# PLCA AGM

# Presentation on Eurasion Milfoil

By Ken Waller

# Biography Ken Waller

Built on Sharbot Lake in 1996/97

Moved in full time in 2006 on retirement from the RCAF

Joined Sharbot Lake Property Owners' Association (SLPOA) in 1999

Has been on the SLPOA executive since 1999:

Sec/Treas 1999-2007

Vice-Pres 2007-2009

Pres 2009-2011

Past-Pres 2011-2013

Vice-Pres 2013-2017

Pres 2017- present

EWM Brief

Ken Waller, President, SLPOA

Description

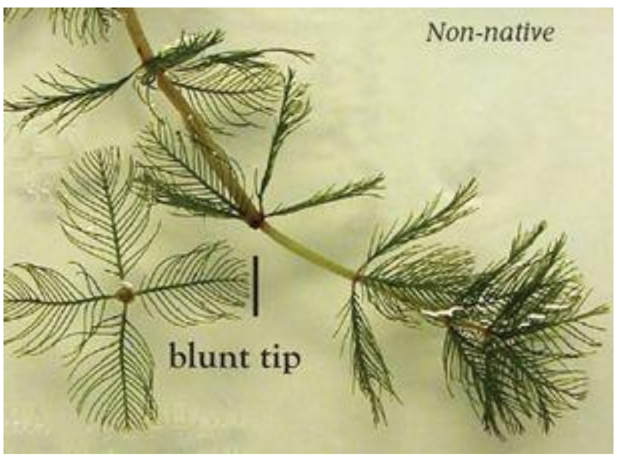
There are both a domestic watermilfoil and there's Eurasian Watermilfoil

## Native Northern Watermilfoil

- Usually 7-10 leaflet pairs per stem
- Rigid feather-like leaves form a Christmas tree shape
- Lower leaflets are usually quite long
- Leaves arranged in whorls (circles) of four to six around stem
- Leaves are usually rigid when out of water
- Stem is usually whitish, or whitish-green in color

## Eurasian Watermilfoil

Eurasian watermilfoil (EWM) is a perennial aquatic plant that grows under the water surface. Its leaves are feather-like with 12 or more thin segments (native milfoil has 11 or fewer leaf segments). (Pix 1) It is most commonly found in water 1-3 m deep (~3-10 ft) in lakes, rivers, and ponds, but can occur at depths up to 10 m (~33 ft). Found in acidic or alkaline waters, this plant blooms small reddish flowers that rise above the water in red tangled stems in July and August. EWM grows in thick, dense mats that crowd out native species, reducing biodiversity, and deoxygenates water when decomposing, killing other aquatic species. (Pix 2) It can also cause damage to boat motors, negatively impact fishing and swimming, and increase suitable mosquito habitat. EWM is considered one of the most widely distributed aquatic invasive species with records of EWM confirmed in 47 continental USA states as well as the provinces of British Columbia, Ontario, and Quebec.




- Usually 12-21 leaflet pairs per leaf
- Delicate, feather-like leaves
- Leaflets are mostly the same length
- Leaves arranged in whorls (circles) of three to five around each stem
- Leaves are limp when out of water
- Stem is as thick or thicker than a pencil and is long and spaghetti-like

Eurasian watermilfoil is spread through fragmentation of plants which can be transported long distances by boats, boat trailers, fishing gear, and other aquatic equipment, as well as naturally by water currents, wind and waterfowl. Even the smallest fragment can generate a new plant.


Impact

EWM is threatening Canadian waterways by competing directly with native plants and reducing biodiversity. Thick mats of Eurasian watermilfoil prevent other native plants and native fish species from thriving within the ecosystem.

It can reduce the amount of oxygen within the ecosystem, making it difficult for other species to survive. In the fall, when large mats of Eurasian watermilfoil die off, the decaying plants can reduce oxygen levels within the water.

Large, thick mats of Eurasian watermilfoil impact recreational activities such as swimming, boating, and fishing. This invasive plant hinders boats from propelling through and often does not provide suitable conditions for fishing.

Plant fragments are the primary means of EWM reproduction; they float on the surface and are dispersed by wind and wave actions to other areas where they sink and colonize into new plants. In optimum water temperatures (15°C – 35°C) EWM plants can grow 30 cm per week.

Some of the problems associated with EWM include:

- Recreational activities such as boating, fishing, and swimming are impeded by dense growth at or near the surface.
- Shoreline property values can be de-valued. EWM choked bodies of water can depress real estate values up to 20%.
- The lake’s ecosystem will be altered. EWM will displace important native plants thus harming fish and wildlife habitat. Dense floating vegetation becomes breeding habitat for mosquitoes.
- Stagnant oxygen-depleted conditions are often found in association with dense beds of EWM. Sudden nutrient release caused by late-season die-back of extensive plant beds may cause nuisance algae blooms.
- Costs to manage EWM growth are borne by either local citizens, lake management organizations, and/or local governments.

What can be done?

Preventing the establishment and spread of aquatic invasive plants like Eurasian watermilfoil is more cost effective than eradicating or managing populations once established in a water body. Early detection and rapid response are key to preventing negative impacts on biodiversity, the economy, and society.

Removal

Hand Removal. In small areas, removal by hand can be effective. The entire plant must be pulled and removed. Any small portion of EWM can generate a new plant so care must be taken to remove all pieces.

Benthic Barriers.  Small areas (swimming areas, boat launch areas, can be treated using benthic barriers, bottom screens, or benthic mats which are covers laid on the bottom sediment of a water body to block sunlight, preventing plants from photosynthesizing and suppressing their growth. These barriers target the rhizome, the main method of spread, and can restrict growth in small, localized areas.

Large Scale Removal. Removal of large areas of EWM requires special equipment.

- Suction Several companies have established a system that utilizes a large suction pump on a pontoon boat or barge and a diver who controls the end of the suction hose. The diver plucks the EWM and feeds it into the hose. On the barge, the output from the pump is fed through a strainer that traps the EWM and the water is returned to the lake. The collected EWM is bagged and transferred to the shore. Lake George, a 5-mile long lake in northern New York State, took out 90 tons of EWM in one year using diver-assisted suction.

- Biological The most successful biocontrol agent thus far has been the North American weevil, an aquatic beetle that feeds exclusively within the milfoil genus Myriophyllum. Within a few short generations this weevil has shifted from its original host plant, Northern water-milfoil to feeding almost exclusively on the invasive Eurasian water-milfoils. The adults feed on the stems and leaves of the plant, while the larvae bore into and feed on the inside of the stem, thus causing the plants to lose buoyancy and sink. However, weevils must reach high enough densities in order to be effective.

- Chemical. Note: Only herbicides specifically labelled for aquatic use may be used to treat plants in water. In Canada, the only herbicides registered for control of aquatic plants that are growing in water are diquat and ProcellaCor. As a broad-spectrum herbicide, diquat can harm many non-target species. ProcellaCOR (active ingredient name Florpyrauxifen-benzyl) was approved for aquatic use by Health

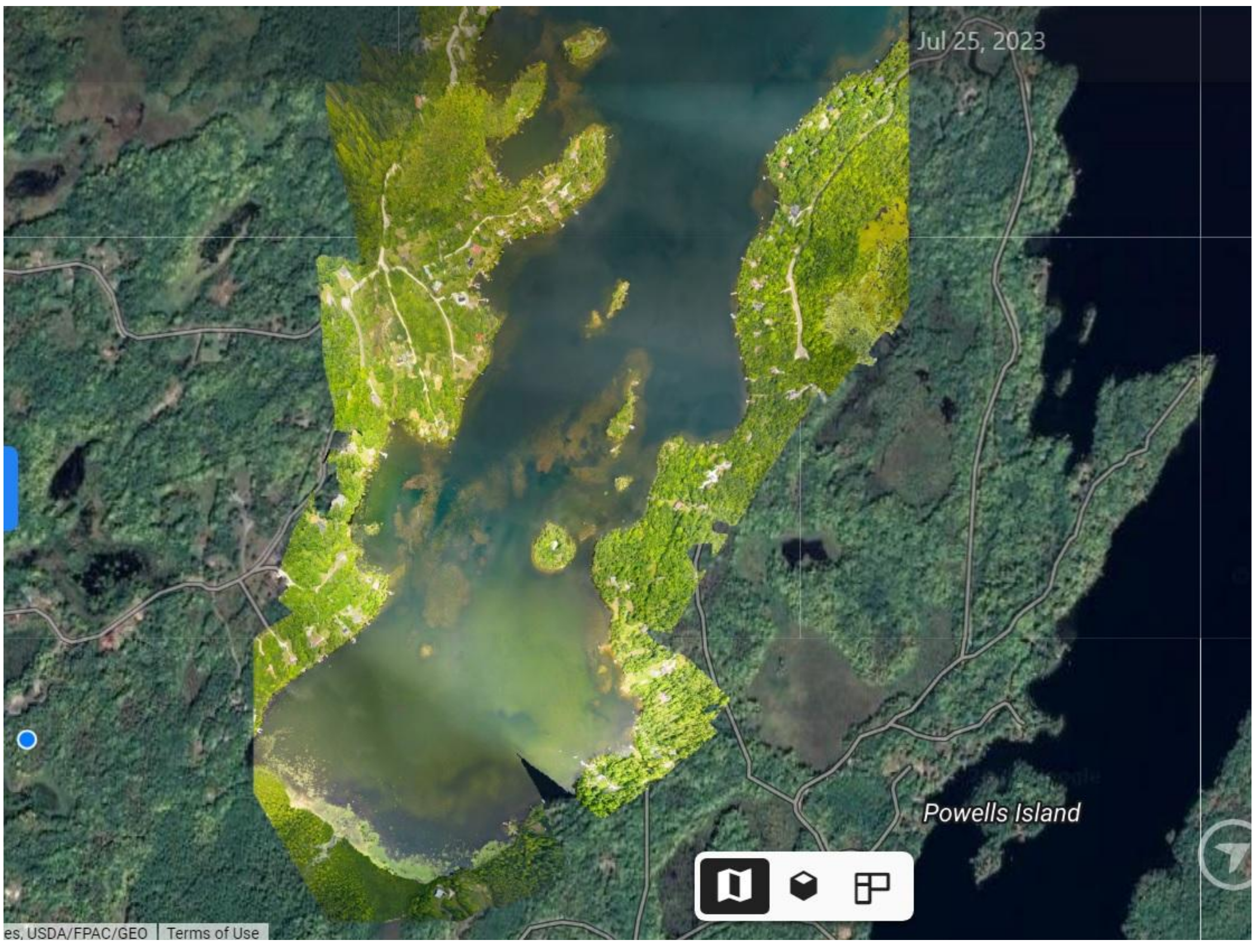
Canada’s Pest Management Regulatory Agency (PMRA) on May 16, 2023 and targets EWM.

Another potential aquatic herbicide, imazapyr, is currently under review for registration. Any person applying herbicides in water must first obtain a permit issued by the MECP. In most cases, an applicator (exterminator) appropriately licensed by the MECP is required to perform the treatment. Ontario restricts application to 15m x 30m on individual properties. After application, no swimming for 24 hours and no drinking the water for 5 days. Cost (in 2022) was approximately $700.

## What SLPOA is Doing

EWM has been in Sharbot Lake since about 2010. It became an obvious problem in 2020 when large areas of EWM developed.

For the past two years SLPOA's focus has been on monitoring the spread and density of  EWM through a joint project with Granite Ridge Education Centre in Sharbot Lake. Using drone technology, the project takes numerous aerial photos of target areas and produces a composite image that identifies EWM. (See photo below of Hawley Bay in the east basin). The bright green identifies the extent of the composite mapping. The darker green (near the bottom), is algae. The brownish areas are EWM. EWM is prevalent not only in the middle of the bay but also along most of the shoreline.



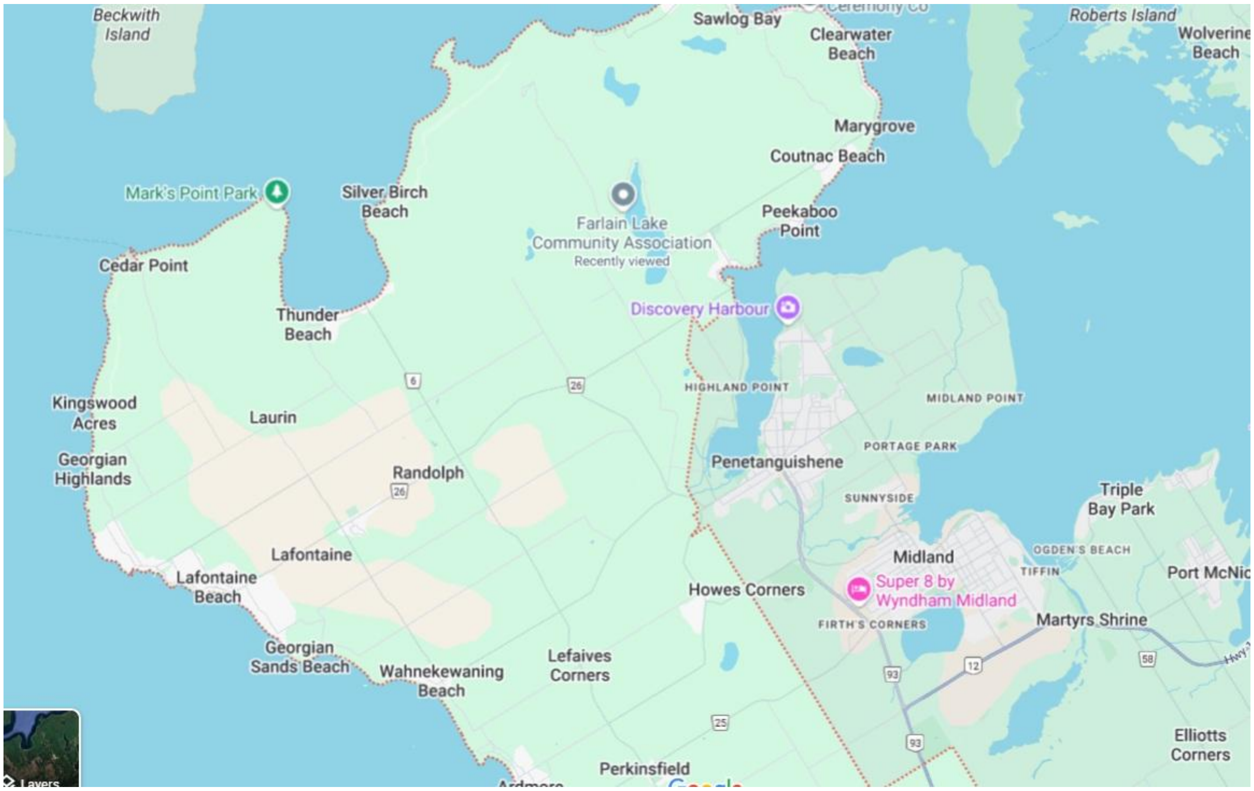

SLPOA is also encouraging boaters to comply with Ontario regulations to Clean, Drain and Dry your boat, equipment and trailer after leaving a lake and prior to entering another lake.

Preventing EWM from entering your lake is significantly easier than trying to remove it. Sadly, you will find that Townships are unable/unwilling to get involved, citing ‘waterways are a provincial issue’, and a lack of resources.

To SLPOA, it appears that not only townships, but also the province, do not take EWM seriously. No plans for large-scale infestation solutions are available nor are they being discussed.

A Success Story

In closing I would like to leave you with something positive. Farlain Lake is in Tiny Township, inland from Georgian Bay.

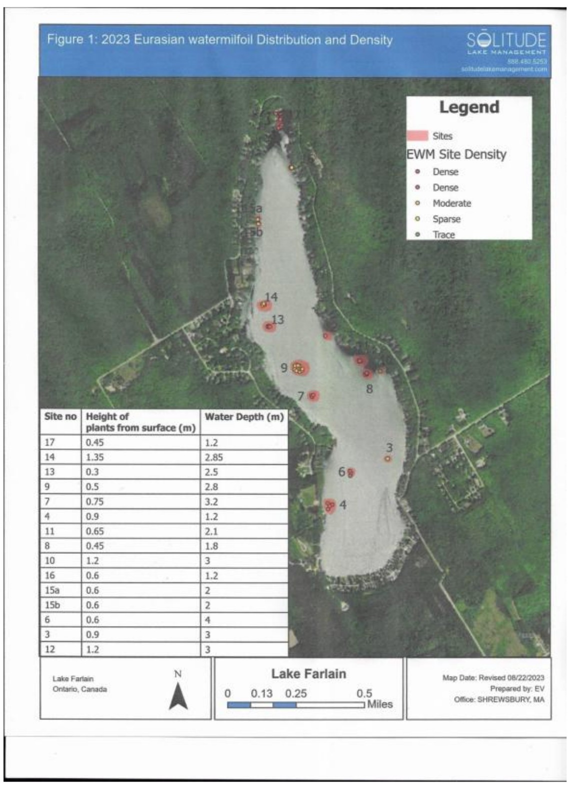



In 2014 Farlain Lake had a significant EWM problem, and the Farlain Lake Community Association (FLCA) implemented an EWM Control Program. In 2018 they were able to obtain a sizeable grant from the Ontario Trillium Foundation (OTF) to fund equipment, supplies, etc. for three years 2019-

2021, which was extended to the end of 2024 due to disruptions created by COVID and other issues. They became aware of ProcellaCOR which had been developed by SePRO, and used very successfully since 2018 in the US to eradicate EWM in a number of lakes.

ProcellaCor is applied under water, not sprayed. It was applied by SOLitude, a lake management company based in the United States and, at that time, the only one licensed to do so in Canada. ProcellaCor is applied at a rate of 6 parts per billion which equates to 6 drops in a full-size swimming pool.

The treatment is a targeted approach – ProcellaCOR FX was not applied to the entire lake. The map shows the infestation sites which were targeted for the treatment.




| Site no | Height of plants from surface (m) | Water Depth (m) |
|---|---|---|
| 17 | 0.45 | 1.2 |
| 14 | 1.35 | 2.85 |
| 13 | 0.3 | 2.5 |
| 9 | 0.5 | 2.8 |
| 7 | 0.75 | 3.2 |
| 4 | 0.9 | 1.2 |
| 11 | 0.65 | 2.1 |
| 8 | 0.45 | 1.8 |
| 10 | 1.2 | 3 |
| 16 | 0.6 | 1.2 |
| 15a | 0.6 | 2 |
| 15b | 0.6 | 2 |
| 6 | 0.6 | 4 |
| 3 | 0.9 | 3 |
| 12 | 1.2 | 3 |

ProcellaCor was applied in early September 2023. Approximately 4 weeks later the treated sites were reviewed, checking the status of both the invasive plants as well as the surrounding native plants. The findings more than met expectations – the EWM was dying, and the native plants appeared untouched and healthy. FLCA will continue to monitor the targeted sites and spot treat as necessary.

Farlain Lake was the first inland lake in Canada to be treated with ProcellaCOR. SePRO has produced a video reflecting this project as part of its *Lakes and Ponds Heroes* program. You can watch the video by clicking on this link.

## Conclusion

With any invasive species, prevention is much preferred over elimination. It’s too late for EWM in our lake and, it sounds like, in yours as well, but there are other invasive aquatic species (IAS) just waiting to settle in your lake. Most invasive species are introduced via boaters that have recently been in infected lakes and carry pieces of IAS on their boats, trailers and even their equipment, just as boats leaving Pike Lake can transmit IAS to other lakes. Ontario has mandated the requirement to Clean, Drain and Dry boats leaving a lake. With little enforcement available, it falls on lake and community associations to educate boaters and even to provide the resources so that the cleaning can be done efficiently… but that’s a story for another day.

Thank-you.

## References

https://www.invasivespeciescentre.ca/invasive-species/meet-the-species/invasive-aquatic-plants/eurasian-water-milfoil/

https://www.ontarioinvasiveplants.ca/wp-content/uploads/2021/01/Eurasian-Water-Milfoil_Edn1.0_March2020.pdf

https://www.ontario.ca/page/remove-native-aquatic-plants