

ABCA Program Report

To: Board of Directors
From: Ian Jean, Forestry Specialist
Re: Gypsy Moth Outbreak
Date: October 15, 2020

Summary

This report is provided to update the Ausable Bayfield Conservation Authority board of directors on the gypsy moth caterpillar, its local impact, management options, the ABCA response to date and preparations underway for the 2021 year.

Please take some time to watch the webinar to learn about the characteristics of this forest pest, distribution and population trends across the province:

<https://www.invasivespeciescentre.ca/learn/webinar-series/>

Background

Gypsy Moth caterpillars caused moderate to severe tree defoliation in parts of the Ausable Bayfield watershed this past summer. In particular, the area of Lambton Shores along the Highway 21 corridor including Port Franks, Pinery Park and surrounding areas was severely impacted and received much media attention. Defoliation in Middlesex County was more patchy. In Huron County ABCA staff observed parts of Hay Swamp with moderate to severe defoliation.

Staff noticed what appeared to be more than normal amount of gypsy moth egg masses during regular forestry work and inspections during fall/winter 2019. In order to provide information to landowners staff developed a Landowner Guide to Gypsy Moth Management and in March of 2020. In April ABCA provided the information through a local media release ‘ABCA raises awareness of potential Gypsy Moth caterpillar infestation, actions homeowners can take to reduce its impact.’

Unfortunately, the worst-case scenario materialized in parts of the watershed that experienced the severe caterpillar outbreak. The authority responded to a high volume of calls and emails concerning gypsy moth in June and July by providing relevant information to landowners. However, by the time most landowners became aware of the infestation in June it was too late for effective management and control.

The nature of Gypsy Moth is that populations tend to build and crash. A fungus (*Entomophaga maimaiga*) and a virus (Nuclear Polyhedrosis Virus) are diseases associated with eventual population collapse. The cycle is not entirely regular but has been documented on roughly 10 year intervals. Peaks vary in severity and may last one to three years.

The long-term health of forests is generally not impacted by gypsy moth defoliation. In mid-summer trees grow a new crop of smaller leaves following defoliation. This is a severe stress on trees; however, healthy trees recover with little adverse impact. Mortality of individual trees

already weakened by other factors may occur. Compounding factors such as drought or other environmental stress increases that chance of individual tree mortality.

Management Options

A ‘hands off’ approach to management can be a viable option. There are a number of diseases and natural predators of gypsy moth, which contribute to the natural cycle of populations that build, and then crash. For most healthy forests this is considered an acceptable management approach. By default to ‘do nothing’ is the most widely used management approach used on our landscape.

On a small scale (ornamental or yard trees) there are several management strategies for gypsy moth caterpillars. These include fall and winter egg mass removal, spring season sticky tape trunk wrap and summer burlap trunk wrap, hand picking or vacuum removal of caterpillars. The effectiveness of these techniques are reduced for large forests or during periods of very high caterpillar populations when caterpillars ability to disperse to new areas overwhelms manual control efforts.

For larger scale management of gypsy moth populations aerial application of Btk (*Bacillus thuringiensis*) by a registered pesticide application company has proven safe and effective. However, the issue can be contentious as there may be individuals or organizations that are not in favour of aerial spraying. The cost of an aerial application program is around \$125 per acre for forests greater than 10 acres.

Communication and Collaboration with Local Municipalities and the Province

In June, the Lambton County Forester initiated a communication group to share information, discuss management options and coordinate communications with the community. Lambton County, Lambton Shores, Plympton Wyoming, the City of Sarnia, Kettle and Stony Point First Nation and ABCA are presently participating in these group communications.

The province of Ontario does not carry out aerial spray operations to control gypsy moth on private lands. The province provides aerial monitoring of forest health and defoliation each summer.

Pinery Provincial Park has not indicated whether they plan to undertake any active management.

Ausable Bayfield Conservation Authority Role and Response

The ABCA’s activities for invasive species are outlined in the Invasive Species Strategy. Priority is given to Conservation Authority properties, with the top priority given to areas with Species At Risk. Monitoring, education and outreach are also included in the strategy. In some instances, the ABCA has the capacity to provide a control service for private landowners and municipalities. Phragmites is an example of this whereby the ABCA sprays Phragmites on a fee-for-service basis. The ABCA does not have the capacity to control gypsy moth.

The role of Ausable Bayfield Conservation Authority (ABCA) with respect to forest pests, including Gypsy Moth, Emerald Ash Borer and others is primarily to share information, provide for

research opportunities and make management decisions on ABCA-owned lands. The authority does not presently have the mandate, nor resources to manage or control forest pest outbreaks.

Current Activities

ABCA has not taken a position for or against aerial application of Btk to control Gypsy Moth. This neutral position is currently consistent with that of Lambton Shores, the County of Lambton and the St. Clair Region Conservation Authority within the local communications group. This position is consistent with ABCA policy concerning the use of registered pesticides in other areas for example agriculture and industry.

ABCA staff are presently taking a number of actions to assess and prepare for a potential outbreak in summer of 2021. Staff continues to participate in the local communications group in order to share information and collaborate on communication and other resources. Staff are completing plot based egg mass counts at Ausable Cut CA in order to assess the potential severity of caterpillar populations at that location. This information will be shared within the communications group.

For ABCA-owned forests, authority staff are suggesting a hands off approach to Gypsy Moth management. For large and healthy forested properties this is a suitable approach given that the gypsy moth is known to follow a natural boom and bust cycle. The cost of \$125 per acre is prohibitive for large landowners such as ABCA and neither current nor future forest revenue would recover this cost.

An exception to the hands off management approach may be considered where an ABCA property abuts residential subdivisions or commercial properties. For these areas a ‘good neighbour’ approach may be warranted if the abutting landowners are planning to implement a spray program and if an outbreak is predicted for the area. Staff are conducting egg mass surveys at Ausable Cut CA with this in mind.

Financial Impact

Current and proposed activities related to gypsy moth monitoring and communications are covered in the 2020 property management budget, with costs recovered from timber sales revenues. The draft 2021 budget includes funding for limited spray application following the ‘good neighbour’ approach.