SŌLITUDE
LAKE MANAGEMENT

Date: May 28, 2021

To: Misha Cetner, VT DEC Lakes and Ponds

From: Kara Sliwoski, District Manager

Cc: Chris Conant, Pat Suozzi – Lake Iroquois Association
Jeff Davis, Jack Linn – Lake Iroquois Recreation District

Re: Notification of Treatment – Lake Iroquois (ANC Permit No. 3038-ANC-C)

VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION
LAKES & PONDS PROGRAM
Lake&ShorelandPermitting
Approved
2021.06.16 13:19:38 -04'00'

Please accept this as the final treatment plan for the ProcellaCOR EC herbicide treatment of Eurasian watermilfoil (*Myriophyllum spicatum*, EWM) in Lake Iroquois during the 2021 season.

The attached map shows the final treatment areas for the 2021 season, as well as the proposed FasTEST water sample location map for approval. A treatment date of Monday, June 28, 2021 is scheduled. All the required pre-treatment notifications and posting of warning signs will be handled by the Lake Iroquois Association and SOLitude Lake Management. Copies of public notifications are attached. The pre-treatment survey was conducted on May 21, 2021 by Darrin Freshwater Institute (DFWI) and on May 26, 2021 by SOLitude to verify and finalize the treatment areas.

Summary of Treatment Area EWM
The treatment area at Lake Iroquois has never been managed via herbicides so the EWM growth is present throughout the entire treatment area, in varying densities. This area is located adjacent to the State boat ramp, so the presence of EWM allows for significant transport not only within the lake, but to other waterbodies as well.

Copies of the pre-survey data maps from DFWI are provided under a separate cover.

As described in the permit application, we are planning to apply area-selective treatments of ProcellaCOR EC (3 PDU/ac-ft or 5.79 ppb/ac-ft). A copy of the dosing table is provided below:

SITE	DESCRIPTION	ACREAGE	AVG DEPTH	TYPE	RATE	PDUs
A	North	37	7	ProcellaCOR EC	3	777
	TOTALS	*37*				*777*

The liquid ProcellaCOR EC herbicide will be diluted with lake water in an onboard mixing tank and applied subsurface using trailing hoses.

The treatment is expected to be completed in one work day beginning at 11 am and ending at approximately 2 pm. The State boat launch off of Beebe will be the base of operations.

When we surveyed the lake on May 26, 2021, EWM plants were more actively growing in shallower waters than deeper. However, both new and old stems were generally 1-5 feet tall and showing active growth with red tips on the apical meristems; most growth was observed on tall, existing stems from the prior growing seasons. We will take a temperature/dissolved oxygen profile immediately prior to treatment.

Spread Prevention Measures

Please accept the following as written documentation of the spread prevention measures that we intend to employ, in accordance with the general conditions.

Prior to each treatment, all boats and equipment that will be used in the water will be:

- Inspected and all plants, plant fragments and animals will be removed
- The plug will be removed and the bilge water will be drained
- The boat hull, motor, and all spray equipment that will be placed in the water will be thoroughly washed with "Formula 409 Cleaner Degreaser Disinfectant" or similar and rinsed with a pressure washer

Upon completion of the treatment and once the boat is loaded back onto the trailer, the boat and equipment will be:

- Inspected and all plants, plant fragments and animals will be removed
- The plug will be removed and the bilge water will be drained
- The boat hull, motor, and all spray equipment that was placed in the water will be sprayed with "Formula 409 Cleaner Degreaser Disinfectant" or similar
- The boat and equipment will be more thoroughly washed and re-inspected upon return to its home SŌLitude office and before being used on another waterbody

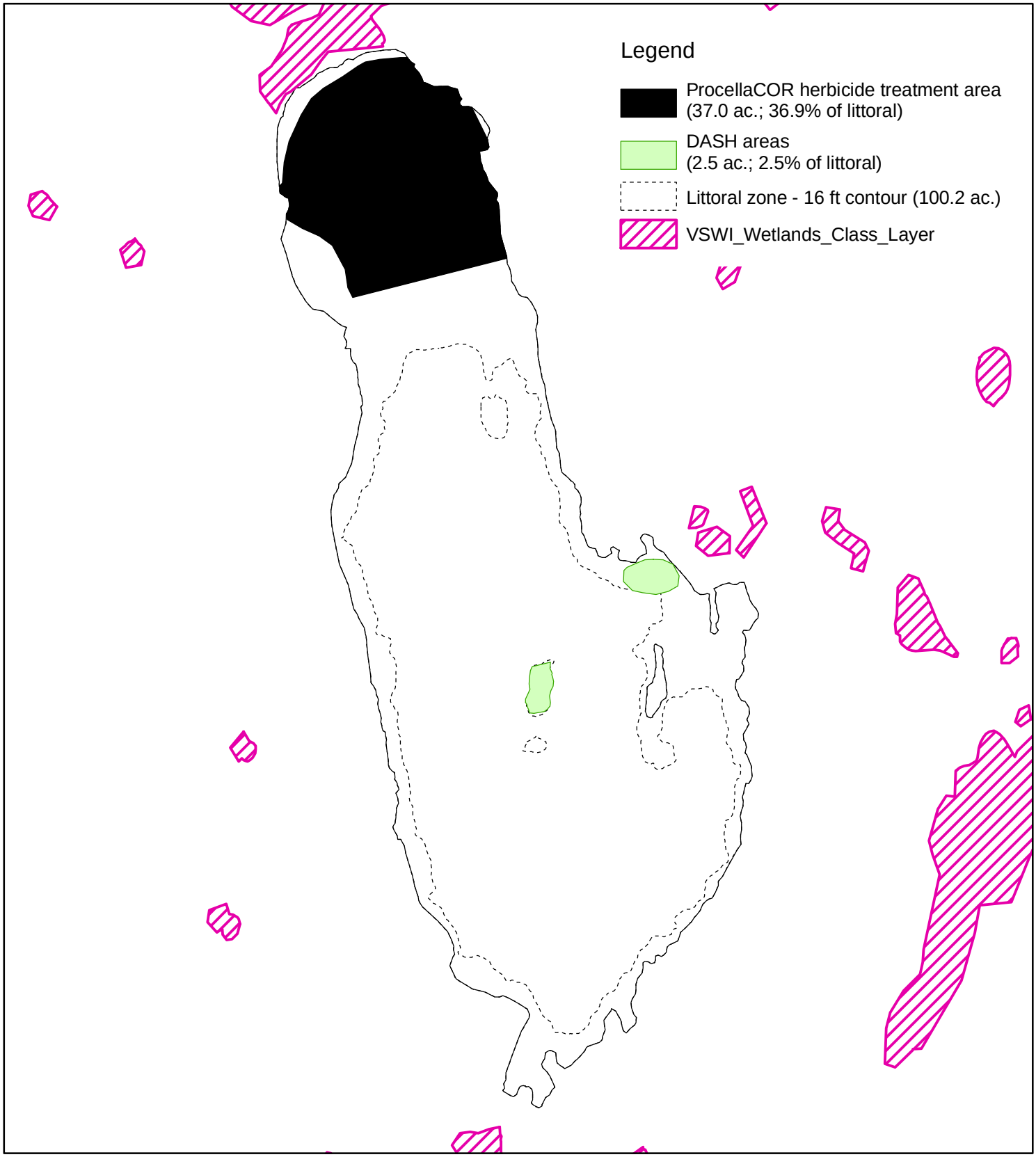
Attached Documents

- 2021 treatment area map – with littoral zone and ANR wetlands shapes
- 2021 FasTEST sample location map
- Copy of water-use recommendations poster
- Copy of abutter notice

Please feel free to contact Kara Sliwoski (508-523-1024, ksliwoski@solitudelake.com) immediately if you require any additional information for this treatment notice.

Wetland Areas - Herbicide/DASH Management Areas

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com



Lake Iroquois
Williston / Hinesburg /
Richmond, VT
Chittenden County
44.3705° N, 73.0856° W

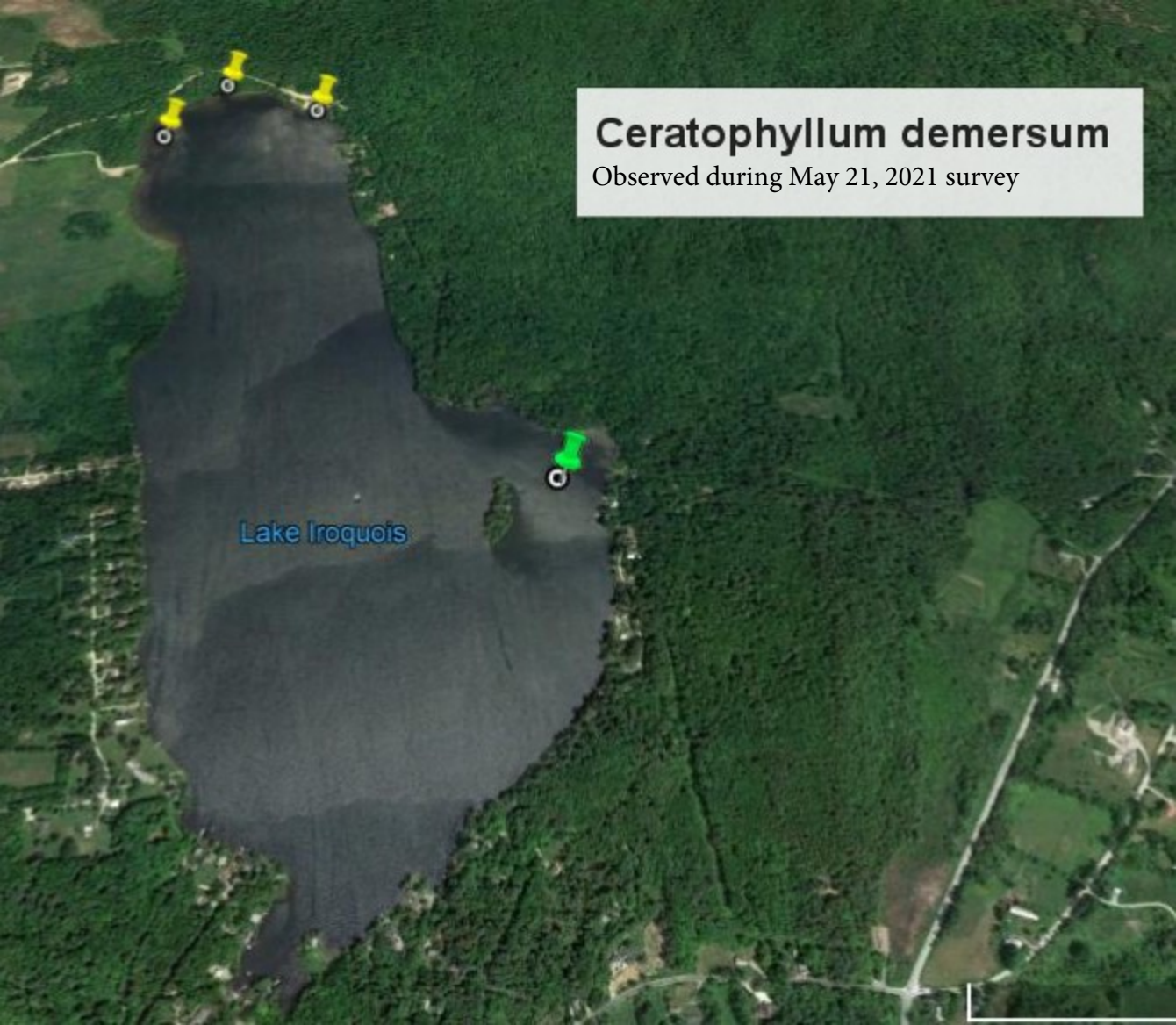
Lake Iroquois

0 850 1,700 Feet

N

1:10,500

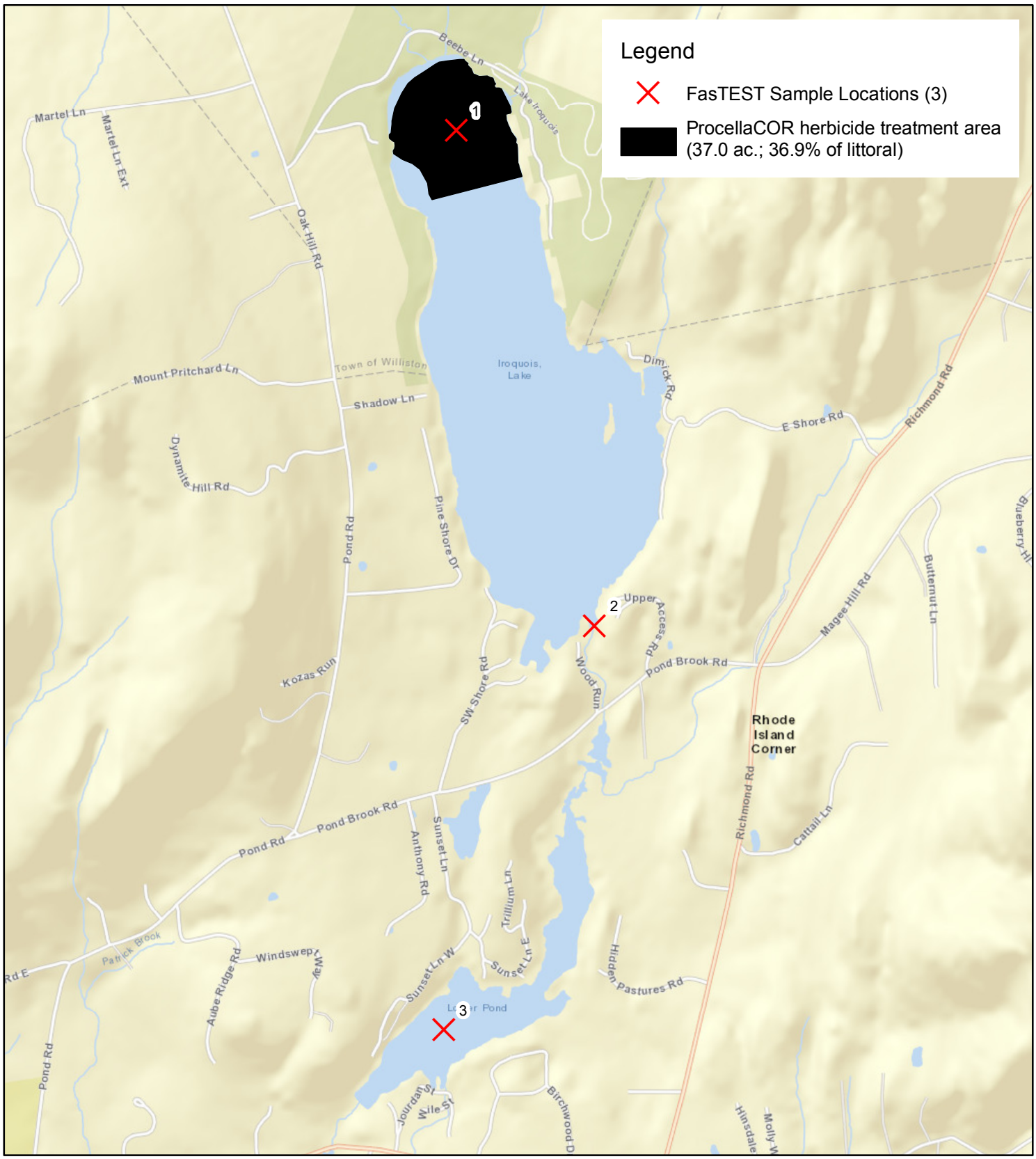
Map Date: 03/18/21
Prepared by: KS
Office: Shrewsbury, MA


Ceratophyllum demersum
Observed during May 21, 2021 survey
Lake Iroquois


Nymphaea odorata
Observed during May 21, 2021 survey
Lake Iroquois

2021 FasTEST Sample Locations

SOLITUDE LAKE MANAGEMENT
888.480.5253
solitudelakemanagement.com



Lake Iroquois
Williston / Hinesburg / Richmond, VT
Chittenden County
44.3705° N, 73.0856° W

Lake Iroquois

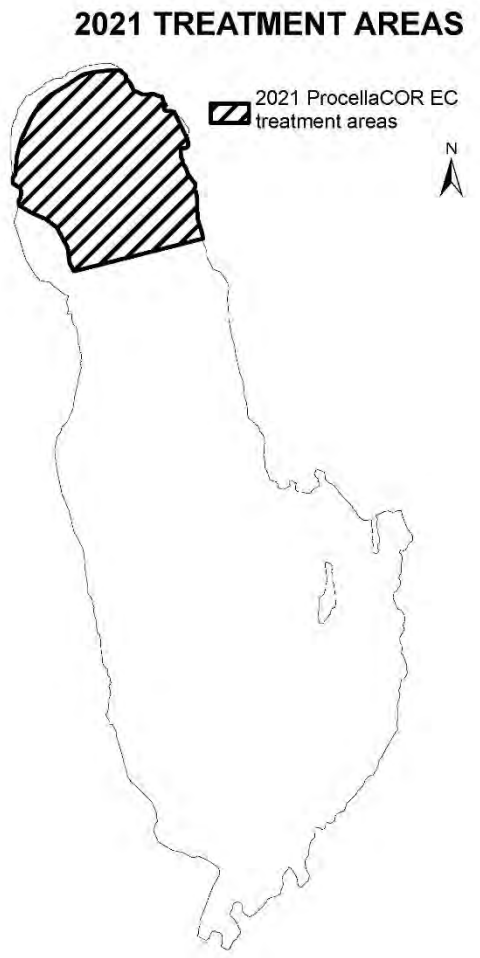
0 — 1,700 — 3,400 Feet

1:18,000

Map Date: 05/18/21
Prepared by: KS
Office: Shrewsbury, MA

WARNING
AQUATIC PESTICIDE IN USE

Due to aquatic herbicide use in Lake Iroquois with SePRO ProcellaCOR EC (active ingredient florpyrauxifen-benzyl), authorized under Aquatic Nuisance Control Permit #3038-ANC-C, the following advisory water use recommendations are in effect for the entire lake and outlet stream.



LAKE WATER ADVISORY USE RECOMMENDATIONS

- NO USE of Lake Iroquois waters and water from the outlet stream FOR ANY PURPOSE including boating, fishing, swimming, domestic (household) use or irrigation, the day of treatment on:

  Monday, June 28, 2021, beginning at 11 am

- Swimming/wading, boating, fishing and domestic (household) use may resume on:

  Tuesday, June 29, 2021, beginning at 11 am

- USE of water from Lake Iroquois FOR IRRIGATION PURPOSES including for watering lawns, trees, or other plants may resume on:

  Monday, July 5, 2021, beginning at 11 am or earlier based on sampling results, please refer to the website below for up-to-date results.

Please refer to www.solitudelakemanagement.com/vermont or www.lakeiroquois.org for additional information and updated water use advisories and recommendations.

Bottled water is available upon request by the Lake Iroquois Association (contact information below) to any person recommended from using their domestic water supply for drinking or food or drink preparation on the day of treatment only. Any person who chooses to ignore these use advisories does so at their own risk.

For additional information contact:

Kara Sliwoski
SŌLitude Lake Management
590 Lake Street
Shrewsbury, MA 01545
Office: 508-865-1000

Chris Conant
Lake Iroquois Association
PO Box 569
Hinesburg, VT 05461
Cell: 802-316-6714

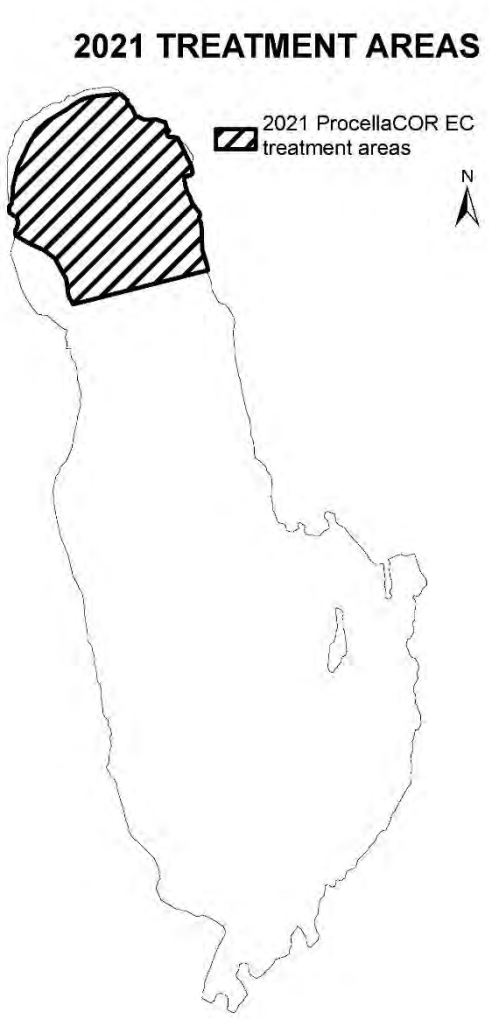
Misha Cetner
Dept. of Environmental Conservation
1 National Life Drive
Montpelier, VT 05602
Phone: 802-490-6199

Advisory Notice and Map

The Lake Iroquois Association, Lake Iroquois Recreation District and SŌLitude Lake Management plan to conduct an aquatic herbicide treatment using SePRO **ProcellaCOR® EC** (active ingredient florpyrauxifen-benzyl) in Lake Iroquois as authorized under Aquatic Nuisance Control Permit #3038-ANC-C.

The target date/time for the initial treatment is **Monday, June 28, 2021, beginning at 11 am.**

Signs will be posted around the shoreline, along adjacent roadways; and at all public and private campgrounds and access points with the exact treatment date/time and updated use advisories.



Lake Water Advisory Use Restrictions

- It is recommended there be NO USE of Lake Iroquois waters and water from the outlet stream FOR ANY PURPOSE on the day of treatment including boating, fishing, swimming, domestic (household) use, or irrigation.
- It is recommended that swimming/wading, boating, fishing and domestic (household) use may resume 24 hours after completion of treatment.
- It is recommended there be NO USE of water from Lake Iroquois and from the outlet stream FOR RESIDENTIAL AND OTHER NON-AGRICULTURAL IRRIGATION beginning the day of treatment and continuing until notification is provided that the active ingredient in SePRO ProcellaCOR® EC is at or below 2 parts per billion OR until after a 7-day waiting period has passed, whichever is longer. Established turf may be irrigated immediately after treatment.

The exact duration of the above recommendations on this Notice is subject to change. Please refer to the posted signs and the website listed below for up-to-date information regarding water use recommendations. Bottled water is available upon request by the Lake Iroquois Association (contact information below) to any person recommended from using their domestic water supply for drinking or food or drink preparation on the day of treatment only. IF A RESIDENCE OR PROPERTY IS LEASED, RENTED OR USED at any time after the initial treatment until December 31, 2021, the property owner is responsible for informing all transient users of the treatment and these advisory water-use recommendations. Any person who chooses to ignore these use advisories does so at their own risk.

Please refer to www.solitudelakemanagement.com/vermont or www.lakeiroquois.org for additional information and updated water use advisories and recommendations.

For additional information contact:

Kara Sliwoski
SŌLitude Lake Management
590 Lake Street
Shrewsbury, MA 01545
Office: 508-865-1000

Chris Conant
Lake Iroquois Association
PO Box 569
Hinesburg, VT 05461
Cell: 802-316-6714

Misha Cetner
Dept. of Environmental Conservation
1 National Life Drive
Montpelier, VT 05602
Phone: 802-490-6199

Interim Report on the Aquatic Vegetation of Lake Iroquois, VT

Lawrence Eichler
Darrin Fresh Water Institute
Bolton Landing, NY 12814
(518) 644-3541 (voice) (581) 644-3640 (fax)
eichll@rpi.edu

1. Background.

At the request of the Lake Iroquois Association, we conducted an aquatic plant assessment of Iroquois Lake, Chittenden County, Vermont in May 2021. The assessment included a quantitative survey of existing aquatic plant communities and the extent of exotic species infestation with particular reference to Eurasian watermilfoil (*Myriophyllum spicatum*) and Curly-leaf Pondweed (*Potamogeton crispus*).

2. Methods

2a. Species List and Herbarium Specimens. As the lake was surveyed, the occurrence of each aquatic plant species observed in the lake was recorded and herbarium specimens collected where necessary. The herbarium specimens were pressed, dried, and mounted (Hellquist 1993). Specimens became part of the permanent collection at the Darrin Fresh Water Institute Laboratory in Bolton Landing, NY. All taxonomy is based on Crow & Hellquist, 2000.

2b. Point Intercept. The frequency and diversity of aquatic plant species were evaluated using a point intercept method (Madsen 1999). At each grid point intersection, all species located at that point were recorded, as well as water depth. Species were located by a visual inspection of the point and by deploying a rake to the bottom, and examining the plants retrieved. A total of 67 points were surveyed for Lake Iroquois, based on a 100 m grid. A global positioning system (GPS) was used to navigate to each point for the survey observation. Point intercept plant frequencies were surveyed on May 21, 2021 at a time just prior to a proposed herbicide treatment with Procella COR. Data presented in the summary are on a whole-lake basis, and have not been adjusted for the littoral zone only.

3. Results

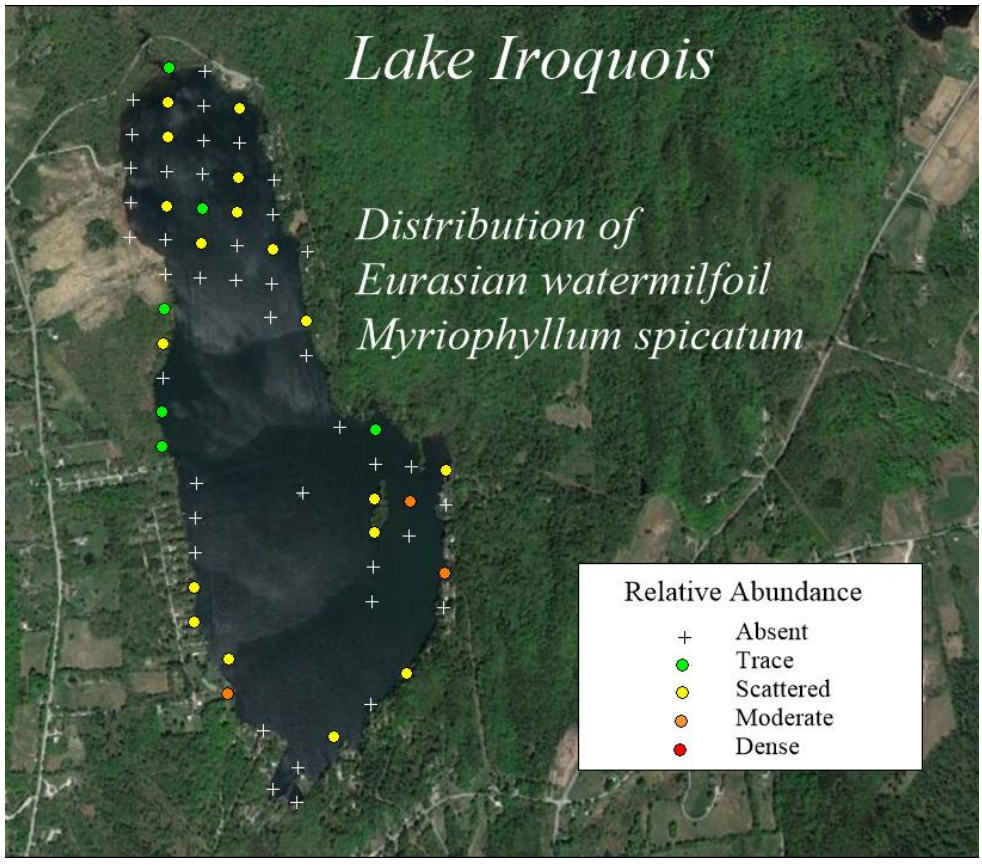
3a. Species List. A total of 32 species of aquatic plants have been observed in Lake Iroquois over several survey years (Table 1). The aquatic plant community included twenty-three submersed species, two floating-leaved species, one floating species and six emergent species.

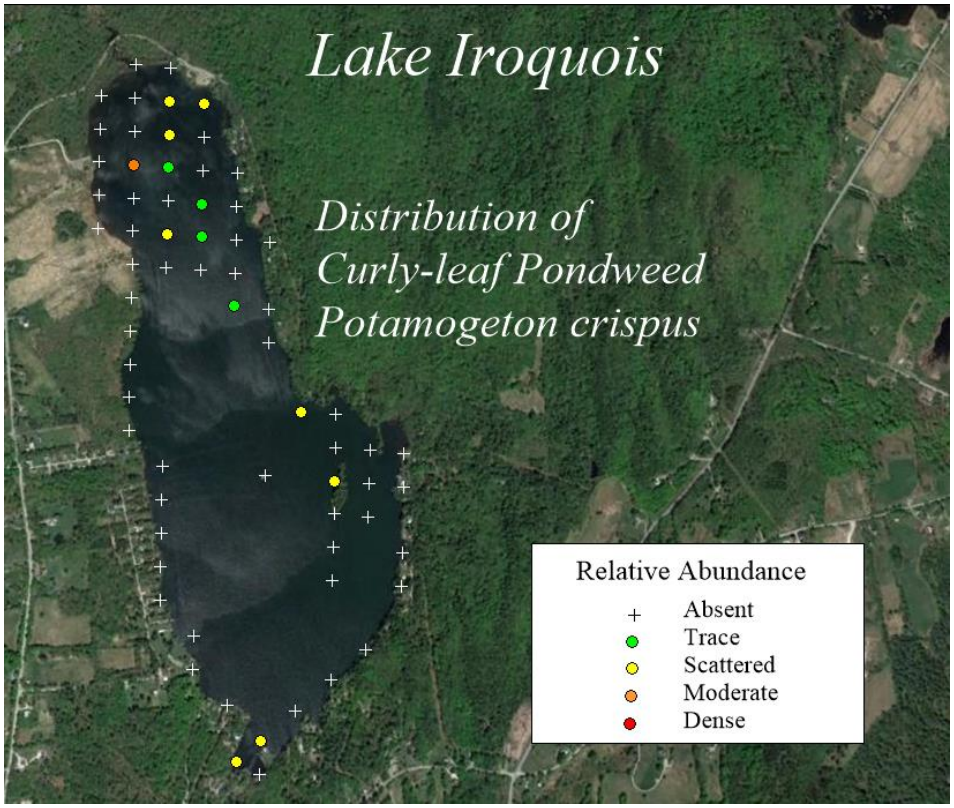
The current survey was conducted in May prior to germination of many species and only reported 17 species.

3b. Species Frequency. Species richness in Lake Iroquois remains high, with several species occurring in more than 5% of survey points (Table 2). Waterweed (*Elodea canadensis*) was the most common species, present in 29% of survey points. Eurasian watermilfoil (*Myriophyllum spicatum*) and Curly-leaf Pondweed (Potamogeton crispus) were also common, present in 27% and 13% of survey points, respectively. A number of native species were also commonly observed, including *Zosterella dubia* (26% of survey points), *Chara spp* (13%), and *Ceratophyllum demersum* (6%).

3c. Distribution of Eurasian watermilfoil. Growth of Eurasian watermilfoil ringed Lake Iroquois (Figure 1), with growth found from a minimum depth of 2 feet (0.5 m) to a maximum depth of 13 feet (4.0 m). Eurasian watermilfoil reached its maximum density at the north end of the lake. Distribution of Curly-leaf Pondweed was similar.

Figure 1. Distribution of Eurasian watermilfoil (*Myriophyllum spicatum*) and Curly-leaf Pondweed (Potamogeton crispus) in Lake Iroquois in May 2021.





4. References

Hellquist, C.B. 1993. Taxonomic considerations in aquatic vegetation assessments. Lake and Reserv. Manage. 7:175-183.

Madsen, J.D. 1999. Point intercept and line intercept methods for aquatic plant management. US Army Engineer Waterways Experiment Station Aquatic Plant Control Research Program Technical Note CC-02, Vicksburg, MS.

VT DEC. 2012. Rare and Uncommon Native Vascular Plants of Vermont. Vermont Natural Heritage Inventory. Vermont Fish & Wildlife Department. 21 November 2012. www.vtfishandwildlife.com/.../List_of_Rare_and_Uncommon_Native_Plants_of_Vermont.pdf

Table 1. Species list for Lake Iroquois. Species in red are invasive.

Species Name	Common Name	Lake Iroquois
Brasenia schreberi	Water shield	fl
Ceratophyllum demersum L.	coontail	s
Chara sp.	muskgrass, chara	s
Eleocharis acicularis (L.) Roemer & Schultes	needle spike-rush	e
Elodea canadensis Michx.	elodea	s
Isoetes echinospora Dur.	quillwort	e
Lemna minor L.	duckweed	f
Lemna trisulca L.	duckweed	s
Megalodonta (Bidens) beckii Torr.	water marigold	s
Myriophyllum spicatum L.	Eurasian watermilfoil	s
Najas flexilis (Willd.) Rostk. & Schmidt.	bushy pondweed	s
Najas guadalupensis L.	southern naiad	s
Nymphaea odorata Ait.	white waterlily	fl
Polygonum amphibium	smartweed	e
Pontederia cordata L.	pickerelweed	e
Potamogeton amplifolius Tuckerm.	large-leaf pondweed	s
Potamogeton crispus L.	curly-leaf pondweed	s
Potamogeton foliosus Raf.	pondweed	s
Potamogeton natans L.	floating-leaf pondweed	s
Potamogeton perfoliatus L.	clasping-leaf pondweed	s
Potamogeton praelongus Wulfen	white-stem pondweed	s
Potamogeton pusillus L.	small pondweed	s
Potamogeton richardsonii Oakes	Richardsons' pondweed	s
Potamogeton spirillus Tuckerm.	pondweed	s
Potamogeton zosteriformis Fern.	flat-stem pondweed	s
Ranunculus longirostris Godron	white water crowsfoot	s
Sparganium sp.	burreed	e
Typha sp.	cattail	e
Utricularia gibba L.	humped bladderwort	s
Utricularia vulgaris L.	great bladderwort	s
Vallisneria americana L.	wild celery	s
Zosterella dubia (Jacq.) Small	water stargrass	s

f=floating fl=floating leaved e=emergent s=submersed

Table 2. Aquatic plant percent frequency by species for surveys of Lake Iroquois in May 2021.

Species	Name	Percent Frequency
Ceratophyllum demersum	coontail	5.9%
Chara species	muskgrass, chara	12.7%
Eleocharis acicularis	needle spike-rush	1.0%
Elodea canadensis	elodea	29.4%
Lemna trisulca	duckweed	2.0%
Myriophyllum spicatum	Eurasian watermilfoil	26.5%
Nymphaea odorata	white waterlily	7.8%
Potamogeton amplifolius	largeleaf pondweed	8.8%
Potamogeton crispus	curlyleaf pondweed	12.7%
Potamogeton praelongus	white-stem pondweed	4.9%
Potamogeton zosteriformis	flat-stem pondweed	2.0%
Ranunculus longirostris	white watercrowfoot	3.9%
Sparganium	burreed	2.9%
Typha latifolia L.	cattail	1.0%
Utricularia vulgaris	great bladderwort	2.9%
Vallisneria americana	wild celery	2.0%
Zosterella dubia	water stargrass	25.5%