

Emerald Ash Borer



What is EAB?



- Invasive Wood Boring Beetle
 - Native to China
- Brought to Michigan in 2002
 - Infested Shipping Pallets
- Spread through US in infested firewood

What is EAB? (cont'd)



- Adults:
 - 1/2- 1” long metallic green beetle
 - *(see sample)*



- Larvae:
 - “Bell Shaped” segments
 - *(see sample)*



- Adults Emerge in May-
Early June
 - Leave “D shaped” exit
holes in bark
 - Characteristic of EAB
infestation
 - Very small and difficult to
see

Symptoms of EAB



- Canopy Dieback
- Peeling Bark
 - “S” Shaped Galleries in hardwood
- “D” Shaped exit holes



- Larvae weave back and forth as they feed under bark

- Characteristic “S shaped” galleries
- Severs vascular tissue, eventually killing the tree



- Estimated 50 million trees dead/dying from EAB

Highland Park Impact

- EAB was positively detected in Highland Park in 2011
- Currently there are 4,185 Ash in Highland Park ROW and an additional 1000-2000 in City maintained wooded areas
- Ash trees make up 15% of the street tree population
- Populations are not evenly distributed and wooded areas throughout town can be as high as 50% Ash
- Wooded areas are typically smaller trees that have started from seedlings
- Ash make up an estimated 20% of the residential private property tree population.
- EAB infestation has accelerated due to the 2 year drought
- EAB will effect all City Forestry programs: tree planting, tree removal, code enforcement, permitting, and administration

Overall Impact

- Highland Park Has a Very Diversified Urban Forest
- Diversity Helps Reduce the Visual and Economic Impact of the Ash Tree Removals

Most Impacted Areas



- Tennyson
- Greenwood
- Malory
- Keats

Current Procedures

- Stopped Planting Ash Trees in 2003
- Proactively Scheduled Lower-Quality Ash Tree Removals since 2003
- Surveyed All Ash Trees in town once a year since 2010
- To Date have Removed All Surveyed Parkway Ash Trees Showing Signs of EAB Infestation
- High Priority Given To Residential Ash Tree Removal Permits
- \$0 Permit Fees Charged for Ash Tree Removal in Conjunction With Construction

Removal / Replacement Procedures

- Spring Tree Survey Conducted - Identify Heavily Infested Trees and Tag Additional Infested Trees Through Summer
- Ash Tree Removal Contracted Out, Typically Removed within 20 days of Tagging
- All Logs are Hauled Off-Site and Either Cut for Pallets or Ground into Mulch
- Trees are Replaced Within Next Planting Season (18 mo.s) Based on Budgeted Funds

Alternative Chemical Treatments

- **Soil Drench/Injection**
 - Applying systemic insecticide to the soil at the base of the tree
- **Trunk Injection**
 - Injection of insect control into tree and distributed through vascular system
- **Foliar/Basal Spray**
 - Application of insecticide to the tree trunk/leaves



Removal vs. Treatment

Preferred Method	8" Diameter Tree	14" Diameter Tree	25" Diameter Tree
One Injection	\$48	\$84	\$150
Removal/Stump	\$64	\$112	\$337.50

Pros	Cons
May Extend the Life of the Tree	Not 100% effective -Tree will eventually die if treatment stops
Cheaper than Removal	Requires Annual Application -Time Intensive -Costly over time

Removal & Replacement

- Only 100% effective way to stop infestation
- Slows infestation of adjacent trees

Do Nothing

- Tree Will Eventually Die from Insect Infestation
 - EAB is 100% Fatal in 3 to 5 Years

5 Year EAB CIP Plan

	*2013 EAB Budget	FY2014	FY 2015	FY2016	FY2017	FY2018	Total
Survey (hours)	100	200	200	200	200	200	1000
Administrative (hours)	200	500	500	500	500	500	2500
Destructive Sampling	0	0	0	0	0	0	0
Treatment	0	0	0	0	0	0	0
Tree Removal \$	30,000	115,000	115,000	115,000	115,000	115,000	*\$575K
# of Trees	200	800	800	800	800	800	4,000
Tree Planting \$	54,000	189,000	189,000	189,000	189,000	189,000	\$945K
# of Trees	200	700	700	700	700	700	3,500
Total Removal / Planting \$	100,000	304,000	304,000	304,000	304,000	304,000	\$1.52M

*Total Incremental Budget Increase Assuming Continuing of Existing Budget Funding

**EAB Portion of Overall 2013 Forestry Budget

EAB Plan Implementation Variables

- Contract removal prices can increase
- Replacement tree supply/demand could raise costs or require the planting of smaller trees
- Weather (drought) could continue to accelerate insect infestation
- Current budget numbers don't reflect a EAB-affected tree population spike
- City applied for a EAB Grant

City Residential Assistance

- Public Educational: Highlander, Resident Workshop (upon request) and Technical Support
- Information on Web Page, Useful Links
- Provide Approved Tree Removal Contractors
- On-site inspection services with Permit Request
- No Fee Tree Removal Permit

Staffing- City Forester and a Part-Time Assistant

EAB Management Plan



QUESTIONS ?