




# INFORMATION REPORT

<b>TO:</b>	Chair and Members Public Works Committee
<b>COMMITTEE DATE:</b>	March 20, 2023
<b>SUBJECT/REPORT NO:</b>	Emerald Ash Borer (EAB) Management Plan (10-year Summary) (PW21023(a)) (City Wide)
<b>WARD(S) AFFECTED:</b>	City Wide
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<b>SUBMITTED BY:</b>	Cynthia Graham Acting Director, Environmental Services Public Works Department
<b>SIGNATURE:</b>	

## COUNCIL DIRECTION

The City of Hamilton's (City) Emerald Ash Borer (EAB) Management Plan Recommendation Report PW10088(a) directed staff to provide an annual update on the implementation of the Emerald Ash Borer Management Plan. Since the initial direction in 2010, many staff reports provided updates and sought further direction regarding this program, most recently through Information Report PW21023 in 2021. Information report PW21023(a) provides a summary of the final year of the EAB Management Plan as well as a 10-year summary.

## INFORMATION

In 2010, staff prepared Report PW10088, received at Public Works Committee on September 20, 2010, to outline the possible threat posed by Emerald Ash Borer to Hamilton's trees. On September 6, 2012, through report PW10088(a) Council approved a 10-year strategy to proactively manage publicly owned ash (*Fraxinus* species) trees, infested with the Emerald Ash Borer (*Agrilus planipennis* Fairmaire), within the right of way in the urban boundary and in City parks and cemeteries. The target removal rate was 2,300 tree removals per year, and the target replant rate was set at a 1:1 removal to replacement ratio with non-ash species. Between 2012 and 2022, EAB damage to

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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.

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the ash tree population was significant city-wide, with most ash trees dying or declining to the point they required removal to mitigate risks to public health and safety.

Removal of infested ash trees began in 2011, however the EAB Management Plan was approved in 2012. Forestry staff inspected ash trees annually by Ward and prioritized removals of dead and poor condition ash trees that posed or could potentially pose a health and safety risk. Tree removal of infested and dying trees began in Ward 7 where EAB was first discovered and most prominent; and removals expanded to the Wards with the highest infestation rate, or where active infestations were detected.

In 2014, staff observed that the infestation and the subsequent decline in health of ash trees was accelerating faster than originally outlined in report PW10088. Therefore, the targeted 2,300 trees required adjustment annually during the program to mitigate the health and safety risk these dead and dying trees posed.

Ash tree removals, stumping, replacements, and injections were performed by a contractor and overseen by City staff, with the exception of ash trees that posed a potential property or health and safety hazard in which case City crews would perform the removal.

To date, all Wards have had all publicly owned ash trees inventoried including those in right of ways, manicured park areas, and cemeteries. Most ash trees have been removed, except for some that are still in fair to good condition, and those that are part of the injection treatment program.

Injection treatments were implemented for trees based on a treatment criterion. For trees to have received treatment, they needed to meet the minimum size of 15 centimetres in trunk diameter, be in good condition, be publicly owned, and free from future known development impacts.

The selected trees that met the criteria were treated with an injectable pesticide that can slow the spread of EAB if treatment starts before the insects cause significant damage. The treatment product was injected either yearly, or every other year, depending on the condition of the tree and the level of infestation.

In the EAB Management Plan presented to Council through Report PW10088(a), it was estimated that 400 trees would need to be injected yearly, however after assessing the ash tree population against the above criteria, 123 trees were injected on average, each year. The 120 trees that continue to be part of the treatment program remain in fair to good condition and will continue to be monitored and treated if they continue to meet the criteria. It is important to note, that injection treatments will not save the ash trees indefinitely, but instead preserve ash trees that could potentially be used as a seed

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source and continue to contribute positively to the urban forest canopy and provide benefits to the community.

Report PW10088(a) indicated that publicly owned ash trees along rural roads, in natural areas or ash trees growing on city owned property that did not constitute an urban street or park were not included as part of the EAB Management Plan due to the absence of a street tree inventory in rural areas at the time.

Recommendations from the consultant who aided staff in preparing the EAB Management Plan were presented in Report PW1088(a) and it was recommended that the City investigate opportunities to expand the tree inventory to rural areas and parks. Due to efficiencies, through the 10-years, staff were able to inventory ash trees in all the City's rural forestry grids and any naturalized buffers adjacent to public highways and properties.

In 2020, City staff informed Council through Report ES20001 that ash tree removals and replacements would be expanded to publicly owned trees in rural areas and along naturalized buffers, where it was identified that the ash trees posed a health and safety hazard to the public and / or property.

During the last year of the program in 2022, 1,607 ash trees were removed, and 5,423 replacement trees were planted. In the final years of the EAB Management Plan, where site conditions were favourable and planting space was available, and due to budget availability and favourable contractor pricing, the City planted additional trees beyond the 1:1 removal to replacement ratio at a replacement ratio of approximately 1:1.15 (see Figure 1 and Appendix "A" of Report PW21023(a)).

To date, a total of 25,355 ash trees have been removed and 27,905 replacement trees have been planted (see Figure 1 and Appendix "A" of Report PW21023(a)).

Replacement tree plantings included a diversity of tree species, to improve the diversity of the urban forest canopy and help protect the City's urban forest canopy against future devastation of pests and diseases that target select species.

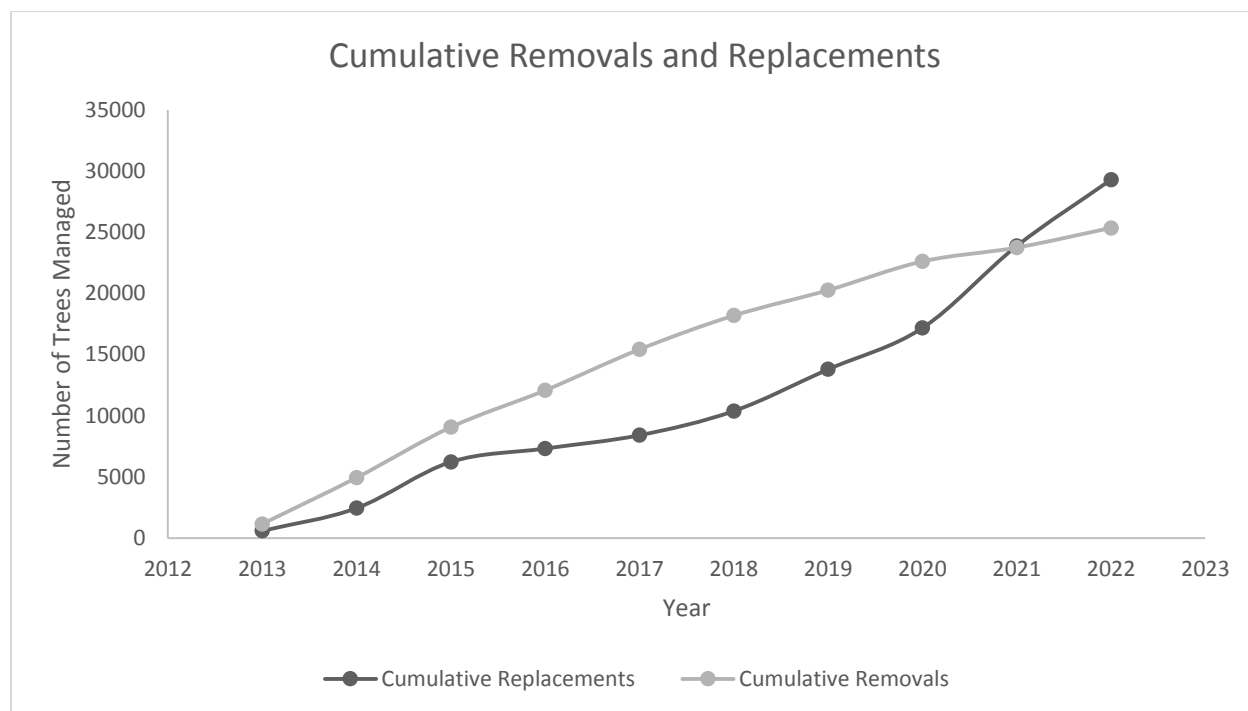


Figure 1. Cumulative number of removals and replacements for ash trees for the 10-year EAB Management Plan in the City of Hamilton.

Overall, the implementation of the EAB Management Plan was a success. Over the course of the 10-year period, the City exceeded the removal and replacement target rates, and achieved the consultant's recommendations (see Appendix "B" of Report PW21023(a)) where possible, while remaining under the budget provided to the program. This proactive approach avoided an influx of risk claims from hazardous dead ash trees to the public.

In 2022, a trapping program was initiated to assess the level of adult EAB still present within Hamilton. The program provides staff data used to estimate the overall population of EAB within a given area and determine if treatment is warranted. Forestry staff will conduct another trapping program in 2023 as a part of regular maintenance activities, to determine next steps required to maintain the residual trees the City has been protecting for the past 10 years.

A summary of the reporting to Council across the entire duration of the program is outlined in Appendix "C" of Report PW21023(a).

## Financials

To date the EAB Management Plan spent just over \$21M of the approved budget and a year over year breakdown of expenditures is provided in Table 2 of Report

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PW21023(a). Note that while the total approved budget was \$26.2 million, the actual budget loaded to the EAB Capital project ID was a total of \$24.7 million.

Table 2. Year over year analysis of expenditures versus approved capital budget.

<b>Year</b>	<b>Actual Budget</b>	<b>Actual Expenditures</b>	<b>Comments</b>
<b>2011</b>	\$250,000.00	\$137,469.53	Refer to comment #1 below
<b>2012</b>	N/A	\$109,937.03	
<b>2013</b>	N/A	\$1,125,840.48	Refer to comment #2 below
<b>2014</b>	\$1,600,000.00	\$2,088,719.73	
<b>2015</b>	\$1,600,000.00	\$3,114,664.31	
<b>2016</b>	\$5,100,000.00	\$2,570,352.79	Refer to comment #2 below
<b>2017</b>	\$2,600,000.00	\$1,980,967.42	
<b>2018</b>	\$2,600,000.00	\$921,984.20	
<b>2019</b>	\$2,600,000.00	\$1,445,890.14	
<b>2020</b>	\$2,600,000.00	\$2,356,496.59	
<b>2021</b>	\$2,600,000.00	\$3,230,047.96	
<b>2022</b>	\$2,600,000.00	\$2,046,703.14	
<b>Appropriations in</b>	<b>\$175,837.93</b>		Refer to comment #3 below
<b>Other Transfers In</b>	<b>\$460,793.15</b>		Refer to comment #4 below
<b>Totals</b>	<b>\$24,786,631.08</b>	<b>\$21,129,073.32</b>	
Comments: 1) In 2011 and 2012, expenditures for EAB management were also funded through the program budget after the strategy received Council approval in 2012 2) In 2013, the program was funded from funds that were borrowed by the city. As a policy, the city only starts taking on debt when actual expenditures happen to avoid unnecessary interest charges which is why no funding is shown in 2013, and there is an increase to typical funds loaded in 2016 3) Occurred in 2015 from accounts 4451349000, 4451449000 and 4451351005 to 4451153001 (EAB Project) 4) Occurred in 2015, contributions from current to capital			

The City was able to remain below the budgeted amount while still achieving targets due to the competitive tenders received for tree removals and stumping compared to the estimated \$730.00 per tree for removals and stumping estimated in the EAB

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Management Plan appended to Report PW10088(a). Further to this, the report over-estimated annual

tree treatment needs, which were revised after the City compared its publicly owned ash trees against its treatment criteria.

Fluctuations in expenditures year over year are as a result of recruitment of a Project Coordinator, and re-tendering multi-year project work. In 2015, City staff hired a Project Coordinator funded through the EAB program to manage contracts related to EAB to ensure quality assurance and oversee contracted works. This generally led to an overall increase in program expenditures, except in 2018, when City staff re-tendered its removal and stumping contract and received more favourable pricing than in previous years. The Project Coordinator position ended in 2022 at program close.

As part of closing out the project, all expenditures for 2022 will be reconciled; surplus funds remaining in the EAB Capital budget project ID will be returned to the funding source and Dept ID: 445145 – Emerald Ash Borer will be closed.

#### Future Management of EAB

EAB management will move for the most part from Forestry and Horticulture Capital Projects to Forestry Operations who will be responsible for tree risk assessments, pruning and when required removing remaining publicly owned ash trees. Costs will be funded through the Forestry and Horticulture Operating budget, with no additional funding required at this time.

The treatment and monitoring program will continue to be administered by the Project Manager of Forest Health and all costs for monitoring and treatment for 2023 will be funded through Dept ID: 445140 - Urban Forestry Health Program. No requirement for additional funds are anticipated at this time.

It is expected that EAB populations will continue to be present and attracted to the City due to regenerating ash trees, and any remaining ash populations in naturalized areas, on private properties across Hamilton, and remaining publicly owned rural ash trees that have yet to be removed. Note that publicly owned woodlot trees that do not pose a risk to public health and safety are not actively monitored by City staff at this time. Staff recognize this gap and plan to explore opportunities to expand the current inventory to public woodlots to aide in forest health management through actions outlined within the Urban Forest Strategy.

Given the success of implementing a proactive approach to managing EAB through the EAB Management Plan, similar plans may be developed for future pests and diseases,

where warranted. These plans would be tailored depending on the pest or disease, and the affected public trees.

**APPENDICES AND SCHEDULES ATTACHED**

Appendix “A” to Report PW21023(a) – Annual Ash Tree Removals and Replacements  
vs Targets

Appendix “B” to Report PW21023(a) – Consultant Recommendations

Appendix “C” to Report PW21023(a) – List of Presentations and Reports to Council