



## President's Message

# WE NEED YOU OR WE CLOSE!!

Ken Waller, President

Have I got your attention? Your association is now in the position that, without an influx of volunteers, it will not have the necessary executive positions filled that would allow it to continue. SLPOA requires that expenditures, exclusive of petty cash items, be signed by the secretary-treasurer and one of either the president or vice-president.

After four years as president and 22 years on the executive, I am stepping down. My wife, Joyce is also stepping down after serving 14 years as secretary-treasurer. Our vice-president, Mike Jarvis, has announced that he is unable, due to work commitments, to continue in any position. Thankfully, the remainder of the executive, Barbara Fradkin as Environmental Issues Co-ordinator and Barb McIsaac and Marie La Forest our two Members-at-Large, have agreed to remain IF the needed positions are filled. So too have the volunteers who continue to support the executive: Bruce Morris, Lynda Cronin, Bill and Barb Wilson.

What can you do? Look at the job descriptions further on in this newsletter and consider putting your name forward. You will not "be thrown to the wolves". Joyce and I are not going anywhere, and I will remain on the executive as past-president, ready to provide assistance.

What has SLPOA contributed to Sharbot Lake, you might ask. What will likely not continue if it folds? First, SLPOA has continually worked with outside agencies to protect or improve the environment surrounding Sharbot Lake. We work with Watersheds Canada on such programs as Love Your Lake, with a goal of ensuring healthy shorelines, Natural Edge Shoreline Program, working with waterfront property owners to plant native trees, shrubs, groundcovers, wildflowers, and grasses along the water's edge, Lake Links, a collaborative, one-day workshop held every October.

We work with Mississippi Valley Conservation Authority (MVCA) with such programs as Shoreline Naturalization (supporting landowners by providing planting advice and recommendations to provide benefits of a healthy shoreline), Tree Days, (making native trees and shrubs available to waterfront property owners). MVCA also does intensive testing of the water of Sharbot Lake every 4-5 years and provides a detailed report on the state of our lake.

SLPOA is also heavily involved in water testing. Guy MacLeod has worked closely with Water Rangers to provide testing monthly at several locations on both the east and west basins. While Guy will complete the testing program for 2021, we are looking for someone to work with him this year and take over the program next year.

Consider also SLPOA's work with other lake associations in bringing mandatory septic re-inspection to Sharbot Lake. We fought long and hard to bring to Central Frontenac this tool so necessary to ensure the high quality of our waters.

So, there you have it. If you want SLPOA to continue, step up. I can assure you, these are very rewarding and satisfying jobs.

There will be a Zoom Annual General Meeting this year on Tue 27 July starting at 7:00pm at which a decision will be made. More info to come.

That's enough dark news for now. Sit back and enjoy the rest of this newsletter. It's packed with interesting info and ideas. We have an update on water testing by Guy MacLeod, a beautiful article on loons by Pam Hickman, Sharbot Lake's resident loon expert, plus an article by Barb McIsaac on the effect climate change is having on our lakes. Barbara Fradkin has written 2 articles on invasive species significantly affecting Sharbot Lake this year: the gypsy moth and Eurasian Water-milfoil.

To top it all off we've included several interesting articles pirated (with permission) from Cottage Life Docksides online magazine. You'll learn why mosquitoes go after you, tips on getting rid of swimmers' itch, plus 5 plants that are nearly impossible to kill (for those of you whose green thumb is a very pale shade off green).

## **Job Descriptions**

### The Executive

According to the Constitution, the responsibilities of the executive are to "arrange for meetings of the Association and to manage the affairs of the Association between meetings". This includes coordinating, as a group, any projects, or tasks they decide to take on.

### President

Officially, the president is responsible for "convening and chairing meetings of the Association and of the Executive and representing externally the views of the Association ". In reality, the president becomes the contact point for much of the Association's work. It is he/she that outside agencies contact. The president is also the one contacted by people wanting info on the association. It is then up to the president to liaise with the executive to decide what ideas or suggestions are proceeded with and by whom. It is not the president's job to 'do it all'.

### Vice-President

From the constitution, the V-P's responsibilities shall include "acting for the President in the latter's absence and liaising between the Executive and the Area Representatives". In reality, the latter responsibility has been handled by the secretary-treasurer who deals with the area reps frequently as treasurer and keeper of the database. The V-P, it is hoped, takes on projects/tasks as they arise (and peak his/her interest).

### Secretary-Treasurer

The Sec-Treas is charged with "preparing and maintaining the Association's records, including its membership roll, notices and minutes of meetings of the Association, minutes of meetings of the Executive, and the Association's correspondence, as well as maintaining the Association's finances."

As mentioned, liaising with the area representatives has traditionally come under the Sec-Treas. The Sec-Treas is the primary signatory for SLPOA finances (i.e. outgoing cheques) which must also be signed by either the president or vice-president. Finances are currently managed using an Excel spreadsheet and all membership info is managed using an Access database.

#### Other Tasks of the Executive

Producing a newsletter twice a year	Securing advertisers for the newsletter
Administering the SLPOA Facebook page	Managing the SLPOA website
Organizing the AGM	Supporting outside-agency projects (e.g. Tree Day, spawning-site improvement, etc.)

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### **Fireworks in Central Frontenac**

#### **Ken Waller**

CF has a new fireworks by-law that was passed 27 Apr 2021.

It describes what, when and by whom fireworks may be set off. You can read the full by-law at:

<https://frontenac.civicweb.net/filepro/documents/...>

Some important points include:

"Consumer Fireworks

3.1 Consumer Fireworks within the Municipality may only be set off by a Competent Person (person 18 yrs. or older) as follows:

- a) On New Year's Eve - between 8:00 p.m. and 1:00 a.m. the following day;
- b) On Victoria Day - between 8:00p.m. and 11:00p.m.;
- c) On Canada Day - between 8:00p.m. and 11:00p.m.;
- d) On American Independence Day – between 8:00pm and 11:00pm
- e) On Labour Day - between 8:00p.m. and 11:00p.m.

3.2 Consumer Fireworks will also be permitted three days before or after the days named in Section 3.1 (b) – (e) inclusively subject to the same time restrictions so noted.

3.3 If a Person wishes to Set Off Consumer Fireworks for an event or celebration outside of the specified times in Section 3.1 or 3.2 (i.e. birthday party, anniversary, other cultural event or celebration etc.), they must apply for an exemption to the Chief Fire Official a minimum of seven (7) days prior to the event."

The Township also has an excellent document on fireworks safety, available at

<https://www.centralfrontenac.com/.../fireworks-safety.aspx>

So, if you're planning on setting off fireworks, make sure you are in compliance and that you do it safely.

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## The Threat To Our Lake

### Barbara Fradkin, Environmental Issues Coordinator

Eurasian Water Milfoil is an aggressive aquatic plant that has spread all across North America, creating dense, tangled mats that choke out native plants, block sunlight, and destroy wildlife habitats, as well as ruining the lake for recreational activities. It is in many lakes in Eastern Ontario, and was first noticed in Sharbot Lake about four years ago. Since then it has spread rapidly and this spring the dense, reddish mats were widespread in areas in the east basin near the boat launch.

It spreads from lake to lake on boats (including canoes and kayaks) and boat accessories like motors, anchors, ropes, and fishing equipment, as well as in bailers and bait buckets, and therefore is often most dense in areas of heavy boat traffic like boat launches, public docks, and marinas.

It can grow in many different water temperatures and lake qualities, all season long, although it flourishes in still water about one to four metres deep, such as in quiet bays. Although it does spread from seeds, most of the new plants are from fragments of older plants that have broken off and floated away to create a new plant. As a result, once it is established in a lake, eradication is next to impossible, and the goal is to identify, monitor and contain the spread, so as to try to control the infestation in desirable swimming, fishing, and boating areas. This requires vigilance and effort on the part of each property owner to mitigate its effects on their own shoreline.

You'll find a recent YouTube webinar on invasive aquatic plants including milfoil here:

<https://www.youtube.com/watch?v=vuKKcjYpVbo>

You can also find a very thorough fact sheet on the best practices for identifying, preventing, and removing milfoil here: [https://www.ontarioinvasiveplants.ca/wp-content/uploads/2021/01/Eurasian-Water-Milfoil\\_Edn1.0\\_March2020.pdf](https://www.ontarioinvasiveplants.ca/wp-content/uploads/2021/01/Eurasian-Water-Milfoil_Edn1.0_March2020.pdf)

### Tips for preventing further spread

1. Identify the plant, which has a long feathery stem with circles of green leaves all the way up it. Each leaf has 12-21 thin leaflets on either side of a central stem. The stem is reddish, especially toward the top, and ends in a red flower poking out of the water in late July. The native version of the milfoil has fewer leaflets (5-9) and a greener stem. See the table below.

**Eurasian Watermilfoil**

- Perennial plant that grows under the water surface.
- Feather-like green leaves circle the stem in groups of four or five.
- Leaves have 12 or more thread-like segments (leaflets).
- Reproduced from fragments and seed, making total eradication unlikely once established
- Tiny, reddish flowers grow on spikes five to 20 centimetres long that rise above the water in late July and early August.
- Hybridizes with Northern Milfoil
- Not sure if it's EWM? Snap a photo and report it!

Species	# of leaflets
Eurasian watermilfoil	12-21
Northern watermilfoil	5-9
Hybrid watermilfoil	8-12

Photos: *Myriophyllum urticoides* (Northern Watermilfoil) and *Myriophyllum spicatum* (Eurasian Watermilfoil)

Invasive Species Centre

2. Monitor and keep track of size and density, and report new sightings to EDDMapS (Early Detection and Distribution Mapping System) which is a free, online tool and app. It allows you to report a sighting, verify the identification with experts, and check sightings made by others. <https://www.eddmaps.org/ontario/>
3. Before moving your boat to another body of water, clean it and all accessories by washing with hot soapy water on land, by pressure washing them, or by leaving them to dry in the sun for five days
4. Avoid swimming or boating (especially with powerboats) through infested areas, because both the wake and the propeller will fragment the plants, leading to further spread. Detour around them instead.
5. Don't buy exotic plants for aquariums, never empty bait bucket, bailer, or aquarium in lake.



### Tips for removal

- Large-scale removal requires specialized machines, permits, and the use of licensed operators, but individual landowners and small groups can use a few manual removal techniques to get rid of the plant along their shoreline, especially where boating and swimming is done.
- Dense, well-established infestations are much harder to remove, so start near the edges with the newly established plants and work your way inward.
- Physical removal like hand pulling and raking should be careful to avoid leaving floating bits in the water, so it's a good idea to create floating booms around the area being worked on to contain bits and/ or hang curtains of netting to catch the bits. Collect up all fragments and dispose of them on land; otherwise, the pulling and raking will just create new plants.
- Optimal time of year is July-August. Removal must not start before July 1, to avoid disturbing fish spawning habitats. By Sept. – Oct., the stems are more brittle and prone to break.
- Dispose of plant material on dry land 100 feet from shore, ideally in flat, vegetated area like a garden to make sure run-off doesn't carry it back. It's good mulch. Can also be put in direct sunlight in sealed black bags and then disposed of in garbage.
- Unfortunately all these methods do not last and milfoil from neighbouring areas re-colonizes within a short time, so you have to continually monitor the spread and redo the removal. The first three methods are low-cost but labour intensive, the latter ones are expensive.

## Removal methods

1. Hand-pulling. Works best for small, isolated patches and to prevent further invasion into an area. Best done with a partner in a boat watching for fragments. Swim, snorkel or scuba-dive to gently pull out individual plant by the roots, watching for fragments. May need to dig into the sediment to get out roots.
2. Raking. Also best on small patches to prevent further spread. Often used to supplement hand pulling. Guide rake along the plants and gently spin the rake to wrap the plant around it before removing rake from water. Keep an eye open for floating fragments.
3. Benthic mats. Burlap or other permeable fabric, ideally bio-degradable, laid on bottom to block sunlight, usually in small, more heavily infested areas like docks. It blocks all plant growth, kills weeds in about a month, decay occurs in two months. If bio-degradable, you can leave it in place and allow native plants to grow on top. Good idea to transplant some native ones on top before milfoil re-colonizes. This method needs a permit.
4. Mechanical harvesting by special machine. Kind of like a lawnmower, cuts plant off and collects it into bundles to transport away. Suitable for large, dense areas, usually in waterways where there's a need to clear a passage (like Rideau and Trent waterways). Done by specialized companies, needs a permit. It's non-specific so it picks up and destroys all plants and also small fish and invertebrates. Also can cause a lot of breakage and therefore increase spread.
5. Suction harvesting. Kind of like a vacuum cleaner, divers suck up whole plant from bottom, including root, using hose attached to suction machine that collects whole plants. Slow, very expensive, can only use on limited areas, has an impact on water quality because it releases nutrients which increase algae and other weeds.
6. Herbicide. Only one, Diquat, is approved for use in Canada, and only by a licensed operator. It is lethal to all water plants and indirectly kills small fish and invertebrates by removing their habitat and protection. It has to be applied in particular weather/ water conditions (cool, still) and water can't be used for recreation or drinking for five days.

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## Membership

### Joyce Waller Secretary Treasurer

The fiscal year for Membership is July 1<sup>st</sup> to the following June 30<sup>th</sup>. From July 1<sup>st</sup> 2020 to June 30<sup>th</sup>, 2021, 155 households renewed their membership. In 2019/2020 we had 196 members. The drop can be attributed to Covid-19 as our area representatives were unable to canvas their areas. Thank you to all who renewed.

As I said in July 2019 I will be stepping down this year as Secretary Treasurer, a position I've held since July 2007. Please consider standing for the Secretary-Treasurer's position.

With Covid-19 still an issue our reps will not be canvassing unless conditions change. If the necessary positions of President, Vice President and Secretary/Treasurer are filled I will send out a request for membership renewal. Several have already paid for membership for 2021/2022 and I will send a note to reflect this.

Thank you for the continued support of SLPOA members over the last 12 months and a special thank you to all those who have served as area reps.

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## MVCA Tree Day

**Ken Waller**

On Sat, May 22nd, SLPOA partnered with Mississippi Valley Conservation Authority for the distribution of trees and shrubs aimed at improving shoreline vegetation. Waterfront property owners had the opportunity to order up to 15 trees/shrubs for a \$25 donation to MVCA's stewardship program. Thanks to the amazing organizational skills of Kelly Stiles, aquatic biologist with MVCA, it was a resounding success. A total of 43 waterfront property owners took home over 600 trees and shrubs. Thanks again to all who participated.



Joyce Waller helps Kelly Stiles from MVCA distribute the trees and shrubs.

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## My Life with the Common Loon (*Gavia immer*)

Pam Hickman

I have never met a person who didn't love the call of the loon or enjoy watching them swim by their docks with tiny little chicks on their backs or having a rest under a wing. There is so much I could write about Common Loons, but I'll try to re cap my time over my life studying this spectacular large aquatic bird. Their size ranges from 28 to 35 inches long, with brilliant black and white striped and spotted plumage in spring and summer, while in Canada and northern US, to breed; they then fly south to southeastern or southwestern coastal oceans to spend the winter. Most of us here in Central Frontenac are very familiar with the four spectacular (some say haunting) loon calls that include the yodel, the wail, the hoot, and the tremolo. Females and males both call, but only the males can do the territorial yodel call.



I first fell in love with this special bird as a kid, while camping with my family in Algonquin Park. Although I love all of what nature provides, I have a special love for this magnificent but primitive bird species that has not changed in appearance in approximately 1 million years. Each loon pair has quite a large breeding territory that usually includes a large bay. In Sharbot Lake for instance, traditionally, there have been only six to eight loon territories in each of the west and east basins. Loons need a large area to ensure the availability of enough fish to eat, about 2 pounds a day per loon.

I did freelance nature photography for many years and as I took more shots of loons than anything else, I did have several of my photos published in books and magazines both in Canada and internationally. Some of those photos were taken right here in Sharbot Lake. The photos in this article I took this year on Sharbot Lake, and tiny Elbow Lake, attached to the east basin.



So then, about the time we became property owners here in 1983, the Ontario Lakes Loon Survey had been in operation for a year or two, and soon expanded to be called the Canadian Lakes Loon Survey administered under Bird Studies Canada. I have been participating in this survey every year since then, except for 2011 and 2012. As with most nature studies, citizen scientists are vital for collecting and recording data. Over the years, the common loon, has shown a slow decline in the numbers spending their summers here. As well, there has been a drop in the number of both mating pairs, and chicks surviving more than a few months. As with nearly all animal kingdom species, loons are suffering declines in their population due to human encroachment of their precious natural habitat for natural nesting spots, especially islands. Loons are also affected by boats and personal watercraft either hitting baby chicks, who just can't get away fast enough, or creating a wake that swamps loon nests and drowns the eggs. Female loons lay only 2 eggs per year, and the average survival rate is less than one chick per pair. Today, there are just more people, more boats and more shoreline development and fewer loons are the result. You can help by keeping your shoreline natural, especially if you're on an island as loons will choose an island to nest on 99.9% of the time.



One thing that appears to be really helping the loons, compensating for our human cottage development, is the building of floating loon nest platforms. A couple years ago, there was a floating-loon-nest-building workshop, sponsored by SLPOA, and held at Ken Waller's workshop. You may have seen these platforms while out fishing, kayaking or boat cruising. It can take a year or two for the loons to accept these structures, but once they do, it helps increase the number of chicks surviving each year. These floating nests need to be well maintained to ensure they don't break down or start sinking, especially with a nesting loon on them. I have included a few photos, all taken this year, of our current resident loons, using these new floating condos, built just for them, although the turtles just love them as well. Now, there are certain criteria that need to be adhered to regarding construction type and quality, and the placement location of these floating nests. Only one nest should be placed per territory, as more than one can result in territorial fighting amongst the loons, with males fighting to the death. Large bays like Hawley Bay and McCrimmon Bay, however, can support two floating nests, as long as they are spaced well apart, such as at the entrance and end of these large bays.

Loon eggs hatch in 26 to 28 days, usually from May 1<sup>st</sup> to July 7<sup>th</sup> in our region. It is during and after this time that people need to be very alert when out in their watercraft as these chicks are very tiny for next 6 to 8 weeks. They don't start learning to fly until 11 weeks, so can't easily escape from a rapidly approaching watercraft. Right now, there are 3 occupied floating loon nests, and one, possibly two, natural nests on islands in the east basin. There is one occupied floating loon nest in the west basin.

So, the platforms have been very successful, but keep your fingers crossed that the eggs from the five nesting pairs all hatch and that the chicks manage to survive the summer, and into the fall.

So, if you're out in a watercraft this year, and see a loon on one of these floating condos, or on an island, please keep away, and do not disturb them. They have so many other things negatively affecting their survival rates, that it is very important that we are not the cause of additional loon fatalities.



Over the past few years, the number of loons on Sharbot Lake's west basin has dropped drastically with nearly zero chicks being born or surviving past 6 weeks. I am not sure why; perhaps less fish to eat, but also there are many types of loon egg/chick predators, including otters, bald eagles, snapping turtles, mink, crows, and raccoons. There tends to be fewer predators on islands, which is why loons prefer them as nesting spots.



I cannot imagine a life without the loons in it, as they have provided me countless hours of enjoyment throughout my entire life. As well, they are certainly very Canadian. In the quiet, calm evenings, I just love to see the beavers swim across the lake, to the sounds of loons calling, while the sun is setting. It is a real paradise and we have to be careful not to disrupt the delicate balance of nature.

## The Effects of Climate Change on our Lakes

**Barb McIsaac**

As everyone familiar with our beautiful Sharbot Lake will have noticed, the water level is lower than normal for this time of year, the water is warmer than it should be and weeds and algae are making an appearance earlier than they should. While the overall health of our lake remains excellent, as reported by Guy McLeod in his article regarding water testing, the overall impact of Climate Change is likely to catch up with us sooner or later.

According to a [recent article](#) on the CBC website, the warming of our lakes and waterways is reducing the transfer of oxygen from air to water. This diminished level of oxygen transfer can leave fish "gasping for air". The less oxygen in the water, the less there is for fish to filter through their gills. The effects have been quite dramatic. According to the article, research shows that from 1980 to 2017, oxygen levels fell by about five per cent near the surface and 19 per cent in deep waters. Most concerning is that apparently the decline in oxygen levels in lakes is 2.75 to 9.3 times higher than that in the oceans.

Another factor contributing to the decline in oxygen in our freshwater lakes is the discharge of excess nutrients through sewage and fertilizers. Combined with warming water temperatures, nutrients cause algae to grow more. Then, when it dies and sinks to the bottom of the lake, it decomposes, consuming oxygen in the process.

While many of the factors contributing to climate change are beyond our control, there are things that we as individual property owners can do:

- Think about what we put into the lake, be extra careful with the oil and gas for our motors and reduce the use of fertilizers;
- Maintain a shoreline barrier by planting native plants to capture some of the runoff;
- Maintain our septic systems with regular maintenance and pumping,

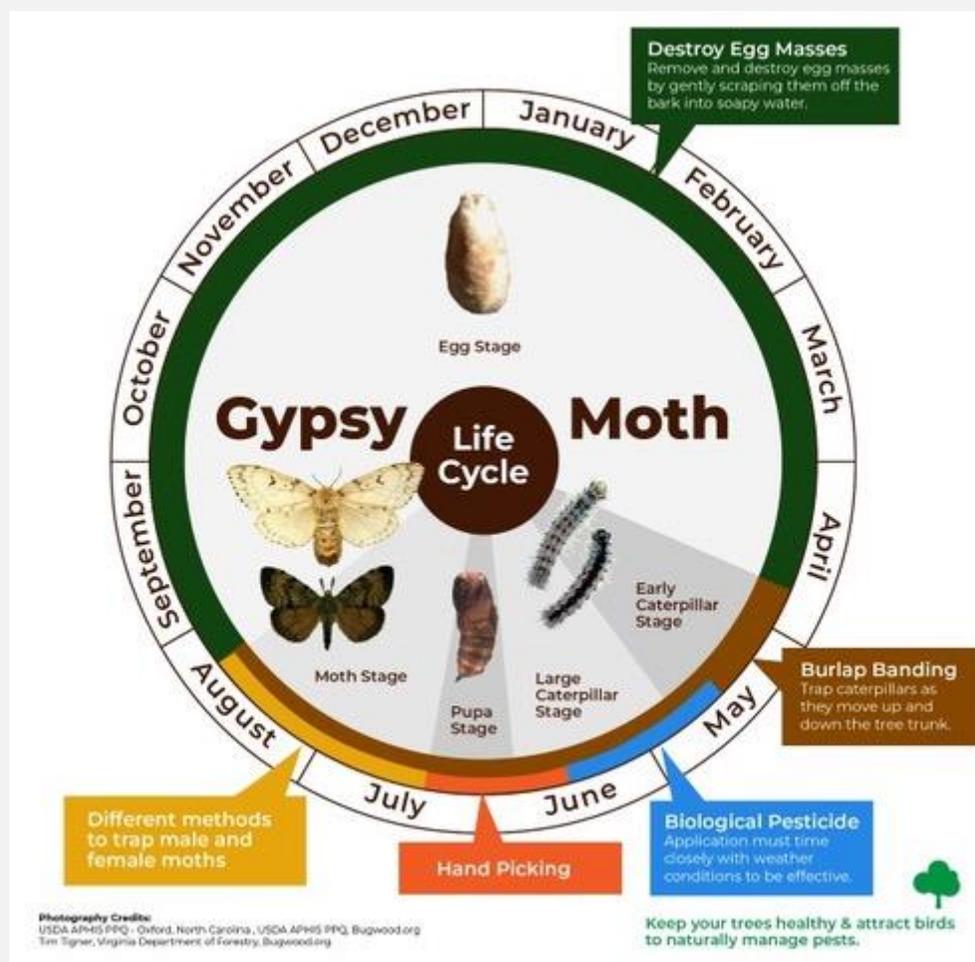
In the end, it is imperative that we reduce warming by reducing greenhouse gasses. For more reading on the subject click [here](#).

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## The Invasion of the Gypsy Moth

Barbara Fradkin, Environmental Issues Coordinator

The gypsy moth caterpillar is a relentless, destructive pest that has few natural predators, and each caterpillar can consume one square metre of foliage. This invasive species has been spreading from New England since the 1870s and was first detected in Ontario in 1969, going through cycles every decade or so. The current outbreak has been building since 2018, first around the GTA and the Golden Horseshoe, and by 2020 it had ravaging huge swaths of forests as far north as Sault Ste. Marie and Sudbury in possibly the worst infestation in Ontario history. Aerial surveys done by the Ministry of Natural Resources and Forestry in 2020 revealed Sharbot Lake was at the focal point in Eastern Ontario. The 2021 infestation may prove even worse, having spread east to Ottawa and south through the Rideau Lakes and seaway regions.



The caterpillars hatch in mid-May and feed until late June, growing from about 5 mm in length to more than 50 mm. In the early stages the tiny larvae are easily blown on a strong wind, allowing them to spread for miles. They also hang from long strands that blow in the wind. This limits the effectiveness of efforts to control the infestation on one property alone. By mid-June they are at their most destructive stage. Gypsy moth caterpillars prefer hardwoods, particularly oak, birch, elm, and willow, but willingly move on to less preferred trees like evergreens, especially pines.

### Trees That Gypsy Moths Like

Most Preferred	Preferred	Seldom Attacked
Aspen ( <i>populus</i> )	Alder ( <i>Alnus</i> )	Arborvitae ( <i>Thuja</i> )
Apples and crabapples ( <i>Malus</i> )	Balsam fir ( <i>Abies</i> )	Ash ( <i>Fraxinus</i> )
Birches ( <i>Betula</i> )	Black walnut ( <i>Juglans</i> )	Azalea ( <i>Azalea</i> )
Blue spruce ( <i>Picea</i> )	Butternut ( <i>Juglans</i> )	Black locust ( <i>Robinia</i> )
American beech ( <i>Fagus</i> )	Cherry ( <i>Prunus</i> )	Catalpa ( <i>Catalpa</i> )
Basswood ( <i>Tilia</i> )	Eastern hemlock ( <i>Tsuga</i> )	Dogwood ( <i>Cornus</i> )
Hawthorn ( <i>Crataegus</i> )	Eastern redbud ( <i>Cercis</i> )	Eastern redcedar ( <i>Juniperus</i> )
Hazelnut ( <i>Corylus</i> )	Elm ( <i>Ulmus</i> )	Honey locust ( <i>Gleditsia</i> )
Oaks ( <i>Quercus</i> )	Hickory ( <i>Carya</i> )	Horsechestnut ( <i>Aesculus</i> )
Poplar ( <i>Populus</i> )	Hophornbeam ( <i>Ostrya</i> )	Lilac ( <i>Syringa</i> )
Sweetgum ( <i>Liquidambar</i> )	Maples ( <i>Acer</i> )	Rhododendron ( <i>Rhododendron</i> )
Serviceberry ( <i>Amelanchier</i> )	Paw Paw ( <i>Asimina</i> )	Tuliptree poplar ( <i>Liriodendron</i> )
Mountain ash ( <i>Sorbus</i> )	Plum ( <i>Prunus</i> )	Viburnum ( <i>Viburnum</i> )
Witch hazel ( <i>Hamamelis</i> )	Sassafras ( <i>Sassafras</i> )	
White pine ( <i>Pinus</i> )	White and Norway Spruce ( <i>Picea</i> )	

By the end of June, they enter the pupae stage, followed by the moth stage in which breeding and egg laying takes place. Eggs are visible as buff-coloured masses on tree trunks, and each mass contains up to a thousand eggs. Eggs can survive winter temperatures down to at least -30°C, particularly if they are laid below the snow line.

If hardwood trees are otherwise healthy, they can re-foliate later in the spring, but defoliation saps their reserves, making them less able to re-foliate if there are two or three years of infestation. If they are already under stress, by drought for example, they may well die. This spring has been one of the driest in decades in Eastern Ontario, so the trees are already struggling. Evergreens like pine and spruce cannot replace lost needles and may be killed by a single year of severe infestation.

Besides destroying trees and affecting other wildlife that depend on them, the gypsy moth caterpillar presents some health hazards to humans. The tiny bristles on their back get into the skin and cause a rash rather like poison ivy, often quite severe and requiring treatment with cortisone-based cream. The bristles also float in the air and irritate the lungs. As well, besides being unsightly and unpleasant, their frass can get into the ground water, where it may contaminate drinking water, and into the lake, where it promotes weed and algae growth.

Unfortunately, Mother Nature has not provided many population controls of her own. The gypsy moth has few natural predators, because not many animals enjoy the prickly exterior. Some birds and small mammals, such as chickadees, nuthatches, and red squirrels, eat the smaller larvae. One species of wasp also targets them. But none of these can consume enough to curb a severe infestation. Two natural things can kill the caterpillar in its late stage. One is a fungus and the other a virus. The fungus grows in a cool, wet spring, so is not going to be a factor this year. The virus spreads when overcrowding occurs and is often the cause of a crash in population following a severe infestation. It will typically spread towards the end of the caterpillar stage (late June), and can be recognized by dead caterpillars hanging on the tree trunks in an inverted V.

Property owners can take steps at various points in the gypsy moth life cycle to protect individual trees, but those efforts have limited effect against a severe infestation and are impractical on larger properties. Wrapping sticky tape or burlap skirts around the trunks in May and June can stop some caterpillars from reaching the tree canopy. However, by the end of June, it is too late to stop this year's damage, and efforts should focus on mitigating next year's by trapping pupae and moths with burlap wraps, and by scraping egg masses off the trees in the fall and early spring, especially on severely affected trees.

So far, the most effective form of control is spraying the tree canopies with a solution containing *Bacillus Thuringiensis* var. Kurosaki (BTK for short). BTK is not a chemical or a traditional pesticide, but rather a bacteria which, when ingested by the caterpillar, infects its gut and kills it. The bacteria occurs naturally in the soil and is active for only a few days before degrading harmlessly. It affects only caterpillars and is safe for plants as well animals and humans. The spray is only effective at the smaller larval stage of the caterpillar, because bigger caterpillars are robust enough to withstand the bacteria. Thus, spraying must be carefully timed during a two-to-three-week period after hatching, and two sprays are needed to catch both early and late hatchers. In our area, spraying is effective in late May to early June. Monarchs, swallowtails, and other butterflies are not at the caterpillar stage at this time, so are not impacted.

The solution can be bought in stores for use by property owners to spray individual trees, but aerial spraying by commercial helicopter is much more effective on a larger scale. At the moment only one company, Zimmer Air Services, ([zimmerair.com](http://zimmerair.com)), provides this service in Ontario, and much useful information is available on their website about their service as well as about the Gypsy moth in general. Following the damage caused by the 2020 infestation, the demand for commercial spraying spiked all across Ontario, putting a strain not only on the supply of BTK, but also on Zimmer Air's ability to deploy enough pilots and helicopters across the province within the short time span.

Last fall, following an information campaign spearheaded by Sharbot Lake resident Rob Patten, many property owners in Sharbot Lake signed up for the spring aerial spraying. Choosing to spray or not is a very individual decision based on balancing cost and benefits, the risk to other species, and the risk of not spraying. It should be made after careful research and assessment of one's own priorities and needs. Because of this, Zimmer Air contracts only with each property owner and not with any third party such as SLPOA. This means dealing with thousands of individual contracts, each with precise GPS coordinates and waiver requirements. A mammoth logistical challenge.

The challenge was made worse by Mother Nature herself. First, 2020 was a warm winter and the lake ice melted much earlier than normal. Secondly, this early spring was followed by summer-like heat, especially in Eastern and Northern Ontario, which meant the eggs hatched about five days earlier than the predictions on which Zimmer's spraying schedule was based. Moreover, eggs hatched more simultaneously across the province, so that it was more difficult to stagger the sprayings to start earlier in the Niagara region before moving farther north.

In the end, weather too did not cooperate. Spraying cannot be done when there is significant wind or a rain in the forecast, and heat and sun reduce the effective duration of BTK, further adding to the scheduling challenges. This spring, wind, sun, and heat were common during the crucial spray window. Nonetheless, Zimmer Air managed two sprays in our area between the end of May and the second week of June. My own property was sprayed May 30 and June 11. Early reports indicate a marked reduction in caterpillars and far less defoliation on sprayed properties, suggesting a success.

Next spring's spraying should be booked this fall, which means estimating how bad it is going to be. Outbreaks usually last two to three years, and estimating is an inaccurate science, affected by cold winters, the prevalence of the lethal virus, and other factors. The current prognosis for 2022 is for another severe infestation if there is not enough fungus or virus to kill the caterpillars this year. The fungus is unlikely, but residents should monitor the presence of the virus closely and count the egg masses on their trees in the fall, which will give an indication of the number of caterpillars that will hatch next spring and compare them to last year's. The new egg masses will be darker in colour than last year's. If the new egg masses are smaller in size and fewer in number than last year, the infestation may be on the decline. More information on calculating egg mass density can be found at <https://www.pelham.ca/en/news/resources/2021-gypsy-moth/Appendix-A.pdf>. As a rough estimate, five to eight masses per tree predict 40% defoliation next year.

### Egg Mass Counts Can Provide a Defoliation Forecast

Egg Mass per Hectare	Defoliation Forecast
0	Nil
1 to 1235	Light (1 to 40%)
1236 to 6175	Moderate (41 to 75%)
6176+	Severe (>75%)



In terms of individual susceptible trees, 5 to 8 egg masses per tree could result in 40% + defoliation

Mitigation efforts should focus in July on destroying the pupae clustered on trees and protected areas, and in the fall on scraping the egg masses off the trees into a bucket of soapy water. Protect vulnerable trees by watering and pruning them to reduce stress, but do not fertilize them. Inspect moveable objects like trailers, cars, boats, and firewood to make sure egg masses are not being transported to new locations.

Some useful websites with more detail:

- <https://www.pelham.ca/en/news/resources/2021-gypsy-moth/Appendix-A.pdf>
- [https://www.canr.msu.edu/ipm/Invasive\\_species/Gypsy-Moth/gypsy-moth-around-home](https://www.canr.msu.edu/ipm/Invasive_species/Gypsy-Moth/gypsy-moth-around-home)
- <https://www.invasivespeciescentre.ca/invasive-species/meet-the-species/invasive-insects/gypsy-moth/>
- <https://zimmerair.com/services/aerial-application-services/forest-pest-control/>

## Water Testing

Guy MacLeod

Covid has impacted so many things over the past year. One thing that your SLPOA was able to continue with was the water testing program. In 2020, we were able to get out on the lake from ice-out until October and gather results from 5 locations. Unfortunately, we have not been able to get into Elbow Lake, our 6<sup>th</sup> testing site. I purchased a pontoon boat and it's not conducive to getting under the bridge and through the shallow entrance waters. Hopefully, with vaccinations, lower covid numbers and relaxed guidelines, we can re-engage our water testing volunteers and access Elbow Lake with a smaller boat.

For those interested in the data, you can see the testing sites, the observations and numerous trend graphs for Sharbot Lake at the following link: <https://app.waterrangers.ca/map>

Overall, the health of the Lake remains excellent. Hopefully, as opportunity presents, everyone will notice a difference in zebra mussels which seem to be on the decline. I say this based upon my personal observations and the many, many accounts I have received from folks around the Lake who confirm fewer of the mussels at the end of last season and this spring.

Sadly, the Eurasian Water-Milfoil plant seems to be spreading very quickly and in dense clusters. The SLPOA will continue to communicate with the MVCA and other experts in seeking a potential resolution to ridding our lake of this unwanted plant.

On a positive note, over the past 12 months, there has been great focus & effort to consolidate (Water Quality data) dbases and to integrate interfaces. One such notable success has been with the Water Rangers Group linking their database with DataStream. What does this mean? Well, firstly, more data and more eyes (Subject Matter Experts) being focused on water analysis. Secondly, armed with facts (DATA), proper decisions and actions can be made to protect our waters! DATAStream is just one of many groups now openly sharing data, which includes the data from Sharbot Lake.

The DATAStream motto: ***Our mission is to promote knowledge-sharing across watersheds and advance collaborative decision-making, so our waters remain healthy for generations to come.***

<https://mackenziedatastream.ca/>

Water quality remains a priority with the SLPOA and testing will continue (hopefully expand) for this season & next.



**Here are the local businesses that support SLPOA. Please support them.**

**Lake District Realty**  
**Pillar Financial (WA Robinson)**  
**Antoine Realty (ExP Realty)**  
**Storring Septic**  
**Sharbot Lake Pharmacy**  
**Greenshield Pest Control**  
**Sharbot Lake Inn and Crossing Pub**  
**Mike Deans Super Food Stores**  
**Sharbot Lake Home Hardware**  
**Sharbot Lake General Store and PetroCan**  
**Ram's Esso and Goodfellows Flowers**  
**Cardinal Café**  
**Sharbot Lake Marina**  
**Land of Lakes Marina**  
**Eco Alternative Energy**  
**Conboy & Sons Maple Syrup (George & Darlene Conboy)**  
**Carsey Paint & Paper**  
**Gibson's Garage**

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