

November 18, 2020

To the Clerk,

Please place on the Agenda.

Mr. Mayor and Councillors;

Re: Report CAO 06-2020 Gypsy Moth Outbreak

I am going to be unorthodox in the writing of this letter. After reading this report and listening to the comments from the Council Meeting of November 10, 2020, there appears to be some misconceptions that need to be clarified. Thus, I will start this letter with clear requests and then will detail my reasons why council should vote against accepting this report.

Back on June 20, 2020, the residents of Ontario Street, in Port Franks, sent a letter to Council requesting that they assume stewardship of municipal trees on public lands and road allowances. We asked Council to work in concert with us, engaging in the Integrated Pest Management (IPM) techniques that they provided to residents (i.e. removal of caterpillars, burlapping or taping trees, utilizing pheromone traps, and scraping off and destroying egg masses).

Since that time, we have learned a great deal. Based on what numerous municipalities have done, it is now apparent that it is only through a co-ordinated, comprehensive, integrated approach that the gypsy moth infestation can be controlled and then managed. Municipalities throughout the Golden Horseshoe and southwest Ontario have taken a decisive leadership role based on the requirements of the *Municipal Act, 2001* and the *Provincial Policy Statement 2004* (PPS). We ask the same from our Council.

Treatment programs were based on infestation information (i.e. egg mass counts to determine severity as well as defoliation surveys) provided by Lallemand Inc/BioForest Technologies, a forestry consultant company. Monitoring occurred after aerial spraying to confirm geographic location and concentration levels in order to prepare for future treatment if necessary. Monitoring allowed municipalities to only spray where it was necessary.

Since the large scale impacts of the gypsy moth infestation were not scientifically studied and dealt with in a timely and sufficient manner, Lambton Shores does not have the luxury of retaining this consultant before the 2021 budget is set at the beginning of January. This is not to say that this expert consulting company should not be retained shortly thereafter. It also does not preclude reliance on members of the Gypsy Moth

Action Plan Group and other knowledgeable residents to identify trees and areas within their community that have reached the criteria for aerial spraying. That being 10-15 egg masses per tree and the severity of tree damage based on a defoliation scale.

Requests

1. That the Municipality of Lambton Shores follow the requirements of the Municipal Act, 2001, the PPS, and their own Official Plan. This entails **providing the leadership and the funding** necessary “to help preserve its tree assets and to reduce the consequences to the well-being of the municipality, the environment and the health and well-being of the public due to the loss of trees.”¹
2. That a **policy** dealing with gypsy moth infestations be enacted that meets the requirements of Section 270 (1) number 7 of the *Municipal Act, 2001* as stated below:

270 (1) A municipality shall adopt and maintain policies with respect to the following matters:

7. The manner in which the municipality will protect and enhance the tree canopy and natural vegetation in the municipality.

A good example to follow would be the policy enacted by the Town of Pelham (See Appendix 1). The Town of Pelham is similar to the Municipality of Lambton Shores in that it is an amalgamation of five communities, commercial, and agricultural land. It is further suggested that Council consider applying this policy to all properties “with the exception for properties, or parts of properties being used for agricultural production or commercial business as well as properties owned or operated by” the County of Lambton, the conservation authority, and the province.

3. That a **by-law be enacted** to authorize a gypsy moth control program in severely affected areas.

The City of Hamilton and the Town of Pelham have written similar by-laws. These by-laws ensure that provincial interests are upheld and that authorization is granted through various sections of the Municipal Act. Both Councils are of the opinion that the level of gypsy moth infestation in certain areas constitute a public nuisance or could become a public nuisance. (See Appendix 2 and 3)

4. That the Municipality **budget for an aerial spray program** during budget deliberations in January.

The Town of Pelham approved a budget of \$150,000.00 which allowed for the spraying of 33 hectares of public trees and 90 hectares of trees on private property.

5. That the Municipality **establish a Gypsy Moth Control Reserve Fund** during budget deliberations.
6. That the Municipality **budget for and hire Lallemand Inc/BioForest Technologies** to do an egg mass survey, liaise with community members regarding tree defoliation, and do spray block mapping for 2021. Further, contract with Lallemand Inc/BioForest Technologies to do follow up **monitoring** in 2021.
7. That **targeted** not blanket **aerial spraying** be done over areas that meet criteria for this treatment based on egg mass counts and/or prior tree defoliation. Areas to be sprayed will be clearly marked on maps which will be attached to the by-law as Appendices.
8. That the municipality **facilitate all necessary permissions/applications** required as outlined in CAO Report 06-2020.
9. That a **public education** program be instituted by the Municipality as outlined in CAO Report 06-2020.

The City of Sarnia did an excellent job of educating and informing the public. They may be willing to share their expertise and prepared materials with our staff since there is no use spending time and money replicating what has already been done.

10. That **correspondence** be sent to the Minister of Natural Resources and Forestry **requesting financial assistance** in dealing with the Gypsy Moth infestations in Lambton Shores. In this letter, the Minister should be reminded that the MNRF has identified much of the forested area in Lambton Shores to be "Significant Woodlands".

Reasons for Rejection of Report

1. Gypsy Moths do not Differentiate

Gypsy moths infestations do not just occur on trees belonging to private property owners. They know no geographic boundaries. Gypsy moths and gypsy moth caterpillars do not differentiate between trees on public property and trees on private property. Thus, to only treat trees on private lands is futile as these voracious pests disperse over wide areas and once they defoliate one tree they go looking for another food source.

2. Responsibility

Under the guise of providing assistance to private property owners, this report **places the responsibility** for dealing with the gypsy moth infestation **solely on private property owners**. It is a one sided report that appears to absolve the municipal government of any responsibility to lead and co-ordinate efforts to deal with this infestation.

During the November 10, 2020 Council Meeting, one of the councillors said that the gypsy moth infestation was **“a private issue on private land”**. He was hoping that private property owners “aren’t assuming we’re going to pay for” any aerial spraying. His take was that all the people wanted was help; that the municipality was not to take it over completely but just to give them a hand.” Another councillor agreed that residents were just “looking for a little more logistical help.”

3. Abdication of Responsibility for Public Trees on Municipal Land and/or Road Allowances

In our June 20, 2020 letter to Council, the residents of Ontario Street in Port Franks asked the Council to take stewardship of the approximate 800 municipal trees abutting our properties. Residents informed the Council that this infestation was not just an environmental issue but a stewardship issue and a public health and safety issue. We asked that the gypsy moth infestation be put on the Council Agenda as an Emergent Issue. The Mayor refused.

In the following months, there was no evidence that municipal employees were removing caterpillars, placing pheromone traps, or scraping egg masses from public trees. The preferred course of action was to do nothing.

Under Recommended Actions, this report now states “the Municipality **can consider** protecting its own resources for public use.”

In comments during the November 10, 2020 Council Meeting, the Mayor said, “No place in this report does it say we’re not going to look after our municipal trees.”

Councillor Dodge then asked, “Does it say we’re spraying?”

The Mayor responded, “That decision hasn’t been made yet.”

Councillor Dodge then said, “Well, I don’t see it in writing so”

Later the Mayor commented again on municipal stewardship. He stated, “There’s nothing in here that says we won’t look after our road allowances that are unopened, treed or our parks or our Community Centres that we own if they are in an area that needs spraying. That’s all part of what can continue on for discussions going forward.”

When?

4. Legislation

a. *Municipal Act, 2001*

As discussed earlier, the *Municipal Act, 2001* requires that a municipality adopt and maintain policies with respect to the protection and enhancement of the tree canopy and natural vegetation in the municipality.

During the November 10, 2020 Council Meeting, the Mayor asked, “Does the *Municipal Act* deal with private land or public municipal land?” No one answered this question.

The *Municipal Act, 2001* makes no distinction between municipal public land and private land when it comes to tree canopy. It simply states that the municipality shall adopt and maintain policies. Since the *Municipal Act* makes no distinction, neither should the Municipality.

If Lambton Shores has such a policy it should be updated to include a management process that addresses gypsy moth infestations. If Lambton Shores does not have a policy that allows them to control outbreaks, it needs to develop and adopt one as soon as possible.

Section 128 of the *Municipal Act* permits municipalities to prohibit or regulate what is, could become, or cause a public nuisance.

Section 10(2) of the *Municipal Act* authorizes a municipality to pass by-laws respecting the economic, social, and environmental well-being of the municipality.

The City of Hamilton and the Town of Pelham have utilized these and other sections of the *Municipal Act, 2001* in their by-laws which authorize the use of BTK in their aerial spray programs.

b. Provincial Policy Statement, 2004

Section 2.1.1 of the *Provincial Policy Statement (PPS)* states,

“Natural features and areas shall be protected for the long term.”

The natural feature that pertains to the gypsy moth infestation in Lambton Shores has been identified by the province as ‘**Significant Woodlands**’. The province requires that this natural feature be protected for the long term. The *PPS* makes no distinction between public trees and private trees. Neither should the municipality if it wants to comply with and conform to provincial interests.

Section 3.0 of the *PPS* states,

“Ontario’s long-term prosperity, environmental health and social well-being depend on reducing the potential for public cost or risk to Ontario’s residents from natural or human made hazards.”

The by-laws enacted by the City of Hamilton and the Town of Pelham echo the language and intent of both the *Provincial Policy Statement, 2004* and the *Municipal Act, 2001*.

5. Lambton Shores Official Plan

As required by the *Planning Act*, Lambton Shores Official Plan is consistent with the *PPS*. The first Key Principle of the Lambton Shores Official Plan is,

“To protect the Natural Environment.”

This Key Principle is further expanded upon in Section 2.2 Goals and Objectives where it states,

“To protect and wisely use and manage Lambton Shores’ agricultural, natural and cultural heritage resources, for the long term. These resources will be used and managed in order to protect essential ecological processes and public health and safety and minimize environmental and social impacts.”

and

“To sustain and increase tree cover by protecting woodlots”.

A quick look at the Lambton Shores Official Plan Schedule “A3”– Natural Heritage (See Appendix 4 – all areas coloured green) identifies many of the residential properties as being designated Significant Woodlot. The Lambton

Shores Official Plan does not differentiate between public trees and private trees as does this report. If Council continues to differentiate, then are they not in contravention of their own Official Plan?

Council should be aware that two years of gypsy moth infestation has led to significant tree defoliation. Coupled with periods of drought and we are seeing more and more tree mortality. This year there are no acorns on the oak trees for the squirrels to eat and no berries on bushes for the birds.

How is Council protecting the natural environment when it will not even commit to stewarding its own municipal trees in the short term? How is Council protecting essential ecological processes?

Gypsy moth caterpillars are a serious nuisance to residents. When it comes to health and safety some residents suffer greatly. One of the residents on Ontario Street was covered in welts. The itchiness was unbearable. As a result of this intense allergic reaction to the gypsy moth caterpillars, he had to remain in his house for over five weeks. The man wasn't the only one in our neighbourhood who sported welts. Children and grandchildren also suffered when they played in backyards or tried swimming in backyard pools.

The more the caterpillars ate, the more they defecated over roads and private properties. Sitting outside on decks and patios became impossible. By dividing trees into public and private categories and abdicating stewardship of their municipal public trees, how is Council protecting public health and safety? How is Council dealing with a nuisance that many find intolerable?

6. Having it Both Ways

The Municipality has used the development approval process, Environmental Impact Studies, and ecological buffers to protect the trees on private property.

In a few instances, the Municipality has protected trees on private property by doing what is referred to as disguised expropriation. In order to receive approval to build on a small portion of their property, property owners had to consent to rezoning the larger portion to Environmental Protection-Natural Conservation.

On June 3, 2020, Report CAO 04-2020 – Tree Protection By-laws was received by Council. The following motion was then Carried by an 8 to 1 vote.

THAT staff **prepare a Tree Protection By-Law** that would apply to both public and **private** properties in Lambton Shores which includes public consultation with interested parties and a review of existing tree policies.

To the best of our knowledge, staff have not yet brought this Tree Protection By-Law to Council. Why is that? Perhaps it is because some on Council do not

want to take responsibility and provide the funding for a gypsy moth control program that would save tree canopy on both public and private lands.

7. Limited Land Holdings is a Misrepresentation

The report states, “The Municipality of Lambton Shores has limited land holdings in the area currently affected by Gypsy Moth. Primary areas of public (park) use include:

- The Port Franks Marina property
- The Port Franks Community Centre property
- Klondyke Park

This is not accurate. The Municipality has **thousands of trees on their road allowances and unassumed road allowances**. The residents of Ontario Street in Port Franks counted approximately 800 municipal trees on their street and the three unassumed roads crossing Ontario Street. (See Appendix 5) Given, this it is safe to suggest that there may be anywhere over 3,000 municipal trees in Port Franks alone.

The thousands of caterpillars on these municipal trees were not only defoliating these trees but migrating to our trees and our properties. Residents on Ontario Street were taping municipal trees and removing caterpillars by hand and by vacuum. It should not be up to residents to steward municipal trees because the municipality will not.

Does the municipality even know how many municipal trees are in Port Franks? To date no one has been able to tell us.

Does the municipality even know how many municipal trees are in the communities that are accessed from Highway 21?

8. Cost of Doing Nothing

The report states “the municipality carries a \$75,000 budget for contracted tree services.” It goes on to tell us “staff feel that this budget should be sufficient to include any required gypsy moth control measures in municipal parks or “neighbourly” land holdings such as unopened road allowances in support of adjacent private property owner initiatives.”

Let’s just consider the 3,000 or so municipal trees in Port Franks. If there is a 10% tree mortality rate, the cost of tree removal, at about \$1,000 per tree, would amount to \$300,000.00. Given that most of the trees in Port Franks are between

80' to 115' in height, the removal cost would most likely be even greater. Now add to this the cost of replanting.

At the November 10, 2020 Council Meeting, Councillor Dodge said, "It is my understanding that we have 57 acres or better of municipal trees in this area." Given this, there isn't nearly enough money in the contracted tree budget to cut down and replant even 1% of these trees.

Apart from the financial cost, there is the environmental and/or ecological cost. As we are seeing in Port Franks, there are no acorns on the oak trees and no berries on the High Bush Cranberry and Service Berry bushes. I am seeing far fewer squirrels and birds around my property. How many will die this winter due to a lost food supply? When trees die, habitat is lost. Endangered species and other wildlife are displaced. Is this a price we are prepared to pay?

Then there is the hidden cost that no one thinks about. When government chooses to do nothing and transfers their responsibility to property owners to solve what are community wide problems, there is a growing anger and a loss of faith in their local government.

As can be seen from the above, the cost of doing targeted spraying to protect a valuable asset, our tree canopy, is far less than the cost of doing nothing.

9. Effect of Municipality's Decisions

The report states, "in order to support the effort of any property owner choosing to protect their own trees from gypsy moth, the municipality can adopt a position of waiving any objection to control methods that may indirectly affect municipal property such possible overspray from the aerial application of BTK onto the public road allowance."

A neighbour in Port Franks has approximately 161 municipal trees surrounding their property. Given the amount of gypsy moth caterpillars that migrate and infest their trees, it is futile for them to spray if the municipality won't.

Another neighbour is in the same situation. The municipality has 30 trees around his property which contains 8 trees. As he says, in his letter to the Editor of the London Free Press, "Spraying just my trees would be a waste of time and money since the caterpillars blow over on their webs to my trees."²

Another resident in Port Franks has had a company come in to spray four times this summer. Why four times? Because the caterpillars, looking for a new food source, keep migrating onto his property and his trees.

These examples, hopefully, show that giving residents and the Municipality the choice of opting in or opting out does nothing to control and later manage gypsy moth populations and devastation. This is a problem that requires government to intervene in order to mitigate the impact of this threat to forest health and private nuisance.

It should be noted that it is very generous of the municipality to allow for overspray from private properties. Perhaps the Municipality was not aware of the implications of such a policy. Overspray can reach as much as 66 feet beyond the edge of a property. Given this it is easy to see that the property owner pays the full cost and because of the overspray, the Municipality gets its trees sprayed for free.

10. No Consultation With Other Affected Municipalities

There has been no consultation with the City of Toronto, the Town of Oakville, the City of Mississauga, the City of Hamilton, the Town of Pelham, the Township of West Lincoln, the City of London, and the City of Sarnia.

During 2020, we experienced notable defoliation of deciduous trees and tree mortality in both deciduous and evergreen (pine, spruce) trees. Consultation with other affected municipalities could have provided valuable information on a) policy and legislative requirements, b) treatment methods and their success, and c) if Lambton Shores course of action was consistent with these other municipalities.

11. Analysis of Various Treatment Methods

The City of Toronto has been dealing with gypsy moth outbreaks since 2004. They have had much experience in reducing Gypsy Moth population to “levels that were tolerable in relation to private nuisance as well as forest health.”³

All Integrated Pest Management (IPM) techniques “have worked with limited success. Burlap bands only work while caterpillars move up and down the tree when they are small. Pheromone traps provide little control in high populations and are used primarily for monitoring low level populations. When high numbers of egg masses are located in the upper canopy of the tree, and where the tree bark is very rough, mechanical scraping operations to destroy egg masses are relatively ineffective. The spraying and injecting of selected trees is effective in destroying caterpillars that feed on individual trees, but has little impact on the overall Gypsy Moth population at the landscape level.”⁴

What did prove effective in successfully reducing populations of Gypsy Moth to minimal levels was aerial spraying. Follow up monitoring in the City of Hamilton

and the Town of Pelham confirmed this fact.

The City of London had staff scrape egg masses from 5,000 **city trees** last winter. You would think that caterpillar populations were significantly reduced. In fact the opposite occurred. Massive outbreaks occurred in Byron and Hyde Park. Why? Because staff did not scrape the egg masses from any trees on private property.

12. Who pays?

The City of Toronto: Funded past aerial spray program through the **operating budget** for Parks and Forestry. Proposed expenditures in 2019 were so great that recoveries from golf courses and private cemeteries were used to offset costs.

City of Hamilton: Funded their Gypsy Moth Infestation Control Program through the **Tax Stabilization Reserve**.

Town of Pelham: Funded their Gypsy Moth Aerial Spray Program and administration through a **budget allotment**.

City of Sarnia: Funded through the **budget**.

The above named cities and town paid for aerial spray control programs through municipal budgets or reserve funds. Residents were not individually charged. This simplifies the payment process.

These governments believe that if their trees become defoliated and die, they represent a significant environmental and financial cost to all residents. Since everyone benefits, everyone pays via property taxes.

When costs are to be assumed by individual property owners as some council members in Lambton Shores want, the determination of what each pays and how to collect these monies becomes a complicated, logistical nightmare. For example, how much should the property owner with 161 municipal trees surrounding their property pay vs the property owner with only 1 or 2 municipal trees? If your property is 0.25 acres in size do you pay the same as someone with an irregular property that is approximately 0.28 acres in size? Then there are the property owners who are not going to have their property sprayed because the overspray from their neighbours will land on and protect their trees. Do you want to set neighbour against neighbour? Do you really want to force property owners to go through this nightmare when in reality everyone benefits from trees and a healthy tree canopy?

It is our hope that members of Council will take the time to read the information we have provided. If only trees on private property are subject to aerial spraying or other treatment methods, the likelihood that the Gypsy Moth population will spread to other areas of the Municipality is much greater. The City of London proved this. To be effective treatment methods have to be applied to all trees. Of all the treatment methods employed, targeted aerial spraying provides the best results and gives the best value for the tax dollars spent.

Our trees are an extremely valuable community, provincial, and global asset. They require protection from Gypsy Moth infestations in order to stay healthy. We remain optimistic that you will grant our requests. However, if you do nothing else, we urge you to pass a by-law.

Respectfully submitted by residents on Ontario Street, Gillespie Street, Port Franks Road, Curie Place and Herbert Street.

Anne Walkinshaw
9936 Ontario Street

Joe and Roma O'Donnell
9927 Ontario Street

Barbara Flanagan
9937 Ontario Street

Jim and Pat Materiuk
9951 Ontario Street

Harry and Dianne Elias
9971 Ontario Street

Karen and Peter Puffal
10016 Port Franks Road

Gary and Laurie Brown
9903 Ontario Street

Chuck and Annette Vusich
9922 Ontario Street

Majda and Gunter Mai
10092 Herbert Street

Izabela and Dariusz Matkowski
9944 Ontario Street

Elaine and Gerry Mathers
9919 Ontario Street

Scott and Jennifer Purdy
9906 Ontario Street

Ed and Frederica Hunter
7671 Currie Place

Jacek Brzychczy and Anna Pawelec-Brzychczy
10010 Port Franks Road

Daina Bray and Kevin Nicol
7609 Gillespie St.

Barb Willsie and Bill Riczu
7608 Gillespie St.

FOOTNOTES

1. City of Hamilton By-law No. 08-070 Respecting Gypsy Moth Infestation
2. Letter to the Editor, Save the Trees, Jim Materiuk, London Free Press, Wednesday, November 18, 2020.

3. City of Toronto, Non-Competitive Contract with Zimmer Air Service Inc. for Control of European Gypsy Moth Outbreak in 2019, Report for Action IE!.03
4. City of Toronto, Non-Competitive Contract with Zimmer Air Service Inc. for Control of European Gypsy Moth Outbreak in 2019, Report for Action IE!.03

APPENDICES

- Appendix 1: Town of Pelham: Public Works and Utilities, Policy No: S802-03, March 2, 2020
- Appendix 2: The Corporation of the Town of Pelham, By-law No. 4208(2020)
- Appendix 3: City of Hamilton, By-law No. 08-070, Respecting Gypsy Moth Infestation
- Appendix 4: The Municipality of Lambton Shores Official Plan, Schedule "A3" – Natural Heritage, Enlarged section of Port Franks to show location of Significant Woodlot (green)
- Appendix 5: Letter from Ontario Street residents to the Clerk Re: Time Sensitive Emergent Issue, Municipal Trees and Gypsy Moth Caterpillar Infestation, June 20, 2020



Policy Name: Gypsy Moth Management	Policy No: S802-03
Committee approval date:	February 18, 2020
Council approval date:	March 2, 2020
Revision date(s):	-
Department/Division:	Public Works

1. Purpose

The overall purpose of this policy is to provide a process that addresses the periodic infestation of European Gypsy Moth experienced in the Town of Pelham.

The specific goals of this Gypsy Moth Management policy are to develop an integrated set of objectives and procedures that will combine to form a set of overall working guidelines that will:

- Maintain tolerable gypsy moth populations at any point in time, and make sure that outbreaks are controlled properly.
- Educate residents about the European Gypsy Moth to foster a thorough understanding of forest pests and their environments, as well as, understand the rationale behind the Town's decision making process with respect to gypsy moth management.
- Provide a policy that Town officials and the general public are confident is an effective and fair tool in responding to gypsy moth infestations.
- Establish a feasible gypsy moth monitoring network and egg mass survey program.
- Establish an intervention threshold criterion for implementing gypsy moth treatment efforts.
- Strategically allocate resources toward forestry & tree health.
- Reduce the workload and duplication of effort for Town staff in responding to gypsy moth concerns.
- Allow for the collaboration across municipal and regional boundaries to help strengthen gypsy moth management.

2. Policy Statement

It will be the policy of the Town of Pelham to protect the tree canopy within the Municipal Boundary against Tree Mortality caused by defoliation by the gypsy moth and hence, preserve and enhance the quality of Pelham communities.



3. Policy Constraints

The policy will be applied to all properties within the Town of Pelham with the exception of properties, or sections of properties being used for agricultural production or commercial business, as well as properties owned or operated by; the Niagara Region, the Niagara Peninsula Conservation Authority or the Province of Ontario unless otherwise approved by the Director of Public Works.

The policy may be affected by the availability of Town staff, financial resources, regulatory restrictions and requirements from other departments and agencies.

4. Definitions

Integrated Pest Management (IPM): a multi-disciplinary, ecological approach to the management of pests based first on prevention and when needed, a control (biological, cultural, physical or mechanical intervention), saving registered pesticide application as a last resort.

Pest: an organism that causes damage, is a nuisance or interferes with the health, environmental, function or aesthetic objectives of citizens.

Biological Controls: other organisms that prey specifically on a pest.

Pest Action Threshold: the number or density of a pest when management action should be taken.

Tree Mortality: the level of defoliation (>60%) where a tree is likely to die.

Treatment Buffer Zone: the area adjacent to a treatment plot that will be included for treatment to reduce re-infestation or gypsy moth migration into nearby properties.

Sequential Sampling: a sampling technique wherein the researcher picks a single or a group of subjects in a defined area, conducts a survey, analyzes the results then picks another group of subjects if needed and so on.



Commercial Property: a property that is being used for a commercial purpose and/or generates an income.

5. General Provisions

The goal of the gypsy moth control program is not to eradicate the pest, but to protect tree health by suppressing the population to acceptable levels. Due to the relationship between weather and egg survivorship and the unpredictability of gypsy moth outbreaks, an Integrated Pest Management (IPM) approach will be taken to manage their population. The IPM decision-making process results from an evaluation of treatment options available and an analysis of potential impacts.

5.1 Treatment Threshold Criteria

In order to preserve the Town of Pelham's tree canopy and prevent tree mortality resulting from Gypsy Moth infestation, the Threshold Criteria used to identify plots that require treatment within Municipal Boundary will be a minimum of 2500 egg masses per hectare.

6. Annual Egg Mass Surveys

Decisions and control strategies for the management of the gypsy moth population will be made on the most appropriate IPM strategy based on analysis of egg mass survey results. Egg mass surveys will be undertaken annually in the fall, to determine the egg mass densities within the developed Gypsy Moth monitoring plots. (*Appendix A*) The information gathered during the surveys will be utilized in the development of a treatment program if the threshold criteria or special circumstances are met.

The number of surveying plots required to monitor gypsy moth populations fluctuates in times of high or low population densities. Sequential sampling plans increase the efficiency of the survey program by focusing in areas where intervention is most likely required. Areas with very low or high populations require the least amount of sampling, as a decision may be reached after sampling only a few plots. Plot sampling requirements may vary depending on land use for continually forested and urban/suburban habitats depending on gypsy moth populations.

7. Gypsy Moth Control Program



7.1 Spray Block Development

If the threshold criteria for treatment are met, treatment blocks will be identified utilizing the information gathered through the annual egg mass surveys. Once the survey data is compiled and analysed, spray blocks will be identified based on the most appropriate IPM strategy.

Spray blocks will be developed to include areas where gypsy moth egg mass densities exceed the threshold criteria of 2,500 per hectare. Spray blocks are developed in such a way to accommodate aerial spraying in a safe and efficient manner. Due to the application method it is not logistically possible for individual properties inside the spray block to opt out of the treatment. Authority delegated through By-Law 4106(2019) allows the Director of Public Works to implement a gypsy moth control aerial spray program when the threshold criteria is met.

Special circumstances such as proximity to selected treatment areas, or areas where high gypsy moth populations threaten nearby property where protection is greatly desired, may extend consideration of treatment to additional areas or Treatment Buffer Zones. Also, consolidation or expansion of proposed treatment areas may be attempted in the interests of program efficacy and efficiency.

Circumstances may warrant the consideration of areas with egg mass counts below 2500 egg masses per Hectare, on a lower priority basis, when Habitat Susceptibility and Land use factors are high and there is a clear indication that the gypsy moth populations, though low, are in increasing and are healthy. Generally, areas that in the past have experienced high and rapidly rising outbreak levels of gypsy moth would be candidate for such consideration to achieve effective and more efficient long term pest management.

7.2 Treatment Program Communication

Prior to the implementation of any treatment program, staff will prepare a report outlining the results of the egg mass surveys, management recommendations, treatment costs, proposed spray blocks as well as the amended by-law to be presented to Council for approval.

Town of Pelham Staff will host a Public Information Centre (PIC) to present the purpose, objectives and implementation process of the treatment program. Program information will also be made available on the Town of Pelham's Website and social media feeds as well as public notices in local print media.

The Town of Pelham will notify landowners, whose properties are included within or adjacent to the spray blocks prior to May 1st by Canada post letter mail.



The Town of Pelham will provide information concerning the gypsy moth, including control measures on private properties to the residents of Pelham. Information provided will be made available at; all Municipal Facilities, Libraries, gypsy moth treatment program PIC, the Town of Pelham website, social media feeds and media releases. (*Appendix B*)

Further to the communication plans described in the previous paragraphs, the Town of Pelham shall adhere to section 79 of Ontario Regulation 63/09 under the Pesticides Act for alternative means of public notice of pesticide use.

7.3 Aerial Application for Gypsy Moth

The treatment of gypsy moths shall be completed in an ecologically responsible manner. To protect other sensitive species, a number of factors are considered in determining the timing for aerial application of control agents including; foliage emergence, gypsy moth in-star development, weather conditions and manufactures' specifications.

Spray application will not be initiated until foliage has developed to no less than 30% of mature size, and caterpillars have reached 90% emergence and display evidence of feeding. Application must be made only during meteorological conditions that are suited to maximize spray deposit in the treatment areas and to minimize off target movement of the spray. Foliage must not be too wet prior to application and applied well in advance of any rain events. This may vary depending on manufacturers' technical information and product-specific recommendations.

7.4 Post Application Assessments and Communication

Initial post-spray assessments are to be completed after each spray application to ensure that the treatment area was completely and correctly flown over. Efficacy assessments will be performed within 24 hours of the spray application utilizing an Accurate Deposit Assessment Methodology (ADAM) kit from Valent Biosciences or approved alternative.

Once the majority of gypsy moth caterpillars have finished feeding and begun pupation and before trees have had time to grow new leaves, defoliation surveys will be completed in a representative number of spray blocks as well as other locations where gypsy moth egg mass data was collected. This information will be utilized to design future egg mass surveys and estimate population migration.



Town of Pelham Staff will prepare and present a report to summarize the effectiveness of the treatment program including; graphical spray event data, post-spray assessments and defoliation survey.

7.5 Alternative Gypsy Moth Control Measures

The Integrated Pest Management decision-making process includes an evaluation of treatment options and an analysis of potential impacts. Through the IMP approach, a number of alternative management options may be utilized based on; survey results, tree species, tree maturity and density, land use, location, ecological factors and the health of the gypsy moth population.

In locations where aerial spray application is not well suited, a number of other treatment options may be utilized. These may include but are not limited to: ground spraying, tree injection, burlap banding, or a “do nothing” approach if the impact of the infestation will be limited to a remote area.

8. Community Volunteer Program

The Town of Pelham may develop and implement a volunteer based forest health monitoring program overseen by a qualified forestry consultant. Effective volunteer programs can have many positive results and increase awareness among the general public about tree health and invasive species. Raising interest in tree health issues in the community is imperative for the future conservation of the Town of Pelham’s tree canopy. By enlisting and training members of the community to identify invasive species, and collect tree health data from their own lands and public property, volunteers can generate pertinent information that can be useful for municipal operations and help cultivate an awareness of tree health issues among Town of Pelham residents.

9. Gypsy Moth Management Funding

The Town of Pelham will endeavour to strategically allocate resources toward the protection of tree health. The Gypsy Moth Management Policy identifies how the periodic gypsy moth infestations are treated by the Town of Pelham as part of an overall Integrated Pest Management Policy.

A Forestry Health Reserve Fund will be established which will be used to fund programs related to the health of the forests and tree canopy within the Town of Pelham.



The Gypsy Moth Management Program will be funded through the Forestry Health Reserve with Council approval.

To help ease the costs associated with treatment programs the Town of Pelham may attempt to coordinate spray programs with neighbouring municipalities, conservation groups, agricultural and commercial operations and other governmental organizations.

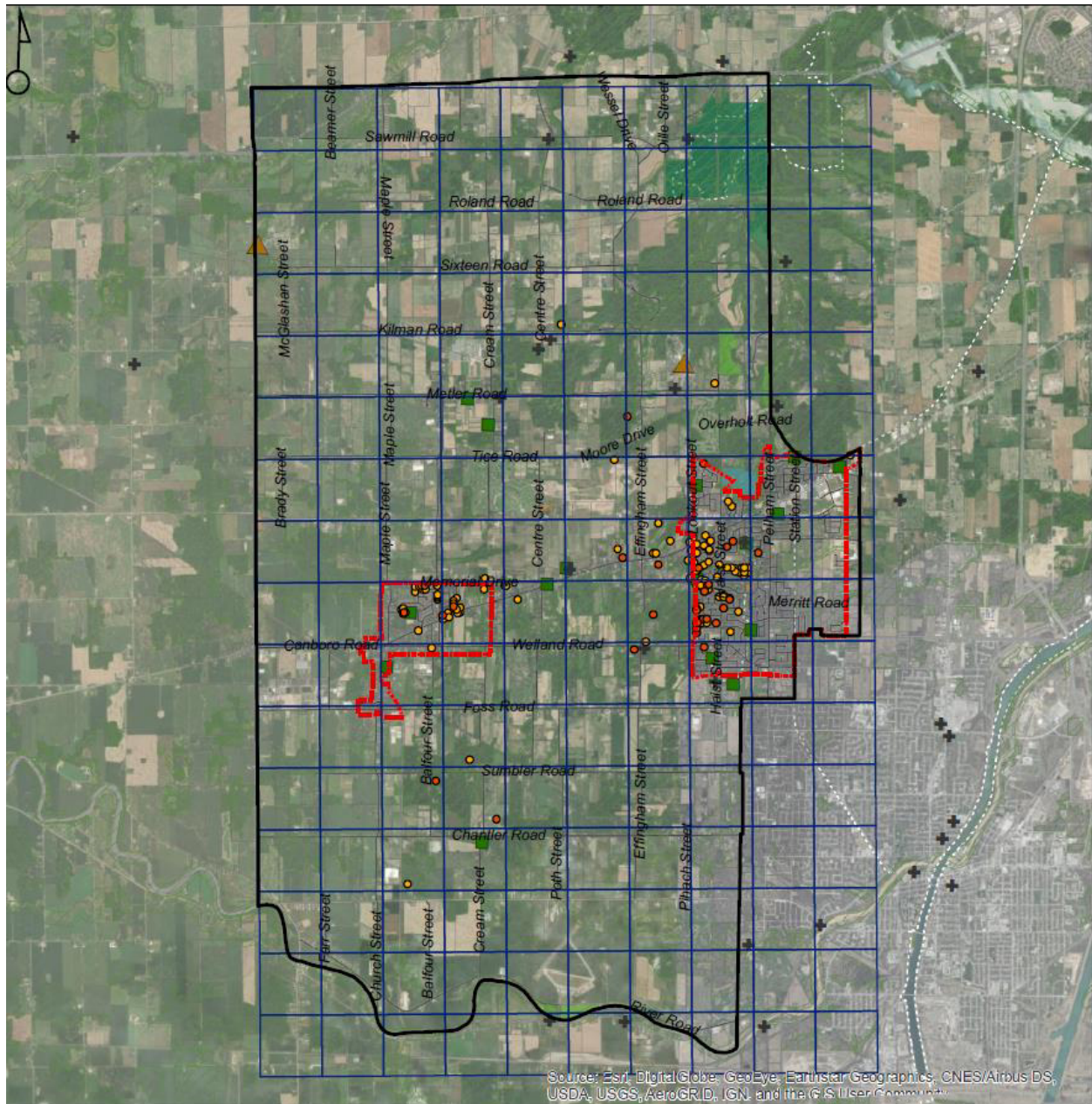
10. Attachments

Appendix A Gypsy Moth Egg Mass Survey Plots

Appendix B Gypsy Moth FAQs



APPENDIX A – Gypsy Moth Egg Mass Survey Plots



GYPSY MOTH FAQs

What is European gypsy moth?

Gypsy Moth (*Lymantria dispar*)

European Gypsy moth (EGM) is an invasive insect from Europe and Asia that established in North America in the late 1860's near Boston. Gypsy Moth caterpillars are 5 to 60 millimetres in length, dark and hairy, with five pairs of blue dots and six pairs of red dots on the back. They feed on a wide range of coniferous as well as deciduous trees, but show a preference to oak trees.

Where does European gypsy moths come from?

Gypsy moths are an invasive pest originally from Europe and Asia. They were brought to North America in the late 1800's to conduct experiments for silk production, but escaped captivity and have since established themselves across much of the northeastern portion of North America

How does European gypsy moth cause damage to trees?

Caterpillars begin by chewing small holes, but as they mature can completely strip a tree of its leaves depending on their age and population.

How much damage can they cause?

High levels of gypsy moth caterpillars can cause trees to experience severe loss of leaves, which could cause them to enter a state of decline and make them more susceptible to further harm from other insects, diseases, and weather fluctuations.

What does the damage look like?

Gypsy moth caterpillars chew small holes in the new leaves. As the caterpillars begin to grow, they eat more and the holes become larger until only the leaf veins remain. When population levels are high, gypsy moth caterpillars have the ability to strip trees of all of their leaves.

What types of trees do these caterpillars affect?

Gypsy moth are known to feed on hardwood trees such as apple, birch, cherry, elm, hickory, oak, willow, and maple species. Other deciduous trees, and even conifers such as pine or spruce, could be susceptible when populations are high.

What is defoliation?

Defoliation is the widespread loss of leaves on a tree and other plants.

Why does it matter if trees lose a few leaves from hungry caterpillars?

Tree damage can range from light to severe defoliation. As the caterpillars grow, they consume more and more leaves. As the growth cycle winds down, usually in late June, trees can look as if they have lost their leaves overnight. Under normal circumstances, defoliation caused by gypsy moth caterpillars won't kill a tree. Healthy trees should regrow their leaves two to three weeks after defoliation, or by early July depending on the year. However, when a tree uses energy to replace damaged leaves, it reduces the energy available for annual tree growth and to fight potential new diseases and other insect attacks.

GYPSY MOTH FAQs

The urban tree canopy provides health, social, environmental, and ecological benefits to communities.

Trees help to:

- Improve air quality and reduce smog and pollution
- Provide shade
- Reduce energy demand for cooling in summer (shades buildings) and heat in winter (windbreak)
- Reduce the negative effects from urban heat (reducing the 'heat island' effect by shading paved surfaces and provides water vapor that cools the air)
- Prevent flooding and reduce peak storm water run-off volumes
- Increase property values and aesthetics
- Strengthens communities
- Improve emotional well-being and mental health (stress reduction)
- Increase outdoor activity and walkability, leading to improved health (e.g., cardiovascular health)

Why are there so many gypsy moths in Pelham?

Gypsy moth has been present in Pelham for at least 20 years. Their populations rise and fall in a cyclical manner. In 2008, an aerial spray was completed to mitigate high gypsy moth populations. Since then, the Town has attempted to monitor and managed these pests using a variety of treatment methods.

Why are they such a nuisance?

Besides defoliating trees, caterpillars can become quite a nuisance to homeowners. They can be heard munching on leaves and their droppings can create a mess on the surfaces below. As the caterpillars complete their feeding, they tend to crawl everywhere including up the sides of homes, on outdoor toys, decks and patio furniture in search of suitable hidden spots to pupate. Exposure to gypsy moth hairs, silken threads, and shed skins can cause skin rashes and upper respiratory tract irritation in some people.

Do they have any natural predators?

Gypsy moths do have natural predators: a fungus (*Entomophaga maimaiga*), a virus (*Nucleopolyhedrosis*) and a small wasp (*Encyrtidae* family). The fungus and virus can be very effective at naturally controlling populations however they require a cool wet spring to be effective. The wasp only kills eggs that are near the surface of an egg mass, but can't parasitize any of the eggs that are hidden beneath the eggs on the outer surface of the mass.

What is Integrated Pest Management (IPM)?

IPM focuses on the long-term prevention and mitigation of pests or their damage through techniques such as monitoring, biological control, habitat manipulation, and modification of cultural practices, such as the use of gypsy moth resistant tree varieties. A major component of this program consists of egg mass surveys in the fall and winter to predict defoliation levels for the following year. Following that, prescription and implementation of various control strategies can be undertaken.

GYPSY MOTH FAQs

What can residents do to help?

Residents can help by:

- Remove egg masses off of trees and other hard surfaces. Soak them in soapy water for a minimum of 48 hours.
- Install burlap skirts around tree trunks at beginning of June. Caterpillars will find shelter under the burlap, making it easy for residents to collect and dispose of them.
- Destroying pupae/cocoons.
- Consult with private arborist companies when larger trees require attention for control for gypsy moth.

Though effective, these control options are time sensitive. They must be implemented at the appropriate time to be effective. The City recommends these IPM techniques as well as their associated appropriate timing:

- September to beginning of May: Scrape gypsy moth egg masses off of trees and other hard surfaces leaves, tree trunks and branches. Soak them in soapy water for a minimum of 48 hours to destroy them.
- May to Mid-August: Burlapping: Install burlap wraps around tree trunks and then collect and destroy the caterpillars, pupae, adults, and egg masses.
- End of June-Mid-August: Collect, crush or otherwise destroy pupae/cocoons when you see them.
- Beginning of May- Mid June: Consider chemical treatments such as Btk-based products or TreeAzin; however, they are extremely time sensitive for them to be effective at controlling gypsy moth. It is highly recommended that you consult with a private arborist no later than the end of April if you are looking at having your trees treated/sprayed to allow the private arborist time to properly schedule our work. Once the caterpillars get too large (approximately mid- June is the cut off point for treatment), pesticide treatments are no longer effective at controlling gypsy moth and can be a costly mistake on the homeowner's part. Some private companies will conduct egg mass removal for your trees during the winter months. The earlier you can consult with an arborist, the better

AERIAL SPRAY

Why is the Town planning an aerial spray?

The Town is facing a gypsy moth population rise that is affecting Pelham's tree canopy. Elevated levels of gypsy moth have caused severe defoliation of trees in certain areas of the Town. This has led to potential negative impacts on the overall health of many trees on both Town and privately-owned property.

While the Town will continue to implement ongoing IPM measures, it will also conduct an aerial spray in areas predicted for severe defoliation. Aerial spraying has proven in the past to be very effective in lowering gypsy moth populations. Although the aerial spray won't eradicate all traces of the insect, it will naturally lower populations to a more manageable level.

Which areas are being sprayed?

The final spray map will be developed and shared with the public once determined.

GYPSY MOTH FAQs

What type of pesticide is being used?

The Town of Pelham will be using a product that contains *Bacillus thuringiensis* subspecies *kurstaki* (Btk). The product is registered under the trade name Foray® 48B. Btk is a naturally occurring bacteria found in soil. Btk is not a chemical. Btk was successfully used by the City of Toronto in 2007, 2008, 2013 and 2017 to control gypsy moth populations. The Cities of Mississauga and Oakville have completed similar spray programs in the past. The City of Hamilton will be conducting an aerial spray program with this same product this spring as well.

What organisms does Btk pesticide affect?

Btk only works against organisms that go from egg to larvae to pupae to moth (lepidopterans). Btk does not affect adult moths and butterflies, including the monarch butterfly, as it is not in the caterpillar stage and feeding on plant material at this time of the year. Btk does not affect other insects, honeybees, fish, birds, or mammals.

How does Btk work?

Btk produces a protein that is toxic only to the larvae (caterpillars) of specific insect species. When ***ingested by susceptible insects, the toxic protein molecules break down the walls of the insect's stomach*** causing the insect to stop feeding. The insect usually dies within two to five days.

For Btk toxins to be activated, the alkaline conditions that exist only in certain insects' digestive systems must be present. The acidic conditions in the stomachs of humans and animals are not present and do not activate Btk toxins, which is why the pesticide is not toxic to humans and animals. Btk has been used in many countries without health impacts to individuals on medications or vulnerable populations.

What is the formulation of the Btk product?

The registered name of the pesticide that will be used by the City is Foray® 48B Biological Insecticide Aqueous Suspension. It is registered under the Pest Control Products Act (PCP # 24977). It is comprised of 3% Btk bacteria, 75% water and 22% food grade inerts. The term 'food grade inerts' refers to a special blend of additives that give the formulation protection against ultraviolet light and help make it stick to foliage. They do not pose any health risks. Btk remains effective for approximately one to four days before it breaks down in the presence of sunlight.

What is the concentration of Btk?

A small amount of liquid covers a large area: 4 litres will cover 1 hectare (2.5 acres). Comprehensive spray drift modelling has been done to ensure accurate and effective application.

Who regulates Btk use in Canada?

Btk has been approved by the Pest Management Regulatory Agency, an agency of Health Canada, for aerial use over urban areas.

GYPSY MOTH FAQs

Is Btk safe?

Btk is an effective pesticide that has been shown to successfully manage many lepidopteran species such as gypsy moth. It has been extensively studied by Health Canada and the US Environmental Protection Agency (EPA). Research shows that Btk poses minimal risk to human health when used as directed.

Btk is approved by Health Canada for aerial use over urban areas. It has been used by many countries over the last 30 years, including Canada and the United States. The City of Toronto has used Btk in multiple aerial spray programs in the past. Its use did not result in any reported health impacts to the general population.

The public is unlikely to experience any symptoms and no special precautions are necessary. Btk aerial spraying is also not expected to have adverse effects on vulnerable populations including children with asthma, people with weakened immune systems, pregnant women or the elderly. However, infrequently there may be some residents who are more sensitive and may experience skin, eye or respiratory irritation.

In addition to the Btk active ingredient, other ingredients called formulants have also been studied broadly and do not have any significant health risks. Formulants normally include water and other ingredients to make the product stick to leaves and needles of trees.

While the aerial spray will not eradicate the gypsy moth populations currently present, it will reduce populations to more manageable levels to protect tree canopies.

Another subspecies of *Bacillus thuringiensis* bacterium, called Bti, has been used to control mosquitos in surface water in the GTA for over a decade as part of the efforts to protect against West Nile Virus. Btk has been used successfully in aerial sprays as well as ground-based spraying for the past 10 years by the City of Toronto to control gypsy moth populations.

Aerial application of Btk has not shown to have any negative environmental effects. Once applied, Btk biodegrades quickly, (approximately 1 to 4 days), through exposure to sunlight and other micro-organisms.

The urban tree canopy provides social, environmental, and ecological benefits to communities. Trees improve air quality and reduce smog and pollution, provide shade, reduce energy demand for cooling in summer and heat in winter, prevent flooding, and promote physical health (improves walkability, improves cardiovascular).

What personal precautions can be taken in preparation for aerial spraying?

Members of the public are unlikely to experience any health effects, and no special precautions are necessary or required. Individuals who have concerns should take reasonable precautions to avoid exposure during an application period of the program.

GYPSY MOTH FAQs

While no special precautions need to be taken, the following measures may be considered by residents living in treatment areas:

- Whenever possible, remain indoors for 30 minutes after spraying to allow for the droplets to deposit onto the tree leaves.
- Bringing laundry, toys and pets indoors before spraying begins.
- Practice good personal and food hygiene (e.g., hand washing after outdoor activities, especially after gardening; leaving outdoor shoes at the door; washing all fruits and vegetables before eating or cooking).
- Covering lawn furniture, outdoor tables, pools, BBQs, play equipment and sandboxes and/or rinsing them off with water after spraying is finished.
- Minimize opening and closing windows and doors during the spraying.
- Shutting off the heating/cooling vents or selecting the recirculate setting.
- Contacting your family physician if you are concerned that a personal medical condition may be aggravated by the spraying.

Does Btk spraying pose a risk to residents who might have sensitivities?

Members of the public are unlikely to experience any symptoms and no special precautions are necessary or required. However, infrequently there may be some residents who are more sensitive and may experience skin, eye or respiratory irritation. Btk aerial spraying is not expected to have adverse effects on vulnerable populations including children with asthma, people with weakened immune systems, pregnant women or the elderly.

What should I do if I experience an adverse reaction?

If you experience an adverse reaction or worsening medical condition, speak to your physician or, in an emergency, call 9-1-1.

Can gypsy moth affect my health directly?

Extreme gypsy moth outbreaks have been associated with skin rashes and upper respiratory tract irritation in some people exposed to airborne gypsy moth hairs, silken threads, or shed skins.

There is a potential for some people to develop minor skin irritations or rashes when they come in contact with these insects. If this is a concern, it is recommended that you try and avoid contact whenever possible.

Is Btk safe for animals?

According to Health Canada, Btk is only effective during the larval (caterpillar) stage of the gypsy moth life cycle. Btk does not affect adult moths and butterflies, including the Monarch Butterfly, as it is not in the caterpillar stage at the time of the spray. Btk does not affect other insects, honeybees, fish, birds or mammals. There is also no impact on animals or pets if they are exposed to or ingest Btk.

GYPSY MOTH FAQs

Where does Btk go in the environment?

Research shows that Btk used in aerial spray programs has not been shown to have any negative environmental effects. Once applied, Btk biodegrades quickly, approximately 1-4 days, through exposure to sunlight and micro-organisms. There are no groundwater contamination concerns, as Btk does not travel through the soil beyond 25 cm.

How long does Btk remain effective?

Btk is applied to leaves when caterpillars are feeding. It breaks down quickly (approximately 1 to 4 days) when exposed to sunlight and micro-organisms

Is there a certain season or window of time the spray has to happen within?

The best time to first apply Btk is mid-May when caterpillars are small, hungry and feeding. The seasonal spray window is set for May 16th to June 15th, 2019. On the day of the sprays, the helicopters will begin spraying just before sunrise (5 A.M.) and will take approximately 2.5 hours to complete. Applications can occur any day of the week, including weekends. Once the leaves are a certain size, the caterpillars have reached almost 90% emergence and the caterpillars begin feeding, the spray window can be narrowed. Once it is determined that those factors are met, the weather conditions then need to be monitored.

The Btk application is weather dependent. Ideal application conditions consist of:

- Calm winds (1-16 km/h)
- High humidity (> 40%)
- Temperatures between 2 and 25 degrees Celsius
- No precipitation within the spray window and ideally not for 24 to 48 hours after application

What type of aircraft will conduct the spray?

For this program, two helicopters with spray systems will fly approximately 15 metres above the tree-tops. It is anticipated to take 2 days to complete one application and there will be a total of two spray applications.

The spray zones were created using scientifically designed methods. Comprehensive spray drift modelling has been done to ensure accurate and effective application. All zones and their boundaries were critically reviewed by City staff and Zimmer Air.

Why are only certain areas of Pelham getting sprayed?

The spray zones were created using scientifically designed methods. Comprehensive spray drift modelling has been done to ensure accurate and effective application. All zones and their boundaries were critically reviewed by Town of Pelham Staff, our Forestry Consultant, and Aerial Spray Applicator.

The spray zone areas we have defined have been refined on the basis of scientific data. Areas that are being sprayed are those where there is no other IPM control option available that would reduce the populations significantly enough to meet acceptable thresholds.

GYPSY MOTH FAQs

Areas found where the Threshold Criteria was greater than 2500 Gypsy Moth Egg Masses per Hectare were considered as critical areas which are included in the spray. The spray zones were refined using extensive data gathered from these areas.

What happens if the spray is cancelled?

Bad weather or wind may cause the aerial spray to be postponed with little advanced notice. The Town will issue a communication to the public 48 hours before each treatment and provide up-to-date information online at <https://www.pelham.ca/en/living-here/gypsy-moth.aspx>, through the Town's social media channels (Twitter and Facebook) and through Email News Alerts. The spray may be cancelled up to 24 hours in advance if the weather conditions change.

If the weather isn't co-operative and spraying can't be done – what are the Town's next steps?

The Town will continue to monitor pest population levels and consider appropriate treatment methods.

Why is spraying from the air seen as more effective than spraying from the ground?

Evaluation of previous programs over the past few decades have shown that aerial sprays are highly effective for controlling many forest pests including gypsy moths. Large areas can be treated in just a few hours. Most droplets reach the ground within 10 minutes of application.

Aerial spraying can treat remote or difficult-to-access areas, providing even coverage throughout the target area. Also, the droplets can penetrate the crowns of even the tallest trees.

How is the Town going to measure the success of the spray program?

Success will be measured by evaluating tree health through the months following the spray (if the trees are green and covered with leaves versus completely defoliated). As well, egg mass counts will be conducted annually in the fall/winter.

Residents are encouraged to implement healthy tree practices and to consult with qualified arboricultural companies to develop healthy tree management plans for their own trees.

If the spray isn't successful, what's next?

We will monitor immediately following the first spray to determine initial results and will readjust if required for the second spray.

Will spraying become an annual thing?

We are confident this year's spray will be enough to bring the gypsy moth population back down below a tolerable threshold to prevent severe canopy damage from occurring. Spraying this spring is the best approach for the health of the trees, our environment, and residents.

GYPSY MOTH FAQs

Proactive prescribed treatments do not follow the approach of Integrated Pest Management as it is nearly impossible to determine if population levels of gypsy moth will require an aerial spray a year in advance. Decisions regarding whether to treat with an aerial spray will be left after extensive egg mass surveying has been completed to determine if treatment is warranted or not.

PREPARING FOR THE SPRAY

How will I know when the spray is happening?

48 hours in advance of the spray, the Town will inform residents of the specific areas of the flight path, treatment plan, and any other relevant information.

- Notification signs will be posted along local roads to announce the approximate spray window.
- Social media will be used to update the public on current spray operations. The Town is on Facebook and Twitter. The website will also be updated regularly.
- The public are encouraged to subscribe for up Email News Alerts regarding the aerial spray at, <https://www.pelham.ca/en/living-here/gypsy-moth.aspx> and clicking “subscribe to this page” at the bottom of the page.
- For questions or for up-to-date information about what you can do to control gypsy moth on your property, aerial spray details like spray dates, times and locations visit <https://www.pelham.ca/en/living-here/gypsy-moth.aspx> where you can also sign-up for Aerial Spray Email News Alerts.
- Residents with questions or concerns related to the health impacts of aerial spraying with Btk should call Niagara Regional Public Health at 1-800-263-7248 or speak to their family physician.

Should I cover items in my backyard?

It is recommended to cover things you don't want sprayed like patio furniture, outdoor tables, play equipment and sandboxes or you can simply rinse them off with water after spraying is finished. The spray does not damage paints or finishes on automobiles, houses, boats or trailers. If it is left to harden, the spray can be removed with water but may require more effort. The sooner it is washed off, the easier it is to remove.

Can my pool remain open?

If possible, cover pools during the spray period. After the spraying has been conducted and the pool cover has been removed, consider testing the water to ensure chemistry balance in water chemistry prior to swimming in the pool. If the pool has not been covered during the spray, test the water to ensure chemistry balance in the water chemistry prior to swimming.

AFTER THE SPRAY

There is a film on my patio furniture; will it come off with water?

The spray does not damage paints or finishes on automobiles, houses, boats or trailers. If it is left to harden, the spray can be removed with water but may require more effort. The sooner it is washed off, the easier it is to remove.

GYPSY MOTH FAQs

Can I use my BBQ?

If possible, prior to the spraying, close and cover your BBQ or bring it into a covered area. BBQs left open or uncovered should be rinsed with water prior to use. If left to harden, it may require more effort to remove.

Is it safe to go swimming in my pool after the spray?

Btk biodegrades quickly through exposure to sunlight. If possible, cover pools during the spray period. After the spraying has been conducted and pool cover has been removed, consider testing the water to ensure chemistry balance in water prior to swimming in the pool. If the pool has not been covered during the spray, test the water for chemistry balance prior to swimming.

Can my dog be outside when the spray occurs? Is it harmful to pets?

Individuals who live in the treatment areas should bring pets indoors before spraying begins. This will reduce pets bringing Btk indoors; However, Btk is not considered a risk to pets or animals.

THE CORPORATION OF THE
TOWN OF PELHAM

BY-LAW NO. 4208(2020)

Being a by-law authorizing the implementation of a 2020 spray program respecting the gypsy moth, and to Repeal and Replace By-law 4106(2019)

WHEREAS, the Council of the Town of Pelham ("Council") deems it necessary to take steps to limit the impact of gypsy moth infestation on trees within the Town's Municipal Urban Boundary, so as to help preserve its tree assets and to reduce the consequences to the well-being of the public due to the loss of trees;

AND WHEREAS, section 128 of the *Municipal Act, 2001, S.O. 2001, c.25*, as amended ("the Act"), permits a local municipality to prohibit and regulate with respect to public nuisances, including matters that, in the opinion of council, are or come become, or cause a public nuisances;

AND WHEREAS, section 10(1) of the Act authorizes a municipality to provide any service or thing that the municipality considers necessary or desirable for the public;

AND WHEREAS, section 10(2) of the Act authorizes a municipality to pass by-laws respecting the economic, social and environmental well-being of the municipality;

AND WHEREAS, Council has considered the research and surveying conducted by staff and an external consultant on the levels and effects of the gypsy moth infestation in certain areas within the Town;

AND WHEREAS, Council is of the opinion that the level of gypsy moth infestations in certain areas within the Town constitutes a matter of public nuisance or could become a public nuisance;

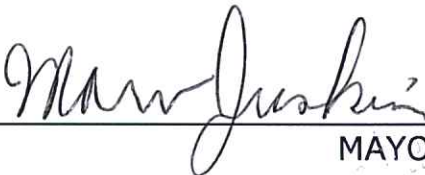
NOW THEREFORE THE MUNICIPAL COUCIL OF THE CORPORATION OF THE TOWN OF PELHAM ENACTS AS FOLLOWS:

1. The gypsy moth infestations in areas identified by the Director of Public Works as severe in nature and deemed a matter of public nuisance in the Town of Pelham.
2. The Director of Public Works is authorized to implement an aerial spray program using the biological control agent *Bacillus thuringiensis* subspecies *kurstaki* (Btk) in and around the proposed spray areas identified in the Public Works Report "2020 Gypsy Moth Aerial Spray Program, Report #2020-0039" where the Director is satisfied that the established criteria outlined in the Gypsy Moth Management Policy for the aerial spray program are met.
3. The Director of Public Works is authorized to implement a gypsy moth control aerial spray program using the biological control


agent *Bacillus thuringiensis* subspecies *kurstaki* (Btk) in and around Public Street Trees within the road allowances and trees on private lands within the Town found within the areas identified in the Public Works Report "2020 Gypsy Moth Aerial Spray Program, Report #2020-0039" where surveys have been carried out by the Director confirming that the treatment threshold has been exceeded and the Director is satisfied that the established criteria for the aerial spray program are met.

4. This By-law shall come into force and effect on the date of its enactment.

ENACTED, SIGNED & SEALED THIS
23rd DAY OF MARCH, 2020 A.D.



MAYOR M. JUNKIN



TOWN CLERK NANCY J. BOZZATO

Authority: Item 3, Public Works Committee
Report 08-006 (PW08028(a))
CM: April 9, 2008

Bill No. 070

CITY OF HAMILTON

BY-LAW NO. 08-070

RESPECTING GYPSY MOTH INFESTATION

WHEREAS the Council of the City of Hamilton ("Council") deems it necessary to take steps to limit the impact of gypsy moth infestation on trees in the City, which are already affected by drought, so as to help preserve its tree assets and to reduce the consequences to the well-being of the municipality, the environment and the health and well-being of the public due to the loss of trees;

AND WHEREAS section 128 of the *Municipal Act, 2001*, S.O. 2001, c. 25, as amended ("the Municipal Act"), permits a local municipality to prohibit and regulate with respect to public nuisances, including matters that, in the opinion of council, are or could become or cause public nuisances;

AND WHEREAS section 10(1) of the Municipal Act authorizes a municipality to provide any service or thing that the municipality considers necessary or desirable for the public;

AND WHEREAS section 10(2) of the Municipal Act authorizes a municipality to pass by-laws respecting the economic, social and environmental well-being of the municipality;

AND WHEREAS Council has considered the extensive research and surveying conducted by staff and an external consultant on the levels and effects of the gypsy moth infestations in certain areas within the City;

AND WHEREAS Council is of the opinion that the level of gypsy moth infestations in certain areas within the City constitutes a matter of public nuisance or could become a public nuisance;

NOW THEREFORE the Council of the City of Hamilton enacts as follows:

1. The gypsy moth infestations in areas identified by the General Manager, Public Works Department as exceeding the recommended treatment threshold of 2500 egg masses per hectare are deemed a matter of public nuisance in the City of Hamilton.

RESPECTING GYPSY MOTH INFESTATION

2

2. The General Manager, Public Works Department is authorized to implement an aerial spray program using the biological control agent *Bacillus thuringiensis* subspecies *kurstaki* (Btk) in and around the proposed spray areas identified in Report PW08028a as Appendices A-1 through A-6 and A-8 through A-10 to this By-law where the General Manager is satisfied that the established criteria for the aerial spray program are met.
3. The General Manager, Public Works Department is authorized to implement an aerial spray program using the biological control agent *Bacillus thuringiensis* subspecies *kurstaki* (Btk) in and around Public Street Trees within the road allowances and trees on private lands found within the areas identified in Report PW08028a as Appendices A-11 and A-12 to this By-law where testing has been carried out by the General Manager confirming that the treatment threshold has been exceeded and the General Manager is satisfied that the established criteria for the aerial spray program are met.
4. It shall be the duty of the Hamilton Police Service to assist the General Manager, Public Works Department with the implementation of the aerial spray program, including the redirecting of traffic off highways in and around areas subject to the aerial spray program.
5. This By-law shall come into force and effect on the date of its enactment.

PASSED and **ENACTED** this 9th day of April, 2008.



Brad Clark
Acting Mayor



Kevin C. Christenson
City Clerk



June 20, 2020

To the Clerk,

**Delivered by email and
Hand delivered**

Mr. Mayor and Councillors;

**Re: Time Sensitive Emergent Issue
Municipal Trees and Gypsy Moth Caterpillar Infestation**

We, the following residents of Ontario Street in Port Franks, are concerned about the damage being done by the Gypsy Moth caterpillars on municipal road allowances that abut our properties. Thousands upon thousands of these caterpillars are not only defoliating trees on municipal lands but are migrating to our trees, shrubs, bushes, and plants which they then damage and/or kill by eating all or most of the leaves.

This never ending migration of caterpillars from municipal lands to our privately held lands mitigates all our hours of effort to tape our trees and remove the caterpillars. It creates more work for us cleaning decks, patios, driveways, and pools of the caterpillar's excrement as it constantly rains down from above. When residents are so allergic they are housebound and when children cannot play outside without being covered in rashes, this caterpillar infestation is a public health and safety issue as well as an environmental issue and a municipal stewardship issue.

A few facts will help you to understand the full scope of this problem and our concerns. Ontario Street is slightly under a kilometer in length. There are approximately **290** trees on the municipal road allowance along Ontario Street. Unassumed municipal roads and their road allowances on Ransford, Moor, and Mitchell Streets that are accessed from Ontario Street contain approximately **455** municipal trees and understory.

In June 2019 both Mr. Steve McAuley, Director of Community Services, and our councillor were apprised of the Gypsy Moth caterpillar infestation on Ontario Street and in Port Franks. Nothing was done to address this problem and as a result when the egg masses hatched this year, the caterpillar infestation grew exponentially.

A female Gypsy Moth can lay 600 eggs. Therefore, it is imperative that the Municipality of Lambton Shores act **immediately** in concert with Ontario Street residents to remove as many caterpillars as possible before they cocoon, trap as many male moths as possible during the mating phase, and lastly remove the egg masses from trees in the fall.

When interviewed by Scott Millar, CTV news, on June 16, 2020, about the caterpillar infestation in Port Franks, Mayor Weber said, "municipal property is what the Municipality has always looked after." Given this, we are asking Council to discuss this issue as an Emergent Issue during the Council Meeting on Tuesday, June 23, 2020.

We are hopeful that Council will act immediately to fulfill their responsibility as stewards of municipal lands and to work in concert with us to deal with this infestation. Asking for a staff

report and/or policy statement before proceeding delays any possible action for two or three months. This is time that we do not have, if we wish to reduce next year's caterpillar population and save as many trees as possible.

In order to move quickly, we would suggest that two or three summer students be hired **this week** to tape municipal trees, engage in the daily removal of caterpillars, hang pheromone traps, remove and dispose of the moths caught in these traps, and later in the fall remove the egg masses.

Attached you will find photos of some of the defoliated and damaged trees on Ontario Street. Also attached are photos of damaged trees at the Community Centre.

Respectfully submitted,

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