



City of Saint Paul, Minnesota

Emerald Ash Borer Management Program 2019 Annual Report -- 2020 Recommendations

Saint Paul's EAB Management Program began in 2010, making 2019 year ten of EAB management in the city. However, as it has been estimated to have arrived as early as 2004, next year will mark the sixteenth year of EAB's existence in our city. Recognizing this complete timeframe is fundamental in understanding the progression of the EAB infestation and projecting future management needs.

Officials who have dealt with EAB infestations elsewhere have warned that it is a fast-paced event, lasting perhaps 10-20 years, before 100% tree mortality is reached. While the spread of EAB in Saint Paul has lagged behind projected curves in terms of ash tree mortality rates, it still means the loss of all ash trees not treated with insecticides, including approximately 26,000 (ca 2009) on city streets, and thousands more on both public parkland/open space and private property. It requires that the city, residents included, 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.

EAB management efforts were expected to remain steady in 2019 given there were no significant overall budget changes. Grant funds from the Minnesota Department of Natural Resources that were available in 2018 were not available in 2019, however a similar sized general budget increase did occur in 2019. This effectively allowed for continued management at the same levels.

This document summarizes management events of 2019 along with recommendations for EAB management in 2020.



Inventory

A basic knowledge of current conditions of the urban forest, i.e., an up-to-date inventory, is required to direct management needs and goals in terms of the EAB infestation. This information is of increasing importance as the city will likely face liability issues with the remaining ash tree resource (currently ~14,300 on boulevards and parkways).

The City of Saint Paul receives dozens of claims for damage caused by publicly-owned trees every year, many of which are for ash trees that lose branches or completely fail (ash species quickly become brittle and are prone to failure upon decline and death). As ash mortality increases due to EAB infestation such claims are likely to increase unless trees are promptly removed, which will only be increasingly less likely as the number of trees in need of removal is expected to rise dramatically. Thus, it is imperative that comprehensive tree inventory records are kept not only to coordinate ash tree management, but also to document calls and work history for use when reviewing risk management claims.

2020 Recommendations—Inventory:

- **Continue real-time updating of boulevard and park trees as work is performed.**
- **Continue to add park land trees to inventory as capacity allows, especially active use areas.**
- **Utilize seasonal staff to assist with updating inventory.**

Monitoring/Inspection

Routine monitoring and inspections have played a vital role in extending the timeframe for EAB management. Coupled with sanitation, it is likely that these efforts significantly influenced the delay in tree mortality in Saint Paul. The extreme cold temperatures during the winter of 2018/2019 and the continued treatment of thousands of ash trees throughout the city have also contributed to the slow spread of EAB and ash tree death. Unfortunately, despite these factors, monitoring efforts in 2019 showed that the EAB infestation has spread to 99% of the city and is now outpacing the removal of known infested trees, with over 2,200 in the queue for removal in 2020.

It is important to note that without additional increases in EAB management staff since 2010, providing inspections city-wide became impossible as EAB progressed across the city. Therefore, as of 2016, EAB inspections are more cursory and no longer include private property. In lieu of providing requested inspections from property owners, beginning in 2019 city staff perform an annual city-wide inspection of all ash trees during the growing season, noting condition ratings for all blocks eligible for the Structured Removal program. This monitoring data is then used to determine the following year's Structured Removal plans.

Just like publicly-owned ash trees, 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 or by treating them with an insecticide. It is a forgone conclusion that the City will be increasingly enforcing its ordinance regarding dead and dangerous trees moving forward. Meanwhile, the City is trying to be proactive in educating citizens on the issues of EAB through its outreach efforts (see Outreach below).

2020 Recommendations—Monitoring/Inspection:

- **Continue annual city-wide inspection of public property ash trees to guide EAB management based on the condition of eligible Structured Removal blocks.**
- **Use information to assess increasing mortality of ash trees due to EAB and help drive crisis management as it evolves.**
- **Include transition to reactive management of dying ash trees on private property, due to EAB, that would meet the conditions of the City's ordinance for Dangerous Trees.**

Removals (previously Sanitation & Structured Removal)

At the beginning of EAB Management in Saint Paul, Sanitation and Structured Removal were distinctly different management strategies. Sanitation was the removal of infested ash trees with the goal of reducing EAB populations, while Structured Removal was the removal of non-infested, declining ash trees with the goal of reducing the overall number of ash trees, and the food source for EAB. Removals is now a more accurate designation for these strategies as EAB has spread city-wide, and the two have essentially merged. The Structured Removal of ash trees is now 100% removal of infested trees, or Sanitation.

Structured Removal was designed as an economically advantageous program—the necessity of revisiting the same street repeatedly over consecutive years to remove individual ash trees is eliminated; tree and stump removal is faster and therefore less costly; tree replacement is more efficient, an important factor when considering that while planting costs are on the rise the city still benefits by saving on internal staff time. With the acceleration of EAB, Structured Removal will be utilized at a much higher rate than in previous years in order to reduce the backlog of infested trees now in the system—over 2,200 identified in 2019 to be removed in 2020.

The concerns from previous years where it was decided to delay stump grinding and replanting has unfortunately become reality once again. Since infested numbers have continually outpaced the City's ability, capacity-wise, to complete removals in a given year, a schedule for 2020 and beyond has been created where stump grinding and replanting are delayed, favoring the higher priority of infested tree removals. This new schedule will see identified infested trees removed in the first year, the stump ground out in the second year, and a replacement tree installed in the third year. This plan successfully front loads the removal of infested trees, allowing the City to remain on pace, however it leaves streets devoid of canopy for several years after the removals.

- **Construction**

In 2010, the Parks & Recreation and Public Works Departments began working together to create efficiencies in street construction projects where ash trees existed. Over the past ten years, nearly 1,600 ROW ash trees have been removed prior to street reconstruction, later replaced with a more diverse pallet of trees. This program has worked well over the years as major street construction has detrimental impacts to the health of mature trees, and while no one likes losing a street lined with trees it is understood by most people why it makes sense to remove ash trees preconstruction.

Unfortunately, as is the case with other streets in the city that are lined with ash trees, many of the streets that are not scheduled to be reconstructed for upwards of 5 to 10 years are becoming infested with EAB. What is problematic in these areas is that from a survivability standpoint it does not make sense to plant young trees on a street that is knowingly going to be torn out in the short-term as it is possible many would need to be removed for construction or would not survive the after-effects of that construction. However, as is also the case with the SR of ash, knowing that a replacement tree will be planted soon after the removal makes the program an easier pill to swallow, so to speak.

- **Parks**

In 2017, a Parks-Ash rating system was created to help guide management as resources to complete the removal of all ash trees throughout the parks system do not exist. The rating includes factors such as park usage, severity of infestation/condition and racial equity. As previous funding levels allowed for the removal of only 100 park ash trees annually, this was a necessary tool. 2020 funding for removal of ash trees in parks will allow the city to remove approximately 300 trees.

Continued concern for ash in difficult-to-access natural areas such as the river corridor culminated in 2017 in an effort led by the National Parks Service affiliate, Friends of the Mississippi River (FMR), to brainstorm how to deal with this regional problem. Thus far, there is no major plan in addressing the impending loss of ash trees in these natural areas other than to support increased efforts our own Environmental Services unit and groups like FMR to lead small volunteer restoration and planting efforts, and seeking out grant funding to supplement these efforts.

Since 2011, the Minnesota Department of Agriculture (MDA) has been utilizing biological controls in the form of parasitic wasps to help combat EAB. The tiny, non-stinging wasps have been released along the river corridor and in other natural areas with the hope that they will help to stabilize the EAB population so that it does not reach the expected explosive growth it is capable of. For information on the MDA's Biological Control Program, visit: <http://www.mda.state.mn.us/plants/pestmanagement/eab/eabbiocontrol.aspx>

2019 ash removal numbers include:

- 2,408 total ash trees removed from city ROW's and Parks (*YTD Total = 15,049*)
 - 1,810 ROW ash trees (*YTD total ROW ash removed = 12,799*)
 - 1,411 Structured Removal (*infested*)
 - 137 Construction related
 - 262 individual infested and other
 - 598 Park ash trees (*YTD total Park ash removed= 2,250*)

2020 Recommendations—Removals:

- **Within budget capacity, remove publicly owned EAB infested ash trees along streets utilizing SR whenever possible.**
- **Continue ash removals within the scope of opportunity-based programs such as street reconstruction.**
- **On park land, within budget capacity, remove all ash trees in parks identified as being infested, utilizing an approach similar to SR.**
- **Continue to employ creative management options for infested trees in the river corridor, e.g., use of grants, partner organizations and volunteers.**
- **Continue to make the case that funding needs to be increased to keep pace with EAB infestation.**

Insecticide Treatment

The City's goal for insecticide treatments of public trees is to reduce EAB populations in order to extend the timeframe to complete ash removals and replanting on public property. Insecticide treatments must be repeated at a regular interval of every 2 to 3 years to ensure survivability from EAB. In 2017, the annual expense for treatment leveled out now that all trees that will be treated are included in the program.

Forestry continues to use various insecticides with 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 2019".

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.

2019 ash treatment numbers include:

- 855 total ash trees treated under contract with private tree care company:
 - 758 ROW ash trees (*overall total of ROW trees now in treatment = 2,687*)
 - 97 Park ash trees (*overall total of Parks trees now in treatment = 315*)
- 102 ROW ash treated by adjacent property owner through permit process

2020 Recommendations—Insecticide Treatment:

- **Treat 1040 ROW and 106 Park trees using Emamectin benzoate.**
- **Continue issuance of free permits to residents who would like to treat their boulevard ash tree at their own expense.**
- **Project for future budgets what is needed for recurring insecticide treatment of ash trees.**

Reforestation

Reforesting the city 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 the introduction of new pests and diseases, refraining from monoculture planting schemes can help to reduce their potential devastating impacts.

Since the EAB Management Program began, the goal for reforestation has been to replace every ash tree removed at a 1:1 ratio. However, funding increases have not kept pace with the quickly rising costs of tree stock and installation. As an example, in 2010 a 2-inch caliper Hackberry tree installed cost \$155.00. In 2017, the same tree cost \$285.00 to be planted. The 2018 price decreased slightly to \$269.00 as a new contract was negotiated with a new vendor. The city was able to extend that contract with the same prices for 2019 and 2020. This slight decrease in price does not come close to offsetting the gap between planting cost and funding levels.

In 2019, through the EAB Management Program, the City planted 1,416 trees of various species directly related to ash removal/reforestation efforts while ash replacements were also planted in construction areas and through the citywide tree planting program. Grant funds, partnerships with groups such as Mississippi Park Connection and Tree Trust, have helped to increase plantings in parks. Through these various programs, the City has been meeting or exceeding its goal of 1:1. 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.

2020 Recommendations—Reforestation:

- **Plan for replanting to occur on a 3-year cycle for SR blocks, eventually reaching a 1:1 goal.**
- **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 planting in parks with less expensive containerized and bare root gravel bed trees as a replacement for ash removed from system.**

Outreach

Emerald ash borer information is primarily disseminated to residents via the internet with two options 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 2017, the city utilized the following to keep the public informed on 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
- EAB Green ribbon (see photo at right)



The spread of EAB throughout the city has made it impractical to monitor all ash trees in Saint Paul, and as stated previously without an increase in inspection staff it has become impossible to track private trees. It has therefore becoming increasingly more important to educate citizens on what to expect regarding EAB on their properties. This effort will concentrate on directing citizens to the information needed so they can take appropriate action now.

Expansion of existing Citizen Forestry outreach efforts aimed at engagement of communities in planting and maintaining trees is another key goal for 2018. 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.

2020 Recommendations - Outreach:

- **Upon request, attend community meetings to present information on EAB.**
- **Expand citizen forestry programs including planting and maintaining city trees.**
- **Expand efforts to assist citizens with information in dealing with private property ash trees, including: guidance on pesticide use, or removal and replacement tree planting.**