

Tuesday, September 03, 2019

Subject: Town of Pelham Gypsy Moth Control Policy Development

Recommendation:

BE IT RESOLVED THAT Council receive Report #2019-0053-Public Works; and THAT no final policy decision be made until after public feedback is received at the October 15, 2019 topic-specific public meeting.

Background:

The Town of Pelham has experienced two Gypsy Moth infestation cycles in the last fifteen years. In 2008, Council directed staff to develop a policy and procedure to address the Gypsy Moth infestation. The 2009 CAO 04-09 report to General Committee stated that "Staff struggled with the development of such a policy" and that "The severity of the infestation of the moth will dictate the policy and procedure that the Town would implement in any given year".

In 2009 the Town of Pelham sprayed approximately 105 acres made up of 255 private and public properties. The 2009 spray program was funded through the 2008 surplus and the Town's Working Funds Reserve. After 2009, the gypsy moth population collapsed due to a number of factors including the age of the infestation; the presence of a virus and fungus that affected the caterpillars; and the acreages sprayed in 2008 and 2009.

In 2017 staff received notification from residents surrounding Hillcrest Park on Pancake Lane and Blackwood Crescent that the Gypsy Moth population was returning to the area. The July 24th 2017 report to Council "Canker Worm and Gypsy Moth Caterpillars in Pelham Trees" requested the amount of \$10,000.00 to be included for pest treatment in the Facilities & Beautification Operating Budget for 2018. In 2018, the cost of spraying Hillcrest Park which included 6.47 acres of Public Property and 2.77 acres of private property was \$7,319.10+hst. Private landowners were not asked to

contribute to the cost of spraying.

Staff continued to receive reports from property owners of severe levels of infestation throughout the spring and summer of 2018. An operating budget of \$25,000.00 was approved by Council in April of 2019 to administer an aerial spray program and treat municipally-owned lands and unopened road allowances. It did not include a provision for the spraying of privately owned property in the urban or rural area. After Gypsy Moth surveys were completed and the extent of the infestation became known, By-law #4106 (2019) was passed providing staff the authority to spray for the Gypsy Moth on public and private land where the infestation was found to be severe. The funding that enabled the Town to spray in 2009 and 2018 without contribution from private land owners was not available in 2019 because of the status of the Town's reserves. Council authorized the cost of spraying private property to be evenly distributed amongst private properties located within the spray blocks, as there was no effective way to opt-out and doing so would result in "free riding".

Analysis:

Although the 2019 Gypsy Moth Spray Program was implemented under tight timelines it was successful in reducing the population of Gypsy Moth caterpillars and limiting the defoliation of highly valued mature trees within the spray blocks. It is estimated that the spray protection was very good to excellent, especially due to the initially high Gypsy Moth populations in these areas. It is difficult to state the overall success of the program until egg mass surveys can be completed in the fall of 2019, but through citizen reports and staff observations, high populations of Gypsy Moths and severe defoliation of trees were apparent throughout untreated areas of Fenwick and Fonthill.

The process of issuing invoices to benefitting property owners also brought criticism of the program from homeowners within the spray blocks. Lessons learned from this year's program will be integrated in future policies and procedures should they be undertaken by the Town.

Gypsy Moth infestations have affected several larger municipalities in southern Ontario including the Cities of Hamilton, Mississauga, Burlington and Toronto on approximately the same frequency as the Town of Pelham.



When developing the alternatives listed below, the gypsy moth spray programs of these municipalities were investigated as staff were unable to find a municipality of similar size and urban/rural make up as Pelham providing Gypsy Moth Control.

Because eradication of the Gypsy Moth population is not achievable, the objective of developing a Gypsy Moth Control policy is to maintain a tolerable population at any point in time and make sure that outbreaks are properly controlled. It has been identified as a Best Practice to complete annual surveys to monitor populations of Gypsy Moths and other defoliating pests to allow for targeted control programs.

Several potential alternatives are listed below and represent approaches taken by other municipalities with consideration of the urban and rural make-up of our community. One alternative that was not included in the list below for consideration was the blanket spraying of the entire 126.43km² land area of the Town which would have an estimated cost of \$4,500,000.

Financial Considerations:

The total cost of the 2019 Municipal Spray Program was \$89,388.82 +HST. This included \$5,106.10 for consulting and coordination of rural property spraying, \$4,865.74 for consulting and coordination of the Town of Pelham's spray program, and \$79,416.98 for the aerial spraying of 161.2 acres of properties identified as moderate to severely infested. The estimated costs are included in the alternatives listed below.

Alternatives Reviewed:

Alternative 1 – The Town of Pelham completes annual Gypsy Moth infestation surveys of Municipal Property and **sprays only municipal property with moderate to severe infestation**. This alternative would be funded through the general tax base. Property owners would be responsible for the cost of coordinating and spraying for the Gypsy Moth on private properties.



Pros:

- Spraying only Municipal Property allows for greater cost certainty and budget projection.
- Urban and Rural property owners would be treated equitably.
- Reduction in staff time developing and coordinating residential spray programs.
- Unused budget during low population cycles could be placed in reserve for control measures during infestation cycles.
- Cost of spraying would be minimized: This approach would require an estimated annual budget between \$20,000 and \$60,000 depending on the gypsy moth population and control measures required in a given year. Between infestations it is best practice to budget for annual surveys to monitor populations of Gypsy Moths and other defoliating pests.

Cons:

- Municipal properties could be re-infested from neighboring properties that do not attempt control measures.
- Private properties owners who do spray their trees could be re-infested from neighboring properties that do not attempt control measures.
- Increased cost to property owners for treatment, removal and replacement of trees.
- Potential loss of urban canopy.

Alternative 2 – The Town of Pelham completes annual Gypsy Moth infestation surveys and **sprays the entire urban boundary** when infestation levels meet moderate to severe limits in a defined percentage of urban acreage. This alternative would be funded through the general tax base.

Pros:

- Gypsy Moth populations will be controlled within the entire urban canopy. The approximate area within the Urban Boundary is 1040 Hectares.

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- A program of this scale would receive a cheaper rate per Hectare for aerial spraying.
- Reduction in complaints of program exclusion.

Cons

- Non-targeted spraying results in the inefficient use of funds and unnecessary application of pesticide to pavement, roofs and other large areas without trees or presence of Gypsy Moths.
- Extensive traffic control and safety measures are required beyond the capabilities of the Public Works Department.
- Rural property owners are required to pay out of pocket for spraying private property
- Properties boarding the urban boundary may become re-infested from rural properties that do not attempt control measures.
- Cost of spraying: the cost of spraying the entire urban boundary (approximately 1040ha) would cost \$911,040 based on information received for spray programs of this scale. Additional costs for police assistance for road closures, and notification requirements are unknown at this time.

Alternative 3 – The Town of Pelham completes annual Gypsy Moth infestation surveys and **sprays public properties and private properties, within or adjacent to the urban boundary** with moderate to severe infestation. This alternative would be funded through the general tax base.

Pros

- Targeted spraying for Gypsy Moth is the most efficient method for controlling populations.
- The urban canopy provides a social and environmental benefit to all residents and visitors.
- Including properties adjacent to the Urban Boundary would reduce re-infestation from rural properties that do not attempt control measures.
- No requirement for individual invoicing.



- Cost of spraying up to 200 acres: This approach would require an estimated annual budget between \$20,000 and \$125,000 depending on the Gypsy Moth population and control measures required in a given year. Between infestations it is best practice to budget for annual surveys to monitor populations of Gypsy Moths and other defoliating pests.

Cons

- It is difficult to estimate the annual budget for spraying based on infestation levels unless it is limited to a defined number of acres. This could mean that without additional budget allocation some properties could be excluded.
- Rural property owners adjacent to the urban boundary may be included in the program while others are left to fund their own spraying.

Alternative 4 - The Town of Pelham completes annual Gypsy Moth infestation surveys and **sprays public properties and private properties, within or adjacent to the urban boundary** with moderate to severe infestation **with the cost of the spraying of private properties being equally distributed amongst the tax base within the urban boundary.** In this alternative the cost of surveying and spraying of public property would be funded by the general tax base while coordination and spraying of private property would be funded by only those property owners within the Urban Boundary.

Pros

- Targeted spraying for Gypsy Moth is the most efficient method for controlling populations.
- Including properties adjacent to the Urban Boundary would reduce re-infestation from rural properties that do not attempt control measures.
- No requirement for individual invoicing.



- Cost of spraying up to 200 acres: this approach would require an estimated annual budget between \$20,000 and \$125,000 depending on the gypsy moth population and control measures required in a given year. Between infestations it is best practice to budget for annual surveys to monitor populations of Gypsy Moths and other defoliating pests.

Cons

- It is difficult to estimate the annual budget for spraying based on infestation levels unless it is limited to a defined number of acres. This could mean that without additional budget allocation some properties could be excluded.
- Rural property owners adjacent to the urban boundary may be included in the program while others are left to fund their own spraying.
- We do not have a list of properties inside the urban boundary.

Alternative 5 – The Town of Pelham completes annual Gypsy Moth infestation surveys and **sprays private and public properties throughout the Urban and Rural areas** with moderate to severe infestation **with the cost being equally distributed throughout the entire Town's tax base**. This alternative would be funded through the general tax base.

Pros

- All property owners within the Town of Pelham would receive the same level of service.

Cons

- It is difficult to estimate the annual budget for spraying based on infestation levels unless it is limited to a defined number of acres. This could mean that without additional budget allocation some properties could be excluded.
- Cost of spraying up to 200 acres of urban land and 400 acres of rural property: this approach would require an estimated annual budget between \$20,000 and \$350,000.

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Alternative 6 – The Town of Pelham completes annual Gypsy Moth infestation surveys and **sprays only municipal property** with moderate to severe infestation. The Town of Pelham subsidizes the coordination and administration of spraying private properties, while the owners are responsible for organizing and funding the spraying of neighborhoods.

Pros

- Engaging the public to determine and organize their method of Gypsy Moth control increases the level of community participation and awareness of the problem.
- Spraying only Municipal Property allows for greater cost certainty and budget projection.
- Urban and Rural property owners would be treated equitably.
- Significant reduction in the overall program cost: this approach would require an estimated annual budget between \$20,000 and \$80,000 depending on the Gypsy Moth population and control measures required in a given year. Between infestations it is best practice to budget for annual surveys to monitor populations of Gypsy Moths and other defoliating pests.

Cons

- Municipal properties could be re-infested from neighboring properties that do not attempt control measures.
- Consensus within neighborhoods might not be achievable.
- Cost of private spraying may increase depending on scale.

Strategic Plan Relationship: Strong Organization

The urban forest and rural woodlots are vital to increasing the quality of life within the Town of Pelham and are assets that set us apart from neighboring municipalities.

Other Pertinent Reports/Attachments:

Control of Gypsy Moth Outbreak in the Town of Pelham - Monday, April 01, 2019

2019 Town of Pelham Gypsy Moth Infestation - Tuesday, April 23, 2019

From the Department of



2019 Gypsy Moth Cost Funding Strategies and Cost Recovery Option -
Tuesday, May 21, 2019

Additional Budget Request for 2019/2020 Gypsy Moth Program Coordination
– Monday August 12, 2019

Consultation:

City of Burlington – Urban Forestry

City of Hamilton – Forest Health

Legal Consultation, If Applicable:

N/A

Prepared and Recommended by:

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Approved and Submitted by:

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