



USCLA 2021 Aquatic Ecology Plan Review

The background is an aerial photograph of a coastal region with numerous lakes and ponds. Labels on the map include: Upper Straits Blvd, La Playa, Shady Beach, Elmgate, Elmgate Cove, Old Orchard Trl, Twin Fawn, Deer Run, Bluff, Pontiac Trail, R.C. Bankers, Sur du Lac, Straits Lake Hills, Bayside Beach, Lakewood Park, and Whispering Pines.

2021 Aquatic Plant Control Summary

Goal: Implement a plant control program to prevent the spread of invasive aquatic plants, while preserving beneficial plant species and creating a healthy recreational lake.

Treatment and Spend:

UPPER STRAITS LAKE 2021 NUISANCE AQUATIC PLANT CONTROL SUMMARY				
Work Type	Date	Plants Targeted	Acres	Cost
Survey	May 11			
Herbicide	May 27	E. milfoil, curly-leaf pondweed, starry stonewort, nuisance natives	44	\$24,096
Survey	June 16			
Harvesting	June 22-25	Nuisance natives, starry stonewort	16	\$10,013
Survey	June 25			
Herbicide	July 1	E. milfoil, nuisance natives, starry stonewort, algae	22	\$2,201
Survey	July 12			
Harvesting	August 9-12	Nuisance natives, starry stonewort	24	\$14,306
Survey	August 11			
Survey	September 15			
Treatment	September 27		3	\$3,725
Total			309	\$54,341

Status and Results

- 19 submersed species identified
- 3 floating-leaved species identified
- 11 emergent species identified

- Eurasian Milfoil was reduced from 76% in impacted areas to 16%
- Starry Stonewort has been reduced to 8% of impacted areas

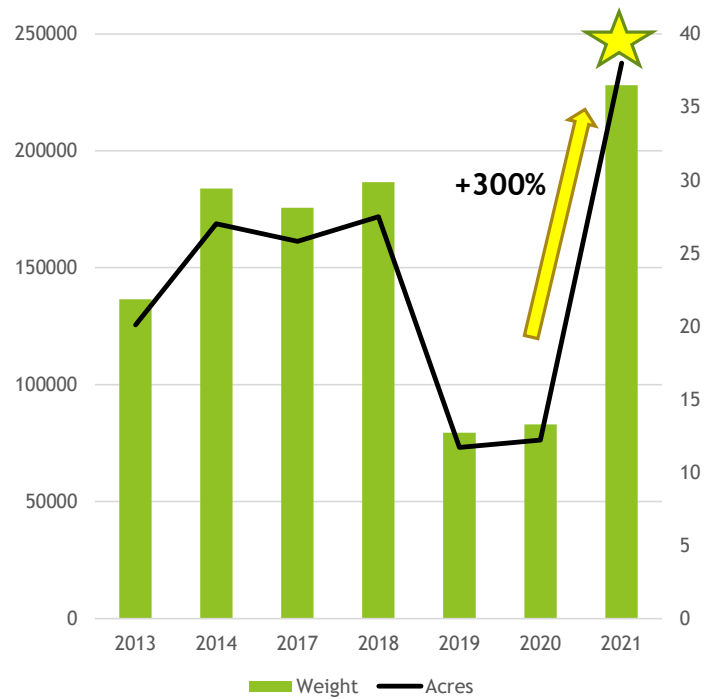
*See chart B in backup for details



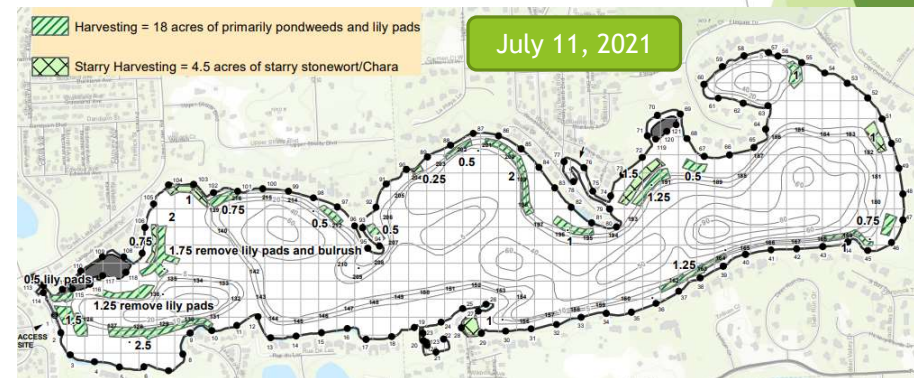
Key Learnings: Avoid pre-holiday treatments, provide more advanced notice of treatments and post water restrictions more clearly online

2021 Harvesting Locations and Results

Upper Straits Weed Harvesting by Year



2021 generated 3x the acres and biomass weight

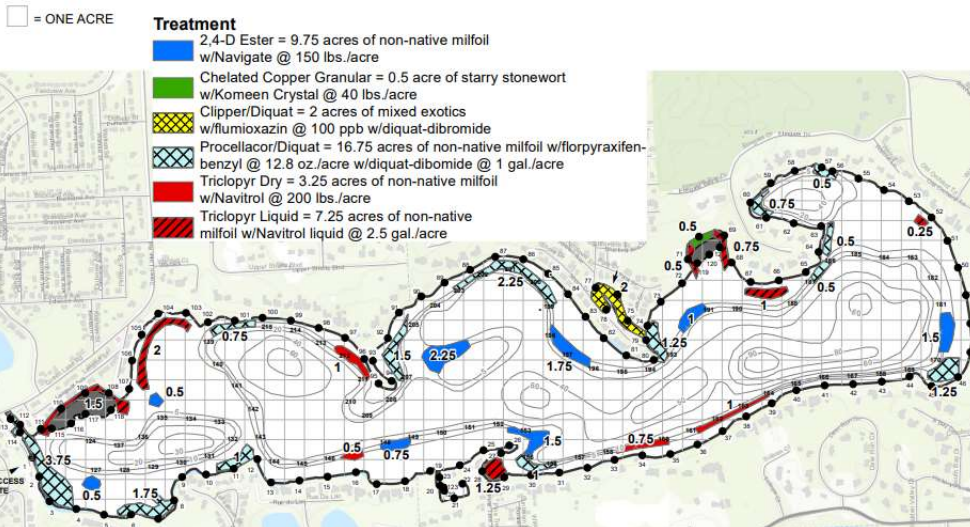


Harvester path covered the full lake including the northwest end due to high water levels

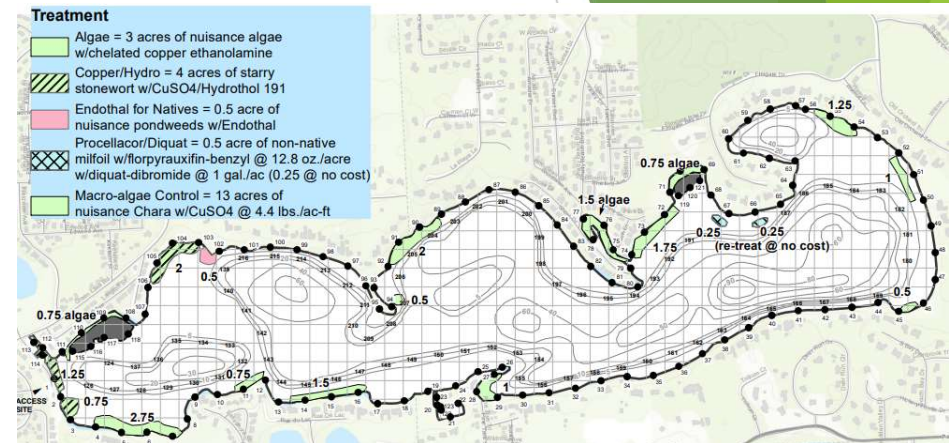
2021 Herbicide Treatment Locations

- 2021 had 3 herbicide treatments vs. one in 2020
- Chemicals applied based on consultant recommendation and property owner consent
- 2021 introduced a new herbicide that has more promise at reducing Eurasian Milfoil (Procellacor)

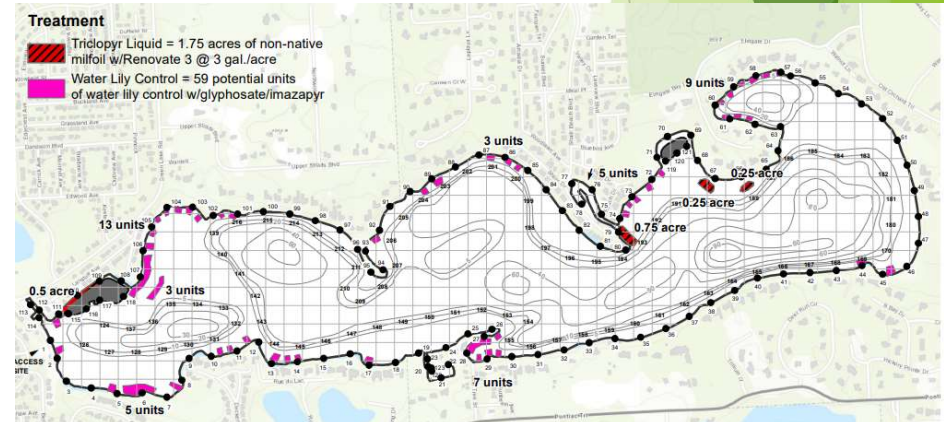
May 11, 2021



June 15, 2021



September 15, 2021



Back-Up - Year End Results Chart

UPPER STRAITS LAKE AQUATIC PLANTS

August 11, 2021

Common Name	Scientific Name	Group	Percent of Sites Where Present
Chara	<i>Chara sp.</i>	Submersed	82
Illinois pondweed	<i>Potamogeton illinoensis</i>	Submersed	75
Slender naiad	<i>Najas flexilis</i>	Submersed	61
Wild celery	<i>Vallisneria americana</i>	Submersed	56
Variable pondweed	<i>Potamogeton gramineus</i>	Submersed	18
Thin-leaf pondweed	<i>Potamogeton sp.</i>	Submersed	17
Eurasian milfoil	<i>Myriophyllum spicatum</i>	Submersed	16
Coontail	<i>Ceratophyllum demersum</i>	Submersed	10
Starry stonewort	<i>Nitellopsis obtusa</i>	Submersed	8
Richardson's pondweed	<i>Potamogeton richardsonii</i>	Submersed	5
Elodea	<i>Elodea canadensis</i>	Submersed	3
American pondweed	<i>Potamogeton americanus</i>	Submersed	3
Underwater arrowhead	<i>Sagittaria sp.</i>	Submersed	2
Bladderwort	<i>Utricularia vulgaris</i>	Submersed	2
Flat-stem pondweed	<i>Potamogeton zosteriformis</i>	Submersed	2
Water stargrass	<i>Heteranthera dubia</i>	Submersed	2
Submersed bulrush	<i>Schoenoplectus subterminalis</i>	Submersed	2
Curly-leaf pondweed	<i>Potamogeton crispus</i>	Submersed	1
Water smartweed	<i>Persicaria amphibia var. stipulacea</i>	Submersed	1

UPPER STRAITS LAKE AQUATIC PLANTS

August 11, 2021

Common Name	Scientific Name	Group	Percent of Sites Where Present
White waterlily	<i>Nymphaea odorata</i>	Floating-leaved	61
Yellow waterlily	<i>Nuphar sp.</i>	Floating-leaved	7
Floating-leaf pondweed	<i>Potamogeton natans</i>	Floating-leaved	1
Cattail	<i>Typha sp.</i>	Emergent	22
Pickerelweed	<i>Pontederia cordata</i>	Emergent	21
Purple loosestrife	<i>Lythrum salicaria</i>	Emergent	18
Flowering rush	<i>Butomus umbellatus</i>	Emergent	16
Iris	<i>Iris sp.</i>	Emergent	15
Bulrush	<i>Schoenoplectus sp.</i>	Emergent	15
Swamp loosestrife	<i>Decodon verticillatus</i>	Emergent	15
Phragmites	<i>Phragmites australis</i>	Emergent	13
Buttonbush	<i>Cephalanthus occidentalis</i>	Emergent	6
Arrowhead	<i>Sagittaria latifolia</i>	Emergent	2
Water smartweed	<i>Persicaria amphibia var. emersa</i>	Emergent	1
Invasive exotic species			