

HARDWOOD LAKE AQUATIC PLANT CONTROL PROGRAM PROPOSED ANNUAL BUDGET AND PLAN 2021 – 2025

Improvement	Annual Cost
Aquatic Plant Control (Herbicide Treatments & Mechanical Harvesting)	\$21,500
Aquatic Plant Control Coordination/Field Evaluations	\$7,000
Hydro-acoustic Mapping Update	\$1,500
Administration and Contingency	<u>\$3,000</u>
TOTAL	\$33,000

The Hardwood Lake plant control program will include a combination of herbicide treatments and mechanical harvesting. The program will focus primarily on invasive species such as Eurasian milfoil, curly-leaf pondweed and starry stonewort.



Eurasian milfoil



Curly-leaf pondweed



Starry stonewort

Plant control activities are proposed to be coordinated under the direction of the Hardwood Lake Improvement Board's consultant. The consultant would be responsible for preparing contract documents for the plant control program, conducting GPS-guided surveys of the lake to determine the scope of work to be performed by plant control contractors, and conducting follow-up inspections to ensure work is performed in a satisfactory manner. The consultant would report to the lake board regarding the performance of the plant control contractors and maintain a written record of the timing, scope and costs of plant control activities.

Hardwood Lake was mapped in 1943 by the Michigan Department of Conservation. Since that time, significant alterations to the outlet area and some areas of the shoreline have occurred. To provide an updated map of the lake, recent orthodigital photography would be used to delineate the lake's shoreline, and a high-definition hydro-acoustic survey of the lake bottom would be conducted to measure current water depths, plant bio-volume (i.e., the height of plants in the water column) and sediment hardness. A series of maps of Hardwood Lake would then be created that show depth contours, the height and location of plants in the lake, and sediment hardness. In addition, an updated aquatic vegetation survey map with GPS reference points would be created to facilitate future aquatic plant surveys. Digital and hard copies of all maps would be made available to the lake board.

Project administration and contingency would include costs related to public hearing proceedings, postage, mailings, meetings, copies, and contingent expenses.

**HARDWOOD LAKE AQUATIC PLANT CONTROL PROGRAM
PROPOSED ANNUAL BUDGET
2017 – 2020**

Improvement	Annual Cost
Aquatic Plant Control (Herbicides and Harvesting)	\$20,500
Aquatic Plant Control Administration and Oversight	\$6,500
Watershed Management	\$3,500
Project Administration and Contingency	<u>\$3,100</u>
TOTAL	\$33,600

The Special Assessment District for the Hardwood Lake Program includes all lakefront parcels and backlots with deeded or dedicated lake access. Contiguous lots in common ownership are proposed to be assessed as a single parcel provided only one house exists on the parcel. Lakefront parcels are proposed to be assessed as 1.0 unit of benefit and back lots with deeded or dedicated lake access are proposed to be assessed 0.5 units of benefit. Under this plan, annual assessments for the project break down as follows:

Lakefront Parcels - approximately \$342 per year for four years
Back Lot Parcels – approximately \$171 per year for four years