

Subject: 2019 Gypsy Moth Monitoring Program Report
and 2020 Gypsy Moth Management Program**Recommendation:**

BE IT RESOLVED THAT Council receive Report # 2020-0021 2019 Gypsy Moth Monitoring Report and 2020 Gypsy Moth Management Program Report for information; and

THAT Council approve the extension of Contract No. 2019-PW-19 to Lallemand Inc/Bioforest to include the services required to develop and administer an aerial spray and public volunteer program, estimated at \$35,000.00 + HST; and

THAT Council approve the use of Zimmer Air Services to conduct the 2020 aerial spray program; and

THAT Committee recommend that Council direct staff to conduct a gypsy moth aerial spray program as described in Option 2, utilizing the approved budget of \$150,000.

Background:**2019 Gypsy Moth Monitoring Program**

In November 2019, Lallemand Inc./BioForest was awarded Contract No. 2019-PW-19 to develop Gypsy Moth monitoring plots, conduct egg mass density surveys and provide a report to the Town of Pelham including:

- 1) An assessment of the gypsy moth infestation,
- 2) Forecasts of likely defoliation for these areas in 2020,
- 3) Short and Long Term management options, and
- 4) Specific recommendations for management in the affected areas for 2020.

The 2019 Gypsy Moth Monitoring Program Report has been added as an attachment to this report as Appendix A.

The report states that, based on the data collected during January of 2020, the Town is likely to experience severe levels of defoliation throughout Fenwick, the

northwest area of Fonthill, as well as, in forested areas south of Fenwick.

Numerous small blocks were sprayed in the spring of 2019, including many private rural properties. In some cases, it appears to have reduced population levels and prevented severe defoliation, but in the majority of cases, high egg mass densities still remain. The lack of efficacy could be the result of spray timing, weather conditions, or populations migrating from nearby untreated areas.

The report confirms the need to continue with an aerial spray program in 2020 to manage the gypsy moth population and reduce defoliation.

Based on the gypsy moth data collected an estimated 1185 hectares (ha) have been recommended for aerial spraying. The available budget (net of program administration costs of \$40,000) allows for approximately 125 ha based on an estimated unit cost provided by Zimmer Air Services of \$880 per ha.

Committee Report #2020-0017

During the February 18th, 2020 Committee of the Whole meeting, Council was presented with the preliminary findings from the Bioforest 2019 Gypsy Moth Monitoring Program Report, as well as, four (4) options to consider regarding the management of gypsy moth populations in 2020.

The options provided for gypsy moth management are summarized below:

- 1) Take no action on trees and execute a strong public education program.
- 2) Implement a targeted aerial spray program of approximately 33 ha of municipal property and 90 ha of private property with a cost of \$150,000.
- 3) Implement a large scale, extensive aerial spray program of approximately 1185 ha of urban and rural property with a cost of \$1,040,000.
- 4) Implement a targeted aerial spray program within or adjacent to the urban boundaries with an estimated treatment area of 574 ha with an estimated cost of \$500,000.

The Committee of the Whole Report #2020-0017 has been added as an attachment to this report as Appendix B.

Analysis:

BioForest was founded in 1996 by two former Canadian Forest Service Insect and Disease Rangers. Since its inception the company has specialized in commercial and urban forest pest management. BioForest has experience providing gypsy moth consulting services to the following municipalities: Oakville, Mississauga, Toronto, Hamilton, Burlington, London, Barrie, and Sarnia.

BioForest was retained by the Town of Pelham through the competitive bid

submission process in the fall of 2019. As a company, they have the experience, qualifications, specialized staff and hands on knowledge of the current gypsy moth infestation in the Town of Pelham.

Following the successful completion of the 2019 Gypsy Moth Monitoring Program and based on their performance, past experience working for other municipalities in Southern Ontario, and direct field knowledge of the infestation in the Town of Pelham, staff recommends the extension of Contract NO. 2019-PW-19 awarded to Lallemand Inc./BioForest to include: 1) The development of treatment areas with the aerial spray applicator; 2) Hold two (2) Public open houses regarding gypsy moth biology; 3) Pre-aerial spray larval emergence and leaf development assessments; 4) Aerial spray daily weather monitoring; 5) Post-aerial spray efficacy assessment (ADAM kit); 6) Defoliation surveys of host species once feeding has ceased; and 7) Technical report of findings.

The cost of the services described above is estimated at \$25,000.00 (based on the quotation received from Bioforest (See Appendix C). Staff has reviewed the quotation provided by BioForest to undertake the next phase in the 2020 gypsy moth management program, and can confirm that the price, and level of service is in line with industry standards. In addition, staff has requested Bioforest to oversee a public volunteer program which will assist staff in gathering information to assist in future spray programs. The estimated cost to complete this additional task is between \$5,000 and \$10,000 and will be a provisional item included as part of their assignment.

Additional costs associated with program administration including obtaining the necessary permits and approvals, program advertising and education, the preparation and presentation of public open house materials, and completing the necessary traffic control and program project management is estimated at \$5,000. These services will be provided by Town staff.

As a result, it is estimated that the total administration of the program in 2020 will be approximately \$40,000.

Retaining a forestry consultant to provide the service described above through the request for proposal process was considered; however, time is of the essence and staff are concerned that time required to complete the process, develop spray blocks and communicate the areas that will and will not be treated to the public, will not leave private land owners the time required to organize their own pest management services if they so desire.

In addition, the implementation of aerial spray application is highly specialized. Low-level, aerial spraying over residential areas requires the use of a double-engine helicopter, as well as, federal and provincial permits. Staff has explored options for aerial spray service providers, including contacting other municipalities that have undertaken aerial spray programs. Staff has confirmed that there is only one known service provider in eastern Canada. As a result, it is necessary to enter into a non-competitive procurement contract with Zimmer Air Services as was done in 2009 and 2019 to complete the aerial application for gypsy moth control.

Staff received an estimated budget price for aerial application of Btk from Zimmer Air Services of \$880.00 per ha; however, this figure is based on large, uniform spray blocks. Pricing will be determined once spray blocks are developed. Attempts will be made to increase the efficiency when designing the spray blocks and treatment areas to keep the unit price as low as possible.

The Committee of the Whole Report #2020-0017 (See Appendix B) included four options for the management of the gypsy moth infestation in 2020. Based on the approved budget of \$150,000 to address the gypsy moth infestation in 2020, staff's recommendation is to proceed with Option 2.

Option 2 includes the implementation of a targeted aerial spray program that would have the greatest impact on the gypsy moth population, within the limits of the existing budget.

Public Works Policy S801-14 will be used to guide the decision making process in the development of spray blocks to treat sensitive municipal property including; parks, cemeteries and environmentally sensitive areas. The treatment program will also focus on areas where tree health and vigor are impacted by the urban environment. Trees that are stressed are more vulnerable to defoliation and possible tree mortality. Urban trees are subject to a wide variety of disturbance factors that can increase susceptibility to pests including: road construction, utility line clearing, sidewalks, driveways, poor soil nutrients, soil compaction, and high salinity. Repeated defoliation of urban trees by the gypsy moth are more likely to experience higher mortality rates than trees in rural woodlots.

Staff have reached out to other 12 local area municipalities and only West Lincoln has budgeted for gypsy moth control measures in 2020. The approved budget for West Lincoln to address the gypsy moth issue is \$7,000. It is the opinion of staff that without a widespread coordinated spray program with neighboring municipalities the most practical approach is to complete a spray program within the approved budget allotment and focus on the most sensitive areas.

Financial Considerations:

Based on the expected level of infestation, and the requirement to complete as much aerial spraying as possible within the approved budget, staff is recommending that the fall egg mass surveys be completed in January of 2021 and the costs associated with the surveys be included in the 2021 budget. The estimated cost to complete the egg mass surveys in the fall is approximately \$20,000 (excluding applicable taxes).

The financial considerations for 2020 include the development of a 2020 spray program, public communication and education programs, advertisement of the 2020 spray program, obtaining permits through the Ministry of Environment, pre and post spray assessments, spray efficacy assessments, defoliation surveys, and the preparation of a summary report regarding the 2020 spray program. The estimated cost to complete the above work is \$40,000 (including Bioforest's contract extension, staff resources, permits and approvals and advertising programs).

As a result, the available budget to complete the actual spray in accordance with Option 2 is approximately \$110,000 (excluding applicable taxes). Based on the estimated unit price of \$880 per ha provided by Zimmer Air Services this represents a spray area of approximately 125 ha.

An aerial spray program to manage the gypsy moth population and reduce defoliation, with the prioritization of Municipal property and highly susceptible trees as described in Option 2, can be completed within the available budget allotment.

Alternatives Reviewed:

Options 1 through 4 as described in Committee Report #2020-17 were reviewed. Option 2 can be completed within the approved budget of \$150,000 and will protect municipal trees, as well as, the most susceptible urban trees from defoliation.

Retaining a Forestry Consultant for the services described above through the competitive bid process was reviewed.

Strategic Plan Relationship: Grow Revenue - Promote Cultural Assets and Protect Environment

The tree canopy within the municipal boundary is vital to increasing the quality of life within the Town of Pelham, and is an asset that sets the Town apart from neighboring municipalities.

Other Pertinent Reports/Attachments:

Appendix A – 2019 Gypsy Moth Monitoring Program Report
Appendix B - Report #2020-0017
Appendix C - Lallemand Inc./BioForest Quotation

Consultation:

Lallemand Inc/BioForest provided; 2019 Gypsy Moth Monitoring Program Report and treatment area estimates.

Zimmer Air Services provided the estimated cost per hectare for aerial spraying.

Prepared and Recommended by:

Jason Marr, P. Eng
Director of Public Works

Approved and Submitted by:

David Cribbs, BA, MA, JD, MPA
Chief Administrative Officer