



City of Saint Paul, Minnesota

Emerald Ash Borer Management Program 2015 Annual Report

Emerald ash borer (EAB) was first discovered in 2009 in Saint Paul. This was the first known city/town/municipality in Minnesota to have an EAB infestation, though later research estimated that the destructive beetle may have arrived as early as 2004/2005 in Saint Paul and elsewhere. The City of Saint Paul, Department of Parks and Recreation/Forestry took immediate action in response to this finding, including the development and implementation of the City's EAB Management Program.

From the beginning, officials who have dealt with an EAB infestation elsewhere have warned that it is a fast moving event, meaning that once it takes hold in a city, it can complete its path of destruction in less than 20 years. For Saint Paul, it will mean the loss of all ash trees, not treated with pesticide, including approximately 26,000 (ca 2009) on street boulevards, and tens of thousands more on both public park land/open space and private property. It requires that the city, residents included, must be prepared to handle a glut of dying trees in a short timeframe, or suffer the consequences of thousands of dead and potentially hazardous trees in the landscape.

2015 was Year VI of the EAB Management Program. This document summarizes the events of 2015 along with management recommendations moving into Year VII, 2016. Please note that budgetary pressures became an issue in 2015 and are expected to have a growing impact in 2016 and beyond without adjustments. This is primarily a result of funding remaining flat for personnel, supplies and materials. In the case of supplies and materials, the city has experienced double digit cost increases in recent years.

Monitoring/Inspection

Routine monitoring/inspection for EAB have been an essential tool for extending the timeframe for managing a response to the infestation. Continued vigilance, coupled with sanitation efforts thus far, have likely contributed to the slower than anticipated spread of EAB in Saint Paul. However, this appears to be quickly changing with confirmed EAB findings now spread across 75% of the city (*see map attachment*), a 20% increase from early 2015.

Without an increase in staff since 2010, when only 3.5% of the city was considered infested, inspections of both public and private property have become increasingly difficult and time consuming. With an additional 20% of the city considered infested it would be impossible, with the area and number of trees in need of inspection, to complete a full survey of infested areas as has been done in the past.

2016 Recommendations—Monitoring/Inspection:

- **With no budget increase for additional staff in 2016, concentrate inspection efforts solely on public property ash trees, which will provide needed information on the spread of EAB in the city.**
- **Discontinue proactive inspections for EAB infested trees on private property (see also Education & Outreach section)**
- **Transition to reactive handling of dying ash trees on private property, due to EAB, that would meet the conditions of the City's ordinance for Dangerous Trees.**

Sanitation

The prompt removal of EAB infested trees continued to be a priority in the City's management of EAB in 2015. As such, in 2015 the City:

- Removed 220 public trees from various infested areas (ROW & Parks)
- Condemned 326 private trees; a grand total of 1,036 condemned private trees since 2009.

There continues to be concern for ash trees in difficult-to-access natural areas such as the river corridor bluff lands. The difficulty and cost of identifying and removing these trees has prevented prompt attention and has thus led to unchecked population growth. As mentioned in previous years, the only non-cost-prohibitive tool for these areas is biological controls in the form of parasitic wasps which have been released in Saint Paul since 2011 by the Minnesota Department of Agriculture. To be clear, experts predict that the wasps may help to balance the EAB population, possibly prolonging the onset of an EAB “explosion” that has been experienced in other states. It is not thought to be an effective management tool for street trees, or those on small city lots, but rather in otherwise unmanaged natural settings. For more information on the MDA’s Biological Control Program, visit: <http://www.mda.state.mn.us/en/plants/pestmanagement/eab/eabbiocontrol.aspx>

Private property trees will continue to become infested with EAB, and those trees will die if property owners do not proactively deal with them either by having them removed prior to death or by treating them with an insecticide. As was described in the previous section, going forward in 2016 there simply is not appropriate staffing levels to deal with a city-wide EAB survey, and thus trees on private property will no longer be condemned due to EAB infestation. It is not that private trees are no longer an issue or a concern, but funding levels to manage an appropriate response need to be met in order to deal with a problem of this magnitude.

2016 Recommendations—Sanitation:

- **Plan to remove publicly owned ash trees in EAB infested areas**
- **Employ reasonable management options for infested trees in the river corridor (ex: removal of hazardous trees along paths/roads)**
- **Continue to work with the MDA in monitoring the efficacy of biological controls (through branch sampling projects and wasp releases)**
- **Discontinue the condemnation of private property ash trees infested with EAB**

Inventory

Management of EAB requires the general knowledge of current conditions of the urban forest, i.e., an up-to-date inventory to direct management needs. This information will be of increasing importance as the city may face liability issues with the remaining ash tree resource (currently ~19,000 on boulevards and parkways).

Every year constituents and even visitors to Saint Paul file claims with the City due to damage caused by city-owned trees. Many of these are from ash trees that lose branches or completely fail (ash species quickly become brittle and are prone to failure upon decline and death). Ash trees infested with EAB will die, and unless they are promptly removed either before or immediately after death, such claims are likely to increase. Thus, it is imperative that comprehensive inventory records are kept not only to coordinate public ash tree management, but also to document the call and work history of a particular tree site for use when reviewing risk management claims.

To ensure there continues to be an accurate representation of the urban forest through this dynamic system there also needs to be adequate funding to support its’ upkeep for management and historical purposes.

2016 Recommendations—Inventory:

- **ROW: Continue updating the ROW inventory as needed**
- **Employ seasonal staff when possible to assist with updating inventory**

Structured Removal

The Structured Removal program remained the same in 2015 as in previous years with the exception that with the increase in infested areas these removals now overlap—becoming structured removal of both infested and non-infested trees. This trend will continue to increase as infestations are found throughout the city.

Structured Removal is an economically advantageous program—the necessity of revisiting the same street repeatedly over a number of years to remove one or two ash trees is eliminated; tree and stump removal is faster and therefore less costly; tree replacement is also faster and while planting costs are on the rise the city still saves money in the form of internal staff time. Therefore, it is recommended that the Structured Removal program continue, albeit changing with the times in the form of structured removal of not only declining trees, but those that are infested with EAB as well.

2015 non-infested ROW ash removal numbers include:

- 431 Structured Removal (2009-2015 total = 3,091)
- 291 “Other” (2009-2015 total = 2,125) includes individual dead trees, storm damaged, etc.
- 87 Construction (2009-2015 total = 974) includes PW RSVP, and other construction related removals
- **809 TOTAL** in 2015 (2009-2015 overall total = 6,190)

In response to EAB in parklands (non-ROW areas), Forestry removes a limited number of ash trees from parks throughout the city based on available budget. Currently, it is estimated that 10,000 ash trees in parklands (including those inventoried throughout the parks system in mown turf areas and golf courses) will need to be dealt with over the course of the EAB program.

Again, with the majority of the EAB program funded through street ROW assessments, the City has relied upon the Parks and Recreation general fund budget for work on ash trees in parks, a fund that so far has provided a fraction of what is needed. Nevertheless, using this limited funding Forestry removed 106 non-infested ash trees from various parks in 2015.

2016 Recommendations—Structured Removal:

- **Perform Structured Removal of ash with a goal of removing 1,000 total ash from city ROW’s**
- **Continue ash removals within the scope of opportunity-based programs such as street reconstruction**
- **Continue with the current pace of removing 100 (total) ash trees in city parks (turf/managed areas), unless additional funding is secured**
- **Project for future budgets what is needed for increased Structured Removal resources, both in ROW and Parks general fund budgets**

Insecticide Treatment

The City’s goal for insecticide treatments of public trees is to reduce EAB beetle and larvae populations in known infested areas. The intention is not to preserve ash trees for the long-term, but rather to extend the timeframe to complete ash removals and replanting on public property. For tree survivability, treatments must be repeated at regular intervals (every 2-3 years) for the life time of the tree, creating an ongoing, ever-increasing expense to the City, both in number of trees treated and the cumulative amount of pesticide needed per tree.

One advantage of the treatment program is the benefits derived, both environmental and social, by retaining some large canopy shade trees while reforestation efforts take hold. Although concerns exist over use of pesticides, arguably, an equal environmental impact exists in the potential loss of benefits provided by these trees.

2015 ash treatment numbers include:

- 912 total ash trees treated under contract with private tree care company
 - 825 ROW ash trees (overall total of ROW trees now in treatment = ,1,922)
 - 87 Park ash trees (overall total of Parks trees now in treatment = 179)

Forestry continues to use the insecticide TREE-äge® (active ingredient emamectin benzoate—a non-neonicotinoid), administered through trunk injection (versus a soil drench or other methods). Injecting the

chemical directly into the tree is meant to reduce exposure of pesticide to other non-target organisms. Treated trees have an aluminum tag attached to them with the most recent year of treatment, e.g., “EAB 2015”.

ACTUAL NUMBER OF ROW ASH TREES TO TREATED FOR EAB							ACTUAL NUMBER OF PARK ASH TREES TREATED FOR EAB					
Initial Year	Retreatment					2016 (P)	2011	2012	2013	2014	2015	2016 (P)
2011	299		214	66		214	0					
2012		395			392			5				5
2013			61			61			6			6
2014				734						81		
2015					433						87	
2016						525						89
Total/Yr	299	395	275	800	825	800	0	5	6	81	87	100

2016 Recommendations—Insecticide Treatment:

- Inject 900 public trees in 2016 (614 new and 286 re-treated) using TREE-äge®
- Geographically limit use of insecticides to slow the spread of EAB to areas of known infestation
- Continue issuance of free permits to residents who would like to treat their boulevard ash tree at their own expense
- Evaluate and request for an expanded pesticide budget, if the City chooses to increase the use of this management option
- Project for future budgets what is needed for increased, and recurring, insecticide treatment of ash trees

Reforestation

Reforestation with a diverse pallet of young trees is the primary objective in preserving the vibrancy of our urban forest while reducing the chance of future widespread, biotic tree loss events. While it is impossible to avoid newly introduced pests and diseases, avoiding monocultures through diversity and mixed planting schemes can help to reduce their potential impact.

Since the EAB Management Program began, the goal for reforestation has been to replant a minimum of one new tree for every ash tree lost. However, increases in funding have not kept pace with the quickly increasing costs of tree stock and installation. As an example, in 2010 a 2-inch caliper Hackberry tree cost \$155 (installed). In 2015, the same tree cost \$285 (installed). Taken one step further, a budget of \$150,000 in 2010 would provide 968 trees installed, while in 2015 only 544 would be planted with that same budget.

In 2015, the City planted 1,950 trees, nearly half directly related to ash removal/reforestation efforts. The remaining trees are replacements for trees of other species lost under other circumstances. NOTE: This number does not include the thousands of smaller trees (mostly seedlings or saplings) planted in park natural areas through the Environmental Services unit of the Natural Resources Section.

2016 Recommendations—Reforestation:

- Strive to plant at a 1:1 ratio for ash trees removed on boulevards
- Continue to use mixed planting schemes and a diverse palette of tree species
- Continue natural resource related planting projects in parks to off-set the loss of ash trees, seeking grants and other funding opportunities
- Increase Forestry’s number of gravel bed nursery trees to plant in parks as a replacement for lost ash trees

Outreach

Forestry's main avenue for disseminating up-to-date EAB-related information to residents is via the internet. Every opportunity is taken to post these sites on various documents, publications and presentations. Two address options are available:

- www.stpaul.gov/forestry (*main Forestry web page with links to EAB*)
- www.stpaul.gov/EAB (*bypasses the main Forestry web page and takes you directly to EAB*)

In 2015, the city utilized the following to keep the public informed in regards to EAB:

- EAB website (www.stpaul.gov/eab)
- Direct mail postcards
- Community newspapers
- Social media (Facebook: Saint Paul Natural Resources)
- Tree Advisory Panel (TAP)
- City Council & District Council offices
- Door Hangers
- Staff attendance at various public meetings, workshops, & events

The continued spread of EAB throughout the city has made it impossible in a practical sense to monitor both public and private property, thus it is now more important than ever to provide outreach and education to citizens on what to expect regarding EAB on their own properties. Though Forestry will discontinue making site inspections for EAB at individual private properties, it is, nevertheless, the goal in 2016 to expand outreach to provide information more frequently and in new ways (see 2016 Recommendations – Outreach below). This effort will concentrate on directing citizens to the information needed so they can take action on their own for their private property ash tree(s).

Expansion of existing Citizen Forestry outreach efforts aimed at engagement of communities in planting and maintaining trees is another key goal for 2016. Having more citizens that are knowledgeable and actively assisting the City with public spaces, or helping neighbors plant on private property will ensure the health and longevity of a younger urban forest. An example of one successful ongoing partnership is with the Frogtown Tree Frogs Pop-up Nursery on Dale Street.

2016 Recommendations - Outreach:

- **Continue to keep the public informed utilizing the same approaches as in 2015**
- **Expand citizen forestry programs including planting and maintaining city trees**
- **Forge partnerships with interested organizations or community groups to increase awareness of EAB and promote a healthy urban forest**
- **Introduce a high visibility EAB public awareness measure using tree flagging with a simple message and the EAB website, similar to what is done in Minneapolis**
- **Upon request, attend community meetings to present information on EAB and/or Urban Forestry**
- **Provide property owners additional information on EAB when public trees are marked for removal**
- **Expand efforts to assist citizens with information in dealing with private property ash trees, whether in guidance on the use of pesticides, or managing removal and planting of replacement trees**