Song Lake Milfoil

2024
Pre- & Post-Treatment SAV Survey Report

& ProcellaCOR EC Treatment Report

Little Bear Environmental

Background

- Milfoil has been present within Song Lake for several years
- Treatment options have been explored by SLPOA for a number of years
- Little Bear Environmental responded to an RFP issued by SLPOA and was contracted to complete the permits and conduct the herbicide application to treat milfoil within Song Lake with ProcellaCOR EC.
- The majority of the infested shoreline was the treatment area (as designated by a previously done survey (not LBE) which was modified as per some landowner requests not to have their properties treated.

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Aquatic Plant Survey Protocols

- Map pre-determined GPS Survey points throughout treatment areas
- An aquatic weed rake head was tossed at each sample point and pulled in toward the boat.
- LBE identified and recorded plant species found on the rake and estimated the percent of each plant species in the sample.
- A semi-quantitative abundance score (no plants, trace, sparse, moderate, or dense) was recorded for each species at each sample point along with a total abundance of all species present at each sample point.

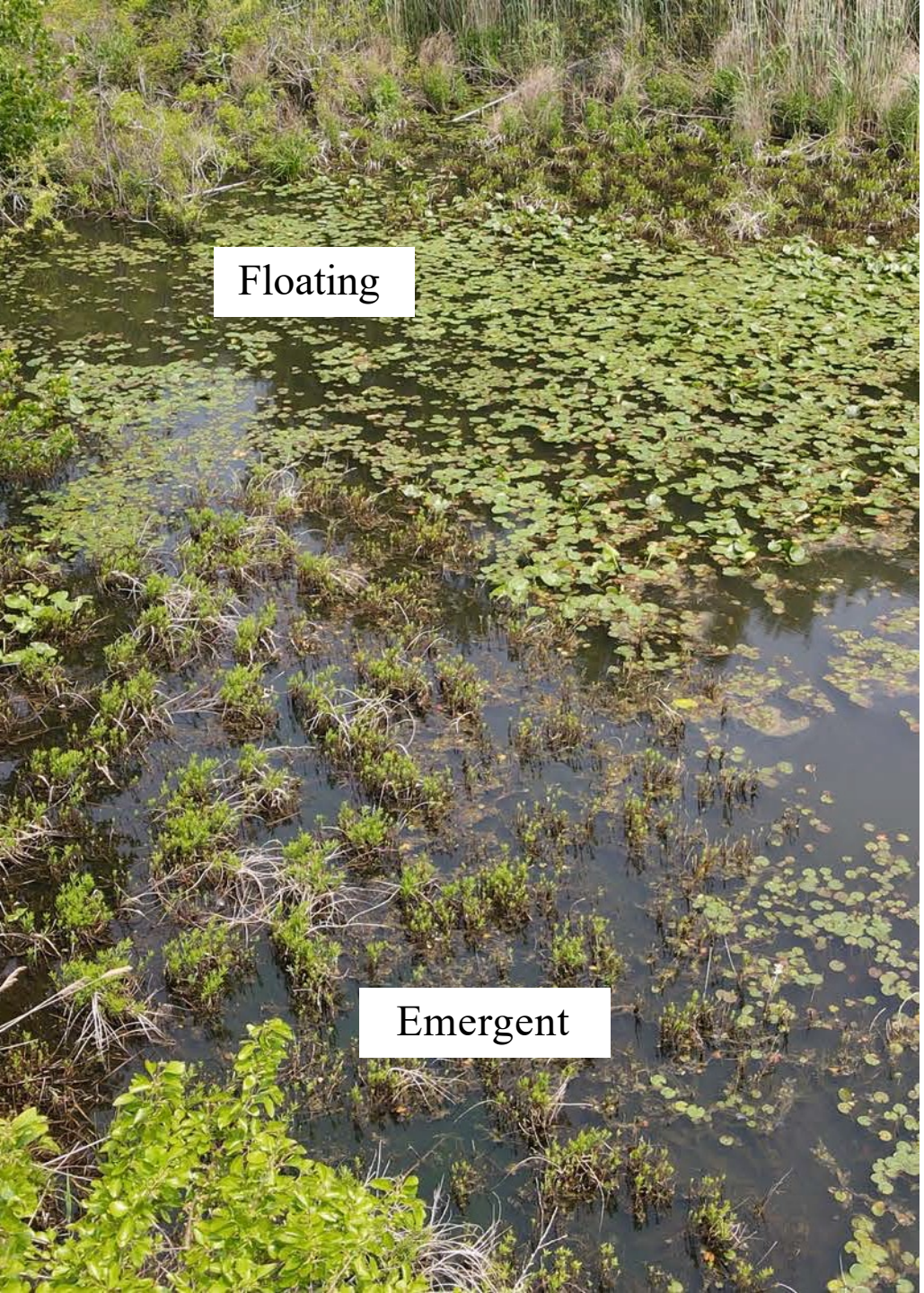
Little Bear Environmental

Types of Aquatic Plants

EMERGENT

FLOATING

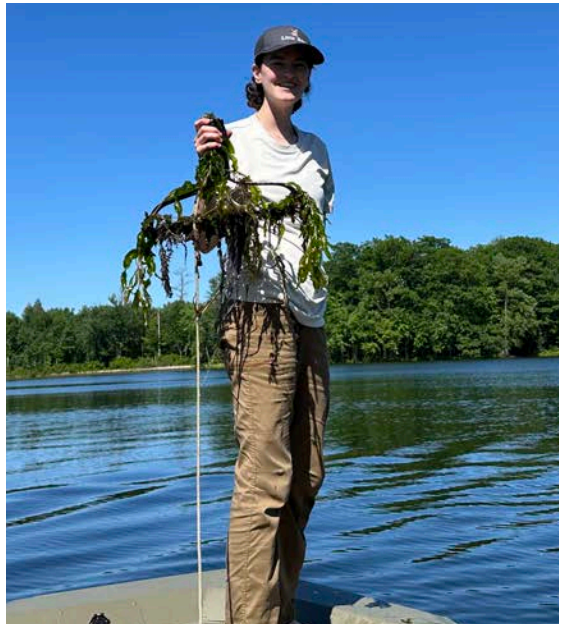
SUBMERSED



Visual Examples of **Dense** Abundance

Visual Examples of Abundance

Trace



Sparse

Moderate

Dense

Pre-Treatment
Plant Survey Results -2024

Species Present

- Hybrid Water Milfoil (*Myriophyllum spp*.)
- Clasping Pondweed (*Potamogeton perfoliatus)*
- White Water Crowfoot (*Ranunculus aquatilis*)
  Spatterdock (*Nuphar variegata*)
- Muskgrass (*Chara vulgaris*)
- Filamentous Algae (various taxa)

40 points sampled.

Overall abundance

- 22 Dense
- 11 Moderate
- 3 Sparse
- 4 Trace
- 0 No plants

5 species

1 non-native

	water depth (ft.)	spatterdock	milfoil	filamentous algae	White water crowfoot	clasping pondweed	chara	pondweed #2	TOTAL	Coordinates
Site 1	5.7		S			T			S	42°46'19.83"N, 76° 8'49.14"W
Site 2	6.0		S			S			S	42°46'19.08"N, 76° 8'46.67"W
Site 3	10.0	T	M			T			M	42°46'20.59"N, 76° 8'42.24"W
Site 4	9.0		S		T	T			S	42°46'17.49"N, 76° 8'43.04"W
Site 5	15.0		T		T	T			T	42°46'15.48"N, 76° 8'44.64"W
Site 6	15.0		M		T	S			M	42°46'11.79"N, 76° 8'42.67"W
Site 7	6.0		T						T	42°46'10.15"N, 76° 8'39.64"W
Site 8	14.7						T		T	42°46'16.73"N, 76° 8'44.40"W
Site 9	3.0		D		T	S			D	42°46'18.68"N, 76° 8'40.87"W
Site 10	14.5		D						D	42°46'2.03"N, 76° 8'39.01"W
Site 11	6.6		D			M			D	42°45'58.95"N, 76° 8'38.67"W
Site 12	5.0		D			S			D	42°45'56.45"N, 76° 8'38.96"W
Site 13	8.2		M			S			M	42°46'5.67"N, 76° 8'39.81"W
Site 14	10.5		D			S			D	42°46'3.59"N, 76° 8'40.06"W
Site 15	8.6		D						D	42°45'54.12"N, 76° 8'39.17"W
Site 16	6.0		D						D	42°45'52.62"N, 76° 8'37.35"W
Site 17	5.0		D						D	42°45'50.51"N, 76° 8'35.62"W
Site 18	8.5		D						D	42°45'51.07"N, 76° 8'37.39"W
Site 19	10.5		M						M	42°45'49.06"N, 76° 8'36.00"W
Site 20	8.6		D						D	42°46'8.70"N, 76° 8'43.97"W
Site 21	9.6		S			M			M	42°45'49.89"N, 76° 8'42.80"W
Site 22	5.3		D						D	42°45'52.14"N, 76° 8'44.85"W
Site 23	14.4	M	T						M	42°45'54.39"N, 76° 8'46.62"W
Site 24	12.4		D			D			D	42°45'55.83"N, 76° 8'49.25"W
Site 25	8.9	M							M	42°45'58.23"N, 76° 8'51.21"W
Site 26	10.4		M						M	42°46'0.15"N, 76° 8'52.31"W
Site 27	14.0		M			S			M	42°46'1.97"N, 76° 8'53.20"W
Site 28	4.4	M	D	T					D	42°46'4.12"N, 76° 8'54.81"W
Site 29	5.4		M						M	42°46'6.45"N, 76° 8'56.07"W
Site 30	5.7		D					T	D	42°46'8.28"N, 76° 8'57.14"W
Site 31	4.7	S	M			S		T	M	42°46'10.45"N, 76° 8'56.39"W
Site 32	3.5		D						D	42°46'12.70"N, 76° 8'58.40"W
Site 33	10.4	T	D						D	42°46'14.08"N, 76° 9'1.16"W
Site 34	5.6		D						D	42°46'15.03"N, 76° 8'59.89"W
Site 35	4.6	T	D				T		D	42°46'17.16"N, 76° 9'1.95"W
Site 36	3.2		D						D	42°46'19.76"N, 76° 9'3.84"W
Site 37	2.5		D						D	42°46'21.58"N, 76° 9'5.15"W
Site 38	2.7		D						D	42°46'23.35"N, 76° 9'5.08"W
Site 39	4.5		D						D	42°46'25.16"N, 76° 9'4.93"W
Site 40	6.5					T			T	42°46'25.37"N, 76° 9'1.08"W

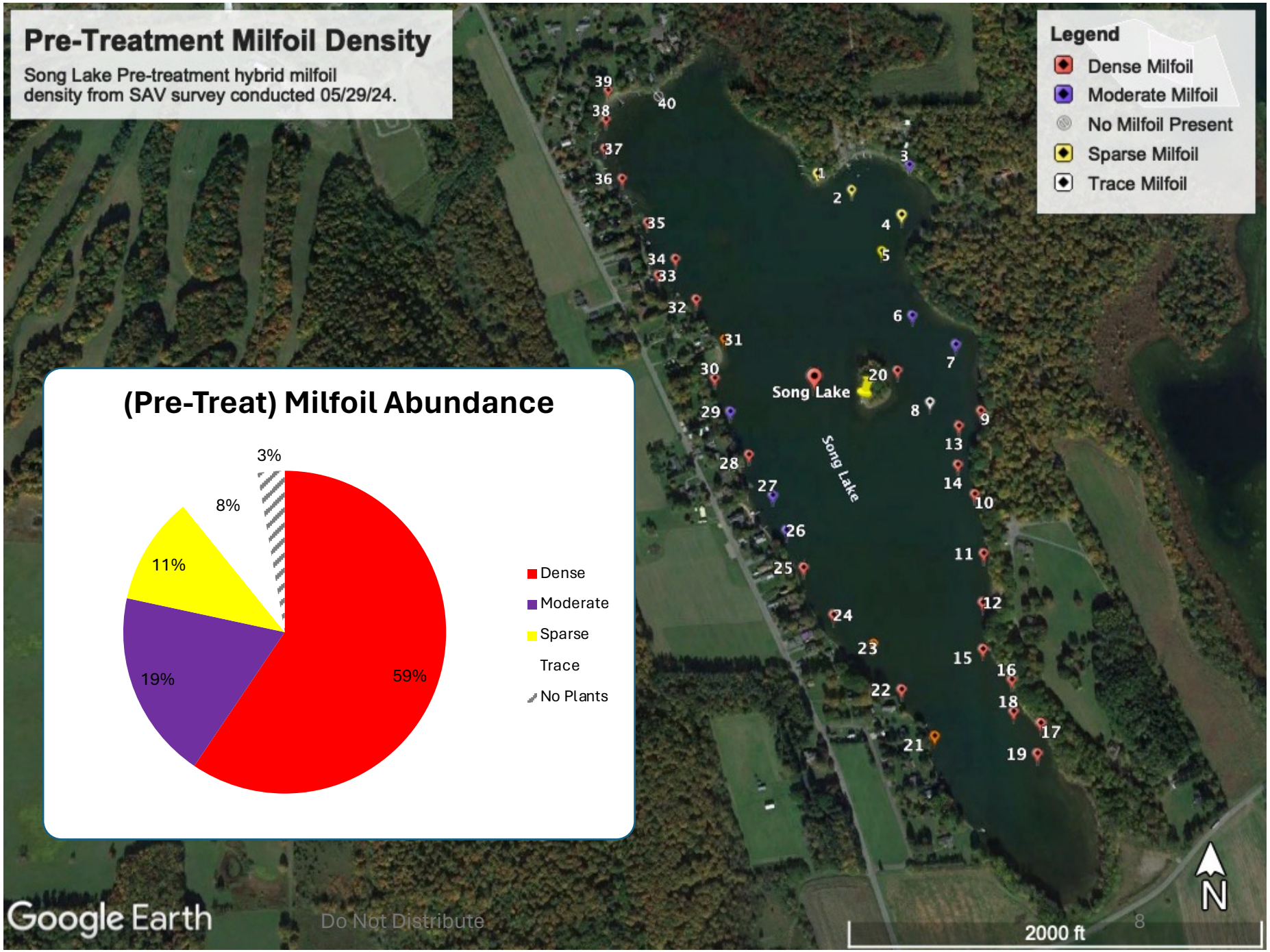
KEY : Blank = No Plants, T = Trace, S = Sparse, M = Moderate, D = Dense

Milfoil Density Pre- Treatment

40 points sampled.

Milfoil abundance

- 22 Dense
- 7 Moderate
- 4 Sparse
- 3 Trace
- 1 No plants



Post-Treatment Plant Survey Results -2024

Species Present

- Clasping Pondweed (*Potamogeton perfoliatus)*
- White Water Crowfoot (*Ranunculus aquatilis*)
- Spatterdock (*Nuphar variegata*)
- Muskgrass (*Chara vulgaris*)
- Filamentous Algae (various taxa)
- Slender naiad (Najas flexilis)
- Lake Cress (Rorippa aquatica)
- Common waterweed (Elodea canadensis)
- Quillwort (Isoetes spp.)

No milfoil present at any survey points!

40 points sampled.

Overall abundance

- 4 Dense
- 10 Moderate
- 14 Sparse
- 6 Trace
- 5 No plants

9 species

0 non-native

	water depth (ft.)	spatterdock	watermilfoil	filamentous algae	White water crowfoot	clasping pondweed	chara	slender naiad	lake cress	elodea	isoetes	TOTAL	Coordinates
Site 1	5.7												42°46'19.83"N, 76° 8'49.14"W
Site 2	6.0												42°46'19.08"N, 76° 8'46.67"W
Site 3	10.0			M	S	M						M	42°46'20.59"N, 76° 8'42.24"W
Site 4	9.0			S	T	T	T					S	42°46'17.49"N, 76° 8'43.04"W
Site 5	15.0	T			T	M						M	42°46'15.48"N, 76° 8'44.64"W
Site 6	15.0				T	S						S	42°46'11.79"N, 76° 8'42.67"W
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Site 18	8.5			T		S						S	42°45'51.07"N, 76° 8'37.39"W
Site 19	10.5						S				T	S	42°45'49.06"N, 76° 8'36.00"W
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Site 30	5.7					D	T		S			D	42°46'8.28"N, 76° 8'57.14"W
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Site 39	4.5												42°46'25.16"N, 76° 9'4.93"W
Site 40	6.5			S			T				T	S	42°46'25.37"N, 76° 9'1.08"W

KEY : Blank = No Plants, T = Trace, S = Sparse, M = Moderate, D = Dense

Treatment Success

- During pre-treatment SAV survey milfoil was present at 38/40 points, of which 59% were densely infested with milfoil.
- Post-treatment no milfoil was present at any of the 40 sites.
- Complete control of the species within the treatment areas was achieved.
- Species richness increased during the post-treatment survey.

Species Profiles

Spatterdock

NATIVE

Nuphar variegata

Emergent. Large green leaves may be seen floating, emerging from the water on stalks, or submerged under water. Leaves are oblong with a deep v-shaped notch where each stem connects. Flowers are bright yellow petals that emerge from the water like a bulb. Rhizomes are large and fleshy, which serve as food for some wildlife.

Management notes: No Management recommended for this species at this time.

Benthic filamentous algae

NATIVE

Algal cells that harden into long extending filaments from the substrate or collect on vegetation and large woody debris. Can appear as green or brown mats and may float to the surface as floating mats. May include a range of taxa.

Management notes: Upon survey, BFA did not represent a significant amount of density within Song Lake. It does provide evidence of nutrient-rich waters. No management recommended at this time.

Clasping leaf Pondweed

NATIVE

Potamogeton perfoliatus

Management notes: This species represented a significant amount of density within Song Lake, and likely provides vital food and habitat for aquatic wildlife. Pondweeds are typically very tolerant to ProcellaCOR treatments and populations were stable during post-treatment survey.

No management recommended at this time.

White Water Crowfoot

NATIVE

Ranunculus aquatilis

Has finely dissected, fan-shaped leaves alternately arranged along the stem. Blooms with small white flowers mid to late summer.

Management notes: As canopy of milfoil dies back, this native will have habitat to expand into. No management recommended at this time.

Photo: David Nicholls

Muskgrass

NATIVE

Chara vulgaris

Macro algae often confused with macrophytes because of stem-like and leaf-like structures. Often known for its skunk-like odor, can top out and decay at nuisance densities.

Management notes: Chara did not represent a significant amount of density within Song Lake. It does provide evidence of nutrient-rich waters. No management recommended at this time.

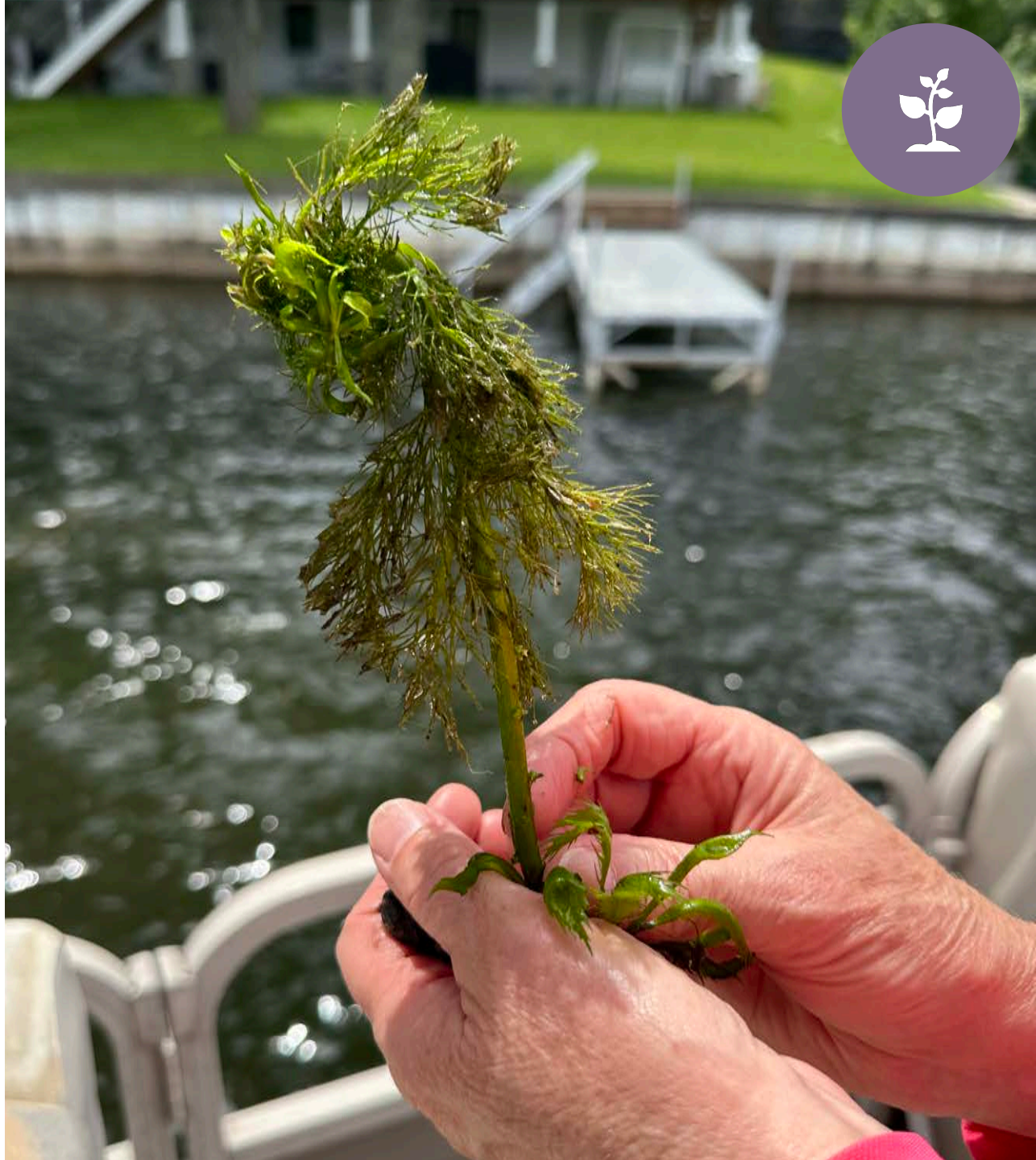
Lake Cress

NATIVE

Rorippa aquatica

Rooted, perennial, aquatic herb. Has finely dissected, submerged leaves, transitioning to pinnatifid to lobed to toothed when emerged. Blooms with small white flowers mid to late summer.

Management notes: As a species of conservation concern in New York State, this species should be protected within Song Lake. The abundance of the plant in the post-treatment survey suggests it was hidden under the canopy of watermilfoil during the pre-treatment survey and was not impacted by florpyrauxifen-benzyl.



Common waterweed

NATIVE

Elodea canadensis

Perennial, submersed. Leaves in whorls of 3-5, tapered, smooth margins.
Management notes: Found in trace densities. No management recommended at this time.

Slender naiad

NATIVE

Najas flexilis

Annual submersed. Thin-leaved plant that does not hold its shape out of water.
Management notes: Found only in trace densities. No management recommended at this time.

Quillwort

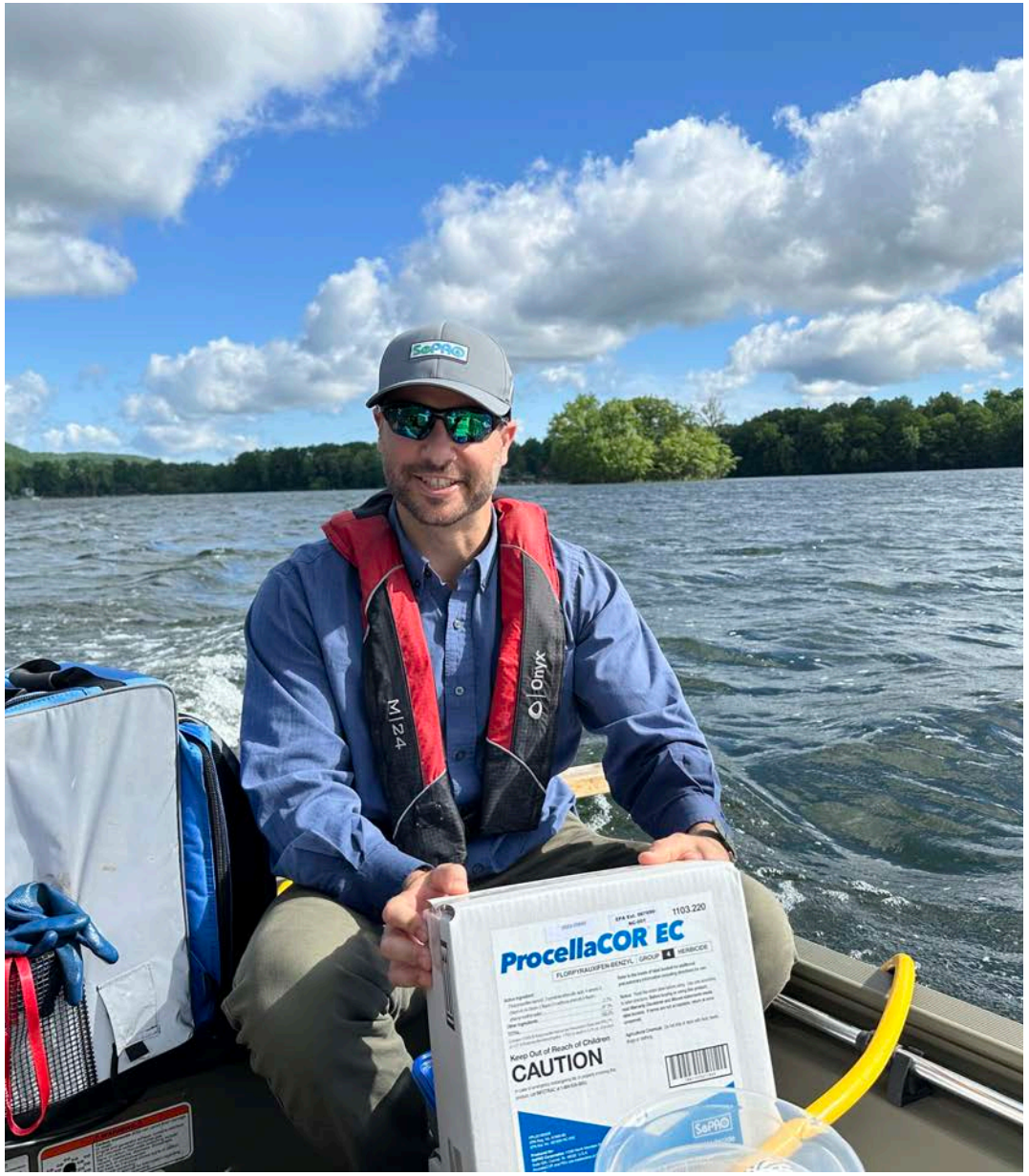
NATIVE

Isoetes spp.

Perennial, leaves simple, spirally arranged from base.
Management notes: No management recommended at this time.

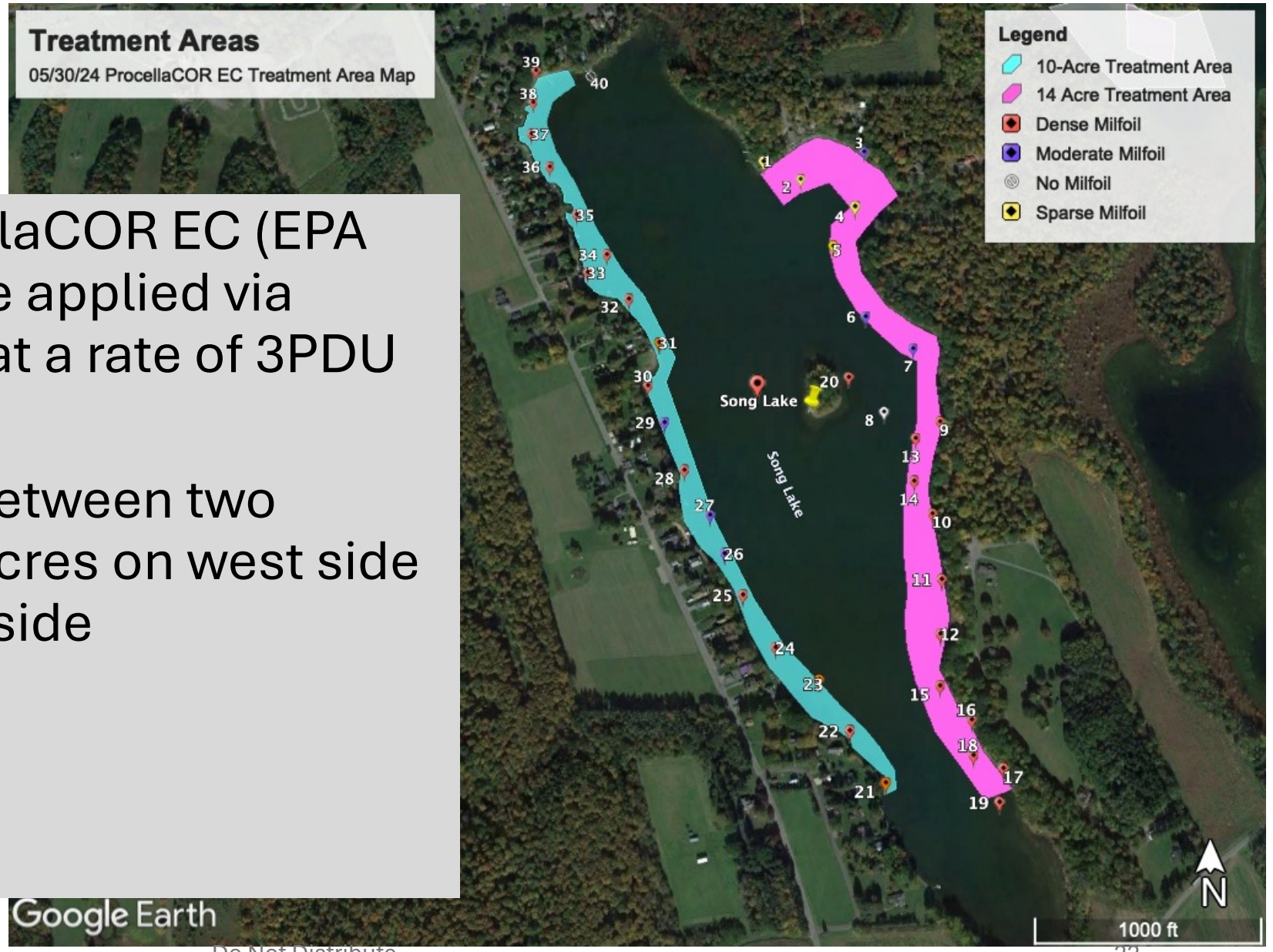
Treatment Report

- Treatment 05/30/24
- Prior to treatment, Milfoil plants samples were collected from throughout the lake and sent to Dr. Ryan Thum's lab for genetic analysis of the hybrid strain.
- NYSDEC Region 7 Pesticides Staff was on site to conduct an inspection of the herbicide application and passed all inspections (#05302455701).
- NYSDEC Pesticide Permit #: AV-7-24-26
- SPDES Permit identification number: NYP210093
- Staff from SePRO (product manufacturer) was present for treatment



Treatment Report

- 14.3 gallons of ProcellaCOR EC (EPA Reg #: 67690-80) were applied via subsurface injection at a rate of 3PDU per acre ft.
- Treatment was split between two treatment areas: 10 acres on west side and 14 acres on east side



Sampling

- A water sample was collected from each treatment area as well as the AQV dilution zone per NYSDEC permit requirements on 6/3/24. Concentrations of ProcellaCOR were <1ppb and NYSDEC lifted the irrigation restriction.
- Post-Treatment aquatic plant survey was conducted 4 weeks after treatment to document changes to plant abundance.

Recommendations

- Collect & Submit eDNA sample for brittle naiad to Cornell
- Be mindful of nutrient runoff from lawns and riparian properties
- Avoid fertilizing along the Lake
- Clean, Drain, Dry all watercraft and equipment prior to launching and after retrieving from Song Lake to prevent the spread of AIS.

Contact Information

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