

Clause No. 4 in Report No. 6 of Committee of the Whole was adopted, without amendment, by the Council of The Regional Municipality of York at its meeting held on November 21, 2013.

## **4**

### **EMERALD ASH BORER INFESTATION UPDATE**

**Committee of the Whole recommends adoption of the following recommendations, as amended, contained in the report dated November 4, 2013 from the Commissioner of Environmental Services:**

- 1. It is recommended that this report be received for information.**
- 2. *Staff determine how much money has been spent by the Region and each of the local municipalities on the Emerald Ash Borer infestation and bring forward a draft resolution to the November 21, 2013 Council meeting.***

#### **1. RECOMMENDATION**

It is recommended that this report be received for information.

#### **2. PURPOSE**

This report provides an update on the status of the Emerald Ash Borer infestation in York Region and actions implemented to mitigate its impact.

#### **3. BACKGROUND**

##### **In June 2011, Regional Council endorsed an Emerald Ash Borer Management Plan for York Region**

At its meeting on June 23, 2011, Regional Council adopted an Emerald Ash Borer Management Plan in response to the projected impacts of this invasive insect. This active management approach to Emerald Ash Borer includes:

- Monitoring the insect's spread
- Removing and replacing infested street trees
- Hazard tree removal from the York Regional Forest (e.g. along trails and boundaries)

- Protecting selected trees on Regional roads and in the York Regional Forest with an insecticide (TreeAzin™)
- Providing private land tree planting incentives
- Collaborating with local agencies, municipalities and conservation authorities through the Emerald Ash Borer Technical Working Group
- Conducting public outreach to educate York Region residents about Emerald Ash Borer, its impacts and options for mitigating its effects

The cost to implement the entire Emerald Ash Borer Management Plan, as previously adopted by Council, is projected to be \$10,000,000 over ten years. Recent data suggests the peak of spending for removal and replacement of trees will occur earlier than originally anticipated due to the aggressive spread of the infestation.

#### **4. ANALYSIS AND OPTIONS**

##### **Monitoring surveys in 2012 and 2013 show the infestation progressing northward to encompass the entire Region**

Results from the first Emerald Ash Borer Monitoring Survey in 2011 showed that the Emerald Ash Borer was widespread in the southern areas of the Region. The insect was established throughout the City of Vaughan, the Town of Richmond Hill and the City of Markham. Results of the 2012 survey showed the infestation had spread northward throughout the Township of King and the Towns of Newmarket, Aurora and Whitchurch-Stouffville. One trap in the Town of Georgina near Keswick was also found to be positive.

In 2013, Emerald Ash Borer traps were deployed throughout the Towns of East Gwillimbury and Georgina and in locations in central York Region where no insects had been detected in the 2012 survey. In total 245 traps were deployed and survey results supported that the infestation was widespread throughout all of the northern municipalities (*Attachment 1*). The traps are a measure of presence/absence and not a tool for assessing abundance; however, the number of positive finds in an area gives a reasonable indication of a higher population of insects. A monitoring survey in 2014 will concentrate on northern York Region to continue to track the infestation and enable more accurate predictions of impacts.

##### **Duty of care to remove dead and dying street trees in a timely fashion**

Once infested, an ash tree can deteriorate to being completely dead within two to three years which can present a public safety hazard. In the Region's urban municipalities, most ash street trees are small in size having been planted as part of the streetscaping program within the last ten years. Removal and replacement of these trees are a priority

to mitigate potential risks, as well as maintain the environmental and social benefits, aesthetics, streetscaping and overall sense of place for our communities.

Larger street trees, both within urban areas and across our rural landscapes, pose much greater risks in terms of public safety and road hazards. Most ash trees on Regional roads will be dead by 2018. Street tree removal costs up to \$350 per tree depending on size. The wood waste material is being processed as wood chips or compost as a responsibility of the tree removal contractors.

### **Removal of dead and dying ash street trees advancing at an accelerated pace across the Region**

By 2014, 2,100 ash street trees will have been removed from Regional roads, with 1,500 removed in 2013 and 600 in 2012. The remaining 7,600 (approximately) trees will be removed in following years. The majority of the removals are occurring in the southern three municipalities. All ash trees on Regional roads in Vaughan, Richmond Hill and Markham are predicted to die or be in imminent danger of death by fall 2014. Ash tree mortality is occurring at a faster pace than originally predicted. Ash street tree removal is progressing two years in advance of staff's original forecast prepared in 2011.

### **Street tree replacement supports a timely recovery of the urban forest**

As a result of the accelerated rate of ash street tree removal, street tree replacements are also being advanced on a similar time-frame sooner than originally forecast. In accordance with the Emerald Ash Borer Management Plan, approved by Regional Council on October 20, 2011, ash trees removed from Regional roads will be replaced with trees of different species. Street trees in urban areas are being replaced on a 1 to 1 basis by the following year. This timely cycle of tree removal and replacement is recognized by our residents and communities as a reasonable duty of care.

Some large, healthy ash street trees with high ecological and landscape value are being protected from Emerald Ash Borer as a cost effective alternative to removal and replacement. Twenty-five healthy ash trees on Regional roads were protected from the Emerald Ash Borer with the biological insecticide TreeAzin™ in 2013 (approximately \$200 per tree). Additional street trees on Regional roads in the northern parts of the Region will be identified for protection in 2014.

### **Managing Emerald Ash Borer in the York Regional Forest through hazard tree mitigation and ash seed tree protection**

One hundred vigorous, large trees in various York Regional Forest properties were selected for protection with TreeAzin™ so they can survive as seed sources for future regeneration. Fifty of these trees received insecticide treatment in 2013, and the remaining 50 will be treated in 2014.

Hazardous trees along trails, fence lines and parking lots in the York Regional Forest are being removed to protect visitors' safety and property. Hazard tree inspections will increase in frequency in the coming years as the infestation progresses.

### **Emerald Ash Borer infestation in York Region predicted to complete its cycle in 10 to 15 years**

The infestation and associated impacts to street trees, natural areas, residents and communities is at different stages across the Region due to the insect moving from the southern portion of the Region northward (*Attachment 2*). Education and awareness activities will continue through the Region. As the insect spreads and the infestation runs its cycle, all unprotected ash trees will die. A few trees may be protected through the selective use of insecticide (TreeAzin™).

In the long term Emerald Ash Borer will always be present, however, the expectation is that the population may decline to a level that would allow residents and municipalities to stop treating remaining ash trees on a regular basis. Over time (10+ years), diminished food supply (ash trees) and the impact of natural and introduced predators (e.g. woodpeckers and parasitic wasps) will also help suppress Emerald Ash Borer numbers. The scientific community is uncertain how long it might take for the Emerald Ash Borer population to bottom out after it has established itself in a given area, but researchers estimate ten or fifteen years following its peak.

### **Region-led technical working group is a forum for knowledge exchange and coordination of management actions across Southern Ontario**

Regional staff chair an Emerald Ash Borer Technical Working Group that includes representatives from local municipalities, Toronto and Region Conservation Authority, Lake Simcoe Region Conservation Authority, Durham Region, Simcoe County, the City of Toronto, the Ontario Ministry of Natural Resources and the Canadian Food Inspection Agency. Meetings are held twice per year to share the latest information and best practices in Emerald Ash Borer management and to coordinate management activities across the Region. Staff also organized an Emerald Ash Borer Technical Forum for municipal forest managers from across southern Ontario in partnership with the Ontario Forestry Association in February 2013.

### **Public workshops and education programs inform residents about Emerald Ash Borer and the options available to mitigate its effects**

The Region has hosted a total of ten information session or public education and outreach events from 2012 to 2014, engaging approximately 500 residents. These have included land management workshops for rural residents and other information sessions. Information including education and outreach materials are available at [www.york.ca/eab](http://www.york.ca/eab).

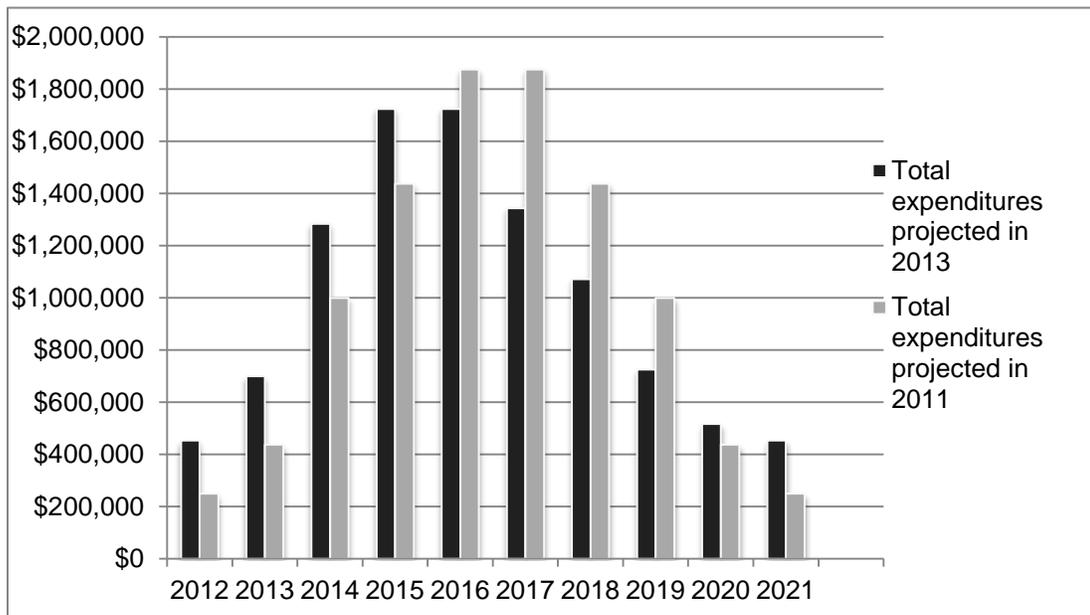
## 5. FINANCIAL IMPLICATIONS

The impacts of Emerald Ash Borer across York Region will continue to have significant financial implications to the Region and residents. The majority of costs associated with Emerald Ash Borer are related to removing and replacing dead ash trees. The overall budget forecast for Emerald Ash Borer Management over ten years remains unchanged at \$10,000,000, or approximately 10 per cent per cent of Forestry’s budget; however current forecasts call for higher expenditures in the first five years due to the accelerated rate of spread and the advancement of associated ash tree mortality.

As mortality peaks in 2015 and 2016, costs for removing and replacing ash trees will also peak, resulting in an increased budget requirement in those years compared to what was projected in 2011 (*Figure 1*). From 2017 to 2021 costs are expected to gradually decrease as street tree removal and replacement tapers off.

For 2014 \$1,280,000 in funding is required to complete activities including survey, street tree removal and replacement, as well as outreach and education activities. This funding requirement is an increase of \$280,000 over the original forecast and is being advanced through the 2014 Environmental Services operating and capital budget submission.

**Figure 1**  
 2011 and 2013 Invasive Species Budget Forecasts



Note: 2012 and 2013 reflect actual expenditures

Budget forecasts will be updated annually to provide more accurate insights into expected expenditures, especially in the longer term as the insects spread northwards through more rural landscapes. The existing forecasts are current best estimates based on average tree removal costs and estimated number of ash trees along roads in urban and rural areas.

It should be noted that local municipalities are responsible for the management costs and mitigation measures for their street trees, parklands and other assets.

## **6. LOCAL MUNICIPAL IMPACT**

Emerald Ash Borer continues to affect all local municipalities in York Region. The infestation is currently most advanced in the City of Markham (2,000 trees removed in 2013), the City of Vaughan (1,500 trees removed in 2013) and the Town of Richmond Hill (120 trees removed in 2013). These local municipalities have been conducting tree removal and replacement as well as some tree protection. Education and outreach initiatives are shared and coordinated with the Emerald Ash Borer Technical Working Group.

Regional staff will continue to work closely with local municipal staff through the Emerald Ash Borer Technical Working Group to coordinate management actions and provide technical support through sharing of best practices and new knowledge as it becomes available.

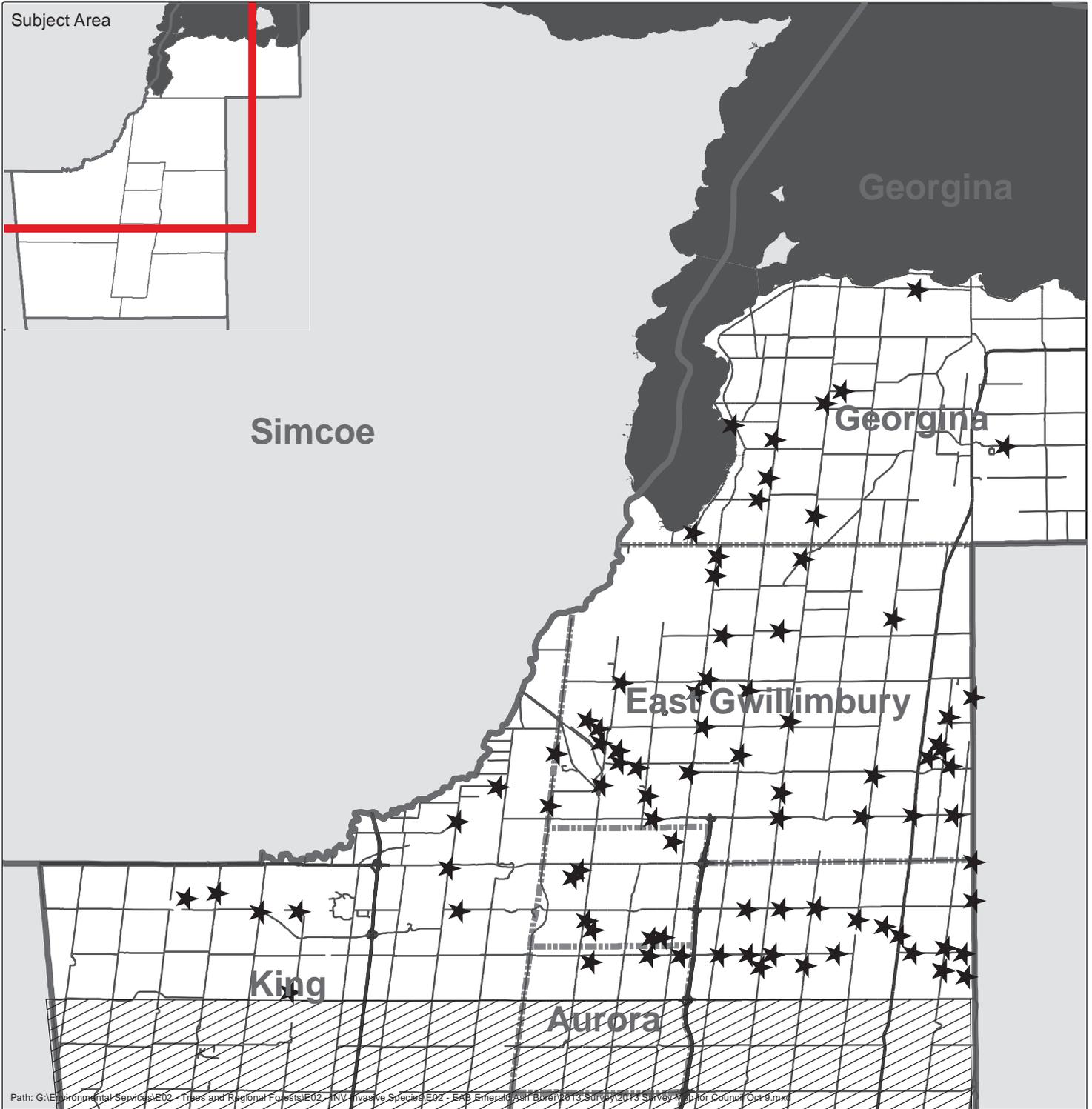
## **7. CONCLUSION**

Emerald Ash Borer is present throughout York Region and threatens all of the Region's approximately 2.8 million ash trees in urban and rural landscapes. Ash tree mortality is occurring at a faster pace than originally predicted, requiring ash tree removal to progress two years in advance of staff's original forecast. Efforts to manage and mitigate Emerald Ash Borer's impacts will continue through implementation of the Emerald Ash Borer Management Plan, including monitoring the infestation's spread and severity, removing and replacing street trees and removing hazardous trees in the York Regional Forest. A key priority continues to be informing York Region residents and equipping them with tools to mitigate the impact of the pest on their private property. Staff will continue to coordinate the Emerald Ash Borer Technical Working Group with agencies and local municipalities to ensure best practices are implemented across the Region in an effective manner.

For more information on this report, please contact Ian D. Buchanan at 905 830-4444 Ext. 5204 or Laura McDowell at Ext. 5077.

The Senior Management Group has reviewed this report.

*(The two attachments referred to in this clause are attached to this report.)*



Path: G:\Environmental Services\E02 - Trees and Regional Forests\E02 - Invasive Species\E02 - EAB Emerald Ash Borer\2013 Survey\2013 Survey Map for Council\_Oct 9.mxd

## 2013 Emerald Ash Borer Survey Results

### Emerald Ash Borer Infestation Update, Nov. 14, 2013

Note entire 2013 survey area is shown — traps were not deployed in known infested areas.



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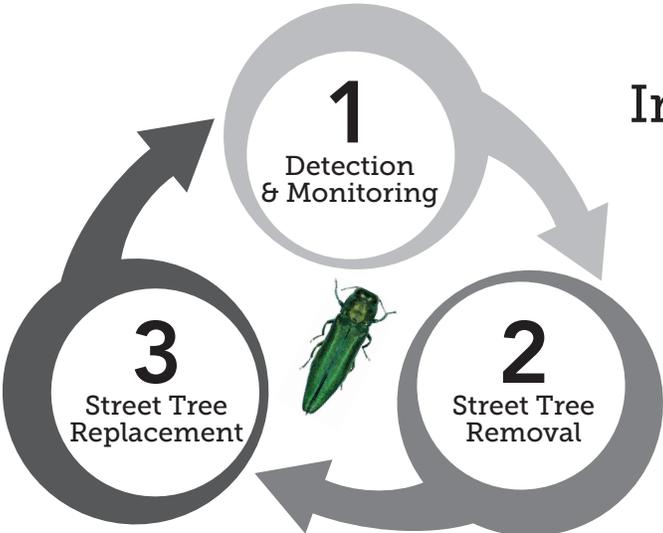


0 3,650 7,300 m

### Legend

- ★ Positive Trap — Emerald Ash Borer detected
- Arterial Road
- Provincial Highway
- ▨ Known Infested Area

# Emerald Ash Borer Infestation Stages in York Region



With continued education and awareness ongoing throughout the region.

