

MEMORANDUM

November 24, 2015

TO: Planning, Housing, and Economic Development (PHED) Committee

FROM: Marlene L. Michaelson, Senior Legislative Analyst *TMM*

SUBJECT: Briefing on the Impact of Emerald Ash Borer on Park Trees

Staff from the M-NCPPC Department of Parks will brief the Planning, Housing, and Economic Development (PHED) Committee on the Impact of the Emerald Ash Borer on park trees. Attached on © 1 - 17 is their PowerPoint Presentation.

The Emerald Ash Borer (EAB) is responsible for the destruction of tens of millions of ash trees in 25 states in the Midwest and Northeast.¹ Native to Asia, they are believed to have arrived in the United States hidden in wood packing materials. The bug infests all species of ash trees and leads to a 99% mortality rate for those trees. EAB was first identified in the County in 2012 and now has been found Countywide.

Dead trees present a safety hazard for park patrons, result in a loss of tree canopy and invasion of non-native invasive plants, and damage water resources. The Department of Parks estimates that 2,040 trees need to be addressed with treatment and removal and estimates a cost of \$2 million dollars over 5 years.

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¹ United States Department of Agriculture.

Emerald Ash Borer in Montgomery Parks



"Little bug, big problem"

Emerald Ash Borer, *Agrillus planipennis*

- Invasive insect from Asia
- Infests all species of ash, *Fraxinus spp.* (Green, White, and Black) (Rebek, Herms and Smitley 2007)
- 99% mortality of ash trees (Knight, Brown and Long 2013)
- Signs of Emerald Ash Borer infestation difficult to detect



Woodpecker
Damage



Serpentine
Galleries



Where in Montgomery County?

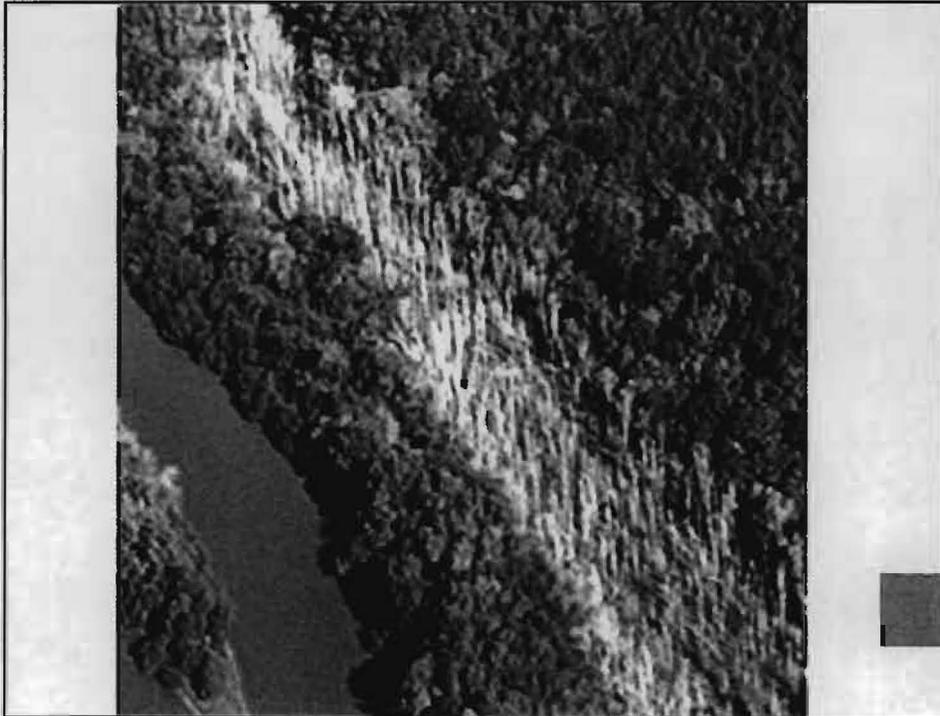
- Ash comprise 2-4% of forest trees, concentrated in stream valleys (USFS EVALIDator tool)
 - Could be up to 20% of stream valleys (3,600 acres)
- First found in MD, August 2003
- First found in Montgomery County, June 2012
- EAB found countywide (APHIS Federal Order DA-2015-39)

Surveyed Ash Locations in Montgomery Parks



Rock Creek Trail (18.6 miles)

- Cedar Ln to Connecticut Ave (0.7 miles)
 - Ash trees within 100ft of trail
 - (73) 15" and greater DBH trees
 - (57) 6-15" DBH trees
 - ~\$86,220 to remove plus additional funding for replacement planting and NNI management



The Plan of Action

- 34 miles of paved trails in stream valleys
- Based on RCT data, we estimate **2040** trees need to be addressed
- 5-year removal schedule with treatment
 - \$1.7 million for removal
 - \$300,000 for treatment
 - 408 trees removed a year
 - 416 trees treated for first 3 years

Note: This is just for the paved trails in the Stream Valleys

Trees killed by EAB along Rock Creek trail



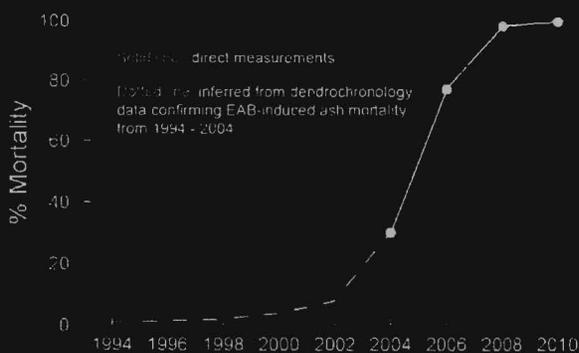
Trees killed by EAB along Rock Creek trail



When?

- EAB death curve (Knight et. Al. 2008)
 - Following model, 50%- 98% mortality within 1-3 years in areas where we currently see signs of infestation

Exponential Increase in Ash Mortality (> 4 inch dbh)



Dan Herms, Ohio State University, 2012

11/19/2015





Immediate effects

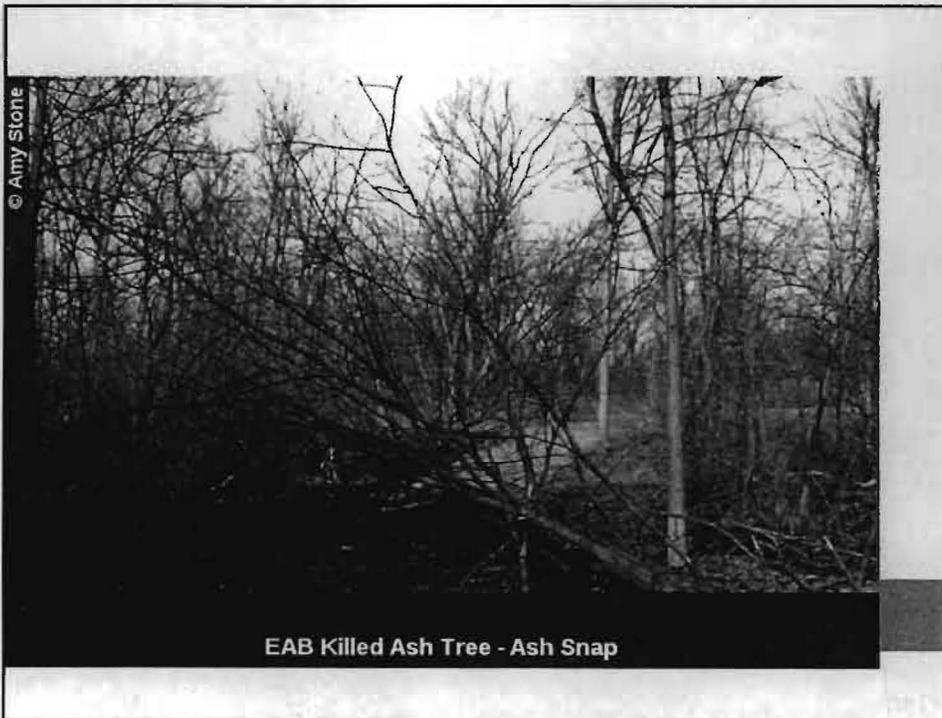
- Safety for park patrons and staff
 - Significant loss of structural strength with decline of tree health (Persad et. Al. 2013)
 - Trees at greater risk of wind-throw
 - More dangerous and expensive to remove
 - Dangerous to climb
 - Fall on buildings and paths
 - Expensive crane and bucket work
 - "Ash snap"





© Amy Stone

EAB Killed Ash Tree - Ash Snap



© Amy Stone

EAB Killed Ash Tree - Ash Snap

Long-term effects

- Reduction in water quality
- Stream bank erosion
- Reduction in air quality
- Loss of tree canopy
- Non-native invasive plant invasion



Management Strategy

- Inventory
- Monitor
- Remove
- Treat
- Replace
- Biological Controls

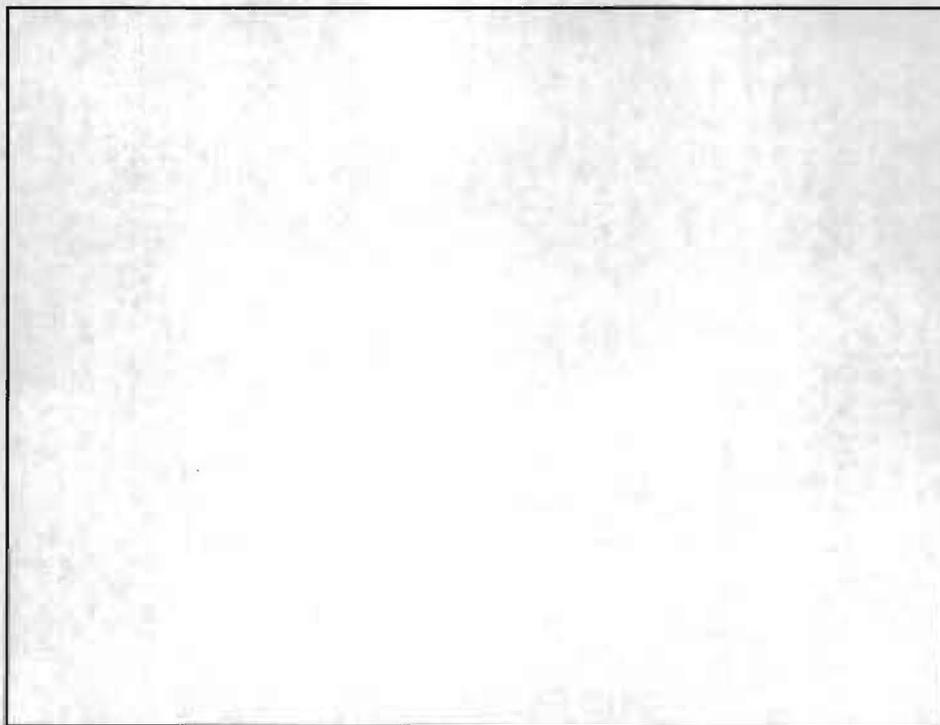
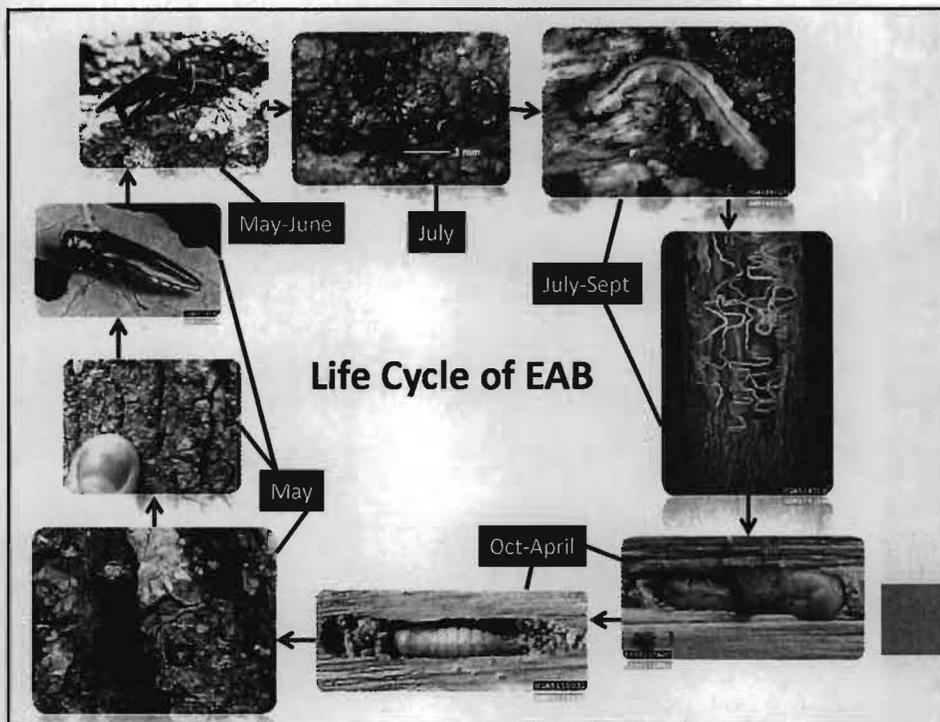


Next Steps

- Complete comprehensive EAB Management Plan
 - Currently collaborating with the MD Dept. of Natural Resources, MD Dept. of Agriculture, University of MD, APHIS, local municipalities, and other County agencies.
- Develop a cost estimate for EAB management
- Continue to identify and remove hazardous trees as funding allows

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- Rebeck, Eric J., Herms, Daniel A., and Smitley, David R., 2008. Interspecific Variation in Resistance to Emerald Ash Borer (Coleoptera: Buprestidae) Among North American and Asian Ash (*Fraxinus* spp.). *Environmental Entomology*. 37(1):242-246
- United States Forest Service EVAILDator tool, <http://www.fia.fs.fed.us/tools-data/>



County Right-of-Way

- Managed by MCDOT
 - Tree Maintenance Section
- ~7,100 ash in inventory
 - ~2.9% of 200,000 trees
- Distribution
 - Scattered across county
 - Ash heavy neighborhoods/streets
 - Exclusively or majority ash
- Increasingly disproportionate maintenance costs





Right-of-Way Concerns

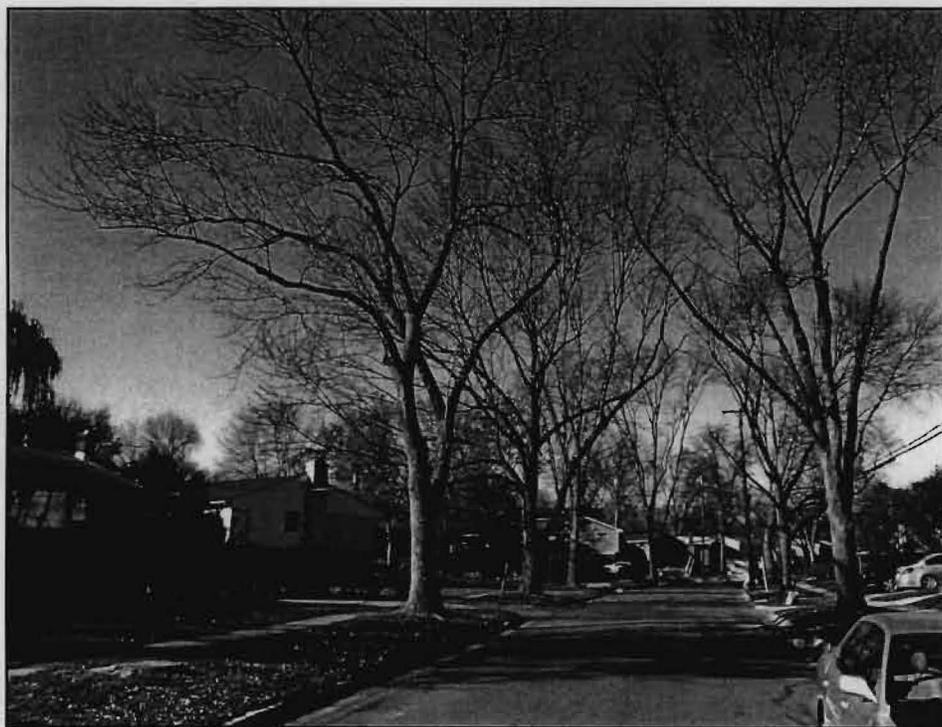
- Safety of residents
 - Windthrow
- Damage to property
 - Cars
 - Houses
- Increased removal expense
 - More dangerous



Berkshire Drive: Spring 2014

The Plan of Action

- Mainly reactive
 - Poses large risk due to increased hazard
 - Rely on residents to notify us of problem
- Remove and replace as needed
 - Increasing budget strain
 - Increasing removal and prune backlog
- Treatment
 - Specimen trees
 - Large trees
 - Particularly hard to re-establish sites



11/19/2015

