

BOULDER URBAN TREE CANOPY & EMERALD ASH BORER



City Forester – Kathleen Alexander
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Sept. 8, 2015

Services Provided by Boulder Urban Tree Canopy

Economic

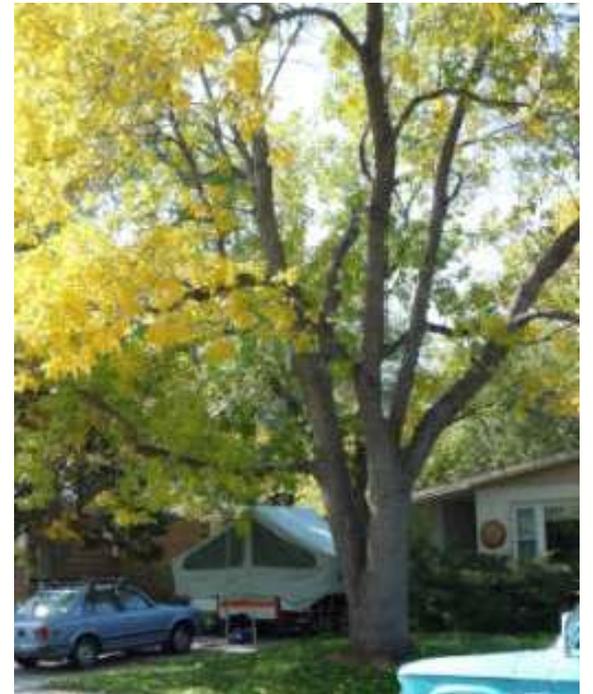
- Appreciating asset
- Property values

Environmental

- Energy savings
- Stormwater runoff reduction
- Air pollutant removal

Social

- Quality of life
- Neighborhood character
- Aesthetics and shade



Impacts to Urban Tree Canopy

- Invasive Insect and Disease Pests
- Weather Events
- Climate Change
- Others...

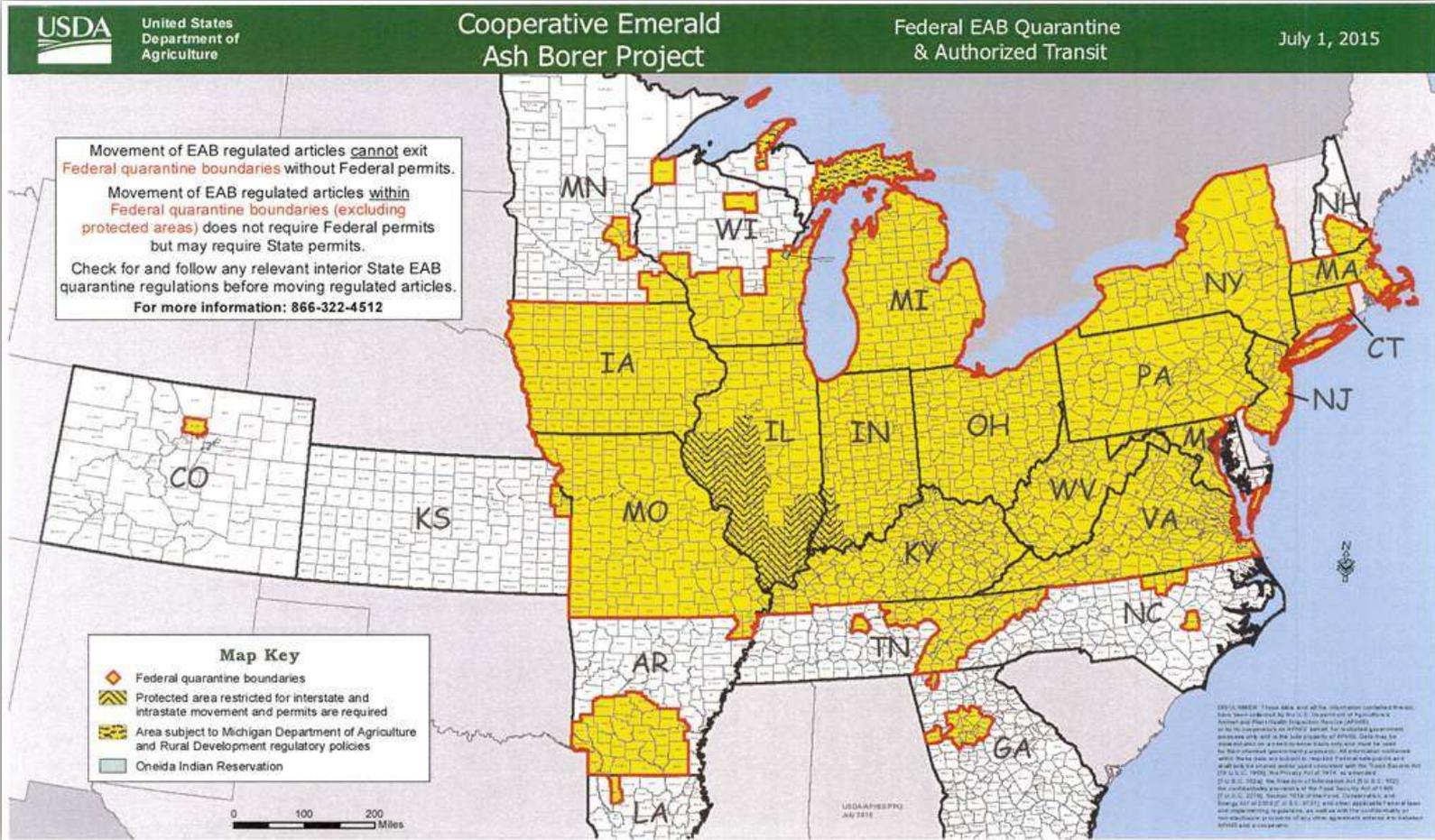


EAB Basics

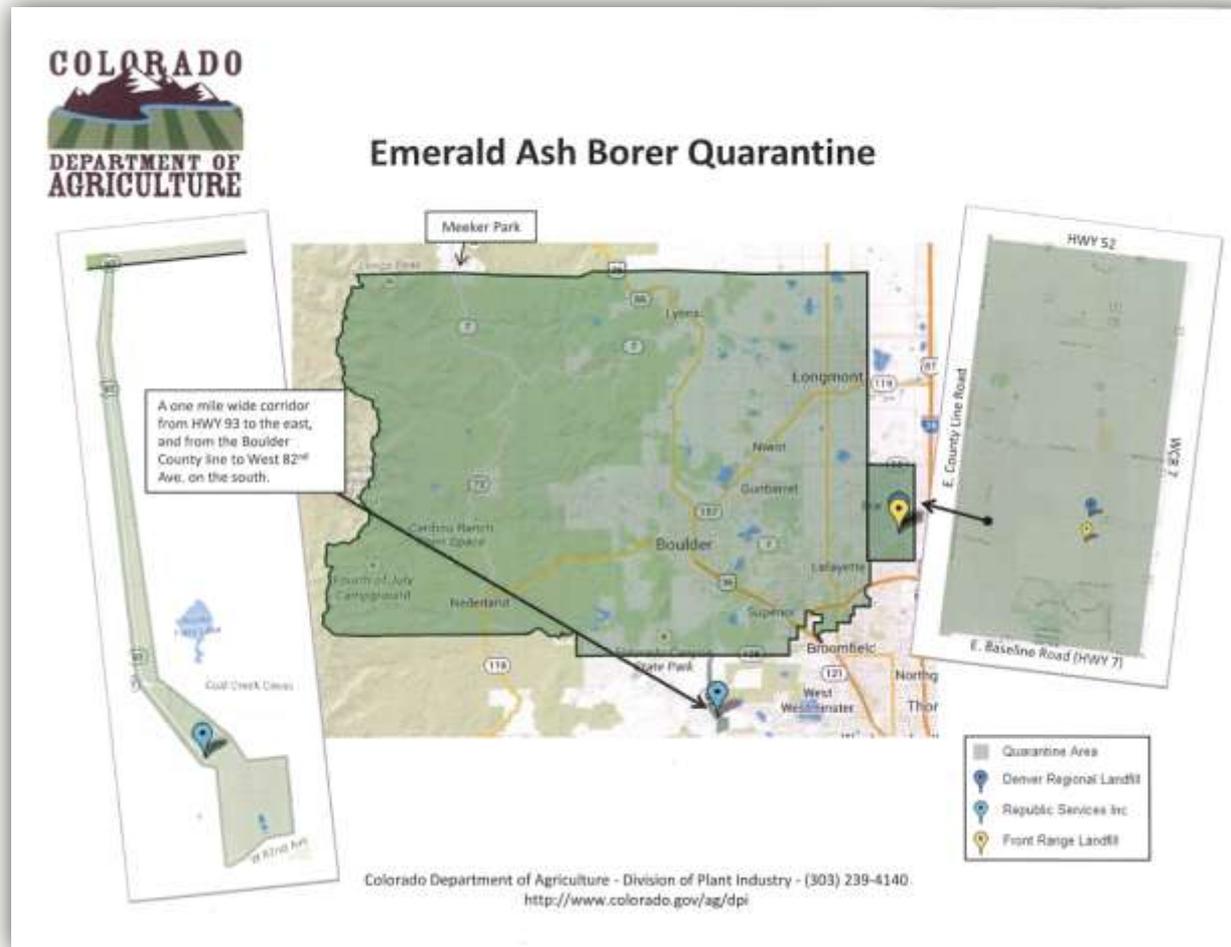
- Invasive pest
- EAB populations expand exponentially
- Only official detection within CO is City of Boulder
- Detection VERY difficult
- Federal and state quarantines in place for Boulder County
- All ash will eventually die without pesticide treatment



Federal Quarantine



State Quarantine

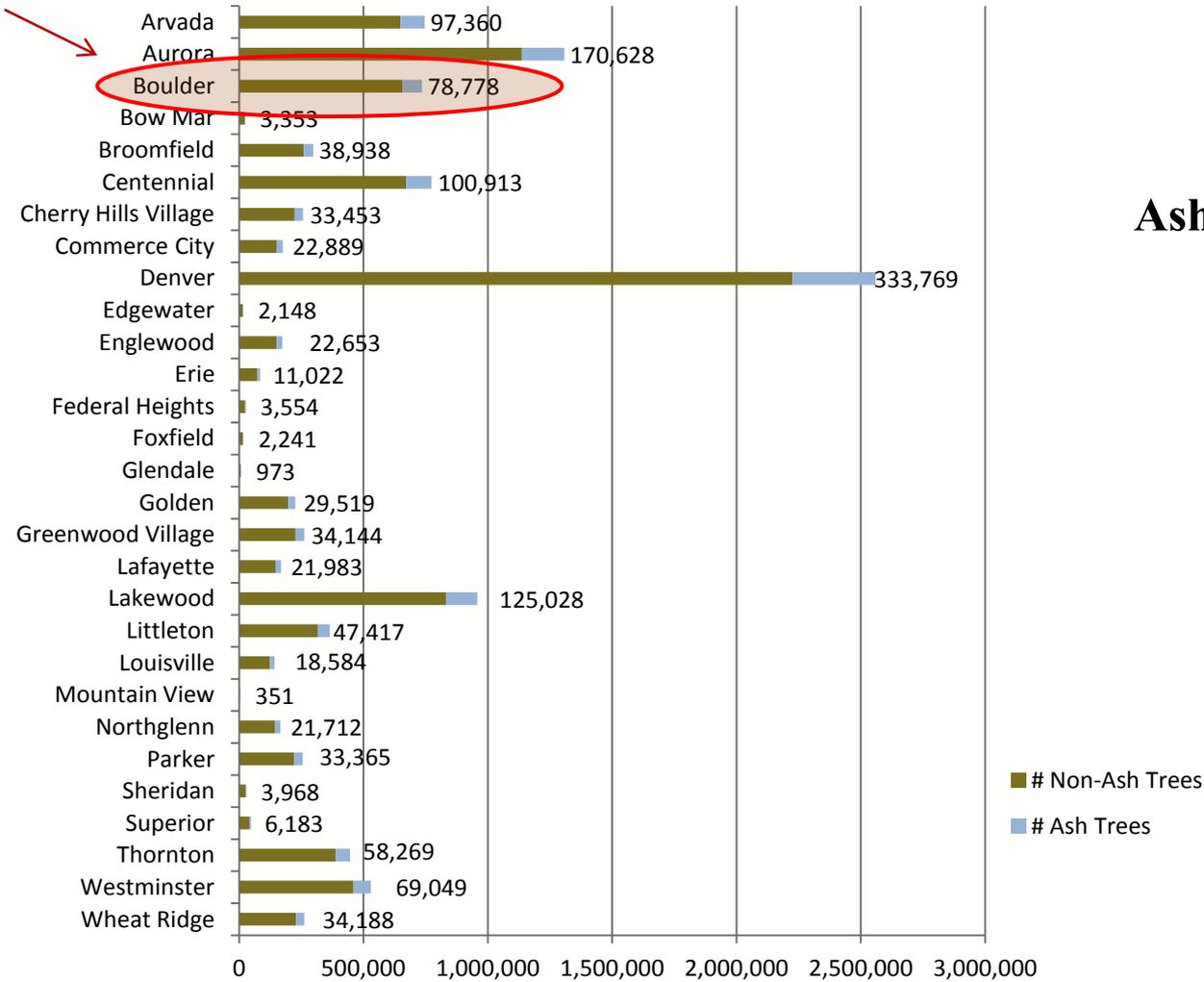


How many ash do we have?

- 6,016 ash trees in city parks and street rights-of-way
12% of public trees
- Statistics
 - Mean = 11” diameter
 - Median = 25” diameter
 - Range: 1” – 49” diameter
- Estimated 70,000 ash on private property & along creeks
- Why are there so many ash?



Number of Ash Trees in Greater Denver Metro Area



**Total Estimated
Ash Tree Population For
Metro Denver is
1.45 Million Trees**



How do I know if my tree has EAB?



Infested Trees in Central Boulder



Infested Trees in South Boulder



Infested Trees on Commercial Property



Coordinated EAB Response

Colorado EAB Response Team:

- USDA Animal and Plant Health Inspection Service (APHIS)
- Colorado Department of Agriculture (CDA)
- City of Boulder
- Boulder County
- University of Colorado (CU)
- Colorado State Forest Service
- Colorado State University (CSU)



Actions:

- Coordinated initial response
- Education and outreach to industry and public
- State website for EAB (www.EABColorado.com)
- PR/messaging/media
- Quarantine



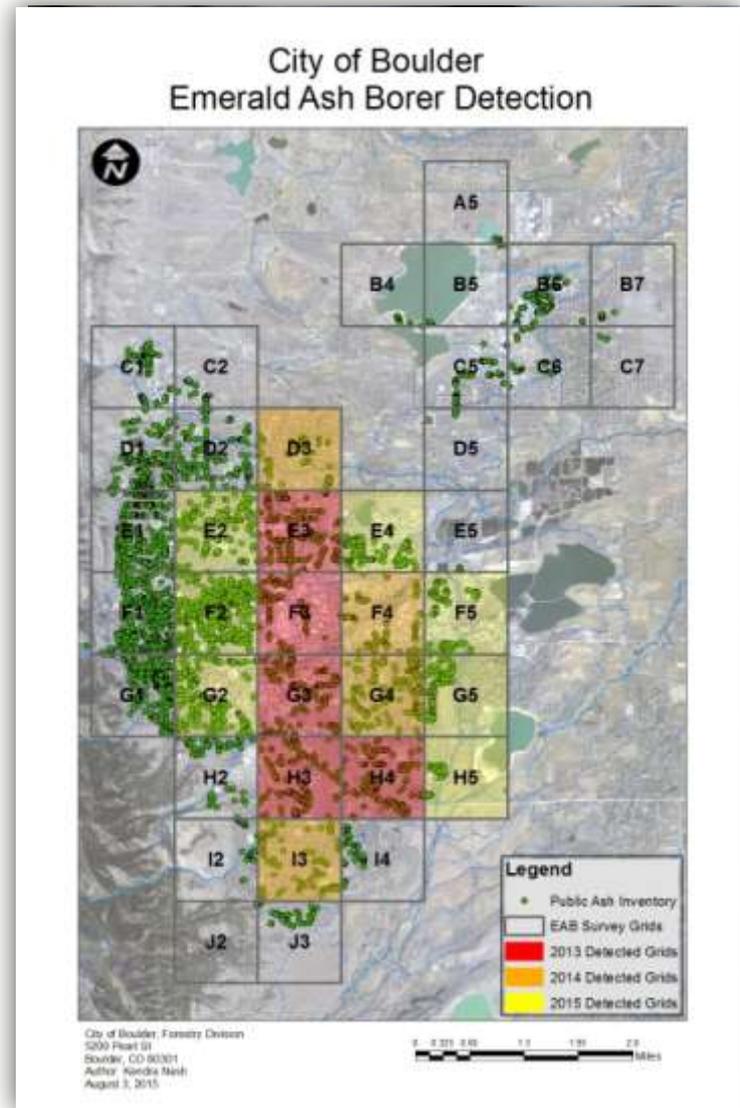
City EAB Strategic Team

- Kathleen Alexander, City Forester
- Rella Abernathy, IPM Coordinator
- Jeff Haley, Parks Planning Manager
- Brett KenCairn, Senior Environmental Planner
- Elizabeth Lokocz, Landscape Architect I

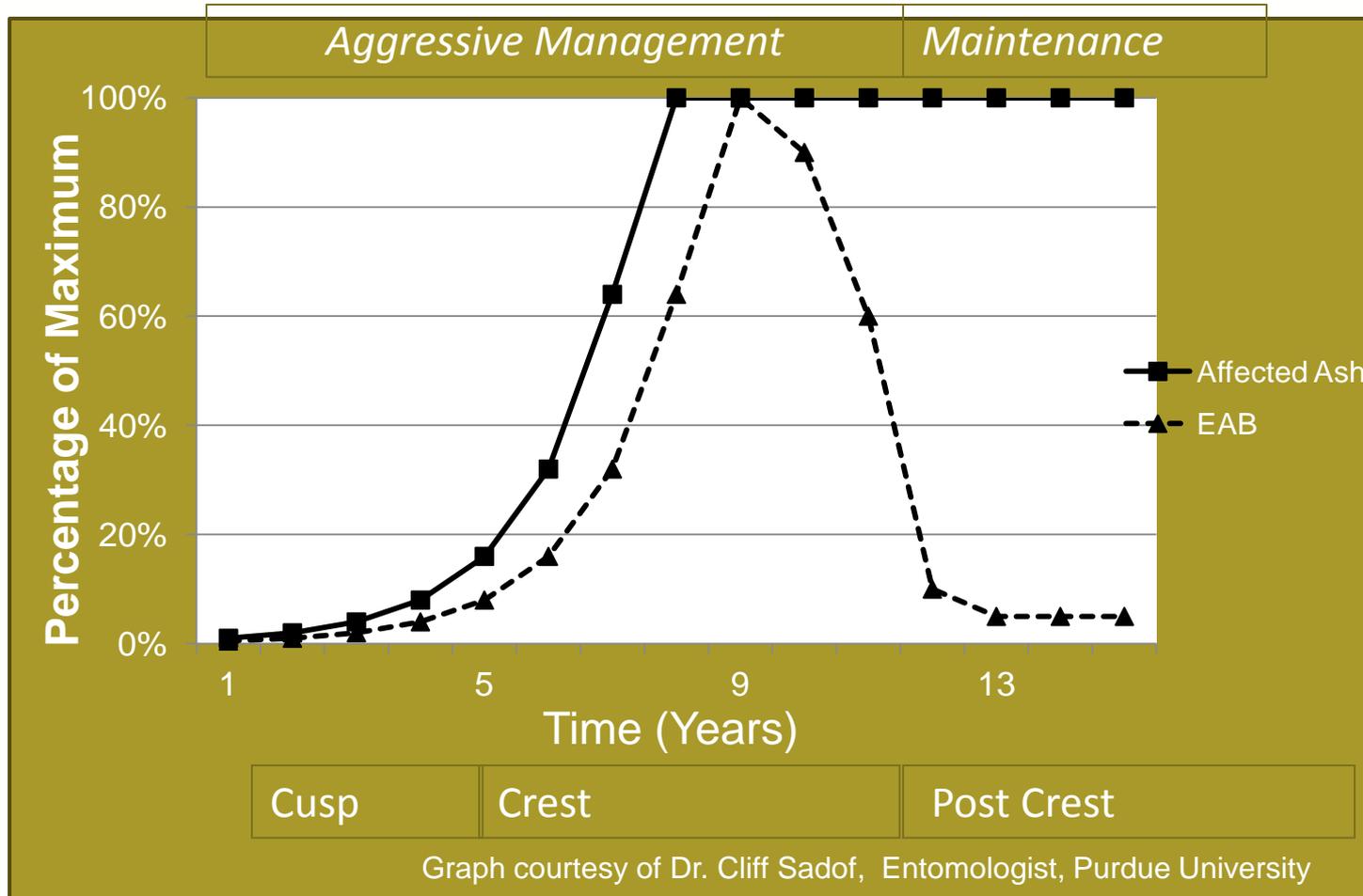


Monitoring

- Where is it now?
- EAB can spread naturally up to 6 miles/year
- Assume at least low level of infestation throughout city and propose to act accordingly
- Propose to cease active monitoring in Boulder



EAB Invasion Prompts Aggressive Management



Tree Planting

Diversity is Key for Resiliency

- Forestry efforts
- Private development

2014 and 2015:

- Planted 968 trees including 586 in known infested areas or P&R parks/facilities with existing ash to reinforce tree canopy

Long Term:

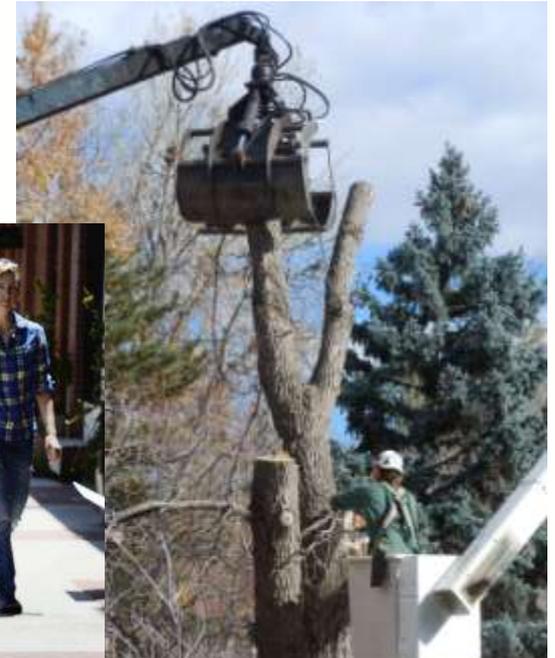
- Goal of 500 new trees annually
- Focus on long term maintenance



Tree Removals

2014 and 2015:

- Current heavily infested areas have few public ash
- 192 declining public ash removed
- Estimate an additional 50 public ash removed this winter (and replaced 2016)



Long Term:

- Proactively planning to address removal/replacement of untreated public trees (~4,500)
- Expect removals to occur over next 7-8 years



Pesticide Treatment

Goals:

- Slow the spread of EAB within Boulder and to other communities
- Stage removals to spread out costs
- Maintain urban tree canopy
- Preserve significant trees

Long Term Plan:

- Treat primarily with TREE-äge, some trees with TreeAzin
- Treat 25% of public ash trees on a 3 year rotation; fewer trees each cycle
- Adjacent property owners may opt out of treatment

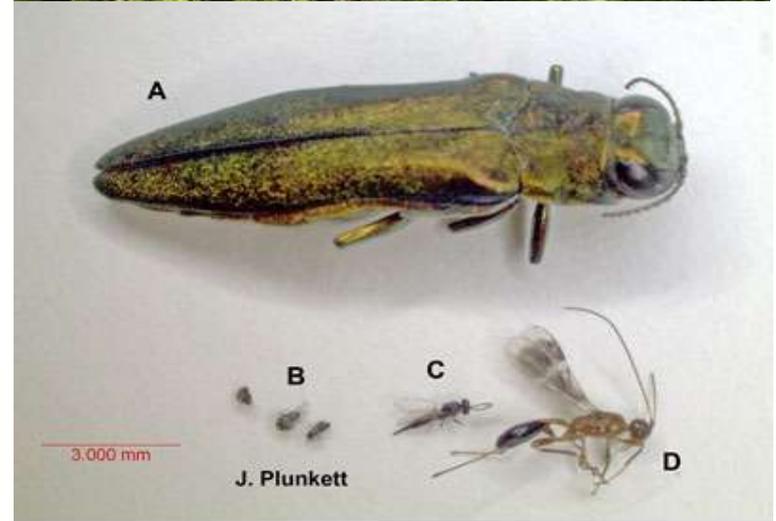
Criteria for public ash tree treatments:

- Ash trees > 10" diameter
- Good health
- Good location



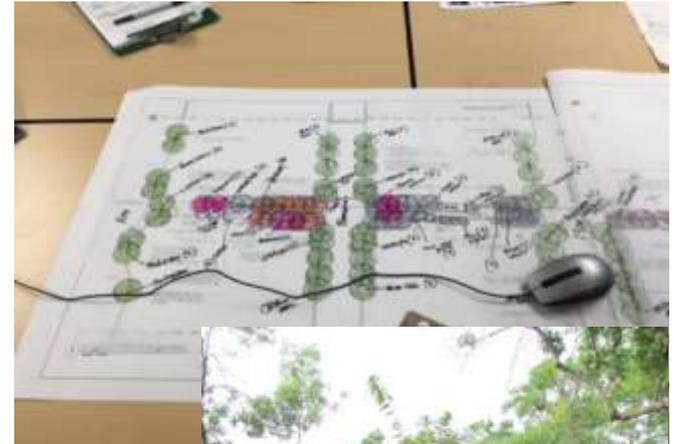
Biocontrols

- Release 4 species of non-stinging parasitic wasps in 2014-2016
- Collaborative effort
- APHIS Experiment - to determine if biocontrols and pesticides can work together to successfully reduce EAB populations



Pearl Street Mall

- Ash trees are the predominant species on 1100 and 1400 Blocks of Pearl St Mall
- Most in poor condition due to other issues
- No pesticide applications on mall for EAB



Education / Outreach

- Website www.EABBoulder.org
- Open Houses / Farmers Markets / Events
- Doorhangers
- News Releases
- Outreach material in coordination with CO EAB Response Team
- HOA Meetings
- Workshops for industry professionals



 Information provided to
City of Boulder Forestry

**You have
an Ash Tree
that is
symptomatic for
EAB**

Emerald Ash Borer

Emerald Ash Borer (EAB), an invasive tree pest, has been detected within the City of Boulder. EAB is responsible for the death of over 50 million ash trees since its initial discovery in Michigan in 2002.

 For more information:
City of Boulder Forestry: 303.441.4406 or
www.EABBoulder.org



Enforcement

- Ordinance – diseased or dangerous trees
- City has “duty” to enforce for private trees that threaten public property; no additional enforcement proposed
- Administrative process



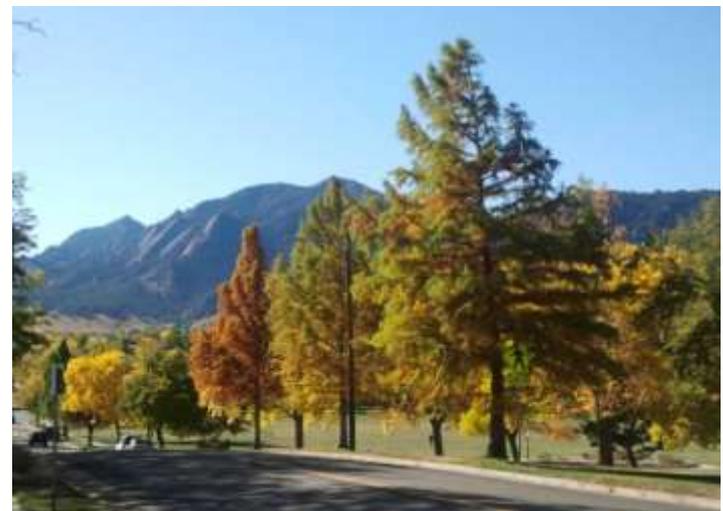
Wood Utilization

- Partnering with Boulder County for biomass
- Larger logs milled:
 - Expand sawmill ops for larger logs
 - Expand to other species
- Partnering with Colorado State Forest Service (CSFS) on wood market analysis



Urban Forest Strategic Plan

- Tree Inventory
 - Contracted with Davey Resource Group
 - 50,725 public trees in city parks and street rights-of-way
- Updated:
 - Diameter
 - Condition
 - Maintenance Need



100 Resilient Cities Supported

Urban Forest Management Pilot Project



IMAGERY | Digital Globe



ANALYSIS | Trimble eCognition



PLANNING | GIS



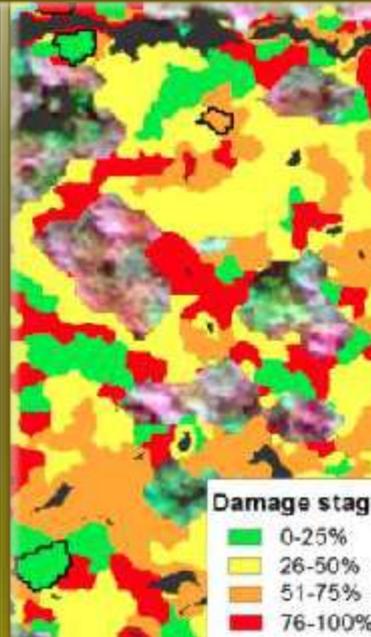
Imagery



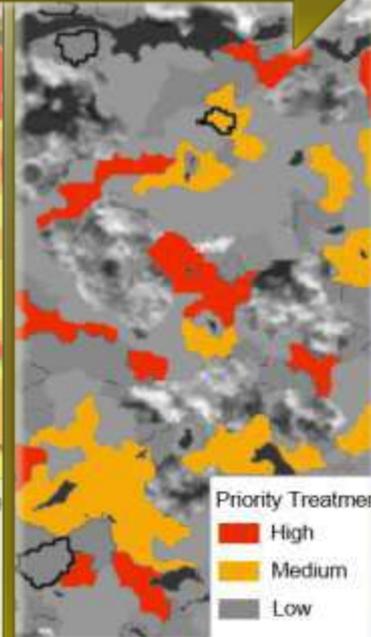
Urban Canopy



Heat Island



Impacted Areas



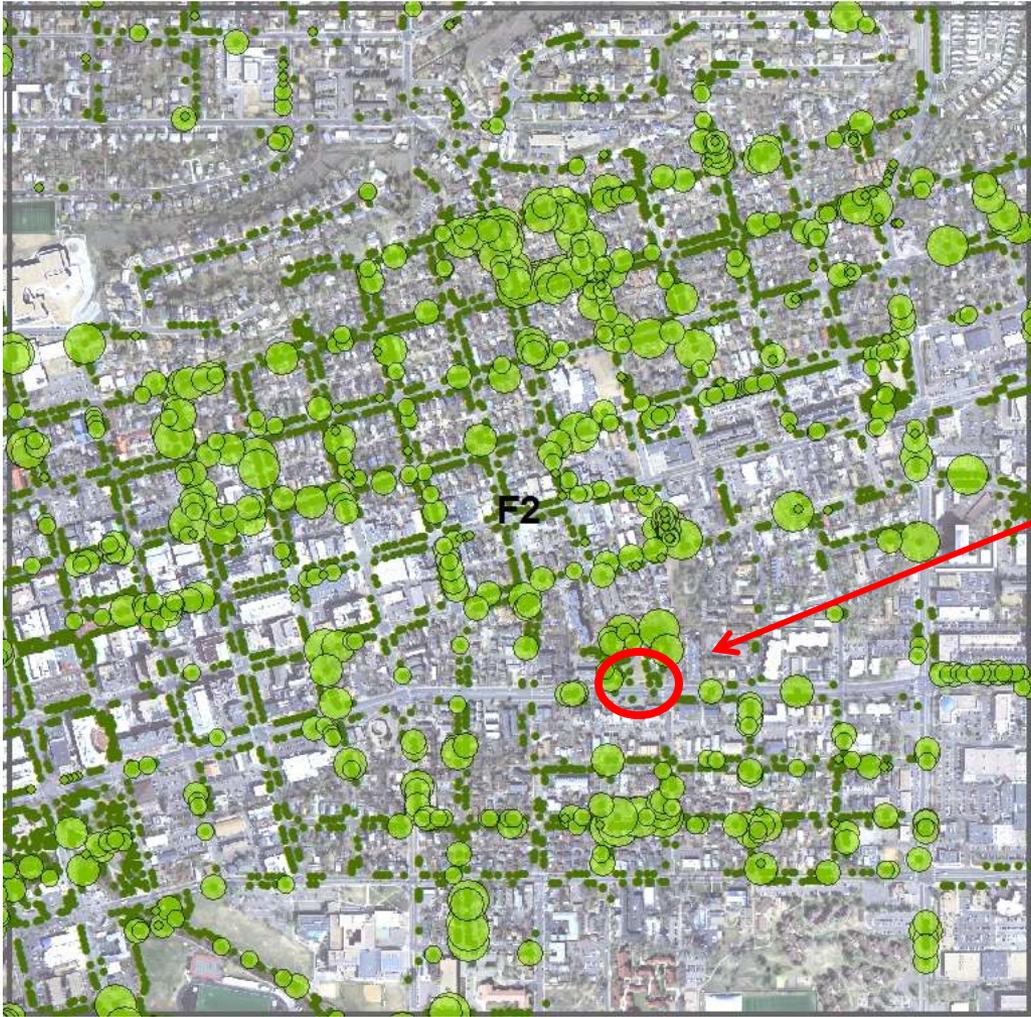
Priority Planning



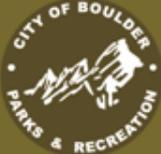
Whittier – Illustrative Neighborhood



Public Ash Overlay



EAB
Infested
Trees



Ash to be Treated (in Yellow)



EAB
Infested
Trees



Worst Case Scenario of Removal as Infested (in brown)



EAB Financial Impact

Planting

Annual cost to plant 500 trees \$145,000

Tree Removals

Estimated cost \$1.64 million
(for ~ 4,500 public ash)

Pesticide Applications

Treat 25% of public ash on three year rotation;
treat 1/3 annually; annual cost \$50,000



Municipal Benchmarking

City	Scale (#ash trees)	Treatment Plan
Boulder, Colorado (detected in September, 2013)	<ul style="list-style-type: none"> • 6,000 public/park ash trees • Estimated 70,000+ private and naturalized ash • More than 1.45 million ash in metro Denver area 	<ul style="list-style-type: none"> • Treat 25% (1500 trees) of significant public ash; 500/year on 3 yr rotation) • Only treat ash > 10" diameter • Proactively removing ash in poor condition • Remove remaining 4,500 public ash as they get infested • Plant replacement trees
Milwaukee, Wisconsin (detected in July, 2012)	<ul style="list-style-type: none"> • ~ 33,000 public ash trees • ~587,000 ash trees at risk (17% of all trees in state) 	<ul style="list-style-type: none"> • Treat 80% (27,000 trees) of public ash street trees • Only treat trees > 8" diameter (2 yr rotation - 50% annually) while transitioning to alternative specie
Kansas City, Missouri (detected in July 2012)	<ul style="list-style-type: none"> • ~20,000 public ash • 400,000 private ash • 4.6 million+ ash in Greater Kansas City's nine 	<ul style="list-style-type: none"> • Partial treatment and removal • Continued monitoring • Replace lost tree canopy
Des Moines, Iowa (detected in November 2013)	<ul style="list-style-type: none"> • 47,000 public ash • ~ 100k-120k private ash 	<ul style="list-style-type: none"> • Treat 45% (14,000 trees) of 'high impact' public street and park ash trees • Removal of large ash w/ poor structure and most small ash • Remove 6,000 public ash not suitable for treatment (6 years) • Plant replacement trees
Madison, Wisconsin (detected in November 2013)	<ul style="list-style-type: none"> • 21,700 ash street trees, estimated 30,000 ash in parks and many thousands more on private property 	<ul style="list-style-type: none"> • Treat 50% (10,000 trees) of public ash street trees • Only treat trees >10" diameter in good condition • Preemptively remove street trees in poor condition or under power lines • Replace removed trees
Loveland, Colorado (not officially detected yet)	<ul style="list-style-type: none"> • 800 city park ash trees 	<ul style="list-style-type: none"> • Preemptively remove very young and old ash • Identify heritage trees to treat and preserve • Removal and replacement are one process; if they can't replace they won't remove



EAB Strategy

- Ash Operations:
 - Planting
 - Removals
 - Conservative use of pesticides
 - Biocontrols
 - Wood utilization
 - Enforcement for dangerous trees
- Ongoing public awareness
- Continued collaboration with CU / County / State / Federal partners
- Urban Forest Strategic Plan including canopy analysis and diversification



We Need More Information...

- Discounted purchasing
- Seedlings and education for youth
- Assistance to property owners
- Tree Trust feasibility

Questions or Feedback

- Does council have any questions or feedback on the strategy in response to EAB?
- Does council have any feedback on the approach to inform/educate the public?

