

Emerald Ash Borer

FAQ Update for Saint Paul, MN

Saint Paul Forestry, Version 2.0, January, 2011

What is Emerald Ash Borer (EAB) and why all the fuss?

- EAB is an exotic beetle native to Asia which was discovered in Michigan in the summer of 2002. It has since spread to 13 states and Canada killing millions of ash trees. EAB affects only true ash trees (*Fraxinus spp.*) and, left untreated, is fatal to all ash native to North America.
- EAB was discovered in Saint Paul in the South Saint Anthony Park neighborhood in May 2009, the first known finding in Minnesota.
- Minnesota has one of the largest populations of ash trees in the nation at over 930 million! Saint Paul's urban forest is comprised of over 25% ash trees. Thus, EAB poses a devastating economic and environmental threat to both our city and state.
- Adult EAB beetles are bright metallic green, about ½ inch long, and have a flattened back. Because they are so small and generally feed in the upper canopy of ash trees, they are nearly impossible to detect in the early stages of infestation.
- Once EAB mature into an adult beetle, they emerge from the tree through a small D-shaped exit hole typically in June, but throughout the summer months. They live until August feeding on the leaves of the tree's upper canopy with females each laying approximately 80-90 eggs. Once hatched, the larvae burrow into the tree and feed on the sapwood. Within the tree the larvae grow and complete the metamorphic cycle of turning into an adult beetle. The entire life cycle takes 1 to 2 years (length may be dependent upon population dynamics).
- The EAB larvae (not the adult) feeding on the inner bark is what eventually kills the ash tree by disrupting the tree's ability to transport water and nutrients.
- There are currently no known native predators to stop EAB in North America.



How did EAB get to Saint Paul?

- On its own, EAB is believed to spread less than a few miles a year. However, within the last 10 years, it has spread hundreds of miles through activities such as moving infested ash fire wood, logs and brush, or wood products such as pallets made of ash wood. While no one knows for sure, it is likely how it arrived in Saint Paul.
- Dendrochronology testing by USDA officials suggests the Saint Paul infestation may have occurred in 2006 or earlier while only being discovered in May 2009, highlighting the difficulty in its detection.
- To prevent further movement, both Ramsey and Hennepin Counties, along with Houston County in SE Minnesota, are under state and federal quarantines which make it illegal to move any ash wood or products, and all non-coniferous firewood from these counties. The message for outdoorsmen/campers is to buy firewood wherever you're camping.

How do you identify an ash tree?

- Leaves: Compound, 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.
- For illustrations and more information, please visit the City's Forestry web page at www.stpaul.gov/eab or <http://emeraldashborer.info/identifyashtree.cfm>



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

- It is important to know the difference between signs of an EAB infestation and symptoms affecting the tree. Symptoms can also be related to other environmental factors, whereas signs are generally indicative of EAB.
- Signs of EAB include:
 - Splitting bark and/or small (1/8") "D" shaped exit holes where beetles emerge.
 - Serpentine "S shaped" larval galleries underneath the bark (photo on right)
 - The presence of adult EAB or larvae (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) from the base of the tree.



What should you do if you suspect a tree is infested with EAB?

- Visit the MDA website and follow the “Do I Have Emerald Ash Borer” checklist. If you still think you have found EAB follow the instructions below:
 - For private trees, contact the State’s “Arrest the Pest Hotline” at 651-201-6684.
 - For public trees in Saint Paul, call the Forestry Office at 651-632-5129.
 - Because May-September is the active period for adult beetles emerging from ash trees, it is important to avoid removing or trimming ash trees during this period. Delay any work until fall or winter and have it properly disposed of at the nearest Ramsey County compost site. They are prepared to have the wood processed through brush chipping that kills any larvae that may exist within.
- If hiring a commercial tree service to perform work, make sure they meet the following criteria:
 - They have a good understanding of EAB quarantine regulations and best management practices.
 - They are currently licensed to work in Saint Paul, are bonded and insured. A current list of licensed tree care companies is available through the Forestry website at www.stpaul.gov/eab
 - They preferably have an International Society of Arboriculture (ISA) certified arborist on staff.
 - They have State of Minnesota Licensed Pesticide Applicators if using pesticides (see more on this below).



What is the City of Saint Paul doing in response to EAB?

- The Department of Parks and Recreation, Forestry, began partnering immediately with the Minnesota Department of Agriculture (MDA) and United States Department of Agriculture (USDA) to locate and remove infested ash trees.
- The Department of Parks and Recreation created the Saint Paul EAB Management Plan June 2009 (approved by City Council) to serve as a blue print for action. This plan is available at www.stpaul.gov/eab.
- The EAB Management Plan focuses on
 - survey and detection for EAB infested trees
 - prompt removal and disposal of infested trees
 - overall inventory of city boulevard trees to help determine the impacts of EAB and future action plans
 - “structured removal” of non-infested yet declining ash trees
 - reforestation of all removed ash trees
- Saint Paul received a 17 month grant from the State of Minnesota Outdoor Heritage Fund, Forestry Protection Reserve beginning in 2010 to increase its EAB management efforts. 2011 is the continuation of this effort, though the grant runs out in May. City funds will replace the grant funding at its conclusion.
- Forestry monitors the infested area for newly infested trees which are promptly removed when identified.
- Forestry, per ordinance, inspects private property trees for EAB and will order the removal or abatement of the nuisance.
- Forestry, with its partners, employs various techniques such as girdled “sink trees” (photo on right) and placement of “purple traps” to verify if EAB is nearby.
- Using specific criteria, Forestry has identified a small number of public property ash trees in the current infested area and will begin insecticide treatment to further slow the spread of EAB. Additional requests for treatment will not be honored at this time.
- Other refinements in 2011 to the EAB Management Plan can be found on the Forestry website at www.stpaul.gov/eab

Why is the City removing non-infested ash trees (“structured removal”)?

- The city has a large number of ash trees in decline and has been removing, for safety reasons, those with more than 30% of the canopy showing signs of decline. While many of these trees may still be alive, their state of decline will not be reversed.
- The ash tree population in Saint Paul was estimated to compose over 25% of the total tree canopy, and over 30,000 on public street boulevards alone. To mitigate the effects of EAB, structured removal of declining trees will reduce the number of dead trees standing in the future. And it will spread out the cost and effort of removing thousands of trees, thus minimizing a spike on city tax payers..
- Subsequent replanting after structured removal will ensure greater age diversity of the urban forest replacing the ash.
- Logically, declining ash trees throughout the city will be maintained less and removed more aggressively in coming years than in the past due to the existence and inevitability of EAB.
- Once infested, it takes 2-3 years for EAB to kill a healthy ash tree.
- Unlike Dutch elm disease before it, EAB does not discriminate; it kills all native ash trees--declining or healthy.
- Experts have predicted that EAB could be confirmed throughout Saint Paul within a few years and original estimates suggested that there would be thousands of dead ash trees citywide within 5-8 years. However, the management work that is currently being done to slow the spread of EAB in Saint Paul has been effective, so far, in avoiding a quick and widespread infestation. This is critical not only to Saint Paul but to other regions of the state, as well.



What happens after the trees are removed?

- All of the stumps from the ash trees removed on the “structured removal” streets as well as stumps on those blocks from previous years will be removed when weather permits. For example, if your tree is removed in February, then your stump will be removed in the spring of that year.
- Reforestation will follow tree and stump removal dependent upon the season. For instance, if your tree is removed in January a new tree would be planted that spring. Trees are planted twice per year; in the spring and fall. There are a few species, e.g., oak and hackberry, that are not available for fall planting so in some instances it may be necessary to wait longer for a tree depending upon the species chosen and timing.
- Replacement trees are generally 2” diameter at breast height (8-15 feet tall) balled and burlapped (B&B) nursery stock. All new trees are installed by a contractor, and mulched and watered at the time of planting.
- Example species that may be planted on your boulevard (not a complete list): elm, hackberry, maple, oak, linden, river birch, Kentucky coffeetree, crabapple, serviceberry, and more.
- Property owners will be notified in advance of planting by way of a door hanger. This will provide the species type, maintenance information, and Forestry contact information should you have any questions or concerns. You may also notice white “T’s” painted on curbs--this indicates the general location of planting, though it may ultimately move due to underground utility conflicts.
- Property owners will also be supplied with a watering bag for their new tree or trees shortly after planting. Instructions for use will come with the door hanger. Typically, this 20 gallon capacity green or black bag zips onto the base of the tree and when filled with water, releases it slowly over 5-9 hours. This enables the roots to absorb as much water as possible while reducing run off.

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 is not considered a best management practice nor does it help with the mitigation of EAB spread.
- If delayed until the trees are dead there will be no guarantee as to the 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 will ensure that when EAB populations do increase: a) budgets are not as severely impacted; b) there is less of an ash resource to deal with at that time; and c) possible hazardous situations will be decreased making public areas safer for citizens of Saint Paul.



What about using pesticides to save the ash trees?

- Several insecticides are available and marketed to kill EAB, but vary in application, cost, and effectiveness.
- Insecticides have to be re-applied for the life time of the tree on an annual or bi-annual basis, have a limited track record of use for EAB (less than 10 years), and provide no guarantee. However, if a private property owner desires to save their tree using pesticides, it is recommended to begin treatment once EAB is confirmed to be within 15 miles. Individuals would be wise to also consider the possible negative environmental effects of the pesticide before using. To learn more about treatment options and research, visit <http://www.emeraldashborer.info> or <http://www.extension.umn.edu/issues/eab/> or see the “Resources for Homeowners” section on www.stpaul.gov/eab
- New in 2011 the city will be treating a select number of ash trees located in the “known infested area” to further slow the spread of EAB. These trees have been identified by Forestry staff 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, no overhead utilities
- Declining public ash trees identified by staff for removal do not warrant the ongoing expense of such treatment as insecticides do not reverse severe decline.
- Overall, an insecticide only response for saving publicly-owned ash trees is not expected because of the ongoing expense of annual or bi-annual treatments, the uncertainty of how well the pesticides will work over the long haul, and concerns about the continual introduction of pesticides into the environment and their possible effects.
- The goal of any insecticide use by the City will be to employ it as just one tool to assist in slowing the infestation and spreading out the overall response to a more manageable time and expense.

What will the City's actions do to property values?

- EAB is now a reality for Saint Paul that will not be eliminated. Potentially, dead or dying trees do not increase property values. In fact, having an ash tree in or near your property may soon be considered a liability to any prospective buyer.

- Thus, implementing a long-term EAB Management Plan is considered a value-increasing opportunity to deal with declining ash trees throughout the city. While there is a definite short-term loss, including less shade/canopy, at least there will be new trees and a hopeful future.
- Beginning the process of reforestation with a more diverse set of species sooner, rather than later, provides a head start for a new, healthy, and more diverse--in both species and age--urban forest.
- New planting techniques, such as sequencing of two different species, provides a start to increasing diversity on boulevards and reduces the chance of wholesale neighborhood tree loss in the future.
- It is not a question of *if* the ash will succumb to EAB, but *when*. It may take two years, five years, or ten years, no one knows. However, if replaced now, it is more likely to have a substantial new tree in 10 years rather than a dead ash tree.
- Through this program, stumps will be removed promptly. Alternatively, waiting until all of the ash are dead, would only prolong the amount of time a stump remains on the boulevard as the priority would likely switch to removing dead trees rather than stumps.

How did the City select areas for structured removal?

- In 2010, a goal was set to spread the impact of tree removal equitably around the city, so blocks with the worst declining ash trees were identified in each Council Ward and removed in their entirety.
- In 2011, the approach has been refined to focus more on areas with the worst declining ash regardless of ward and to take into consideration those trees on a chosen block that are not showing signs of decline. If the homeowner(s) wish to keep those healthier trees for the short-term they will be left. However, there is no guarantee these trees will not be removed at a later date, and follow-up stump removal/reforestation may not occur as quickly.
- In 2011, areas scheduled for RSVP street reconstruction will be targeted for ash removal prior to construction in order to take advantage of efficiencies and to avoid the need for multiple boulevard restorations.
- Community meetings are planned and held in advance of Forestry crews beginning work in new areas. Notification of the meetings has been through postcards mailed directly to affected addresses, District Council communications and various media such as community news papers. (Please see www.stpaul.gov/eab for the times and locations of upcoming meetings.)
- Structured removal work will be avoided in the summer months, the active period for adult beetles, to reduce the chances of inadvertently spreading EAB to other parts of the city as it is a possibility that some of these trees are infested.



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

- Residents will not get an extra bill for this work. However, beginning in 2011, the City has added a new 2% surcharge on Right-of-Way assessment rates dedicated to EAB Management. The assessment is charged to all properties that abut a ROW. The added surcharge helps replace the expiring Minnesota Forest Protection Reserve grant funding.

If this is about EAB, then why aren't you removing trees where you know it is located?

- All discovered EAB infested ash trees on public property are promptly removed, and all have been located within 2.5 miles of the original find. Saint Paul will continue the aggressive removal of any confirmed EAB infested trees.
- Leaving live, non-EAB, ash trees in the original infested neighborhood of South St. Anthony is a strategy to contain the pest in the area as long as possible. If all ash trees were removed, the loss of potential food and egg-hatching sites for the beetle would cause them to spread even further.
- Other strategies are also employed (girdling and treatment) to keep EAB contained as long as possible

What plan does the City have to address private property EAB-infested ash trees?

- The city updated its ordinance in 2010 to include inspection for EAB on private property and to order the removal or abatement of such nuisances as needed.
- While the infestation is still in its early stages, it is likely that the city will make use of all its ability to slow the spread of EAB, which includes the removal of EAB on private property.
- If a private property tree is found to be infested with EAB, it will be the responsibility, including financially, of the property owner to remove the nuisance. If the owner refuses to comply with an order to do so, the city may abate the nuisance and all associated costs for doing so will be assessed to the property owner.
- All property owners have the right to appeal any such action.

Any parting advice?

- EAB information for Spanish or Hmong speaking citizens is available through the MDA, along with many other excellent documents and pamphlets. Please visit their web site for links and information at: <http://www.mda.state.mn.us/plants.aspx>
- While EAB will be challenging for all of us in the next decade, it offers an exciting opportunity to create a more diverse and healthy urban forest. Meet the challenge head on by planting a new tree of your own!