

Long Lake Aquatic Plant Control Program 2020 Activity Summary

A publication of the Long Lake Governmental Lake Board

Long Lake Governmental Lake Board

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For the past several years, a nuisance plant control program has been ongoing on Long Lake. The primary objective of the program is to prevent the spread of invasive aquatic plants while preserving beneficial plant species. This report contains an overview of plant control activities conducted on Long Lake in 2020.

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.

Insects and other invertebrates live on or near aquatic plants, and become food for fish, birds, amphibians, and other wildlife.

Plants and algae are the base of the food chain. Lakes with a healthy fishery have a moderate density of aquatic plants.

Aquatic plants provide habitat for fish and other aquatic life.

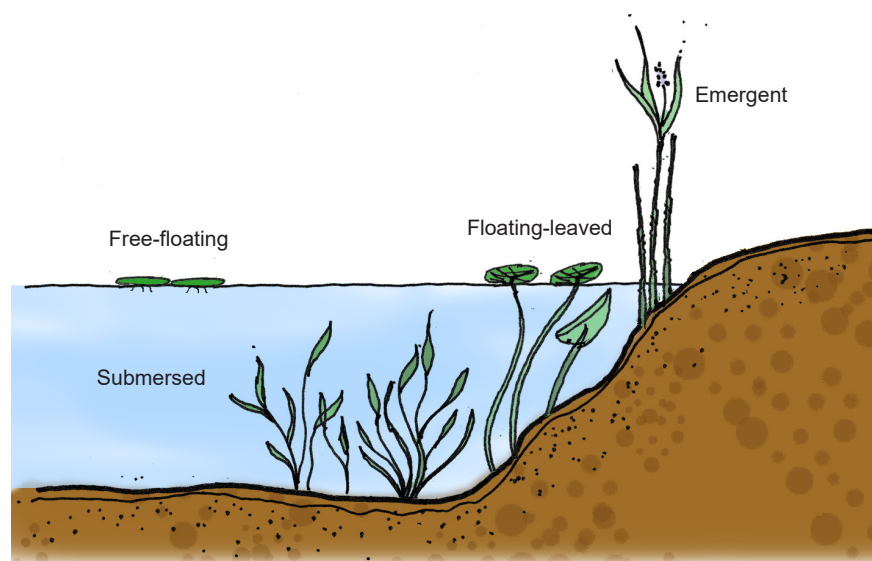
Aquatic plants help to hold sediments in place and improve water clarity.

Trees and shrubs prevent erosion and provide habitat.

Roots and stones absorb wave energy and reduce scouring of the lake bottom.

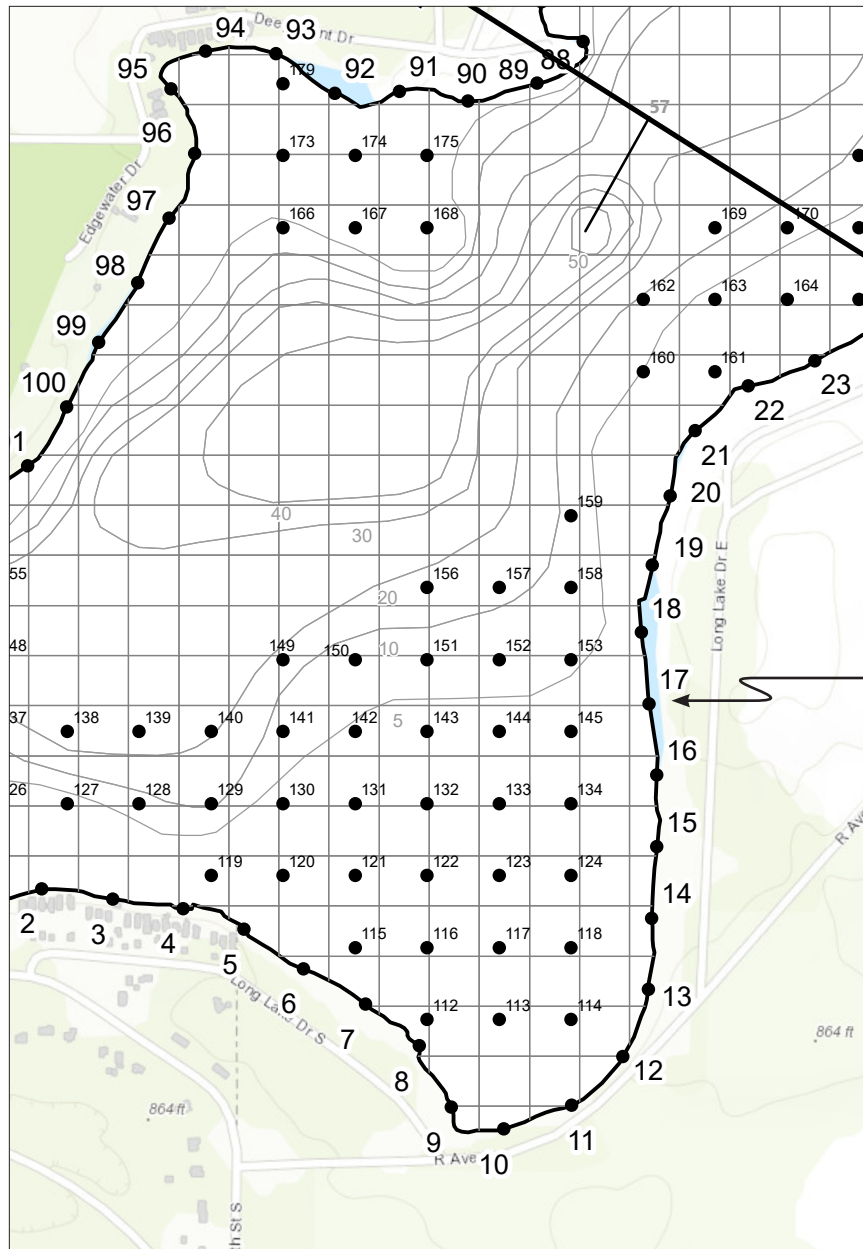
Predator-fish such as pike hide among plants, rocks, and tree roots to sneak up on their prey. Prey-fish such as minnows and small sunfish use aquatic plants to hide from predators.

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.

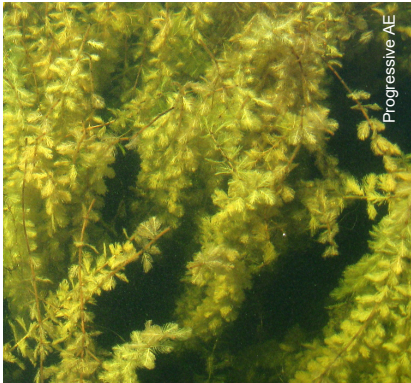


Plant control activities are coordinated under the direction of an environmental consultant, Progressive AE. Biologists from Progressive conduct GPS-guided surveys of the lake to identify problem areas, and georeferenced plant control maps are provided to the plant control contractor.

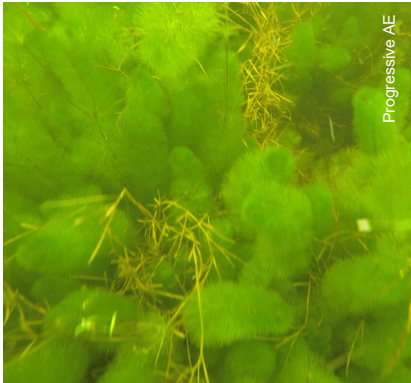
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Plant control in Long Lake involves the select use of herbicides to control invasive plant growth. Primary plants targeted for control in Long Lake include Eurasian milfoil and Carolina fanwort. Both of these plants are non-native (exotic) species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



Eurasian milfoil (*Myriophyllum spicatum*)



Carolina fanwort (*Cabomba caroliniana*)

Plant control activities conducted on Long Lake in 2020 are summarized in the table below.

LONG LAKE 2020 NUISANCE AQUATIC PLANT CONTROL SUMMARY			
Work Type	Date	Plants Targeted	Acres
Survey	May 18		
Herbicide	May 27	Eurasian milfoil, curly-leaf pondweed	14
Survey	June 17		
Herbicide	June 23	Eurasian milfoil, Cabomba, algae	13
Survey	July 6		
Herbicide	July 16	Eurasian milfoil, Cabomba, SSW*, algae	17
Survey	August 5		
Herbicide	August 18	Eurasian milfoil, Cabomba, nuisance natives	14
Survey	August 25		
Herbicide	September 2	Eurasian milfoil	2
Total			60

*SSW = Starry stonewort

End-of-year Aquatic Plant Survey

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In addition to the surveys of the lake to identify invasive plant locations, a vegetation survey of Long Lake was conducted on August 25 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 floating-leaved species, and nine emergent species were found in the lake. Long Lake maintains an excellent diversity of beneficial, native plants species.

LONG LAKE AQUATIC PLANTS

August 25, 2020

Common Name	Scientific Name	Group	Percent of Sites Where Present
Chara	<i>Chara</i> sp.	Submersed	66
Wild celery	<i>Vallisneria americana</i>	Submersed	58
Slender naiad	<i>Najas flexilis</i>	Submersed	55
Variable pondweed	<i>Potamogeton gramineus</i>	Submersed	52
Illinois pondweed	<i>Potamogeton illinoensis</i>	Submersed	47
Thin-leaf pondweed	<i>Potamogeton</i> sp.	Submersed	26
Coontail	<i>Ceratophyllum demersum</i>	Submersed	14
Flat-stem pondweed	<i>Potamogeton zosteriformis</i>	Submersed	13
Large-leaf pondweed	<i>Potamogeton amplifolius</i>	Submersed	12
Leafy pondweed	<i>Potamogeton foliosus</i>	Submersed	11
Sago pondweed	<i>Stuckenia pectinata</i>	Submersed	11
Submersed bulrush	<i>Schoenoplectus subterminalis</i>	Submersed	11
Eurasian milfoil	<i>Myriophyllum spicatum</i>	Submersed	10
Carolina fanwort	<i>Cabomba caroliniana</i>	Submersed	9
Variable-leaf milfoil	<i>Myriophyllum heterophyllum</i>	Submersed	4
Water stargrass	<i>Heteranthera dubia</i>	Submersed	4
Northern milfoil	<i>Myriophyllum sibiricum</i>	Submersed	2
Richardson's pondweed	<i>Potamogeton richardsonii</i>	Submersed	1
Underwater arrowhead	<i>Sagittaria</i> sp.	Submersed	1
White waterlily	<i>Nymphaea odorata</i>	Floating-leaved	51
Yellow waterlily	<i>Nuphar</i> sp.	Floating-leaved	31
Cattail	<i>Typha</i> sp.	Emergent	27
Purple loosestrife	<i>Lythrum salicaria</i>	Emergent	23
Bulrush	<i>Schoenoplectus</i> sp.	Emergent	18
Pickerelweed	<i>Pontederia cordata</i>	Emergent	14
Iris	<i>Iris</i> sp.	Emergent	8
Phragmites	<i>Phragmites australis</i>	Emergent	6
Swamp loosestrife	<i>Decodon verticillatus</i>	Emergent	4
Arrowhead	<i>Sagittaria latifolia</i>	Emergent	1
Water smartweed	<i>Persicaria amphibia</i> var. <i>stipulacea</i>	Submersed	1