



# Wabeek Lake 2021 Aquatic Plant Summary Report

A publication of the Wabeek Lake Improvement Board

**Wabeek Lake Improvement Board**  
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For the past several years, a nuisance plant control program has been ongoing on Wabeek 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 surveys conducted on Wabeek Lake in 2021.

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.

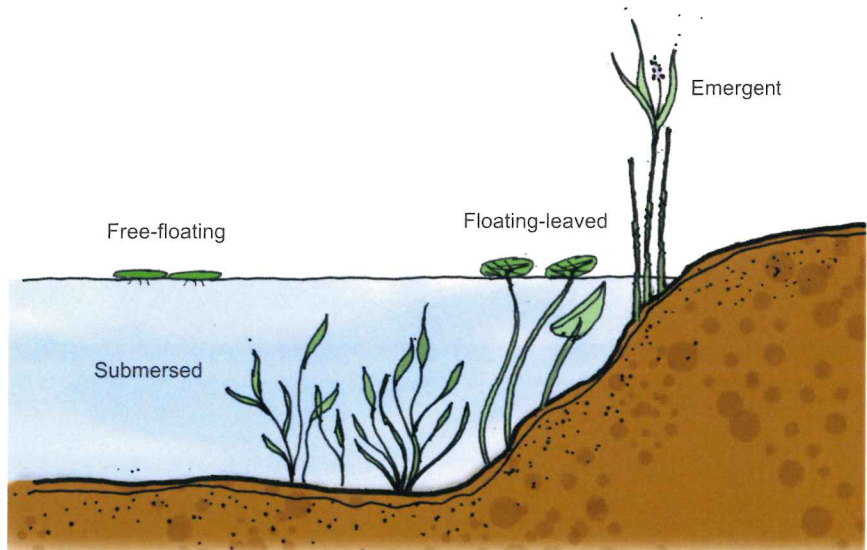


Trees and shrubs prevent erosion and provide habitat.

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.



*Environmental Consultant*  
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Aqua-Weed Control

# Aquatic Plant Survey Results

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A detailed vegetation survey of Wabeek Lake was conducted on July 28, 2021 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, three submersed species, three floating-leaved species, and seven emergent species were found in the lake. Wabeek Lake has relatively poor diversity of submersed species. However, the abundance of natural shoreline areas surrounding Wabeek Lake provide erosion protection, excellent habitat for aquatic organisms, and also buffer stormwater runoff coming from immediate shoreland areas. To increase the diversity of submersed species, it is recommended that the Wabeek Lake Improvement Board consider the exclusive use of selective systemic herbicides targeting Eurasian milfoil. The use of selective systemic herbicides tends to provide longer term control for Eurasian milfoil while not impacting non-target submersed species, thus promoting species diversity.

## WABEEK LAKE AQUATIC PLANTS

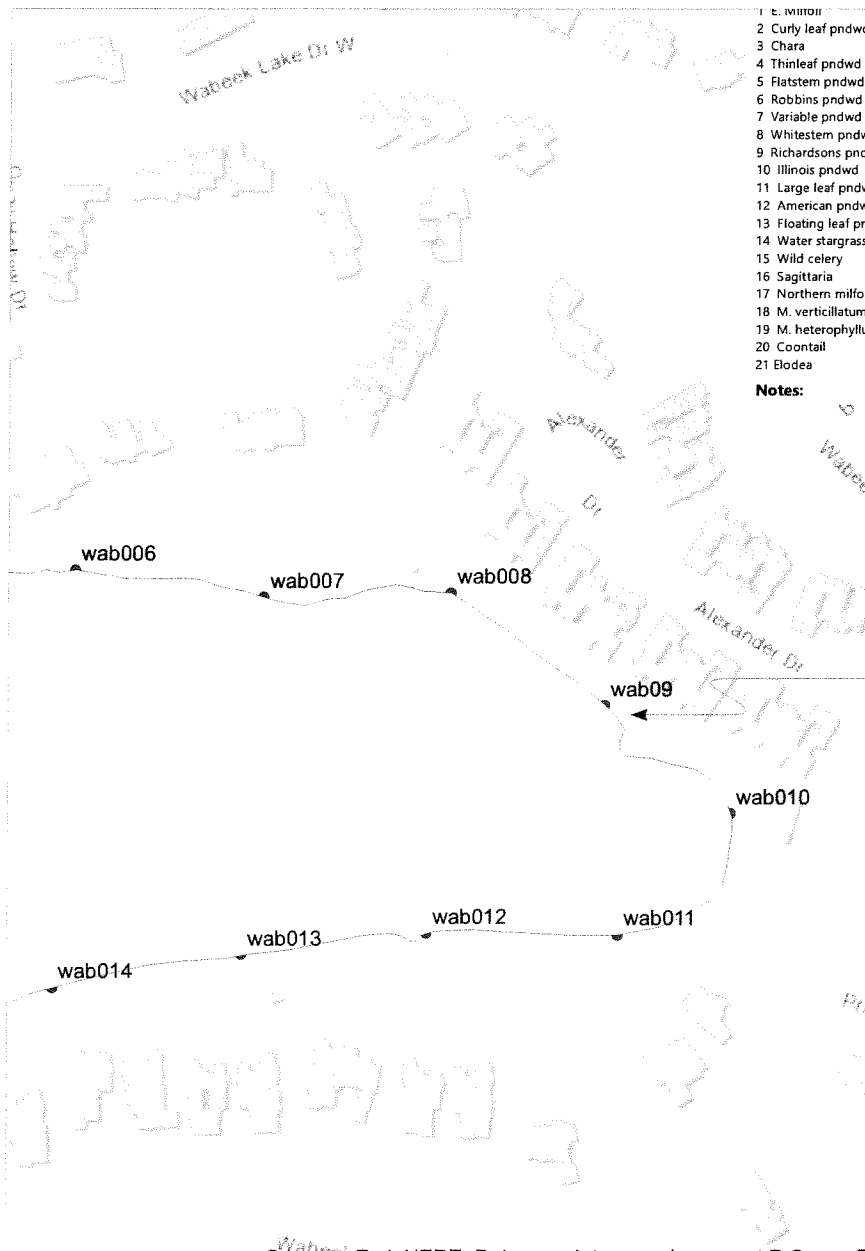
July 28, 2021

Common Name	Scientific Name	Group	Percent of Sites Where Present
Eurasian milfoil*	<i>Myriophyllum spicatum</i>	Submersed	47
Thin-leaf pondweed	<i>Potamogeton</i> sp.	Submersed	47
Illinois pondweed	<i>Potamogeton illinoensis</i>	Submersed	29
White waterlily	<i>Nymphaea odorata</i>	Floating-leaved	100
Yellow waterlily	<i>Nuphar</i> sp.	Floating-leaved	35
Water shield	<i>Brasenia schreberi</i>	Floating-leaved	6
Cattail	<i>Typha</i> sp.	Emergent	76
Swamp loosestrife	<i>Decodon verticillatus</i>	Emergent	65
Bulrush	<i>Schoenoplectus</i> sp.	Emergent	59
Pickernelweed	<i>Pontederia cordata</i>	Emergent	53
Purple loosestrife*	<i>Lythrum salicaria</i>	Emergent	29
Phragmites*	<i>Phragmites australis</i>	Emergent	18
Iris*	<i>Iris</i> sp.	Emergent	6

\*Exotic invasive species

# AVAS Survey Map

A portion of the geo-referenced map used for the Aquatic Vegetation Assessment Site (AVAS) survey conducted by biologists from Progressive is shown below. In addition to the AVAS survey, an invasive species map was provided to the plant control contractor (Aqua-Weed Control) to aid in their treatments.



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

## Plant Control Recommendations

Plant control in Wabeek Lake involves the select use of herbicides to control invasive plant growth. Primary plants targeted for control in Wabeek 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.

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Eurasian milfoil (*Myriophyllum spicatum*)



Starry stonewort (*Nitellopsis obtusa*)

During the 2021 surveys, starry stonewort was not observed on Wabeek Lake but the species has been observed in the past (Casey Thompson, personal communication). However, Eurasian milfoil, purple loosestrife, common reed (*Phragmites australis*), and Iris, all invasive exotic species, were found during the detailed survey on July 28. Of these four species, Eurasian milfoil and *Phragmites* have the greatest potential to harm the Wabeek Lake ecosystem. Management strategies for these two species include the use of selective systemic herbicides. Systemic herbicides are taken up by the target plant and translocated throughout the plant including its roots. Recommended herbicides for Eurasian milfoil include 2,4-D, triclopyr and a relatively new herbicide, *ProcellaCOR EC* (florpyrauxifin-benzyl). Recommended herbicides for *Phragmites* include imazapyr, imazamox, and glyphosate. In addition to the herbicide treatments, removal of dead plant material following treatment is often employed for effective *Phragmites* control.

For 2022, the recommended management strategy would include the use of *ProcellaCOR* targeting Eurasian milfoil in late May/early June and treatment of *Phragmites* in mid-to-late September.