




CITY OF HAMILTON
PUBLIC WORKS DEPARTMENT
Environmental Services Division

TO:	Chair and Members Public Works Committee
COMMITTEE DATE:	January 10, 2022
SUBJECT/REPORT NO:	2022 <i>Lymantria dispar dispar</i> (LDD) Moth Treatment Plan (PW21069(a)) (City Wide)
WARD(S) AFFECTED:	City Wide
PREPARED BY:	Caleb Gibbons (905) 546-2424 Ext. 2566
SUBMITTED BY:	Cynthia Graham Acting Director, Environmental Services Public Works Department
SIGNATURE:	

RECOMMENDATIONS

- (a) That the single source procurement of Zimmer Air Services Inc. for the aerial treatment of *Lymantria dispar dispar* (LDD) Aerial Control program, pursuant to Procurement Policy #11 – Non-competitive Procurement be approved; and,
- (b) That the Mayor and City Clerk be authorized and directed to execute the contract and any ancillary documents between the City of Hamilton and Zimmer Air Services, for the aerial treatment of *Lymantria dispar dispar* (LDD) in a form satisfactory to the City Solicitor;
- (c) That the project budget previously approved through Report PW21069 be amended from \$3,500,000 to \$2,000,000 for 2022 and \$1,000,000 for 2023, to be funded from the Tax Stabilization Reserve (#110046);
- (d) That staff be directed to return to Council with an Information Report in Q1 2023 detailing the success of the 2022 treatment program and provide an update on further treatment applications to be completed in 2023;
- (e) That the Outstanding Business List Item Respecting “*Lymantria dispar dispar* (LDD) Program” be identified as completed and removed from the Public Works Outstanding Business List.

OUR Vision: To be the best place to raise a child and age successfully.

OUR Mission: To provide high quality cost conscious public services that contribute to a healthy, safe and prosperous community, in a sustainable manner.

OUR Culture: Collective Ownership, Steadfast Integrity, Courageous Change, Sensational Service, Engaged Empowered Employees.

EXECUTIVE SUMMARY

By-law 08-070 *Lymantria dispar dispar* (LDD) Moth Infestation directs the General Manager of Public Works to deem any areas with LDD egg mass counts over 2,500 per hectare a public nuisance. This By-law also authorizes the General Manager of Public Works to implement an aerial spray program using biological control agent *bacillus thuringiensis 'kurstaki'* (Btk).

In 2021, LDD was observed in the City of Hamilton (City) at varying levels of infestation, which resulted in the defoliation of public and private trees; thus, negatively impacting the City's tree canopy and causing a nuisance to residents. Significant and repeated defoliation of the many tree species will likely result in mortality.

At the December 6, 2021 General Issues Committee, Report PW21069 was approved, recommending:

- (a) That the amending By-law, attached as Appendix "A" to Report PW21069, being a By-law to Amend By-law 08-070, respecting Gypsy Moth Infestation, which has been prepared in a form satisfactory to the City Solicitor, be enacted and effective immediately;
- (b) That, pursuant to By-law 08-070, respecting Gypsy Moth Infestation, staff be directed to implement a *Lymantria dispar dispar* (LDD) Aerial Control program involving aerial application of the biological control agent *bacillus thuringiensis 'kurstaki'* (Btk);
- (c) That infested areas which exceed 2,500 egg masses per hectare, as identified in By-law 08-070 as the treatment threshold, be the areas to receive aerial application of the biological control agent *bacillus thuringiensis 'kurstaki'* (Btk);
- (d) That the direction provided to staff in Closed Session, as detailed in confidential Appendix "B" to Report PW21069, respecting *Lymantria dispar dispar* (LDD) Aerial Control program, be approved;
- (e) That Appendix "B" to Report PW21069, respecting *Lymantria dispar dispar* (LDD) Aerial Control program, remain confidential until after a contract has been executed with Zimmer Air Services Inc. or negotiations have ceased with no intent of executing a contract with Zimmer Air Services Inc.; and
- (f) That staff be directed to report back to Public Works Committee in Q1 of 2022 detailing the terms of the agreement with Zimmer Air Services Inc., the recommended aerial treatment areas and to seek approval to execute the contract.

In the fall of 2021, Urban Forest Innovations were engaged to complete egg mass surveys using two common survey methods in order to determine the number of LDD Moth egg masses per hectare. The completed surveys had a total of 490 plots with between 5 and 19 trees per plot and found that 47% of those plots exceed 2500 egg masses per hectare. The data collected from the egg mass surveys was then added to a spatial layer in order to determine areas of public trees that would be suitable for aerial treatment. Those areas are recommended for a spray program in 2022 and are outlined in “Appendix “A” to Report PW21069(a).

Staff met with Zimmer Air Services and agreed to a price per hectare for an aerial treatment program based on a map of locations where aerial spraying is required. The agreement between Zimmer Air Services and the City of Hamilton to complete the 2022 and 2023 aerial programs will be executed following Council approval of Report PW21069(a).

Alternatives for Consideration – N/A

FINANCIAL – STAFFING – LEGAL IMPLICATIONS

Financial: The project budget that was previously approved in Report PW21069 be amended from \$3,500,000 to \$2,000,000 for 2022 and from \$500,000 to \$1,000,000 for 2023 for a total cost of \$3,000,000 over the 2-year aerial spraying program, funded from the Tax Stabilization Reserve (#110046).

Staffing: N/A

Legal: N/A

HISTORICAL BACKGROUND

LDD Moth is an invasive species that is known to be a significant defoliator of primarily, but not limited to, hardwood tree species common in Southern Ontario. Report PW21069 outlines the biology and history of the pest in Ontario, as well as outlines the legislation and use of Btk as a control agent.

Btk is a soil-borne bacterium which has been used worldwide for over 30 years as a biological control agent. Health Canada's Pest Management Regulatory Agency (PMRA) permit the application of Btk as a “restricted” product, and the Canadian General Standards Boards permits the use of Btk in Organic Productions Systems for crop production (CAN/CGSB-32.311-2020).

In accordance with the Ontario Pesticide Act, Ontario Regulation 63/09, a licensed exterminator is required to post signage that details the nature of the work being

performed on site. Given the large-scale nature of the proposed aerial application of Btk, there is a mechanism within the Act whereby an applicant can perform an alternative notification of pesticide use. This mechanism was implemented for the 2018/2019 spray programs through a comprehensive communications strategy, which included: mail outs to impacted properties as well as social and print media outreach and information. Staff also maintained information about the program on the City webpage, which was updated regularly. This same approach will be used for the 2022 and 2023 spray program.

LDD egg mass surveys must be completed when deciduous trees species drop their leaves in the fall. Egg mass surveys are undertaken as part of an Integrated Pest Management (IPM) program to monitor population changes over time. Staff engaged Urban Forest Innovations who completed surveys throughout the City in the late fall of 2021. This provided staff with the data to determine recommended treatment areas for aerial application of Btk in 2022 as per Appendix “A” to Report PW21069(a) - LDD Treatment Plots 2022. Staff will continue to monitor LDD populations throughout the spring and summer of 2022 and 2023 as part of an ongoing IPM program following aerial treatment in the spring of 2022.

POLICY IMPLICATIONS AND LEGISLATED REQUIREMENTS

By-law 08-070 is in place to address LDD infestations as a nuisance, with City staff being given authority to treat with Btk when egg mass quantities exceed 2,500 per hectare.

Transport Canada has only approved twin engine helicopters for use in the application of Btk over built-up areas, as per Canadian Aviation Regulations Standard 722 – Aerial Work. This type of work also requires the air operator to apply for a Special Flight Operations Certificate for aerial work. Staff have confirmed that the vendor Zimmer Air Services Inc., identified in Recommendations (a) and (b) of Report PW21069(a), is the sole vendor in Ontario that has this certification and equipment required to complete the work.

RELEVANT CONSULTATION

The following internal groups were consulted and are supportive of the recommendations in Report PW21069(a):

Corporate Services Department, Legal and Risk Management Division;
Corporate Services Department, Financial Planning, Administration & Policy Division,
Finance & Administration Section
Corporate Services Department, Financial Services and Taxation, Procurement Section;

Additionally, the affected Ward Councillors were sent mapping and proposed spray information for their consideration in December 2021.

ANALYSIS AND RATIONALE FOR RECOMMENDATION

In November / December of 2021, staff engaged a vendor through a Request for Quotations Policy 5.2 procurement process in order to complete LDD Moth egg mass surveys in the City of Hamilton. Areas for egg mass surveys were identified by overlaying maps of previous years' egg mass surveys, aerial treatment locations in 2007 and 2018/2019, and resident concerns from 2021.

Using the egg mass survey results completed by a contractor, staff analysed the results to determine locations that would meet the threshold for aerial treatment. The criteria to be selected for aerial treatment included the egg mass survey results but also confirming the ownership of the trees to be public, and that the number of trees found warrant an aerial spray as opposed to ground spraying or tree banding.

The information from the data collection was used to create Appendix "A" to Report PW21069(a) - LDD Treatment Plots 2022 which found that high to severe levels of infestation were found in areas of Hamilton, Dundas, Ancaster, Flamborough, Waterdown and Glanbrook. Based on these findings, staff identified approximately 869 hectares of land to receive aerial treatment in May/June of 2022.

Following approval of Report PW21069 at the December 6, 2021 General Issues Committee, staff met with Zimmer Air Services Inc. to review the treatment areas and came to an agreement for the aerial application program in 2022. The agreement outlines the roles and responsibilities of Zimmer Air Services Inc. to complete the aerial application of Btk to approximately 1850 hectares (2 applications over 925 hectares) in 2022. The agreement with Zimmer Air Services Inc also confirms the pricing for aerial treatment in 2023 for approximately 925 hectares.

ALTERNATIVES FOR CONSIDERATION

N/A

ALIGNMENT TO THE 2016 – 2025 STRATEGIC PLAN

Community Engagement and Participation

Hamilton has an open, transparent and accessible approach to City government that engages with and empowers all citizens to be involved in their community

Economic Prosperity and Growth

Hamilton has a prosperous and diverse local economy where people have opportunities to grow and develop.

Healthy and Safe Communities

Hamilton is a safe and supportive City where people are active, healthy, and have a high quality of life.

Clean and Green

Hamilton is environmentally sustainable with a healthy balance of natural and urban spaces.

Built Environment and Infrastructure

Hamilton is supported by state-of-the-art infrastructure, transportation options, buildings and public spaces that create a dynamic City.

Culture and Diversity

Hamilton is a thriving, vibrant place for arts, culture, and heritage where diversity and inclusivity are embraced and celebrated.

Our People and Performance

Hamiltonians have a high level of trust and confidence in their City government.

APPENDICES AND SCHEDULES ATTACHED

Appendix “A” to Report PW21069(a) – LDD Treatment Plots 2022

Appendix “B” to Report PW21069(a) – Hamilton Zimmer Aerial Moth Spraying Service Contract 2022