Lake Oakland Aquatic Plant Control Program Annual Report

A publication of the Lake Oakland Improvement Board

October 2022

Lake Oakland Improvement Board
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Waterford, MI

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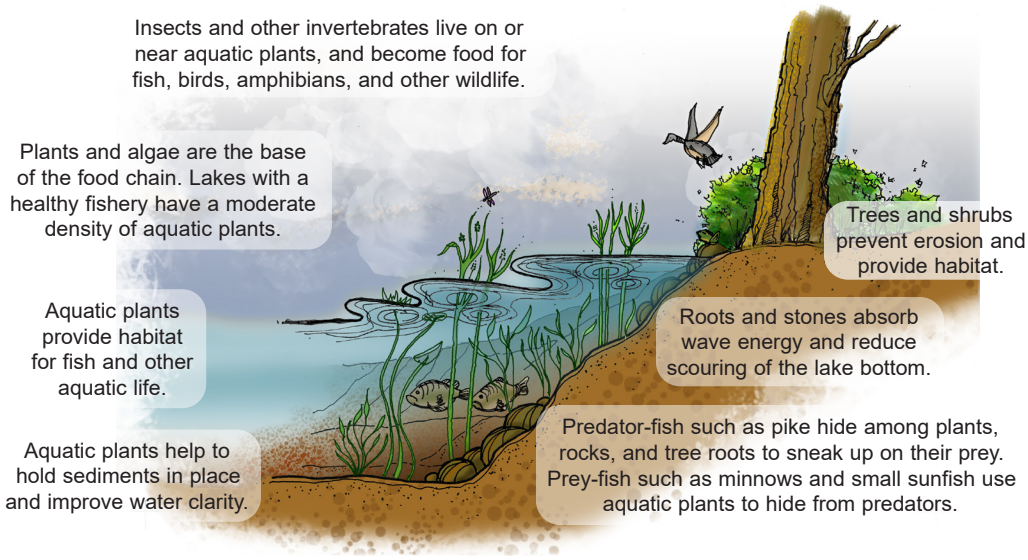
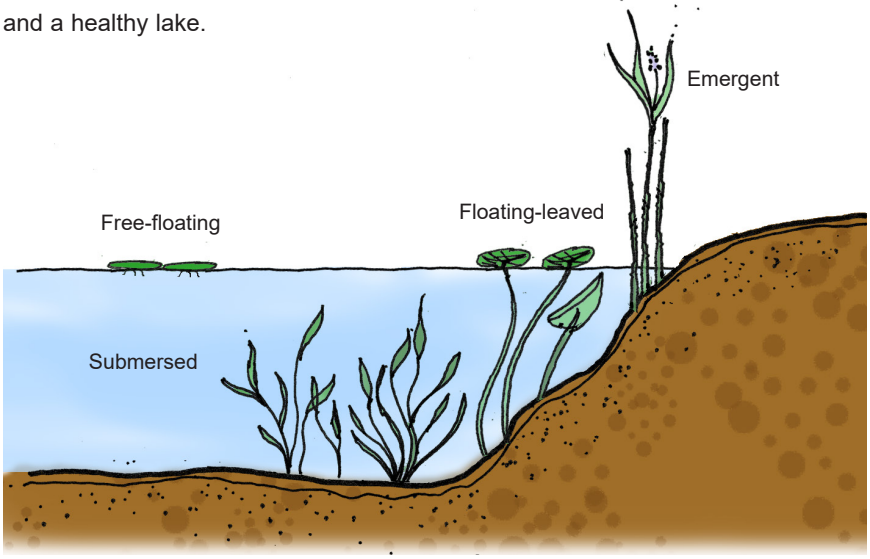
For the past several years, a nuisance plant control program has been ongoing on Lake Oakland. The primary objective of the program is to prevent the spread of invasive aquatic plants while preserving beneficial plant species. The program is financed through special assessment of lake residents in accordance with Part 309, Inland Lake Improvements, of the Natural Resources and Environmental Protection Act. This report contains an overview of plant control activities conducted on Lake Oakland in 2022.

Aquatic plants are an important component of lakes. They produce oxygen during photosynthesis, provide food, habitat and cover for fish, and help stabilize shoreline and bottom sediments.

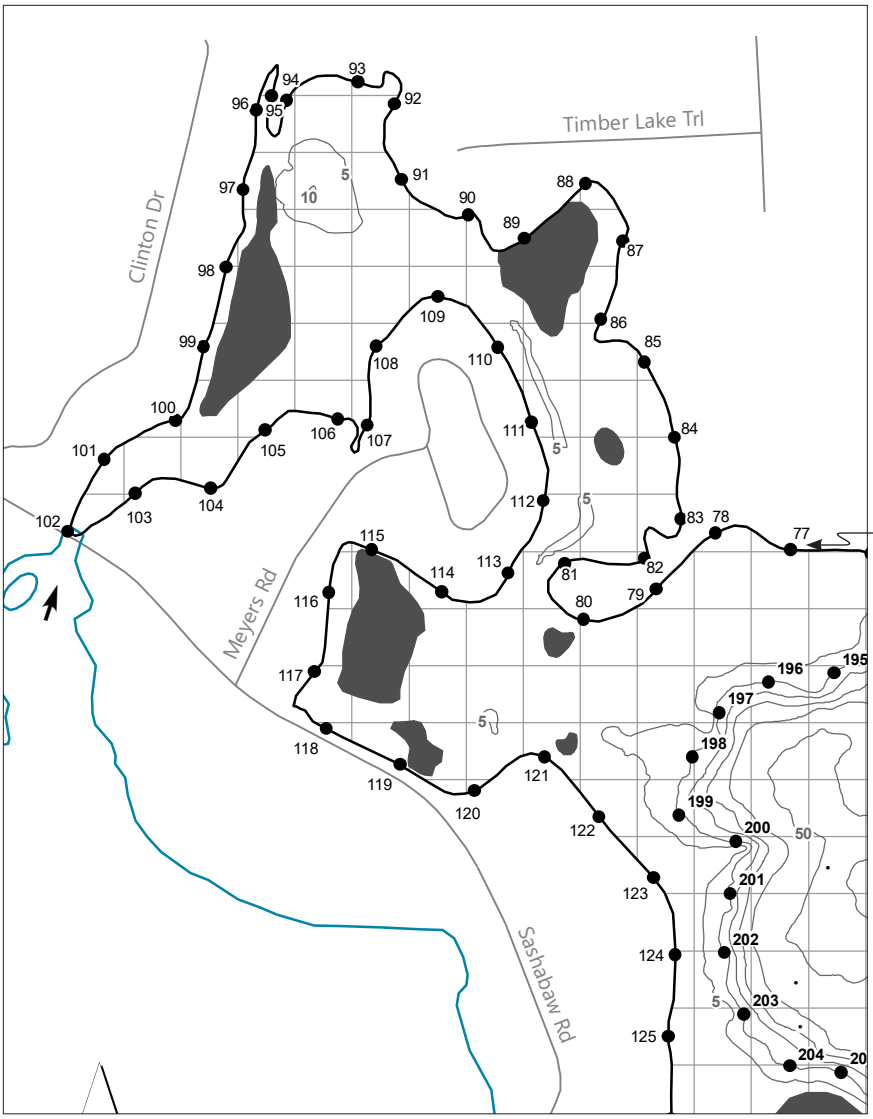


There are four main aquatic plant groups: submersed, floating-leaved, free-floating, and emergent. Each plant group provides important ecological functions. Maintaining a diversity of aquatic plants is important to sustaining a healthy fishery and a healthy lake.



Plant Surveys

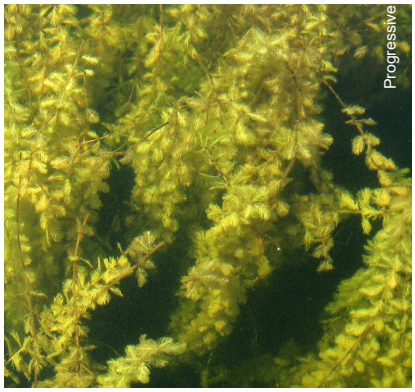
Plant control activities are coordinated under the direction of an environmental consultant, Progressive AE. Biologists from Progressive conduct GPS-guided surveys of the lake to identify problem areas, and detailed treatment maps are provided to the plant control contractor. Follow-up surveys are conducted throughout the growing season to evaluate results and the need for additional treatments. In 2022, surveys of the lake were conducted on May 4, June 1, June 30, July 13, August 9, and September 1.



GPS reference points established along the shoreline and dropoff of Lake Oakland are used to guide plant surveys and to accurately identify the location of nuisance plant growth areas.

Plant Control

Plant control in Lake Oakland involves the select use of herbicides to control invasive plants and mechanical harvesting to control nuisance growth of native plants. Primary plants targeted for control in Lake Oakland include Eurasian milfoil and starry stonewort. Both of these plants are non-native (exotic) species that tend to be highly invasive and have the potential to spread quickly if left unchecked.



Eurasian milfoil (*Myriophyllum spicatum*)

Starry stonewort (*Nitellopsis obtusa*)

Plant control activities conducted on Lake Oakland in 2022 are summarized in the table below.

LAKE OAKLAND
2022 NUISANCE AQUATIC PLANT CONTROL SUMMARY

Date	Work Type	Acres Treated
May 4	Aquatic Plant Survey	
May 12	Herbicide treatment: E. milfoil, algae	23
June 1	Aquatic Plant Survey	
June 8	Herbicide treatment: E. milfoil, curly-leaf, algae	31
June 16	Herbicide treatment: Algae	16
June 30	Aquatic Plant Survey	
July 6	Harvest	51
July 7	Herbicide treatment: Algae	4
July 11	Herbicide treatment: E. milfoil, starry stonewort	27
July 13	Aquatic Plant Survey	
August 9	Aquatic Plant Survey	
August 16	Herbicide treatment: E. milfoil, starry stonewort	20
August 29	Harvest	28
September 1	Aquatic Plant Survey	
Total		**200**

End-of-year Aquatic Plant Survey

In addition to the surveys of the lake to identify invasive plant locations, a comprehensive vegetation survey of Lake Oakland was conducted on August 9 to evaluate the type and abundance of all plants in the lake. The table below lists each plant species observed during the survey and the relative abundance of each. At the time of the survey, 19 submersed species, two free-floating species, three floating-leaved species, and nine emergent species were found in the lake. Lake Oakland maintains a good diversity of beneficial, native plants species.

LAKE OAKLAND AQUATIC PLANTS
AUGUST 9, 2022

Common Name	Scientific Name	Group	Percent of Sites Where Present
Wild celery	*Vallisneria americana*	Submersed	64
Chara	*Chara* sp.	Submersed	62
Illinois pondweed	*Potamogeton illinoensis*	Submersed	54
Starry stonewort*	*Nitellopsis obtusa*	Submersed	39
Large-leaf pondweed	*Potamogeton amplifolius*	Submersed	31
Thin-leaf pondweed	*Potamogeton* sp.	Submersed	29
Eurasian milfoil*	*Myriophyllum spicatum*	Submersed	23
Bladderwort	*Utricularia vulgaris*	Submersed	20
Whitestem pondweed	*Potamogeton praelongus*	Submersed	20
Richardson's pondweed	*Potamogeton richardsonii*	Submersed	17
Slender naiad	*Najas flexilis*	Submersed	16
Flat-stem pondweed	*Potamogeton zosteriformis*	Submersed	8
Variable pondweed	*Potamogeton gramineus*	Submersed	8
Brittle-leaf naiad*	*Najas minor*	Submersed	4
Curly-leaf pondweed*	*Potamogeton crispus*	Submersed	3
Water stargrass	*Heteranthera dubia*	Submersed	2
Coontail	*Ceratophyllum demersum*	Submersed	2
American pondweed	*Potamogeton americanus*	Submersed	1
Northern milfoil	*Myriophyllum sibiricum*	Submersed	1
Duckweed	*Lemna minor*	Free-floating	8
Watermeal	*Wolffia punctata*	Free-floating	2
White waterlily	*Nymphaea odorata*	Floating-leaved	53
Yellow waterlily	*Nuphar* sp.	Floating-leaved	22
Floating-leaf pondweed	*Potamogeton natans*	Floating-leaved	1
Purple loosestrife*	*Lythrum salicaria*	Emergent	21
Swamp loosestrife	*Decodon verticillatus*	Emergent	16
Cattail	*Typha* sp.	Emergent	10
Bulrush	*Schoenoplectus* sp.	Emergent	6
Pickerelweed	*Pontederia cordata*	Emergent	1
Iris	*Iris* sp.	Emergent	1
Arrowhead	*Sagittaria latifolia*	Emergent	1
Lake sedge	*Carex lacustris*	Emergent	1
Phragmites*	*Phragmites australis*	Emergent	1

** Invasive exotic species*