Asian Long-horned Beetle vs Emerald Ash Borer Eradication vs Management

City of Chicago, Bureau of Forestry

Richard M. Daley, Mayor

Invasive Species: A Conundrum

- Eradication, Control, Management?
  - Depends on the pest/disease, Extent/range of infestation
- Who Decides?
  - Program Personnel, Scientists, Politicians, Public
- What are the Impacts?
  - Loss/Decreased Funding at National level
  - Increased Burden on Local municipalities/communities
  - Property Owners

Asian Longhorned Beetle

- **Asian Longhorned Beetle**
  - **Illinois** **1998** **Eradicated 2008**
    - **31 sq. miles**
    - **1545 trees**
  - **New York** **1996**
    - **120 sq. miles**
    - **5900 trees**
  - **New Jersey** **2002** **Partially Eradicated 2008**
    - **16.5 sq. miles**
    - **20,000+**
  - **Worcester, Mass.** **2008**
    - **74 sq miles**
    - **25,000 +**

ALB is in Eradication Mode

- Follow National USDA Eradication Protocols ALB Pest Response Guidelines 2008
  - Conduct Detection surveys
  - Remove Infested Trees
  - Remove or Treat Host Trees
  - Replant Trees (varies by Communities)

Chicago's Response

- USDA and IDOA are the Experts
- Cooperative Effort: City, State, Federal, Public
  - Program Goal is to Save Trees
  - Remove only Infested Trees
  - Replant Trees where removed
    - true value replacement on private property
- No Cost to Homeowners
- City to Seek Re-imbursement

ALB Eradication Funding (Illinois)

- **~$70 million for Eradication efforts**

  ~95% APHIS, ~5% State and City

  Annual Cooperative Agreement with APHIS

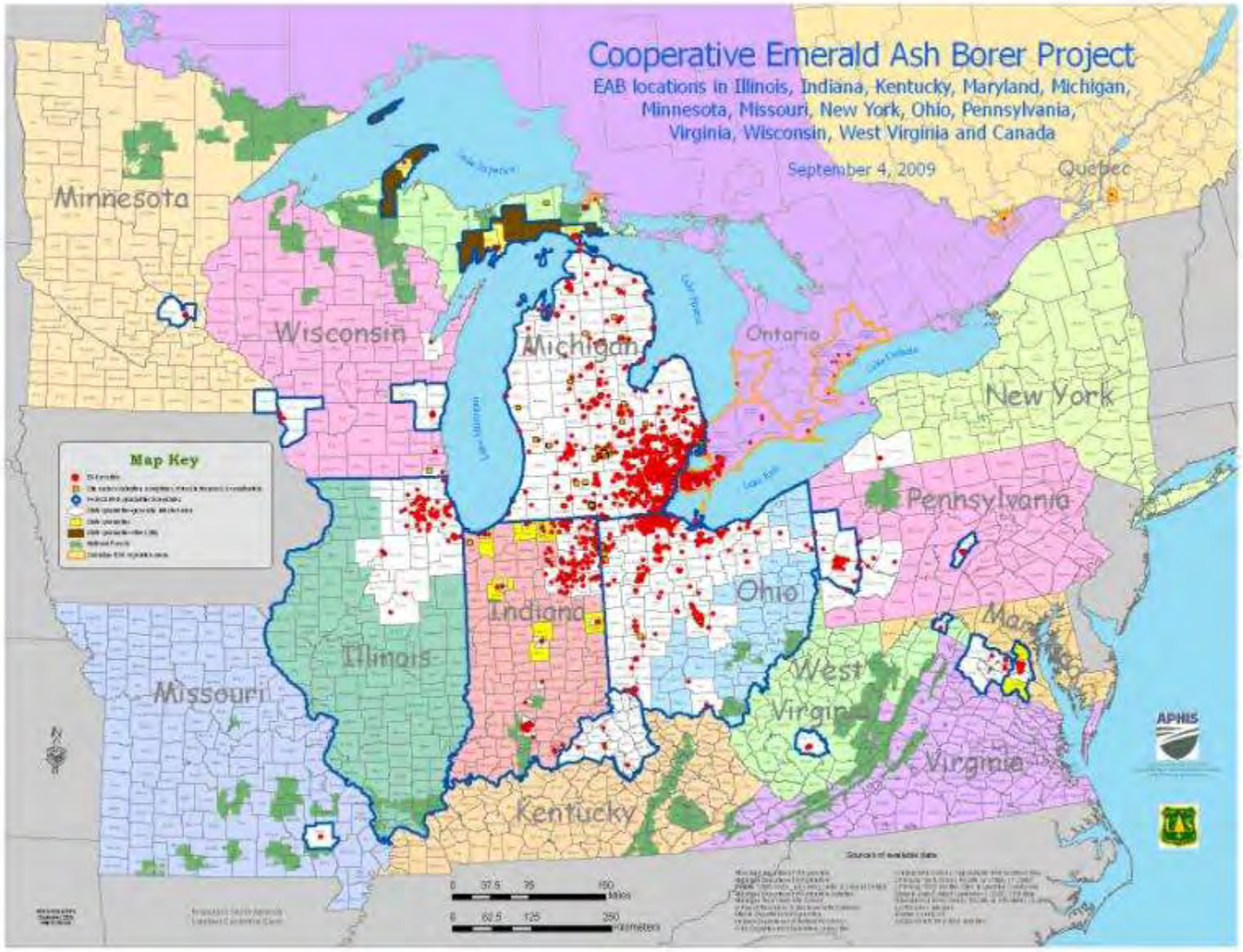
  ~$1.5-2 million/year (15% match)

- **~$1.5 million for Restoration**
  - **USFS $480,000**
  - **IDNR $500,000**
  - **COMED $480,00**

Emerald Ash Borer in Control or Management Mode

- Greater= HUGE Burden on Local Communities
- Federal Funding cannot keep up or match ALB type response
- EAB harder to detect, spread faster (?)
  - Battle was “lost” when finally detected in 2002
  - It was already out there
  - Still finding new locations in new states

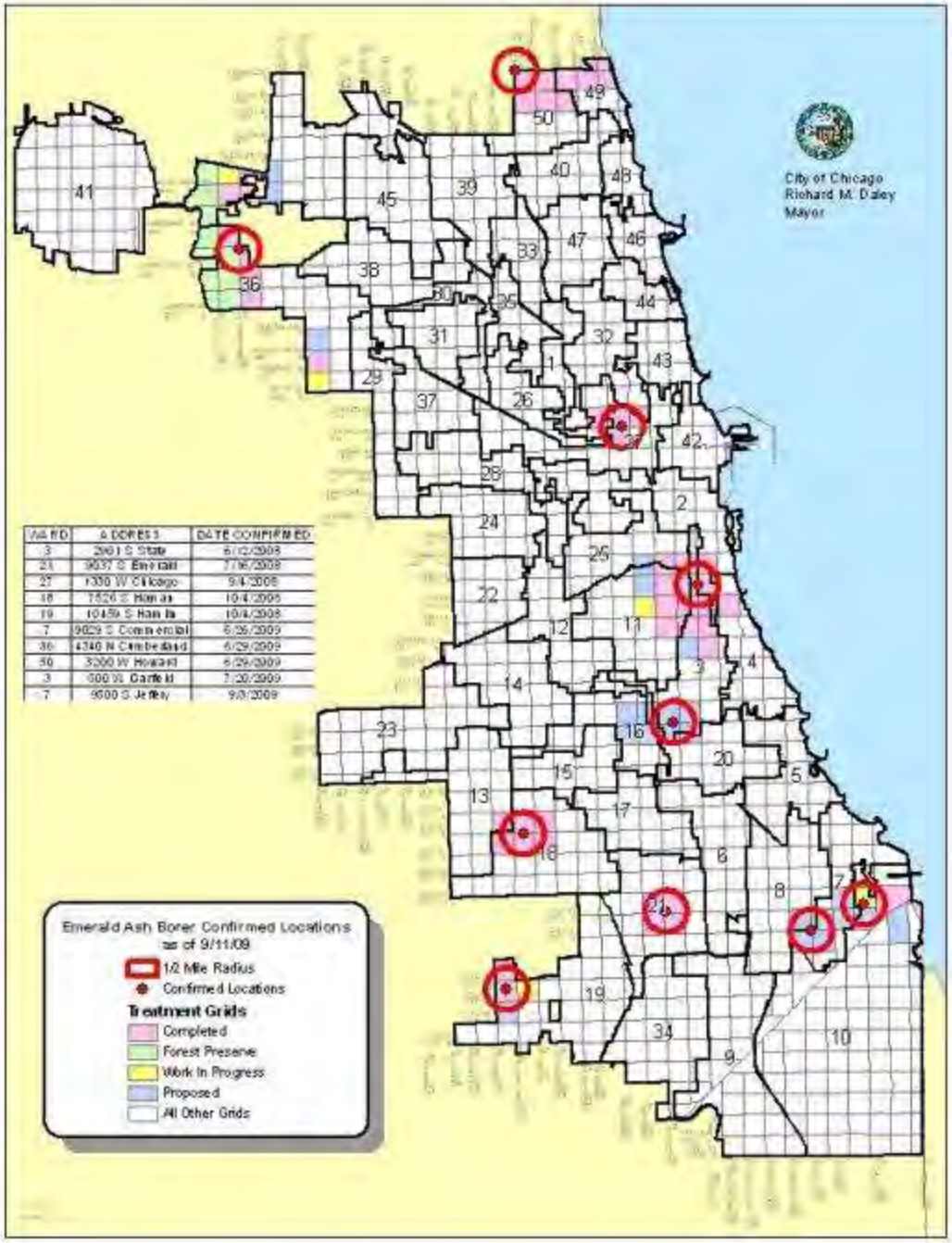
National EAB Distribution



Chicago Locations

The City has 10 confirmed EAB locations.

Currently trapping citywide to identify additional locations.



Management

- Selective tree removal

- TREE-äge tree injection

- Biological controls

- Tree replacement

Ash Tree Maintenance

Remove dead or severely infested ash trees.

- Public safety
- Reduce brood beetle numbers
- Phloem reduction

Maintain sound ash trees.

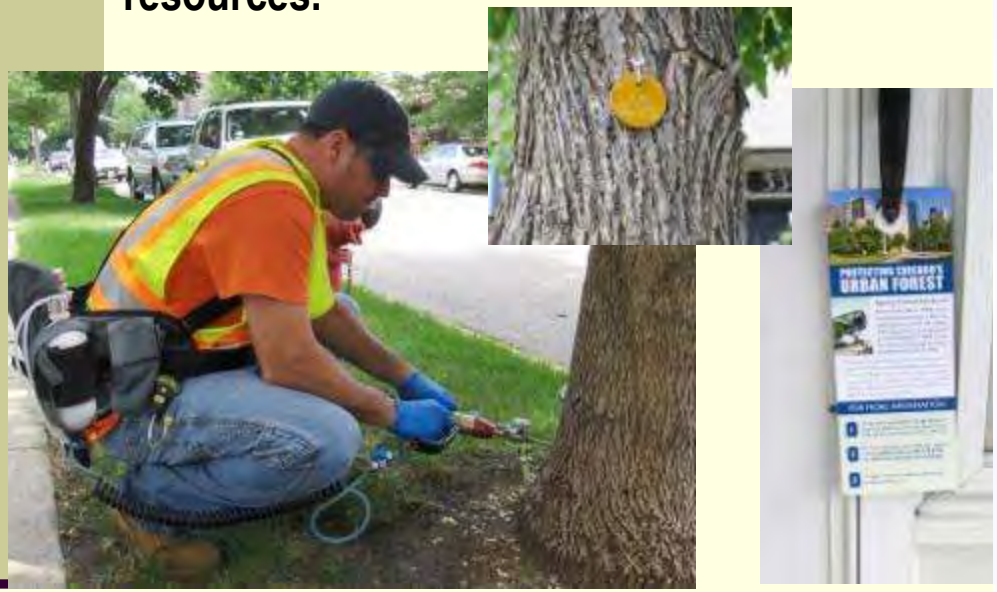
- Preserve canopy to allow for staggered replacement

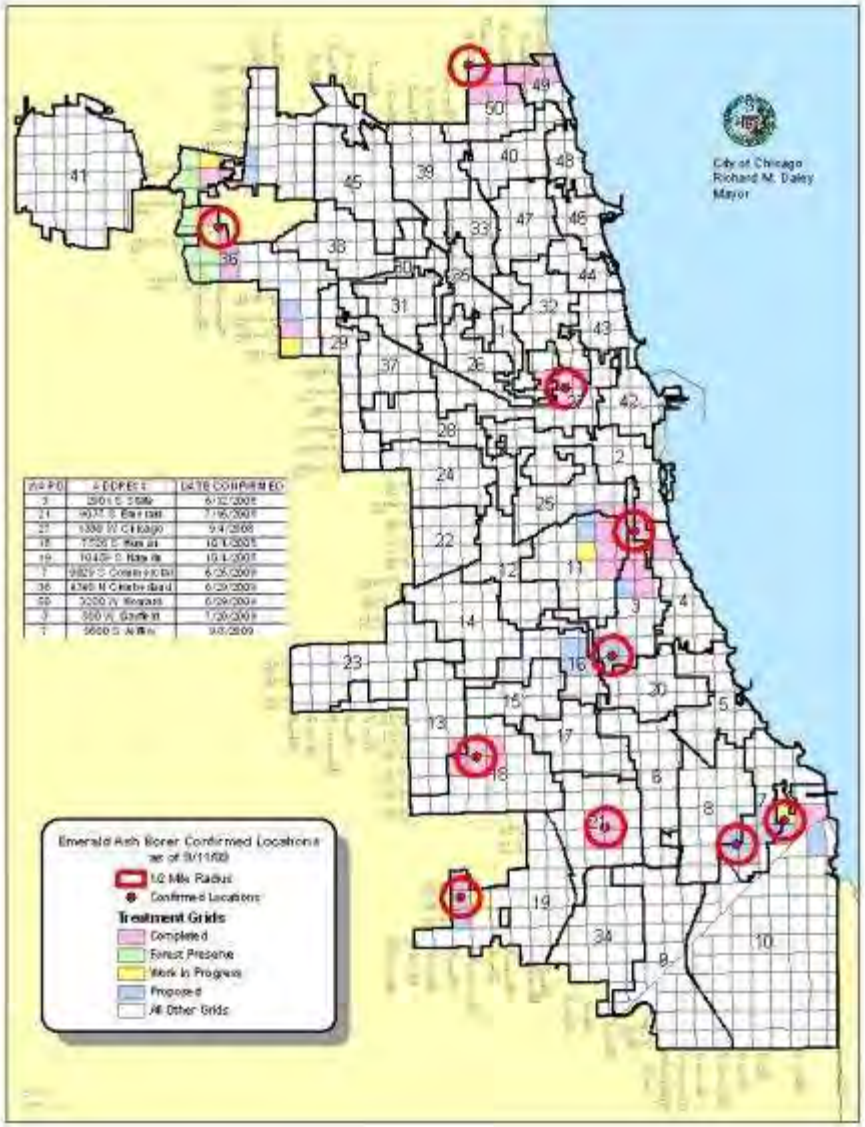
Work outside of the flight season to minimize disturbing beetles.

Removed 267 ash trees due to EAB infestation 2009 YTD.

Tree Inoculation - **TREE-äge**

Target advanced infestations to focus limited resources.





Inoculating trees with Emamectin Benzoate has been proven to kill 99% of EAB within an ash tree.

Protects the tree for 2-3 years.

Inoculated 6,108 trees YTD

1. **Targeting areas of known infestation.**
2. **Manage mortality - slow canopy loss.**
3. **Treat approximately 6,500 trees in 2009.**

Beneficial Insects

Chicago in cooperation with the USDA Forest Service released parasitic insects to study the benefits of parasitoids in slowing EAB.

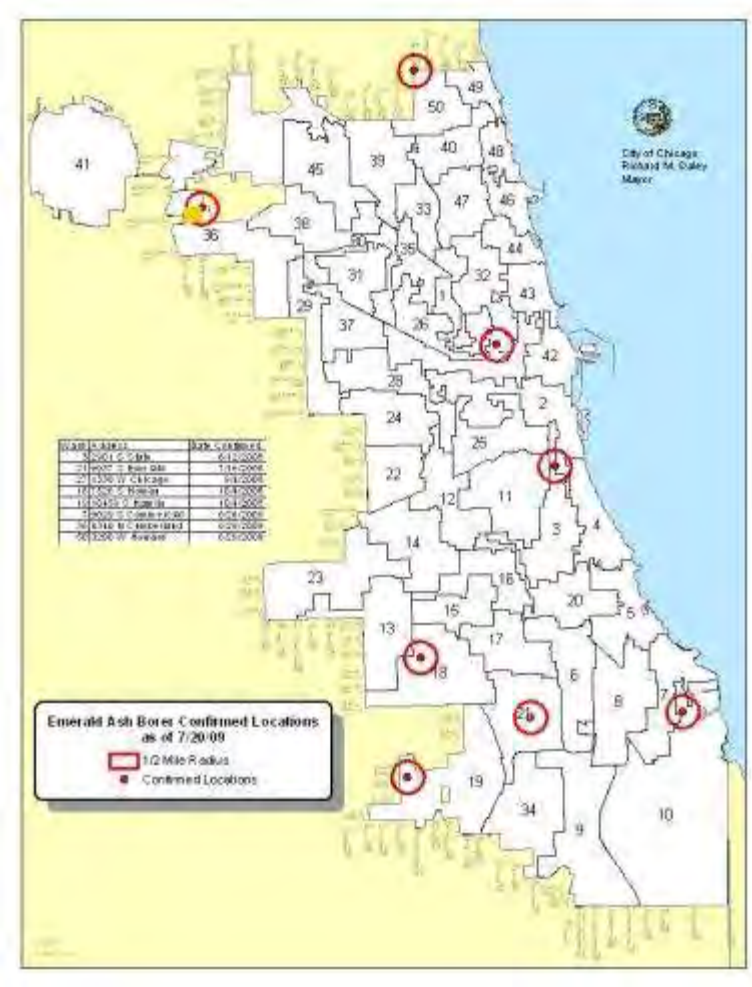
Once established, these tiny insects will be a zero maintenance - zero cost, control method which will benefit both public and private ash trees.

Two types of non-stinging insects released:

- ***-- Tetrastichus planipennisi***
- ***-- Oobius agrili***

Insects are released as part of an ongoing Forest Service study which will continue over the next 5 years.

Beneficial Insects



The release sites were determined based upon required criteria:

1. EAB infestation.
2. Wooded natural area.
3. Contiguous with river, railway or other tree corridor providing a uninterrupted pathway for movement of parasitoids.

Tree Replacement

Replant trees lost to EAB to reestablish lost canopy.

Maintain existing canopy as long as possible to stagger the age of replacement trees when replacing the missing canopy.

Coordinating with CDOT GreenStreets for tree replacement.

Although limited, management tools are available, and through integrated pest management we hope to slow the rapid decline of the ash population in Chicago.

By use of selective tree removal, pesticide injection, and biological controls, EAB damage can be reduced, and allow replacement trees a head start with their growth.

Contacts

Asian Longhorned Beetle
Joseph McCarthy
Senior City Forester

jmccarthy@cityofchicago.org

Emerald Ash Borer
John Lough
City Forester

jlough@cityofchicago.org

312-746-5254