

A Harsh Year of Gypsy Moth Action on Otty Lake – June 2021

Residents from many areas of Otty Lake are commenting on the intensified population of European gypsy moth (*Lymantria dispar dispar*) throughout summer 2020 and early this spring. Ldd are an invasive and destructive pest that are irritating us in all neighbourhoods at this point! Gypsy moth caterpillars are on all types of surfaces, replacing outdoor relaxation with frustration, dropping from trees on their silken threads, noisily munching canopies, dropping feces from overhead, and leaving both old and young stands of trees exhibiting defoliation

Based upon detailed sampling of the infected zones, the Ministry of Natural Resources and Forestry (MNRF) predicted we would move from a moderate-severe level of impact to one of severe defoliation in 2021. Severe zones are currently established in portions of Ontario, Quebec, New Brunswick, PEI and Nova Scotia.

Egg masses were laid last July and were impacted by small mammals and birds, including but not limited to chickadees, nuthatches and brown creepers. These natural impacts were limited by the sheer population of last year's crop of Ldd. Long periods of temperatures at -20 to -30 C were minimal in this region last winter, hence egg mass mortality was insufficient. An early spring with significant heat and longer daylight hours gave this year's early hatchings a start in mid April. Dry, warm conditions in this region minimized the impact of *Entomophaga maimaiga*, a fungus condition that arises with heavy rainfall and cool temperatures, causing spores to winter in the soil and infect the young offspring. As a result of our spring, 90% of our egg masses hatched by May 17-19th in Lanark County!

Life Cycle Summary (Invasive Species Centre):

- In July, the female lays between 500-1000 eggs in tree bark, covered in hairs from the female's abdomen.
- The eggs hatch in April. Within 24 hours the very tiny creatures start climbing upwards. (This allows time to verify hatching and take up the battle. Don't be lulled by the slow start of defoliation).
- The caterpillar (larvae) stage lasts approximately 40 days, growing rapidly, with most feeding occurring at night.
- In late June-early July, they enter the transitional stage of the pupa for 10-14 days.
- Adults have less than 14 days to mate and reproduce before they die. (Note: only the male moth is able to fly).

The Invasive Species Centre provides the following quick tips:

- Examine your outdoor household items on a regular basis during the spring and summer months. Furniture, camping equipment, trailers, and firewood can harbour egg masses.
- If caterpillars or larvae are found, wear gloves when handling the insects, as their hairs can cause skin irritation on humans.
- If eggs are detected, scrape the fuzzy, tan-coloured masses off of the equipment they are affixed to with a butter knife, and destroy them by submerging the eggs in a bucket filled with water and household bleach or soap for at least 48 hours before discarding.
- Never move firewood.

<https://www.invasivespeciescentre.ca/invasive-species/meet-the-species/invasive-insects/gypsy-moth/>

Food Sources and Host Preferences:

The European gypsy moths feed on the foliage of a wide variety of woody plants. The heavier the infestations, the greater the variety of species impacted (“Research Laboratory Technical Report: Gypsy Moth Host Preferences”, Bartlett Tree Experts). The favoured food species include but are not limited to alder, aspen, beech, birch, mountain ash, oak, poplar, and willow.

Class II species remain relatively unscathed unless they are planted near preferred foods or the infestation is severe enough that sources are depleted. These include but are not limited to dogwood, elm, hemlock, maples, pines, and spruce.

Class III species are seldom defoliated and gypsy moths are unable to sustain themselves upon these sources that include ash, locust, fir, juniper, mulberry, sycamore, and black walnut.

Note that most of the hardwood trees can produce a new set of leaves even if they have been completely defoliated. They are further weakened by hot, dry weather but seldom die. Conifers are unable to re-foliate and following successive years of this type of stress are likely to die.

Let’s review a few facts:

- A gypsy moth caterpillar can eat one square metre of leaves during this stage of their life cycle.
- Defoliation weakens trees and makes them more vulnerable to other diseases and pests.
- Defoliation impacts our orchards and maple syrup production.
- Targeting of species can impact biodiversity of wildlife.

Management Strategies and Hope for Nature to come to the Rescue:

Different strategies of management are occurring around our watershed with many property owners combining a variety of approaches.

- Management starts with monitoring for defoliation and egg masses throughout the season, including high risk trees, buildings, and vehicles.
- Hand removal of egg masses should be ongoing for 10 months, August to May, using a form of scraper and a container of soap and water.
- Biological control for private owners is available for purchase from local hardware stores. BTK is deemed very effective but can impact other species. Dormant spray has been found to be very effective to large property owners who have been testing efficacy during each of the gypsy moth stages.
- Larger scale forested areas, such as BurgessWood, have contracted aerial spraying by Zimmer with some initial success and ongoing observations.
- Burlap wrapping can be seen on many properties, with a recommended 45 cm wide strip around the tree at chest height with the string acting as a belt as the burlap is folded over itself. The use of double-sided carpet tape is frequently used in trapping.
- Another natural killer of gypsy moths is a virus called NPV (nuclear polyhedrosis virus). This spreads naturally through the population, especially when caterpillars are abundant,

stressed and more susceptible. This disease causes a major die-off approximately two years after the outbreak.

CAUTION: European gypsy moth caterpillars have long hairs that can cause skin irritation or allergic reactions for some people. For safety, use gloves while handling caterpillars. Remember that the female gypsy moth covers her egg masses with abdominal hairs, suggesting that similar care be taken with the removal of egg masses.

References:

Bartlett Tree Experts: www.bartlett.com/resources

Eastern Ontario Model Forest: www.eomf.on.ca

EDRR: Early Detection & Rapid Response Network Ontario; <http://edrrontario.ca>

Invasive Species Centre: www.invasivespeciescentre.ca

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