



**SUBJECT: Emerald Ash Borer Management Plan update**

**TO: Community Planning, Regulation & Mobility Cttee.**

**FROM: Roads, Parks and Forestry Department**

Report Number: **RPF-03-23**

Wards Affected: All

File Numbers: 820-01

Date to Committee: March 28, 2023

Date to Council: April 18, 2023

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### **Recommendation:**

Receive and file the roads, parks, and forestry department report RPF-03-23, providing and update to the emerald ash borer management plan.

### **PURPOSE:**

The purpose of this report is to provide an update as to the status of the council approved 10-year management program for emerald ash borer (EAB) infested trees and to provide a high-level overview of how the program will be administered to 2024.

### **Vision to Focus Alignment:**

- Increase economic prosperity and community responsive city growth
  - Support sustainable infrastructure and a resilient environment
  - Building more citizen engagement, community health and culture
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### **Background and Discussion:**

City staff have been actively engaged in planning and management of Emerald Ash Borer (EAB) since 2009, as the invasive pest continues to create devastating forestry losses of hundreds of millions of trees to date throughout Ontario, Quebec, and the United States.

Ash trees play a significant role in the hydrological mitigation in lowland swamp environments and their dieback has already affected water retention, storm water

management, and erosion. Furthermore, woodlot areas that have lost the majority of their canopy due to EAB, are now facing a follow up invasive threat – European buckthorn, a thick growing shrub introduced from Europe that outcompetes native understory vegetation (such as the endangered flowering dogwood) and creates a dense thicket that prevents the growth of native tree species. The additional impact comes in the loss of biodiversity in the face of new invasive species threats. With the removal of 5 different species from the urban forest, planting options are decreased, and the cost of similar invasive species catastrophes in the future is that much greater.

The city's management program is currently in its thirteenth (13<sup>th</sup>) year (year 9 of the council approved EAB management plan). As part of the Council approved program, an annual operating budget of \$861,000 (funded from the tax base), has been committed to manage the removal, treatment, stumping, and replacement tree planting along roadways and manicured parks within the urban boundary. This program is expected to conclude at the end of 2024. Management of ash trees within the rural right of way, naturalized areas and woodlots were not within the scope of the original management plan. However, hazard trees that have been identified along the rural right of way, and in naturalized areas that are adjacent to managed trails and property boundaries have been removed to mitigate risk as they have been identified.

Forestry staff identified peak infestation of the pest and subsequent tree decline within 2019 and continuing into 2020. Consequently, and in the interest of risk mitigation, the majority of funds have been prioritized to tree removal over replacement planting up to 2023. The program focus for 2023 and 2024 will be on stump removal and replacement tree planting.

The Forestry section has a commitment to replace each removed tree on a one-to-one basis and will achieve this goal by the conclusion of the program in 2024.

**Key program successes to date include:**

- At year-end 2022, approximately 10,500 ash trees have been removed from urban streets and parks. Another 2,300 have been removed in woodlots which was unplanned and unbudgeted. The remaining street side and park ash tree removals will be completed by end of 2023 (less than 150).
- At year-end 2022, approximately 8,600 trees have been replanted as part of the EAB program. Their survival and complete replacement will not be considered a success until 5 years after planting. Ongoing maintenance to support their establishment is therefore required.
- All stumps from trees removed between 2014 – 2021 have been removed.
- The removal of EAB infested ash trees within the rural north road allowances on an as-needed basis (not budgeted for and outside of the original project scope).

Infested ash trees are sometimes brought to the attention of staff through Service Requests and are addressed on a case-by-case basis.

- Removal of 118 hazardous ash trees in Duncaster woodlot and 42 trees in Shoreacres woodlot were completed in 2021 and 2022 (not budgeted for and outside of original project scope).
- Annual injection of 85 ash trees with trunk injected pesticide Treeazin. Trees are inspected annually to ensure they remain viable for treatment. This injection program is proposed to be maintained beyond 2024 with an associated operating budget. The average size of treated trees is 67cm DBH – these are large specimens well worth maintaining as long as possible, due to the ecological and aesthetic value they provide residents and the role they play in the urban forest.

## EAB Program at a Glance:

|   | <b>2014-2018</b> | <b>2019</b> | <b>2020</b> | <b>2021</b> | <b>2022</b> | <b>2023</b> | <b>2024</b> | <b>Total<br/>Quantity</b> |
|---|------------------|-------------|-------------|-------------|-------------|-------------|-------------|---------------------------|
| <b>Injections<sup>1</sup></b>                         | 5668             | 230         | 225         | 214         | 87          | 87          | 83          | 6593                      |
| <b>Removals (Urban Street &amp; Park)<sup>2</sup></b> | 7918             | 727         | 926         | 833         | 208         | 235         | 0           | 10847                     |
| <b>Removals (Woodlots)</b>                            | 1731             | 0           | 173         | 417         | 151         | 0           | 0           | 2472                      |
| <b>Stumping (# of Trees)</b>                          | 4570             | 914         | 1020        | 600         | 927         | 311         | 96          | 8438                      |
| <b>Planting (EAB)</b>                                 | 2888             | 1247        | 0           | 550         | 756         | 1354        | 1801        | 8596                      |
| <b>Planting (Non-EAB Budget)</b>                      |                  |             |             | 563         | 563         | 563         | 563         | 2252                      |

1) Quantities from 2014-2018 are approximate

2) Quantities do not include rural removals

### Key program plans to 2024:

- Major stumping backlog for both EAB and non-EAB stumps have been eliminated to year end 2021. Stumps of removed trees from 2022 and 2023 to be removed by Q1 2024.
- 3,100 replacement trees are scheduled to be planted by 2024 under the EAB program budget.
- 1,100 replacement trees are scheduled to be planted by 2024 with costs re-allocated from the annual operating forestry budget for annual tree planting operations.

### **Key Program Liabilities:**

- Total program costs have significantly increased as a result of market and inflationary pressures. To compare 2019 rates to 2023 rates, costs for tree removal have increased on average from \$8/cm to \$13/cm (63% increase). Stumping costs have increased from \$2.50/cm to \$4.30/cm (72% increase). This has impacted the ability to maintain program goals, specifically replacement tree planting on a 1:1 ratio.
- Increased program costs have resulted in a shortfall of approximately 2,200 replacement trees (\$880,000). In order to maintain the 1:1 removal to replacement ratio per the original EAB management plan, and to ensure program timeframes remain on track, it is proposed that the budget shortfall be reallocated from Forestry's annual tree planting budget (approximately 550 trees per year from 2021 to 2024).
- In 2022, consulting arborists were contracted to support the administration of the EAB program because of staffing shortages. These were one time temporary staffing/consultant costs related to the 2022 fiscal year and partially offset through savings from vacant positions.
- Management of ash trees in naturalized areas and woodlots have been completed on a case-by-case basis as they are brought to the attention of Forestry staff. This work was out of scope of the original management plan but are addressed due to safety and risks to property. Initial field assessments from the Woodlot Management Strategy have identified approximately 750+ moderate to large sized ash in woodlots along property lines, however detailed risk assessments will be undertaken in 2024/2025 to confirm the extent of removals necessary. It should be noted that reforestation of disturbed areas is not part of the original program scope.
- Private encroachment onto public property has further complicated property line woodlot ash removals. This has led to two additional challenges:
  - 1) In some instances, trees that would have normally been able to fall into a naturalized environment need to be removed as they're adjacent to a private asset;
  - 2) Access to hazard trees is blocked, requiring more technical removals, such as the use of cranes, subsequently increasing removal costs.Either of these instances delays the removal process, increases program costs, and increases the risk of ash failures into private rear yards.

### **Future Considerations:**

- Several significant invasive species pose a threat to the City's Urban Forest: Sudden Oak Wilt (fungal; Detroit); Asian Long Horned Beetle (wood boring

insect; New York); Spotted Lanternfly (defoliating insect; Pennsylvania); and Hemlock wooly adelgid (insect; confirmed in Ontario). These pests and pathogens present significant risks to the long-term health of the urban forest. Without adequate monitoring to prevent and provide warning, these pests could impact the municipality in much the same way as EAB. Estimates of their canopy impact could exceed 5 million dollars for each pest.

- Following the completion of the EAB management program in 2024 it is recommended that the existing funding be permanently reallocated to support the administration of other Forestry programs within both Forestry Operations and Forest Planning & Health. Additional information to support this recommendation will be forthcoming through the completion of the 20-year Urban Forest Master Plan update in Q4 2023.

### **Strategy/process**

The administration of the EAB Management Plan is part of a ten-year council approved program. Staff conduct annual inspections of ash trees in the interest of risk mitigation.

### **Options Considered**

Not applicable

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### **Financial Matters:**

#### **Total Financial Impact**

The remaining EAB management plan program costs from 2023 to 2024 (2 years) are \$1,722,000, with \$861,000 budgeted annually within the current Forestry operating budget.

#### **Source of Funding**

The source of funding for this program is through the general tax base.

#### **Other Resource Impacts**

Not applicable.

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### **Climate Implications**

The climate implications of invasive species are long-lasting and far-reaching. One of the greatest challenges posed by EAB is the long-term effect on the urban tree canopy,

native biodiversity, and the extirpation of 5 species of trees and one entire genus. This is an ecological calamity and a contributing factor to the current climate emergency.

Given that trees play a significant role in mitigating climate change, and the ecological importance of managing the loss of mature ash in woodlots, the efficient replacement of trees through replanting and establishment programs is the single most effective way to address the climate impact of this invasive species catastrophe.

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### **Engagement Matters:**

Typically, public engagement around emerald ash borer has been based in communication around treatment of EAB infected trees, removal of street-side trees based on health and dieback, and at community planting events such as Burlington Green spring plantings.

The loss of mature ash canopies has provided an opportunity to engage residents and educate them firsthand on the effects of invasive species, and the importance of biodiversity. Forestry staff continue to engage with residents to teach them about our canopy enhancement programs, forest health risks, and common challenges when managing an urban forest.

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### **Conclusion:**

EAB is a devastating invasive species that affects not only the environment, but also adds to risk management concerns throughout the municipality. The Forestry section continues to mitigate the risk of dead and dying ash trees by prioritizing their removal, as well as planning for replacement trees over the ten-year council approved management plan.

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Respectfully submitted,

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### **Report Approval:**

All reports are reviewed and/or approved by Department Director, the Chief Financial Officer and the Executive Director of Legal Services & Corporation Council.