



## **Emerald Ash Borer**



### **Public Meeting**

**January 28, 2014 6:30 p.m. – 8:00 pm**  
**Stevens Memorial Library,**  
**North Andover, MA**



## AGENDA

6:30 p.m. – 6:35 p.m. Welcome  
Peter Church, *DCR Director of Forest Stewardship*

6:35 p.m. – 7:15 p.m. Presentation  
Ken Gooch, *DCR Forest Health Program Director*

7:15 p.m. – 8:25 p.m. Q&A/Public Input

8:25 p.m. – 8:30 p.m. Closing Remarks

# Emerald Ash Borer

Biology, History,  
Detection and Monitoring  
in Massachusetts



Kenneth Gooch  
MA DCR  
Forest Health Program Supervisor

# History in Massachusetts

- Detected on August 31, 2012
  - Dalton, MA
    - Found on Purple Trap
  - Implemented a quarantine in Berkshire County



- **Detected on November 22, 2013**
  - **North Andover, MA**
    - **Found on homeowner call**



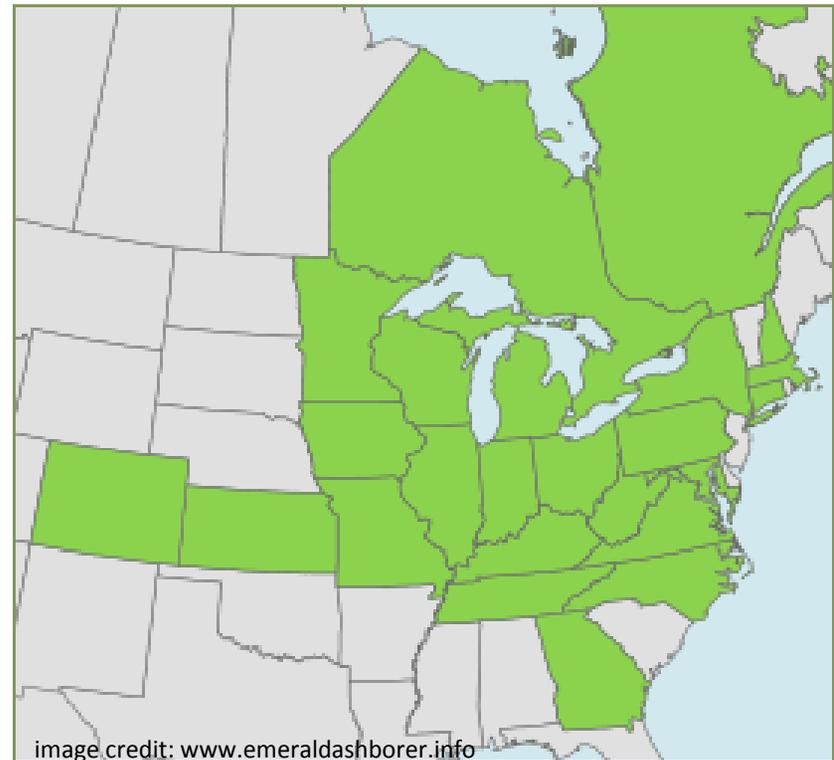


Osgood Street - EAB 1st Detection

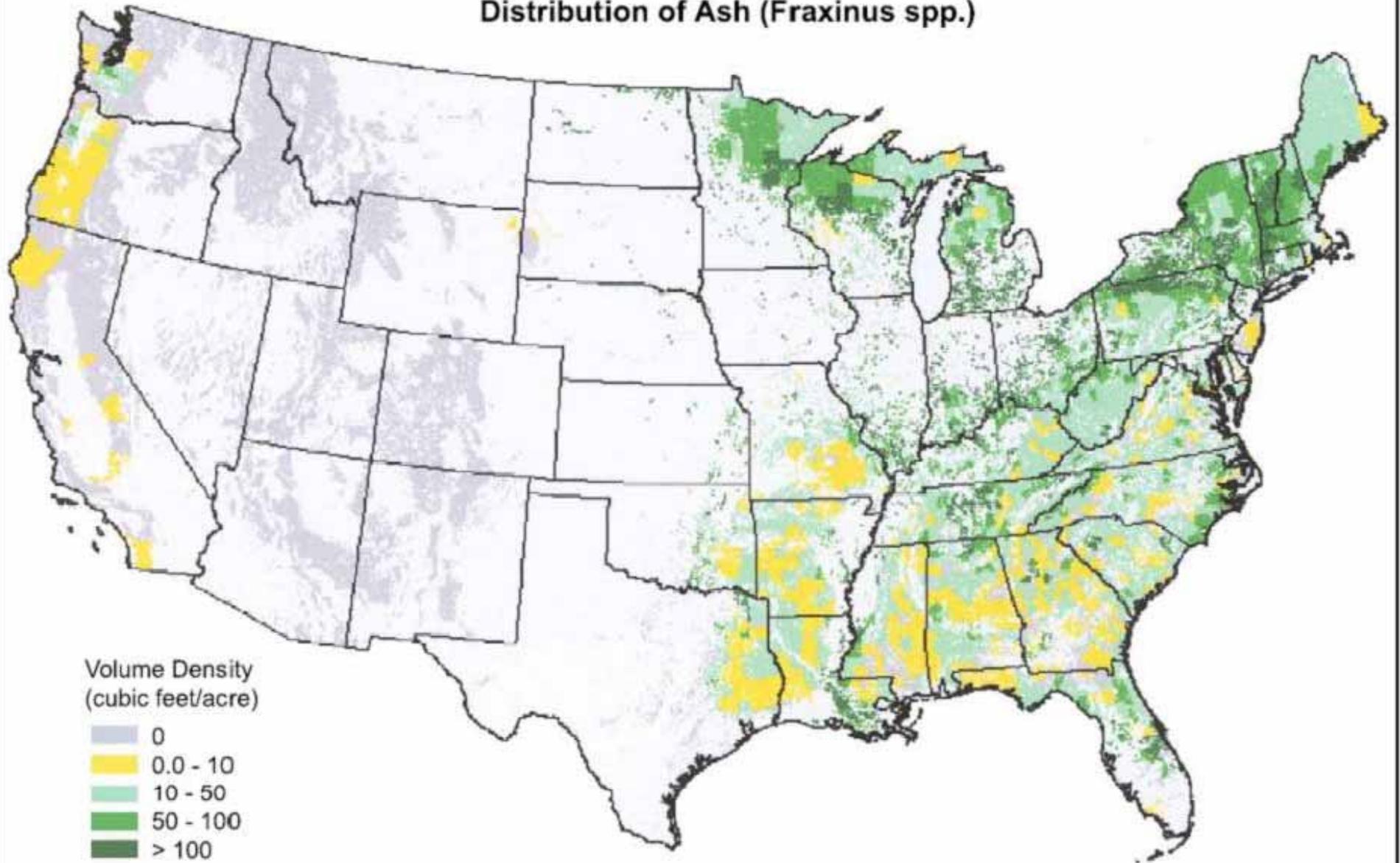
Google earth

# How did it get here?

- Untreated wood packing material from Asia
  - Initially detected in Detroit area of MI in 2002
  - Has spread to 23 states and Canada



## Distribution of Ash (*Fraxinus* spp.)

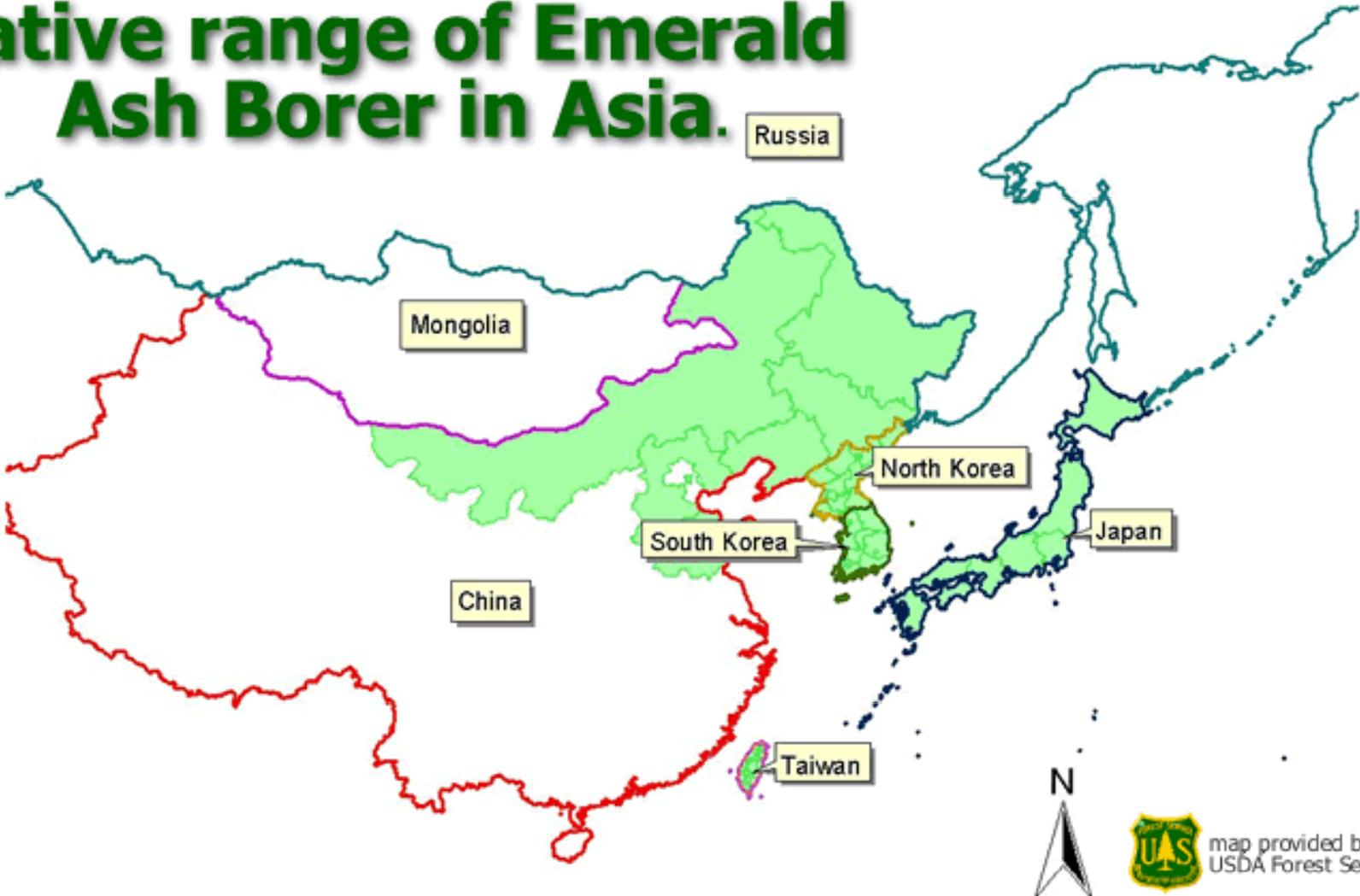


USDA Forest Service data sources:

County-level estimates of ash densities derived from Forest Inventory and Analysis (FIA) data.

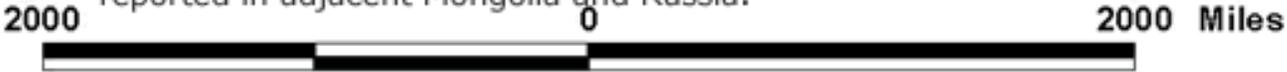
Forest/non-forest overlay derived from AVHRR satellite imagery.

# Native range of Emerald Ash Borer in Asia.



 map provided by  
USDA Forest Service

 **EAB Native Range**  
Presence of emerald ash borer has also been reported in adjacent Mongolia and Russia.



# The Green Menace

- Buprestid
  - metallic wood boring beetle
  - known only to feed on Ash (*Fraxinus spp.*) in North America
- Bright metallic green
- ½ inch long, flattened back, bullet shaped
- Purple abdominal segments
  - beneath wing covers





# The Culprit

Emerald Ash Borer and...

THE  
LOOK ALIKE SUSPECTS



# Ash Identification



compound leaf



opposite arrangement



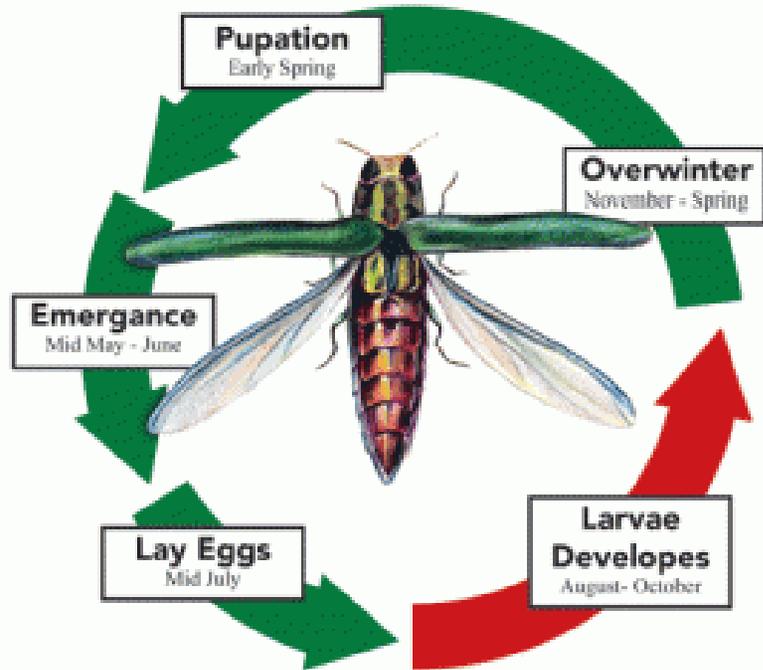
furrowed bark



## Some Non-hosts of the EAB That Could Be Confused with Ash

- Box-elder (*Acer negundo*) only 3-5 leaflets per leaf more coarsely toothed
- Hickories (*Carya* spp.) and walnuts (*Juglans* spp.) alternate arrangement.
- Buckeye (*Aesculus* spp.) are palmately compound
- Maple (*Acer* spp.) and dogwood (*Cornus* spp.) leaves are simple

# EAB Basic Biology



\* May be a 2 year life cycle in MA



# Signs and Symptoms

- D shaped exit holes



- Epicormic sprouting



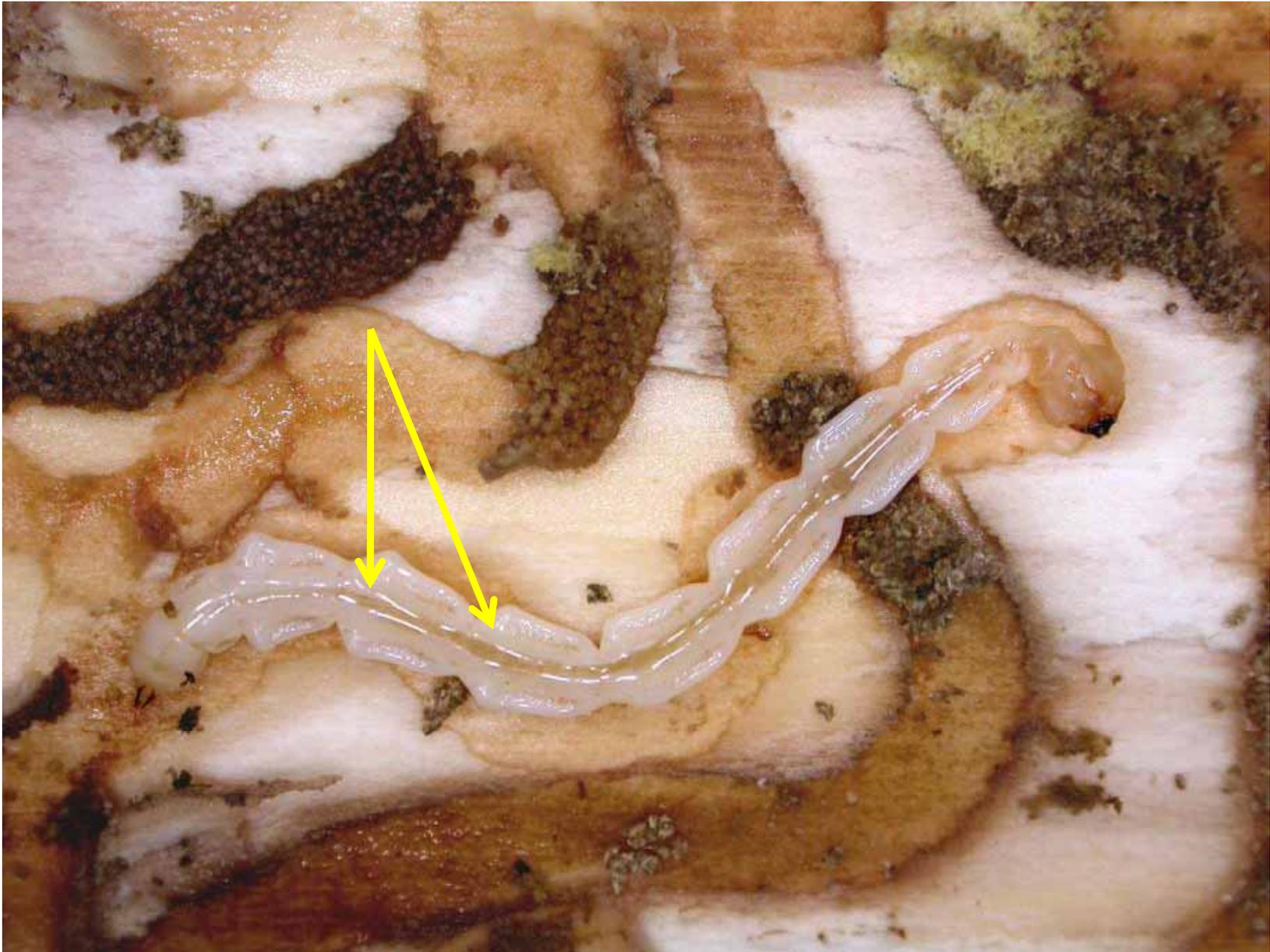
# Signs and Symptoms

- Woodpecker Damage
- Serpentine Tunnels





Larva has bell shaped body segments



# Detection and Monitoring

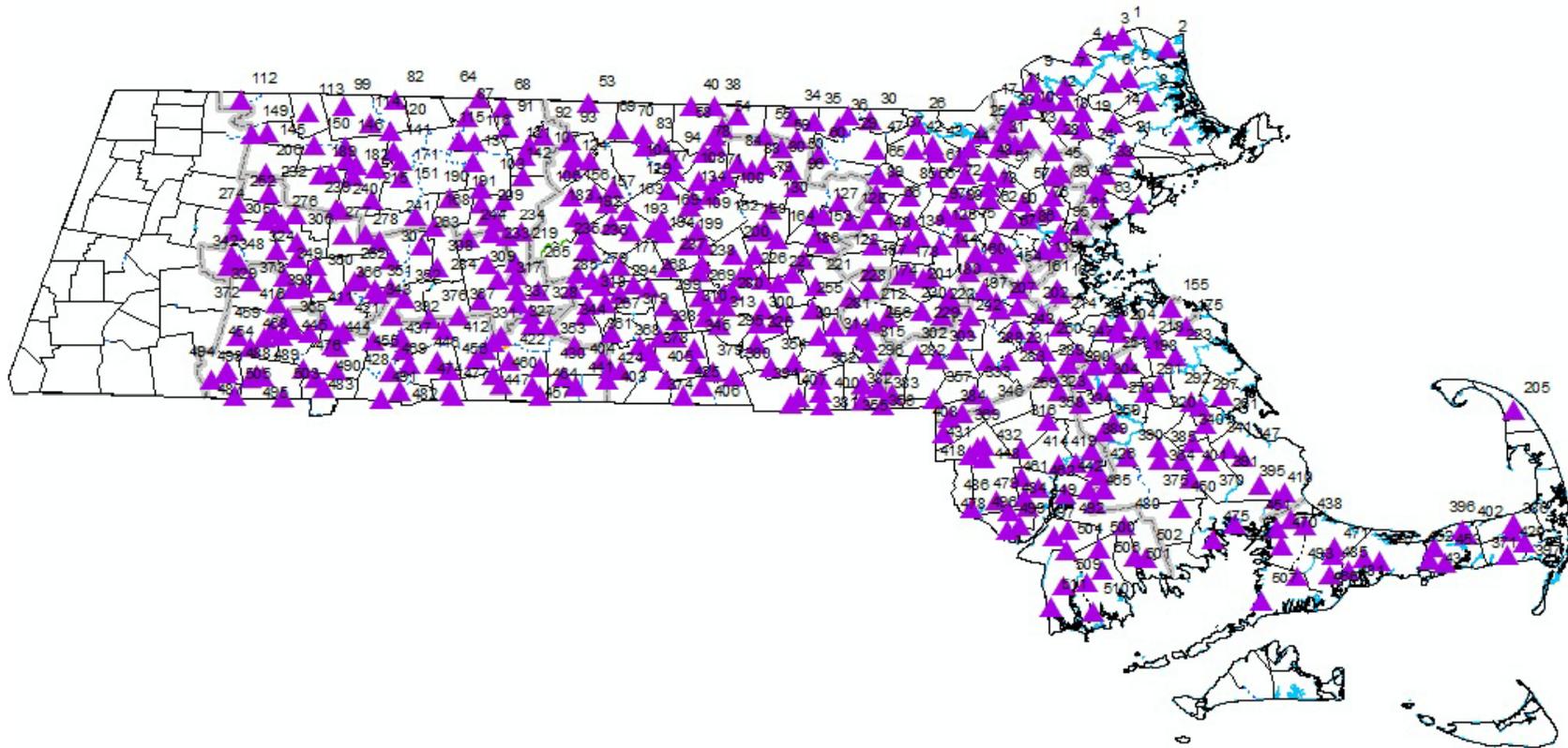


# Purple Panel Traps



- Used Nationally
- Sticky
- Purple Color
- Lure:
  - 2-3Z Hexanol
  - Manuka Oil

# 2014 Potential Trap Placement





## Biosurveillance with *Cerceris fumipennis*

- Native ground nesting wasp
- Found throughout MA and New England
- Colonies monitored for EAB prey caught
  - Successful detection of EAB in CT and MA



Phillip Careless



Pond

★ cerceris find

▲ original find

Hathaway Reservoir

Lower Sackett Reser

© 2013 Google

Google Earth

# Girdled Trees



- More attractive
- Placed in high risk zones
- Utilized for:
  - Detection
  - Delineation
  - Management



# Biological Control



- 3 parasitoids:
  - *Tetrastichus planipennis*
    - Endoparasitoid
    - EAB larva

- *Spathius agrili*
  - Ectoparasitoid
  - EAB larva

- *Oobius agrili*
  - Egg parasitoid
  - EAB egg

- Multiple releases in 'core' area in Dalton



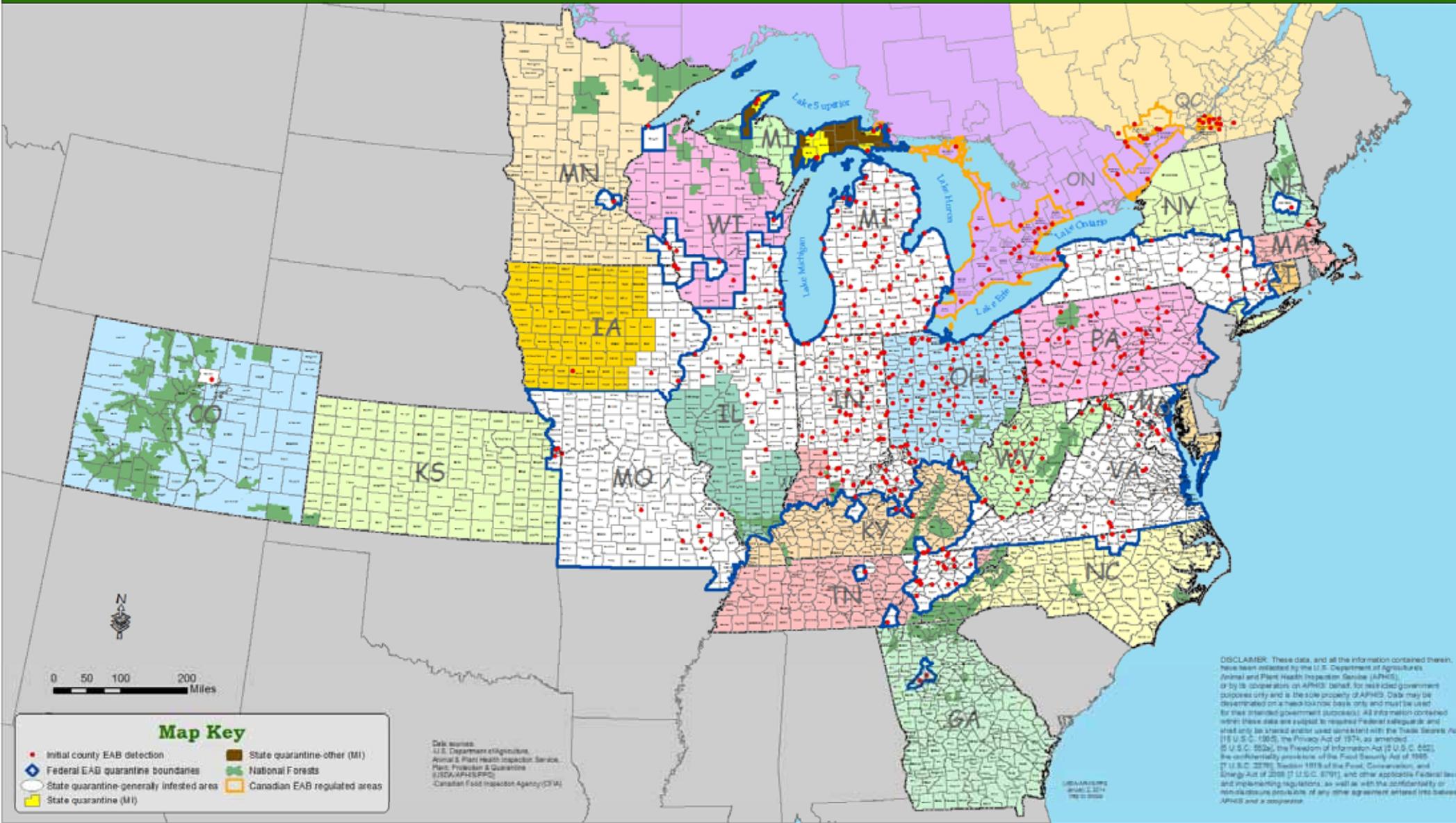
Photo credit: USDA





# Cooperative Emerald Ash Borer Project

Initial county EAB detections in North America



# Looking towards the future...

- Treatments
  - insecticides
- Controls
  - Biological
    - *Spathius agrili*
    - *Tetrastichus planipennis*
    - *Oobius agrili*
- Management





# Regulatory Work

- ❖ The regulatory challenge is to stop the artificial spread of EAB
- ❖ Officials determine who is handling ash
- ❖ Issue compliance agreements, certificates and limited permits
- ❖ Conduct operations targeting pathways of spread
- ❖ Outreach and Education
- ❖ Civil penalties if appropriate



# Approved Regulatory treatments

- ❖ Remove the bark and an additional ½ inch of wood
- ❖ Kiln sterilization treatment schedule. The maximum thickness of allowable wood is three inches (time/temp/moisture content)
- ❖ Fumigate with Methyl Bromide using a USDA approved fumigator
- ❖ Heat Treatment according to schedule (140°F/60°C at core for 60 minutes). Facility must be approved by USDA.
- ❖ Chipped to less than 1" in two dimensions or follow approved USDA APHIS composting protocol.
- ❖ ISPM-15 for ash lumber in wood packing material (132.8°F/56°C for 30 minutes) via accreditation of establishment via ALSC
- ❖ Nursery Stock of Fraxinus spp.: No treatments available. Not being moved at this time.

# For More Information

## **APHIS Emerald Ash Borer Home Page**

- [http://www.aphis.usda.gov/plant\\_health/plant\\_pest\\_info/emerald\\_ash\\_b/index.shtml](http://www.aphis.usda.gov/plant_health/plant_pest_info/emerald_ash_b/index.shtml)

## **Emerald Ash Borer Info**

- <http://www.emeraldashborer.info/>

## **Forest Service EAB Information**

- <http://na.fs.fed.us/fhp/eab/>

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