Emerald Ash Borer
Frequently Asked Questions
Parks and Recreation – Forestry, Version 5.1, April 2017

What is emerald ash borer?

- Emerald ash borer (EAB), *Agrilus planipennis* Fairmaire, is an invasive tree pest from Asia that has been found in twenty-nine states and two Canadian provinces as of April 2017.
- Adult beetles are metallic green, are about 12 mm long and cause little damage themselves.
- However, EAB larvae feed for one or two years beneath the bark of ash trees, creating characteristic s-shaped galleries. It is larvae feeding damage that ultimately kills the tree.
- Larvae grow and develop beneath the bark into adult EAB beetles that emerge in the spring, chewing D-shaped exit holes through the bark.
- Adult beetles mate and lay more eggs that hatch into immature larvae that burrow into the tree to feed.

Why the concern over emerald ash borer?

- EAB kills all ash trees, *Fraxinus spp*., native to North America that are not treated with an insecticide.
- Minnesota has the largest populations of ash trees in the nation at over 998 million: about 20% of Saint Paul's urban forest is ash trees. Thus, EAB poses a devastating environmental and economic threat to both our city and state.
- As of April 2017, EAB has been identified in 15 Minnesota counties.
- According to the National Tree Benefit Calculator, a 15" diameter green ash tree provides about $147 in benefits every year to the residents of Saint Paul and there are currently over 18,000 ash trees on Saint Paul's boulevards.

Is emerald ash borer in Saint Paul and how did it get here?

- The first known EAB infestation in Minnesota was discovered in Saint Paul in the South Saint Anthony Park neighborhood in May 2009. However, it is believed that EAB arrived as early as 2004.
- EAB has now spread to 99% of the area of Saint Paul, meaning that it has been found in every neighborhood, and will continue to infest both public and private trees.
- It is believed that EAB became established in Saint Paul through human movement of infested wood and wood products (e.g.: firewood and pallets). Without the help of humansn, EAB spreads less than a few miles a year.

How do we slow the spread of emerald ash borer?

- EAB is spread long distances by people. The best way to help reduce this spread is to not move firewood unless it is MDA certified firewood (look for the MDA seal).
- Remember that it is illegal to move all hardwood firewood outside of EAB quarantine areas. See the map of current emerald ash borer status in Minnesota.
- Become knowledgeable about recognizing EAB and remain vigilant to the condition of your ash trees.

How do you identify an ash tree?

- Leaves: Compound (several leaflets per stem), 8-12 inches long with 5-11 leaflets with smooth or finely toothed edges.
- Branching/buds: Opposite with a single bud, typically brown, at the end of the branch.
- Bark: Smooth on younger ash trees becoming ridged, diamond-shaped as tree matures.
- View more ash tree identification information

What is the life cycle of emerald ash borer?

- Adult beetles begin to emerge in May and continue to emerge throughout the summer.
- Females typically lay 40-70 eggs about two weeks after they emerge which hatch in one to two weeks.

- The EAB larvae bore through the bark and into the cambium (outer layer of wood) and feed on the cambium between late July and October. *This is the life stage that is fatal to trees as the cambium is the portion of the tree that transports water and nutrients.*
- The larvae overwinter in the cambium and begin to emerge as adults in May.

How do you know if an ash tree is infested with emerald ash borer?

- Signs of EAB include:
  - Small (1/8") "D" shaped exit holes where beetles emerge (photo at right-not actual size).
  - Serpentine "S-shaped" larval galleries underneath the bark.
  - The presence of larvae or adult beetles. It is best to collect a sample and receive confirmation as these can often be confused with other *native* insects.
- Symptoms of EAB infestation include:
  - General thinning of canopy and increasing dieback until the tree is bare.
  - Increased woodpecker activity/damage is very common, but not indicative of EAB in an unhealthy ash tree.
  - Sprouting of new growth (epicormic sprouts).

What should you do if you suspect a tree is infested with emerald ash borer?

- Please review the above signs and symptoms of EAB.
- Contact Saint Paul Forestry at 651-632-5129 or e-mail forestry@ci.stpaul.mn.us if you suspect a public ash tree to be infested with EAB in Saint Paul.
- If you suspect your private ash tree to be infested with EAB, contact a licensed tree care company.
- For trees outside of Saint Paul:
  - Contact Arrest the Pest @ Voicemail: 888-545-6684 or email: Arrest.the.Pest@state.mn.us (Note exact location and take a digital photo if possible)

What should I be doing with my private ash tree(s)?

- Because EAB infestations have been found throughout the city, it is important to take management measures now.
- View the Private Ash Tree Management Recommendations and the Homeowners Guide to EAB to learn more about management options for private property ash trees.
- Contact a licensed tree care company once you decide to remove or treat your ash tree(s).
- The city encourages residents to replant trees on their property after ash removal in order to take advantage of the countless economic, environmental and social benefits trees provide.

How else can people help?

- Do not transport firewood—"Burn It Where You Buy It"
- If you are interested in helping Saint Paul replant trees and maintain the city's urban landscape, you may make a tree donation.
- Get to know the trees in your own yard. Do you have an ash? What are your plans for it?
- Plant new trees and nurture them—regular watering and correctly mulching your new trees will help to ensure their survival.

What is the City of Saint Paul doing in response to emerald ash borer?

- The Department of Parks and Recreation – Forestry has been aggressively managing EAB since it was first discovered in 2009.
- The Department of Parks and Recreation created the Saint Paul Emerald Ash Borer Management Program in June 2009 which was approved by the City Council to serve as a blue print for action. Refer to this link for the most current version of the management plan.
- The Emerald Ash Borer Management Program focuses on:

- *Monitoring and Inspections:* survey to find infested public trees and new infestations in Saint Paul
- *Sanitation:* prompt removal and disposal of infested public trees
- *Insecticide Treatments:* select public trees within infested areas are treated to help reduce beetle populations
- *Inventory:* of all public property boulevard trees
- *Structured Removal:* proactive removal of ash trees, especially those in declining condition
- *Reforestation:* with a goal of replanting a variety of species to increase diversity
- *Outreach and Education:* in order to give citizens information on the pest

- Forestry monitors public ash trees throughout the city. When infested trees on public property are identified, efforts are made to remove them as promptly as possible.
- Forestry treats selected ash trees with an insecticide in order to slow the spread of EAB and mitigate removal costs.

How does the city choose which ash trees to treat with insecticides?

- Treated trees are selected based on the following criteria:
  - 10-20 inches in diameter at breast height (DBH)
  - Good health; without structural or other defects
  - Good site location: wide boulevard or park setting, no overhead utilities

Why isn't the city treating all of the public ash trees with insecticide?

- Ash trees that are not structurally sound, are unhealthy or beneath overhead utilities do not warrant investment in insecticide treatment.
- Treating all ash trees is not cost effective due to the ongoing expense of the treatments.
- The goal of insecticide treatments by the city is as a tool to assist in slowing the spread of and lengthening the response time to EAB infestations to one that is more manageable.

Does the city use neonicotinoids to treat ash trees?

- Saint Paul does not use neonicotinoids to treat its ash trees. The city injects TREE-äge (active ingredient: Emamectin Benzoate), which is not in the neonicotinoid family of insecticides.

Why is the city removing blocks of ash trees (Structured Removal)?

- There were about 27,000 boulevard ash trees alone in Saint Paul when EAB management began in 2009. As of 2017, there are about 18,000 remaining. To mitigate the effects of EAB, the city began removing blocks of declining ash trees in order to reduce the number of trees requiring removal in the future. This management strategy has multiple benefits that include helping the City get ahead of a pending crisis, spreads out the cost of removing thousands of expected dead trees, creates a more manageable and realistic financial plan, and allows for an increased diversity in the age and species of replanted trees.
- Beginning in 2017, because of the now citywide spread of the infestation, Structured Removal of ash trees has transitioned to blocks of EAB-infested trees, whereas, in previous years removals mainly consisted of non-infested declining trees.

How are residents or property owners informed that their block has been chosen for structured removal?

- Residents are notified via U.S mail; postcards are mailed to all addresses on blocks that will be affected by structured removal (picture of actual postcard at right).

What happens after the ash trees on Structured Removal streets are removed?

- *All of the stumps on Structured Removal streets will be removed when weather permits. For example, if your tree is removed in February, then the stump will be removed in the spring of that year.
- *A replacement tree may be planted by a contractor following the tree and stump removal. There are a few cases where a replacement tree would not be planted, but in general if a tree was removed, one will be planted.

- Forestry is planting a diverse range of species in order to decrease the cities susceptibility to damage from future invasive pests.
  **This has been the normal practice in previous years, however, this activity has been deferred in 2017 due to structural budget issues, hopefully to be resolved for 2018.*

Why can't the city wait for trees to die before removing them?

- Dying and dead ash trees become brittle and pose a significant hazard and liability from falling limbs and branches. If delayed until all the trees are dying from EAB, there could potentially be thousands of trees in need of removal at one time—a scenario that could not be handled sufficiently under current resource allocations.
- Waiting for tree mortality is not considered a best management practice and does not mitigate the spread of EAB.
- If delayed until the trees are dead there will be likely be less timeliness of tree and stump removal, and replanting of replacement trees--all of which are dependent upon available future resources.
- Spreading out the cost of removals and replacement of ash trees over an extended time frame helps that as the EAB population increases in Saint Paul: a) budgets are not as severely impacted; b) there are less ash trees that need to be managed, which is a costly task; and c) possible hazardous situations will be lessened making public areas safer for citizens of Saint Paul.

Is this a special assessment that residents will be billed for?

- Residents will not get an extra bill for this work.

Why are ash trees removed in construction projects?

- In areas where streets are being torn up and re-constructed, i.e., new pavement, curbs and utilities, Public Works and other large construction projects offer a logical opportunity to update infrastructure including boulevard trees that might need to be replaced.
- While efforts are generally made to preserve healthy trees in construction areas, trees in direct conflict with the construction, trees in irreversible declining condition, trees with severe defects, or trees facing other issues such as ash trees with EAB, are removed and replanted for at the conclusion of the project.
- Decisions to leave mature trees through construction must be carefully weighed, because they often suffer from severed roots, compacted soils, or other unintended injuries. Anecdotal evidence shows that many trees that initially survived through a construction project began declining and died several years later, requiring their removal and replacement.
- In fact, the University of Minnesota conducted a study in Minneapolis after a wind storm that found a direct correlation between construction-severed roots of trees that then blew over in wind storms due to instability. Thus, large trees, especially, are highly susceptible to construction damage and need close scrutiny.
- Regarding ash trees specifically, considering the impacts of construction, the inevitability of death from EAB, and the efficiencies gained through project collaboration, it was determined that using Public Works construction projects as an opportunity for additional EAB management efforts was a smart use of taxpayer funds. Thus, ash tree removal and replacement became a regular part of construction project re-landscaping.

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