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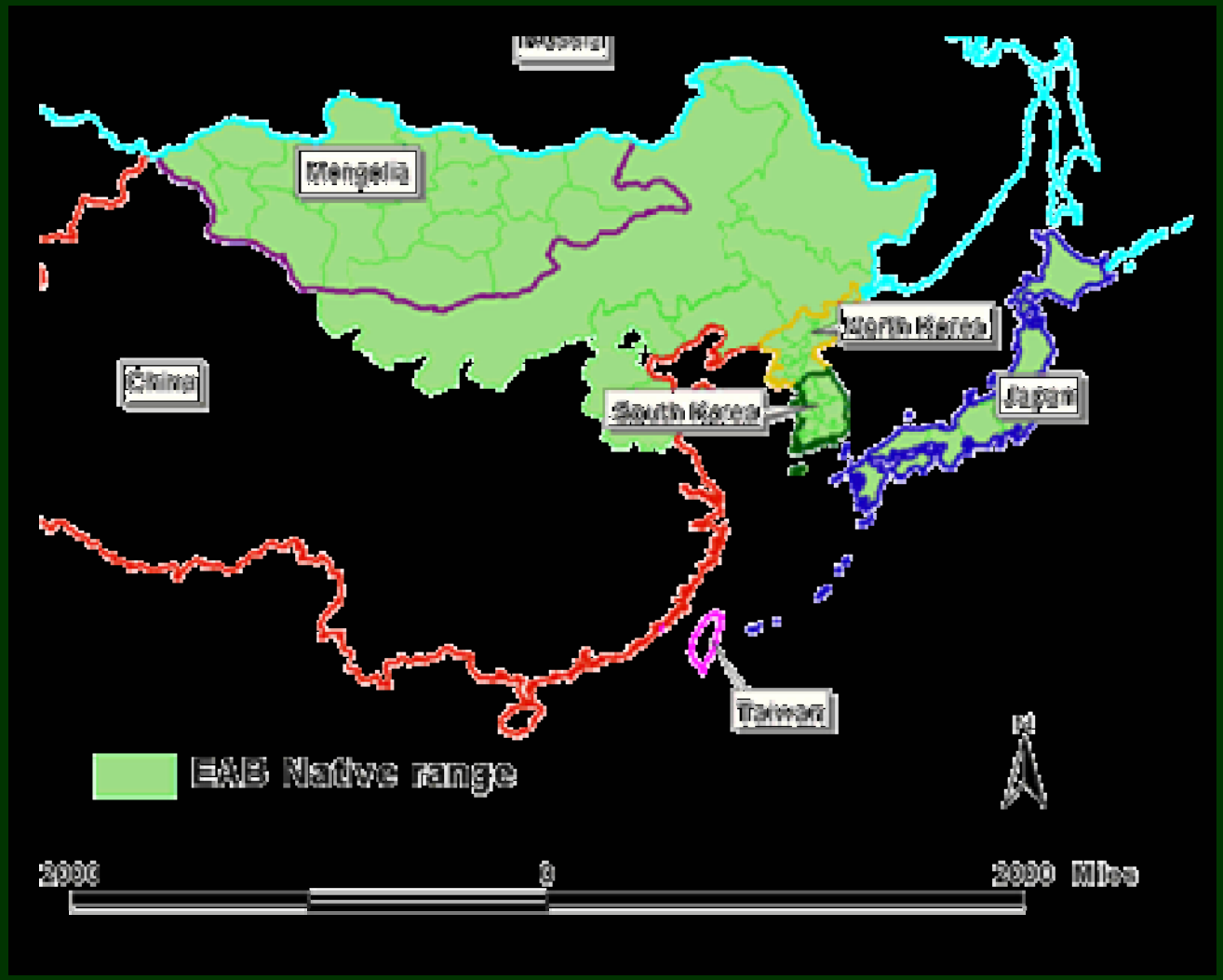
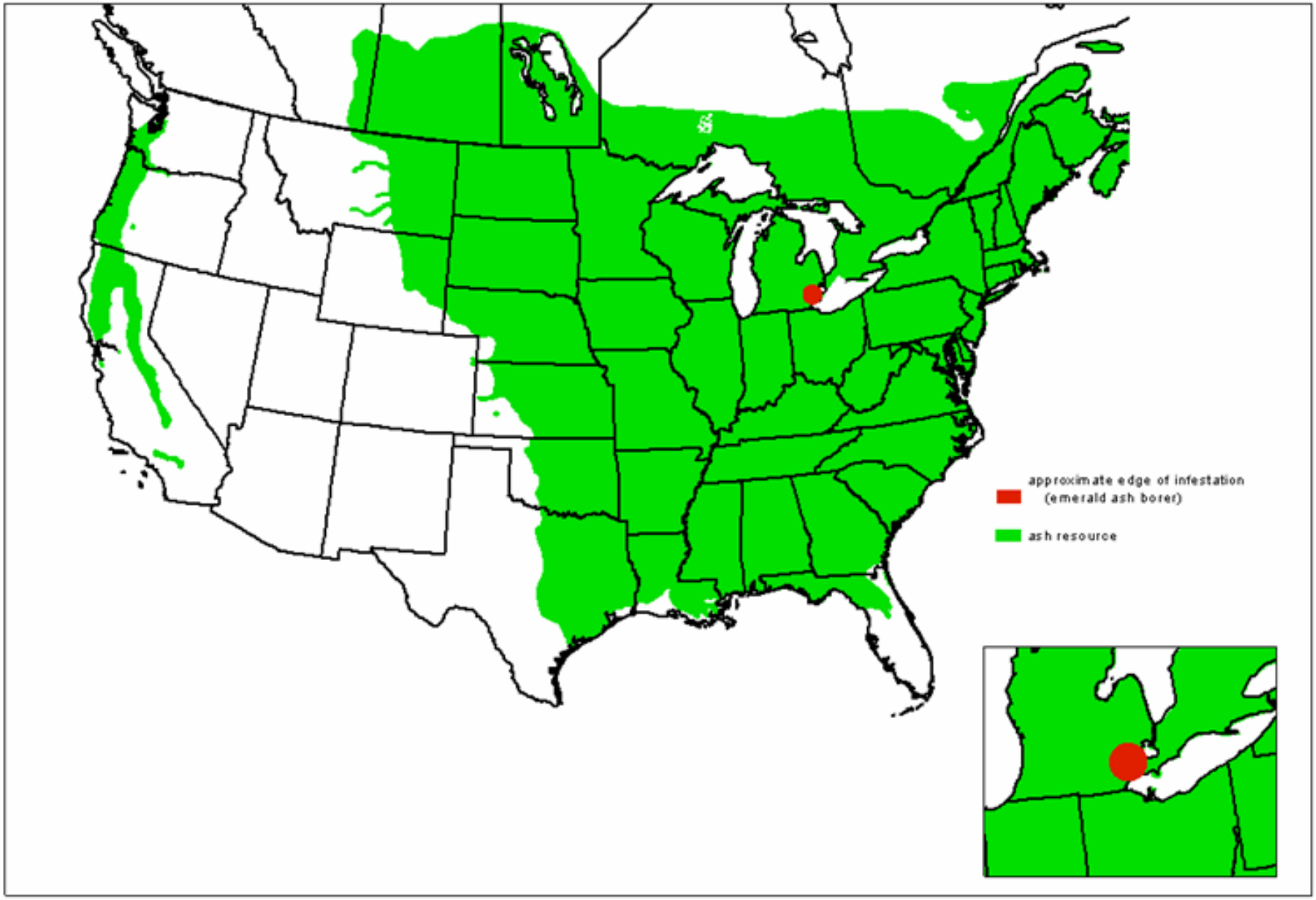
UGA90


IN GOD WE TRUST
LIBERT
2002
D

Distribution in Asia

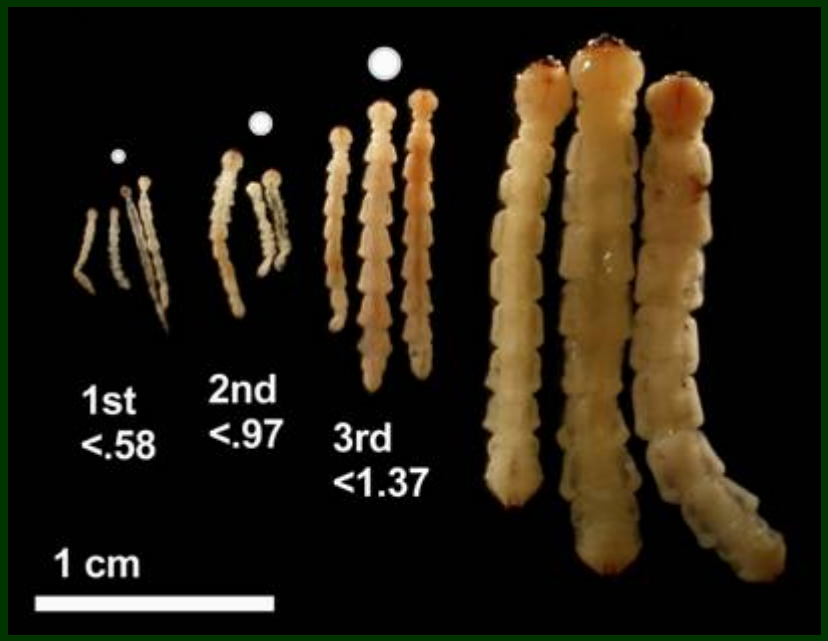


Native Range of Major Ash Species



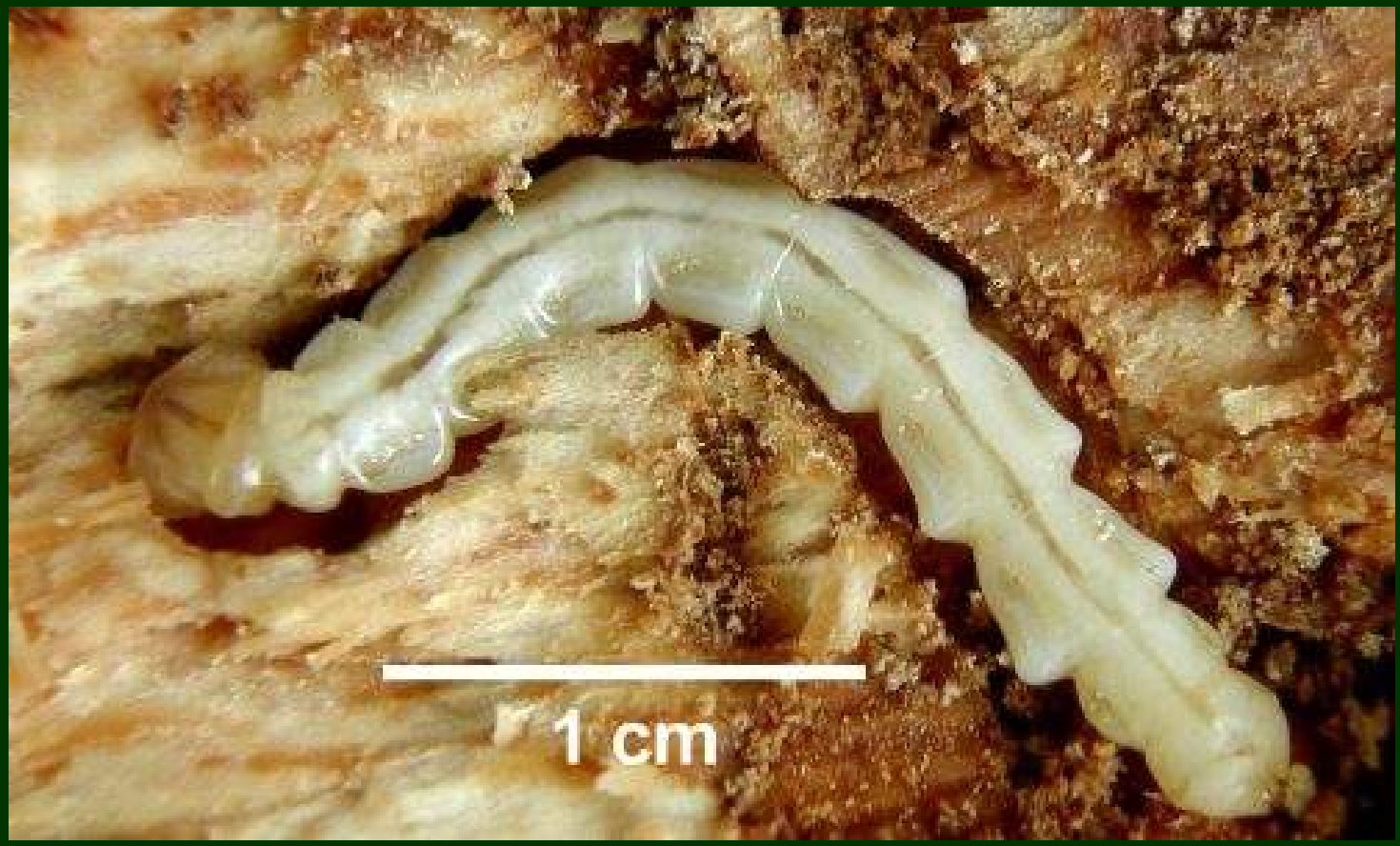
Females oviposit in bark cracks or crevices – eggs laid singly - approx. 70 eggs per female

Larvae pass through 4 larval instars



Feeding completed by September or October

Larvae reach 30-35 mm



Symptoms and Impact

Extensive galleries under bark disrupt translocation of water & nutrients in the tree

Adults emerge from May to August leave D-shaped exit holes

Bark above galleries may split

Foliage becomes thin, ragged & yellow
Branch dieback in crown

Epicormic shoots often appear on dying trees

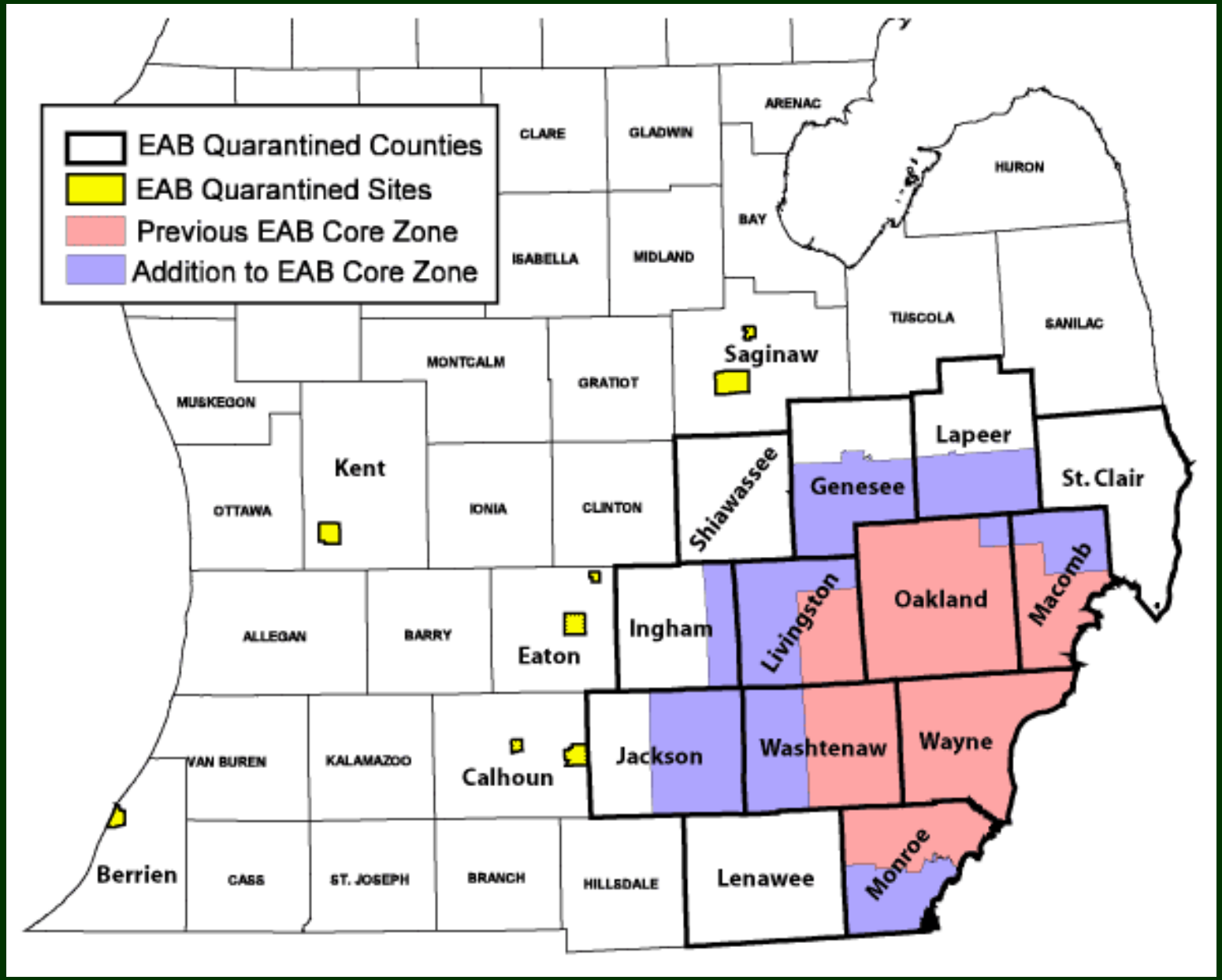
Root sprouts can be dense

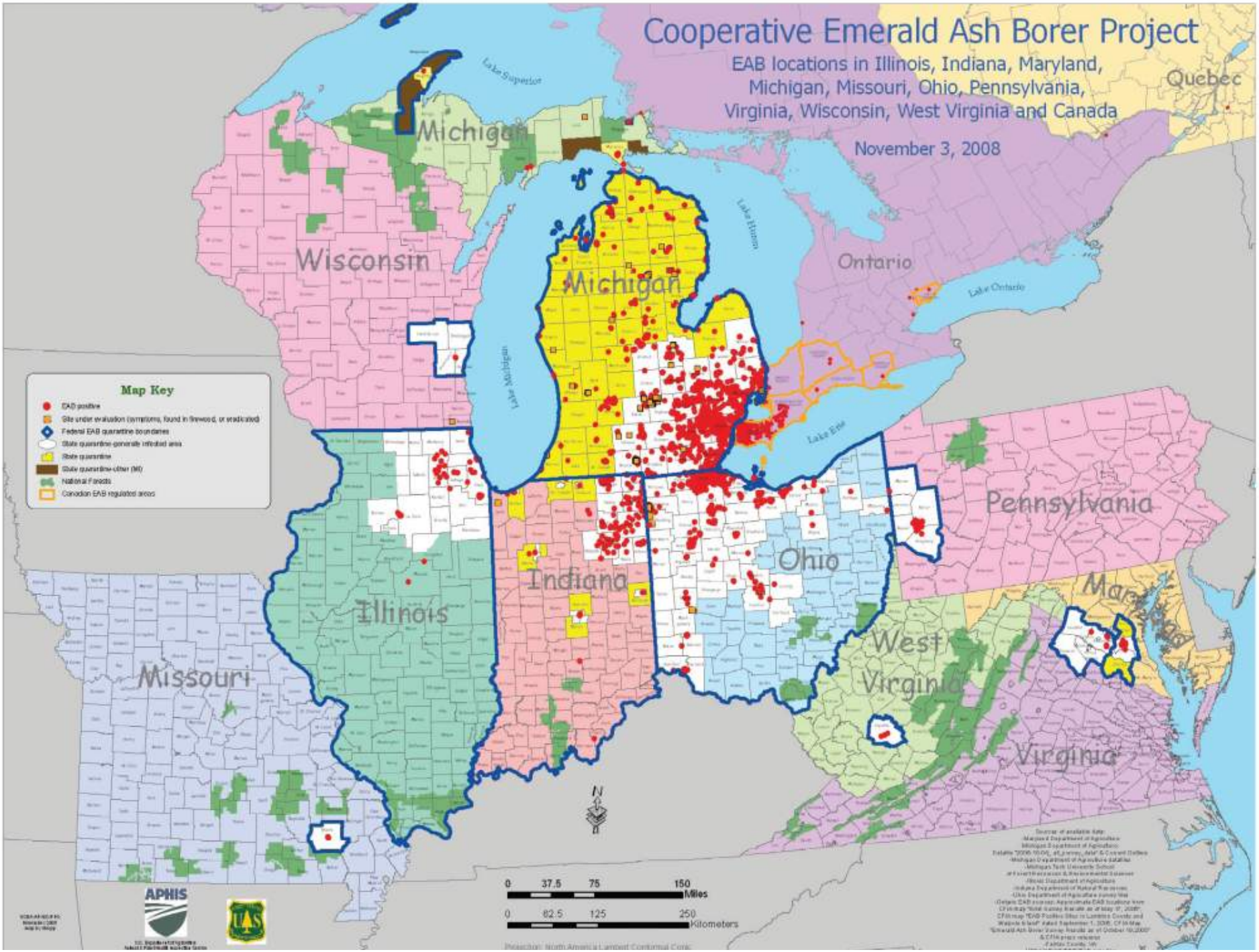
Ash trees of all species & sizes in urban & forested areas are dying in 1-4 years

Current Situation

- Tens of Millions of dead ash
- Eradication not possible
- Shifting to “slow the spread”
- SLAM (Slow Ash Mortality)
- Early detection, eradication activities on outlier infestations
- Trapping, trap tree effort in border states
- Ash preservation & utilization

EAB Quarantine Zone




Cooperative Emerald Ash Borer Project
EAB locations in Illinois, Indiana, Maryland,
Michigan, Missouri, Ohio, Pennsylvania,
Virginia, Wisconsin, West Virginia and Canada
November 3, 2008
Quebec
Ontario
Lake Superior
Lake Huron
Lake Ontario
Lake Michigan
Lake Erie
Michigan
Wisconsin
Michigan
Pennsylvania
Ohio
Indiana
Illinois
Missouri
West Virginia
Virginia
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
N
0 37.5 75 150 Miles
0 62.5 125 250 Kilometers
APHIS

Quarantine Activities

Trapping Activities

EAB TRAP TREE

“In space nobody can hear you scream”

Family: Crabonidae
Cerceris fumipennis

-native to N. America east of Rockies

-non-stinging

-solitary ground-nesting wasp

-provisions her nest with adult buprestids, including EAB when present

-can be used to monitor for EAB

"Biosurveillance"


Asian Longhorned Beetle
Anoplophora glabripennis

ALB in North America

- Native of the Far East
- Discovered in Brooklyn in 1996
- Found in Chicago in 1998
- Jersey City, NJ in October, 2002
- Toronto, Canada in 2003
- Carteret, NJ in August, 2004
- Worcester, MA in August, 2008

Host List

- Maple
- Horsechestnut
- Birch
- Willow
- Elm
- Other species

Urban Impacts

- Loss of shade trees
- Aesthetic loss
- Degradation of green space
- Emotional reactions


Before

After

Economic Concerns

- Timber industry
- Maple syrup producers (~$30 million industry)
- Tourism
  - Fall colors
  - Camp visitation
  - Park visitation

Ecological Concerns

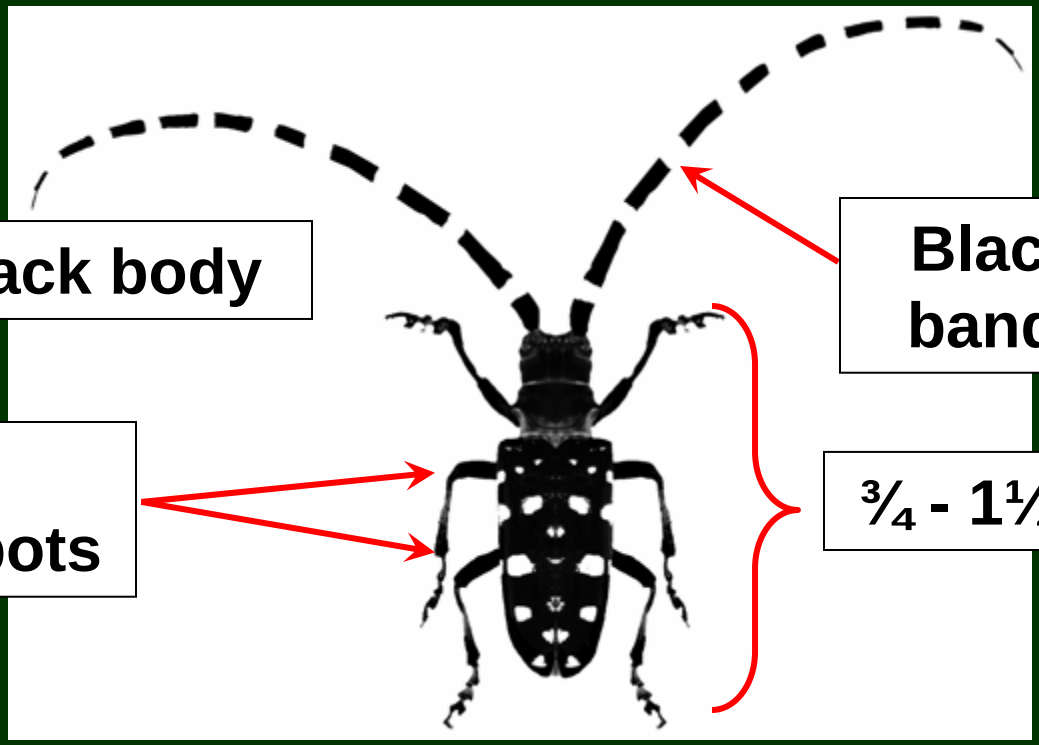
- Widespread tree loss
- Loss of wildlife habitat
- Facilitation of other invasive species
- Riparian/watershed issues

How You Can Find ALB

Important Biological Characteristics

- Attacks multiple host trees
- Annually re-attacks host trees
- Tree vigor unimportant
- Dispersal may be limited
- Tree mortality due to re-infestation after many years (10?), or failure

How to Recognize The Asian Longhorned Beetle



Shiny black body

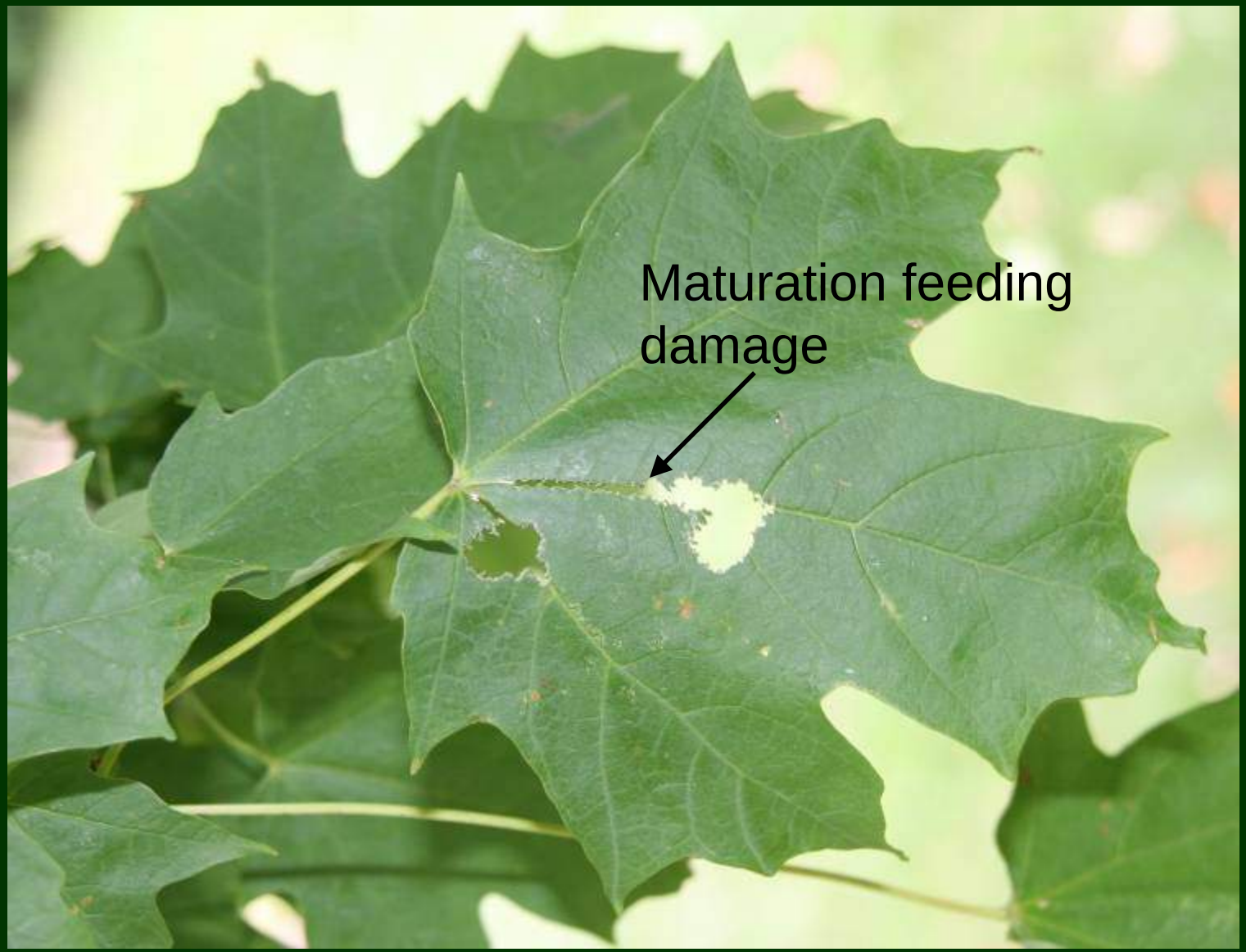
Black and white banded antenna

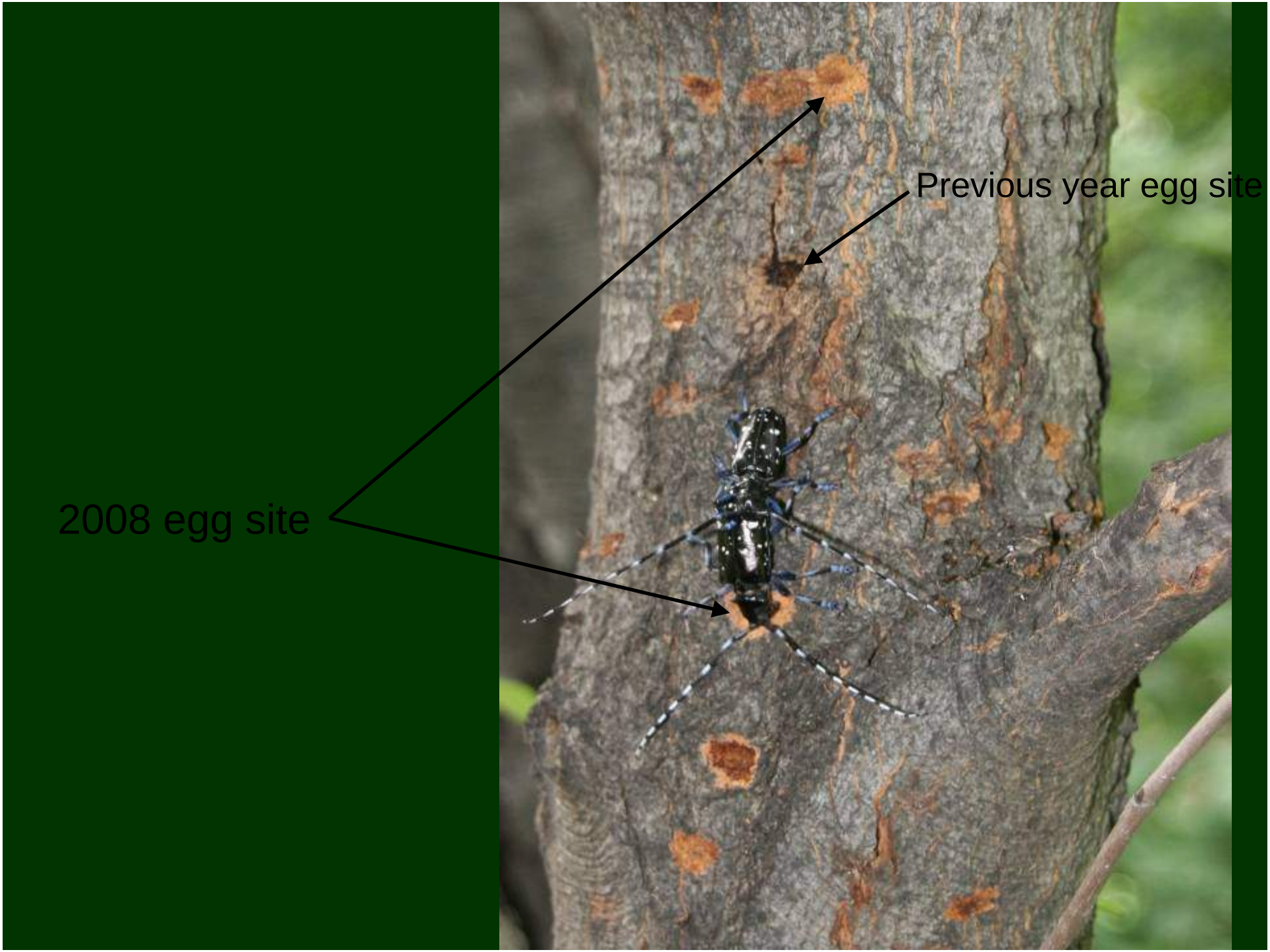
White or yellowish spots

¾ - 1¼ inches long

Anoplophora glabripennis

Life Cycle & Damage




Previous year egg site
2008 egg site

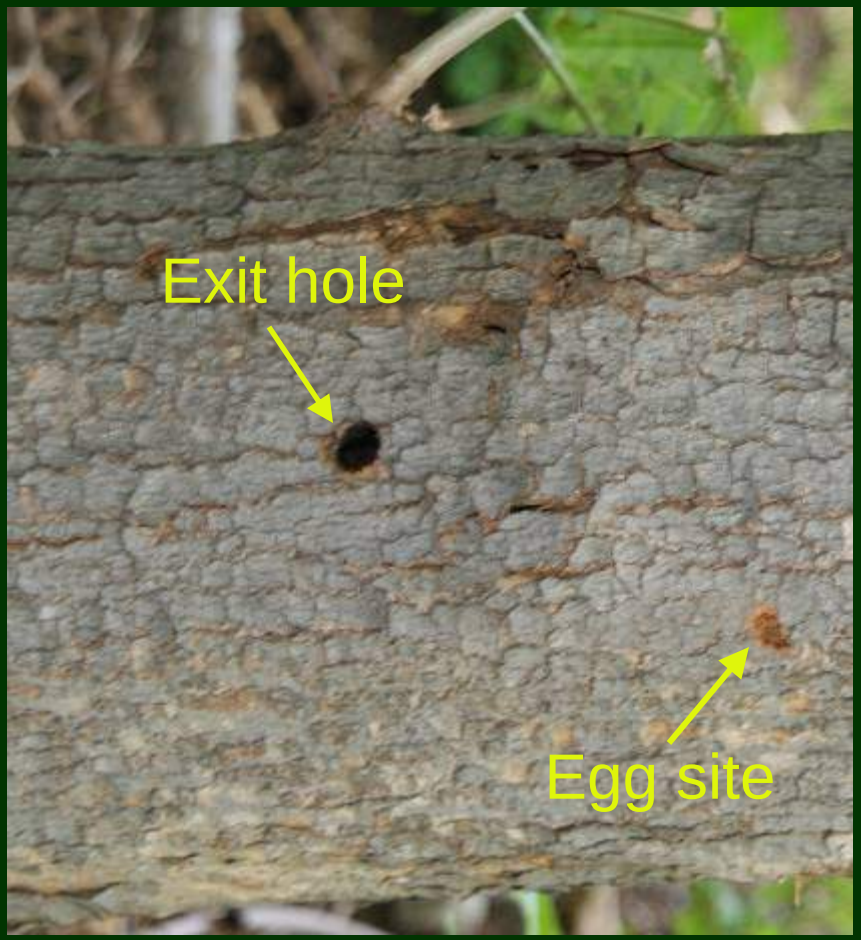
Recent egg site

Old egg site (2+ yrs)

Fresh egg site with sap


Chew marks

Exit Holes

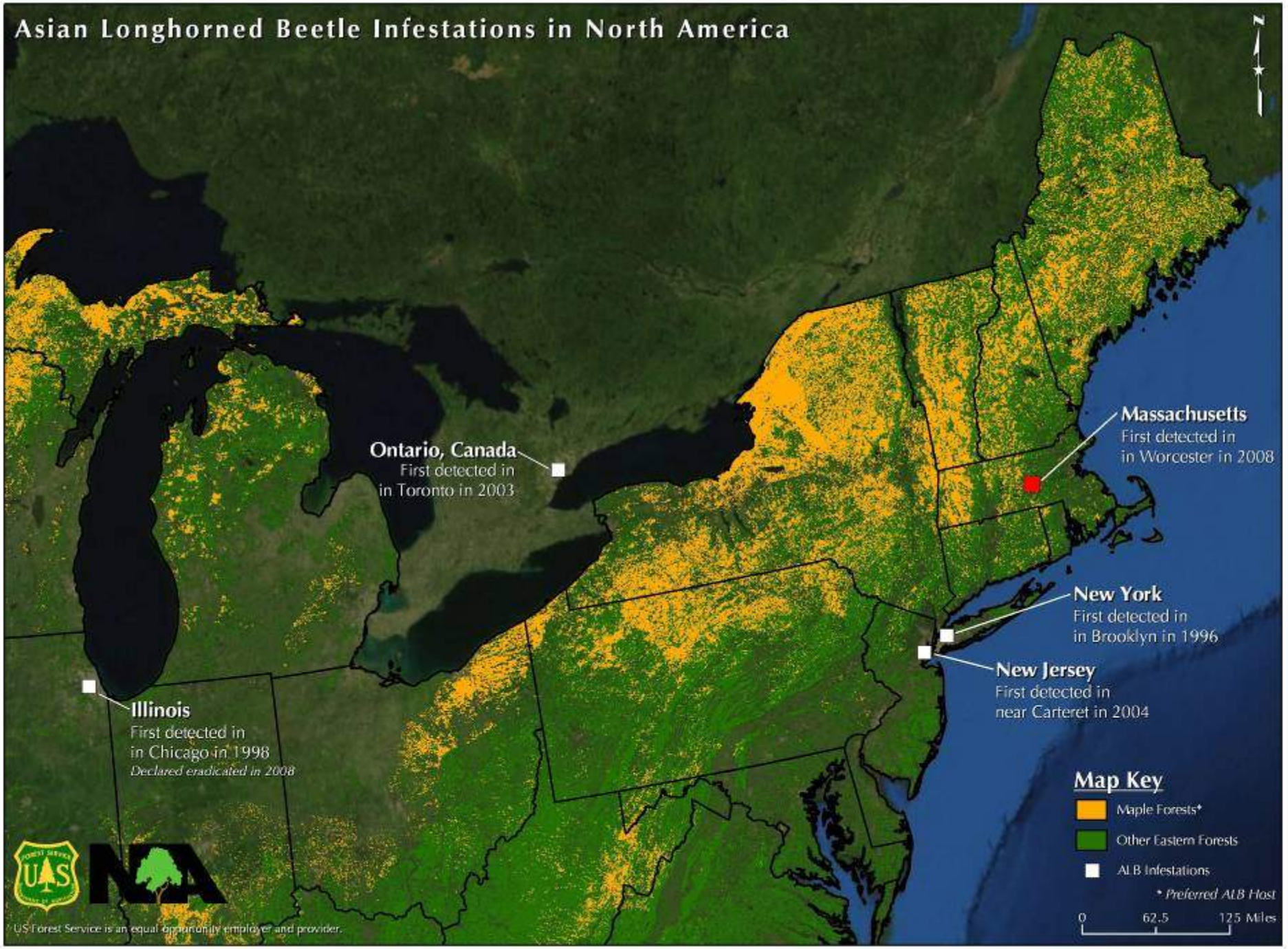


Survey Focus

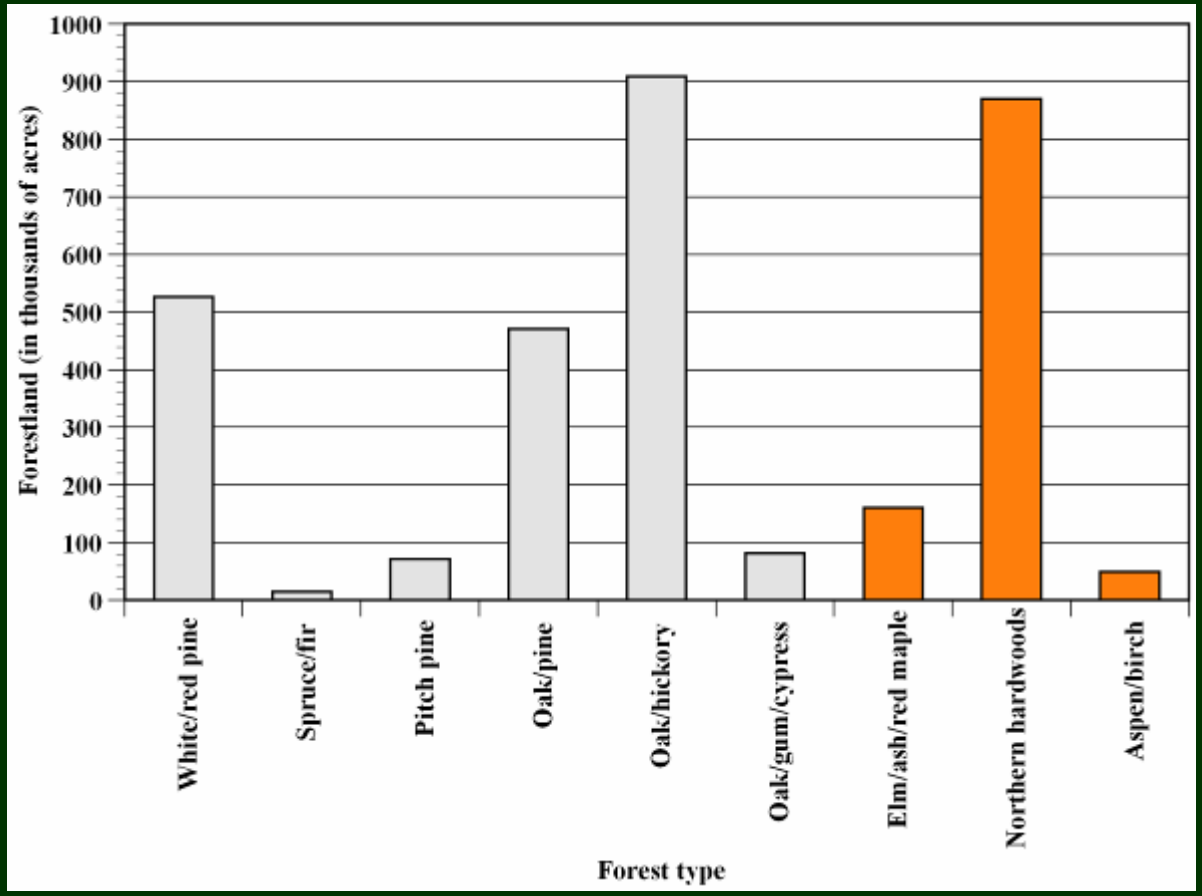
- Egg site
  - Unusual sap flow
  - Foam
  - Chew marks
- Exit holes
  - Pencil sized
  - Round
- Adults (July – September)

ALB and Forests

- Serious threat
- Many unknowns
- Could be aggressive tree killer
- Natural controls?

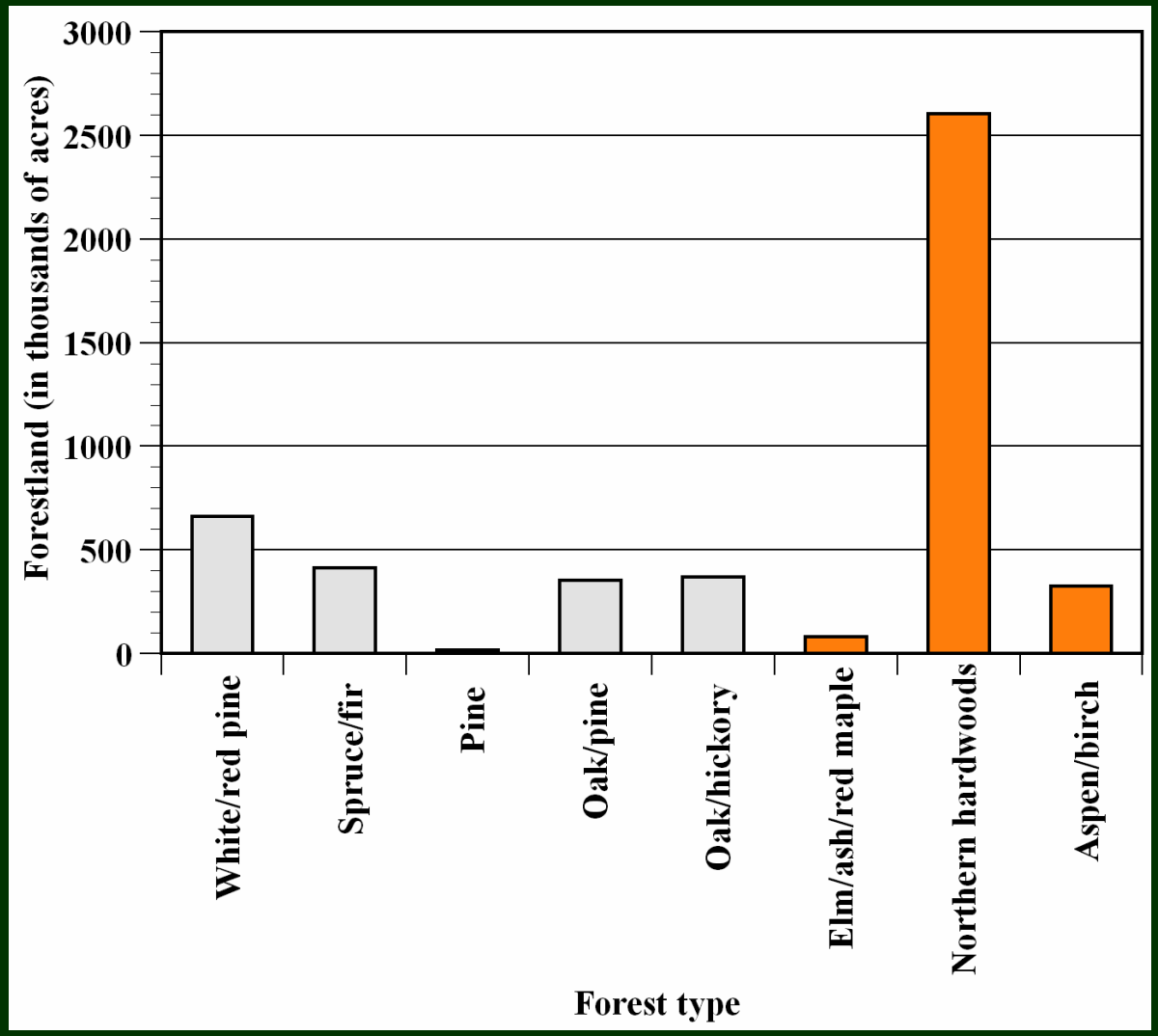

Asian Longhorned Beetle Infestations in North America
N
Massachusetts
First detected in
in Worcester in 2008
Ontario, Canada
First detected in
in Toronto in 2003
New York
First detected in
in Brooklyn in 1996
New Jersey
First detected in
near Carteret in 2004
Illinois
First detected in
in Chicago in 1998
Declared eradicated in 2008
Map Key
Maple Forests*
Other Eastern Forests
ALB Infestations
* Preferred ALB Host
0
62.5
125 Miles
US Forest Service is an equal opportunity employer and provider.

Massachusetts – Forest Types



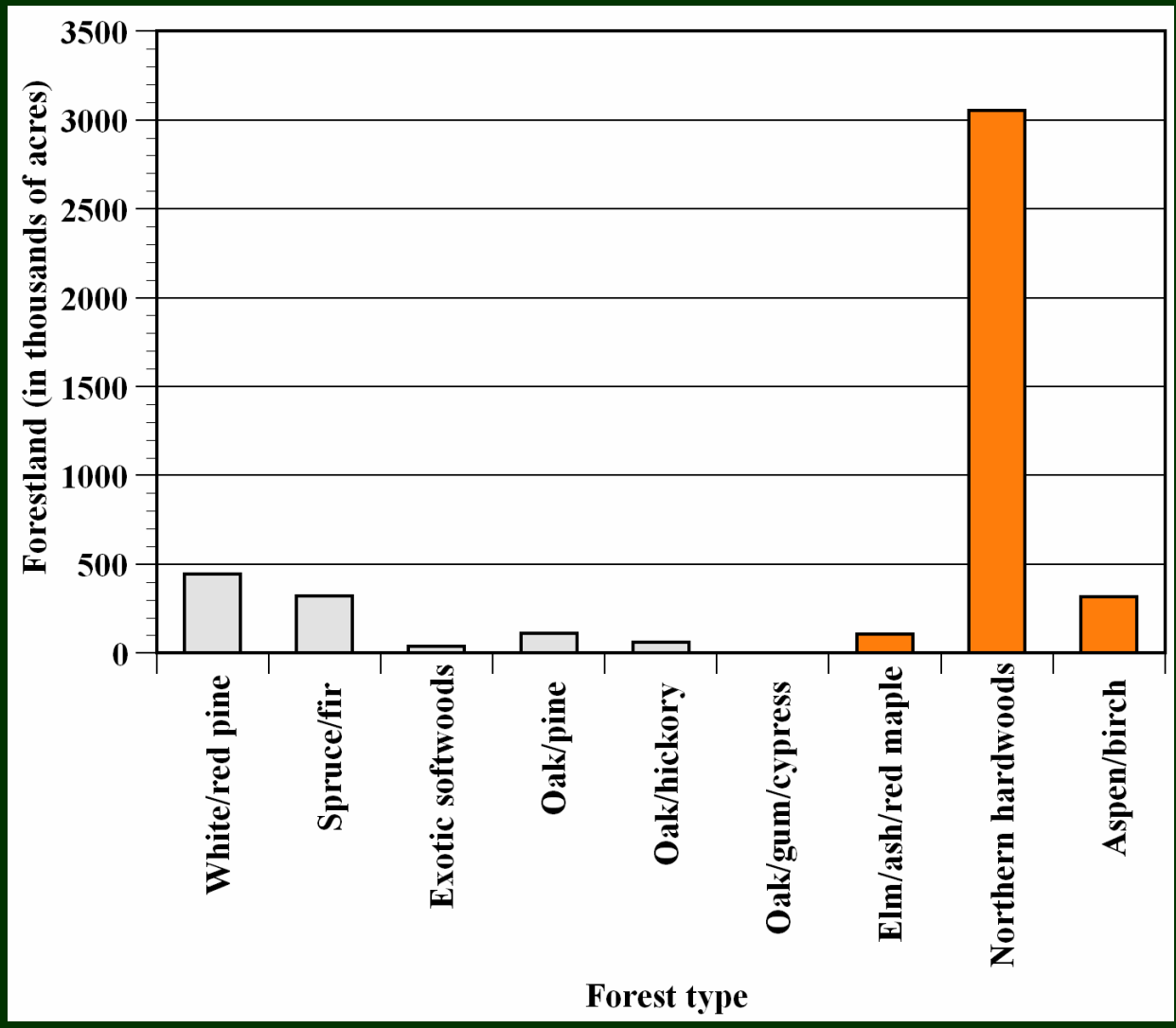
34% of forests could be impacted

New Hampshire – Forest Types



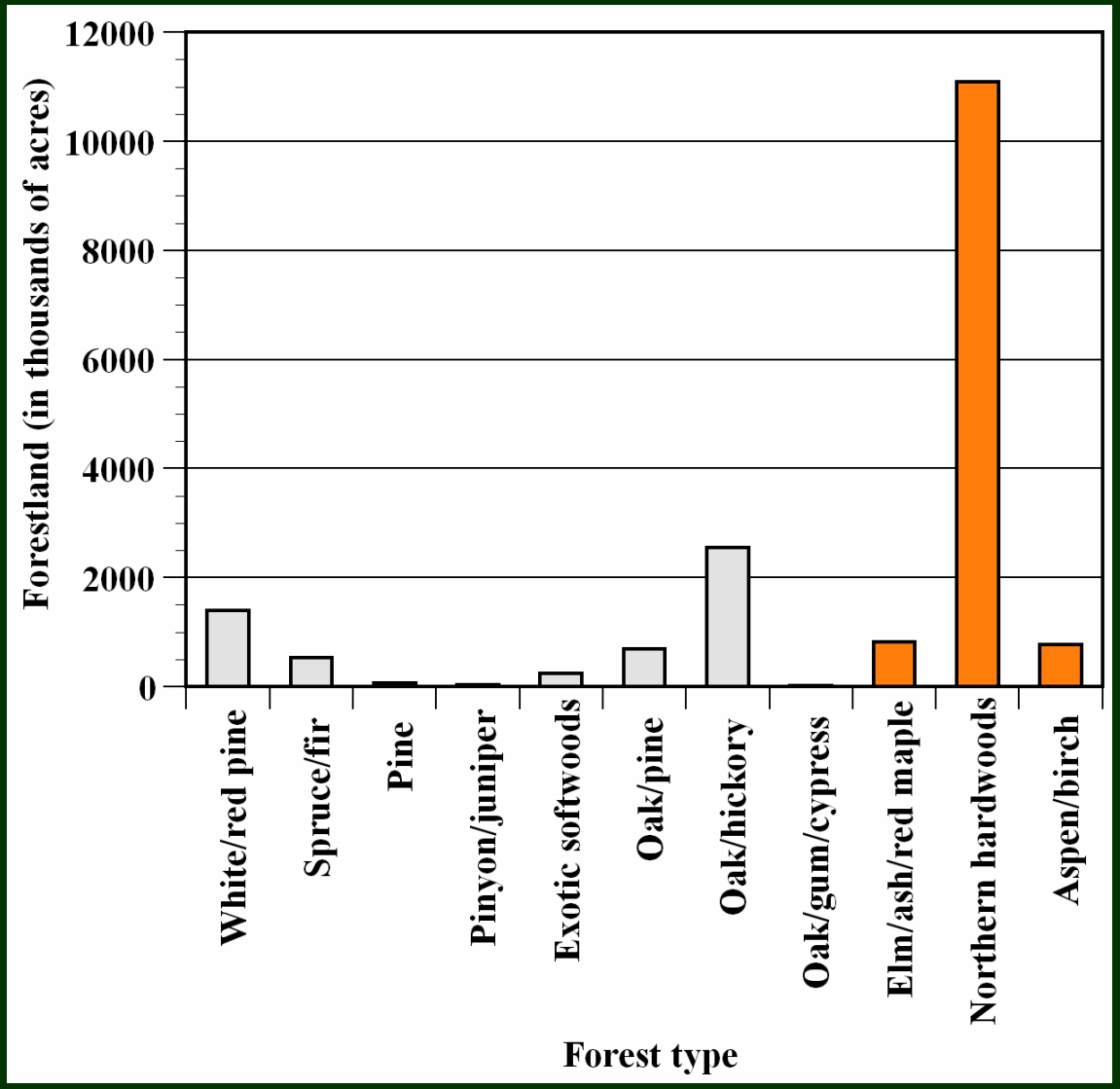
62% of forests could be impacted

Vermont – Forest Types



78% of forests could be impacted

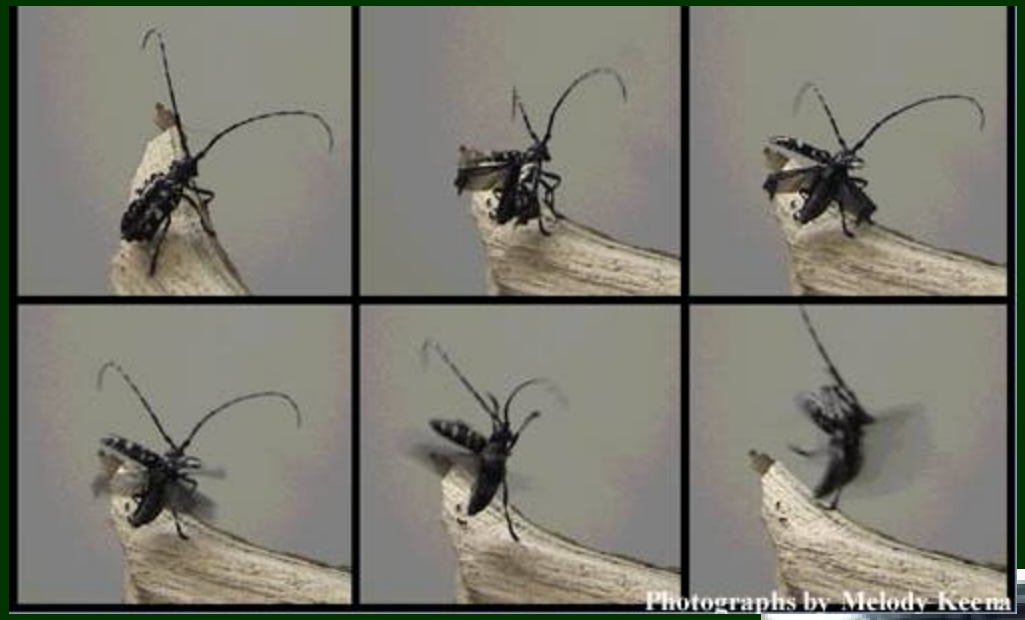
New York – Forest Types



70% of forests could be impacted

Approach to Limit Spread

- Aggressive management can keep ALB from spreading into forest ecosystems
- Restrictions on moving wood products, including firewood, are critical
- Increased survey and detection efforts outside of Worcester
- Public awareness


Photographs by Melody Keena

What Can a Community Do?

- Public outreach
- Survey
- Analyze resources
  - Tree inventories
  - Potential impact
- Consider pathways
- Increase tree diversity

Acknowledgments

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