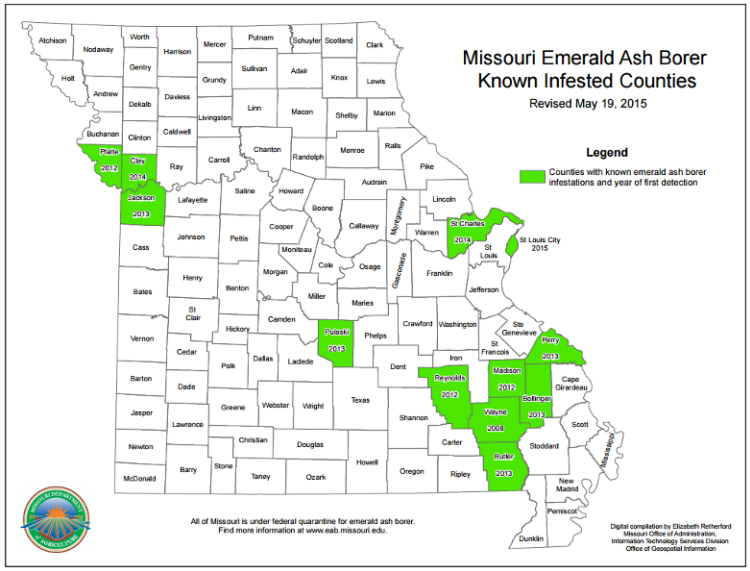
Emerald Ash Borer in St. Louis – A Strategy for Treatment, Removals, and Replanting

Forestry Division - City of St. Louis – June 12, 2016

Information available at: www.stlouis-mo.gov/ash-borer/

Introduction:

St. Louis has a rich history as a nationally recognized community forest, but faces the loss of a large portion of its public and private tree resource in the years ahead. An invasive and exotic pest known as Emerald Ash Borer (***EAB***) has infested ash trees in St. Louis. The pest was discovered by a utility contract crew working for Ameren in the area near Calvary Cemetery on May 6, 2015. EAB is a very serious pest and has a track record of *killing all untreated ash trees* in infested cities since it was initially discovered in the US in 2002 near Detroit, Michigan and has spread to several thousand communities in the US. Infestations have killed tens of millions of ash trees throughout the eastern United States.



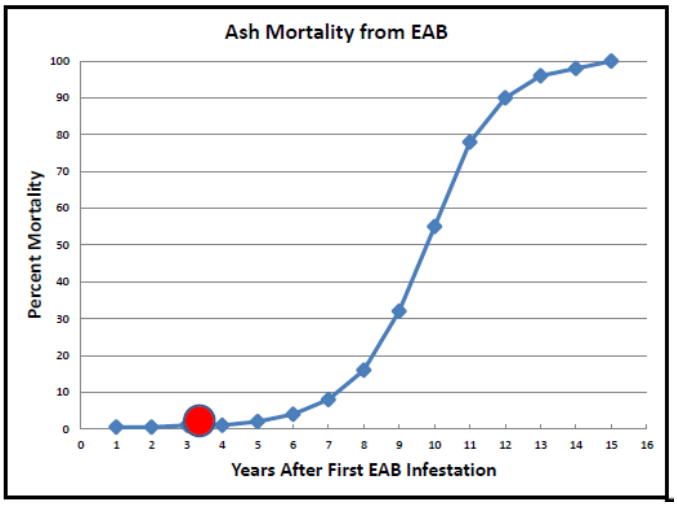
Emerald Ash Borer (EAB) in Missouri

It was first discovered in Missouri in 2008 and is currently known to exist in the Kansas City area, and parts of southeast Missouri, St. Charles County and the City of St. Louis.

St. Louis Forestry Division Preparedness - Since the arrival of EAB in Missouri, the City of St. Louis Forestry Division has been proactive by updating its current inventory of trees and proactively removing some of the ash trees that are in poor condition from other causes. Street trees and most park trees are now mapped and listed in a computerized GIS database. Forestry Division developed a preparedness plan using this data and calculated the benefits that ash trees provide to the city. No ash trees have been planted in the city since 2008. We also partnered with government agencies and met with local utilities and other cities to assess the threat of EAB. Residents of St. Louis can see a map of most ash street and park tree locations on the web site showmotrees.mytreekeeper.com/ The site was developed by Davey Resource Group. Clicking on the small green bug icon will highlight ash locations.

Ash and EAB Facts:

- Updated inventory data indicate there are approximately 14,000 ash trees along St. Louis streets making it the most common species and comprising 17% of all street trees.
- There are approximately 450 ash trees in the mowed and manicured areas of nine of our larger city parks, plus an additional 1000 in Forest Park. (Forest Park is developing a separate response plan.) There are others in smaller parks and publicly owned woodlands and natural areas.
- Ash trees are also found on privately owned residential sites, campuses, commercial properties, and in privately held woodland settings.
- Additionally, ash trees are found on some of the vacant properties throughout the city and near overhead utilities.
- EAB will kill all unprotected ash trees. The number of ash killed each year will rise dramatically soon after the pest invades an area. This is verified with experience in many other cities with EAB infestations.
- Dead ash trees become extremely dry and brittle creating high risk.



Ash Mortality Curve indicating tree loss each year after EAB moves in to an area. EAB has likely been in St. Louis for 3-4 years.

Ash and EAB Considerations:

Residential street lined with dead ash trees in 2012

The first cities to deal with EAB cast aside large scale concerns and planned to simply remove trees as they died. They learned the hard way that they could not keep up with the mounting numbers of dead trees on their hands. Poor strategies in other cities created issues related to budgeting and public opinion. The cost of dealing with EAB is high, but the cost of not dealing with it is even higher.

The Forestry Division commissioned a study in 2009 that measured the benefits provided by St. Louis' street trees. The study indicates that ash trees on St. Louis streets provide annual benefits of $600,000 per year. Benefits include storm water reductions by capturing water in the tree canopy, shading and cooling, air quality improvement, and increased property values.

A strategy which includes the protection of viable ash trees, the removal of other ash trees, and replanting, will take a large effort to deal with both public and privately owned ash trees. The City will be a responsible steward of publicly owned ash trees and provide timely and relevant information to its citizens so that they are informed and prepared to deal with EAB.

A project of this size will need monitoring, coordination, and the transformation of plans into action. The City's Forestry Division will continue to seek assistance and partnerships with researchers and other municipalities to ensure that its strategy is utilizing the most current and best tools available over time.

Additionally, it is important to understand that the loss of ash trees must be dealt with as a "new and continuing storm" while current critical forestry services will need to continue. Dealing with EAB has often been referred to as the ice storm that lasts for years. With good planning and implementation of a coordinated strategy, the impact can be limited to a temporary loss in tree canopy, with minimal risk to the general public.

The City of St. Louis Response:

Some trees will be protected with chemical treatments, but most will be removed over a five-year period.

With such a large scale removal of trees, the City will give strong consideration to replanting enough trees to compensate for the impact of the loss of so many trees. The ideal goal is zero net loss of tree canopy.

Treatment and Control - Develop priorities about which trees are the most economically feasible to treat and protect.

- Forestry Division is planning to treat about 1,000 ash trees that are 13 inches in diameter and larger that are in good or better condition. This represents about 7 percent of the ash street tree population.
- Treatments will be made

with a botanic injectable insecticide that is derived from neem seeds. This organic pesticide is effective and provides a high degree of safety for residents. Treatments are effective for two years and then need to be re-applied for the remaining serviceable life of the tree.

- Treatments will begin during May of 2016. One-half (500) of our street tree candidates will be treated the first year and the other half will be treated the next year.
- Selected park trees will also be treated. Forest Park has an aggressive plan to project its healthy ash trees as well.
- Residents with healthy ash street trees that do not meet the Forestry Division treatment criteria can apply for a no-cost tree permit to treat the tree at their expense.

Tree Removal - Prioritize and schedule trees to be removed.

- Approximately 2600 ash trees will be removed each year for the next five years. Removals will begin in July of 2016 and continue for the next five years. Treatments and removals will begin in areas closest to the original EAB discovery.

- Infested trees need to be removed as quickly as budgets allow as they will die within 2-3 years of being infested. Dead ash become extremely brittle and create a public safety risk. Tree mortality rates will increase rapidly each year and will likely peak in approximately 6-8 years. Rather than waiting for mortality rates to reach levels that cannot be managed, most cities find it's best to preemptively remove trees, even before they decline. An aggressive removal program of untreated trees will insure public safety and reduce the need for emergency removals.
- EAB traps have been placed in 40 locations throughout the city annually to monitor the location of infestations. Inspections by staff and reports from the public will assist in assigning areas where ash tree removal will be scheduled.

Re-planting and Recovery – Re-planting will achieve complete replacement of all ash trees removed.

- Replanting will utilize aldermanic funds that have historically been used for tree planting. Many aldermen have increased funds committed to tree planting in their wards.
- The City of St. Louis is cooperating with a local non-profit, Forest Re-Leaf of Missouri to secure tree planting grants and provide assistance with replanting and recovery efforts.
- A palette of approximately 40 species will be utilized for replacements.

Education and Outreach – Create a plan for communicating effectively with staff, elected officials, the public, and the media.

- Tree issues can be emotional with a large amount of public interest. Facts and sound strategy will insure a sound program of treatment, large scale removals, and replacements.
- Web site updates are underway to educate residents about the city's EAB strategy and to provide information for residents to make informed decisions about treating trees on private property.
- Forest ReLeaf will develop a neighborhood outreach program to keep residents about EAB activates in the area.

Urban Wood Utilization – Explore wood utilization markets to encourage highest and best use of ash wood.

- While local sawmills will likely have little interest, small scale custom sawmillers may have a use for the millable logs. With adequate funding, the city will explore the purchase of a small sawmill to make use of this resource.
- Smaller pieces will be chipped and composted or made in to mulch and made available to the public.
- Proper milling and chipping will not spread the insect. All state and federal regulations about quarantined wood will be followed.