Staff Report

Report To: Community Services Committee

Report From: Adam Parsons, Manager of Parks and Open Space

Meeting Date: September 21, 2022

Report Code: CS-22-105

Subject: Emerald Ash Borer Management Plan and Next Steps

Recommendations:

THAT in consideration of Staff Report CS-22-105 respecting the City's Emerald Ash Borer Management Plan and Next Steps; the Community Services Committee recommends that the City Council direct staff to bring forward a budget request to support the managed removal of Emerald Ash Borer infested ash trees on City Lands over a 10-year period to be considered as part of the overall review of the 2023 Operating budget.

Highlights:

- The City's Emerald Ash Borer Management Plan details the impacts of the pest on Ash trees and strategic options for managing infestation;
- The City inoculated 165 significant ash trees in 2016, 2018 and 2020 against Emerald Ash Borer;
- There are 1092 inventoried Ash Trees in the City's Tree inventory;
- 20% to 30% of forests in Grey County are made up of ash species susceptible to Emerald Ash Borer.

Strategic Plan Alignment:

Green City - KR1 - Offset 100 tonnes of CO2 per year by annually planting 100 hardwood tree species

Official Plan Policy:

6.1.3 Urban Forest To develop and protect the Urban Forest, the City shall where possible:

6.1.3.1 Preserve and enhance a healthy urban forest through naturalization and tree planting programs.

6.1.3.2 Implement a tree-planting program and budget to ensure trees are continuously planted to improve streetscapes throughout the City.

6.1.3.3 Develop a City Tree By-law that regulates the destruction, injuring or removal of trees in hazard lands, rights of way, public lands and significant woodlots in accordance with the County of Grey Forest Management By-law.

6.1.3.4 The City will complete the necessary study for public works to determine the extent of tree removals with the objective that no trees shall be unnecessarily removed. Consideration must be given to the replacement of trees that must be removed as a result of any public work. The City will incorporate a tree-planting component within street reconstruction projects.

6.1.3.5 Where new development is proposed, consideration shall be given to locations of existing trees in the preparation of the site plan, and to the retention of as many existing trees as possible, subject to other appropriate design considerations.

6.1.3.6 The City will establish a baseline and monitor the tree cover on private and public lands using GIS.

Previous Report/Authority:

- 2013 Emerald Ash Borer Presentation Report
- 2013 Emerald Ash Borer Presentation
- Owen Sound Emerald Ash Borer Management Plan

Background:

In 2014 the City adopted an EAB Management Plan. The purpose of this report is to:

i. Provide information on the Emerald Ash Borer;

ii. Summarize the City's Arboriculture program and resources dedicated to this program;

iii. Review the Current EAB Program and the Successes and Challenges of Implementation; and

iv. Consider Next Steps in the Management of the Disease and replacement of the Urban Forest

i. Emerald Ash Borer – Agrilus planipennis

The Emerald Ash Borer (EAB) is a highly destructive invasive beetle that attacks and kills all Ash tree species in the Fraxinus family.

Emerald Ash Borer, native to Asia, is classified by the Canadian Food Inspection Agency as an invasive species. At the federal level, "invasive" refers to a species that has moved outside of its native habitat and threatens the new environment, economy, or society by disrupting local ecosystems.

The first detection of EAB in Ontario was in 2002 in Windsor. By 2012, 27 Ontario Counties and seven areas of Quebec have confirmed the presence of EAB.

The Canadian Food Inspection Agency (CFIA) notes in EAB guidance documents that *"it is very apparent that early infestations of EAB are difficult to detect".*

In 2018, a larva detected in an Ash tree on City property was confirmed by the Ministry of Natural Resources as EAB.

ii. City of Owen Sound Arboriculture Program

The City employs 2 ISA-certified arborists.

Staff arborists respond to between 280 and 410 calls for service annually.

The City receives service requests in 3 ways:

1. Report a tree concern form online;
2. Calling 519-376-3203 during regular business hours for accessible customer service if a requestor is unable to complete the form online for any reason or for concerns that are urgent in nature and immediately hazardous to persons or property;
3. Calling 519-376-4274 outside of normal business hours for urgent requests that are immediately hazardous to persons or property.

Requesting service initiates an inspection by a certified arborist who carries an ISA Tree Risk Assessment Qualification within 15 business days, or in urgent cases, staff will respond as quickly as possible to assess the hazard and triage the request based on observations and any other concurrent requests. Where service cannot be provided immediately in these cases, such as active storm cleanup, staff will secure the area so that the hazard is isolated and identified with barricades or other highly visible deterrents to prevent people from entering the hazard zone until service can be provided.

Staff are currently responding to high and medium priority service calls. Low priority service calls that are cosmetic currently have a lag time of up to 2 years before staff can provide service.

Under the existing model, staff are fully committed to service calls and do not have the capacity to perform the work required to remove such a significant surge of necessary removals.

The City's Forestry program is implemented with:

- 2 International Society of Arboriculture certified Arborists;
- 1 - 65 ft reach aerial elevating device truck (bucket truck);
- 2015 Tree Inventory;
- Work order system that generates asset-based individual work orders per address;
- Online 'Report a Tree Concern' request form;
- Boulevard Tree Planting Program for streets; and
- Commemorative Forest planting program for parks and open spaces.

In 2022 the City achieved Tree City of the World Status in recognition of our forestry practices.

iii. City of Owen Sound EAB Management Plan

In response to the pending threat of EAB, the City developed an Emerald Ash Borer Management Plan in 2014. The City's Emerald Ash Borer Plan, attempted to project the impacts of Emerald Ash Borer in Owen Sound, and the plan provided direction for a 10-year period of time.

The Plan contemplated three options for management:

- No action;
- Treat all ash trees; and
- Hybrid – combination of treatment and removals

The City has been utilizing the hybrid approach, which has included inoculating trees identified under the plan as "significant" (either environmentally or culturally) – while removing the ash trees not selected for protection.

The 2014 Plan projected costs to increase significantly over the 10-year life of the plan estimating the long-term costs to be greater than $1,000,000.00, based on the experience of Ontario municipalities dealing with infestations.

A key action of the 2014 plan was establishing a tree inventory for City properties. An integral part of managing any asset is creating a baseline inventory.

In 2015, the City completed a tree inventory of trees on City lands. The inventory included street trees and trees within City parks and open spaces in higher traffic areas. The inventory was not scoped to include hazard lands or escarpment trees.

The tree inventory created a GIS layer that is used daily by staff. It includes information on the location, tree species, health assessment, physical properties of the tree such as height, crown and trunk diameters, a health rating and EAB status as observed in 2015 when the inventory was completed. The inventory provides:

- Key baseline documentation;
- Identifies for risk management the health and if the tree is low, moderate, or high risk. Preventative maintenance and pruning are key risk management tools and a tool to extend the life and health of the tree;
- It provides staff with a customer service tool; and

- It informs comments on development applications concerning tree preservation and hoarding.

The plan estimated 600 ash trees on City trees and right of ways and 7,500 in Parks and Open Spaces.

The inventory returned a result of 1092 ash trees on Streets and within managed areas of parks and open spaces. This number does not include un-inventoried spaces such as City-owned escarpment and hazard lands or wooded and unmaintained areas of parks.

It is important to note that the City is responsible for risk management on hazard and escarpment lands within a buffer zone that allows trees to fall without impacting private properties, typically residential backyards.

In 2016 the City proactively initiated a program of inoculating 165 ash trees to protect the selected trees from the advance of EAB towards Owen Sound from the south. These trees have been inoculated bi-annually per the prescribed treatment for EAB resistance.

Starting in 2017, in non-treatment years, dead ash trees are removed to manage the City's risk and liability in heavily travelled areas like roads and trails. Subsequent treatments occurred in 2018 and 2020 on the selected and treated trees in previous treatment cycles.

The City's annual EAB management budget, part of the City's approved annual operating budget, is $25,000.00. These funds have been used in alternating years to inoculate 165 significant ash trees in Year 1 and remove 10-15 infested ash trees in Year 2.

In the spring of 2022, staff began to observe that nearly 100% of untreated ash trees on City lands came out with scarce foliage and high numbers of epicormic shoots, indicating advanced infestation.

Based on the City's tree inventory data, collected in 2015, determined there are 1092 ash trees within City boulevards and the actively managed areas of parks. In addition, Grey County Forestry Management Plan establishes that 20%-30% of forests in our area.

Since 2017, the City has removed 32 dead ash trees in response to calls for service, 25 dead Ash trees were removed in 2019 via the EAB Management plan actions along the 26th St East road allowance, and a total of 226 non-inventoried EAB affected ash trees were removed as a part of a forestry

renewal project on the east escarpment between 9th St East and 12th St east in 2021 and 2022. 15 Ash trees were removed on August 15th from City property near the Visitors Centre. Since 2017 a total of 72 of the 1092 inventoried ash trees have been removed.

The Emerald Ash Borer inoculation program has produced mixed results. It is anticipated that some of the 165 treated trees have been infested and will have to be removed despite treatment efforts. A range of 855-1020 inventoried Ash trees will need to be removed.

Pending the outcome of a renewed inventory in 2023 capturing the 20m buffer between City lands and private properties that abut wooded areas, currently, un-inventoried ash trees make up 20%-30% of the forest makeup. This leads staff to anticipate thousands of additional trees within the 20m buffer will have to be removed. The exact number cannot be determined without an updated tree inventory.

With respect to requests for service, Ash trees form a small portion of the total service requests made in the last six years. Table 1 details the number of service calls each year since 2017, how many calls were for ash tree service, and the percentage of the total forestry service requests that Ash represents.

Table 1.

Year	Service calls by year	Ash tree service calls	Percentage Ash
2017	81	2	2.5%
2018	187	2	1.5%
2019	163	2	1.2%
2020	271	13	4.8%
2021	294	12	4.1%
2022	199	15	7.5%

As residents begin to observe ash trees exhibiting symptoms of EAB infestation, it is anticipated that the number of calls for service and the percentage of ash-related service calls will increase sharply.

Analysis:

The treatment does not have a long-term impact on some specimens, and an updated approach to managing this invasive species is required. The following steps are recommended:

1. Update Inventory

A new inventory is scheduled for 2023 via the City's normal capital budget process. Staff plan to leverage the renewed inventory to understand better the density of ash species in hazard, ravine, and escarpment lands within the recommended 20m buffer zone between City lands and private properties that may be impacted.

The updated inventory will include a tree health assessment and assist in managing risk and identifying and prioritizing trees for removal.

2. Removal Strategy

Due to the nature of EAB infestation, trees become increasingly difficult to remove safely once bark begins to slough. This signals that the tree is structurally compromised and cannot be climbed or used for rigging, increasing hazards for tree workers tasked with removal.

Dead and dying ash trees present an increasingly significant hazard to streets, trails, parks, and private properties that abut City Lands.

Contractors will be required to perform the volume of ash removals detailed in this report as current staff cannot keep up with current removals, proactive pruning etc.

Removals would be prioritized as follows:

i. **High priority identified by updated inventory or current service request reviews**

ii. **Right of Way**

Trees in the right-of-way present the highest risk to the public following death of the tree and give the greatest environmental benefit to the community when they are living, so accordingly, they are the most desirable to retain.

Through the 2023 Tree inventory, staff will gain a clearer understanding of the current condition of ash trees on City lands, including those that have been included in the treatment program to date.

Retention efforts and ongoing treatment is recommended for treated trees that are found to have responded well to inoculation.

Staff have observed that some inoculated trees appear to be in decline. Pending the outcome of the inventory, some previously treated trees may need to be removed.

iii. Parks

Although Ash trees in the parks and open spaces are generally in better condition, in many cases, they present a significantly lower level of risk when dead. Over the ten years, the loss of untreated parks and open space trees has been more manageable with staged removals.

iv. Ravines, Escarpment and Hazard Lands

Trees in unmanaged sections of City Owned Lands within 20m of a private property boundary are to be included in the 2023 tree inventory to assist staff with strategic planning of removals. These areas present the least risk. Managed removals would not occur until ash trees in the right of way and parks have been removed.

Staff would continue to respond to calls for service for individual trees proximate to private property and assess them for action within the existing forestry management program.

The phased plan will be implemented over a 10-year period, from 2023 through the end of 2032.

3. Replacements

Removal of 855-1020 inventoried ash trees is significant to the City's urban canopy. Coupled with strategic removals driven by risk management, it is essential to plan and implement replacements to renew the City's tree density.

Over the course of the removal process, Staff will seek to engage local volunteers to support tree planting efforts, as well as funding opportunities for tree planting and renewal, such as TD Tree Days.

There is an event planned for Spring 2023 in partnership with the City and Neighbourwoods North under the TD Tree Days program that will plant 300 hardwoods of mixed non-ash species.

Financial Implications:

Cost

The financial impact of managing EAB infestation in Owen Sound will be significant. At current rates, it is estimated that the removal of 855-1020 ash trees will cost between $1.28 million and $1.53 million. It is anticipated that the phased approach will take ten years to complete, focusing on the highest risk trees first. This value translates into a need for an increase to the Parks Arboriculture operating budget of $140,000.00 to retain contractors to perform the removals.

Further study is required to understand the number of ash trees that will need to be removed from buffer zones on City lands proximate to private properties and trails.

$1.28 million to $1.53 million to remove inventoried ash trees.

$50,000 has been approved for new tree inventory in 2023

Future costs are to be determined by the 2023 tree inventory process.

Tree Replacement Costs are to be determined by available annual funding opportunities.

In 2022, $12,000 is allocated in the Parks and Open Space operating budget for tree and tree planting materials to deliver the existing core tree planting program.

Communication Strategy:

This report

Attachments:

None

Recommended by:
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For more information on this report, please contact Adam Parsons, Manager of Parks and Open Space at aparsons@owensound.ca or 519-376-4440 ext. 1221.