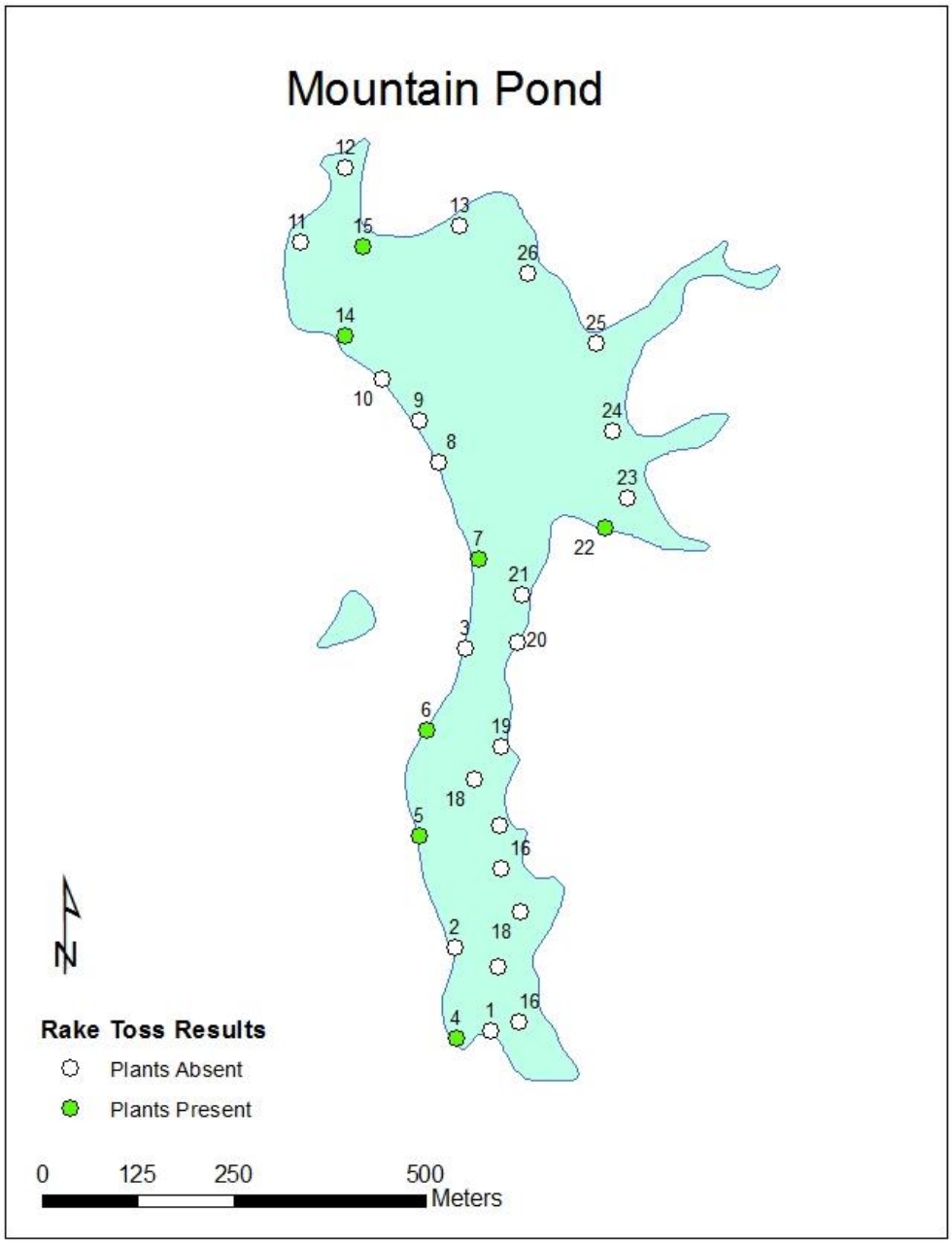
Mountain Pond is located the town of Brighton in Franklin County, New York (Map 65). The 56 acre pond was accessed by canoe launch on the western shore just off from State Route 30, 3 miles north of Paul Smiths, New York.

An aquatic plant survey of Mountain Pond was conducted on 15-August-2012. No invasive aquatic plants were detected during the survey. Aquatic plant coverage in Mountain Pond was relatively low, comprised of 20 plant beds that collectively covered 4.4 acres or 7.8% of the surface area of the lake (Map 66). Thirteen different aquatic species were identified during this survey. The most common included Spatterdock (*Nuphar variegata*), and Purple bladderwort (*Utricularia purprea*). Purple bladderwort, Common bladderwort (*U. vulgaris*), and Shortspike watermilfoil (*Myriophyllum sibiricum*) could be easily confused with invasive species (Table 46).

Of the 26 rake tosses spaced throughout the littoral zone of the pond (Map 67), 7 had acquired plants upon recovery (26.9%). Brittlewort (*Nitella sp.*) and Farwells watermilfoil (*Myriophyllum farwellii*) were the only species recovered on the rakes that were not detected during the surface survey (Table 47).



Map 66: Location of the aquatic plant beds detected in Mountain Pond during the surface survey performed on 15 Aug, 2012.
Data for Plant Beds can be found on Table 46.



Map 67: Rake toss locations on Mountain Pond, 15 Aug, 2012. 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 on Table 47.

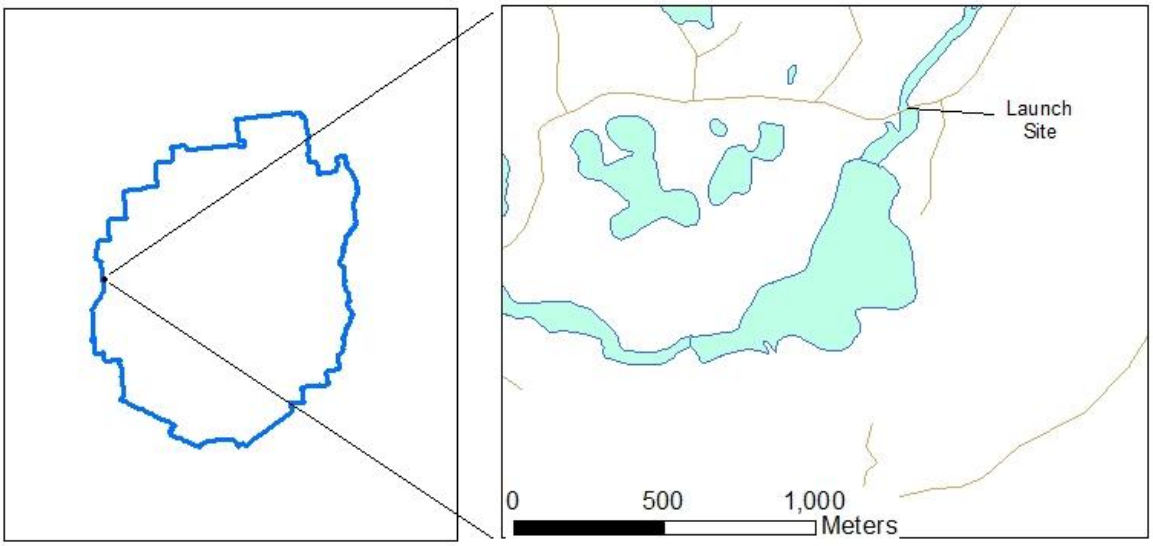
Table 46: Percent cover of aquatic plant species detected at each plant bed in Mountain Pond. Refer to Map 66 for bed locations. A = Abundant (>50% cover), C - Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Mountain Pond			**Plant Bed Number**																			
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Scientific Name	**Common Name**	**AREA (M^2)**	325	51	198	40	135	77	212	78	232	76	1243	2209	4440	3313	1803	37	1263	5	454	1635
Eleocharis sp.	Hairgrass		-	-	-	-	-	-	P	-	-	-	-	-	R	-	R	-	-	-	-	-
Eriocaulon sp.	Pipewort		C	-	A	-	A	-	-	-	-	R	R	A	-	O	R	-	R	-	O	O
Isoetes sp.	Quillwort		-	-	-	-	-	-	-	-	-	-	-	P	-	-	-	-	-	-	-	-
Myriophyllum sibiricum	Shortspike watermilfoil		-	-	-	-	O	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nuphar variegata	Spatterdock		P	A	-	A	-	-	-	-	-	R	R	R	O	R	O	O	P	A	O	P
Potamogeton epihydrus	Ribbon-leaf pondweed		-	-	-	-	R	-	R	-	-	-	-	R	O	-	R	-	R	-	R	P
Potamogeton robbinsii	Robbins pondweed		-	-	-	-	R	-	-	-	R	O	O	R	-	-	-	-	-	-	-	-
Sagittaria graminea	Grassy arrowhead		-	-	-	-	-	-	-	-	-	-	-	-	-	R	R	-	-	-	-	O
Sparganium sp.	Bur-reed		-	-	O	-	P	-	R	-	-	R	R	O	R	O	O	R	O	-	-	O
Utricularia purprea	Purple bladderwort		R	-	-	R	R	P	O	P	C	C	C	C	C	O	A	R	R	-	R	-
Utricularia vulgaris	Common bladderwort		-	-	-	-	-	-	-	-	R	-	-	-	C	P	P	-	-	-	-	R

Table 47 Species present on the rake at each of the rake toss locations and abundance. Refer to Map 67 for Rake locations.

Mountain Pond		**Rake Toss Number**						
Scientific Name		4	5	6	7	14	15	22
Eleocharis sp.		R	-	-	-	-	-	-
Isoetes sp.		-	-	R	-	-	-	-
Myriophyllum farwellii		-	-	-	-	R	-	-
Myriophyllum sibiricum		-	-	-	R	R	R	-
Nitella sp.		-	R	R	-	R	-	-
Utricularia purprea		-	-	R	-	-	-	R
Utricularia vulgaris		R	-	-	-	-	-	-

Mud Pond Aquatic Plant Survey 2012

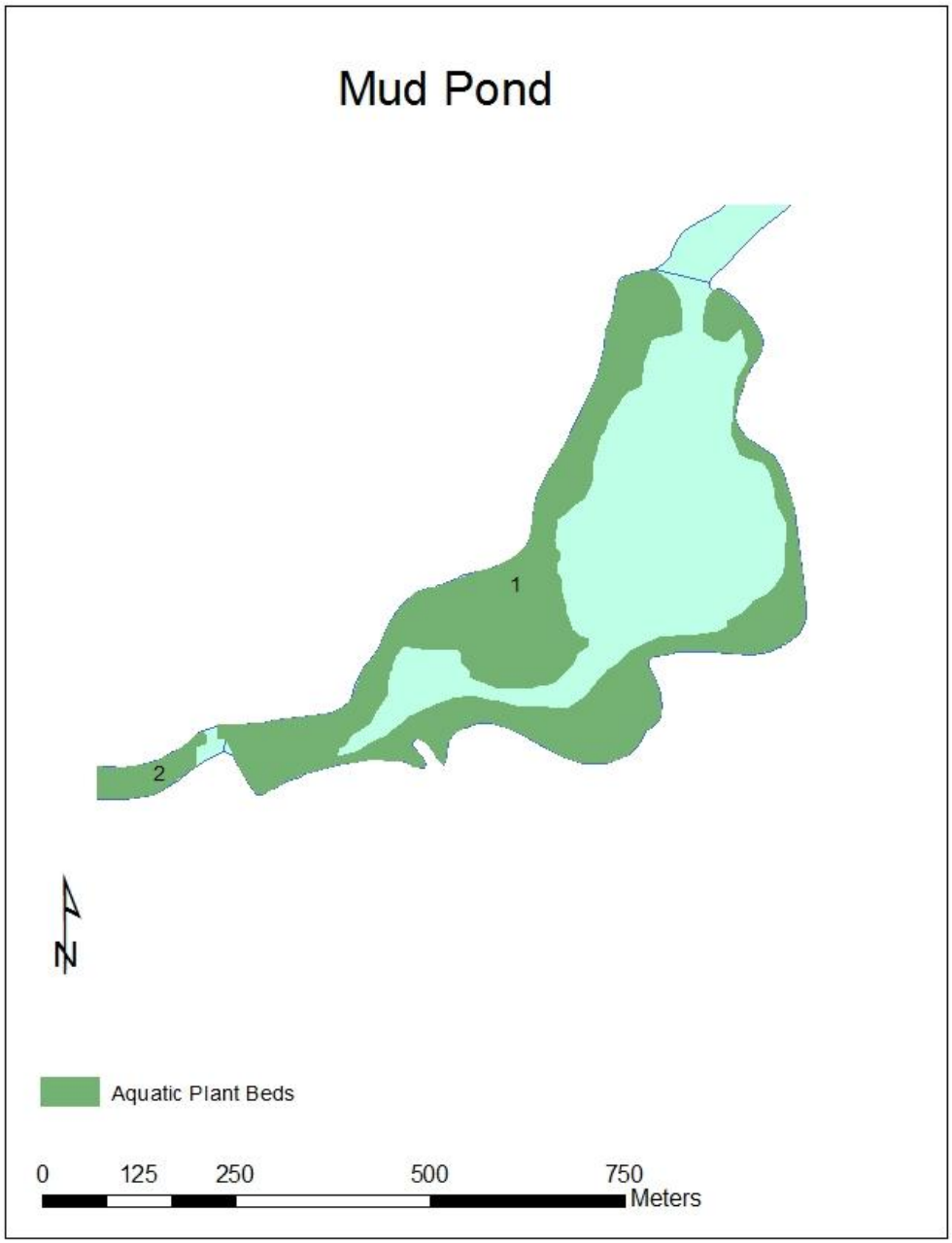


Map 68: Location of Mud Pond.

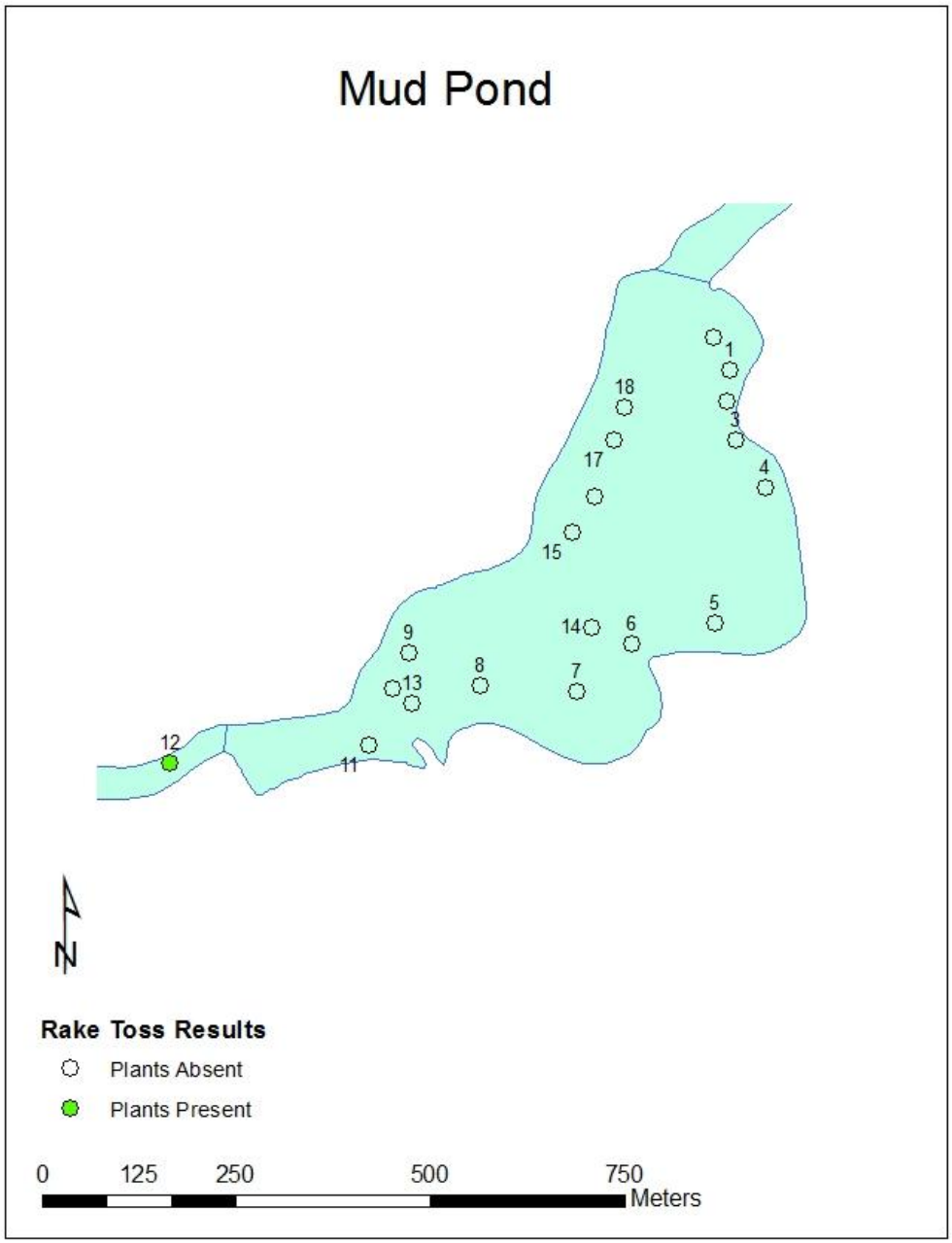
Mud Pond is located in the town of Croghan in Lewis County, New York (Map 68). The 51 acre pond was accessed by water, traveling south from the river access at the Long Pond Road located off from the Erie Canal Road off from State Route 812.

An aquatic plant survey of Mud Pond was conducted 25-July-2012. No invasive aquatic species were detected during the survey. Aquatic plant coverage in Clear Pond was relatively high, comprised of 2 aquatic plant beds that collectively covered 37.1 acres or 72.7% of the surface area of the pond (Map 69). Eleven different aquatic species were identified during this survey. The most common species found in the pond included White waterlily (*Nymphaea odorata*), and Hairgrass (*Eleocharis sp.*). Shortspike watermilfoil (*Myriophyllum sibiricum*) and Purple bladderwort (*Utricularia purprea*) could both easily be confused with invasive species (Table 48).

Of the 19 rake tosses spaced throughout the littoral zone of Mud Pond (Map 70), 1 had acquired plants upon recovery (5.8%). All species recovered on the rake tosses were already detected during the surface survey (Table 49).



Map 69: Location of the aquatic plant beds detected in Mud Pond during the surface survey performed on 14 June, 2012.
Data for Plant Beds can be found on Table 48.



Map 70: Rake toss locations on Mud Pond, 14 June, 2012. 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 on Table 49.

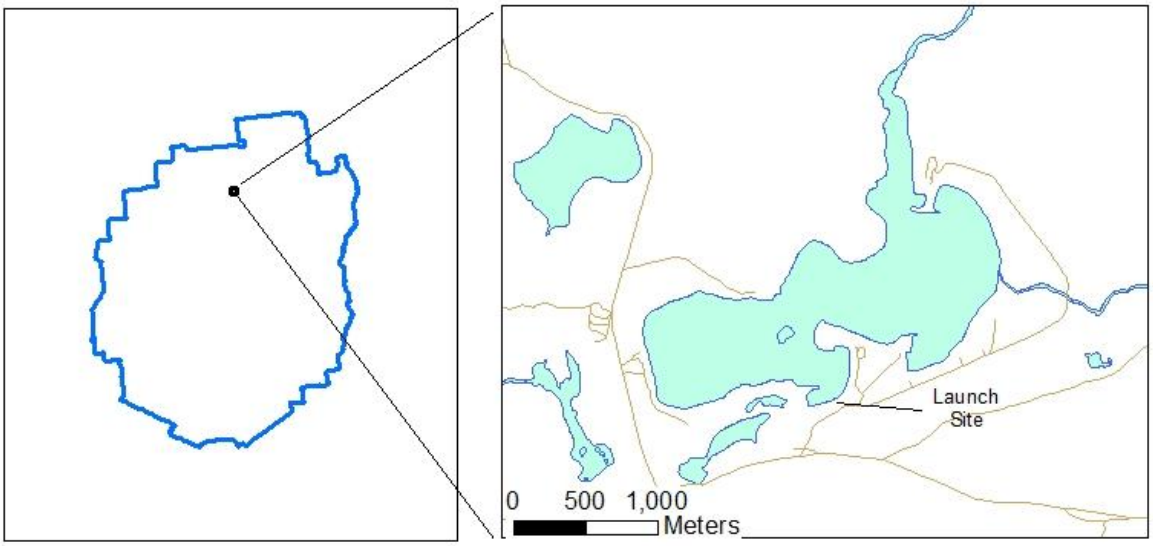
Table 48: Percent cover of aquatic plant species detected at each plant bed in Mud Pond. Refer to Map 69 for bed locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Mud Pond (Lewis County			**Plant Bed Numbers**	
			1	2
Scientific Name	**Common Name**	AREA (M^2)	106980	43381
Brasenia schreberi	Water shield		O	O
Eleocharis sp.	Hairgrass		C	A
Eriocaulon sp.	Pipewort		-	O
Myriophyllum sibiricum	Shortspike watermilfoil		R	-
Nuphar variegata	Spatterdock		R	-
Nymphaea odorata	White waterlily		C	C
Potamogeton epihydrus	Ribbon-leaf pondweed		-	R
Sagittaria graminea	Grassy arrowhead		R	R
Sparganium sp.	Bur-reed		R	-
Utricularia purprea	Purple bladderwort		C	C
Vallisneria americana	Eel-grass		-	R

Table 49: Species present on the rake at each of the rake toss locations and abundance. Refer to Map 70 for Rake locations.

Mud Pond (Lewis County)		**Rake Toss Number**
Scientific Name	**Common Name**	12
Vallisneria americana	Eel-grass	O

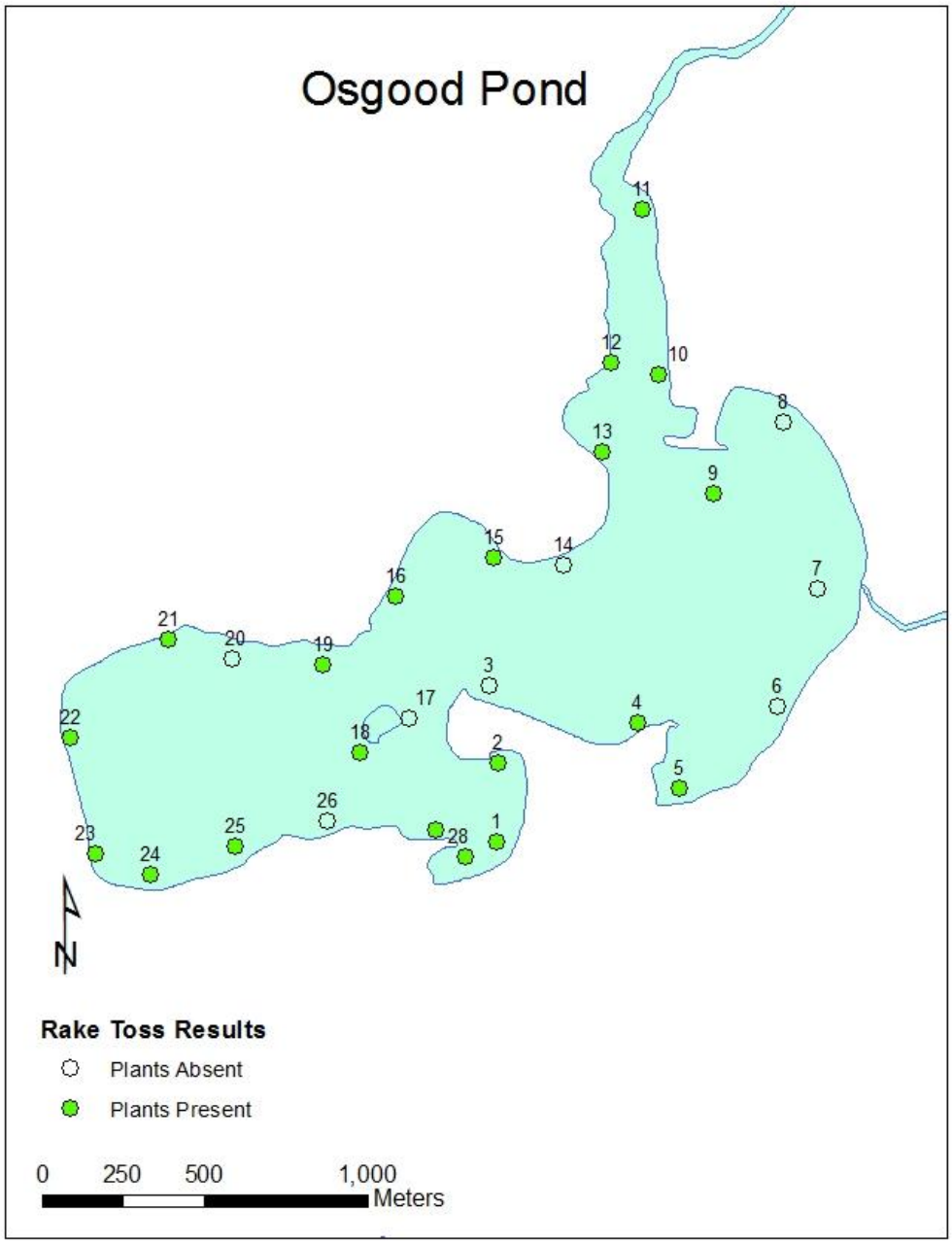
Osgood Pond Aquatic Plant Survey 2012



Map 71: Location of Osgood Pond.

Osgood Pond is located in the town of Brighton in Franklin County, NY (Map 71). The 508 acre pond was accessed by a soft boat launch on the southern shore off from the White Pine Camp Road, ½ mile east on New York State Route 86 from Paul Smith's College.

An aquatic plant survey of Osgood Pond was conducted 20-August-2012 where only rake tosses were measured. Of the 28 rake tosses spaced throughout the littoral zone of the pond (Map 72), 20 had acquired plant material upon recovery (71.4%). Brittlewort (*Nitella sp.*) and Water naiad (*Najas sp.*) were the most common species detected during the survey (Table 50).

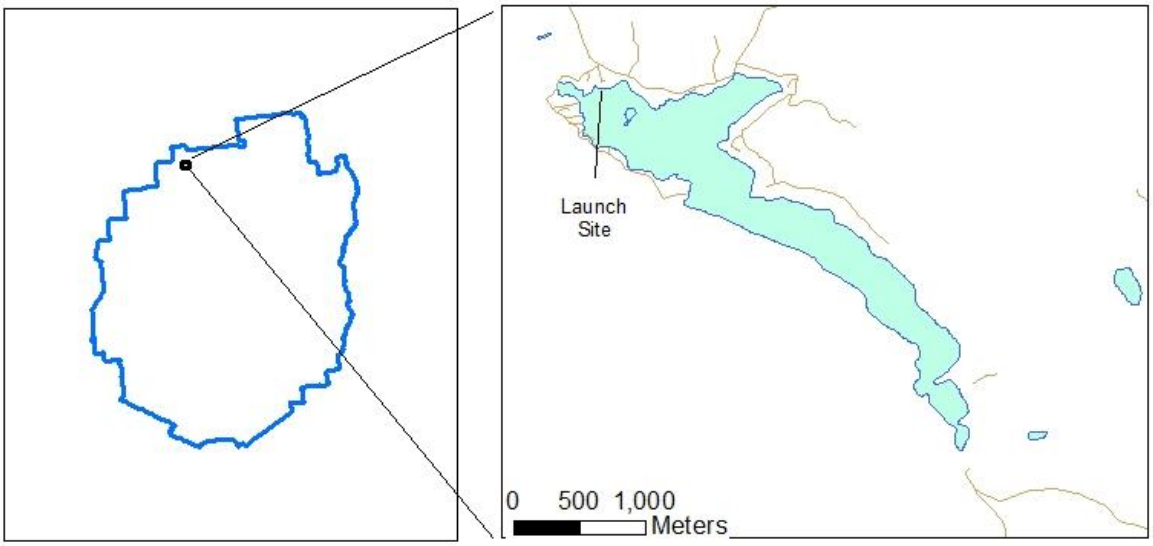


Map 72: Rake toss locations on Osgood Pond, 24 Aug, 2012. Open circles represent locations where no plants were detected, closed circles represent locations where plants were encountered on the rake. Data for Rake Tosses can be found on Table 50.

Table 50: Species present on the rake at each of the rake toss locations and abundance. Refer to Map 72 for Rake locations.

Osgood Pond		**Rake Toss Numbers**																			
Scientific Name	**Common Name**	1	2	4	5	9	10	11	12	13	15	16	18	19	21	22	23	24	25	27	28
Elodea canadensis	Canadian waterweed	-	-	-	-	R	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-
Elodea nuttalia	Western waterweed	-	-	-	-	-	-	R	-	R	-	-	-	-	-	-	-	-	-	-	-
Najas sp.	Water naiad	R	R	R	-	R	-	-	-	R	-	-	R	-	-	-	O	-	-	-	R
Nitella sp.	Brittlewort	R	P	-	C	A	P	P	R	C	-	A	-	O	A	-	-	A	R	R	-
Potamogeton robbinsii	Robbins pondweed	-	R	-	R	-	-	P	-	-	-	R	-	-	-	P	-	-	-	-	O
Potamogeton spirillus	Spiral-fruit pondweed	-	-	-	-	R	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-
Sparganium sp.	Bur-reed	-	-	-	-	-	-	-	-	R	-	-	R	-	R	-	-	-	-	-	-
Utricularia purprea	Purple bladderwort	R	R	-	R	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-
Vallisneria americana	Eel-grass	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	R

Ozonia Lake Aquatic Plant Survey 2012

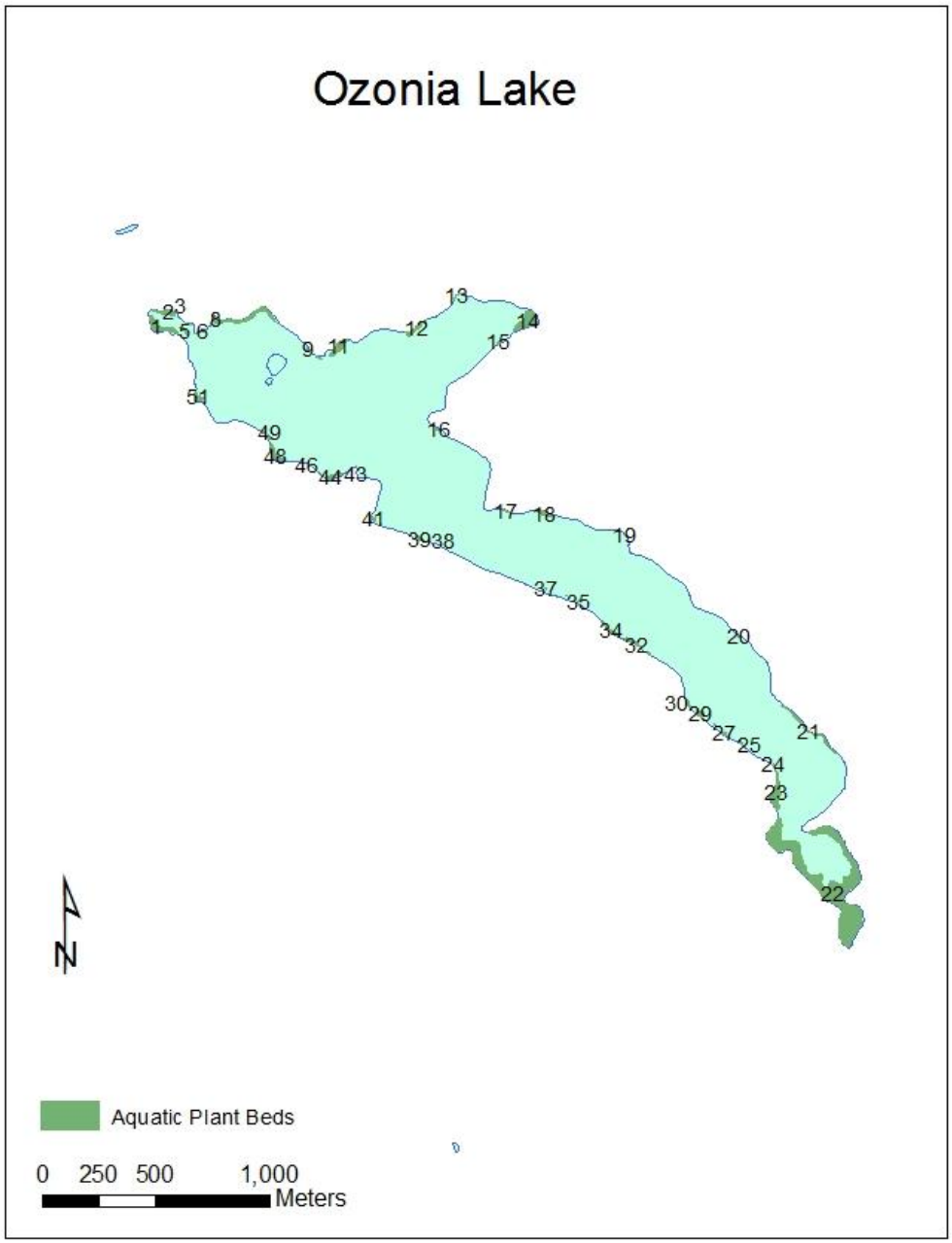


Map 73: Location of Ozonia Lake.

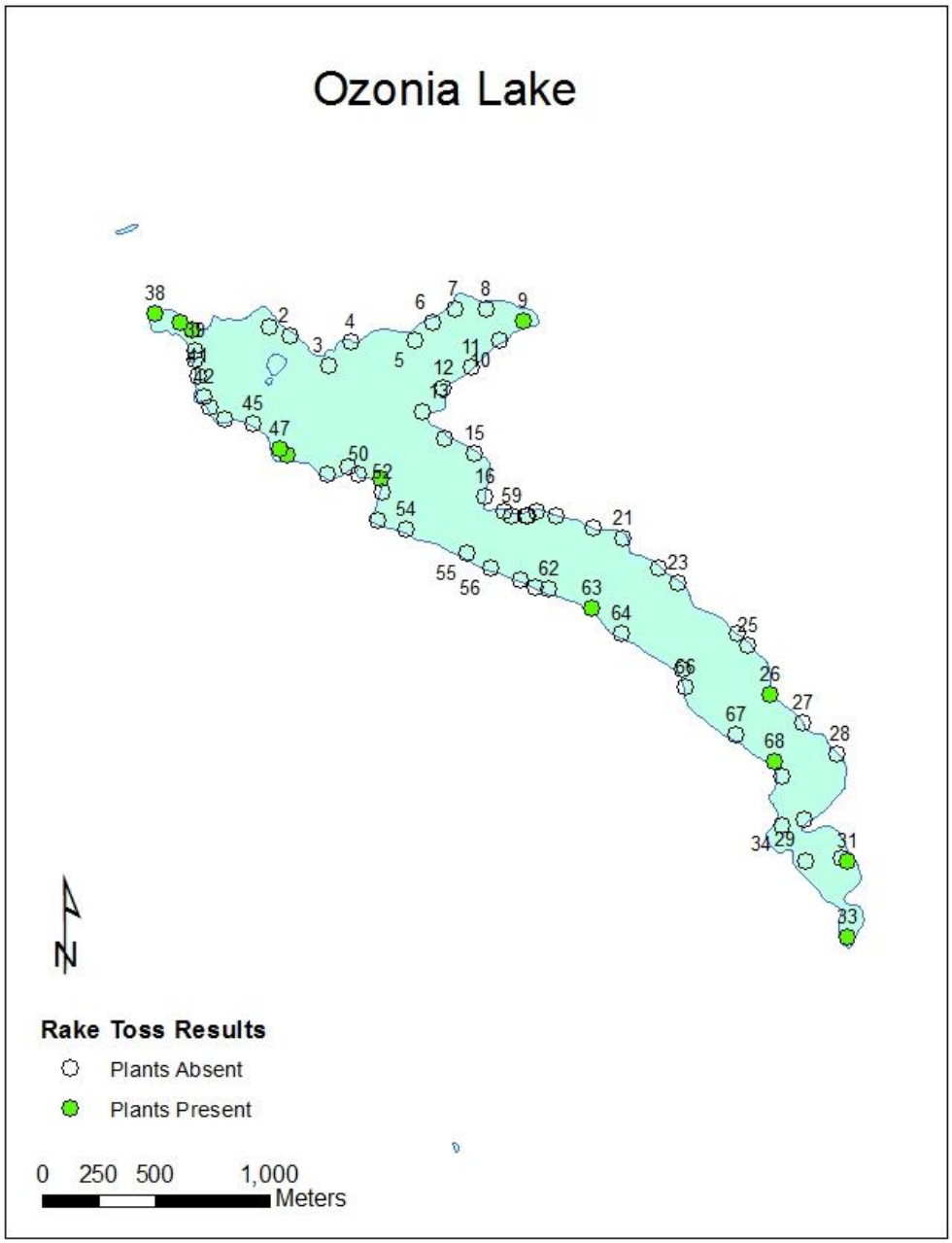
Ozonia Lake is located in the town of Hopkinton in St. Lawrence County, NY (Map 73). The 405 acre lake was accessed by a hardtop launch on the northern shore. The launch is found on the Lake Ozonia Road off from New York State Route 458, 2 miles from St. Regis Falls, NY and 6 miles from Nicholville, NY.

An aquatic plant survey of Ozonia Lake was conducted 5-July-2012. No invasive species were detected during the survey. Aquatic plant coverage in Ozonia Lake was relatively low, comprised of 51 beds that collectively covered 26.2 acres or 6.5% of the surface area of the lake (Map 74). Seventeen different aquatic plant species were detected during the survey. The most common species were White waterlily (*Nymphaea odorata*) and Watershield (*Brasenia schreberi*). Coontail (*Ceratophyllum sp.*) was the only species which could easily be confused with invasive species (Table 51).

Of the 68 rake tosses spaced throughout the littoral zone of the lake (Map 75), 12 had acquired plant material upon recovery (17.6%). Hairgrass (*Eleocharis sp.*) Brittlewort (*Nitella sp.*) and Purple bladderwort (*Utriculara purprea*) were species recovered by the rakes that were not detected during the surface survey (Table 52).



Map 74: Location of the aquatic plant beds detected in Ozonia Lake during the surface survey performed on 05 July, 2012.
Data for Plant Beds can be found on Table 51.



Map 75: Rake toss locations on Ozonia Lake, 05 July, 2012. 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 on Table 52.

Table 51: Percent cover of aquatic plant species detected at each plant bed in Ozonia Lake. Refer to Map 74 for bed locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

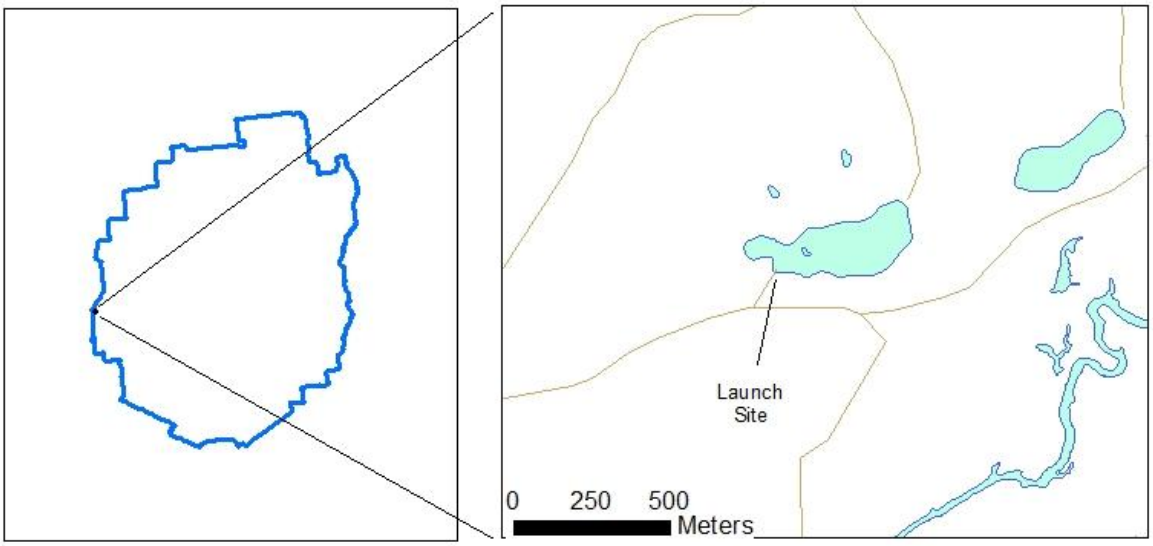
Ozonia Lake			**Plant Bed Numbers**																										
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Scientific Name	**Common Name**	**AREA (M^2)**	4153	1988	116	301	592	741	125	5759	204	349	2858	2007	522	5345	340	377	355	1361	114	163	3505	57234	4752	210	294	6
Brasenia schreberi	Water shield		A	A	-	C	-	C	C	A	-	C	O	P	C	-	C	A	P	-	R	-	O	C	O	-	P	A
Ceratophyllum sp.	Coontail		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eriocaulon sp.	Pipewort		-	O	-	R	-	P	A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nuphar variegata	Spatterdock		O	O	-	-	-	P	-	-	O	-	-	-	O	-	-	-	O	-	-	-	-	O	R	-	O	-
Nymphaea odorata	White waterlily		P	C	A	C	-	C	C	A	R	-	C	P	R	R	-	P	O	P	-	-	O	C	P	P	P	-
Potamogeton amplifolius	Large-leaf pondweed		-	-	-	-	C	-	-	-	-	-	-	-	-	P	-	-	-	-	-	P	-	O	-	-	-	-
Potamogeton epihydrus	Ribbon-leaf pondweed		-	R	R	-	R	R	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	O	-	-	-	-
Potamogeton gramineus	Variable-leaf pondweed		-	-	R	-	-	-	-	-	R	-	-	R	-	-	-	-	-	-	R	-	O	-	-	-	-	R
Potamogeton natans	Floating pondweed		-	-	-	-	-	-	-	P	-	-	P	-	O	-	-	-	-	-	-	-	-	A	A	-	C	-
Potamogeton pusillus	Small pondweed		-	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton robbinsii	Robbins pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-
Sagittaria graminea	Grassy arrowhead		-	R	-	-	-	R	O	O	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sparganium sp.	Bur-reed		-	-	-	-	-	-	-	O	R	-	-	-	-	-	-	-	-	-	O	-	O	R	R	P	P	-
Vallisneria americana	Eel-grass		R	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Ozonia Lake			**Plant Bed Numbers**																										
			27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51		
Scientific Name	**Common Name**	**AREA (M^2)**	390	100	1061	408	317	576	447	1284	139	84	124	58	647	96	586	67	513	869	220	124	57	2121	399	313	1454		
Brasenia schreberi	Water shield		-	-	P	-	C	P	P	C	-	-	-	-	O	-	P	-	O	P	C	A	-	C	O	O	A		
Ceratophyllum sp.	Coontail		-	-	-	-	-	O	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Eriocaulon sp.	Pipewort		-	-	-	-	-	-	-	-	-	-	-	-	O	-	-	-	-	-	-	-	-	-	-	-	R		
Nuphar variegata	Spatterdock		-	-	O	O	P	O	O	R	-	-	-	O	P	O	R	-	R	O	-	-	-	-	C	-	R		
Nymphaea odorata	White waterlily		C	A	C	A	R	C	-	O	A	-	-	-	R	C	O	-	-	O	-	R	-	C	-	O	O		
Potamogeton amplifolius	Large-leaf pondweed		A	-	-	-	-	-	C	C	-	A	A	P	-	-	-	A	C	O	-	-	C	-	-	-	O		
Potamogeton epihydrus	Ribbon-leaf pondweed		P	-	R	R	O	O	-	-	-	-	-	-	C	-	-	-	-	O	O	O	O	O	-	-	P		
Potamogeton gramineus	Variable-leaf pondweed		R	-	-	P	-	-	R	R	-	-	-	-	O	-	O	-	C	A	-	R	-	R	-	-	R		
Potamogeton natans	Floating pondweed		-	-	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Potamogeton pusillus	Small pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	O	-	-	-	C	-	-	R		
Potamogeton robbinsii	Robbins pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Sagittaria graminea	Grassy arrowhead		-	-	-	-	-	-	-	-	-	-	-	-	-	-	O	-	-	-	-	-	-	-	-	-	-		
Sparganium sp.	Bur-reed		-	-	-	-	A	-	-	-	-	-	-	-	-	-	O	-	-	-	C	O	-	O	-	-	-		
Vallisneria americana	Eel-grass		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

Table 52: Species present on the rake at each of the rake toss locations and abundance. Refer to Map 75 for Rake locations.

Ozonia Lake		**Rake Toss Numbers**											
Scientific Name	**Common Name**	9	26	31	33	36	37	38	46	47	51	63	68
Eleocharis sp.	Hairgrass	-	-	-	-	-	-	-	-	-	R	-	-
Nitella sp.	Brittlewort	-	-	-	-	-	R	-	R	O	-	-	-
Nymphaea odorata	White waterlily	-	-	O	O	-	-	-	-	-	-	-	-
Potamogeton epihydrus	Ribbon-leaf pondweed	-	-	-	-	-	R	-	-	-	-	-	-
Potamogeton gramineus	Variable-leaf pondweed	-	O	-	-	-	R	R	-	-	-	R	-
Potamogeton pusillus	Small pondweed	-	-	-	-	-	R	R	-	-	-	-	-
Sparganium sp.	Bur-reed	O	-	-	-	-	-	-	-	-	-	-	-
Utricularia purprea	Purple bladderwort	-	-	-	-	R	-	-	-	-	-	-	R

Payne Lake Aquatic Plant Survey 2012

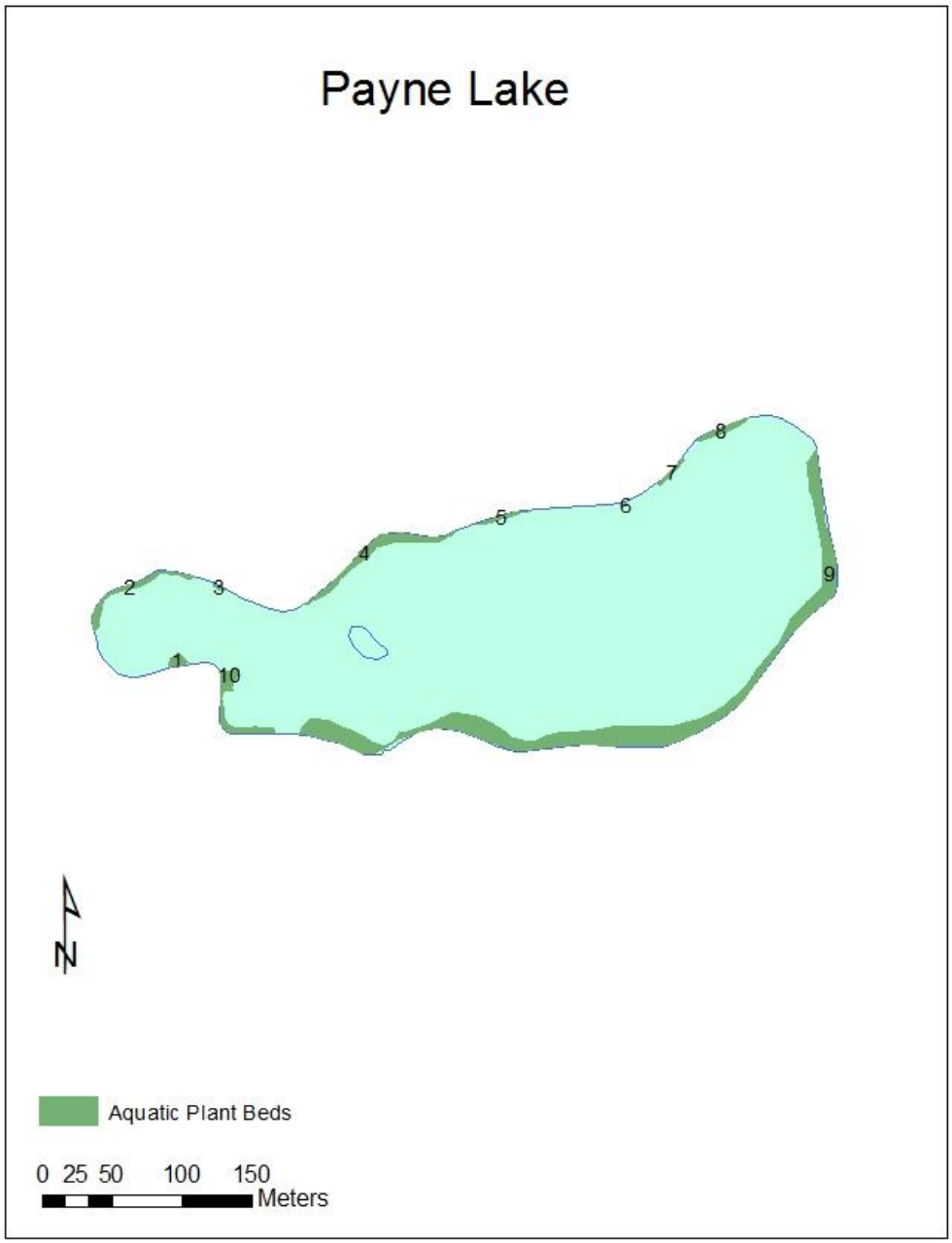


Map 76: Location of Payne Lake.

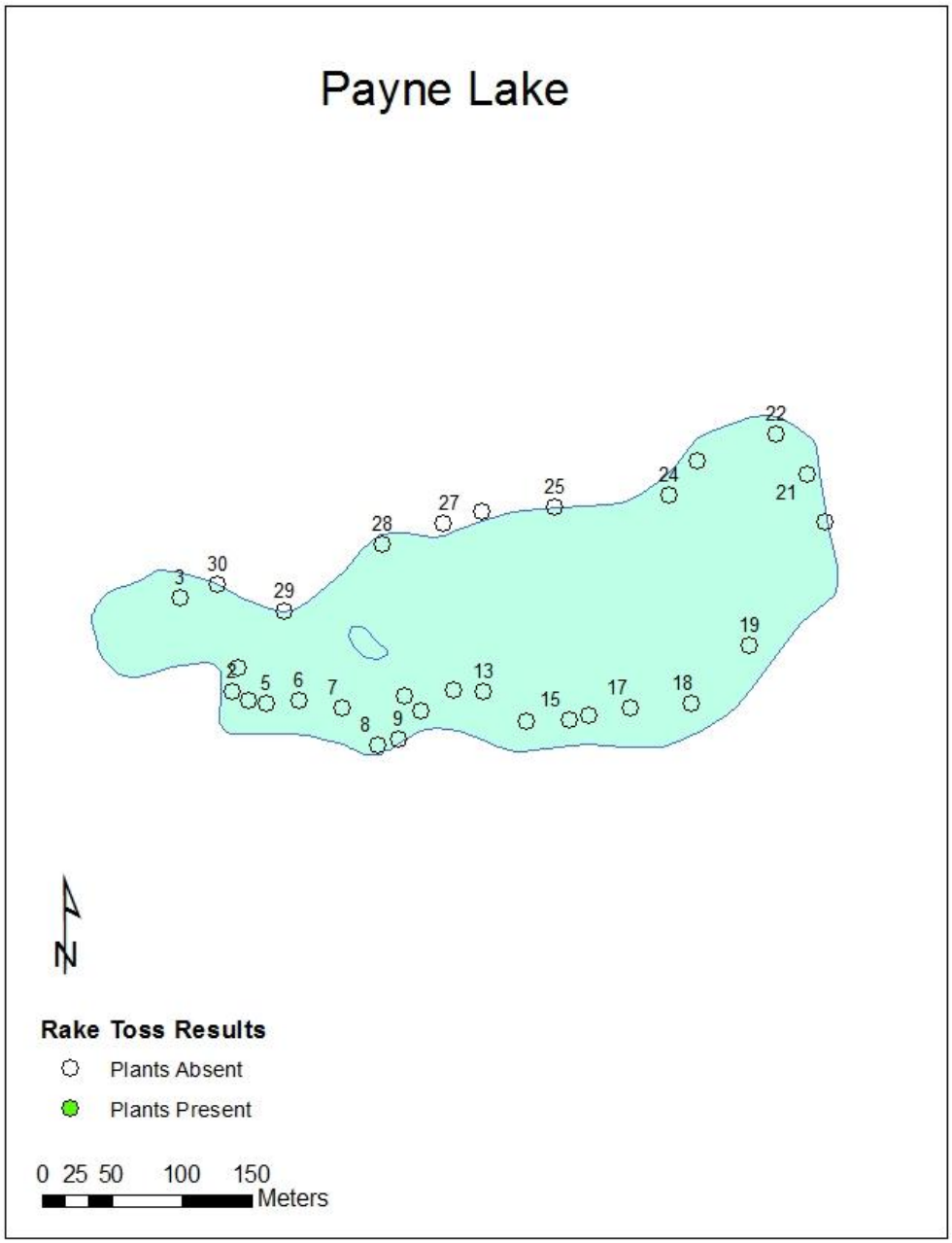
Payne Lake is located in the town of Watson in Lewis County, NY (Map 76). The 17 acre lake was accessed by canoe launch. The launch site can be found on the south western shore of the lake on the Cleveland Lake Road off from Beach Mill Road from the Erie Canal Road.

An aquatic plant survey of Payne Lake was conducted 25-July-2012. No invasive species were detected during this survey. Aquatic plant coverage was moderate, comprised of 10 aquatic plant beds that collectively covered 1.7 acres or 10% of the surface area of the lake (Map 77). Only two different aquatic plant species were detected during this survey, these included Hairgrass (*Eleocharis sp.*) and Spatterdock (*Nuphar variegata*). Neither of these plants could easily be confused with invasive aquatic plant species (Table 53).

Of the 30 rake tosses spaced throughout the littoral zone of Payne Lake (Map 78), none had acquired plant material upon recovery (0%).



Map 77: Location of the aquatic plant beds detected in Payne Lake during the surface survey performed on 25 July, 2012.
Data for Plant Beds can be found on Table 53.



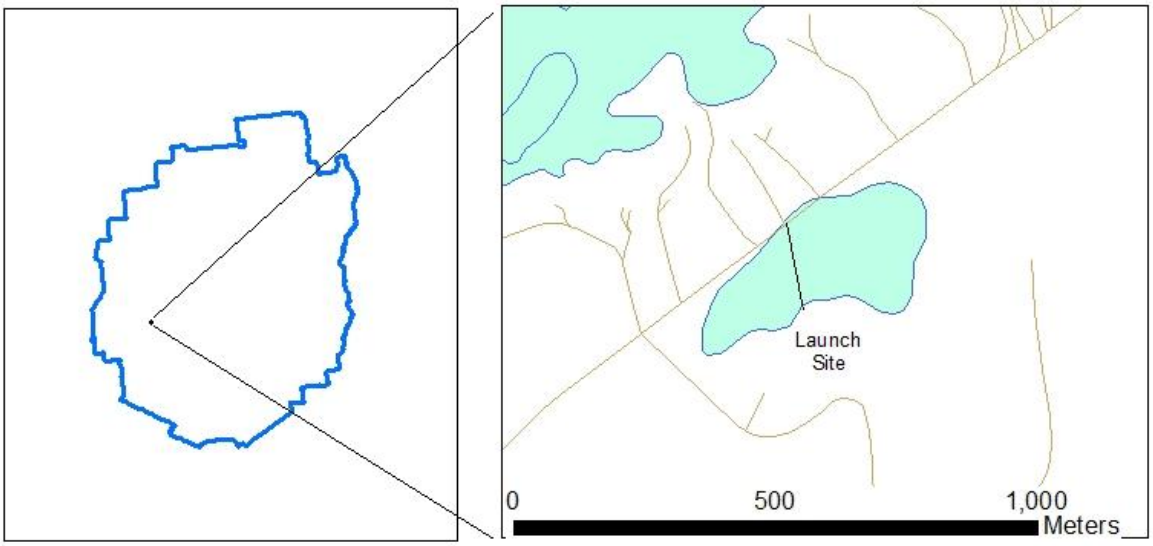
Map 78: Rake toss locations on Payne Lake, 25 July, 2012. Open circles represent locations where no plants were detected, closed circles represent locations where plants were encountered on the rake. No rakes had acquired plants upon recovery.

Table 53: Percent cover of aquatic plant species detected at each plant bed in Payne Lake. Refer to Map 77 for bed locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Payne Lake			**Plant Bed Numbers**									
			1	2	3	4	5	6	7	8	9	10
Scientific Name	**Common Name**	**AREA (M^2)**	95	337	29	635	94	8	76	161	4933	434
Eriocaulon sp.	Pipewort		-	R	-	O	O	-	R	R	C	O
Nuphar variegata	Spatterdock		A	C	P	A	A	A	C	P	A	A

No rakes returned with plant materials during the aquatic plant survey of Payne Lake, 25-July-2012.

Quiver Pond Aquatic Plant Survey 2012

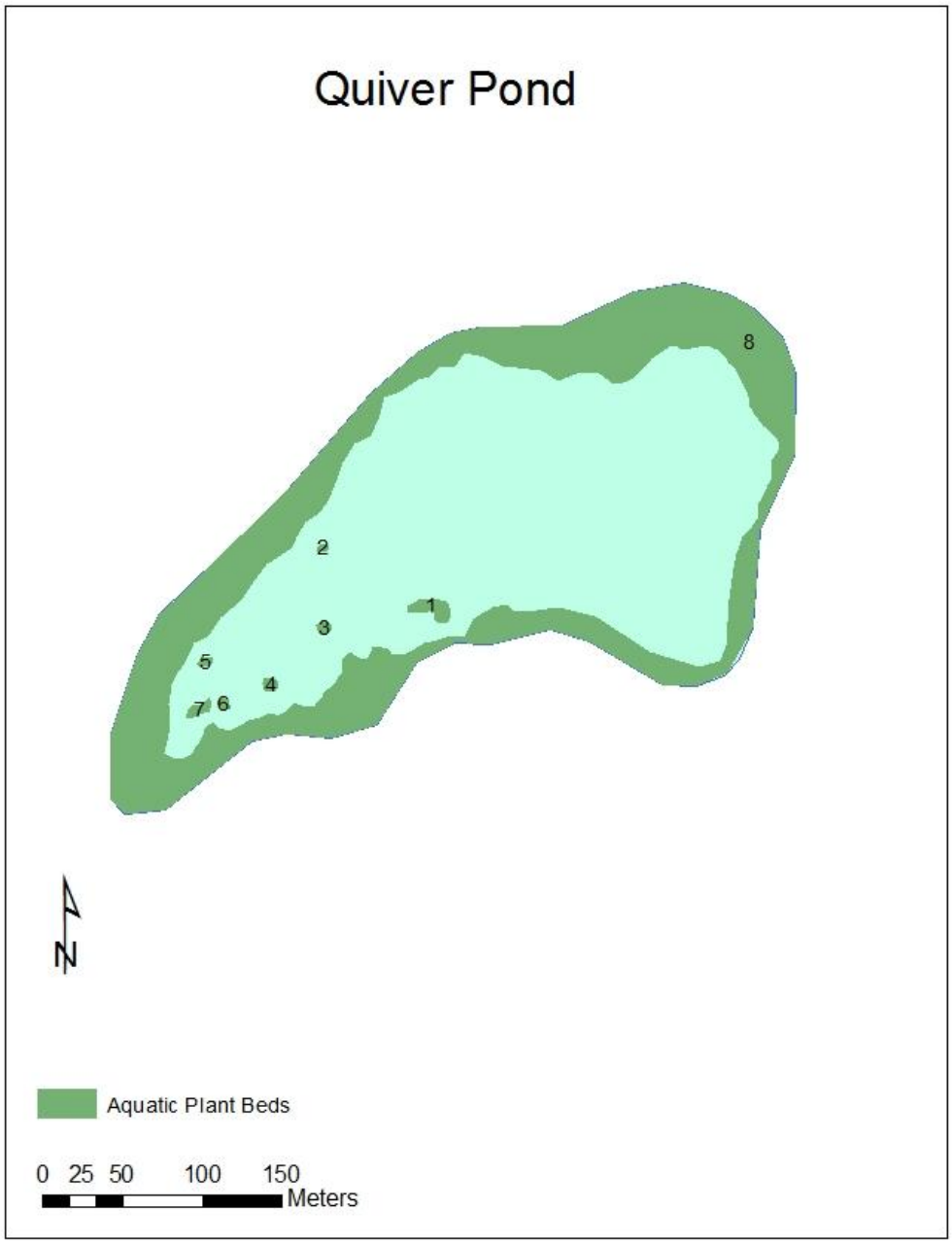


Map 79: Location of Quiver Pond.

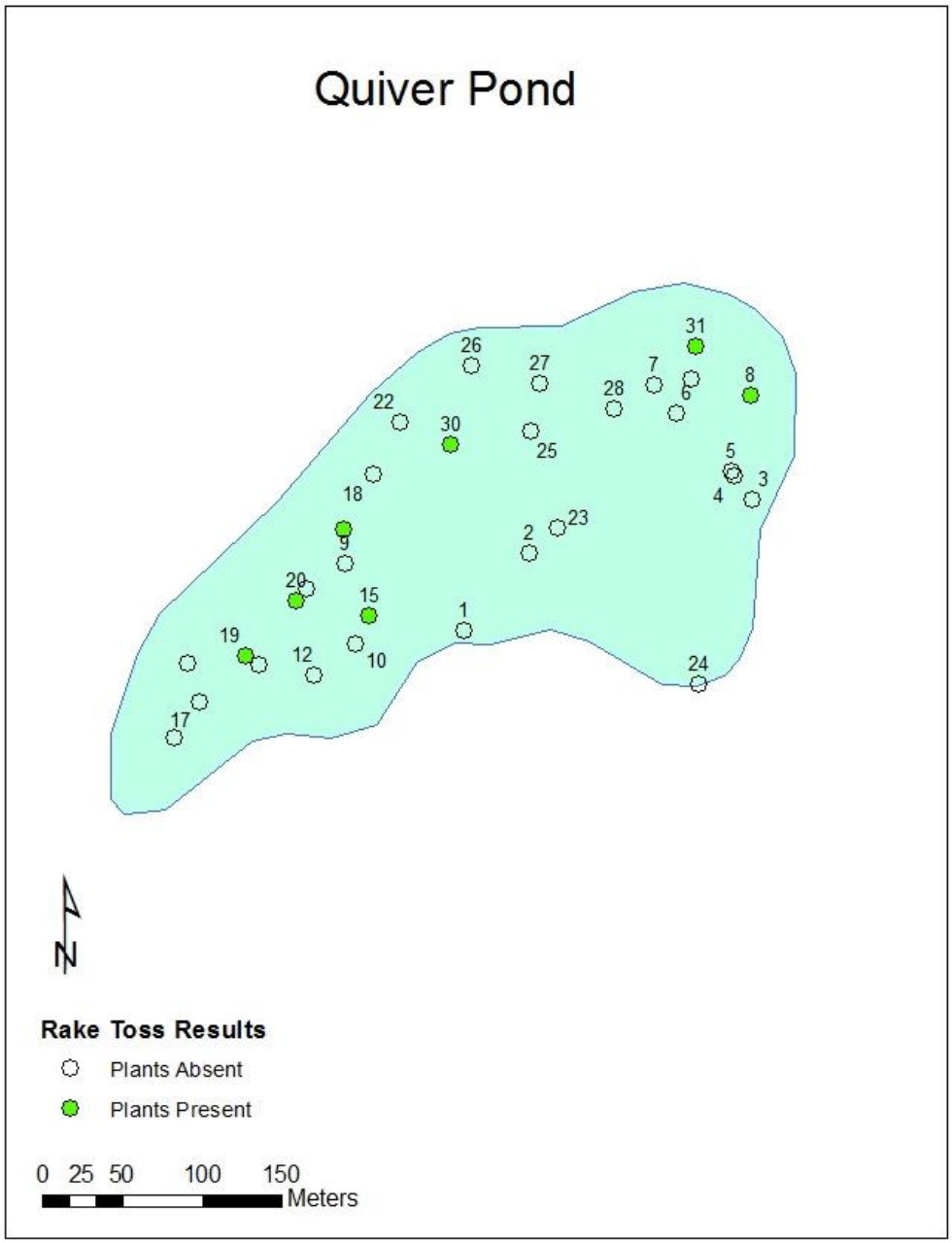
Quiver Pond is located in the town of Webb in Herkimer County New York, (Map 79). The 19 acre pond was accessed by canoe launch on the northern shore. The launch is found five and a half miles down South Shores Acres Road from New York State Route 28 in Old Forge, NY.

An aquatic plant survey of Quiver Pond was conducted 05-July-2012. No invasive species were detected during this survey. Aquatic plant coverage in Quiver Pond was relatively high, comprised of 8 aquatic plant beds that collectively covered 6.5 acres or 34.2% of the surface area of the pond. Eight different species were detected during this survey. The most common were Purple bladderwort (*Utricularia purprea*) and Watershield (*Brasenia schreberi*). Purple bladderwort and Common bladderwort (*U. vulgaris*) were the only species which could easily be confused with invasive species in the pond (Table 54).

Of the 31 rake tosses spaced throughout the littoral zone of Quiver Pond (Map 81), 7 had acquired plants upon recovery (22.6%). Brittlewort (*Nitella sp.*) and Hairgrass (*Eleocharis sp.*) were species retrieved by the rakes that were not detected during the surface survey (Table 55).



Map 80: Location of the aquatic plant beds detected in Quiver Pond during the surface survey performed on 05 July, 2012.
Data for Plant Beds can be found on Table 54.



Map 81: Rake toss locations on Quiver Pond, 05 July, 2012. 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 on Table 55.

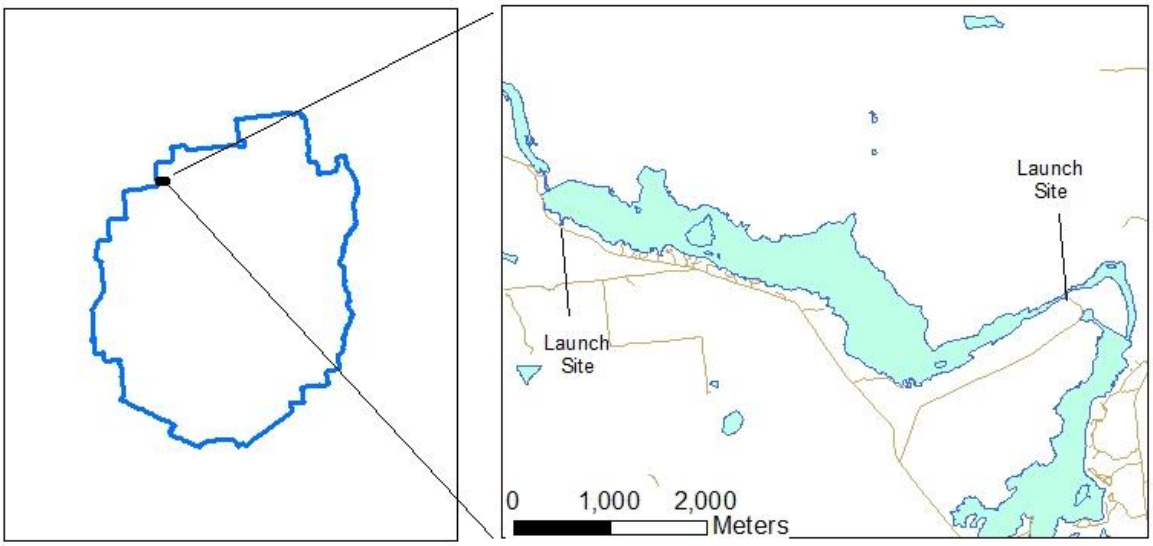
Table 54: Percent cover of aquatic plant species detected at each plant bed in Quiver Pond. Refer to Map 80 for bed locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Quiver Pond			**Plant Bed Numbers**							
			1	2	3	4	5	6	7	8
Scientific Name	**Common Name**	**AREA (M^2)**	248	31	62	70	46	45	106	25692
Brasenia schreberi	Water shield		A	C	A	C	A	A	A	A
Lobelia dortmanna	Water lobelia		-	-	-	-	-	-	-	P
Nuphar variegata	Spatterdock		R	O	-	-	-	-	-	O
Sagittaria graminea	Grassy arrowhead		-	-	-	-	-	-	-	O
Utricularia purprea	Purple bladderwort		R	R	R	R	O	-	O	A
Utricularia vulgaris	Common bladderwort		-	-	-	-	-	-	-	A

Table 55: Species present on the rake at each of the rake toss locations and abundance. Refer to Map 81 for Rake locations.

Quiver Pond		**Rake Toss Numbers**						
Scientific Name	**Common Name**	8	15	19	20	21	30	31
Brasenia schreberi	Water shield	P	-	-	-	-	-	-
Nitella sp.	Brittlewort	-	-	R	R	R	R	R
Eleocharis sp.	Hairgrass	-	R	-	-	-	-	-
Utricularia purprea	Purple bladderwort	C	-	-	-	-	-	-

Rainbow Falls Reservoir Aquatic Plant Survey 2012



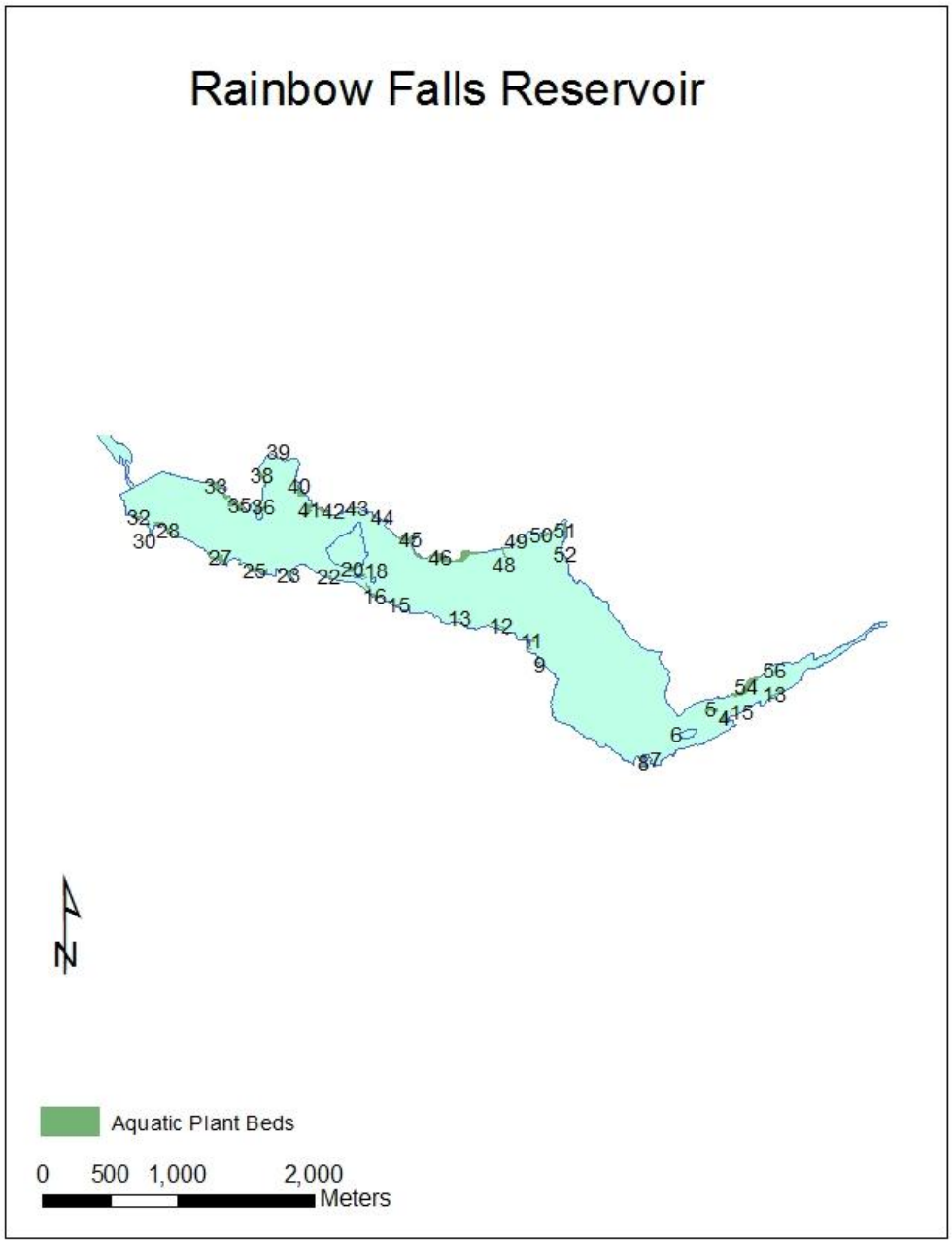
Map: 82: Location of Rainbow Falls Reservoir.

Rainbow Falls Reservoir is located in the town of Parishville in St. Lawrence County, NY (Map 82). The 739 acre reservoir was accessed by DEC hardtop boat launch on the south western shore. The launch can be found on the Raquette River Road, off from State Route 56, approximately 6 miles south of South Colton. A secondary access point was used on the eastern end from the Blake Falls Dam Road off from the Raquette River Road.

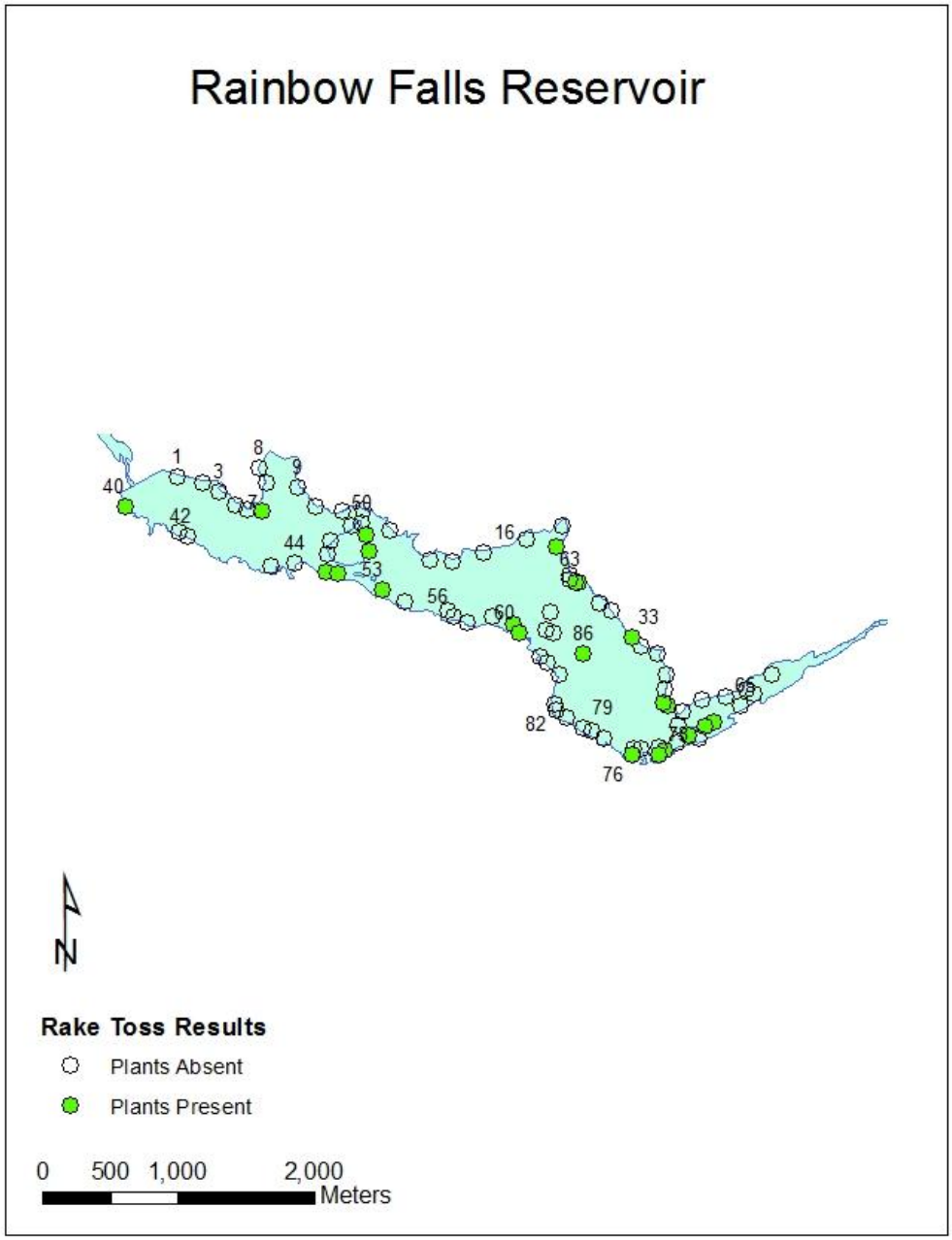
An aquatic plant survey of Rainbow Falls Reservoir was conducted on 27-June-2012. Twoleaf or Variable-leaf watermilfoil (*Myriophyllum heterophyllum*) was detected during this survey (Map 85). The range in which this plant is deemed native or non-native is under debate and in some states this plant is classified as invasive. Aquatic plant coverage in Rainbow Falls Reservoir was relatively low, comprised of 56 aquatic plant beds that collectively covered 23.8 acres or 3.2% of the surface area of the reservoir (Map 83). Fifteen different aquatic species were identified during this survey. Common species of the reservoir included Variable-leaf watermilfoil, Bur-reed (*Sparganium sp.*), and Ribbon-leaf pondweed (*Potamogeton epihydris*). Purple bladderwort (*Utricularia purprea*) was the only species which could easily be confused with other invasive species (Table 56).

Of the 86 rake tosses spaced throughout the littoral zone of the lake (Map 84), 22 had acquired plants upon recovery (25.6%). Brittlewort (*Nitella sp.*) was the one species brought up on the rakes that was not detected during the surface survey (Table 57).

Variable-leaf watermilfoil in Rainbow Falls Reservoir consisted of 30 beds that covered 16.1 acres. This was 2.2% of the surface area of the reservoir and 67.6% of the total aquatic plant coverage in the reservoir (Map 85 & Table 58).

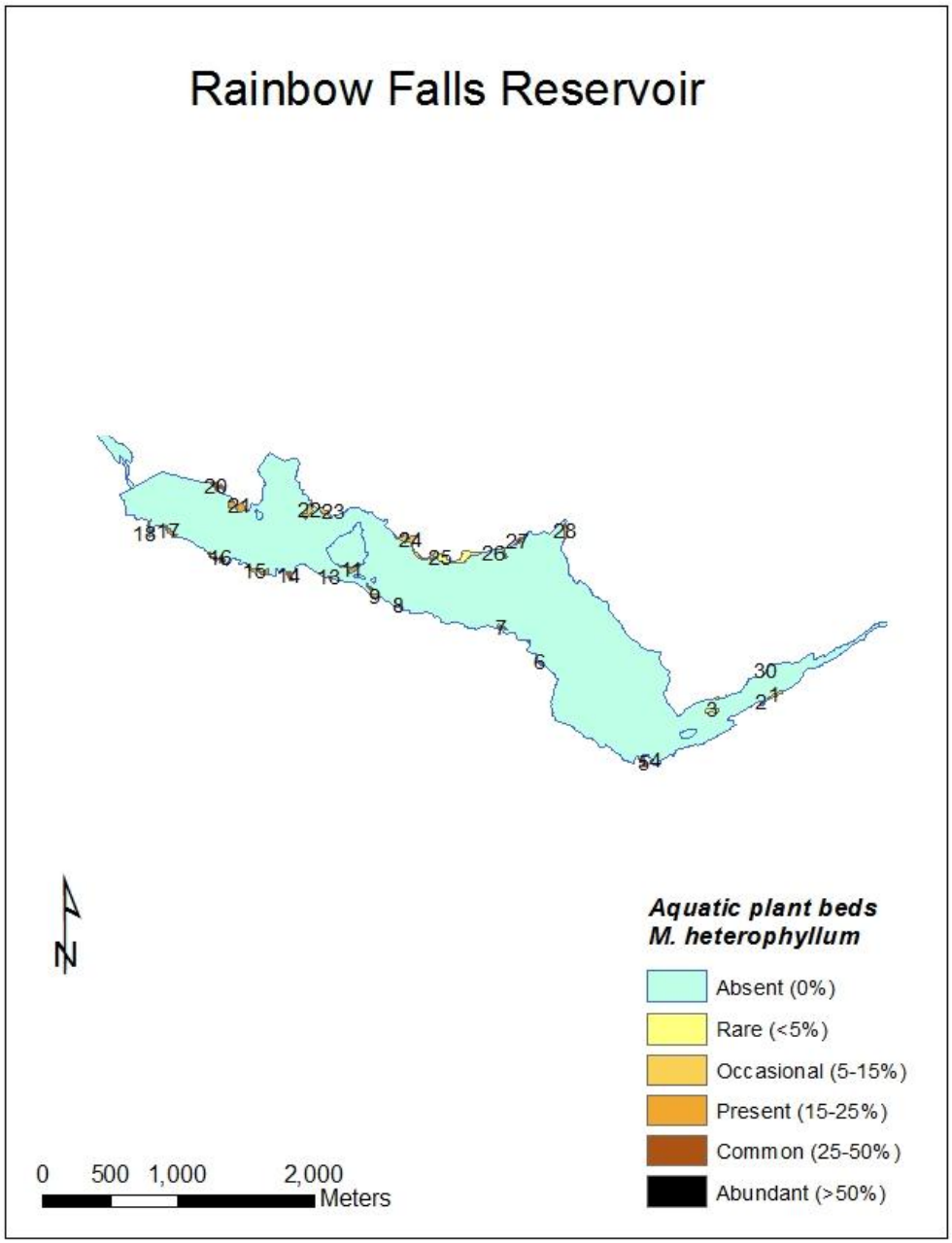


Map 83: Location of the aquatic plant beds detected in Rainbow Falls Reservoir during the surface survey performed on 27 June, 2012.
Data for Plant Beds can be found on Table 56.



Map 84: Rake toss locations on Rainbow Falls Reservoir, 27 June, 2012. 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 on Table 57.



Map 85: Location *Myriophyllum heterophyllum* beds detected in Rainbow Falls Reservoir during the surface survey performed on 27 June, 2012.
Data for *M. heterophyllum* Beds can be found on Table 58.

Table 56: Percent cover of aquatic plant species detected at each plant bed in Rainbow Falls Reservoir. Refer to Map 83 for bed locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Rainbow Falls Reservoir			**Plant Bed Numbers**																											
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Scientific Name	**Common Name**	**AREA (M^2)**	1902	65	159	2998	2748	397	27	1916	81	264	638	905	327	232	420	1176	678	430	277	2177	185	548	1818	334	3807	467	3362	1665
Brasenia schreberi	Water shield		-	-	-	-	-	-	-	R	-	C	A	-	-	-	-	-	-	P	C	R	A	-	A	A	O	-	C	-
Eleocharis sp.	Hairgrass		-	-	-	C	-	-	-	-	-	-	R	-	O	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eriocaulon sp.	Pipewort		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lobelia dortmanna	Water lobelia		-	-	-	-	-	-	-	-	-	R	R	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	R	-
Myriophyllum heterophyllum	Twoleaf watermilfoil		O	C	-	-	R	-	O	A	R	-	-	P	-	-	A	P	C	-	-	P	P	A	C	-	P	-	A	P
Nuphar variegata	Spatterdock		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-
Potamogeton amplifolius	Large-leaf pondweed		-	-	-	-	O	-	-	O	-	-	-	-	O	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton epihydrus	Ribbon-leaf pondweed		A	-	C	P	O	-	-	R	-	R	O	A	A	A	O	-	C	A	-	A	O	-	O	P	A	P	C	C
Potamogeton perfoliatus	Clasping-leaf pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	C	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton pusillus	Small pondweed		R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	O	-	-
Sagittaria graminea	Grassy arrowhead		O	-	-	O	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	O	-	-	-	-	-	P	-	O
Sparganium sp.	Bur-reed		O	-	P	P	A	P	-	R	-	-	-	O	-	-	-	-	-	-	-	O	-	-	-	-	-	-	O	-
Utricularia purprea	Purple bladderwort		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vallisneria americana	Eel-grass		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

			Plant Bed Numbers																											
			29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
Scientific Name	**Common Name**		1452	984	534	1299	3433	1368	5398	3301	183	1346	204	2905	4021	2196	987	802	7273	12898	188	1085	1489	1970	2129	283	245	8242	40	223
Brasenia schreberi	Water shield		-	A	R	-	P	R	R	-	A	A	C	A	R	-	-	-	R	R	-	-	-	-	-	-	-	-	-	-
Eleocharis sp.	Hairgrass		-	-	-	P	-	-	O	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	O	-	-
Eriocaulon sp.	Pipewort		-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lobelia dortmanna	Water lobelia		R	-	-	R	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Myriophyllum heterophyllum	Twoleaf watermilfoil		-	R	O	-	C	-	P	-	-	-	-	-	O	O	-	-	O	R	-	O	A	-	P	-	O	-	O	-
Nuphar variegata	Spatterdock		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton amplifolius	Large-leaf pondweed		-	-	-	-	-	O	-	-	-	-	-	-	R	O	-	-	O	O	P	O	-	A	-	-	-	-	-	-
Potamogeton epihydrus	Ribbon-leaf pondweed		C	O	P	P	O	P	C	C	-	O	-	O	P	O	O	R	P	O	P	O	P	P	O	A	O	P	C	R
Potamogeton perfoliatus	Clasping-leaf pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	O	-	-
Potamogeton pusillus	Small pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sagittaria graminea	Grassy arrowhead		O	-	P	P	O	-	O	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	O	-	-
Sparganium sp.	Bur-reed		C	-	-	O	-	R	O	R	-	-	-	-	R	R	O	R	-	R	-	R	O	-	R	-	O	R	-	-
Utricularia purprea	Purple bladderwort		-	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vallisneria americana	Eel-grass		-	P	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 57: Species present on the rake at each of the rake toss locations and abundance. Refer to Map 84 for Rake locations.

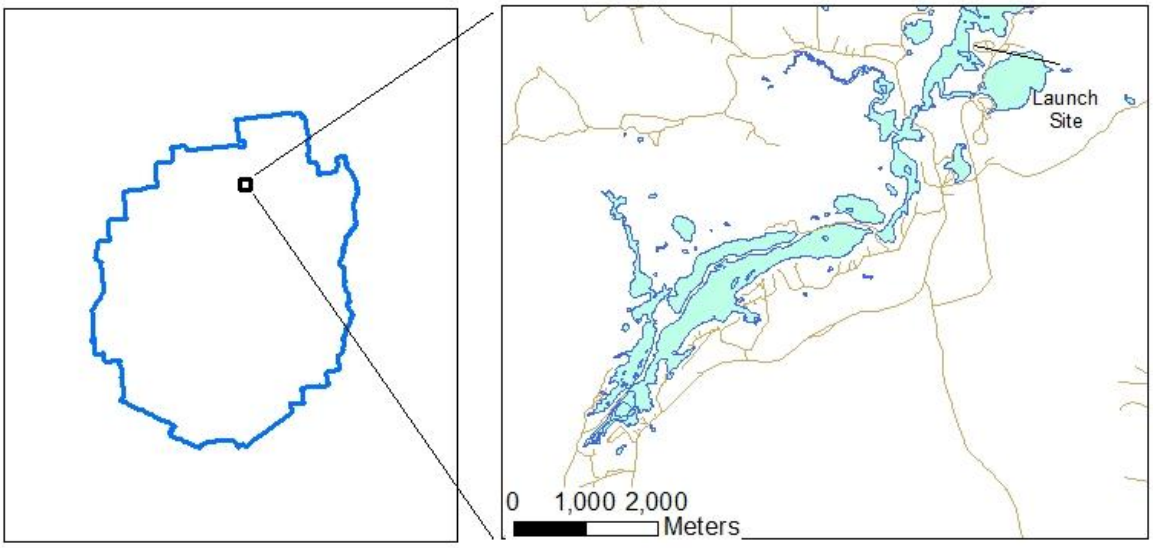
Rainbow Falls Reservoir		Rake Toss Numbers																					
Scientific Name	**Common Name**	6	19	27	28	33	36	40	45	46	51	52	53	59	60	62	66	67	69	71	73	76	86
Eleocharis sp.	Hairgrass	-	-	-	-	-	-	-	O	R	-	-	-	R	-	-	R	P	-	P	R	R	-
Myriophyllum heterophyllum	Twoleaf watermilfoil	-	-	-	-	-	-	-	R	P	-	-	-	R	-	-	-	-	-	-	-	-	-
Nitella sp.	Brittlewort	-	R	-	-	R	R	-	-	R	-	R	-	-	-	-	O	-	O	-	-	-	-
Potamogeton amplifolius	Large-leaf pondweed	-	-	-	-	-	-	-	-	-	-	-	-	P	-	-	-	-	-	-	-	-	-
Potamogeton epihydrus	Ribbon-leaf pondweed	-	-	-	-	-	-	R	-	P	-	-	O	-	-	-	-	-	-	-	R	-	-
Potamogeton pusillus	Small pondweed	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-
Sagittaria graminea	Grassy arrowhead	-	-	-	-	-	-	O	R	-	-	-	-	-	-	-	R	-	-	-	R	-	-
Sparganium sp.	Bur-reed	R	-	R	O	-	R	R	-	-	C	-	-	-	-	R	R	R	-	-	-	-	O
Utricularia purprea	Purple bladderwort	R	-	-	-	-	R	P	O	-	R	-	R	O	R	-	-	R	-	-	-	-	R
Vallisneria americana	Eel-grass	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-

Table 58: Percent cover of *Myriophyllum heterophyllum* detected at each plant bed in Rainbow Falls Reservoir. Refer to Map 85 for *M. heterophyllum* locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Rainbow Falls Reservoir			**Plant Bed Numbers**													
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Scientific Name	**Common Name**	**AREA (M^2)**	2748	27	1916	81	905	1902	65	420	1176	678	2177	185	548	1818	3807
Myriophyllum heterophyllum	Twoleaf watermilfoil		R	O	A	R	P	O	C	A	P	C	P	P	A	C	P

			Plant Bed Numbers														
			16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Scientific Name	**Common Name**	**AREA (M^2)**	3362	1665	984	534	3433	5398	4021	2196	7273	12898	1085	1489	2129	245	40
Myriophyllum heterophyllum	Twoleaf watermilfoil		A	P	R	O	C	P	O	O	O	R	O	A	P	O	O

Rainbow Lake & Clear Pond (Rainbow Lake) Aquatic Plant Survey 2012

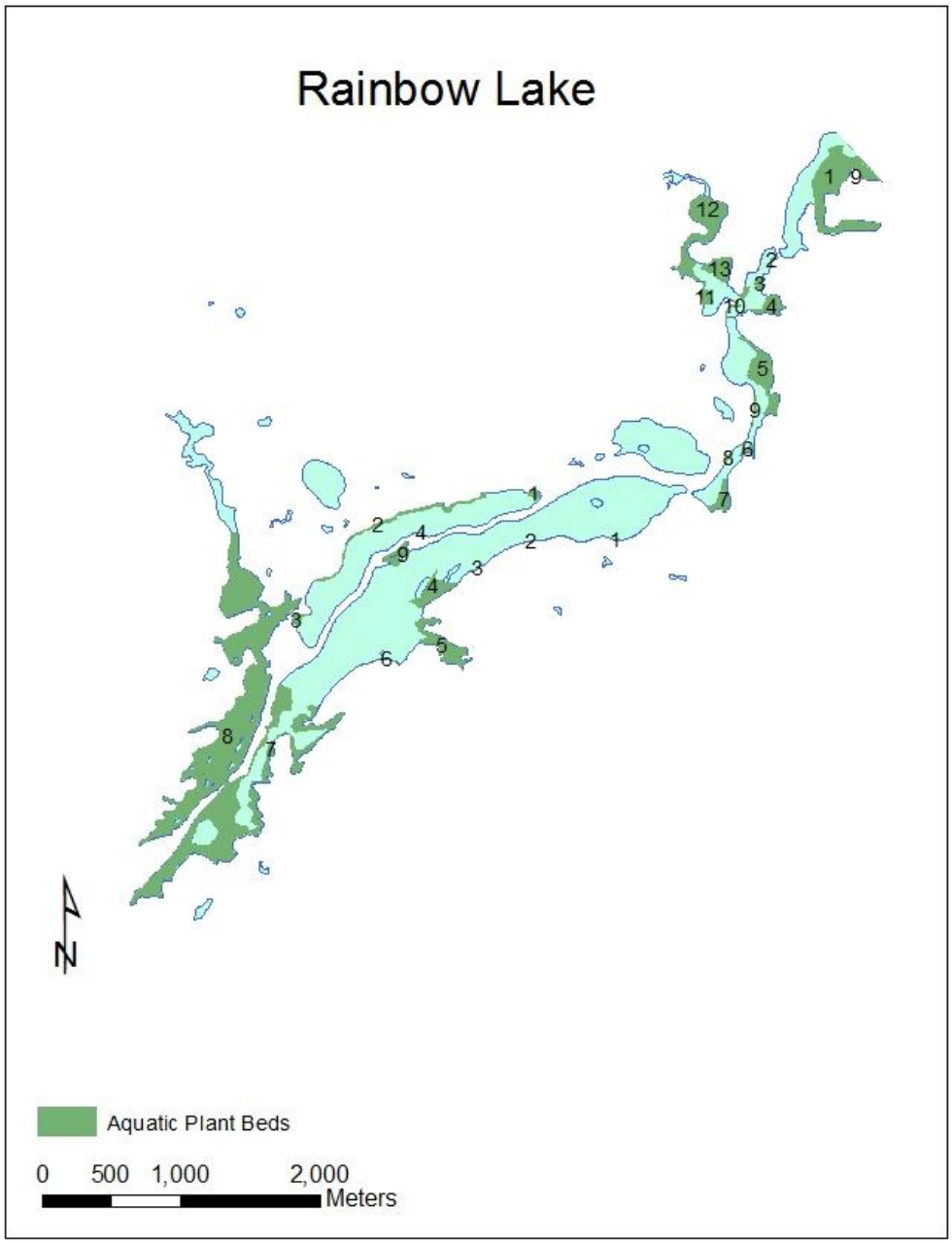


Map 86: Location of Rainbow Lake & Clear Pond (Rainbow Lake).

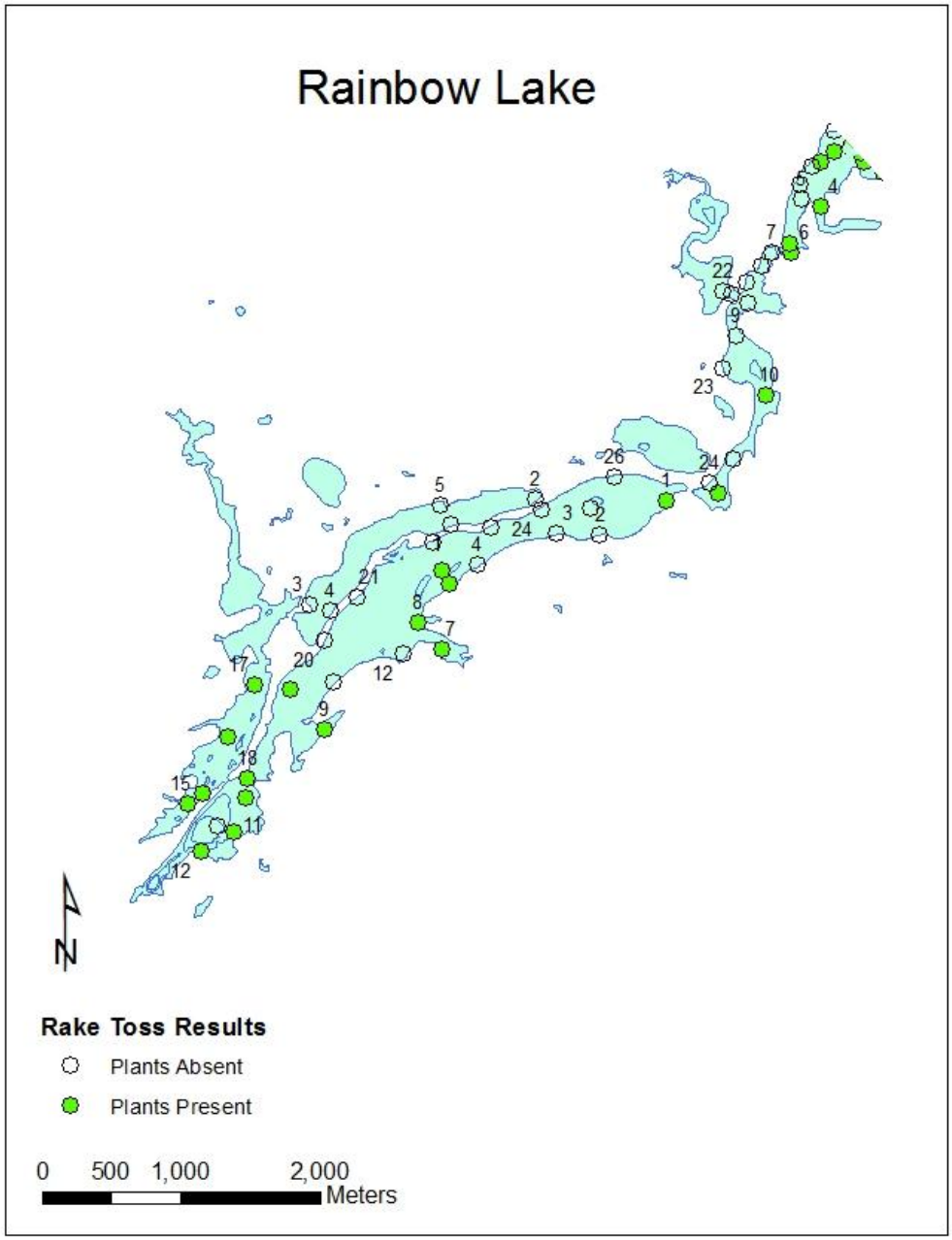
Rainbow Lake is located in the town of Brighton in Franklin County, New York (Map 86). The 588 acre lake was accessed by the Rainbow Lake Narrows from the Camp Road off from the Kushaqua-Mud Pond Road in Onchiota, New York.

An aquatic plant survey of Rainbow Lake was conducted on 23-August-2012. No invasive species were detected during this survey. Aquatic plant coverage in Rainbow Lake was relatively high, comprised of 28 aquatic plant beds that covered 317 acres or 53.9% of the surface area of the lake (Map 87). Nineteen different aquatic species were identified during this survey. Common species in the Lake included Water naiad (*Najas sp.*), Spatterdock (*Nuphar variegata*), and Watershield (*Brasenia schreberi*). Purple bladderwort (*Utricularia purprea*), Common bladderwort (*U. vulgaris*), Whorl-leaf watermilfoil (*Myriophyllum verticillatum*), Shortspike watermilfoil (*M. sibiricum*), and Coontail (*Ceratophyllum sp.*) were species found in the lake that could be easily confused with invasive species (Table 59).

Of the 55 rake tosses spaced throughout the littoral zone of Rainbow Lake (Map 85), 23 had acquired plants upon recovery (41.8%). Brittlewort (*Nitella sp.*) was the only species recovered by the rake tosses that was not detected during the surface survey (Table 60).



Map 87: Location of the aquatic plant beds detected in Rainbow Lake and Clear Pond (Rainbow Lake) during the surface survey performed on 22 August, 2012.
Data for Plant Beds can be found on Table 59.



Map 85: Rake toss locations on Rainbow Lake and Clear Pond (Rainbow Lake), 22 August, 2012. 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 on Table 60.

Table 59: Percent cover of aquatic plant species detected at each plant bed in Rainbow Lake. Refer to Map 87 for bed locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Rainbow Lake			**Plant Bed Numbers**								
			1	2	3	4	5	6	7	8	9
Scientific Name	**Common Name**	**AREA (M^2)**	1012	179	1085	30749	46138	1297	76488	706561	15187
Brasenia schreberi	Water shield		R	O	O	O	C	O	C	P	O
Ceratophyllum sp.	Coontail		-	-	-	-	R	-	-	R	-
Eleocharis sp.	Hairgrass		-	-	-	R	P	R	-	R	-
Elodea canadensis	Canadian waterweed		-	-	-	-	O	-	R	O	-
Elodea nuttalia	Western waterweed		-	-	-	-	P	-	R	O	R
Myriophyllum sibiricum	Shortspike watermilfoil		-	-	-	-	-	-	-	R	-
Myriophyllum verticillatum	Whorl-leaf watermilfoil		-	-	-	R	-	-	-	R	-
Najas sp.	Water naiad		R	-	O	-	O	-	O	C	P
Nuphar variegata	Spatterdock		R	-	R	R	-	-	R	O	O
Nymphaea odorata	White waterlily		R	-	-	-	O	R	-	R	R
Potamogeton amplifolius	Large-leaf pondweed		O	-	R	O	O	O	-	O	O
Potamogeton epihydrus	Ribbon-leaf pondweed		O	O	O	R	-	O	O	O	O
Potamogeton robbinsii	Robbins pondweed		-	-	-	-	O	-	R	P	P
Potamogeton zosterformis	Flatstem pondweed		-	-	-	R	-	-	-	-	-
Sparganium sp.	Bur-reed		R	O	-	R	R	-	O	R	-
Utricularia purprea	Purple bladderwort		-	-	-	R	P	-	R	R	R
Utricularia vulgaris	Common bladderwort		-	-	-	-	P	-	R	O	-
Vallisneria americana	Eel-grass		-	-	-	-	-	-	-	R	-

Rainbow Lake Narrows			Plant Bed Numbers													
			1	2	3	4	5	6	7	8	9	10	11	12	13	14
Scientific Name	**Common Name**	**AREA (M^2)**	126082	840	4088	19747	54141	5028	17383	2525	4475	4251	9681	83337	24686	4054
Brasenia schreberi	Water shield		P	O	O	R	O	P	O	R	O	-	O	R	O	R
Ceratophyllum sp.	Coontail		-	-	-	-	-	-	-	-	-	-	-	-	R	-
Eleocharis sp.	Hairgrass		-	-	-	-	-	-	-	-	-	-	-	-	R	-
Elodea canadensis	Canadian waterweed		-	-	-	O	-	-	O	-	O	-	R	O	O	-
Elodea nuttalia	Western waterweed		-	-	-	-	O	-	-	R	R	-	O	O	O	-
Myriophyllum sibiricum	Shortspike watermilfoil		-	-	-	R	O	R	-	-	-	-	-	-	-	-
Myriophyllum verticillatum	Whorl-leaf watermilfoil		-	-	O	-	-	-	-	-	-	-	R	-	-	-
Najas sp.	Water naiad		A	C	O	P	P	P	P	O	P	R	P	P	A	O
Nuphar variegata	Spatterdock		P	O	O	O	R	O	R	O	O	R	O	O	O	R
Nymphaea odorata	White waterlily		R	-	R	R	O	-	R	R	R	R	-	-	R	-
Potamogeton amplifolius	Large-leaf pondweed		-	O	O	O	R	O	O	R	-	R	-	R	R	O
Potamogeton epihydrus	Ribbon-leaf pondweed		R	-	-	O	O	-	O	R	R	-	R	R	R	O
Potamogeton robbinsii	Robbins pondweed		R	-	-	-	-	-	-	-	-	-	-	R	R	-
Potamogeton zosterformis	Flatstem pondweed		-	-	-	-	R	-	-	-	-	-	-	-	R	-
Sparganium sp.	Bur-reed		-	R	O	O	O	O	R	R	-	R	-	-	R	R
Utricularia purprea	Purple bladderwort		O	-	O	O	-	R	-	-	-	-	-	R	R	-
Utricularia vulgaris	Common bladderwort		R	-	R	R	-	-	-	-	-	-	-	R	R	R

Clear Pond (Rainbow Lake)			Plant Bed Numbers			
			1	2	3	4
Scientific Name	**Common Name**	**AREA (M^2)**	4276	31905	7131	478
Brasenia schreberi	Water shield		3	3	2	2
Najas sp.	Water naiad		-	1	-	-
Nuphar variegata	Spatterdock		1	-	1	-
Potamogeton amplifolius	Large-leaf pondweed		2	2	-	-
Potamogeton epihydrus	Ribbon-leaf pondweed		-	2	-	-
Potamogeton robbinsii	Robbins pondweed		-	1	-	-
Sparganium sp.	Bur-reed		-	1	-	-
Vallisneria americana	Eel-grass		-	2	-	-

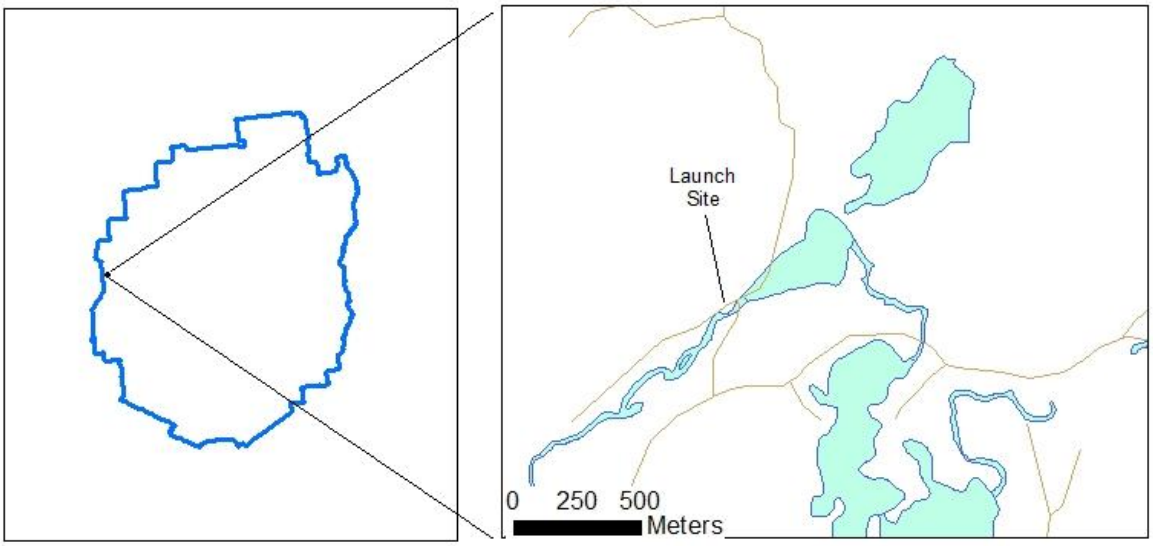
Table 60: Species present on the rake at each of the rake toss locations and abundance. Refer to Map 88 for Rake locations.

Rainbow Lake		**Rake Toss Numbers**														
Scientific Name	**Common Name**	1	5	6	7	8	9	10	11	12	14	15	16	17	18	19
Ceratophyllum sp.	Coontail	-	-	-	-	-	-	-	-	-	-	-	R	O	-	-
Elodea canadensis	Canadian waterweed	-	-	-	C	-	-	A	-	-	-	O	-	-	-	-
Elodea nuttalia	Western waterweed	-	-	-	-	-	-	-	-	O	-	-	-	-	-	-
Myriophyllum sibiricum	Shortspike watermilfoil	-	-	-	C	-	-	-	-	R	-	-	-	O	-	-
Myriophyllum verticillatum	Whorl-leaf watermilfoil	-	-	-	P	-	-	-	-	-	-	-	-	-	-	-
Najas sp.	Water naiad	R	-	C	-	O	A	-	-	C	-	O	-	-	R	P
Nitella sp.	Brittlewort	-	-	-	-	-	-	-	-	-	-	-	P	A	-	-
Potamogeton amplifolius	Large-leaf pondweed	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-
Potamogeton robbinsii	Robbins pondweed	-	O	-	-	-	-	O	P	O	-	O	O	P	R	-
Sparganium sp.	Bur-reed	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-
Utricularia purprea	Purple bladderwort	-	O	R	-	R	O	-	-	-	R	O	R	O	-	O
Utricularia vulgaris	Common bladderwort	-	-	-	-	-	-	R	-	-	-	-	-	O	R	-

Rainbow Lake Narrows		**Rake Toss Numbers**							
Scientific Name	**Common Name**	1	2	3	4	6	10	14	18
Elodea canadensis	Canadian waterweed	-	-	-	-	-	-	P	-
Elodea nuttalia	Western waterweed	-	-	-	-	R	R	-	-
Najas sp.	Water naiad	A	A	R	A	-	R	A	O
Potamogeton amplifolius	Large-leaf pondweed	-	-	-	-	-	-	R	-
Vallisneria americana	Eel-grass	-	-	-	-	-	-	-	R

No rakes returned with plant materials during the aquatic plant survey of Clear Pond (Rainbow Lake)
22-August-2012

Rock Pond Aquatic Plant Survey 2012

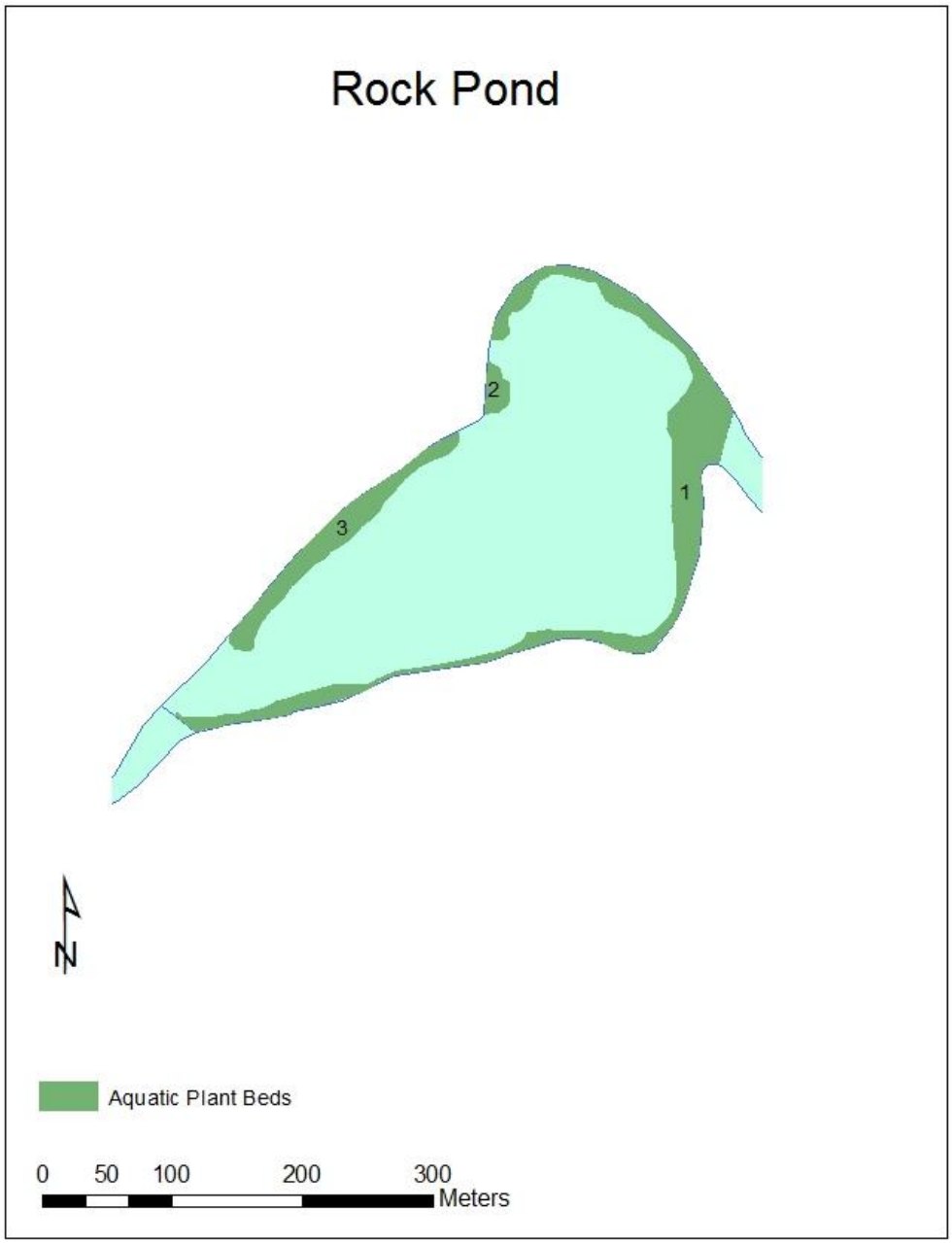


Map 89: Location of Rock Pond.

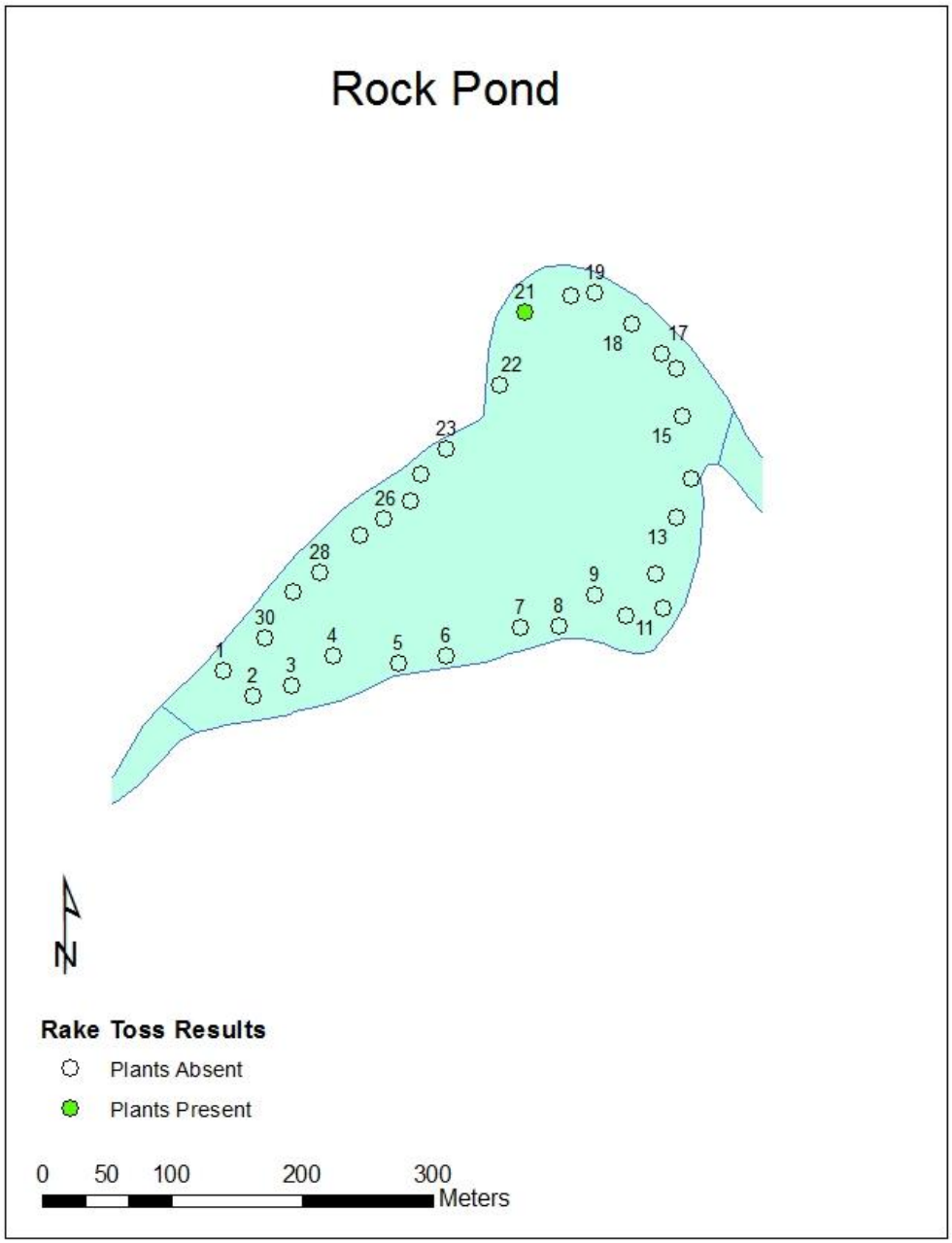
Rock Pond is located in the town of Croghan in Lewis County, New York (Map 89). The 19 acre pond was accessed by water, traveling north from the river access at the Long Pond Road located off from the Erie Canal Road off from State Route 812.

An aquatic plant survey of Rock Pond was conducted 25-July-2012. No invasive aquatic species were detected during the survey. Aquatic plant coverage in Rock Pond was relatively high, comprised of 3 aquatic plant beds that collectively covered 3.5 acres or 18.4% of the surface area of the pond (Map 90). Seven different aquatic species were identified during this survey. The most common species found in the pond were Pipewort (*Eriocaulon sp.*) and White waterlily (*Nymphaea odorata*). Purple bladderwort (*Utricularia purprea*) was the only species that could be easily confused with invasive species (Table 61)

Of the 30 rake tosses spaced throughout the littoral zone of Trout Pond (Map 91), only one had acquired plants upon recovery (3.3%). Brittlewort (*Nitella sp.*) was the only species recovered on the rake tosses that was not detected during the surface survey (Table 62).



Map 90: Location of the aquatic plant beds detected in Rock Pond during the surface survey performed on 25 July, 2012.
Data for Plant Beds can be found on Table 61.



Map 91: Rake toss locations on Rock Pond, 25 July, 2012. 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 on Table 62.

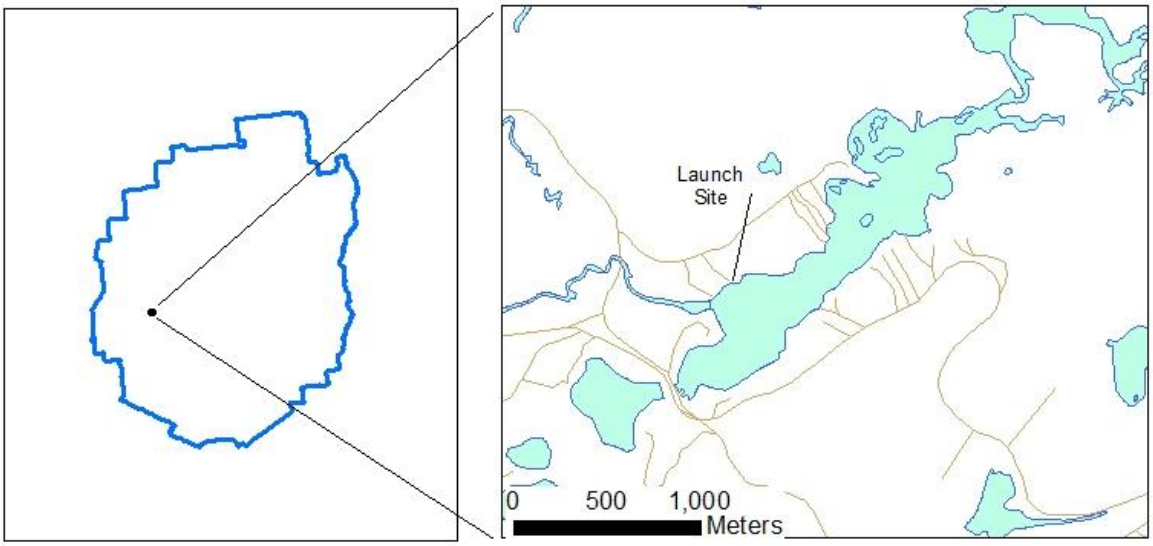
Table 61: Percent cover of aquatic plant species detected at each plant bed in Rock Pond. Refer to Map 90 for bed locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Rock Pond			**Plant Bed Numbers**		
			1	2	3
Scientific Name	**Common Name**	**AREA (M^2)**	10021	566	3485
Eleocharis sp.	Hairgrass		O	-	O
Eriocaulon sp.	Pipewort		C	O	C
Lobelia dortmanna	Water lobelia		-	-	R
Nuphar variegata	Spatterdock		R	-	-
Nymphaea odorata	White waterlily		A	C	C
Utricularia purprea	Purple bladderwort		O	-	O

Table 62: Species present on the rake at each of the rake toss locations and abundance. Refer to Map 91 for Rake locations.

Rock Pond		Rake Toss Number
Scientific Name	Common Name	21
Nitella sp.	Brittlewort	R

Rondaxe Lake Aquatic Plant Survey 2012

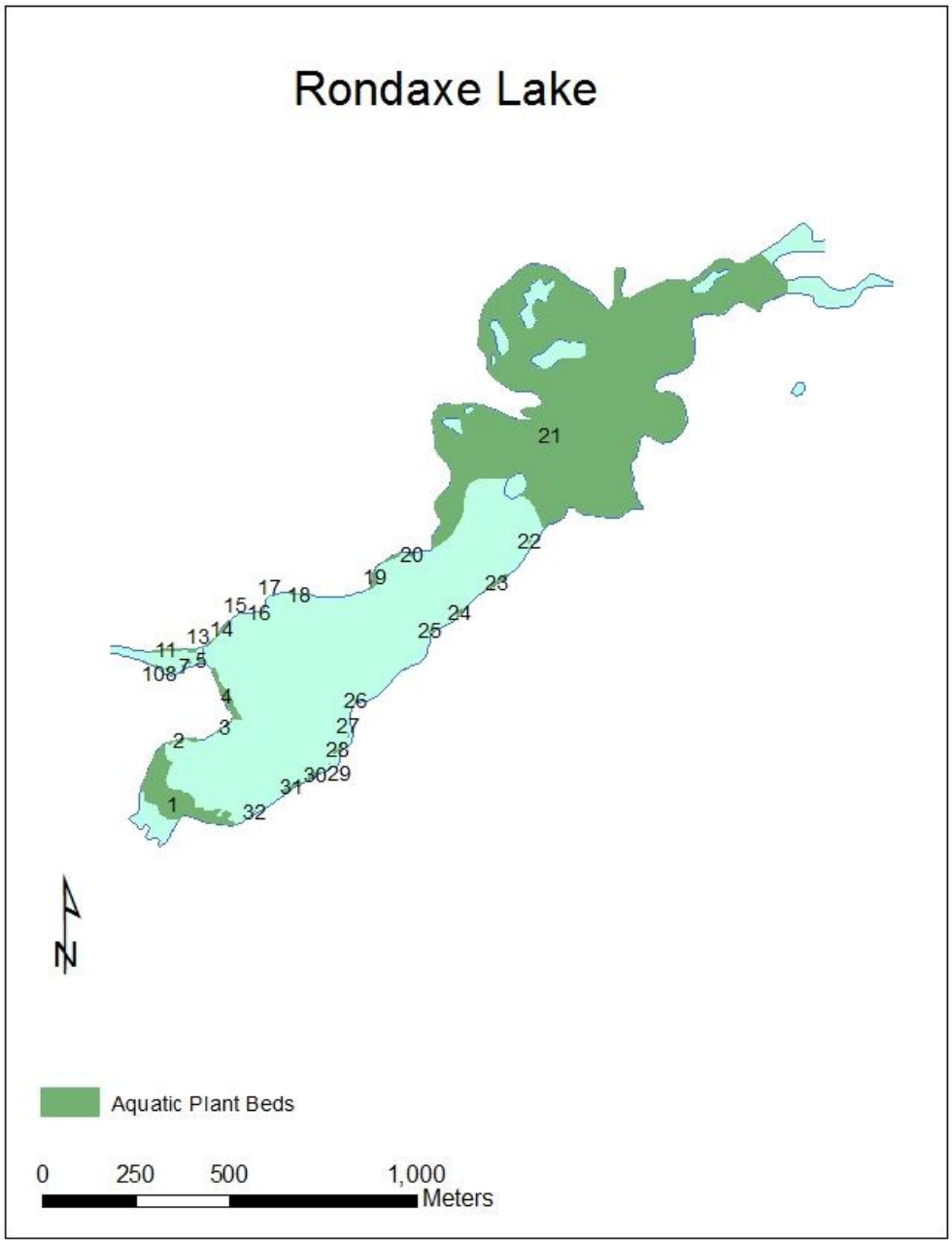


Map 92: Location of Rondaxe Lake.

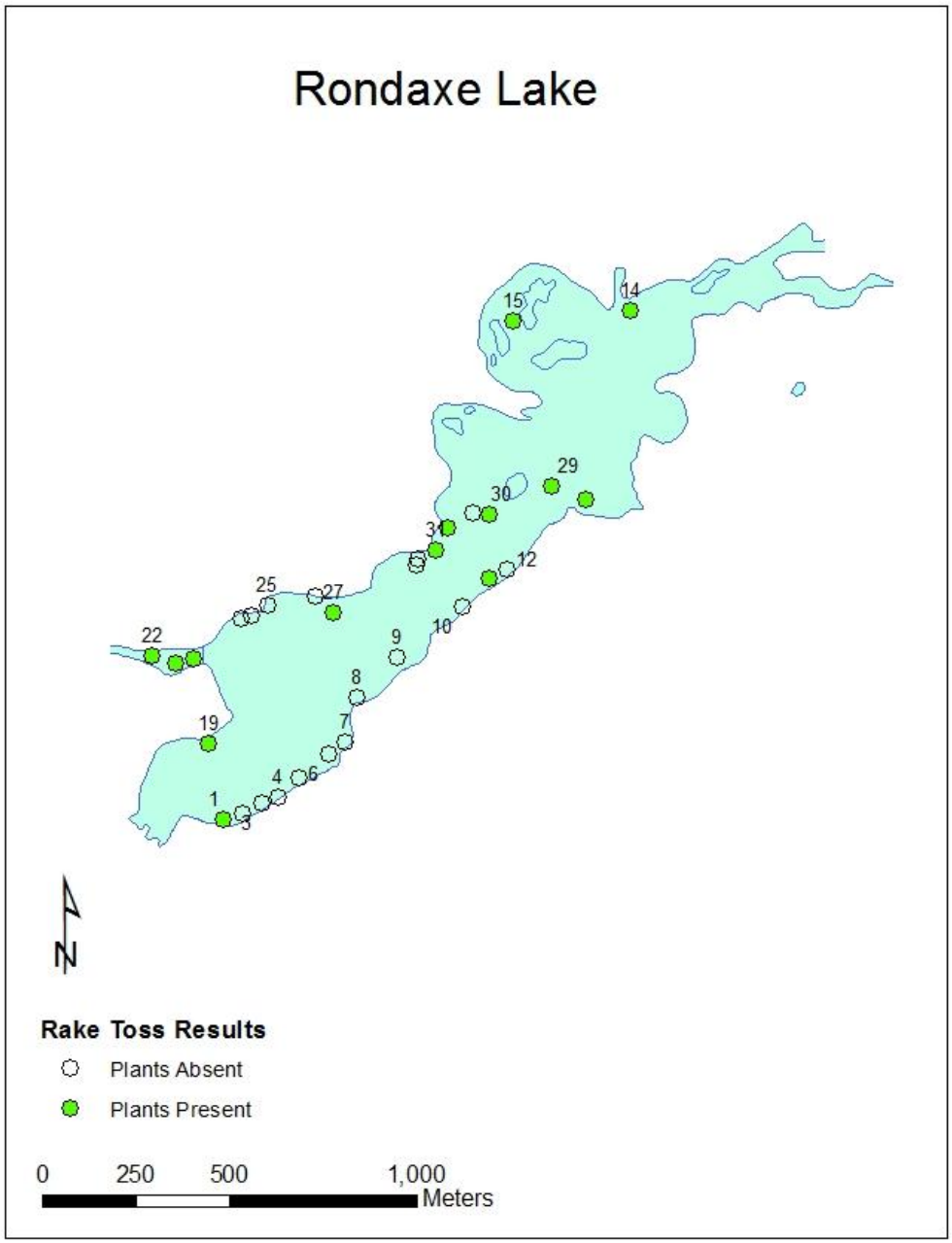
Rondaxe Lake is located in the town of Webb in Herkimer County, New York *(Map 92). The 224 acre lake was accessed at the western end through the property of a private owner on Rondaxe Road 1.5 miles north of State Route 28, in Old Forge, New York.

An aquatic plant survey of Rondaxe Lake was conducted 05-July-2012. No invasive species were detected during this survey. Aquatic plant coverage in Rondaxe Lake was relatively high, comprised of 32 aquatic plant beds that collectively covered 88 acres or 39.3% of the surface area of the lake (Map 93). Sixteen different aquatic species were detected during this survey. The most common were White waterlily (*Nymphaea odorata*), Grassy arrowhead (*Sagittaria graminea*), and Bur-reed (*Sparganium sp.*). Flatleaf bladderwort (*Utricularia intermedia*), Purple bladderwort (*U. purprea*), and Common bladderwort (*U. vulgaris*) were the only species which could easily be confused with invasive species in the lake (Table 63).

Of the 31 rake tosses spaced throughout the littoral zone of Rondaxe Lake (Map 94), 14 had acquired plants upon recovery (45.2%). All plants found on the rakes after retrieval were detected during the surface survey (Table 64).



Map 93: Location of the aquatic plant beds detected in Rondaxe Lake during the surface survey performed on 05 July, 2012.
Data for Plant Beds can be found on Table 63.



Map 94: Rake toss locations on Rondaxe Lake, 05 July, 2012. 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 on Table 64.

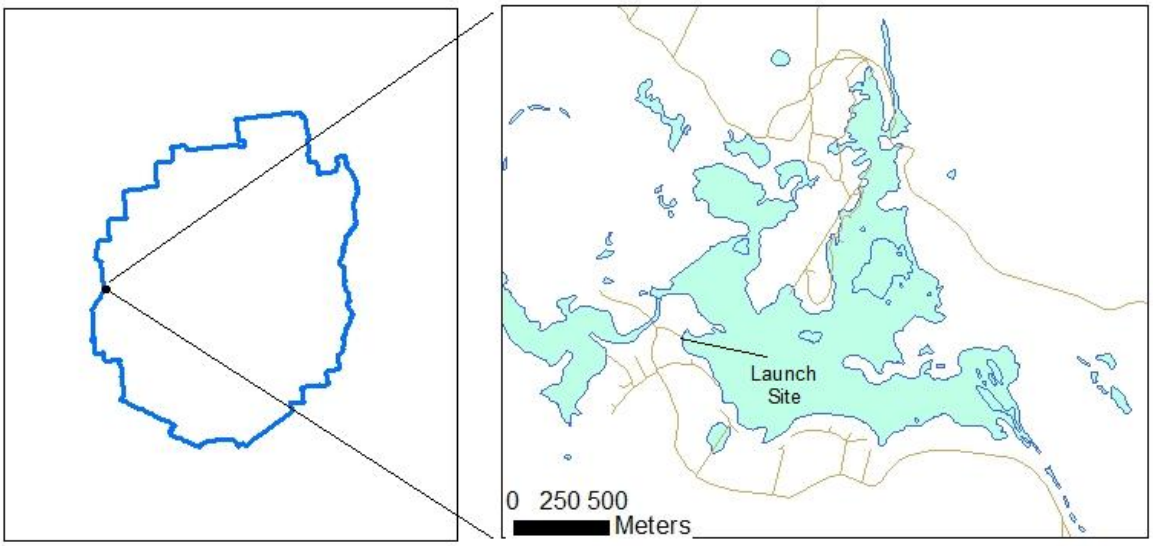
Table 63: Percent cover of aquatic plant species detected at each plant bed in Rondaxe Lake. Refer to Map 93 for bed locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Rondaxe Lake			**Plant Bed Numbers**																															
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Scientific Name	**Common Name**	**AREA (M^2)**	17358	597	210	2522	269	83	92	84	65	82	608	265	142	449	31	63	30	284	1228	88	329562	92	494	194	140	80	50	199	27	373	555	48
Brasenia schreberi	Water shield		R	-	-	R	-	-	-	-	-	-	O	-	O	-	-	-	-	R	R	-	P	-	-	-	-	-	-	O	-	-	O	-
Eleocharis sp.	Hairgrass		O	P	-	P	A	-	-	-	-	-	-	A	-	-	O	-	-	O	O	-	A	-	O	-	P	-	-	O	-	-	A	-
Eriocaulon sp.	Pipewort		-	R	R	P	-	-	-	-	-	-	-	R	-	R	O	R	R	P	O	P	R	-	-	-	-	-	-	-	-	-	-	-
Lobelia dortmanna	Water lobelia		-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	O	-	R	O	-	-	P	-	-	O	-	-	-	-
Nitella sp.	Brittlewort		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	R	-	-	-	-	-	-	-	-	-
Nuphar variegata	Spatterdock		O	O	-	-	O	-	-	-	-	-	-	O	O	O	-	R	R	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-
Nymphaea odorata	White waterlily		A	A	C	A	C	R	A	A	-	A	A	P	A	A	A	A	A	C	A	C	A	O	P	P	A	P	P	C	P	P	A	C
Potamogeton epihydrus	Ribbon-leaf pondweed		-	-	-	-	-	O	-	-	P	-	-	-	-	-	-	-	-	-	-	-	O	-	-	-	-	-	-	-	-	-	-	-
Potamogeton natans	Floating pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-
Potamogeton robbinsii	Robbins pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-
Sagittaria graminea	Grassy arrowhead		R	R	O	R	-	-	-	-	-	R	R	-	-	R	O	O	R	O	P	R	R	R	R	-	-	-	O	-	-	-	R	-
Sparganium sp.	Bur-reed		R	R	P	R	-	P	-	-	-	-	O	R	O	-	R	R	-	R	O	-	R	R	R	O	O	-	-	-	-	-	-	R
Utricularia intermedia	Flatleaf bladderwort		R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Utricularia purprea	Purple bladderwort		R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	O	-	R	-	-	-	-	-	-	-	-	-
Utricularia vulgaris	Common bladderwort		R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	P	-	-	-	-	-	R	-
Vallisneria americana	Eel-grass		-	-	-	O	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 64: Species present on the rake at each of the rake toss locations and abundance. Refer to Map 94 for Rake locations.

Rondaxe Lake		**Rake Toss Numbers**													
Scientific Name	**Common Name**	1	11	13	14	15	17	19	20	21	22	27	29	30	31
Eleocharis sp.	Hairgrass	-	-	R	R	R	R	O	-	-	-	-	O	-	R
Nitella sp.	Brittlewort	-	P	-	O	-	-	-	R	R	-	R	-	-	-
Nymphaea odorata	White waterlily	-	-	-	-	R	-	-	-	-	-	-	-	-	-
Utricularia purprea	Purple bladderwort	-	-	-	-	-	-	-	-	-	O	-	-	A	C
Utricularia vulgaris	Common bladderwort	R	-	R	-	-	-	-	-	-	-	-	P	O	-

Soft Maple Reservoir Aquatic Plant Survey 2012



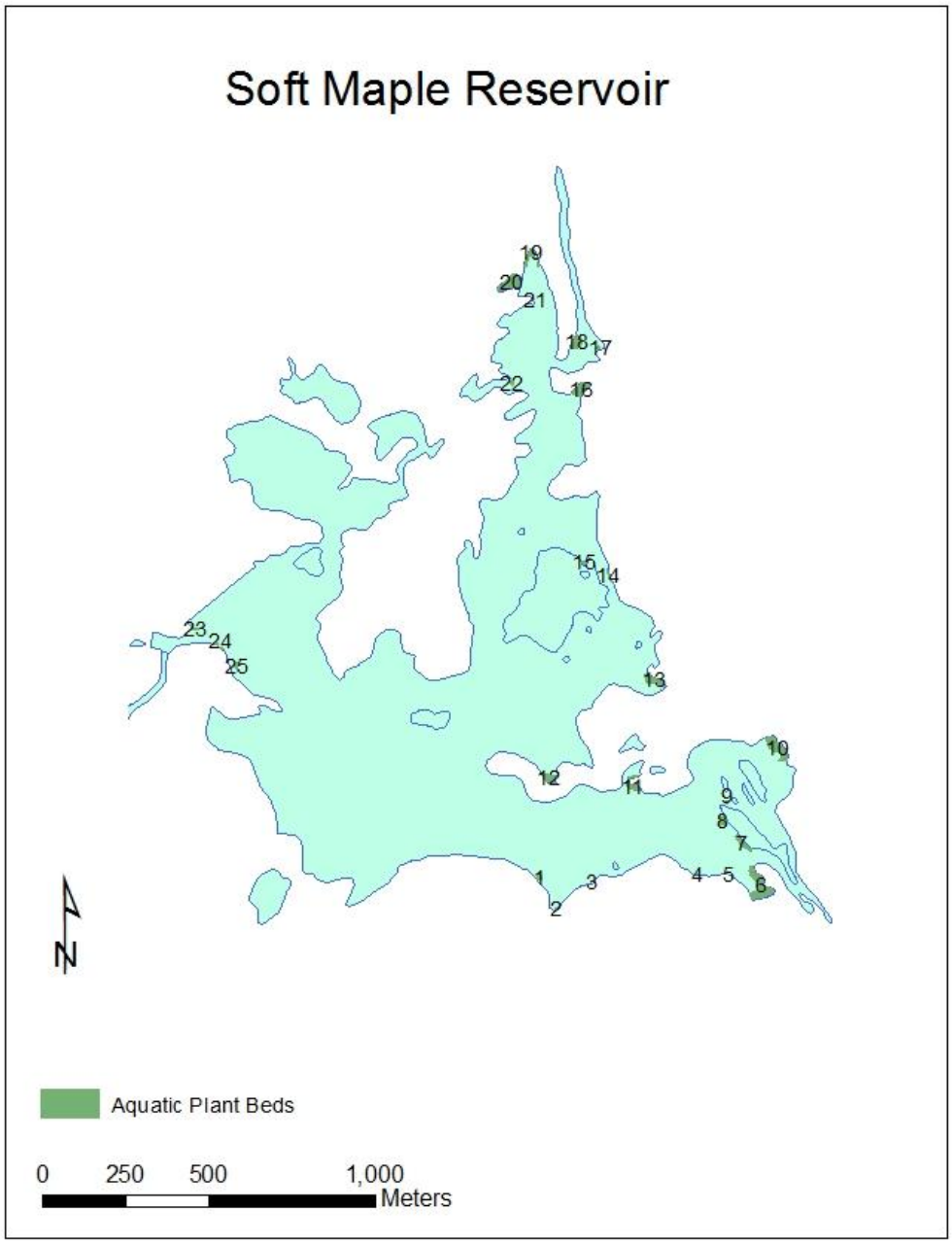
Map 95: Location of Soft Maple Reservoir.

Soft Maple Reservoir is located in the town of Watson in Lewis County, New York (Map 95). The 271 acre reservoir was accessed off from the Soft Maple Road from the Effley Falls Road off from the Erie Canal Road.

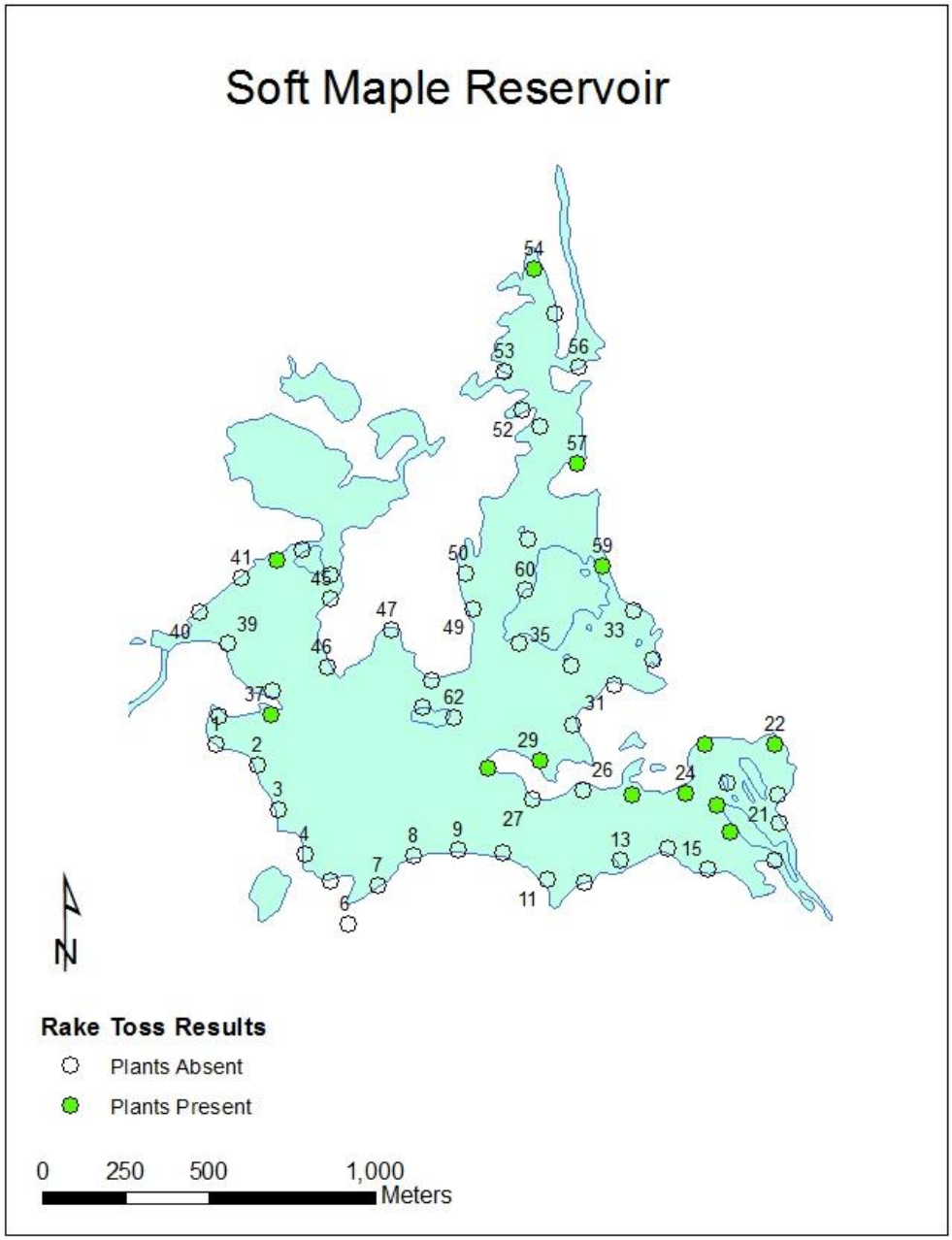
An aquatic plant survey of Soft Maple Reservoir was conducted on 25- July-2012. Both Twoleaf or Variable-leaf watermilfoil (*Myriophyllum heterophyllum*) (Map 101), and Little floating heart (*Nymphoides cordata*) (Map 102) were detected during this survey. Variable-leaf watermilfoil classified as invasive in some states, Little floating heart is a species of concern. Aquatic plant coverage in Soft Maple Reservoir was relatively low, comprised of 25 aquatic plant beds that collectively covered 14.9 acres or 5.5% of the surface area of the reservoir (Map 96). Nineteen different aquatic species were identified during this survey. The most common species identified in the reservoir was Ribbon-leaf pondweed (*Potamogeton epihydrus*). Coontail (*Ceratophyllum sp.*), Purple bladderwort (*Utricularia purprea*), and Common bladderwort (*U. vulgaris*) were species detected that could easily be confused with invasive species (Table 65).

Of the 62 rake tosses spaced throughout the littoral zone of the reservoir (Map 97), 13 had acquired plants upon recovery (21.0%). All plants found on the rakes upon retrieval had already been detected during the surface survey (Table 66).

Variable-leaf watermilfoil in Soft Maple Reservoir consisted of 1 bed that covered 0.12 acres. This was 0.004% of the surface area of the reservoir and 0.81% of the total aquatic plant coverage in the reservoir (Map 98 & Table 67). Little floating heart in Soft Maple Reservoir consisted of 1 bed that covered 0.87 acres. This was 0.321% of the surface area of the reservoir and 5.8 % of the total aquatic plant coverage in the reservoir (Map 99 & Table 68).

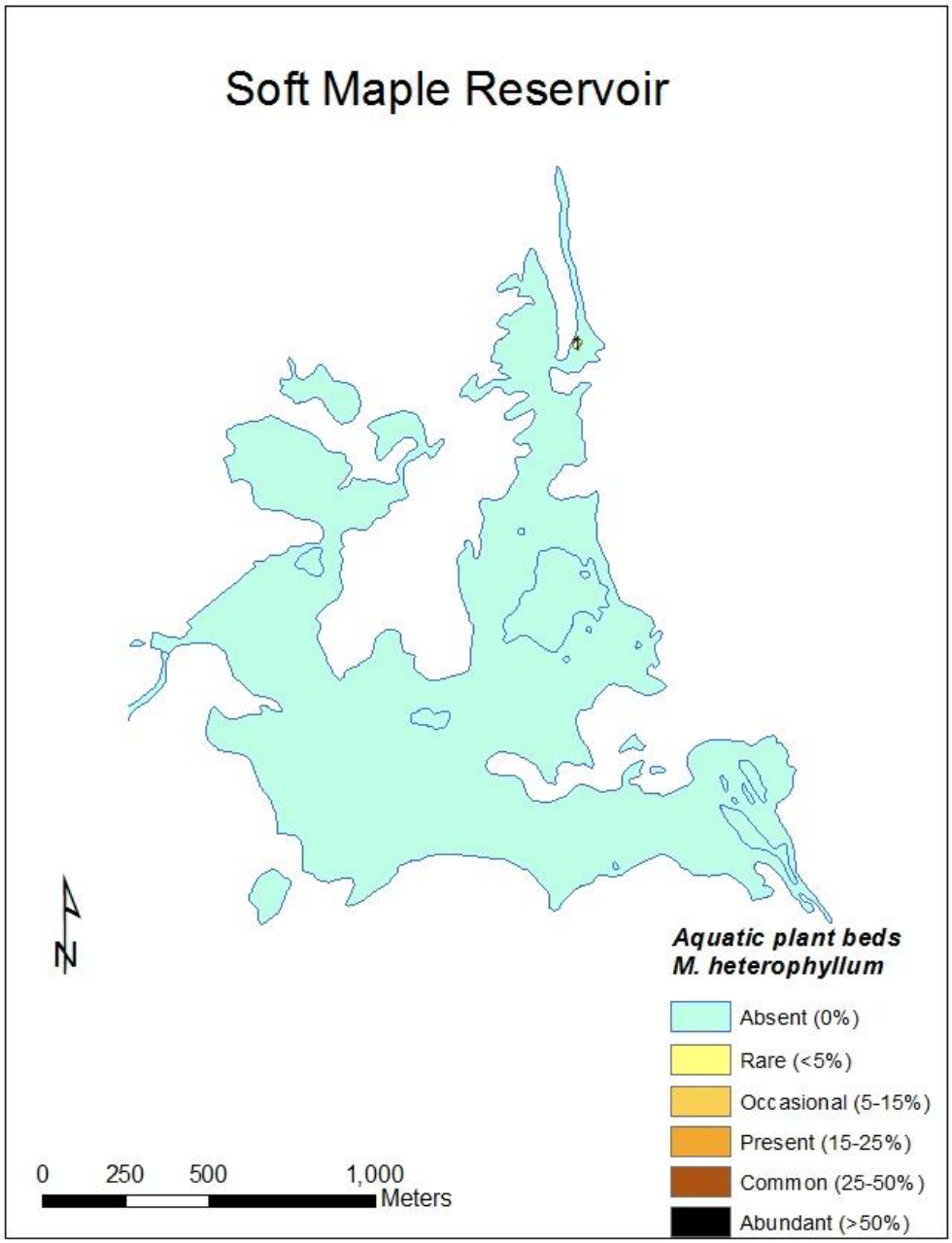


Map 96: Location of the aquatic plant beds detected in Soft Maple Reservoir during the surface survey performed on 25 July, 2012.
Data for Plant Beds can be found on Table 65.

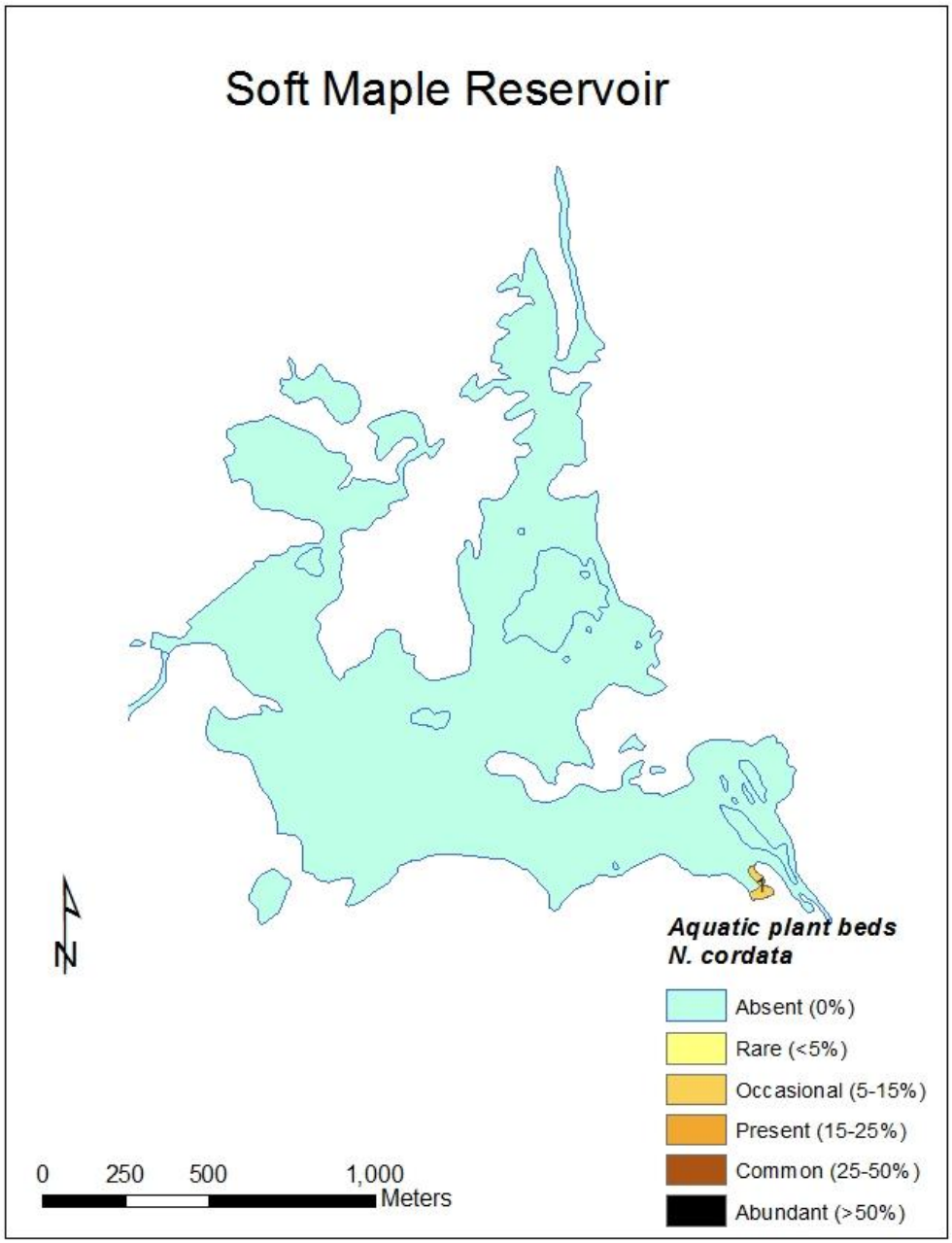


Map 97: Rake toss locations on Soft Maple Reservoir, 25 July, 2012. Open circles represent locations where no plants were detected, closed circles represent locations where plants were encountered on the rake.

Data for Rake Tosses can be found on Table 66.



Map 98: Location of the *Myriophyllum heterophyllum* beds detected in Soft Maple Reservoir during the surface survey performed on 25 July, 2012.
Data for *M. heterophyllum* beds can be found on Table 67.



Map 99: Location of the *Nymphoides cordata* beds detected in Soft Maple Reservoir during the surface survey performed on 25 July, 2012.
Data for *N. cordata* beds can be found on Table 68.

Table 65: Percent cover of aquatic plant species detected at each plant bed in Soft Maple Reservoir. Refer to Map 96 for bed locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Soft Maple Reservoir			**Plant Bed Numbers**																									
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Scientific Name	**Common Name**	**AREA (M^2)**	376	138	58	52	143	3539	933	676	121	2611	1109	883	1237	423	271	1453	140	1149	1094	2122	36	196	465	292	338
Brasenia schreberi	Water shield		-	-	-	-	-	O	-	-	-	-	R	R	-	-	-	-	-	-	-	C	-	-	-	-	P
Ceratophyllum sp.	Coontail		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-
Eleocharis sp.	Hairgrass		-	-	-	-	-	-	-	-	-	-	-	-	-	P	-	O	-	-	-	O	-	-	P	O	-
Eriocaulon sp.	Pipewort		-	-	-	-	-	-	-	-	-	-	-	-	-	-	O	-	-	-	-	-	-	-	-	-	-
Myriophyllum heterophyllum	Twoleaf watermilfoil		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-
Nitella sp.	Brittlewort		-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nuphar variegata	Spatterdock		-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	R	-	-	-	-	-	-	-	-	-
Nymphaea odorata	White waterlily		-	-	-	-	R	R	-	-	-	R	-	-	O	-	-	-	-	-	-	-	-	-	-	-	-
Nymphoides cordata	Little floatingheart		-	-	-	-	-	O	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton epihydrus	Ribbon-leaf pondweed		R	C	P	O	P	C	O	O	-	O	O	P	-	P	-	O	-	P	P	-	-	-	C	A	C
Potamogeton gramineus	Variable-leaf pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	C	-	-	R	O	-	-	R	-	-
Potamogeton natans	Floating pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	A	-	R	C	A	A	-	-	-
Potamogeton perfoliatus	Clasping-leaf pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	P	-	-	-	-	-	-	-	-	-	-
Potamogeton pusillus	Small pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	A	P	-	O	P	O	-	-	-	-	-
Potamogeton spirillus	Spiral-fruit pondweed		-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-
Sagittaria graminea	Grassy arrowhead		-	-	R	R	-	R	-	-	-	R	-	-	R	O	O	C	-	-	O	-	-	-	-	P	-
Sparganium sp.	Bur-reed		R	-	R	R	-	-	-	-	C	R	-	-	O	O	P	R	-	P	-	P	-	-	P	-	-
Utricularia purprea	Purple bladderwort		-	-	-	R	-	R	-	-	-	-	R	-	R	P	-	-	-	R	P	O	A	-	-	-	R
Utricularia vulgaris	Common bladderwort		-	-	R	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	O	-	-	-	-	-

Table 66: Species present on the rake at each of the rake toss locations and abundance. Refer to Map 97 for Rake locations.

Soft Maple Reservoir		**Rake Toss Numbers**												
Scientific Name	**Common Name**	17	18	22	23	24	25	28	29	37	42	54	57	59
Eleocharis sp.	Hairgrass	-	-	-	-	-	-	-	-	R	-	R	-	-
Nitella sp.	Brittlewort	R	R	R	R	R	R	R	R	-	R	R	R	-
Potamogeton epihydrus	Ribbon-leaf pondweed	-	R	-	-	-	-	-	-	-	-	-	-	-
Utricularia purprea	Purple bladderwort	-	-	-	-	-	-	-	-	-	-	-	-	O
Utricularia vulgaris	Common bladderwort	-	-	-	-	-	-	-	-	-	-	R	-	-

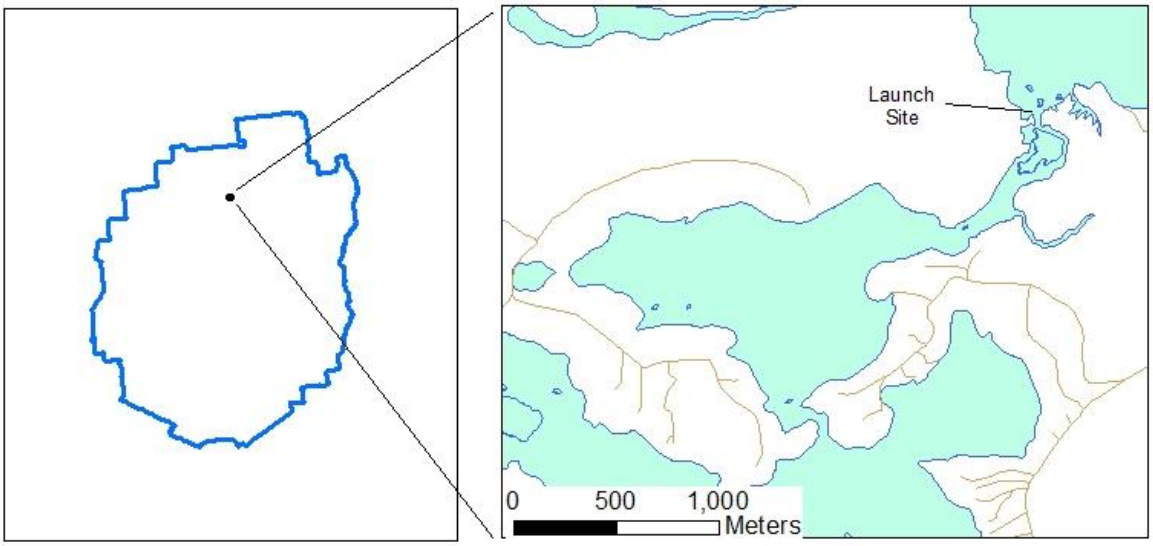
Table 67: Percent cover of *Myriophyllum heterophyllum* detected at each plant bed in Soft Maple Reservoir. Refer to Map 98 for *M. heterophyllum* locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Soft Maple Reservoir			**Plant Bed Numbers**
			1
Scientific Name	**Common Name**	**AREA (M^2)**	517
Myriophyllum heterophyllum	Twoleaf watermilfoil		R

Table 68: Percent cover of *Nymphoides cordata* detected at each plant bed in Soft Maple Reservoir. Refer to Map 99 for *N. cordata* locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Soft Maple Reservoir			**Plant Bed Number**
			1
Scientific Name	**Common Name**	**AREA (M^2)**	3539
Nymphoides cordata	Little floatingheart		O

Spitfire Lake & Slough Aquatic Plant Survey 2012

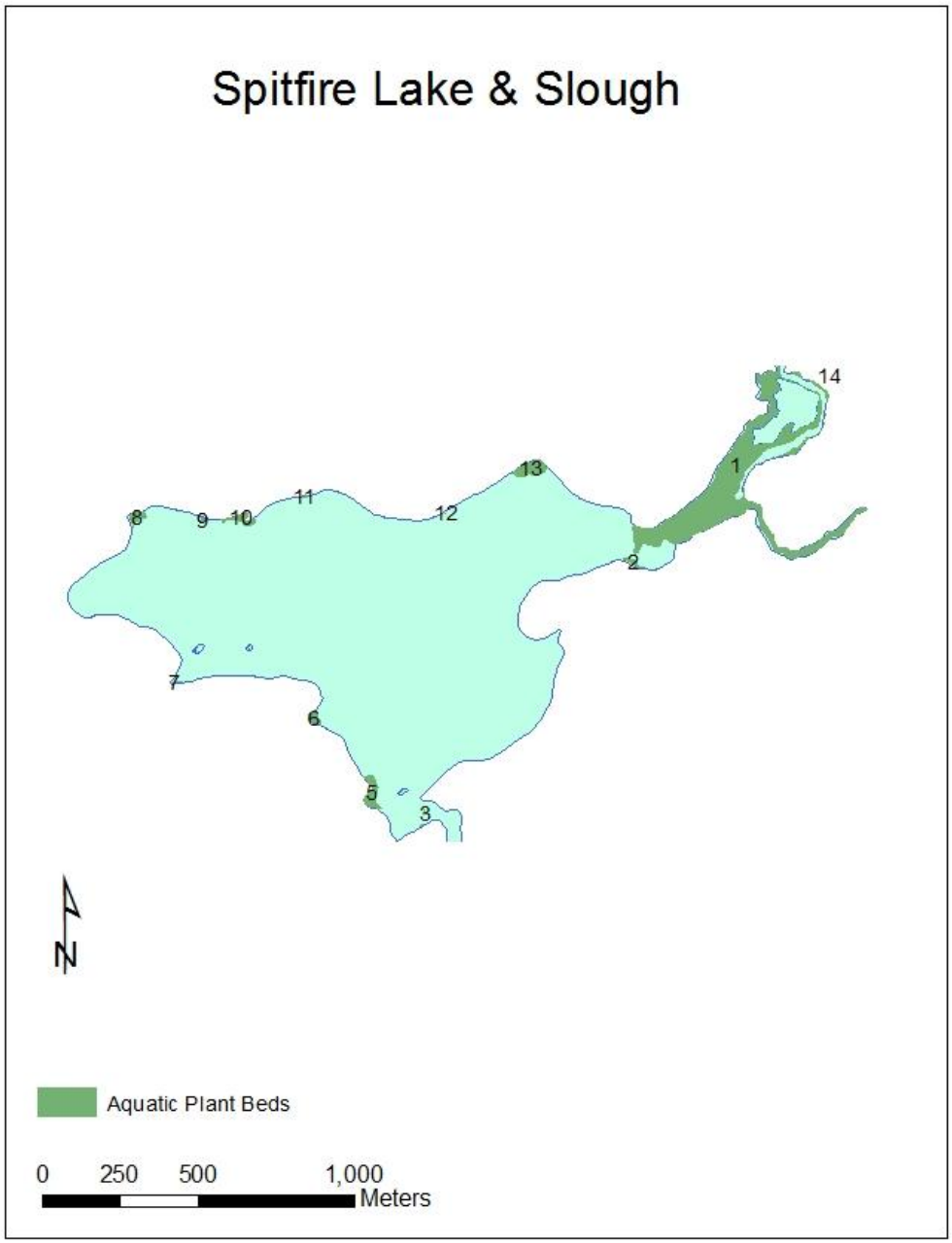


Map 100: Location of Spitfire Lake & Slough.

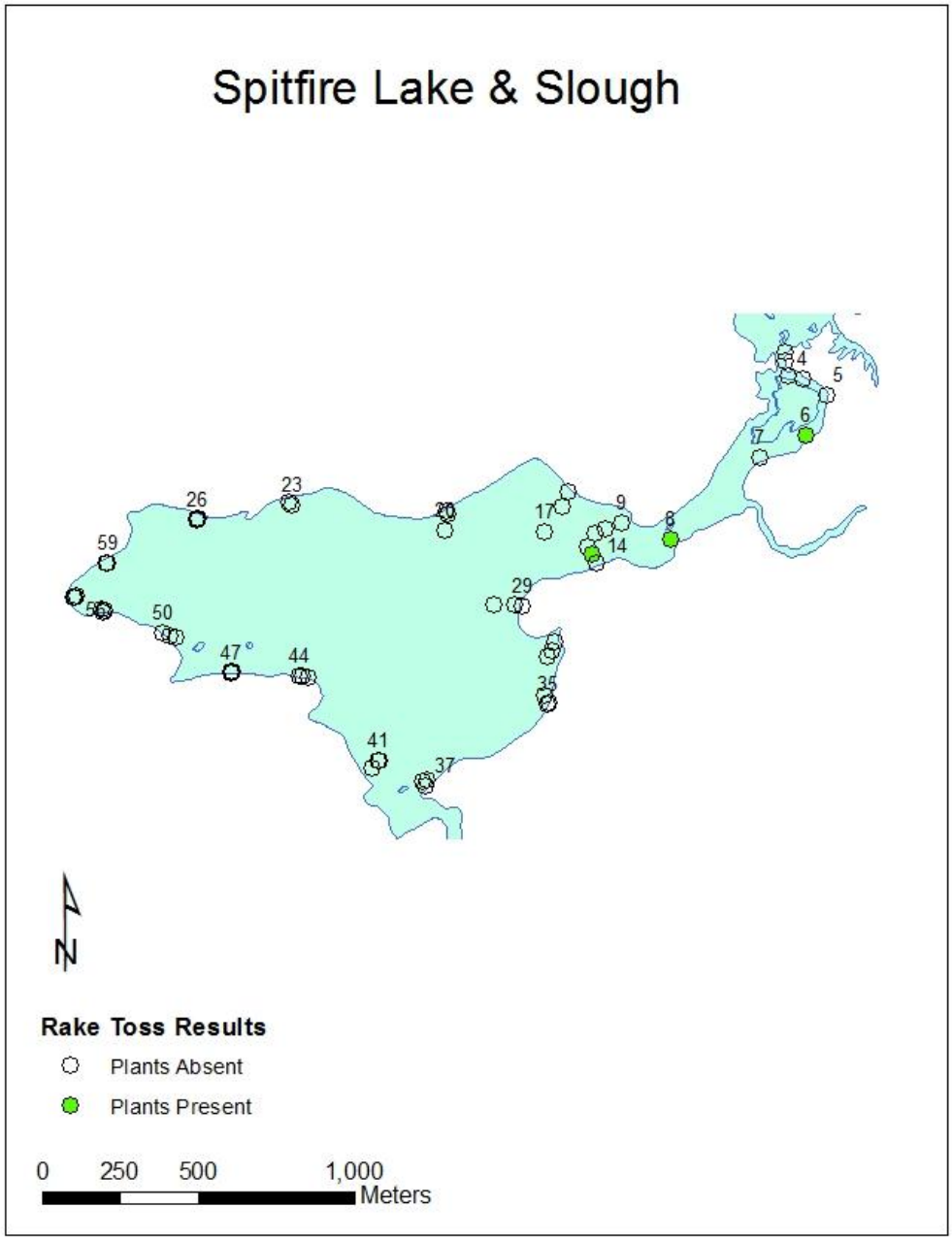
Spitfire Lake is located in the town of Brighton in Franklin County, New York (Map 100). The 275 acre water was accessed through Lower St. Regis Lake to the north. The NY state canoe launch is located on Paul Smith's College campus at the intersection of State Routes 86 and 30.

An aquatic plant survey of Spitfire Lake was conducted on 14-June-2012. No invasive aquatic species were detected during the survey. Aquatic plant coverage in Spitfire Lake was moderate, comprised of 13 aquatic plant beds that collectively covered 23.6 acres or 8.6% of the surface area of the lake (Map 101). Fourteen different aquatic species were identified during this survey. Common species of the lake included Bur-reed (*Sparganium sp.*), and Spatterdock (*Nuphar variegata*). Common bladderwort (*Utricularia vulgaris*) and Shortspike watermilfoil (*Myriophyllum sibiricum*) were the only species found which could be easily confused with invasive species (Table 69).

Of the 59 rake tosses spaced throughout the littoral zone of the lake (Map 102), 3 had acquired plants upon recovery (5.1%). All plants found on the rakes after retrieval were detected during the surface survey (Table 70).



Map 101: Location of the aquatic plant beds detected in Spitfire Lake & Slough during the surface survey performed on 14 June, 2012.
Data for Plant Beds can be found on Table 69.



Map 102: Rake toss locations on Spitfire Lake & Slough, 14 June, 2012. 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 on Table 70.

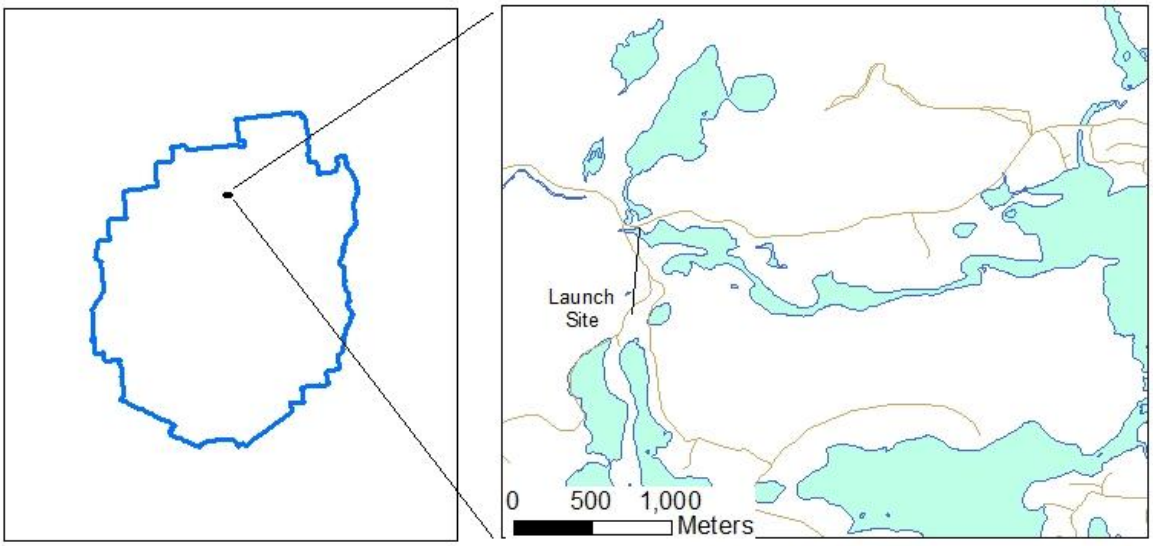
Table 69: Percent cover of aquatic plant species detected at each plant bed in Spitfire Lake. Refer to Map 101 for bed locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Spitfire Lake			**Plant Bed Numbers**												
			1	2	3	4	5	6	7	8	9	10	11	12	13
Scientific Name	**Common Name**	**AREA (M^2)**	81184	797	224	75	3527	1297	169	1584	251	2113	151	16	3992
Brasenia schreberi	Water shield		O	-	-	-	-	-	-	-	-	-	-	-	-
Eriocaulon sp.	Pipewort		-	-	-	-	-	-	-	O	R	O	P	-	-
Myriophyllum sibiricum	Shortspike watermilfoil		R	-	-	-	-	-	-	-	-	-	-	-	-
Nuphar variegata	Spatterdock		O	R	-	R	C	O	O	O	-	O	-	-	-
Nymphaea odorata	White waterlily		R	R	-	-	A	-	-	-	-	-	-	-	-
Potamogeton amplifolius	Large-leaf pondweed		P	-	C	-	-	-	-	-	-	-	-	-	-
Potamogeton epihydrus	Ribbon-leaf pondweed		R	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton gramineus	Variable-leaf pondweed		O	-	-	-	-	-	-	-	-	-	-	-	R
Potamogeton natans	Floating pondweed		-	-	-	-	-	-	A	-	-	-	-	-	-
Potamogeton perfoliatus	Clasping-leaf pondweed		-	-	O	-	-	-	-	-	-	-	-	-	-
Sagittaria graminea	Grassy arrowhead		R	R	-	-	-	-	-	-	R	O	-	R	O
Sparganium sp.	Bur-reed		R	R	-	A	O	C	P	R	R	O	-	R	R
Utricularia vulgaris	Common bladderwort		R	-	-	-	-	-	-	-	-	-	-	-	-
Vallisneria americana	Eel-grass		R	-	-	-	-	-	-	-	-	-	-	-	-

Table 70: Species present on the rake at each of the rake toss locations and abundance. Refer to Map 102 for Rake locations.

Spitfire Lake		Rake Toss Numbers		
Scientific Name	**Common Name**	6	8	13
Sagittaria graminea	Grassy arrowhead	-	-	R
Sparganium sp.	Bur-reed	O	-	-
Utricularia vulgaris	Common bladderwort	-	O	-

St. Regis River Aquatic Plant Survey 2012

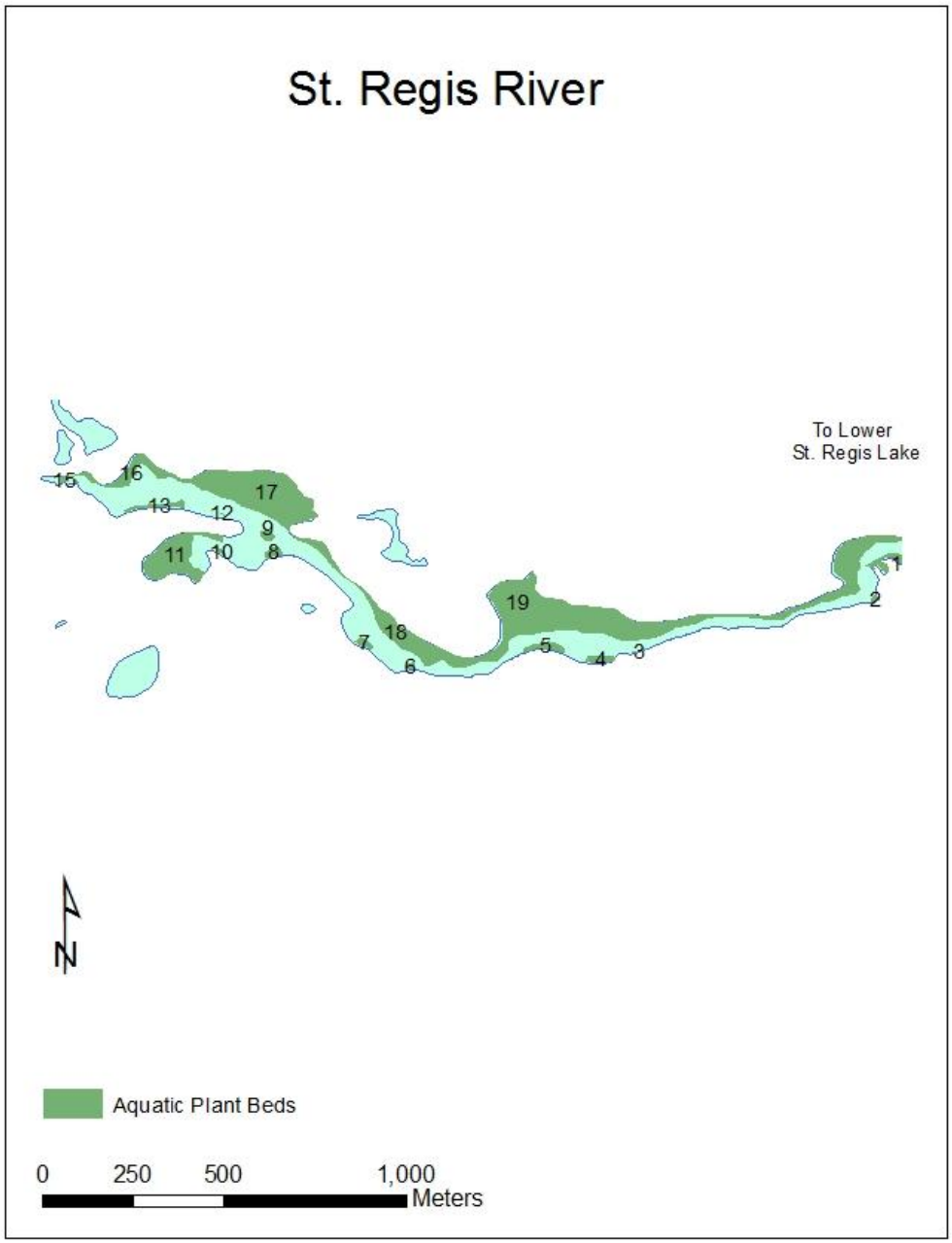


Map 103: Location of St. Regis River.

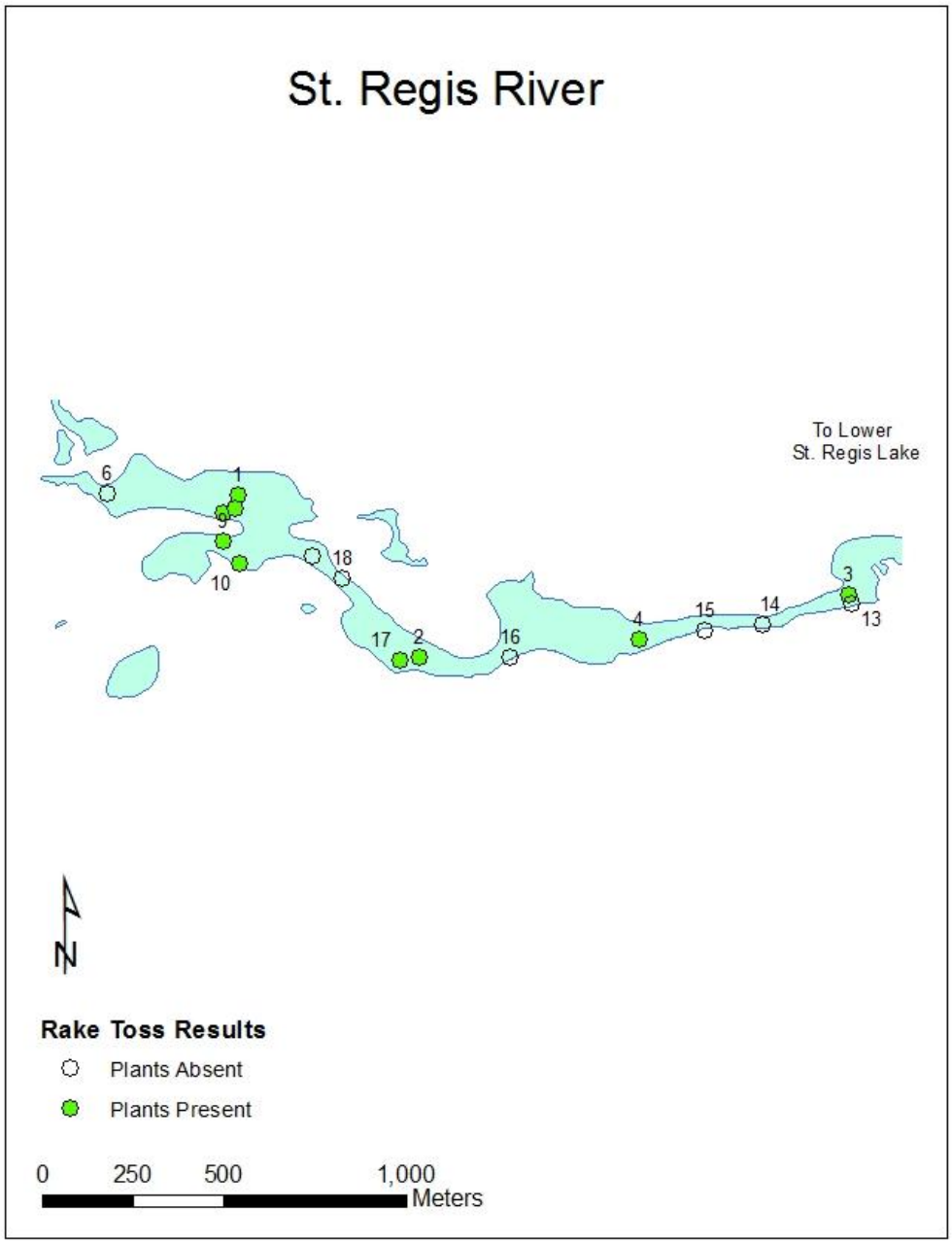
The St. Regis River is located in the town of Brighton in Franklin County, New York (Map 103). The 75 acre section of river was accessed from a canoe launch on the Keese Mill Road, 2.5 miles from New York State Route 30 in Paul Smiths, New York.

An aquatic plant survey of the St. Regis River was conducted on 12-June-2012. No invasive aquatic species were detected during the survey. Aquatic plant coverage in the St. Regis River was relatively high, comprised of 15 aquatic plant beds that collectively covered 39.5 acres or 52.7% of the surface area of the river (Map 104). Twenty-two different aquatic species were identified during this survey. Common species included White waterlily (*Nymphaea odorata*) and Watershield (*Brasenia schreberi*). Coontail (*Ceratophyllum sp.*), Alternate-leaf milfoil (*Myriophyllum alterniflorum*), Shortspike watermilfoil (*M. sibiricum*), Purple bladderwort (*Utricularia purprea*), and Common bladderwort (*U. vulgaris*) were species detected during the survey that could easily be confused with invasive species (Table 71).

Of the 18 rake tosses spaced throughout the littoral zone of the river (Map 105), 10 had acquired plants upon recovery (58.8%). All plants found on the rakes after their retrieval were detected during the surface survey (Table 72).



Map 104: Location of the aquatic plant beds detected in St. Regis River during the surface survey performed on 12 June, 2012.
Data for Plant Beds can be found on Table 71.



Map 105: Rake toss locations on St. Regis River, 12 June, 2012. 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 on Table 72.

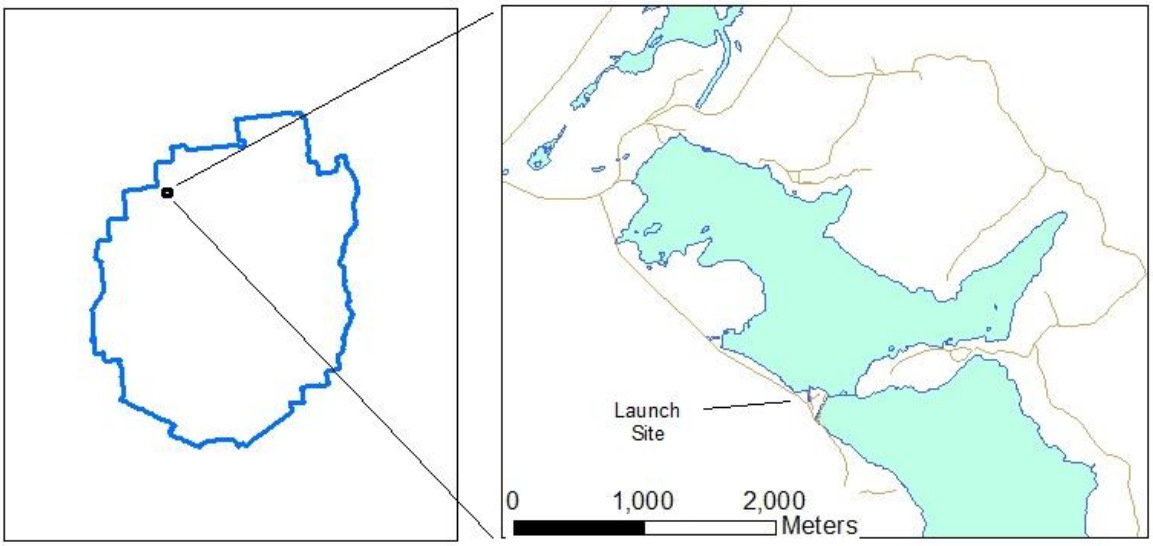
Table 71: Percent cover of aquatic plant species detected at each plant bed in St. Regis River. Refer to Map 104 for bed locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

St. Regis River			**Plant Bed Numbers**																		
			16	17	18	19	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Scientific Name	**Common Name**	**AREA (M^2)**	7153	30855	17205	74869	5545	357	226	1380	2024	404	889	1112	805	325	14392	57	1861	133	258
Brasenia schreberi	Water shield		O	-	P	P	C	C	-	-	P	O	A	A	A	-	C	-	R	R	R
Ceratophyllum sp.	Coontail		R	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eleocharis sp.	Hairgrass		O	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Elodea nuttalia	Western waterweed		R	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	O	O
Eriocaulon sp.	Pipewort		-	-	-	-	-	-	-	O	R	-	-	-	-	-	-	-	O	-	-
Myriophyllum alteriflorum	Alternate-leaf milfoil		-	O	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Myriophyllum sibiricum	Shortspike watermilfoil		R	-	-	R	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-
Nitella sp.	Brittlewort		-	C	O	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P
Nuphar variegata	Spatterdock		P	-	O	P	P	-	P	P	O	-	-	-	-	O	C	-	O	O	-
Nymphaea odorata	White waterlily		P	-	O	C	A	-	O	O	A	-	O	R	-	R	A	R	O	P	R
Potamogeton amplifolius	Large-leaf pondweed		O	-	P	P	C	C	-	-	-	C	R	C	C	-	-	A	R	O	-
Potamogeton epihydrus	Ribbon-leaf pondweed		R	R	-	O	O	-	-	-	R	-	R	-	-	-	-	-	-	P	A
Potamogeton natans	Floating pondweed		R	O	O	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton perfoliatus	Clasping-leaf pondweed		R	R	-	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	C
Potamogeton prealongus	White-stem pondweed		-	C	-	P	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-
Potamogeton robbinsii	Robbins pondweed		P	-	-	C	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-
Potamogeton zosterformis	Flatstem pondweed		-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-
Sagittaria graminea	Grassy arrowhead		O	-	R	O	-	-	-	-	-	-	-	-	-	-	R	-	-	-	R
Sparganium sp.	Bur-reed		P	-	R	P	-	-	O	A	-	O	-	-	-	A	R	R	A	C	-
Utricularia purprea	Purple bladderwort		R	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-
Utricularia vulgaris	Common bladderwort		O	-	O	-	-	-	-	-	R	R	R	R	-	-	O	-	-	R	-
Vallisneria americana	Eel-grass		-	O	-	P	-	-	C	-	-	-	-	-	-	-	R	-	-	-	-

Table 72: Species present on the rake at each of the rake toss locations and abundance. Refer to Map 105 for Rake locations.

St. Regis River		**Rake Toss Numbers**									
Scientific Name	**Common Name**	1	2	3	4	7	8	9	10	12	17
Eleocharis sp.	Hairgrass	-	-	-	O	O	C	-	-	-	-
Elodea canadensis	Canadian waterweed	-	O	-	-	-	-	-	-	-	-
Elodea nuttalia	Western waterweed	-	-	-	-	-	-	-	R	-	-
Nitella sp.	Brittlewort	-	O	P	-	O	-	-	-	-	R
Potamogeton robbinsii	Robbins pondweed	C	-	-	-	-	-	A	O	-	-
Potamogeton zosterformis	Flatstem pondweed	-	-	-	-	-	-	-	-	R	R
Utricularia purprea	Purple bladderwort	-	-	-	-	-	-	-	R	-	-
Utricularia vulgaris	Common bladderwort	-	O	-	-	-	-	R	A	-	-

Stark Falls Reservoir Aquatic Plant Survey 2012



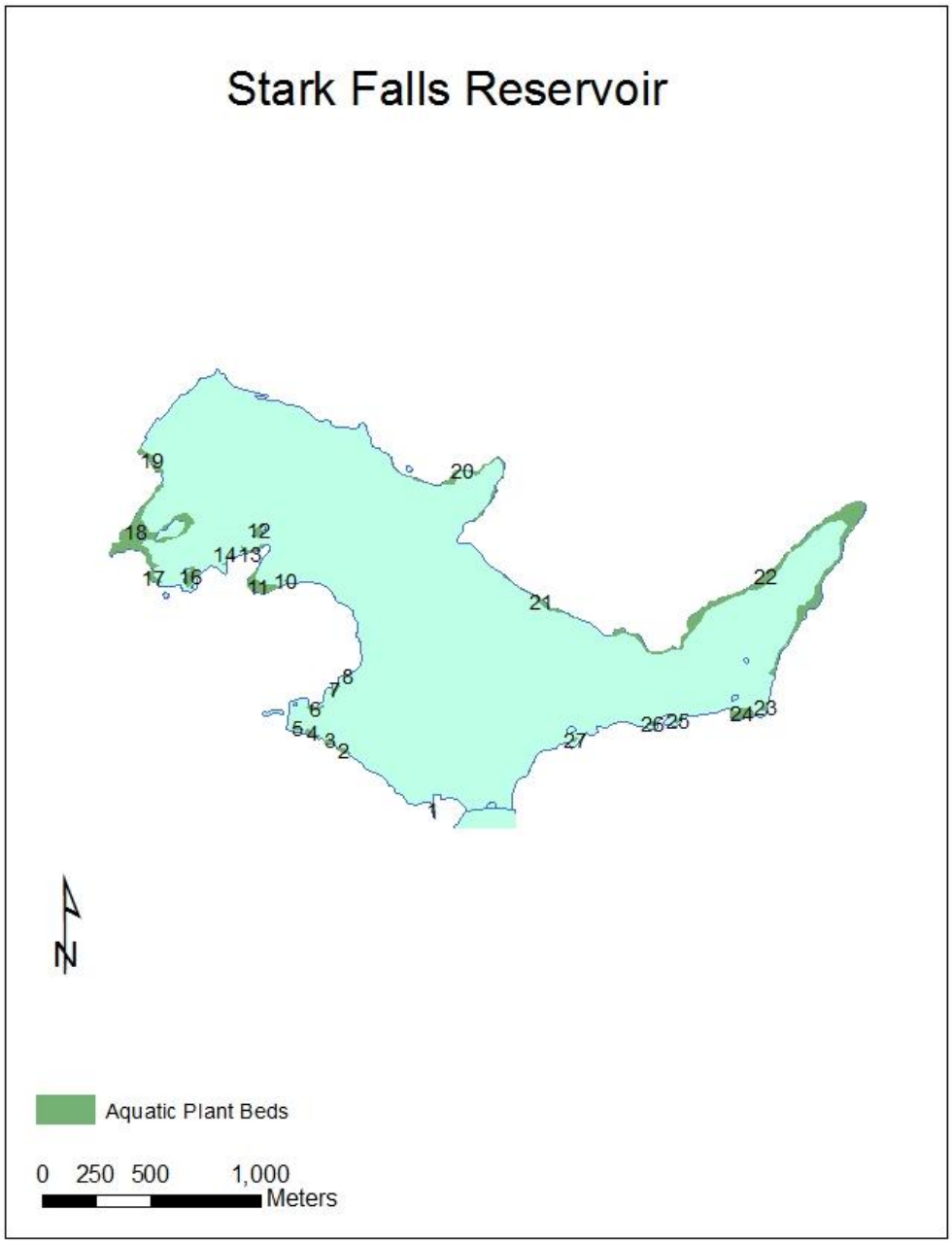
Map 106: Location of Stark Falls Reservoir.

Stark Falls Reservoir is located in the town of Parishville in St. Lawrence County, New York (Map 106). The 650 acre reservoir was accessed on the southern shore from a DEC hardtop launch. The launch is located on the Raquette River Road off from State Route 56, approximately 6 miles south of South Colton.

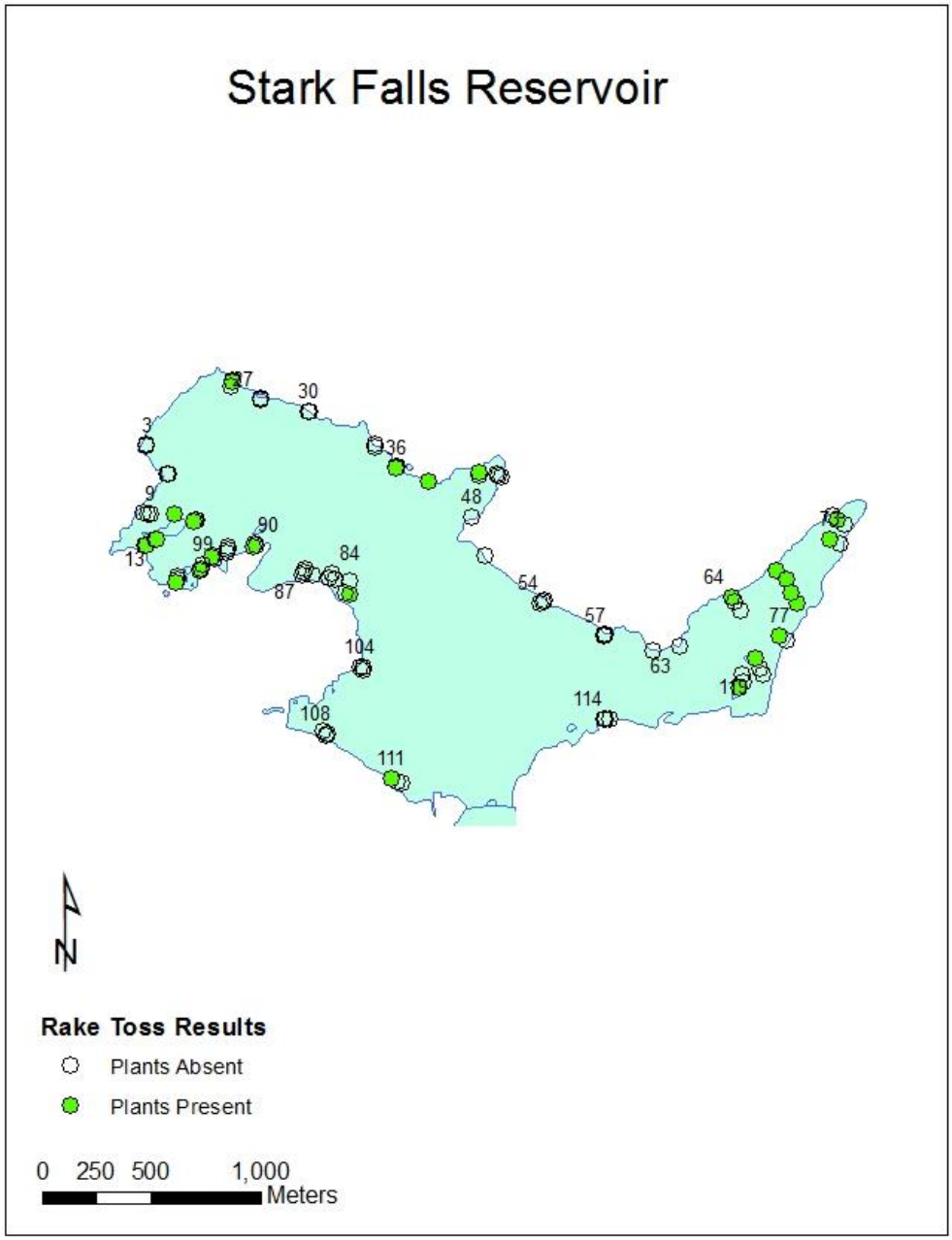
An aquatic plant survey of Stark Falls Reservoir was conducted on 27-June-2012. Twoleaf or Variable-leaf watermilfoil (*Myriophyllum heterophyllum*) was detected during this survey (Map 109). The range in which this plant is deemed native or non-native is under debate and in some states this plant is classified as invasive. Aquatic plant coverage of Stark Falls Reservoir was relatively low, comprised of 27 aquatic plant beds that collectively covered 31.5 acres or 4.8% of the surface area of the reservoir (Map 107). Common species in the reservoir included Variable-leaf watermilfoil, and Ribbon-leaf pondweed (*Potamogeton epihydrus*). Purple bladderwort was the only species detected that could easily be confused with an invasive species (Table 73).

Of the 120 rake tosses spaced throughout the littoral zone of the reservoir (Map 108), 29 had acquired plants upon recovery (24.2%). All plants found on the rakes after retrieval were detected during the surface survey (Table 74)

Variable-leaf watermilfoil in Stark Falls Reservoir consisted of 24 beds that covered 29.6 acres. This was 4.6% of the surface area of the reservoir and 94.0% of the total aquatic plant coverage in the reservoir (Map 109 & Table 75).

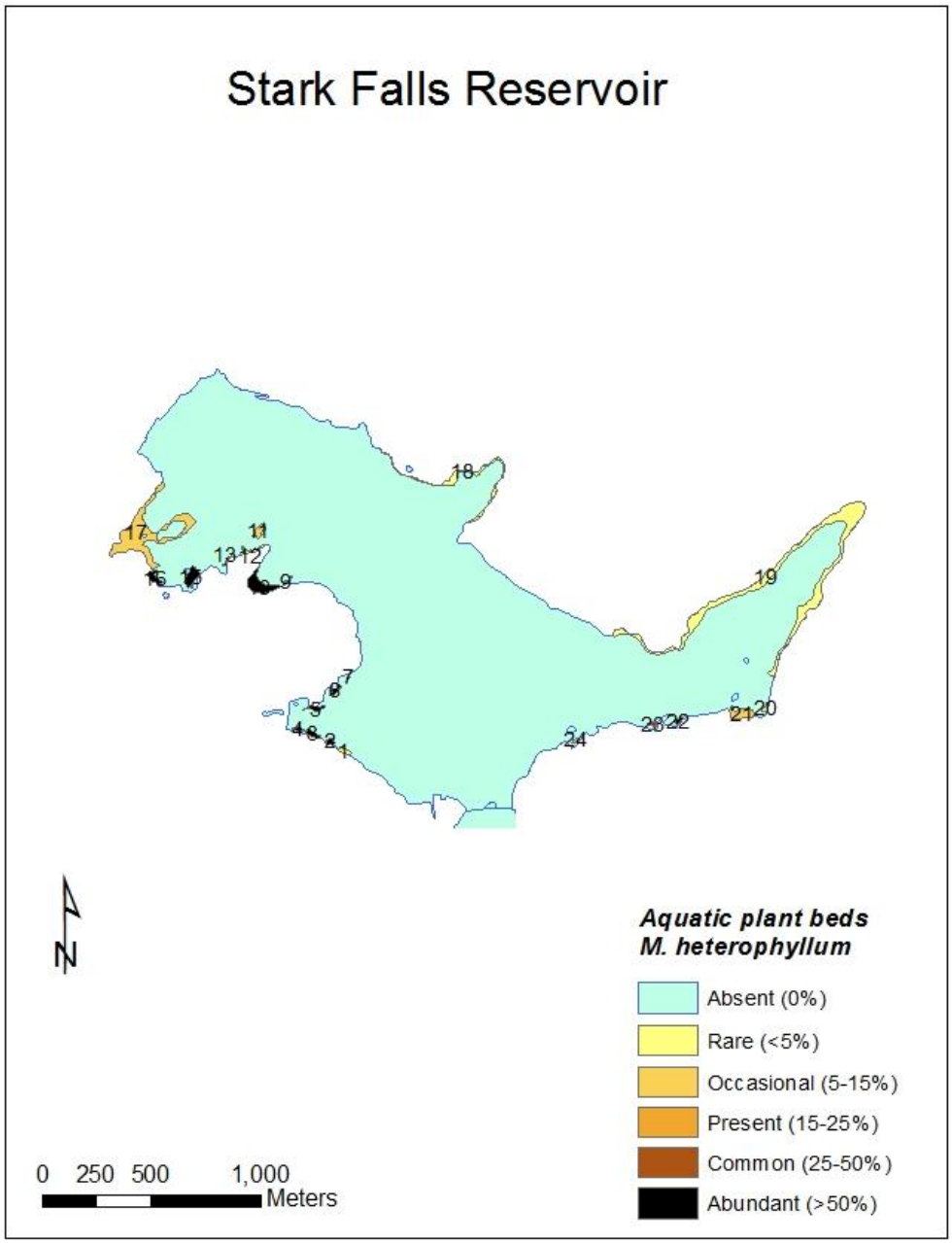


Map 107: Location of the aquatic plant beds detected in Stark Falls Reservoir during the surface survey performed on 27 June, 2012.
Data for Plant Beds can be found on Table 73.



Map 108: Rake toss locations on Stark Falls Reservoir, 27 June, 2012. 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 on Table 74.



Map 109: Location of *Myriophyllum heterophyllum* beds detected in Stark Falls Reservoir during the surface survey performed on 27 June, 2012.
Data for *M. heterophyllum* Beds can be found on Table 75.

Table 73: Percent cover of aquatic plant species detected at each plant bed in Stark Falls Reservoir. Refer to Map 107 for bed locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Stark Falls Reservoir			Plant Bed Numbers																											
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Scientific Name	**Common Name**	**AREA (M^2)**	490	1024	884	1334	759	1295	984	33	54	110	6820	1544	1268	337	148	3639	1977	30963	3934	7672	3385	52626	761	4185	533	518	306
Eleocharis sp.	Hairgrass		P	-	-	-	-	P	P	-	-	-	P	-	P	-	-	P	P	R	-	-	-	-	-	-	-	-	-
Elodea canadensis	Canadian waterweed		P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eriocaulon sp.	Pipewort		-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lobelia dortmanna	Water lobelia		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	R	-	-	-	-	-	-	-	-	-
Myriophyllum heterophyllum	Twoleaf watermilfoil		-	R	A	A	A	A	A	C	R	R	A	O	R	R	A	A	A	O	-	R	-	R	R	O	A	C	O
Nitella sp.	Brittlewort		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-
Nuphar variegata	Spatterdock		O	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	R	R	-	-	O	O	R	R	O	-
Potamogeton amplifolius	Large-leaf pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-
Potamogeton epihydrus	Ribbon-leaf pondweed		R	A	R	-	O	R	C	C	-	-	P	A	A	O	O	P	O	O	R	R	R	R	C	A	C	C	P
Potamogeton natans	Floating pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	O	-	-	-	-	-	-	-
Potamogeton zosterformis	Flatstem pondweed		-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-
Sagittaria graminea	Grassy arrowhead		P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	R	R	R	R	-	-	-	-	A
Sparganium sp.	Bur-reed		R	-	-	-	-	O	-	-	-	-	R	O	O	-	-	O	-	R	-	O	R	R	O	-	-	-	-
Utricularia purprea	Purple bladderwort		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	P	-	-	-	-
Vallisneria americana	Eel-grass		-	-	-	-	-	R	-	-	-	-	-	-	O	A	-	-	R	R	R	R	R	-	-	-	-	-	-

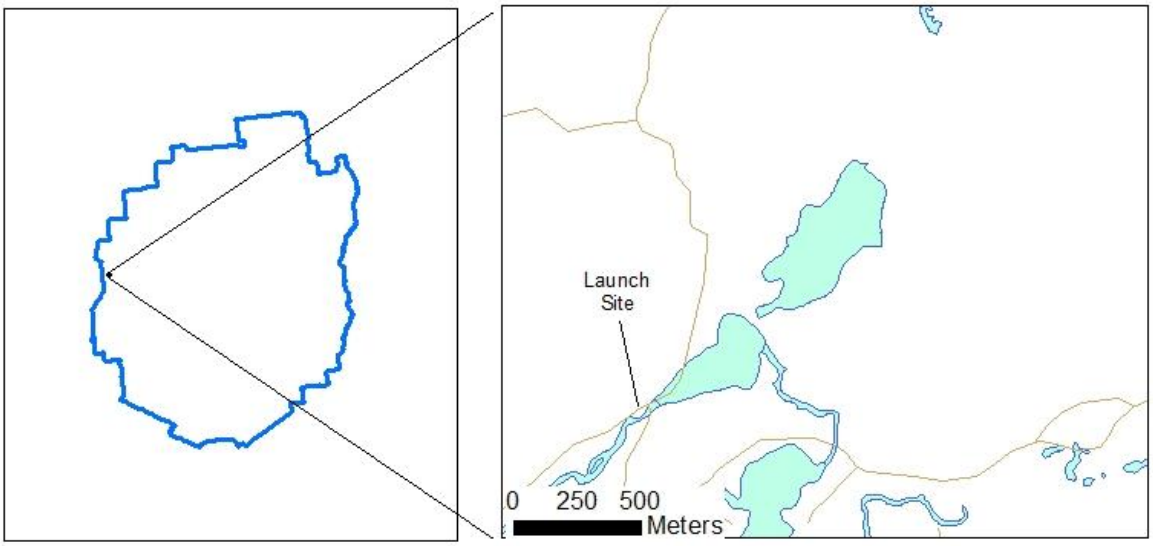
Table 74: Species present on the rake at each of the rake toss locations and abundance. Refer to Map 108 for Rake locations.

Stark Falls Reservoir		Rake Toss Numbers																												
Scientific Name	**Common Name**	10	11	14	15	16	21	22	23	34	35	36	37	42	64	67	68	70	73	74	75	77	79	89	96	97	102	111	117	120
Eleocharis sp.	Hairgrass	R	-	-	R	-	R	-	R	-	-	-	-	-	-	R	R	R	-	R	-	R	-	R	R	O	-	R	-	-
Eriocaulon sp.	Pipewort	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-
Lobelia dortmanna	Water lobelia	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitella sp.	Brittlewort	-	-	R	-	-	-	-	-	-	-	-	-	-	R	-	-	-	R	-	-	-	-	-	R	R	-	-	-	R
Potamogeton epihydrus	Ribbon-leaf pondweed	-	-	-	-	R	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton zosterformis	Flatstem pondweed	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-	R	-	-	-
Sagittaria graminea	Grassy arrowhead	-	-	-	R	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-
Sparganium sp.	Bur-reed	-	-	-	-	-	-	-	-	R	R	R	R	-	-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-
Utricularia purprea	Purple bladderwort	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	O	-
Vallisneria americana	Eel-grass	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 75: Percent cover of *Myriophyllum heterophyllum* detected at each plant bed in Stark Falls Reservoir. Refer to Map 109 for *M. heterophyllum* locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Stark Falls Reservoir			**Plant Bed Numbers**																							
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Scientific Name	**Common Name**	**AREA (M^2)**	1024	884	1334	759	1295	984	33	54	110	6820	1544	1268	337	148	3639	1977	30963	7672	52626	761	4185	533	518	306
Myriophyllum heterophyllum	Twoleaf watermilfoil		R	A	A	A	A	A	C	R	R	A	O	R	R	A	A	A	O	R	R	R	O	A	C	O

Trout Pond Aquatic Plant Survey 2012

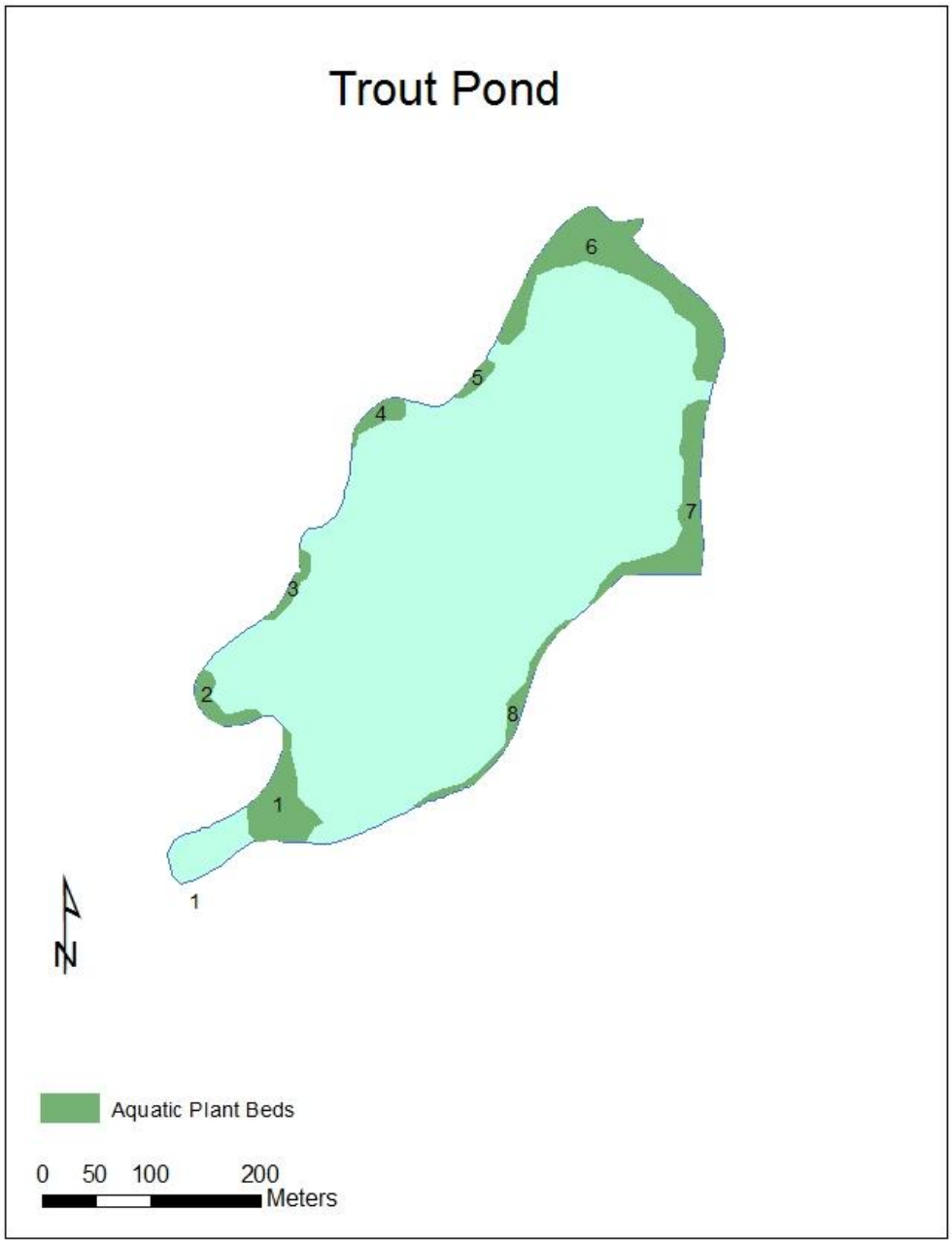


Map 110: Location of Trout Pond.

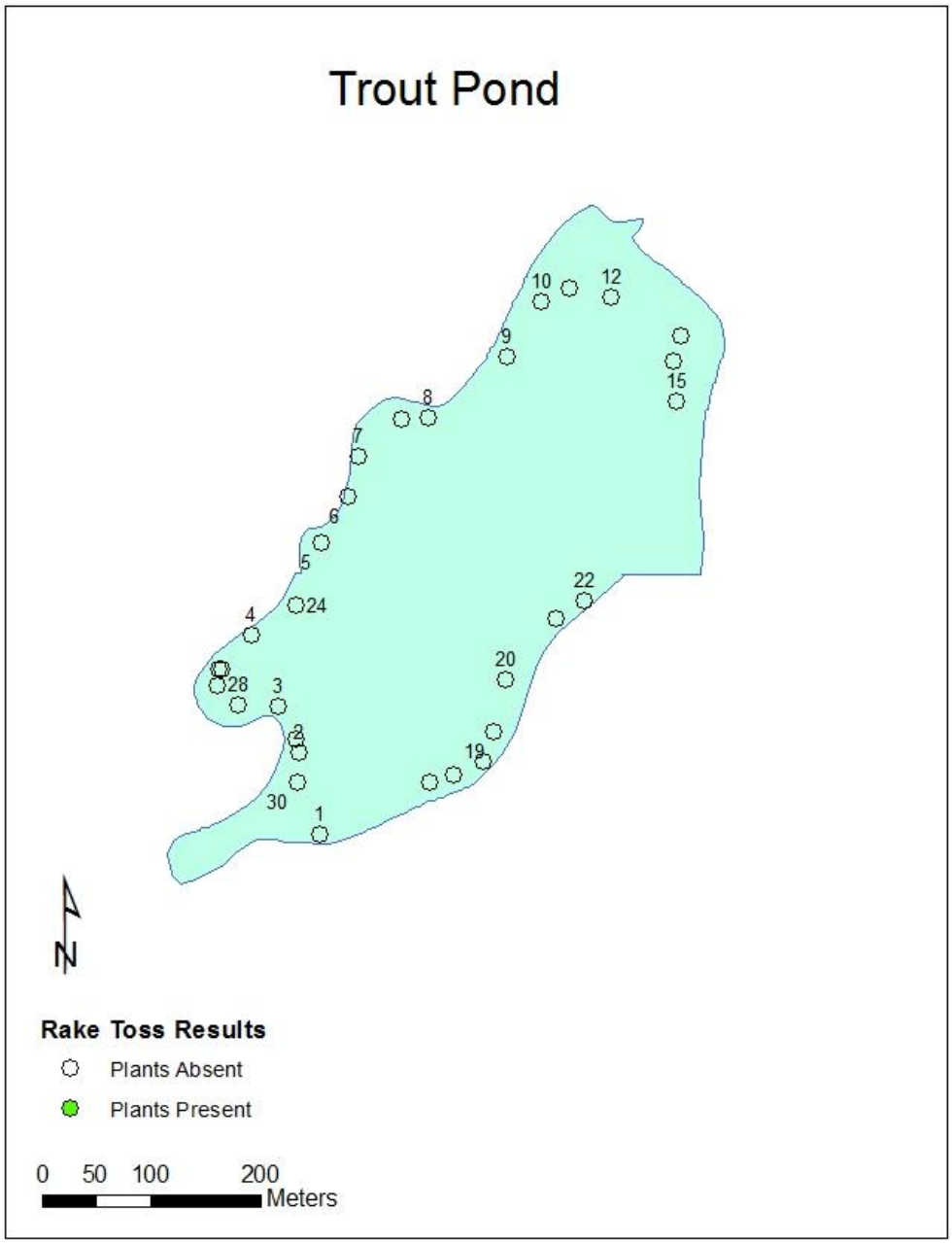
Trout Pond is located in the town of Croghan in Lewis County, New York (Map 110). The 35 acre pond was accessed by water, traveling through Rock Pond from the river access at the Long Pond Road located off from the Erie Canal Road off from State Route 812.

An aquatic plant survey of Trout Pond was conducted 25-July-2012. No invasive aquatic species were detected during the survey. Aquatic plant coverage in Trout Pond was moderate, comprised of 8 aquatic plant beds that collectively covered 5 acres or 14.2% of the surface area of the pond (Map 111). Eleven different aquatic species were identified during this survey. The most common species found in the pond were Spatterdock (*Nuphar variegata*), Watershield (*Brasenia schreberi*), and White waterlily (*Nymphaea odorata*). Purple bladderwort (*Utricularia purprea*) and Farwell's watermilfoil (*Myriophyllum farwellii*) could be easily confused for invasive species (Table 76)

Of the 30 rake tosses spaced throughout the littoral zone of Trout Pond (Map 112), none had acquired plants upon their recovery (0%).



Map 111: Location of the aquatic plant beds detected in Trout Pond during the surface survey performed on 25 July, 2012.
Data for Plant Beds can be found on Table 76



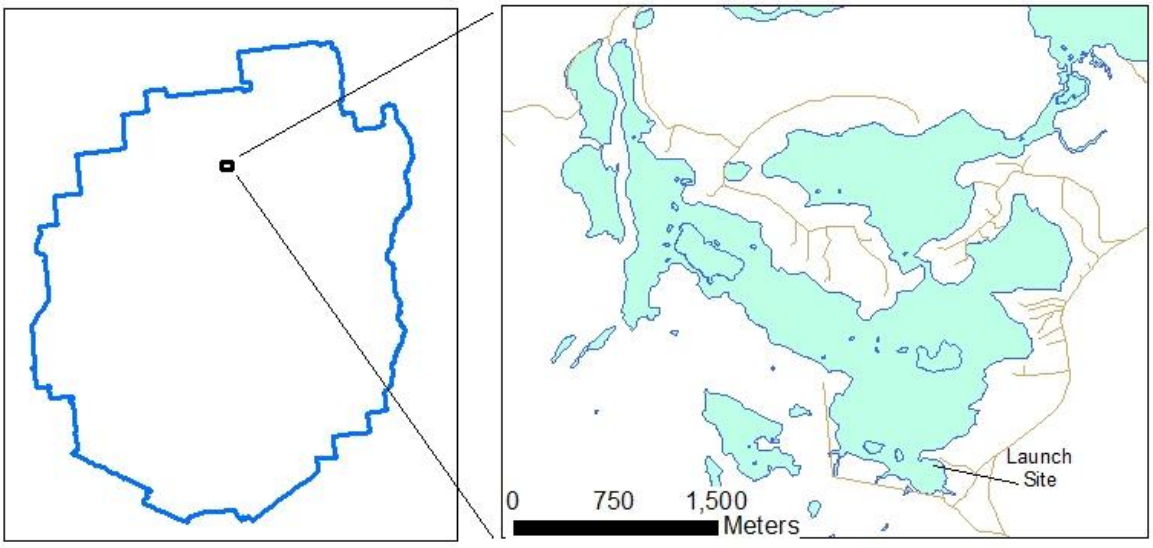
Map 112: Rake toss locations on Trout Pond, 25 July, 2012. Open circles represent locations where no plants were detected, closed circles represent locations where plants were encountered on the rake. No rakes had acquired plants upon recovery.

Table 76: Percent cover of aquatic plant species detected at each plant bed in Trout Pond. Refer to Map 111 for bed locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

Trout Pond (Lewis County)			**Plant Bed Numbers**							
			1	2	3	4	5	6	7	8
Scientific Name	**Common Name**	**AREA (M^2)**	3347	1154	669	846	445	8072	4200	1473
Brasenia schreberi	Water shield		P	-	P	P	P	P	P	C
Eleocharis sp.	Hairgrass		-	-	-	-	-	-	-	P
Eriocaulon sp.	Pipewort		-	-	-	R	P	R	C	O
Myriophyllum farwellii	Farwell's watermilfoil		O	-	-	-	-	-	-	-
Nuphar variegata	Spatterdock		R	R	O	P	-	C	C	O
Nymphaea odorata	White waterlily		A	C	P	P	P	-	-	C
Potamogeton epihydrus	Ribbon-leaf pondweed		-	-	-	-	-	R	-	O
Potamogeton gramineus	Variable-leaf pondweed		-	-	-	-	-	-	R	R
Potamogeton natans	Floating pondweed		-	P	-	-	-	R	-	-
Sparganium sp.	Bur-reed		-	P	-	-	-	A	-	P
Utricularia purprea	Purple bladderwort		P	C	R	-	-	R	C	P

No rakes returned with plant materials during the aquatic plant survey of Trout Pond
25-July-2012

Upper St. Regis Lake Aquatic Plant Survey 2012

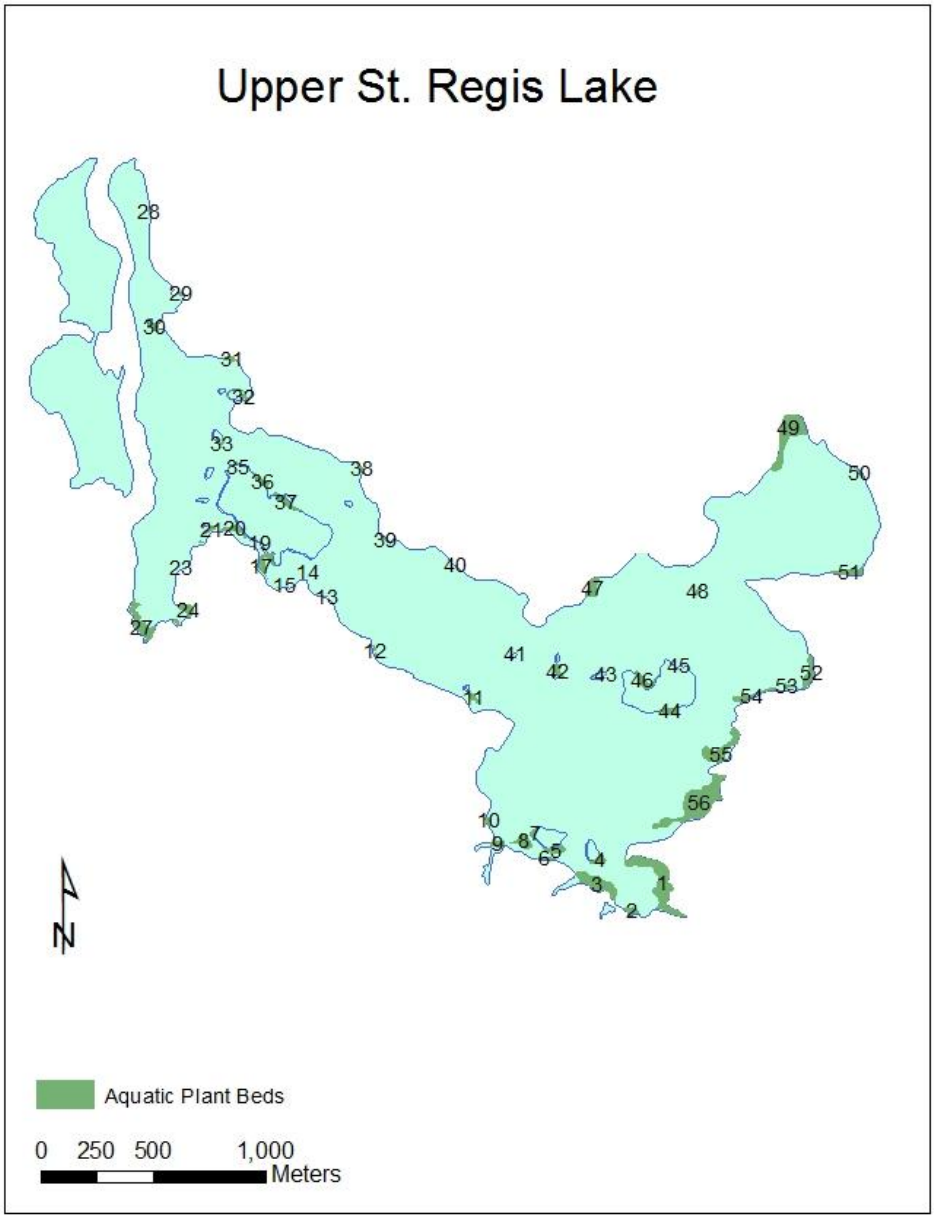


Map 113: Location of Upper St. Regis Lake.

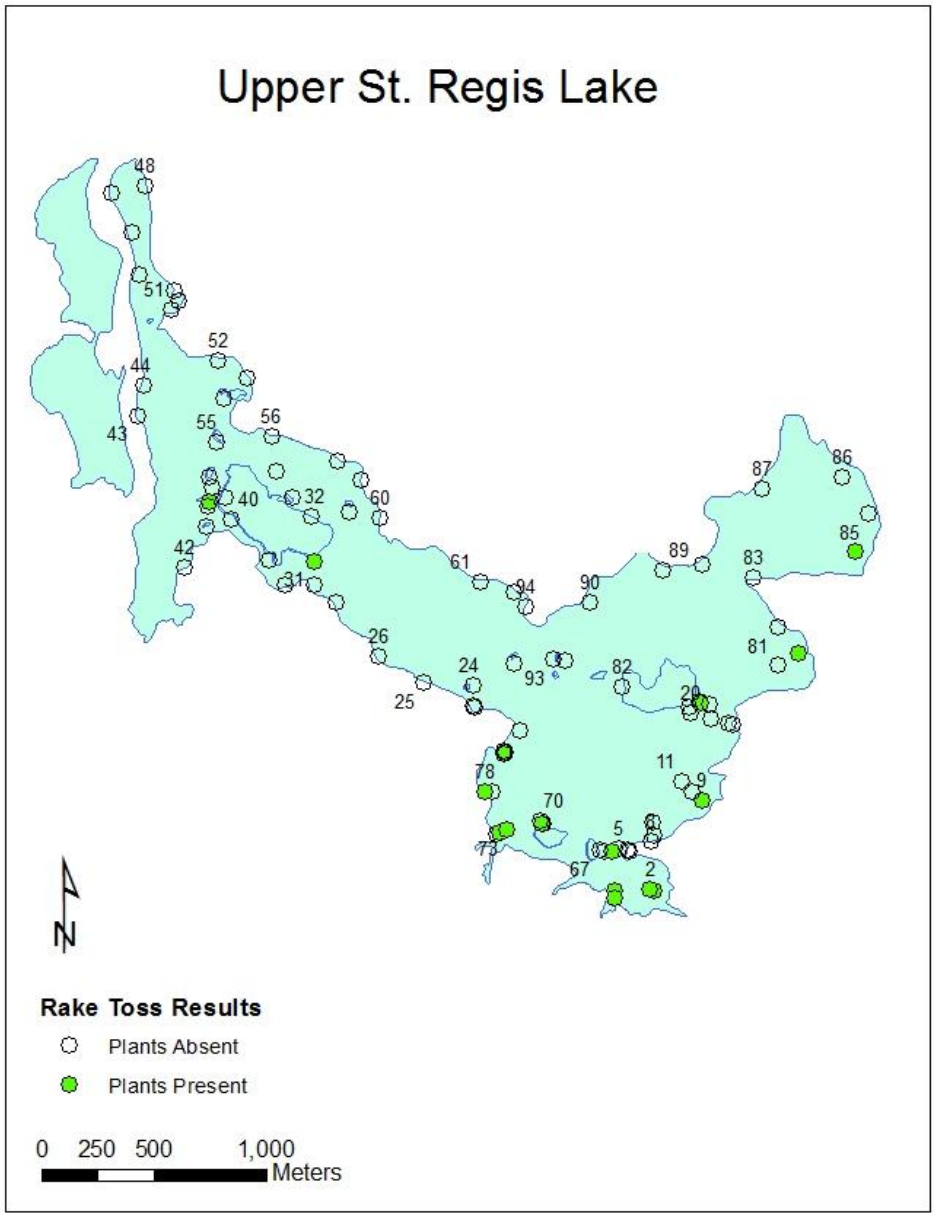
Upper St. Regis Lake is located the town of Harrietstown in Franklin County, New York (Map 113). The 711 acre lake was accessed by water through Spitfire Lake to the north or from a DEC boat launch off from State Route 30, South of Paul Smiths and north of Lake Clear.

An aquatic plant survey of Upper St. Regis Lake was conducted on 18-July-2012. No invasive aquatic plants were detected during the survey. Aquatic plant coverage in Upper St. Regis Lake was relatively low, comprised of 56 plant beds that collectively covered 37 acres or 5% of the surface area of the lake (Map 114). Fifteen different aquatic species were identified during this survey. Species common within the water body included Ribbon-leaf pondweed (*Potamogeton epihydris*), Large-leaf pondweed (*P. amplifolius*), White waterlily (*Nymphaea odorata)*, Spatterdock (*Nuphar variegata)*, and Watershield (*Brasenia)* found in many of the shallower locations of the water. Common bladderwort (*Utricularia vulgaris*), Alternate-leaf milfoil (*Myriophyllum alterniflorum*), and Shortspike watermilfoil (*M. sibiricum*) could be easily confused for invasive species (Table 77).

Of the 95 rake tosses spaced throughout the littoral zone of the lake (Map 115), 16 had acquired plants upon recovery (16.8%). Purple bladderwort (*Utricularia purprea*) and Brittlewort (*Nitella sp.*) were the only species brought up on the rakes that were not detected in the surface survey (Table 78).



Map 114: Location of the aquatic plant beds detected in Upper St. Regis Lake during the surface survey performed on 18 July, 2012.
Data for Plant Beds can be found on Table 77.



Map 115: Rake toss locations on Upper St. Regis Lake, 18 July, 2012. 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 on Table 78.

Table 77: Percent cover of aquatic plant species detected at each plant bed in Upper St. Regis Lake. Refer to Map 114 for bed locations. A = Abundant (<50% cover), C = Common (25-50%), P = Present (15-25%), O = Occasional (5-15%), and R = Rare (<5%).

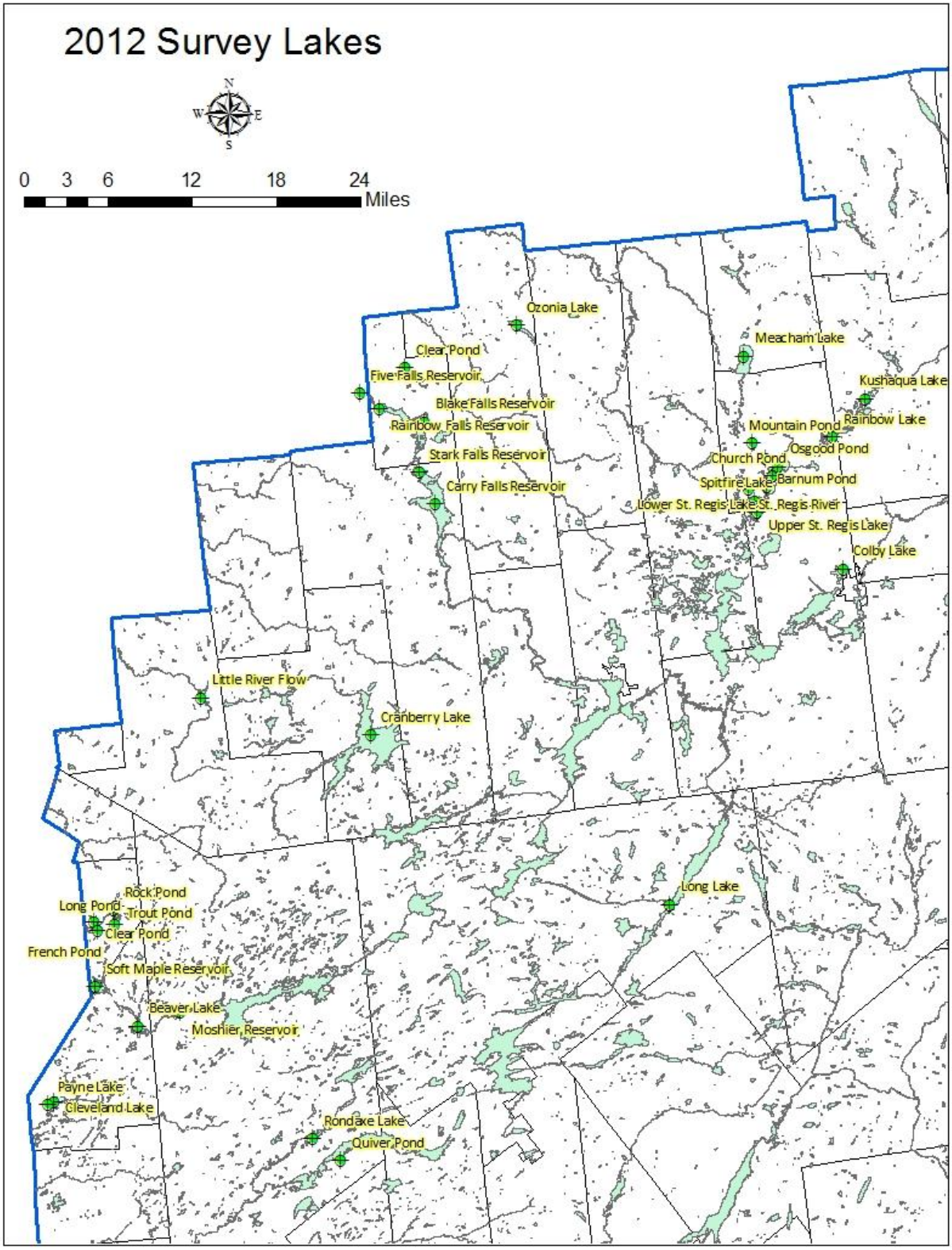
Upper St. Regis Lake			**Plant Bed Numbers**																			
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Scientific Name	**Common Name**	**AREA (M^2)**	20024	1648	10002	1932	2959	854	626	3514	1737	1014	1240	562	150	12	13	6	4006	11	23	2721
Brasenia schreberi	Water shield		P	R	-	-	O	P	-	-	P	-	-	-	-	-	-	-	P	-	-	C
Eleocharis sp.	Hairgrass		C	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Elodea nuttalia	Western waterweed		-	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eriocaulon sp.	Pipewort		-	P	-	-	-	-	-	-	-	-	-	-	C	-	-	-	P	-	-	P
Lobelia dortmanna	Water lobelia		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Myriophyllum alteriflorum	Alternate-leaf milfoil		-	-	-	C	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Myriophyllum sibiricum	Shortspike watermilfoil		-	-	A	-	P	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-
Nuphar variegata	Spatterdock		O	P	R	-	A	C	C	-	R	-	-	O	-	-	-	O	O	-	-	-
Nymphaea odorata	White waterlily		P	A	R	-	A	-	C	-	R	C	P	-	-	-	-	-	C	C	C	O
Potamogeton amplifolius	Large-leaf pondweed		R	-	-	C	-	-	-	C	C	C	C	C	C	A	-	-	O	-	-	-
Potamogeton epihydrus	Ribbon-leaf pondweed		R	R	R	-	O	-	-	R	O	P	R	-	-	-	-	C	-	-	R	R
Potamogeton gramineus	Variable-leaf pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton natans	Floating pondweed		O	-	-	-	-	-	-	-	C	-	-	-	-	-	-	-	-	-	-	-
Potamogeton perfoliatus	Clasping-leaf pondweed		R	-	-	-	-	-	-	O	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton robbinsii	Robbins pondweed		-	-	C	O	-	-	-	O	O	-	-	-	-	-	-	-	-	-	-	-
Sagittaria graminea	Grassy arrowhead		P	O	R	R	-	R	-	-	R	-	-	A	C	-	A	-	P	-	-	-
Sparganium sp.	Bur-reed		R	R	R	R	-	-	-	-	-	P	-	R	R	-	C	-	R	-	-	O
Utricularia vulgaris	Common bladderwort		R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vallisneria americana	Eel-grass		R	O	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Upper St. Regis Lake			**Plant Bed Numbers**																			
			21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Scientific Name	**Common Name**	**AREA (M^2)**	1181	214	23	2702	503	59	8121	217	492	2065	1045	1520	614	48	369	1859	2823	315	326	54
Brasenia schreberi	Water shield		-	-	-	C	-	-	C	-	-	C	-	-	-	-	-	-	-	-	-	-
Eleocharis sp.	Hairgrass		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Elodea nuttalia	Western waterweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eriocaulon sp.	Pipewort		C	C	C	C	O	P	P	-	-	P	O	C	-	O	-	O	O	-	-	-
Lobelia dortmanna	Water lobelia		-	-	-	-	R	C	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Myriophyllum alteriflorum	Alternate-leaf milfoil		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Myriophyllum sibiricum	Shortspike watermilfoil		-	-	-	R	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nuphar variegata	Spatterdock		-	-	-	R	A	-	C	-	-	P	-	-	-	-	-	P	P	-	-	-
Nymphaea odorata	White waterlily		A	P	P	-	-	-	A	A	A	-	A	A	C	C	C	C	A	O	-	-
Potamogeton amplifolius	Large-leaf pondweed		R	-	-	O	-	-	P	-	-	-	-	-	-	-	-	-	C	-	P	-
Potamogeton epihydrus	Ribbon-leaf pondweed		-	-	-	-	-	-	-	-	-	O	-	O	-	-	-	-	O	-	-	-
Potamogeton gramineus	Variable-leaf pondweed		-	-	-	-	-	-	R	-	-	R	-	-	-	-	-	-	-	-	-	-
Potamogeton natans	Floating pondweed		-	-	-	-	-	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton perfoliatus	Clasping-leaf pondweed		-	-	-	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton robbinsii	Robbins pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sagittaria graminea	Grassy arrowhead		C	C	-	-	-	-	-	-	-	O	-	P	-	-	-	-	R	-	-	-
Sparganium sp.	Bur-reed		-	R	-	-	P	R	O	-	-	O	R	R	-	-	-	-	R	A	P	C
Utricularia vulgaris	Common bladderwort		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vallisneria americana	Eel-grass		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Upper St. Regis Lake			Plant Bed Numbers															
			41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
Scientific Name	**Common Name**	**AREA (M^2)**	2	2054	205	1585	1	3203	3725	604	14572	527	3477	4113	818	3148	9749	24993
Brasenia schreberi	Water shield		-	-	-	-	-	-	-	-	O	-	-	-	-	-	-	-
Eleocharis sp.	Hairgrass		-	-	-	-	-	-	-	-	-	-	-	P	-	-	-	O
Elodea nuttalia	Western waterweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eriocaulon sp.	Pipewort		-	-	O	P	-	O	R	-	P	P	P	-	O	O	R	R
Lobelia dortmanna	Water lobelia		-	-	-	-	-	-	-	-	-	R	O	-	-	-	-	-
Myriophyllum alteriflorum	Alternate-leaf milfoil		-	-	-	-	R	-	-	-	-	-	-	-	-	-	R	-
Myriophyllum sibiricum	Shortspike watermilfoil		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nuphar variegata	Spatterdock		-	P	A	-	-	P	R	-	R	O	-	P	-	-	R	R
Nymphaea odorata	White waterlily		-	-	-	-	-	-	R	-	P	O	-	P	A	C	-	R
Potamogeton amplifolius	Large-leaf pondweed		A	O	-	-	-	-	-	A	O	-	O	R	-	C	O	P
Potamogeton epihydrus	Ribbon-leaf pondweed		-	R	R	-	-	O	O	-	-	-	-	O	-	-	R	R
Potamogeton gramineus	Variable-leaf pondweed		-	R	O	-	-	-	-	-	-	-	-	-	-	-	R	-
Potamogeton natans	Floating pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potamogeton perfoliatus	Clasping-leaf pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	O	P
Potamogeton robbinsii	Robbins pondweed		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sagittaria graminea	Grassy arrowhead		-	-	R	O	-	C	R	-	R	R	O	R	-	R	O	R
Sparganium sp.	Bur-reed		-	O	R	P	-	P	O	-	O	O	P	O	R	P	R	R
Utricularia vulgaris	Common bladderwort		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	R
Vallisneria americana	Eel-grass		-	-	-	-	-	-	-	-	-	-	-	-	-	-	O	R

Table 78: Species present on the rake at each of the rake toss locations and abundance. Refer to Map 115 for Rake locations.

Upper St. Regis Lake		**Rake Toss Locations**															
Scientific Name	**Common Name**	1	2	9	16	31	38	63	64	66	69	72	73	76	79	84	95
Eleocharis sp.	Hairgrass	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Elodea nuttalia	Western waterweed	-	-	-	-	-	-	-	-	R	-	-	-	-	-	R	-
Eriocaulon sp.	Pipewort	-	-	-	-	O	R	-	-	-	-	-	-	-	-	-	-
Myriophyllum alteriflorum	Alternate-leaf milfoil	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-	-
Myriophyllum sibiricum	Shortspike watermilfoil	-	-	-	-	-	-	-	C	-	-	-	-	-	R	-	-
Nitella sp.	Brittlewort	-	-	-	-	-	-	-	-	P	-	-	O	-	-	-	-
Potamogeton amplifolius	Large-leaf pondweed	-	-	-	-	-	-	-	-	-	-	-	-	C	-	-	R
Potamogeton gramineus	Variable-leaf pondweed	-	-	-	-	-	-	-	-	-	-	-	-	-	R	-	-
Potamogeton perfoliatus	Clasping-leaf pondweed	-	-	R	-	O	-	-	-	-	-	R	-	-	-	-	-
Potamogeton robbinsii	Robbins pondweed	-	-	-	-	-	-	C	-	-	-	-	-	-	-	-	-
Sagittaria graminea	Grassy arrowhead	-	-	-	R	-	-	-	-	-	-	-	-	-	-	-	-
Sparganium sp.	Bur-reed	-	-	-	-	-	-	-	-	-	R	-	-	-	-	-	-
Utricularia purprea	Purple bladderwort	-	-	-	-	-	-	-	-	P	-	O	-	-	-	-	-
Utricularia vulgaris	Common bladderwort	-	-	-	-	-	-	-	-	O	-	-	-	R	-	-	-
Vallisneria americana	Eel-grass	-	R	-	-	-	-	-	-	-	-	-	-	-	-	-	-


2012 Survey Lakes
N
W
E
S
0 3 6 12 18 24
Miles
Ozonia Lake
Meacham Lake
Clear Pond
Five Falls Reservoir
Kushaqua Lake
Blake Falls Reservoir
Rainbow Falls Reservoir
Mountain Pond
Rainbow Lake
Osgood Pond
Church Pond
Stark Falls Reservoir
Barnum Pond
Spitfire Lake
Carry Falls Reservoir
Lower St. Regis Lake
St. Regis River
Upper St. Regis Lake
Colby Lake
Little River Flow
Cranberry Lake
Long Lake
Rock Pond
Long Pond
Trout Pond
Clear Pond
French Pond
Soft Maple Reservoir
Beaver Lake
Moshier Reservoir
Payne Lake
Cleveland Lake
Rondaxe Lake
Quiver Pond