



*Park, Recreation & Forestry Department*

# **Emerald Ash Borer and the future of our urban forest**



# History of EAB

- Imported to Michigan from China in the 1990's
- Positively identified in 2002 as EAB
- Spread to 10 states and Canada
- August of 2008 positive identification in the Village of Newburg
- Since it's discovery over 25 million ash trees have died

# Cooperative Emerald Ash Borer Project

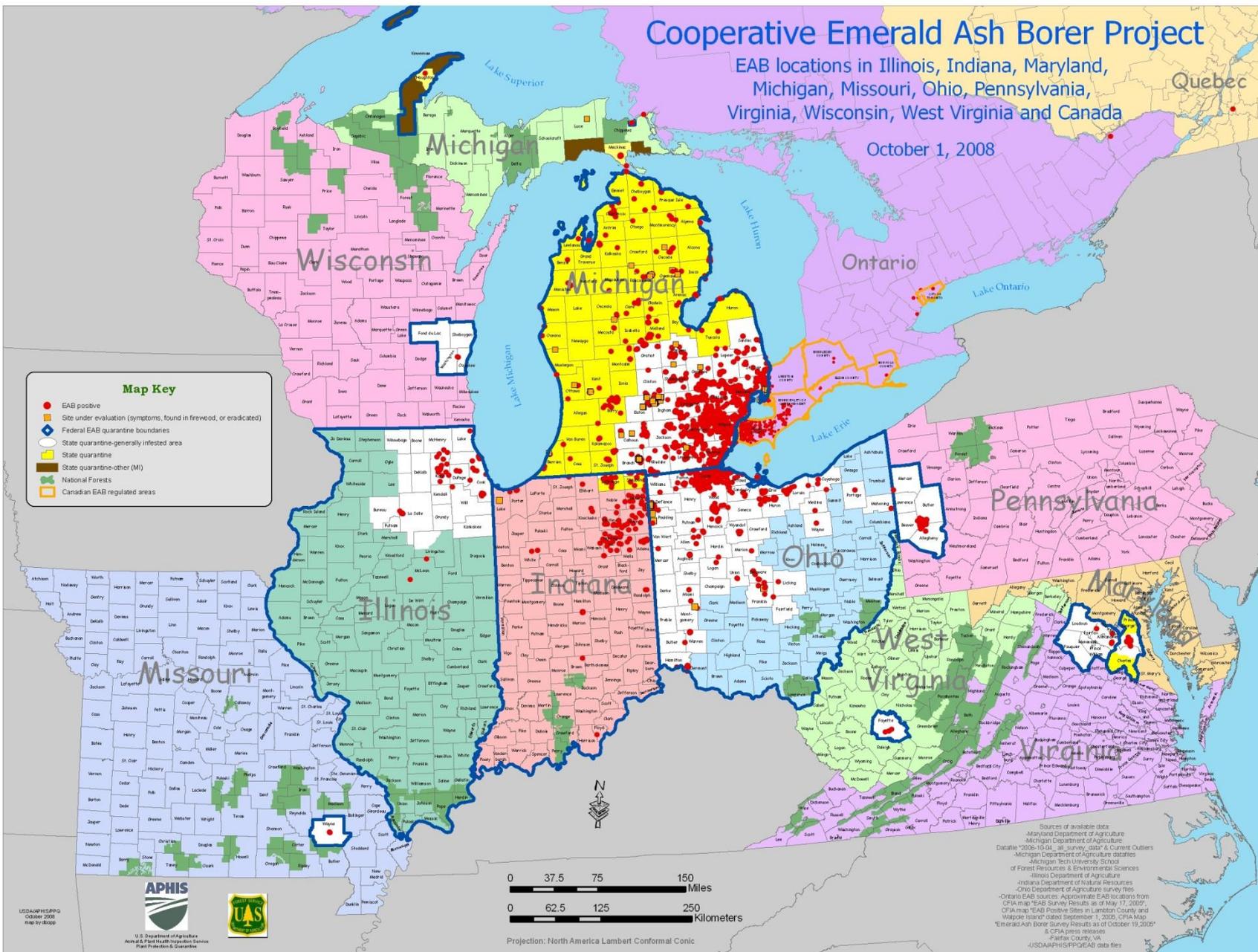
EAB locations in Illinois, Indiana, Maryland, Michigan, Missouri, Ohio, Pennsylvania, Virginia, Wisconsin, West Virginia and Canada

Quebec

October 1, 2008

**Map Key**

- EAB positive
- Site under evaluation (symptoms, found in firewood, or eradicated)
- Federal EAB quarantine boundaries
- State quarantine-generally infested area
- State quarantine
- State quarantine-other (MI)
- National Forests
- Canadian EAB regulated areas



Sources of available data:  
 - Maryland Department of Agriculture  
 - Michigan Department of Agriculture  
 - Ontario "2006-10-04" all survey data & Current Outliers  
 - Michigan Department of Agriculture -databases  
 - Michigan Tech University School  
 - Indiana Department of Natural Resources  
 - Illinois Department of Agriculture  
 - Indiana Department of Natural Resources  
 - Ohio Department of Agriculture survey files  
 - Ontario EAB sources: Approximate EAB locations from  
 - CPFA map "EAB Survey Results as of May 17, 2007"  
 - CPFA map "EAB Positive Sites in Lambton County and  
 - Walpole Island" dated September 1, 2005, CPFA Map  
 - "Emerald Ash Borer Survey Results as of October 19, 2005"  
 - CPFA press releases  
 - Fairfax County, VA  
 - USDAAPHISPP/EAB data files  
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Projection: North America Lambert Conformal Conic

# Description & Life Cycle

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- **Shiny emerald green beetle**
- **Average length is  $\frac{3}{4}$ "**

# Adult Borer



# Description & Life Cycle

- **Shiny emerald green beetle**
- **Average length is  $\frac{3}{4}$ "**
- **Feed only on ash trees**
- **Eggs hatch in early summer and tunnel into tree**
- **Larval feeding under the bark, consuming the cambium and phloem layers, causing the tree to die**

## Larval feeding



**Larvae**

**Fireman's Park,  
Village of Newburg**



# Detection

- **Difficult in early stages**
- **Early detection is key in slowing infestation**



0%



10%



20%



30%



40%



50%



60%



70%



80%



90%



100%

# Considerations

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- Research findings concludes that most ash trees will be eliminated from the landscape
- Little or no evidence of any resistance to this non-native insect
- Chemical treatments are an option with no guarantee

# Chemical Treatments

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- **Insecticides can protect ash trees**
- **Results are variable and success is not guaranteed**
- **Large scale treatments are not an option**
- **Annual treatments would be required to provide protection**

# Homeowners

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- **Tree Identification**
  - \* **Paragon Map Service**
  - \* **Information available on City web site and PRF office**

[www.ci.west-bend.wi.us](http://www.ci.west-bend.wi.us)

# Homeowners

- **Tree Identification**
- **Chemical Treatments**
  - \* **May be an option for private trees**
  - \* **Residences may treat street trees**

\* **Information available on City  
web site and PRF office**

[www.ci.west-bend.wi.us](http://www.ci.west-bend.wi.us)

# Homeowners

- **Tree Identification**
- **Chemical Treatments**
- **Additional Information**

[www.emeraldashborer.wi.gov](http://www.emeraldashborer.wi.gov)

**Dept of Ag, Trade, & Consumer Protection**

**1-800-462-2803**

**Fireman's Park,  
Village of Newburg**

**“Most likely every  
ash tree in the  
Village of Newburg  
is infested”**



# Future for West Bend

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- **General Statistics**

# General Statistics

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- # of street trees 12,285
- # of vacant street tree planting sites 8,956

# General Statistics

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- # of street trees 12,285
- # of vacant street tree planting sites 8,956
- # of ash street trees 3,150
- # of ash in parks & public property 358
- # of ash in woodlots on public property ?

# General Statistics

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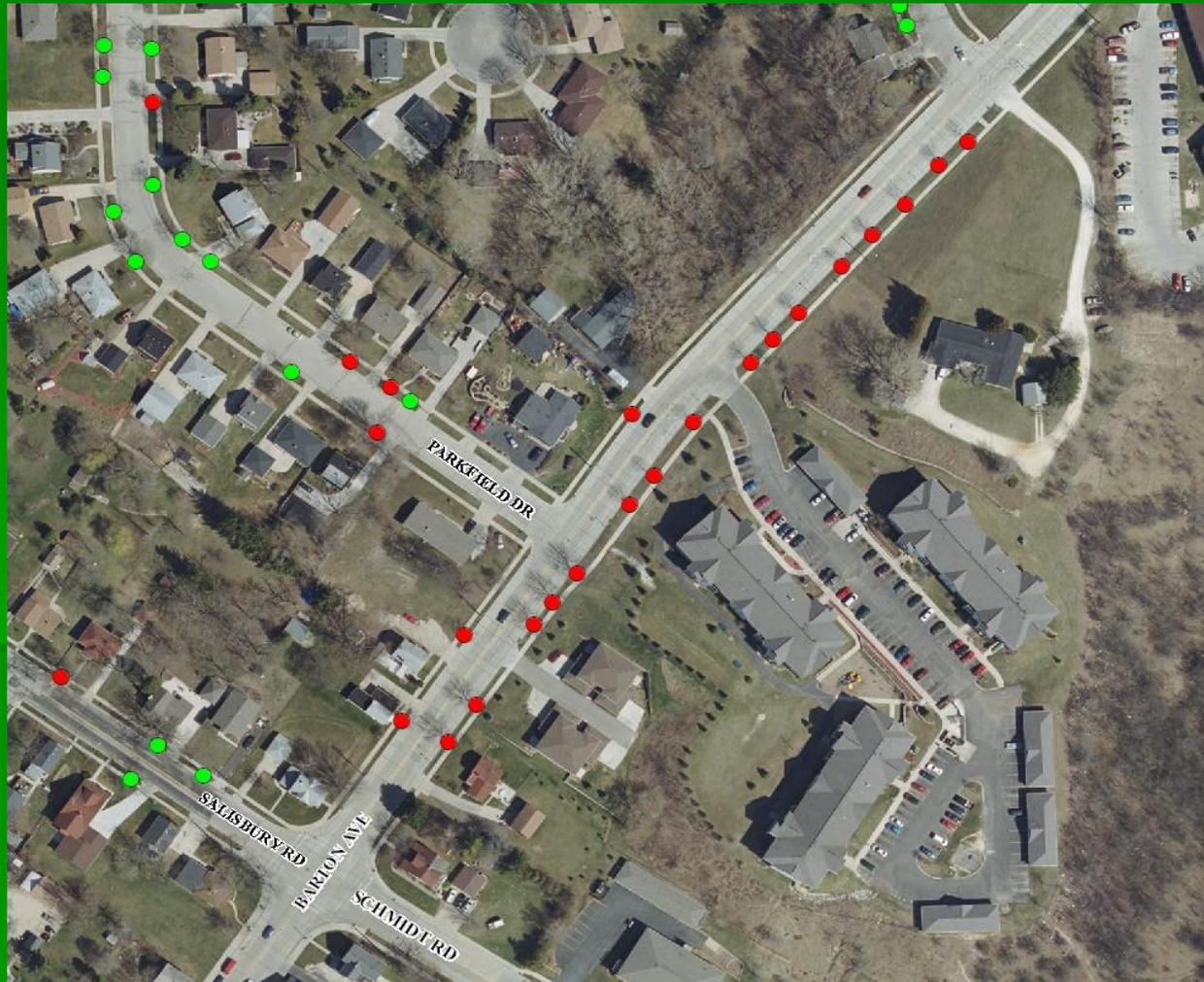
- # of street trees 12,285
- # of vacant street tree planting sites 8,956
- # of ash street trees 3,150
- # of ash in parks & public property 358
- # of ash in woodlots on public property ?
- Total value of our street trees \$12,452,519
- Value of our ash street trees \$ 3,362,180

# Future for West Bend

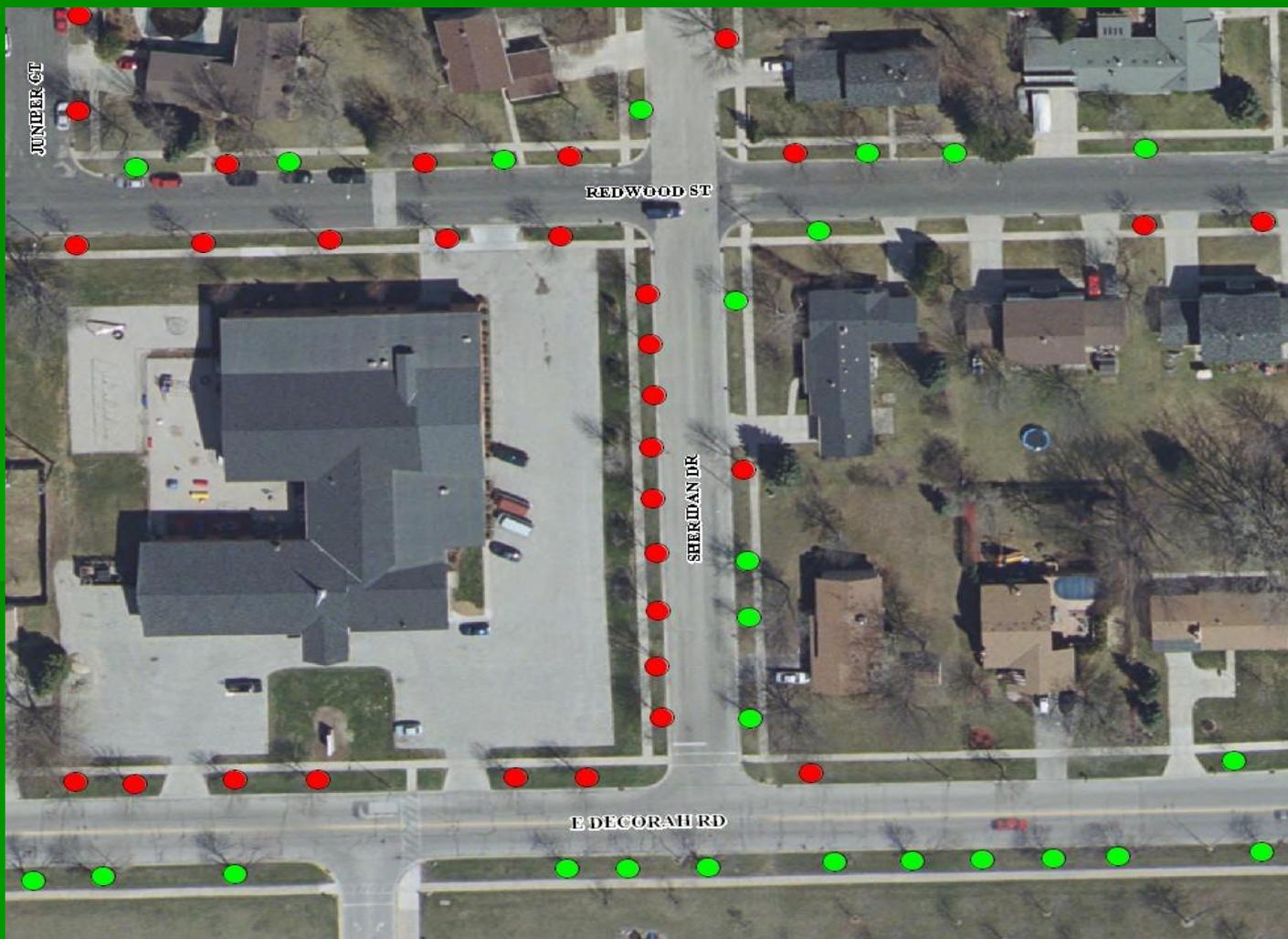
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- **General Statistics**
- **Visual Impact**

# Barton Ave



# Sheridan Dr



# Riverside Park



# **Future for West Bend**

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- **General Statistics**
- **Visual Impact**
- **Costs Associated**

# Costs Associated

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- Cost for street tree removals **\$1,575,000**
- Cost for park & public property tree removals **179,000**

# Costs Associated

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▪ Cost for street tree removals	<b>\$1,575,000</b>
▪ Cost for park & public property tree removals	<b>179,000</b>
▪ Cost for replanting street trees	<b>913,500</b>
▪ Cost for replanting in parks & public property	<b>103,820</b>

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**Total Impact: \$2,771,320**

# Costs Associated

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▪ Cost for replanting ash in parks & public property	<b>103,820</b>
<b>Total Impact: \$2,771,320</b>	
▪ Annual cost to chemically treat street trees	<b>126,000</b>
▪ Annual cost to chemically treat park & public trees	<b>9,880</b>

# Future for West Bend

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- **General Statistics**
- **Visual Impact**
- **Costs Associated**
- **Funding**

# Funding

- **NO federal or state funding available**
- **Local funding**
- **Urban Forestry Grant**
  - \* **Urban Forestry Master Plan 2009**
    - \* **Including EAB response plan**
    - \* **Potential future grants to offset tree replacement**

# Future for West Bend

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- **General Statistics**
- **Visual Impact**
- **Costs Associated**
- **Funding**
- **Options**

# Options

- **Treatments - \$135,880 annual investment**
  - \* **No guarantee**
  - \* **Annual treatments**
  - \* **Save trees ???**
  - \* **Slow the spread of EAB**

# Options

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- **Treatments - \$135,880 annual investment**
- **Tree Establishment – start prior to infestation**
  - \* **Establish trees at vacant street tree planting sites**
  - \* **Establish trees in parks and public properties**

# Options

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- **Treatments - \$135,880 annual investment**
- **Tree Establishment – start prior to infestation**
- **Preemptive Tree Removals**
  - \* **Removal of healthy ash trees**
  - \* **Remove trees in a controlled fashion**
  - \* **Reduce future safety hazards**
  - \* **350 trees/year - ten years removal process**

# Options

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- **Treatments - \$135,880 annual investment**
- **Tree Establishment – start prior to infestation**
- **Preemptive Tree Removals**
- **Take no action**
  - \* **Wait for infestation**
  - \* **Only remove infested trees**
  - \* **Reactive instead of proactive**

# **City of West Bend**

**Park, Recreation, and Forestry Dept.**

**Ph: 262.335.5080**

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