

City of Guelph 2021 LDD Moth Egg Mass Surveys

Overview

BioForest conducted LDD moth egg mass surveys at 100 roadway plots and in 27 parks across the City of Guelph in November 2021. Roadway plots consisted of 5-tree plots and involved inspections of street trees only. Oaks were selected for survey, as they represent the primary host of LDD moth, along with other species that are known to host LDD, including apple, birch, basswood/linden, and Norway maple. Plot trees were inspected on all sides for egg masses, which were identified as new or old and measured, where possible. Park surveys consisted of walkthrough surveys along paths or off-trail transects. All tree species present along walkthrough paths were inspected for new egg masses, which were measured, where possible.

Summary of Findings

Roadway plot data revealed that egg mass counts across the city were low overall. In most cases, roadway plot data indicated that the areas surveyed would experience nil or light-to-moderate defoliation in 2022. There were isolated areas of higher egg mass counts in the areas of Downey Road, Edinburgh Road (north of College Avenue), and Tanager Drive. Roadway plot data indicated that 68.6% of egg masses observed were new and 40.9% were large (>25 mm). In 2020, 96.5% of egg masses were new and 66% were large (Figure 1). This trend suggests that, although it is still healthy, the LDD population in Guelph appears to have declined somewhat compared to 2020.

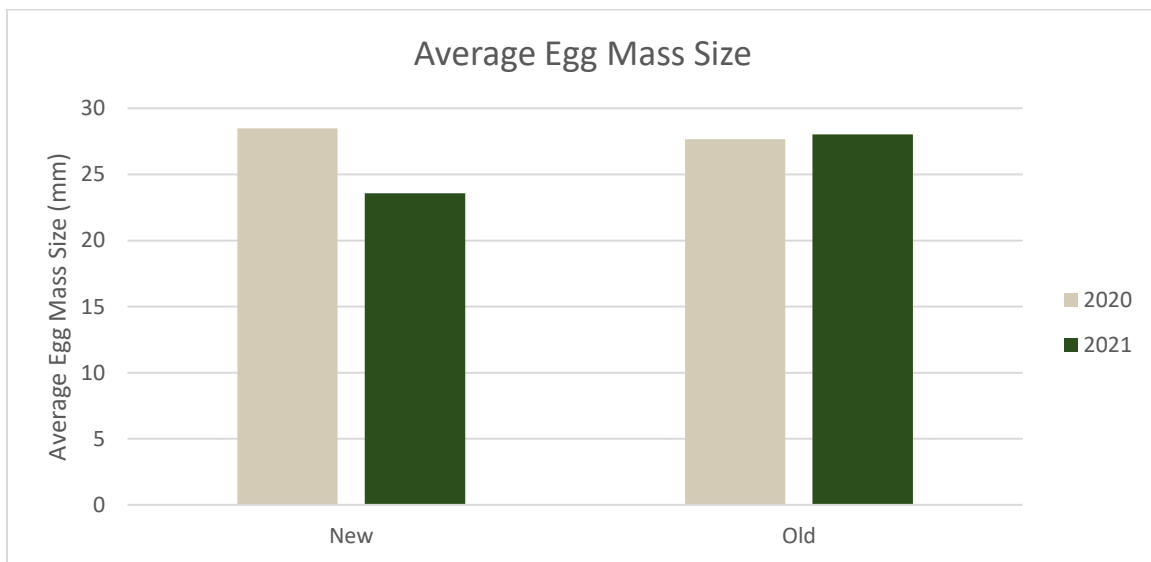


Figure 1: Average size of new and old egg masses on street trees, 2020 and 2021.

Park walkthrough data revealed that the LDD moth population in Guelph's parks is fairly low and that new egg mass counts are lower than what was reported in the previous survey in January, 2021. All properties surveyed are forecast to experience nil or light-to-moderate defoliation in 2022. The highest concentration of new egg masses per tree was found in Skov Park (7.7 em/tree), although the forecast

for the park was still light-to-moderate. In 2020, Skov Park also had the highest egg mass density, at 19.6 new egg masses per tree.

Management Tips

Several courses of action for managing LDD moth are available to urban forest managers. With fairly low numbers of egg masses across the City of Guelph, some treatments, such as aerial spray programs, are not appropriate. A smaller, more targeted approach to managing LDD moth in Guelph may help to prevent moderate to heavy defoliation in some areas of the city in 2022.

Egg mass scraping can be effective at reducing the population of larvae in the spring of 2022, thereby lowering the potential for defoliation on street or park trees. Egg masses may be scraped into a soap or bleach solution and left for one week to ensure the dormant larvae are destroyed.

Burlap bands or sticky bands may be used to intercept larvae crawling up and down tree stems in spring. Burlap bands must be checked often, and the larvae removed. Larvae should be destroyed by submerging them in a soap or bleach solution.

Outreach to homeowners may assist in controlling LDD moth infestations as well. Homeowners can perform egg mass scraping and tree banding on their properties, which could be particularly useful in the neighbourhoods that experienced higher egg mass counts. An increase in resident knowledge regarding LDD moth could also help to prevent or reduce the severity of future outbreaks of LDD moth.