



Milfoil Management Plan

Messalonskee Lake Association

May 2009

BACKGROUND

Variable-leaf milfoil is an aggressive plant that forms dense mats that clog waterways and crowd out native aquatic plants. It often chokes off the habitats of fish and other wildlife, and can create ideal breeding areas for mosquitoes. Milfoil's thick growth can also make lakes unusable for recreational purposes, including boating, swimming and fishing. Variable Leaf Milfoil was noticed growing in the Belgrade Stream that feeds Messalonskee Lake from Long Pond sometime in the mid 1990's. Since that time it has spread broadly through the stream and into several areas of the lake.

Since it was identified as a new threat to the lake, the Messalonskee Lake Association (MLA) has supported activities to monitor and research its growth in the lake. The association has also supported the inspection of boats coming into and leaving the lake to help prevent its spread to other local lakes. Even though it is already pervasive in Messalonskee Lake, the lake is part of a 175 square mile watershed including all of the other Belgrade Lakes, and any further deterioration of those bodies of water will ultimately affect Messalonskee. Further the Association spearheaded the effort to close the Route 27 boat launch at the South end of the lake, where the infestation was the heaviest, and build a new public boat launch facility in Sidney. This will not only help the rate of infestation in Messalonskee, but also help its spreading to other lakes.

In 2007, the MLA Board of Directors extended the initiative from Monitoring and Spreading to Mitigation. MLA installed a Benthic Barrier in a small area of infestation at the North end of the lake to test its effectiveness. The result of this work is still being evaluated, but the results look positive.

The purpose of this document is to establish a Milfoil Management Plan for the lake and to communicate this to the membership.

MANAGEMENT OPTIONS FOR VARIABLE LEAF MILFOIL

Herbicides - Messalonskee Lake has an area of approximately 5.6 square miles or 3584 acres. It is also about 10 miles long and narrow at the North end more approaching a river than a lake with moderately high flow in this area. The lake flushes its 39 billion gallons of water capacity one to one and a half times every year. From a pure size perspective the application of herbicides to prevent milfoil

infestations is not practical or affordable. Moreover there are still residents of the lake who use the lake water, treated by various methods, as their water supply. The State of Maine also has very tough restrictions on herbicide use. Attempts to eradicate extensive areas of weeds using chemicals in other lakes in New England have rarely been effective. In most cases the treated area becomes re-infested with fragments from other sections of the lake. For these reasons MLA has chosen not to consider Herbicide treatment for variable leaf milfoil.

Milfoil Weevils, (*Euhrychiopsis lecontei*), have met with some limited success in situations where they are utilized. This type of weevil consumes Eurasian as well as (native) Northern Milfoil. Their introduction is carefully controlled by State agencies. Their cost and presence at the bottom of the food chain for some fish unfortunately don't make this as practical choice for many lakes.

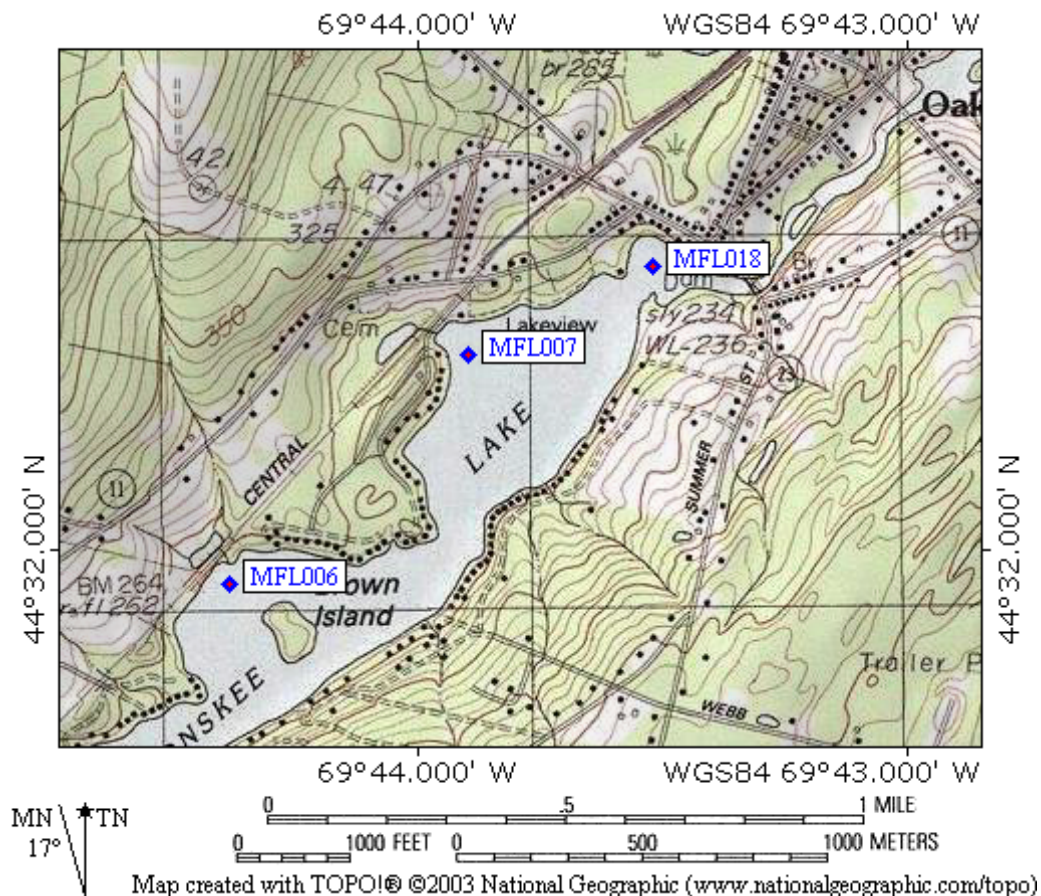
Removal by hand. The painstaking effort of diving and bagging Milfoil infestations is one of the best ecological solutions, but requires workers to correctly distinguish Eurasian Water Milfoil from other aquatics. It is clearly labor intensive as well. In New York the cost to collect 1809 bags of milfoil in one year required 1146 man-days and cost Saranac Lake, NY \$1.5 million dollars.

Harvesters – Milfoil Harvesting essentially means periodically mowing the upper part of a heavily invested bed. There are advantages and disadvantages with this method but generally it is best in large bodies of water with mature infestations. This may apply to Messalonskee Lake in the future but current costs and support for the ongoing cost would limit its current viability. Costs per acre vary with numbers of acres harvested, accessibility of disposal sites to the harvested areas, density and species of the harvested plants, and whether a private contractor or public entity does the work. Costs as low as \$250 per acre have been reported. Private contractors generally charge \$500 to \$800 per acre. The purchase price of harvesters ranges from \$35,000 to \$110,000.

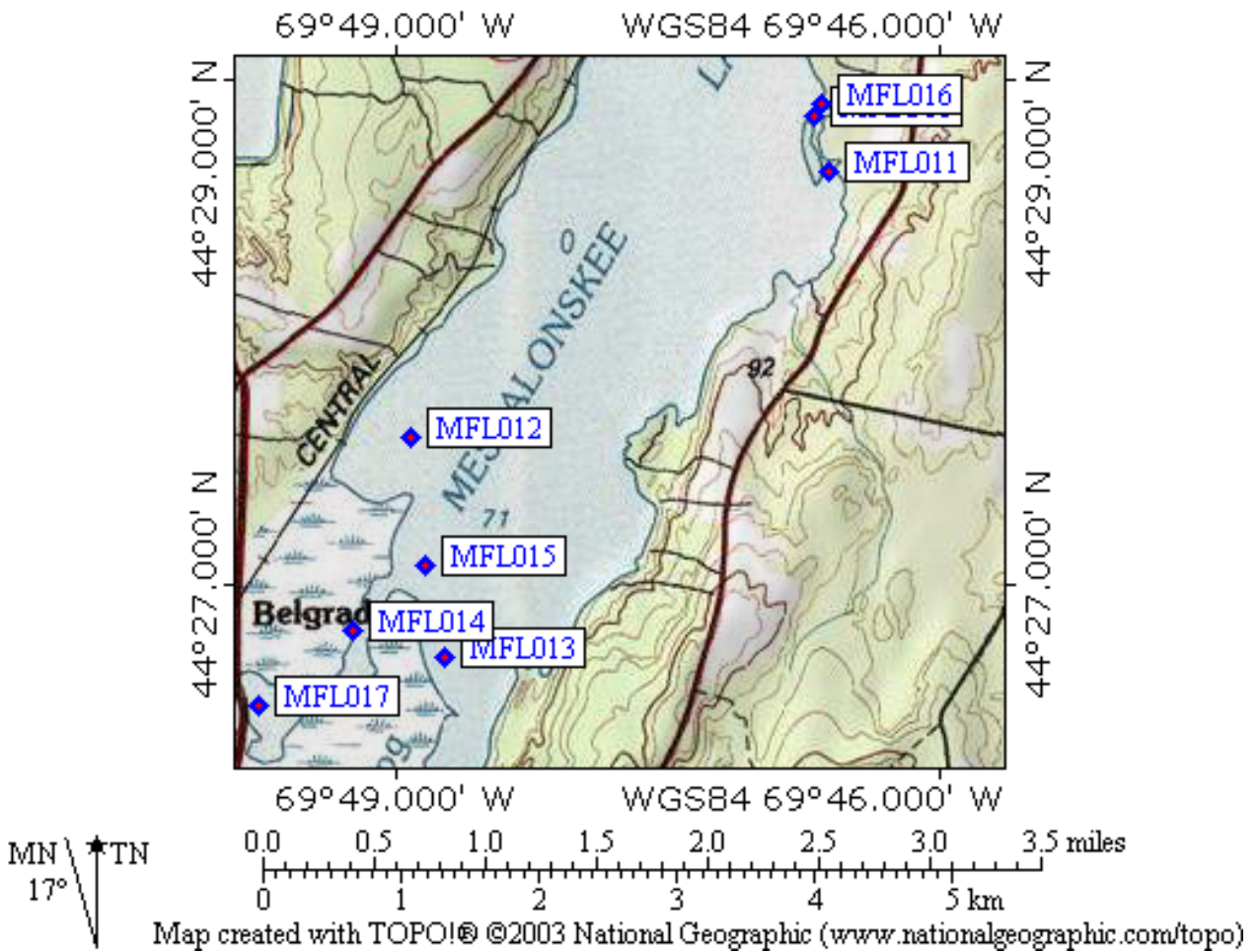
Benthic Barriers - Benthic Barriers are covers that lay on the bottom of the lake for a period of time, blocking out the light and helping to control the growth of Milfoil. Experiments that other Lake Associations have conducted have shown effective control of the weeds for the entire summer by placing the barriers in the infested areas in early June for three weeks. This is also a labor intensive effort, but the material costs are low and it is an effective method for small areas of high infestation that may be blocking swimming and boating areas. MLA has experimented with placing these barriers and has a permit from the State of Maine to do so.

INFESTED AREA OF THE LAKE

The major areas of current infestation include the South end of the lake in the wetlands, and outflow area of the Belgrade Stream, the Southeast Side of the lake in the cove near Juniper Lane, the Northwest shore of the lake in the cove near the causeway to Willey Point and the Lakeview Cemetery and in and near the Oakland Public Boat launch. Other areas have also been identified and are being monitored and this situation will change over time. Maps of the current locations of the Milfoil Buoys placed by the Lake Association and the State of Maine are shown below:



Milfoil Buoys located at the North (Oakland) end of Messalonskee Lake



***Milfoil Buoys located at the South (Belgrade) end of
Messalonskee Lake***

LAKE ASSOCIATION MANAGEMENT PLAN.

Based on the invasive nature of Milfoil, and the current state of any of the eradication measures, total removal of milfoil in Messalonskee Lake is not possible. The objective of the MLA Milfoil Management Plan is to define the activities that the MLA will take to continue to minimize the effect of heavy milfoil infestations that would prevent recreational use of the lake.

1. Education – MLA will continue to educate the community on the changes that are taking place on the lake as a result of the Milfoil infestations. This includes information on the website, articles in the local papers, placing and maintaining the milfoil buoys, etc.
2. Protection – MLA also has a responsibility to help protect other lakes in the area by supporting the prevention of the spread of Milfoil to other lakes. The immediate threat is preventing the spread to any other of the Belgrade Lakes. Messalonskee Lake is part of a 175 square mile watershed that includes East Pond, Long Pond, North Pond, Great Pond, Salmon Lake and McGrath Pond. Any infestation into these water will ultimately affect Messalonskee since it is the last lake in the chain. MLA currently supports the Courtesy Boat Inspection (CBI) program operated by the Belgrade Regional Conservation Alliance at the Oakland and Sidney boat launches.
3. Mitigation – Up until 2007, MLA was primarily involved in the Education and Protection activities listed above. Now, MLA is looking to expand that scope to help in mitigating the effects of heavy infestations in certain areas that might prevent the recreational use of the lake. In the fall of 2007 MLA built a 20' X20' Benthic Barrier and placed it an area of Milfoil on the south end of the lake. The barrier was left in the water for 60 days and then removed. Initial indications showed that the barrier was effective at preventing the growth in the area of the barrier. Other lake associations have experience that shows that if the barriers are placed in the infested areas early in the growing season (June), that the growth is effectively controlled for the summer season. For the areas of the lake that have infestations heavy enough to prevent swimming or boating access, this method seems to be the best alternative for the state of Messalonskee Lake.

MLA has a permit from the State of Maine for placement of these barriers. The permit is on a per barrier basis and MLA needs to inform the State when and where the barriers will be placed and the placement is limited to 60 days maximum.

MLA will work with residents of the lake to help mitigate local infestations in the following way.

- Residents of the lake who think they have a milfoil infestation can contact the MLA and request that the association inspect their area to assure that the infestation is in fact milfoil and to give make suggestions as to what, if any , action should be taken.
- If the infestation is affecting the recreational use of the lake, MLA can help the resident to plan a mitigation program through the use of Benthic Barriers, or Hand Pulling.
- The resident will be responsible to provide the materials to construct the benthic barriers and to help construct and install the barriers
- MLA will help to coordinate labor and equipment required to construct and install the barriers.
- MLA will use the permit that has been granted by the State of Maine for the installation and will notify the state of the Benthic Barrier implementation plan

Residents can contact the Messalonskee Lake Association by:

Sending email to info@snowpond.org

Mail to P.O. Box 532, Oakland, ME 04963

Telephone to 207-465-2888