Eurasian Watermilfoil Report

by Paul Thompson, Water Quality Director

Eurasian watermilfoil (EWM) is a submerged aquatic plant that poses a serious threat to our lake's native aquatic plants and the animals that depend on these diverse ecosystems. Since it is not native to Ontario or Canada, EWM has very few natural predators. EWM is an invasive aquatic plant that has become widespread throughout North America, including many lakes and water systems in Southern Ontario. Millions of dollars are spent every year on this continent on physical and chemical management techniques to control nuisance populations of milfoil. Many of these methods are expensive, provide only temporary results and may have negative impacts on the surrounding ecosystem. In addition to physical and chemical management, biological control of EWM using the milfoil weevil (*Euhrychiopsis lecontei*) has been tried throughout the United States since the 1990s and has received growing interest in Ontario. This insect is native to North America, feeds specifically on milfoil and is commercially available as a biological control agent.

Growth occurs early in the growing season once water temperatures reach 10ºC. Upon reaching the surface, the milfoil stem branches profusely, blocking available sunlight to other submersed plants underneath the canopy. This growth habit often results in dense monocultures of Eurasian watermilfoil. EWM typically grows in lakes in depths of one to four metres, although it has been found in areas up to 10 metres in depth. Depth range is limited by wave action and competition in shallow water, and typically by water clarity in deeper waters. In general, low-density sediments with approximately 20% organic matter are sufficient for milfoil.

The plant forms thick underwater stands of tangled stems and vast mats of vegetation at the water's surface. It can shade and crowd out native plants and become so thick that the larger fish cannot swim through the tangled mats. When EWM mats get well established, channels are needed to allow access from the shoreline out into deeper water areas. Although there are native water-milfoil species in North America EWM remains alive over the winter and starts growing earlier in the season than native water milfoils. In spring and summer, EWM can grow up to two inches a day. When EWM plant growth reaches the surface of the lake, the plant will continue to grow and can form a canopy over the surface of the lake often making the area nearly impassable with a boat. This canopy can also shade out native plants. Excessive growth affects recreational use by interfering with swimming, fishing, and boating and reducing the aesthetics of the lake.

EWM has recently established itself in Wolfe Lake and has begun to present the problems described above. As a result, at the 13 Aug 2011 Annual General meeting of the Cottage Association, a committee of three directors was established to investigate and recommend responses to the infestation. The committee (Paul Thompson, Gord Moore and Duncan MacDougall) determined that two possibilities to deal with the infestation are harvesting or the use of herbicides. Both these methods are expensive, provide only temporary results and have negative impacts on the surrounding ecosystem, most residents of Wolfe Lake favour neither. Research did reveal that biological control of

EWM has been utilized. EnviroScience is the exclusive provider of the Milfoil Solution®, a biological control for invasive EWM that utilizes a native beetle, the milfoil weevil.

EWM Project

Our Association project to deal with the infestation has already begun. Committee members surveyed our lake for base line infestation information and twelve areas were identified as having some degree of infestation, six of those being moderate to heavier. The board of directors has authorized the committee to continue by contracting with EnviroScience Inc. for the introduction of a limited number of milfoil weevils in a 1-year pilot project. Our work plan includes a more comprehensive infestation survey prior to selection of the pilot site by an independent advisor. A control site will also be followed to gauge results from the introduction of the weevils.

Our aim is for the initial survey and weevil introduction at the selected site to take place in late spring or early summer 2012 with the first progress report due that fall. Our hope is that weevil activity during 2012 will result in a noticeable reduction of EWM infestation in the pilot site in comparison with the control site. If the pilot project yields satisfactory results we anticipate embarking on a much larger project requiring the cooperation and participation (financially and otherwise) of a large number of our members and other lake property owners. The ultimate goal would be to reduce the EWM infestation to 10% or less of the 2012 levels (as determined by the spring 2012 survey).

Budget

The cost of this pilot project is limited to $7,500. A full-scale project cost is substantial and frankly much greater than first anticipated due to more wide spread infestation than first believed. Based on the initial Lake Association volunteer survey, EnviroScience Inc. projects that it will cost $186,130 (includes $21,413.21 HST) to supply, stock, monitor and report on the 140,000 weevils that may be necessary to address the infestation. Obviously significant fundraising would be required.