Donnell Lake Aquatic Plant Control Program 2023 Activity Summary

A publication of the Penn Township Board

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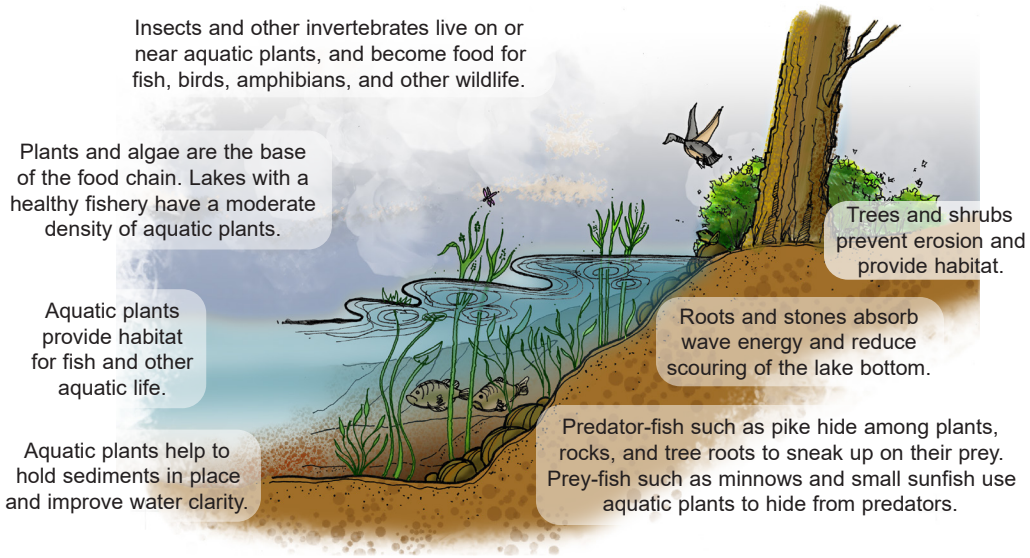
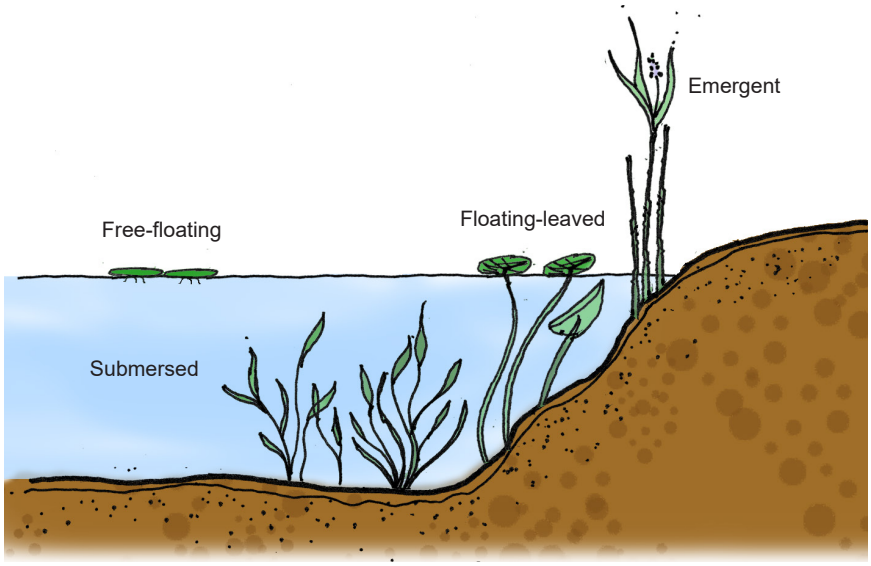
For the past several years, a nuisance plant control program has been ongoing on Donnell Lake. The primary objective of the program is to prevent the spread of invasive aquatic plants while preserving beneficial plant species. This report contains an overview of plant control activities conducted on Donnell Lake in 2023.

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.



Environmental Consultant
Progressive AE

Herbicide Applicator
PLM Lake and Land Management Corp.

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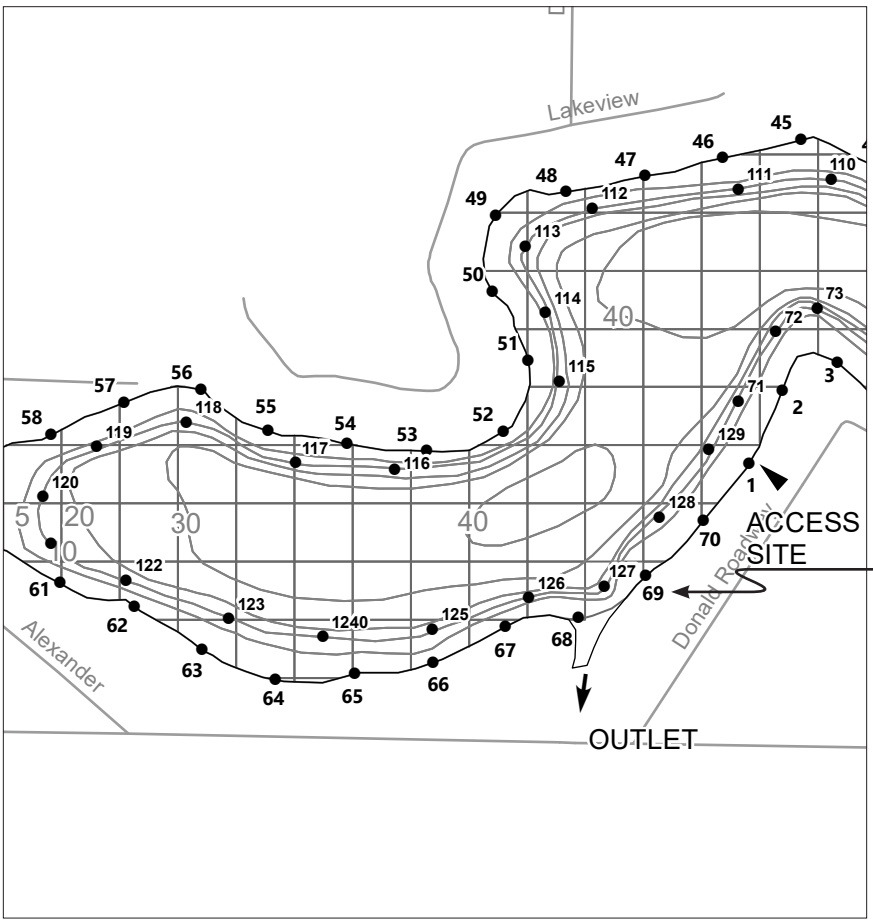
Plant control activities are coordinated under the direction of an environmental consultant, Progressive AE. Biologists from Progressive conduct GPS-guided surveys of the lake to identify problem areas, and georeferenced plant control maps are provided to the plant control contractor. Follow-up surveys are conducted throughout the growing season to evaluate results and the need for additional treatments. In 2023, surveys of Donnell Lake were conducted on May 10, June 12, July 19, and August 31.



GPS reference points established along the shoreline and 10-foot drop-off of Donnell Lake are used to guide plant surveys and to accurately identify the location of nuisance plant growth areas.

Plant control in Donnell Lake involves the select use of herbicides to control invasive plant growth. Primary plants targeted for control in Donnell Lake 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 Donnell Lake in 2023 are summarized in the in the table below. Overall treatment areas were reduced by 42 percent from total treatment areas in 2022.

DONNELL LAKE
2023 NUISANCE AQUATIC PLANT CONTROL SUMMARY

Date	Work Type	Acres
May 10	Survey	
May 31	E. milfoil, curly-leaf pondweed	7.75
June 12	Survey	
June 27	E. milfoil, curly-leaf pondweed	4.00
July 19	Survey	
August 31	Survey	
Total		11.75

In addition to the surveys of the lake to identify invasive plant locations, a vegetation survey of Donnell Lake was conducted on August 31 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, 16 submersed species, two floating-leaved species, and eight emergent species were found in the lake. Donnell Lake maintains a good diversity of beneficial, native plant species.

DONNELL LAKE AQUATIC PLANTS
AUGUST 31, 2023

Common Name	Scientific Name	Group	Percent of Sites Where Present
Illinois pondweed	*Potamogeton illinoensis*	Submersed	91
Wild celery	*Vallisneria americana*	Submersed	80
Chara	*Chara* sp.	Submersed	76
Variable pondweed	*Potamogeton gramineus*	Submersed	46
Submersed bulrush	*Schoenoplectus subterminalis*	Submersed	30
Starry stonewort*	*Nitellopsis obtusa*	Submersed	21
Thin-leaf pondweed	*Potamogeton* sp.	Submersed	16
Slender naiad	*Najas flexilis*	Submersed	7
Flat-stem pondweed	*Potamogeton zosteriformis*	Submersed	7
Richardson's pondweed	*Potamogeton richardsonii*	Submersed	4
Bladderwort	*Utricularia vulgaris*	Submersed	4
Whitestem pondweed	*Potamogeton praelongus*	Submersed	3
Curly-leaf pondweed*	*Potamogeton crispus*	Submersed	1
American pondweed	*Potamogeton americanus*	Submersed	1
Robbins pondweed	*Potamogeton robbinsii*	Submersed	1
Sago pondweed	*Stuckenia pectinata*	Submersed	1
White waterlily	*Nymphaea odorata*	Floating-leaved	39
Yellow waterlily	*Nuphar* sp.	Floating-leaved	10
Purple loosestrife*	*Lythrum salicaria*	Emergent	66
Arrowhead	*Sagittaria latifolia*	Emergent	21
Pickerelweed	*Pontederia cordata*	Emergent	20
Lake sedge	*Carex lacustris*	Emergent	14
Bulrush	*Schoenoplectus* sp.	Emergent	13
Cattail	*Typha* sp.	Emergent	10
Swamp loosestrife	*Decodon verticillatus*	Emergent	4
Iris	*Iris* sp.	Emergent	1

Exotic invasive species*