



Long Lake Aquatic Plant Control Program 2023 Activity Summary

A publication of the Long Lake Governmental Lake Board

Long Lake Governmental Lake Board

7900 South Westnedge Avenue
Portage, MI 49002
www.longlakeimprovementboard.org

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For many 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 2023.

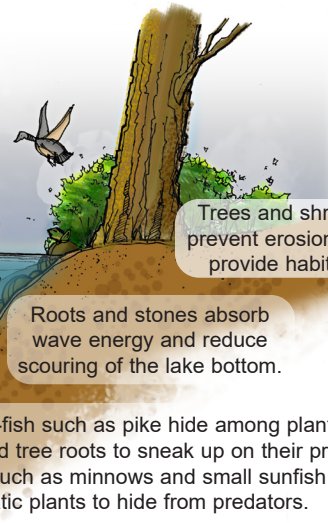
Aquatic plants are an important component of lakes. They produce oxygen during photosynthesis, provide food, habitat and cover for fish, and help stabilize shoreline and bottom sediments.

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.

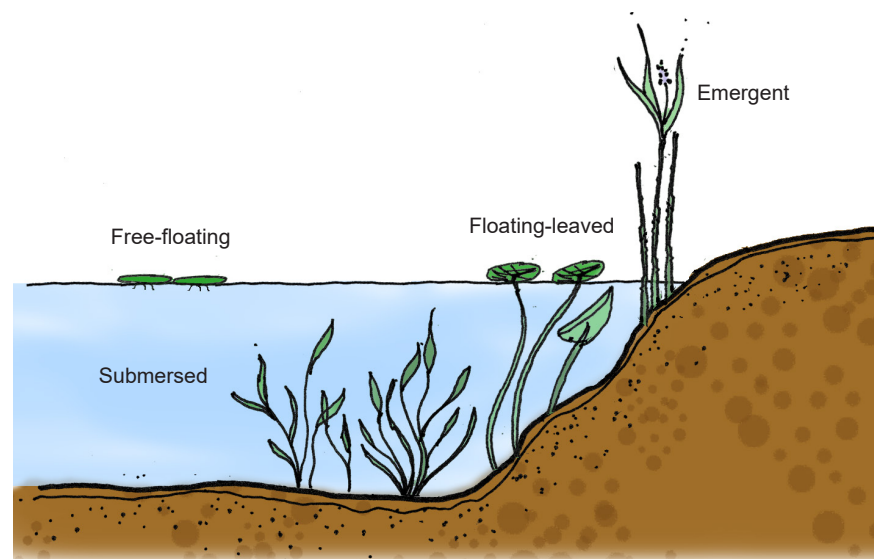


Trees and shrubs prevent erosion and provide habitat.

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.

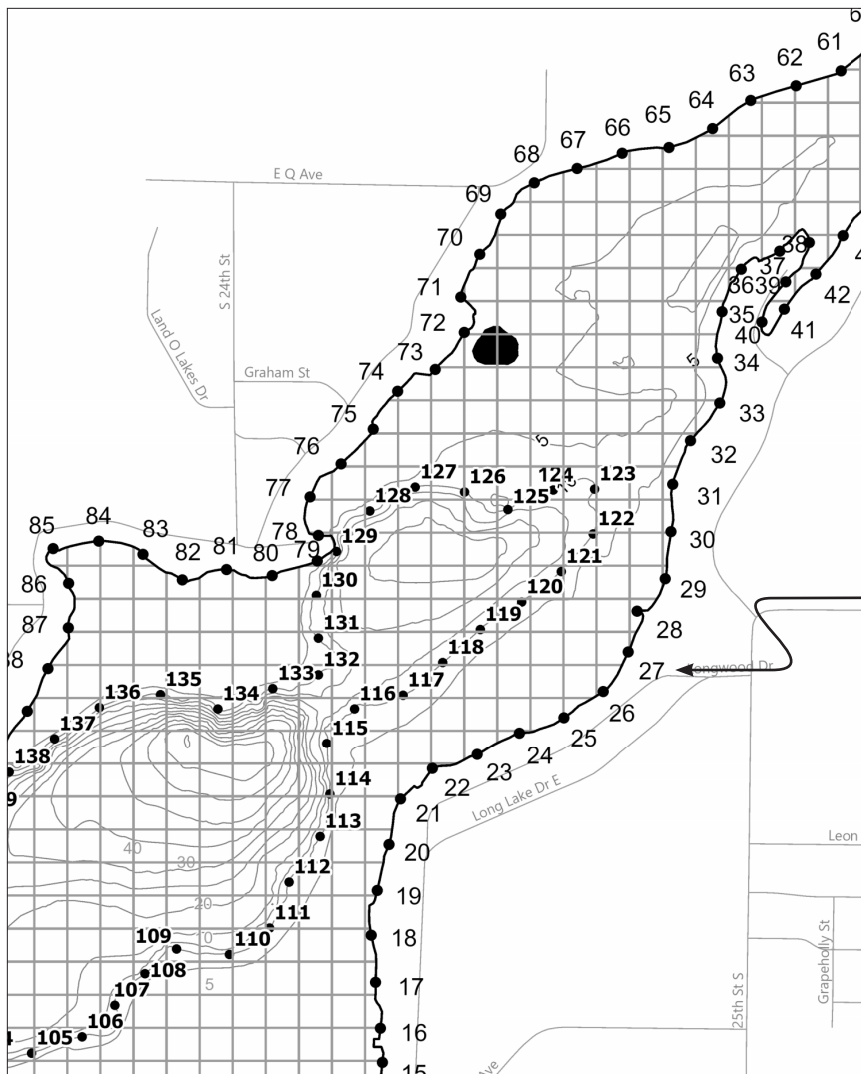
There are four main aquatic plant groups: submersed, floating-leaved, free-floating, and emergent. Each plant group provides important ecological functions. Maintaining a diversity of aquatic plants is important to sustaining a healthy fishery and a healthy lake.



Plant Surveys

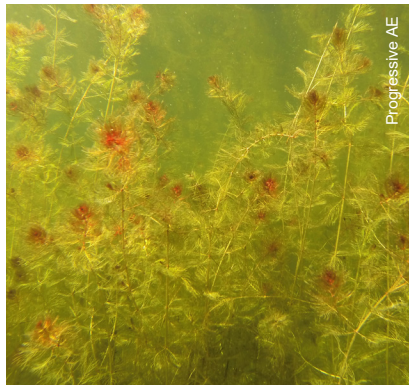
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Plant control activities are coordinated under the direction of an environmental consultant, Progressive AE. Biologists from Progressive conduct GPS-guided surveys of the lake to identify problem areas, and georeferenced plant control maps are provided 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 the lake were conducted on May 16, June 22, and July 31.



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

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 *Cabomba* or 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*)



Cabomba (*Cabomba aquatica*)

Plant control activities conducted on Long Lake in 2023 are summarized in the table below.

| LONG LAKE 2023 NUISANCE AQUATIC PLANT CONTROL SUMMARY | | |
|--|--|---------------|
| Date | Work Type | Acres Treated |
| May 16 | Survey | |
| May 22 | E. milfoil, algae, curly-leaf, <i>Cabomba</i> | 27.00 |
| June 22 | Survey | |
| June 29 | E. milfoil, <i>Cabomba</i> , starry stonewort, wild celery | 21.25 |
| July 31 | Survey | |
| August 14 | <i>Cabomba</i> , starry stonewort, wild celery | 8.00 |
| Total | | 56.25 |

Invasive Plant Spotlight: Cabomba

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Of growing concern in southwest Michigan is the spread of the aquatic invasive plant *Cabomba* or Carolina fanwort (*Cabomba caroliniana*). *Cabomba* has a native range extending from South America to the southeastern US, and was introduced to Michigan through the aquarium trade. This plant has the capacity to grow in dense mats which can interfere with the natural ecosystem and inhibit recreation. Areas of Long Lake where *Cabomba* was treated with herbicides in 2023 are shown in the map below.

