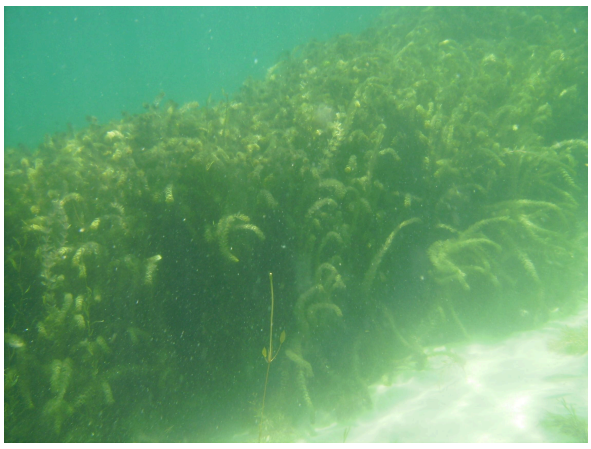
Eurasian Water Milfoil

Huron Pines 2007 Milfoil Survey




Milfoil growing along the drop-off at Flag Point.


Prolific areas of milfoil near drop-off between Detroit Point and Old Point Comfort – photo on left shows a barrier next to a wall of milfoil. Photo on right shows thick patch of milfoil growing almost to the surface of the lake, and choking out native vegetation.

Huron Pines RC&D Project Fact Sheet July 2004

The July 12 stocking of two weed beds in Higgins Lake with the “milfoil weevils” is the latest attack on controlling the spread and growth of Eurasian watermilfoil in order to protect both the lake ecosystem and the recreational opportunities it provides. Eurasian watermilfoil (EWM) is an invasive exotic species thought to have first entered lakes in North America in the 1940s. EWM is a concern because it rapidly colonizes lakes and spreads easily by fragmentation. The plant can grow to the surface of the water and form extremely dense mats, inhibiting boating, fishing and swimming. It also crowds out some of the more ecologically beneficial aquatic plants. Once established, Eurasian watermilfoil is very difficult to remove and can be spread from lake to lake by boat traffic. Higgins Lake is a 9,900-acre high-quality lake located in Roscommon County. The lake, 140 feet at its deepest point, is a tremendous natural resource, attracting thousands of people to live near it and thousands more to visit each year.

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During the period of June 2001 through December 2002 local citizens, organizations, and resource agencies were involved with developing a watershed management plan for Higgins Lake. As an outgrowth of that project, the Higgins Lake Foundation funded an assessment of Eurasian watermilfoil (EWM). The survey was conducted late June/early July of 2002 by Huron Pines Resource Conservation & Development Council and repeated in 2003. It was conducted in order to identify major EWM weed beds in the lake, characterize the extent of the problem, and provide baseline information for analysis of future management options.

With its sandy substrate and low nutrient levels, Higgins does not appear as susceptible to colonization of EWM as many other lakes in Michigan. Due to the fact that EWM can take hold quickly, addressing these small areas of plant growth is essential to the successful control of EWM in Higgins Lake. In addition, EWM is well established in several sections of the lake. The EWM inventories highlighted 12 priority areas of concern; these areas are the focus of treatment efforts by project partners. These sites include the drop-off areas along Point Detroit and Flag Point, the three major (state-owned) boat launches, a large weed bed several hundred feet from shore between a private marina and Camp Westminister, two sites several hundred feet off Cheney Point, an area where numerous small growths are being established near Treasure Island, a two sites south of Flag Point, and one weed bed between the shore and drop-off in the southwest section of the lake. (For more detailed site information, contact Huron Pines RC&D at 989/348-9319.)

The key to effective control of Eurasian watermilfoil in Higgins Lake is to think in terms of the long-term management of the lake. The course of action should be realistic, cost-effective, and ecologically sound. Due to the unique characteristics of Higgins Lake and the fact that the EWM problem is in its early stages, Huron Pines RC&D staff recommend an integrated management program tailored specifically to Higgins Lake. The involvement and support of community organizations and residents around the lake has made such an approach possible. The strategy, employed one small site at a time, is designed for the long-term health of the Higgins Lake ecosystem, keeping costs – both financial and ecological – to a minimum. The integrated management program, a five-star approach to control of EWM, includes the following: 1) Biological control, 2) Chemical treatment, 3) Physical control, 4) Community Outreach, and 5) Continued monitoring.

Biological control methods, specifically predation of the plant by an aquatic weevil (Euhrychiopsis lecontei), have been successful in many Michigan lakes. This method of control can be expensive initially

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and time is needed to tell how well a weevil population will sustain itself and provide long-term control; however, this may well prove to be the most effective treatment over time. In the summer of 2002, while collecting some plant samples, biologists with the US Army Corps of Engineers were able to find these herbivores naturally occurring in Higgins Lake. To supplement the natural population, Huron Pines RC&D contracted with the Ohio-based company Enviroscience to stock 10,000 milfoil weevils at two of the more problematic locations in Higgins Lake (Flag Point and the weed bed near between Camp Westminister and B&B Marina). Follow-up study of these two sites during the next three years will help determine whether this method should be used on a greater scale in Higgins Lake. Funding for the weevil project was administered by the Muskegon River Watershed Assembly (MRWA) with project coordination help from the Higgins Lake Property Owner's Association. A dollar for dollar matching grant, through MRWA's partnership with the Wege Foundation, allowed local contributions from the Higgins Lake area to get twice as much done for the resource as they otherwise would have been able to. Local contributions came from the Higgins Lake Foundation and the Schroeder Foundation. Also contributing to the effort were The Robert R. Thalner Endowment Fund and the John Morley Family – Higgins Lake Endowment Fund of the Roscommon County Community Foundation.

The use of herbicides to treat a lake is a very expensive approach that raises several concerns. These include the immediate effect of the application on non-targeted species, the fact that long-term impacts on all organisms are poorly understood, treatments will likely need to be repeated in future years, and the high potential for re-infestation. "Whole lake" chemical treatment is not appropriate for Higgins Lake because Eurasian watermilfoil is not found in abundant amounts throughout the lake and because of the large volume of water. Limited use of an herbicide for spot treatment at the three DNR Boat Launch sites will be used in 2004 as these public access points seem to be the main entry point for EWM into Higgins Lake. Without eliminating EWM from these three locations, the invasive plant will continue to be introduced into Higgins Lake and efforts to control its growth would ultimately fail.

Physical control, such as the placement of a bottom (or benthic) barrier on the lake bottom, has also been used to control EWM. This is an ecologically sound, low-cost method for small problem areas, although it is labor intensive to install and can be difficult to maintain. By blocking out sunlight, EWM is prevented from growing. This treatment was used in 2003, as a pilot project, at 4 locations in the lake. At three of the four sites in 2003, the treatment worked effectively. At the fourth site, the material was dislodged by boat anchors. (The unsuccessful site was thus targeted for treatment with the milfoil weevils in 2004.) Because

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of the success of this approach, the treatment was once again used in 2004 at four sites. Through the volunteer efforts of teams of scuba divers, the sites are checked each week and any maintenance work performed as necessary. The material, a geo-textile fabric held in place by stakes and a small amount of rock, was cut into 15' by 30' panels for ease of installation by a 3-person team of scuba divers. While the fabric is somewhat permeable, holes are cut into it to allow the escape of gas from bottom sediments.

Note the growth of plants where the barrier is not shading out the plants.

The other form of physical control of EWM, plant harvesting, refers to both pulling the plant by hand as well as using a machine. Because fragmentation of EWM leads to its spread, mechanical harvesting is not a viable option for Higgins Lake. Careful hand harvesting may work in areas where only a small cluster of EWM is present. Once again, EWM spreads through fragmentation, so hand harvesting must be done with the utmost care. All plant fragments should be collected and disposed of off-site. The benefit to this approach, on a micro scale, is that EWM can be prevented from fully establishing itself.

Community Outreach and Education is as important to solving the milfoil problem as any other method of control. Whether it is the use of effective signage at boat launches, the 2003 direct mail distribution of EWM identification cards to property owners, or the 2004 "Look Before You Launch" card pictured below (for distribution at launch sites), all stakeholders that enjoy Higgins Lake need to know that they ultimately play the key role in helping to protect it. Key messages, such as, "Boaters need to wash watercraft and dispose of weeds before entering and exiting Higgins Lake," are very important for everyone to understand and act on.

Continued Monitoring is the final component of the five-star program for managing milfoil. It is vital so that project partners can implement control efforts as soon as EWM if found, before it gets out of hand. The early intervention approach, along with persistence, can ensure the health of Higgins Lake. For more information on identifying or reporting EWM, contact Huron Pines RC&D at 989/348-9319. Because EWM has been documented early on in its infestation of the lake, there is a great opportunity to use a hybrid method of biological control, outreach and education, limited use of chemicals, and physical control techniques to reduce the spread of this invasive plant and help protect Higgins Lake for years to come.