




Hamilton

INFORMATION UPDATE

TO:	Mayor and Members City Council
DATE:	March 14, 2019
SUBJECT:	Gypsy Moth Control Program (ES19008) (City Wide)
WARD(S) AFFECTED:	City Wide
SUBMITTED BY:	Craig Murdoch Director, Environmental Services Public Works Department
SIGNATURE:	

This Information Update is to provide the Mayor and Members of Council with the results of the first-year aerial spray program for the control of Gypsy Moth as well as provide information regarding the upcoming second year of Gypsy Moth monitoring and control.

Background

Forestry staff began monitoring for Gypsy Moth in the fall of 2016. Report PW17088 was approved by Council on November 22, 2017 which recommended a 2-year control program. This spring we are entering year 2.

The Gypsy Moth is an aggressive, invasive, non-native pest which will significantly impact the City's tree canopy if the population is not managed properly. The moth left unchecked causes complete tree defoliation and with successive years of tree defoliation, tree mortality could occur and result in large areas with decreased canopy cover.

In May and June of 2018, aerial spraying to control invasive Gypsy Moth was completed in areas of Ancaster, Dundas, Flamborough, West Hamilton, and the Hamilton Mountain (Wards 1, 8, 12, 13, & 14). A total of 2,151 hectares was treated with the biological control agent *Bacillus thuringiensis var. 'kurstaki'* (Btk). Following the aerial spray applications, a sample of trees within the treatment area was assessed to determine the success of the treatments. Assessments were completed within 24 hours of the aerial spray applications by testing branch samples in a lab to determine whether Btk was present and at a level that is necessary for control. All branches tested following the 2018 aerial spray applications showed sufficient presence of Btk to be effective. In July of 2018, 138 trees within the spray areas were tested for levels of defoliation. It was

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found that 90% of these trees had less than 5% defoliation levels. These assessments revealed that the program was highly successful.

In late 2018, Gypsy Moth egg mass surveys and a report was completed to provide Forestry staff with data and recommendations to inform the planning process for controlling the Gypsy Moth populations in 2019.

Results of the 2018 Gypsy Moth Egg Mass Surveys

Gypsy Moth monitoring is performed by surveying egg masses in the fall and winter months. An increased quantity of egg masses strongly correlates with increased pest activity in the following spring.

The 2018 egg mass surveys and report showed that the overall defoliation forecast for the City of Hamilton will be low except for a few areas which showed high to severe potential defoliation results due to the number of egg masses found. The report recommended these areas of high to severe potential defoliation be treated in 2019.

City of Hamilton staff has determined that 580 hectares require treatment with Btk in 2019 based on areas in Ancaster, Greensville, Waterdown, and Carlisle exceeding the egg mass threshold.

The spray area does not cover large privately managed woodlots, major highways, or conservation lands. These areas will continue to be the responsibility of the property owners.

2019 Gypsy Moth Control Program

By-law #08-070 states that the infested areas which exceed 2,500 egg masses per hectare are deemed a matter of public nuisance. These areas are then prioritized to determine which areas will receive aerial application of the biological control agent Btk.

Based on the results from the 2018 Egg Mass Survey Report, aerial spray and tree banding programs will be implemented to control populations of Gypsy Moth on public and private property. For 2019, 580 hectares of land will be treated within the City of Hamilton because they exceeded 2500 egg masses per hectare (see Appendix A). The treatment area for 2019 overlaps the 2018 treatment area in the Greensville neighbourhood along the escarpment and the Ancaster neighbourhood bordered by Sulphur Springs Road and Jerseyville Road. Although these areas were sprayed in 2018, the egg mass surveys showed high defoliation results and the areas require further treatment.

The timing of the aerial spray will be in May and June of 2019. The specific spray dates and times will be determined closer to that time period as specific weather conditions are required for a successful application.

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Aerial sprays will be conducted using a helicopter with the bio-pesticide Foray 48B. The active ingredient in Foray 48B is the naturally occurring bacterium *Bacillus thuringiensis var. kurstaki*. (Btk). There will be two spray applications to the treatment areas due to the nature of the insect's lifecycle.

Approximately one month after the spray application the level of defoliation of the trees will be measured within the aerial spray blocks to assess efficacy of the treatment.

In addition to the spray application, an area in the Westdale neighbourhood will have approximately 23 mature Oak trees banded at 1.5 metres above ground. The band is a physical barrier that the moths, in their caterpillar stage, will stick to as they climb the tree and inhibits them from feeding on the leaves.

An extensive communications plan has been put in place and will become more visible closer to the spray dates. This plan includes a postcard notification for homeowners living within the spray area, targeted newspaper ads in the Flamborough Review, Ancaster News, Dundas Star, and Hamilton Spectator. Additionally, information will be posted on the City's Instagram and Twitter accounts.

There has been a webpage set up at www.hamilton.ca/qvpsymoth where residents can find information about the program and input their address to determine if they are within the aerial spray boundaries. Property owners are encouraged to monitor trees on their property and we encourage them to contact the City via: Forestry@hamilton.ca, askCITY@hamilton.ca, or by phone to 905-546-2489 if they detect Gypsy Moth or high levels of tree defoliation. These calls are being tracked to help us identify impacted areas.

Next Steps for the remainder of 2019 and into 2020

Due to the nature of Gypsy Moth, it is foreseeable that future monitoring will be necessary to maintain an acceptable population level. This monitoring may include 2019 Fall and Winter egg mass surveys. These surveys will provide staff with important information to plan for 2020 and determine how effective the 2019 spray program was.

APPENDICES AND SCHEDULES ATTACHED

Appendix "A" – Map of 2019 Gypsy Moth Aerial Spray Locations

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