

October

2024

SPRING LAKE

PLANT CONTROL SUMMARY

PREPARED FOR:
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OTTAWA AND MUSKEGON COUNTIES, MI

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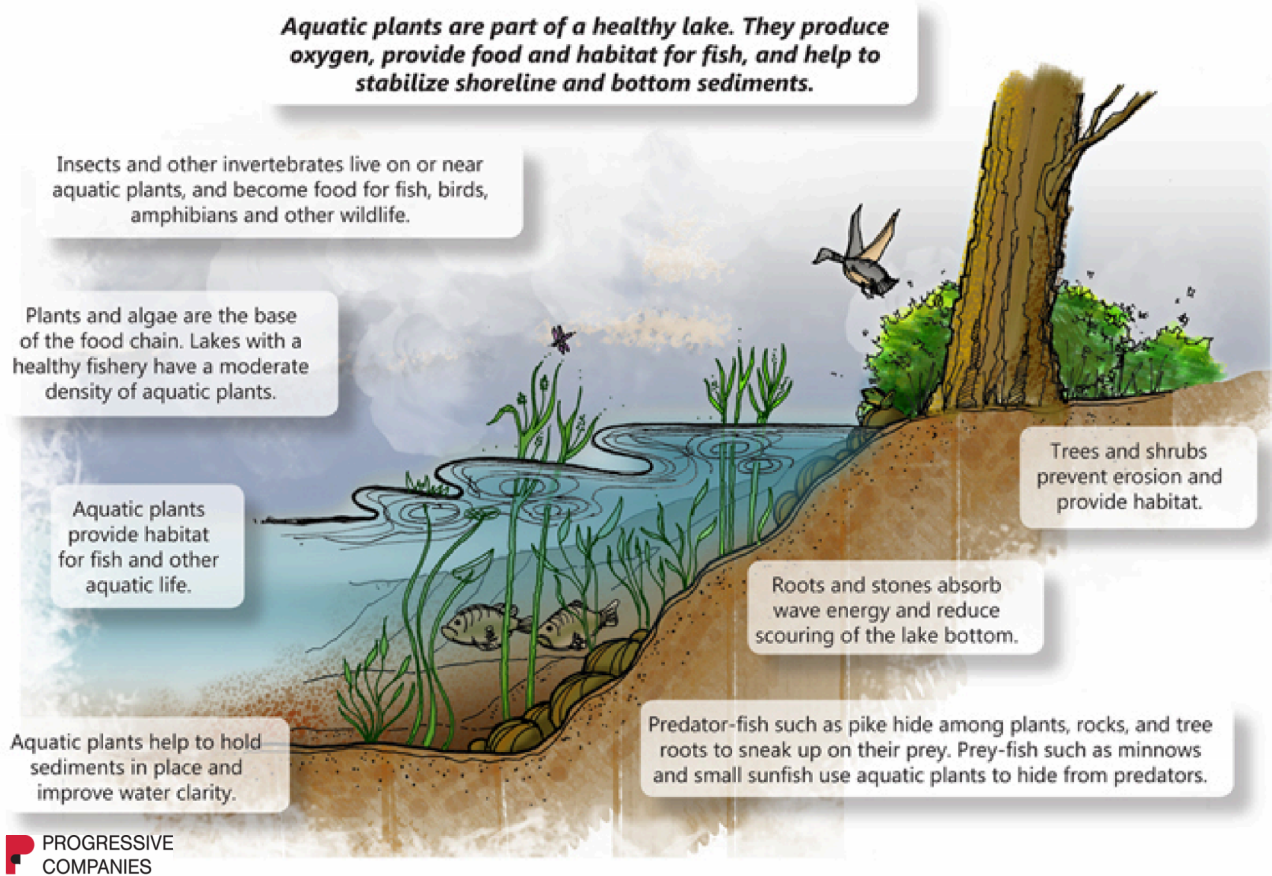


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PROGRAM SUMMARY

A nuisance aquatic plant control program has been ongoing on Spring Lake for many years. The primary objective of the program is to prevent the spread of invasive aquatic plants while preserving beneficial native plant species. This report contains an overview of plant control activities conducted on Spring Lake in 2024.



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 native aquatic plants is important to sustaining a healthy fishery and a healthy lake. Invasive aquatic plant species have negative impacts to the lake's ecosystem. It is important to maintain an active plant control program to reduce the introduction and spread of invasive species within Spring Lake. Plant control efforts in 2024 consisted of seven aquatic herbicide treatments.

PLANT CONTROL

Plant control activities are coordinated under the direction of an environmental consultant, Progressive Companies. Scientists from Progressive conduct GPS-guided surveys of the lake to identify problem areas, and georeferenced plant control maps are provided to the plant control contractors. GPS reference points are established along the shoreline of the lake. These waypoints are used to accurately identify the location of invasive and nuisance plant growth areas.



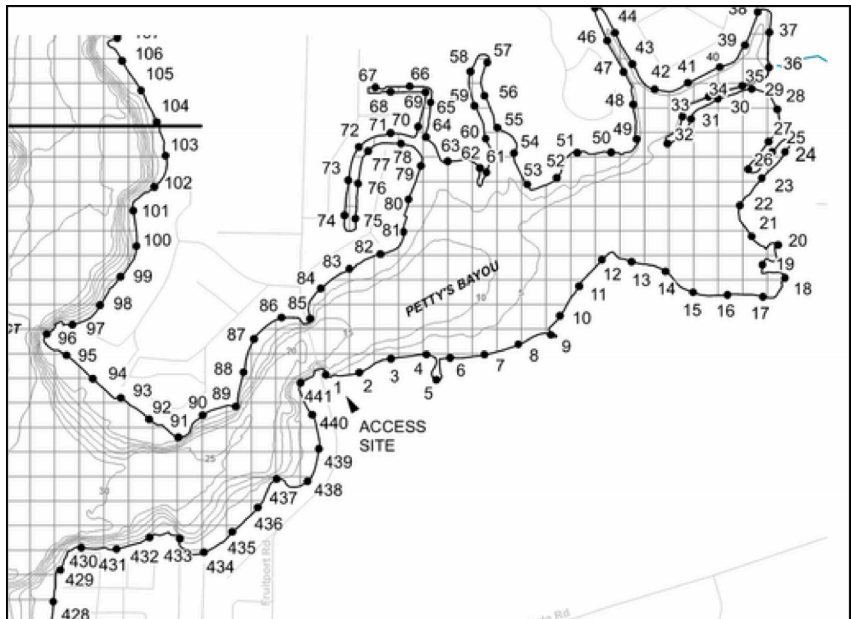
Eurasian milfoil
Myriophyllum spicatum



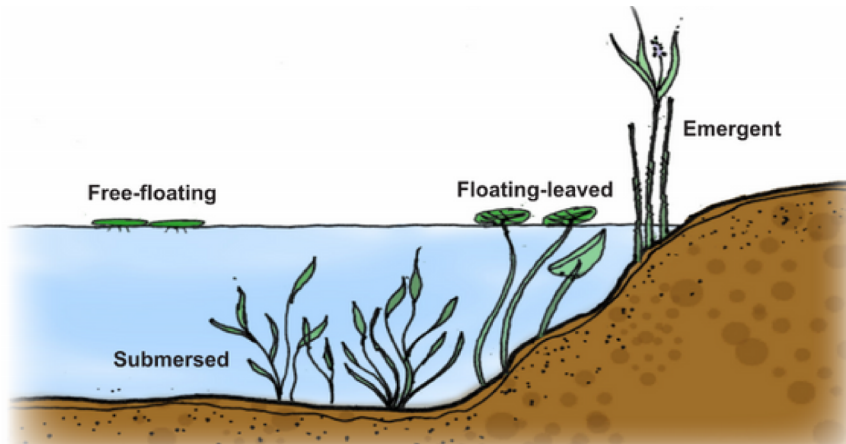
Curly-leaf pondweed
Potamogeton crispus



Phragmites
Phragmites australis



Primary plants targeted for control in Spring Lake include Eurasian milfoil, curly-leaf pondweed, and *Phragmites*. These plants are non-native (exotic) species that tend to be highly invasive and have the potential to spread quickly if left unchecked. Plant control activities conducted on the lake in 2024 are summarized in Table 1.



2024

PLANT CONTROL

TABLE 1. SPRING LAKE 2024 PLANT CONTROL ACTIVITIES

| Date | Plants Targeted | Acreage |
|--------------|---|---------------|
| May 22 | E. milfoil, curly-leaf, duckweed, algae | 32.75 |
| June 19 | E. milfoil, duckweed, algae, nuisance natives | 78.50 |
| June 25 | Nuisance natives | 1.50 |
| July 17 | E. milfoil, algae, nuisance natives | 45.25 |
| August 14 | E. milfoil, algae, nuisance natives | 31.50 |
| September 5 | <i>Phragmites</i> | 1.75 |
| September 26 | E. milfoil | 3.00 |
| Total | | 194.25 |

In 2024, a total of 194.25 acres of Spring Lake was treated with aquatic herbicides, marking a 15% decrease from the 229.25 acres treated in 2023. Eurasian milfoil was managed using the systemic herbicide ProcellaCOR, ensuring season-long control. Additionally, a significant treatment for curly-leaf pondweed was conducted in May with contact herbicides, effectively addressing this invasive species. Throughout the season, algae were treated with chelated copper prior to July, followed by the application of copper sulfate in the later months. Since 2023, due to the presence of State Threatened/Endangered freshwater mussel species, usage of copper and Hydrothol is restricted to distinct areas occupying only 150 acres (about 14 percent of the total lake area) of the lake. Furthermore, 1.75 acres of *Phragmites* along the Spring Lake shoreline were treated in September.

To effectively combat invasive species in Spring Lake, it is crucial to implement a targeted approach that emphasizes the optimal timing for aquatic herbicide applications. Additionally, regular monitoring and evaluation of herbicide efficacy should occur throughout the growing season. Eurasian milfoil should be targeted early, using systemic herbicides. Curly-leaf pondweed is best treated in the spring time with contact herbicides. Exotic emergent species like *Phragmites* should be addressed in late summer to achieve favorable long-term results.