

Water Use Restrictions

Select areas of Houghton Lake will be treated periodically throughout the summer beginning in approximately June. Please note that herbicide treatments are conducted in accordance with a permit issued by the Michigan Department of Environmental Quality (MDEQ). The MDEQ permit lists herbicides that are approved for use in the lake, respective dose rates, use restrictions, and specific areas of the lake where treatments are allowed.

Below is a list of herbicides that may be used in the lake, and their associated use restrictions.

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Navigate or **Aqua-Kleen** (active ingredient 2,4-dichlorophenoxyacetic acid):

- 24-hour restriction on swimming in treatment area.
- Irrigation of lawn, grasses and turf - no restrictions.
- Do not use water from treated areas for irrigating plants or mixing sprays for agricultural or ornamental plants, unless an approved assay indicates the 2,4-D concentration is 100 parts per billion (or less).
- Do not use water from treated areas for potable water, unless an approved assay indicates the 2,4-D concentration is 70 parts per billion (or less).

Reward (active ingredient diquat dibromide):

- 24-hour restriction on swimming in treatment area.
- 5-day restriction on crop irrigation.
- 1-day animal consumption of treated water.
- 3-day restriction of domestic water supplies.

The following products may be used but have no restrictions:

Cygnat Plus (adjuvant)

PolyAn (sinking agent)

Water Dye (tracer)



This year's treatments will again be conducted by:

Professional Lake Management
8865 100th Street SE
Alto, MI 49302
616-891-1294

Certified Applicators:
Jason Broekstra
Audry Buist
Jaimee Conroy
Bre Grabill
Steve Hanson
Jake Hunt
Kellen Karsten
Nathan Karsten
Pat McLamara
Stephanie Mervau
Casey Mickleson
Lucas Slagel
Jeff Tolan
Andy Tomaszewski
Jacob Ware

- *At the time of treatment, signs will be posted along the shoreline within 100 feet of treatment areas that indicate what specific herbicides were used and use restrictions that apply.*

news

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To receive news and updates about Houghton Lake and lake-related topics by e-mail, contact Dick Pastula at: lakeboard@mail.com.

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Environmental Consultant:
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Houghton Lake Improvement Board Newsletter

Spring 2007

Project Update

This is the first year of the new five-year management plan for Houghton Lake being implemented under the direction of the Houghton Lake Improvement Board. As in previous years, the plan is being funded through special assessment of benefiting properties under provisions of Part 309, Inland Lake Improvements, of the Natural Resources and Environmental Protection Act, PA 451 of 1994. This newsletter is mailed to over 5,000 property owners around the lake to provide an update on project activities.

Last year, the Houghton Lake Improvement Board published a *Homeowners Guidebook for Houghton Lake* that included information on Houghton Lake and its watershed, lake ecology, aquatic plant control, and a variety of other topics. While supplies last, additional copies of the guidebook are available by stopping by the Roscommon Township Hall located at 8555 Knapp Road during normal business hours.



This year, in addition to its water quality and vegetation monitoring programs, the lake board is initiating an analysis of the Houghton Lake watershed and is exploring long-term management options. As in previous years, the control of the nuisance aquatic plant Eurasian milfoil in Houghton Lake will remain a primary focus.

Meetings

During the summer of 2007, the Houghton Lake Improvement Board will hold regular meetings at 7:00 p.m. in the Denton Township Hall in Prudenville on the following dates:

June 26
July 24
August 28
September 25

For more information, visit the Houghton Lake Improvement Board web site at:
www.houghton-lake.com

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Early Detection—Rapid Response—Better Control!

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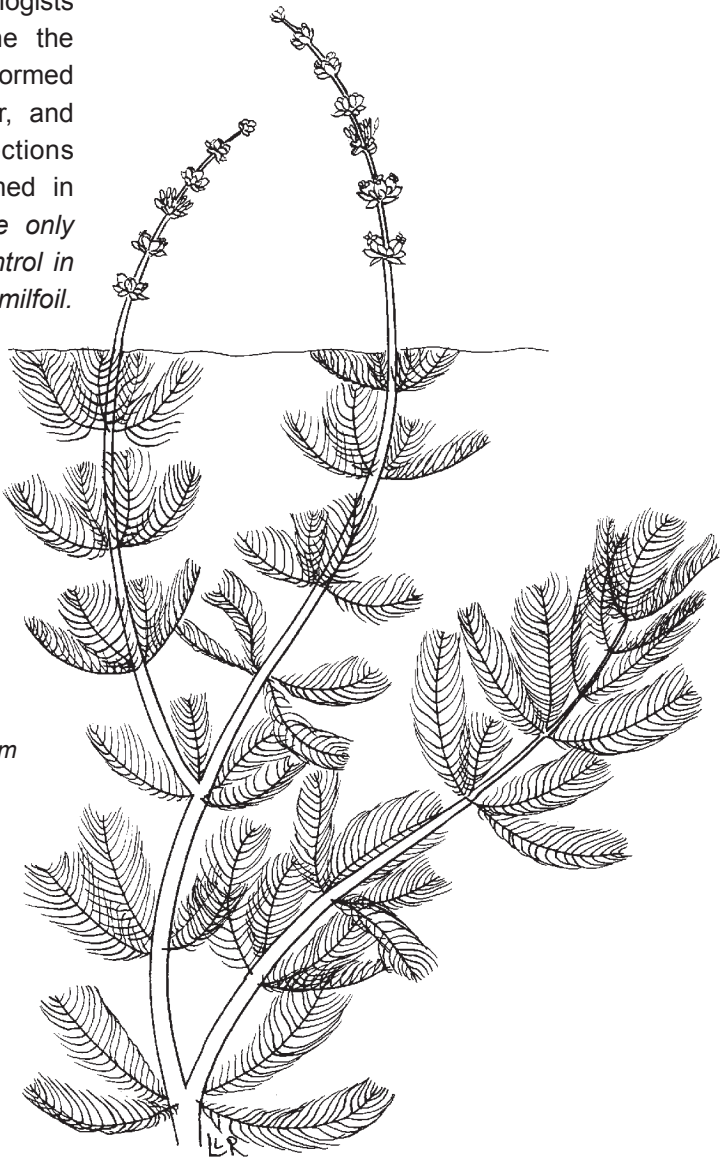
Eurasian milfoil is a nuisance aquatic plant that has infested many Michigan lakes. As its name implies, Eurasian milfoil is not native to Michigan. It was first introduced into the United States from Europe and Asia in the 1940's. Eurasian milfoil can spread very rapidly by a process called vegetative propagation in which small pieces of the plant break off, take root and grow. Eurasian milfoil is especially problematic in that it tends to become established early in the growing season and can grow at greater depths than most plants. Eurasian milfoil often forms a thick canopy at the lake surface that can degrade fish habitat and seriously hinder recreational activity. Because of its ability to spread by fragmentation, mechanical harvesting (in which plants are cut and removed from the lake) is not an effective method of controlling Eurasian milfoil. In fact, harvesting can actually promote the spread of the plant. Eurasian milfoil can be controlled with herbicides (some of which are selective for milfoil) and, in some lakes, the biological control of Eurasian milfoil is being attempted. At the onset of the lake improvement program in 2001, about 11,000 acres of Houghton Lake was infested with Eurasian milfoil.

To address this problem, a whole-lake herbicide treatment of Houghton Lake was conducted in 2002 with a herbicide called fluridone (trade name Sonar). At low doses, fluridone can effectively control Eurasian milfoil without significantly impacting other, desirable plant species. The fluridone treatment of Houghton Lake was a resounding success. By the end of 2002, Eurasian milfoil was non-existent in the lake. In fact, since the whole-lake treatment was performed in 2002, less than 3% of Houghton Lake has required spot-treatments to keep Eurasian milfoil from regaining dominance in the lake.

It should be noted that all herbicide treatments of Houghton Lake are conducted under a permit from the Michigan Department of Environmental Quality (MDEQ). The permit lists herbicides that are approved for use in the lake, respective dose rates, use restrictions, and shows specific areas in the lake where treatments are allowed.

Plant control activities are coordinated under the direction of the lake board's environmental consultant, Progressive AE. Each year, detailed vegetation surveys are performed in which the type and relative abundance of plants are determined at 912 locations in Houghton Lake identified with a global positioning system. Biologists from Progressive determine the scope of work to be performed by the herbicide applicator, and conduct follow-up inspections to ensure work is performed in a satisfactory manner. *The only plant being targeted for control in Houghton Lake is Eurasian milfoil.*

Eurasian milfoil
Myriophyllum spicatum



Aquatic plant line drawing is the copyright property of the University of Florida Center for Aquatic Plants (Gainesville). Used with permission.

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Since 2001, whole-lake vegetation surveys of Houghton Lake have been performed on an annual basis. Since the fluridone treatment in 2002, over 20 different species of plants have been observed in Houghton Lake. The plants are vital to the Houghton Lake ecosystem in that they provide food and cover for fish and other organisms, produce oxygen during photosynthesis, and help to stabilize shoreline and bottom sediments. Again, the herbicide treatments of Houghton Lake are being conducted solely to control the nuisance, exotic plant Eurasian milfoil. Information regarding water use restrictions associated with the 2007 treatment program is included on page 4.

In recent years, considerable research has been conducted on the biological control of Eurasian milfoil. This approach currently focuses on the introduction of a small weevil (*Euhrychiopsis lecontei*) that feeds almost exclusively on Eurasian milfoil. Weevils are native to the United States and Canada, and populations have been observed in Michigan lakes including Houghton Lake. However, control of Eurasian milfoil generally requires that large numbers of weevils be stocked to augment natural populations. Weevils do not eradicate Eurasian milfoil, and the overall biomass of Eurasian milfoil in the lake may not decline substantially as a result of

weevil stocking. Rather, the boring action of weevil larvae can cause the plant to lose buoyancy and drop to the bottom. By preventing the formation of a dense canopy at the water surface, weevils can help to control the primary nuisance characteristic of Eurasian milfoil. However, as is the case with most biological controls, it is not possible to predict with certainty how weevils may fare in a particular lake. It is also reasonable to assume that weevil and Eurasian milfoil populations will cycle up and down over time. The results of weevil stocking conducted in Houghton Lake to date have been inconclusive. However, a substantial weevil stocking program was conducted on nearby Lake St. Helen. A survey of Lake St. Helen is planned for this summer to determine how effective weevils have been controlling the spread of Eurasian milfoil in that lake.



Milfoil weevil.
Photo courtesy EnviroScience, Inc.