

# EMERALD ASH BORER MANAGEMENT PLAN

## Community Action Elements

**Title** - Identify the Plan and place it in context with other municipal/townships policies.

**\*Purpose** - Declare the purpose and intent of the Plan and how it affects public health, safety, and welfare.

**Applicability** - Describe the locations and circumstances where this Plan applies; i.e., citywide on public properties or where privately owned ash trees may impact the public rights-of-way.

**Administration** - Identify the municipal/township agency responsible for ensuring implementation and compliance.

**Definitions** - Define any technical terms that may be misunderstood or need clarification.

**\*Ash Removal** – Inventory all publicly owned ash trees, and prioritize a removal plan.

**Monitoring** - Identify possible sources of EAB importation into the community such as campgrounds, nurseries, and firewood dealers, and monitor nearby ash trees for infestation. Create a detection tree program.

**Wood Utilization and Disposal** – Spell out each step necessary for Ohio Department of Agriculture compliance for municipal workers, residents, and contractors. Develop a utilization and disposal strategy.

**Communications** – Develop a Communication Plan by outlining and prioritizing target groups, your intended messages, and possible media delivery systems.

**Education** – Identify educational needs for staff, residents, and contractors; i.e., tree and pest ID.

**\*Canopy Replacement and Care** – With an emphasis on species diversity, include a replacement strategy with possible species, locations, stock specifications, planting instructions (Ohio Nursery & Landscape Association/ODNR Division of Forestry tree planting specifications), and future care information. Include a reasonable timeframe.

**Postponed Work** – Describe how normal urban forest management activities will be affected and for how long; i.e., pruning cycle, planting projects, leaf pickup.

**Other Departments** – Outline how the lead agency will work cooperatively with other municipal departments such as public service, finance, parks and recreation, etc.

**\*Private Ash Trees** – What information, services, or mutual assistance will you provide to residential and commercial properties? Possibilities include, a cost share program for removal and/or planting, or an “adopt a tree” program for replacement tree planting. Give serious consideration to implementing a tree care company permit system to address work quality and safety issues. Dead and dying ash trees, not promptly removed by the property owner, may pose a safety concern to adjacent private and public sites. Whether handled by combative neighbors through the legal system, or a condemnation process by the municipality, there should be a procedure in place to address these trees.

**City Forester** – Make the case for professional oversight of the resource.

**Contact List** – Provide a list of helpful individuals, agencies, or companies, such as the Ohio Department of Agriculture, the Ohio Department of Natural Resources Division of Forestry, Ohio Chapter International Society of Arboriculture, local media, Woodmizer, etc.

**Hiring an Arborist** – Include information for residents and businesses on how to locate and employ qualified contractors.

**Approved Contractors' List** – Provide a list of firms you feel are competent, qualified, and available based on your permit system.

**\*Budget** – Identify a budget and timeframe for dealing with this issue.

\* Management elements that should be included in every plan.

## Elements of an Emerald Ash Borer Preparedness and Management Plan

### Executive Summary

- Goal of Plan
- Introduction to the Emerald Ash Borer
- Assessment of Existing Resources: overall resource, staffing and equipment capabilities
- Inventory data
- Operational and Costs: Options and Implications
  - Total Mitigation Costs and Options
  - Equipment Costs
  - Wood Utilization and Marshalling Yards: Costs of Options
- Public Education and Communication

### Detailed Plan

- Goals
- Mission Statement
- Purpose and Scope of Plan
- Introduction to the Emerald Ash Borer
- Monitoring and Detection Methods: Statewide and Locally (i.e., branch sampling)
- Municipal Authority to Control EAB and Designation of Responsibility
  - State and Federal Authorities, Quarantine Restrictions
- Specifics of Existing Resources
  - Inventory Process, Data, Overall Resource
  - Equipment
  - Personnel
- Management Recommendations - Overall
- Plan Recommendations
  - Budget and Resources
  - Public Education and Communication
  - Treatment Recommendations/Priorities
  - Removal Recommendations/Priorities
  - Recommendations for Privately-Owned Trees: Treatment and Removals
    - Authorities in City Ordinances and/or Kansas Tree and Shrubbery Law
  - Debris Management and Utilization Yards
  - Restoration and Replanting Efforts
- Operational and Cost Implications
  - Cost Estimates for Treating Selected Trees
  - Mitigation Cost Analysis: In House or Contracted
  - Cost of Equipment
  - Cost of Utilization and Marshalling Yards
- Public Education and Communication
  - Reporting Protocols: State and Local
  - Local EAB Team
  - Media Outlets
- Definition of Terms
- FAQs

### Source:

*City of Fitchburg, Wisconsin, Readiness and Response Plan. Found online at <http://dnr.wi.gov/topic/UrbanForests/documents/EABToolBox/EAB-FitchburgReadinessAndResponsePlan.pdf>*



**Preparing for an Infestation of the Emerald Ash Borer**

| <b>RESOURCE MANAGEMENT</b>  | <b>UTILIZATION-DISPOSAL</b>  | <b>PLAN DEVELOPMENT - AUTHORITIES</b>   | <b>BUDGET PREPARATION</b>  |
|---|--|---|--|
| <p>Determine the potential for loss</p> <ul style="list-style-type: none"> <li>▪ Conduct an inventory of publicly-owned ash trees to identify their condition and location.</li> <li>▪ Determine interest of neighborhoods or homeowners associations to assess ash populations on private property.</li> </ul> <p>Enact an ash reduction strategy</p> <ul style="list-style-type: none"> <li>▪ Remove ash trees in poor condition</li> <li>▪ Remove the youngest ash.</li> <li>▪ Remove ash in poor locations.</li> </ul> <p>Create an ash management plan.</p> <p>Inventory and inspect ash populations regularly.</p> <p>Institute a branch sampling procedure for when ash trees are removed.</p> <p>Require contract arborists to branch sample when ash trees are removed.</p> <p>Establish Now! Plant a diverse array of trees to replace what is removed and in advance of future loss. Correlate planting programs with maintenance programs.</p> <p>Identify vacant planting locations and areas that will lose canopy due to removals.</p> <p>Prepare or review planting specifications for tree planting contracts.</p> | <p>Identify where wood debris will be collected and stored.</p> <p>Create a process that will extract logs and branches that can be utilized from tree parts that can only be chipped or burned.</p> <p>Develop a staging area for urban logs that are to be utilized.</p> <p>Identify business and partnership opportunities within and outside your community.</p> <p>Review use of wood disposal sites and alter practices that could allow regulated items to leave the quarantine zone.</p> | <p>Develop a community response and communications plan. See the Kansas plan at <a href="http://agriculture.ks.gov/docs/pp-emerald-ash-borer/ks-emerald-ash-borer-response-plan-revision-2-12-10.pdf?sfvrsn=0">http://agriculture.ks.gov/docs/pp-emerald-ash-borer-response-plan-revision-2-12-10.pdf?sfvrsn=0</a></p> <p>Review the Kansas Tree and Shrubbery Law at <a href="http://agriculture.ks.gov/docs/pp-plant-protection-page/kansas-tree-and-shrubbery-law.pdf?sfvrsn=0">http://agriculture.ks.gov/docs/pp-plant-protection-page/kansas-tree-and-shrubbery-law.pdf?sfvrsn=0</a></p> <p>Create a community tree ordinance if your city does not have one.</p> <p>Review or revise existing tree ordinances as necessary.</p> <p>Review risk management plans, priorities, and policies. Dead and dying trees = potential hazards.</p> <p><i>tree + shrubbery law distills what cities/owners can do, and gives them the authority to give removal of infested trees on private grounds</i></p> | <p>After completion of the ash inventory:</p> <ul style="list-style-type: none"> <li>▪ Determine trees that are a priority to retain in the landscape, those that should be removed, and those that will remain until removal occurs later.</li> <li>▪ Calculate current and future costs to manage, such as tree removal, stump grinding, chemical treatment, and planting of new trees.</li> </ul> |

| PARTNERSHIP OPPORTUNITIES   | STAFF AND TREE BOARD TRAINING   | PUBLIC AWARENESS   |
|---|---|--|
| <p>Develop partnerships with green industry and businesses, such as:</p> <ul style="list-style-type: none"> <li>▪ Utility providers</li> <li>▪ Nurseries/growers</li> <li>▪ Commercial arborists</li> <li>▪ Wood disposal sites in county or those commercially-owned.</li> <li>▪ Wood utilization companies or sole proprietor business owners who utilize wood.</li> <li>▪ Landscape architects</li> <li>▪ Architects</li> <li>▪ Building contractors of residential or commercial properties.</li> </ul> | <p>Share results of the tree inventory with the Mayor and City Commission, all city departments, and advisory boards. For example, the results of Mission Hill's inventory were presented to the city commission, tree board, planning board, architectural review board and board of zoning appeals.</p> <p>Encourage all or some staff to hold the credentials of a Kansas Certified Arborist or ISA Certification.</p> <p>Support and encourage training of all staff and tree board members. This could include:</p> <ul style="list-style-type: none"> <li>▪ How to identify all trees, but especially ash.</li> <li>▪ How to identify emerald ash borer, know how it damages, and how it spreads.</li> <li>▪ Learning the branch sampling method.</li> </ul> <p><b>Form a tree board and establish a forestry program if your city does not have.</b></p> <p>Communicate within the city, including the city commission, emergency management, and staff of all departments to:</p> <ul style="list-style-type: none"> <li>▪ Relay knowledge of current risk.</li> <li>▪ Understand the environmental, social, and economic impacts to the community.</li> </ul> <p>➤ For example, if ash trees comprise 15% of the street tree resource and those trees are lost, stormwater discharge to nearby streams and rivers will increase substantially and affect your city's ability to maintain compliance with state and federal regulations.</p> <p>➤ Or if the population of ash trees is high in shopping districts, losing ash trees and not replacing them will make those areas less attractive to shoppers and drive down the costs that merchants could be charging for their goods.</p> | <p><u>Communities well outside of the quarantine zone</u></p> <p>Encourage your residents to:</p> <ul style="list-style-type: none"> <li>▪ Purchase locally-sourced firewood to slow the spread of EAB and help keep it out of your city. Even providing a list of local vendors could mean the difference of the emerald ash borer being transported into your community or not.</li> <li>▪ Plant a wide array of trees now to protect and enhance the environmental, social, and economic benefits of your community forest. Check out this article at the Kansas Forest Service website (<a href="http://www.kansasforests.org/events/diversity.html">http://www.kansasforests.org/events/diversity.html</a>) and find public properties where numerous types of trees can be seen!</li> <li>▪ Replace trees that have already been lost to drought, storms, and other factors.</li> </ul> <p>Offer tree seminars on how to select trees and properly place, plant and establish them.</p> <p><u>Communities near the quarantine zone</u></p> <p>All of the above, plus prepare your community by:</p> <p>Writing articles for the city newsletter, posting articles on the city website, developing a city EAB webpage, posting to social media, providing print materials, and utilizing all outlets available to inform your residents of the problem close at hand and how they can help combat it and prepare for it.</p> <p><u>Communities in the quarantine zone</u></p> <p>All of the above, plus:</p> <p>Inform residents of the problem at hand.</p> <p>Provide education to teach how to identify ash trees, identify the emerald ash borer, and how to report it.</p> <p>Share research-based treatment options.</p> <p>Inform residents about the city's preparedness and response plan and how it will affect them. Use all available media outlets and hold public meetings.</p> |



Ash trees near death due to EAB

## Emerald Ash Borer

Help slow the spread of this killer. Here are some ways you can help:

- ◆ Don't move firewood
- ◆ EAB can be transported long distances in firewood. When you camp, leave your wood at home. Buy only local firewood, and burn it all before you leave. Once transported into new areas, EAB can become established and kill local trees.

Avoid planting ash trees

- ◆ EAB kills only ash trees. Choose other shade trees for landscaping.

Investigate potential EAB infestations

- ◆ Follow the steps in this brochure to determine whether your ash tree suffers from EAB or some other ailment.

Photo credits: top left—Joseph O'Brien, USDA Forest Service, Bugwood.org; top right—Daniel Herrms, The Ohio State University, Bugwood.org; cover adult EAB—David Cappaert, Michigan State Univ., Bugwood.org; cover emergence hole—Noppadol Paothong, MO Dept of Conservation

**If you believe your ash tree is infested with emerald ash borer, please call (785) 564-6698**

Not sure if your ash tree suffers from EAB? Call a certified arborist or forester for help. Use these websites to locate a qualified professional in your area:

International Society of Arborists  
[tinyurl.com/omsugc6](http://tinyurl.com/omsugc6)

Kansas Forest Service  
[tinyurl.com/nsa355x](http://tinyurl.com/nsa355x)

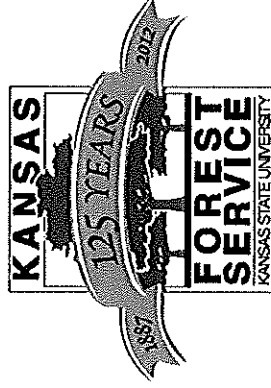
Kansas Arborists Association  
[tinyurl.com/ngj8n98](http://tinyurl.com/ngj8n98)

**For more information about EAB, visit the following websites:**

Kansas Forest Service  
[tinyurl.com/nxbmxtl](http://tinyurl.com/nxbmxtl)

Kansas Dept. of Agriculture  
[tinyurl.com/np4e68q](http://tinyurl.com/np4e68q)

[www.emeraldashborer.info](http://www.emeraldashborer.info)



**K-STATE**  
**Research and Extension**

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# Emerald Ash Borer CSI

Are your ash trees dying?  
 A small green beetle could be the culprit.  
 Do some crime scene investigation to find out!



# CSI: YOUR ASH TREES

Dying ash trees. Winding S-shaped tunnels just under the bark. Small D-shaped holes on the trunk. Emerald Ash Borer (EAB) has destroyed millions of ash trees and has been found in at least 23 states. Help stop its spread! Use this brochure to investigate your yard or timber lot.

Call the Kansas Department of Agriculture at (785) 564-6698 if you suspect EAB.

## PART 1: IDENTIFY THE VICTIM

EAB attacks only ASH TREES.

If your tree isn't an ash, you do not have EAB.

**Step 1: Look at the tree's branches**

- Oppositely branched as in Figure A?  
If yes, go to step 2.

- Alternately branched as in Figure B?  
If yes, STOP! Your tree is not an ash.



**Step 2: Look at your tree's leaves**

- Simple—a single leaf joined by a stalk to a woody stem as in Figure C.  
STOP! Your tree is not an ash.

- Compound—a group of leaflets joined by a stalk to a woody stem as in Figure D or E?  
Go to step 3.



E



**Step 3: Look at the leaflets**

- 3 to 5 leaflets, margin smooth or coarsely toothed as in Figure D?  
STOP! Your tree is not an ash.
- 5 to 9 leaflets, margin smooth or finely toothed as in Figure E?  
Your tree is an ash. Go to Part 2.

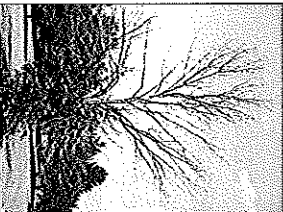


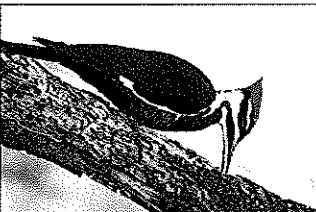

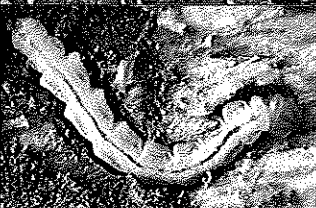
## SUSPECT PROFILE

- ◆ Small metallic green beetle, 1/4 inch long
- ◆ Native to Asia
- ◆ Attacks only ash trees
- ◆ First detected in the U.S. in Michigan in 2002
- ◆ Spread to at least 23 states (as of July 2014)
- ◆ Larvae feed under bark, cutting off the flow of water and nutrients to the tree
- ◆ Travels in infested firewood and nursery stock



## PART 2: EXAMINE THE VICTIM

Does your tree look healthy or is it showing signs of attack? Look for these clues. If your ash tree shows two or more of these symptoms, move on to Part 3.

|   |  |   |
|---|--|---|
|  |  |  |
| Sparse leaves and/or branches dying in the upper part of the tree                 | New sprouts on the roots, lower trunk or lower branches                            | Short (3-5 inches), vertical splits in the bark                                     |
|  |  |  |
| Increased activity of woodpeckers on the tree                                     | Winding, S-shaped tunnels just under the bark                                      | White or cream-colored larvae under the bark  |

## PART 3: CHECK FOR EXIT WOUNDS

**Step 1. Do you see multiple holes in the trunk of your ash tree? If so, what shape are they?**

*Tip: Use a knife to slightly shave the bark flat so you can gauge the true shape of the hole.*

- Round as in Figure F?  
STOP! EAB does not make round holes

- Oval-shaped as in Figure G?  
STOP! EAB does not make oval holes

- D-shaped as in Figure H?  
Go to step 2.



**Step 2: How wide are the D-shaped holes?**

- 1/4 inch or wider?  
STOP! EAB holes aren't usually this wide.

- About 1/8 inch. Your tree may be infested with EAB. Call (785) 564-6698

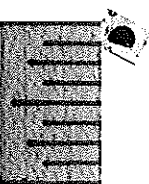


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Photo credits: EAB on penny—Howard Russell, Michigan State Univ., Bugwood.org; F—Minnesota Dept. of Natural Resources Archive, bugwood.org; G—Hannes Lemme, Bugwood.org; H—Joseph O'Brien, USDA Forest Service, Bugwood.org