Managing Emerald Ash Borer

3.26.21

Via Zoom Starting @ 1pm EST

Hosted By

SLELO PRISM

ARBORCARE TREE SERVICE

NEW YORK STATE Department of Environmental Conservation

Cornell Cooperative Extension Jefferson County

THE CITY OF WATERTOWN NEW YORK

NEW YORK
STATE OF
OPPORTUNITY

Department of
Environmental
Conservation

Emerald Ash Borer Overview

Glen Roberts
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315-376-3521
Forester
Region 6 DEC

March 26, 2021

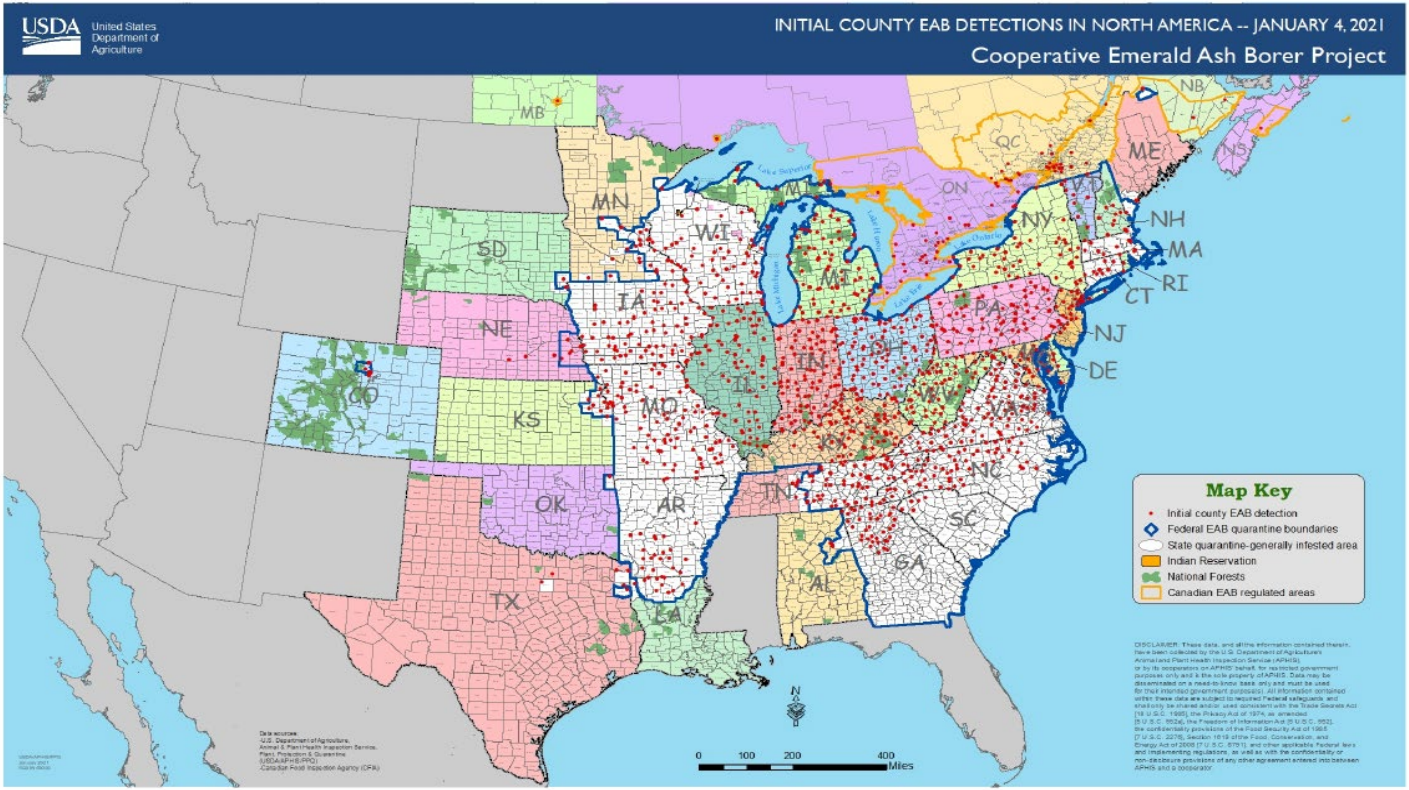
Emerald Ash Borer

Emerald Ash Borer

- Non-native
- Few natural predators
- Ability to over-populate
- Disrupt the ecosystem
- Kill trees

EAB Movement

EAB is listed as a prohibited invasive species by 6 NYCRR Part 575. Under this regulation, no person shall sell, import, purchase, transport, introduce or propagate, or have the intent to take any of these actions on the regulated species, unless issued a permit by DEC for research, education, or other approved activity.


USDA
United States Department of Agriculture
INITIAL COUNTY EAB DETECTIONS IN NORTH AMERICA -- JANUARY 4, 2021
Cooperative Emerald Ash Borer Project
MB
NB
QC
ME
NS
ON
MN
WI
MI
NY
VT
NH
MA
RI
CT
SD
IA
PA
NJ
DE
NE
IN
OH
WV
VA
CO
IL
MD
KS
NC
OK
AR
TN
SC
GA
AL
TX
LA
Map Key
Initial county EAB detection
Federal EAB quarantine boundaries
State quarantine-generally infested area
Indian Reservation
National Forests
Canadian EAB regulated areas
0 100 200 400
Miles
N

Confirmed New York State Locations

The first infestation of emerald ash borer (EAB) in New York State was discovered in Cattaraugus County in 2009.

As of the fall of 2020, the presence of EAB has been confirmed in all New York counties except: Allegany, Chenango, Essex, Hamilton, Herkimer, Lewis, and Washington.

Detection of EAB

Traps

Girdled Trees

EAB Eggs

EAB Larvae

“S” Shaped Larval Gallery

EAB Adult and “D” Shaped Exit Hole

Population Expansion

- 30
- 900
- 13,500
- 202,500
- 3,037500

Population Expansion

- The above graph shows follow the number of females reproducing for a few years.
- Once EAB arrives it takes a few years to reach numbers where the insect overwhelms the trees natural defenses.
- Stressed trees will die fairly quickly.
- Once the population reaches high number all trees will die in a short period of time.

Infestation Dynamics

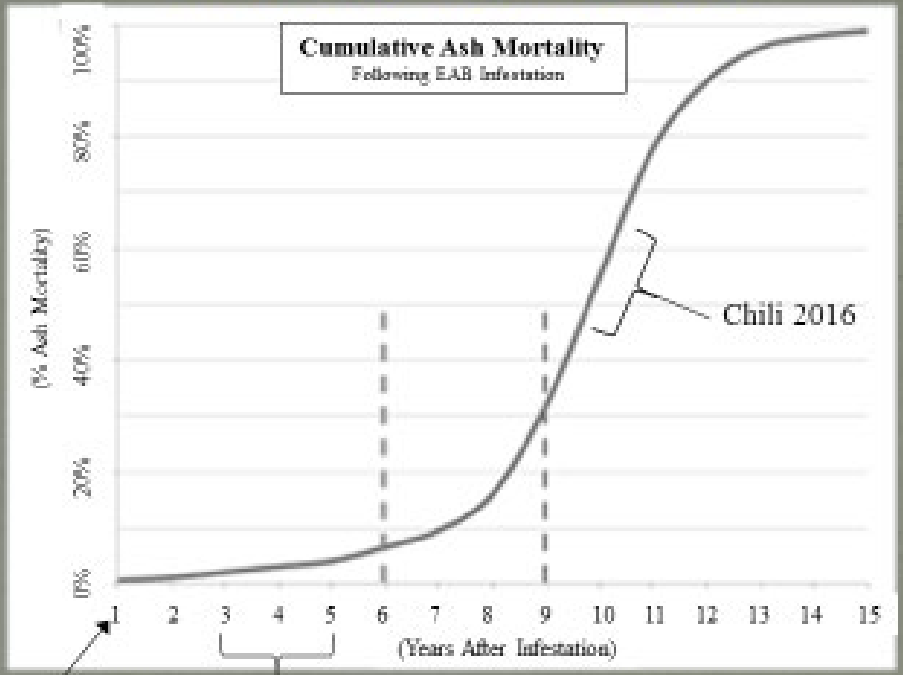


Chart based on work from Zvacek, 2010 and utilized in City of Cambridge EAB Management Action Plan, 2015. Estimated dates applied here in reference to the initial EAB find in Chili, NY 2010. Actual mortality figures in Chili have not been studied but observations appear to correspond with the chart.

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What to expect ?

What is being done?

Thank You

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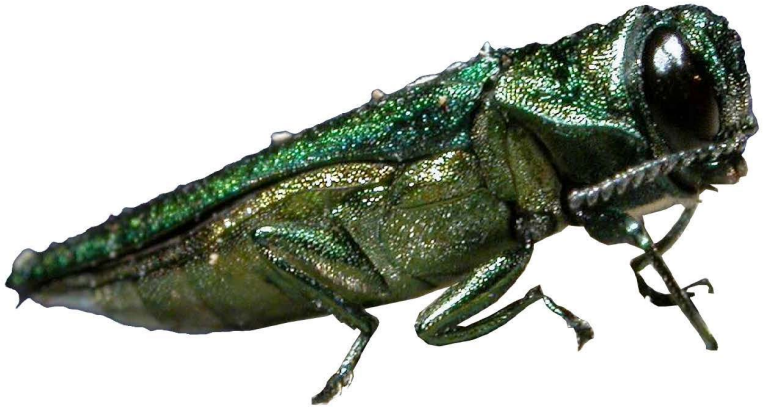
Sue Gwise

Jefferson County Cornell

Cooperative Extension

Horticultural Educator &

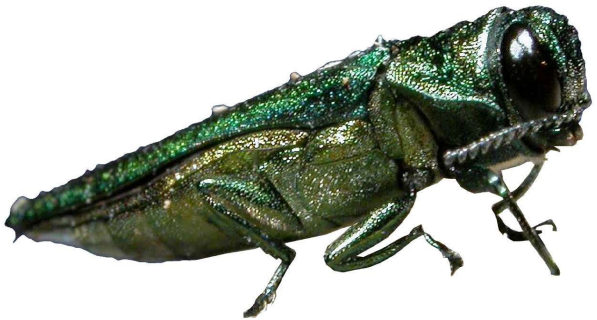
Master Gardener Coordinator



The Emerald Ash Borer is Here- Now What?

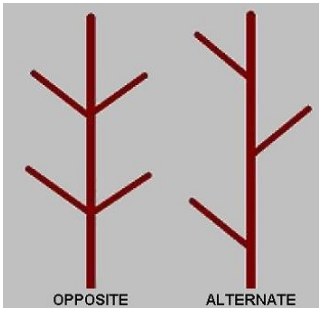
Sue Gwise

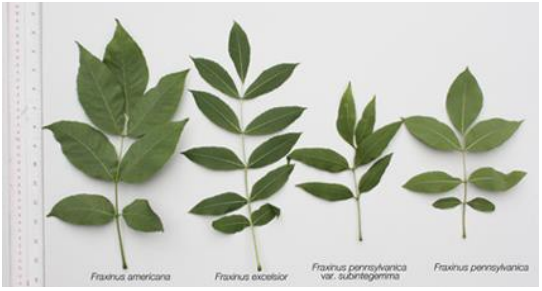
Cornell Cooperative Extension | Jefferson County



Do you have ash trees?

- Opposite branching
  - Ash vs. maple (boxelder)
  - Compound leaves
  - Elm?
- Bark
- EAB only attacks ash species
  - White, green, black
  - NOT mountain ash





- Mid-west, 2002
  - Shipping materials from China
- Attacks all ash (*Fraxinus*) species
- Larva feed under the bark, girdling the tree
- Mortality within 2 to 4 years
- Mortality is near 100%
- Common landscape tree
- 7 to 25% of NY forests
- 2019- Found in Watertown and Clayton

EAB will functionally extirpate ash in North America

Are My Trees Infested?

- Biggest indicator- woodpecker damage
- Crown dieback
- Epicormic sprouting
- Bark cracks
- Serpentine galleries
- D-shaped exit holes (usually high in crown)


Daniel Herms, Ohio State University, Bugwood.org
UGA1523075


UGA1301046


P.D. Pratt, Canadian Food Inspection Agency

Bottom Line…

- Your tree(s) will die
  - Resistance < 1%
- Have a plan

Options for Landscape Ash

1. Treatment
2. Remove the tree
3. Do nothing

1. Treatment

- Trees can be saved!
  - Trunk Injections
    - Tree-age (emamectin benzoate)- 98% effective
  - Basal Bark Spray
  - Soil Drench
- Is the tree worth saving?
  - Healthy
    - No outward signs of EAB
    - 60% canopy
    - Ash yellows/decline
    - Poor site
  - Value to owner

2. Remove the tree

- Remove the tree while it is still green
  - No more than 30% canopy dieback
- Ash snap

Ash Snap

- Tree may look fine
  - Wood is drying out from EAB feeding ❼
  - Brittleness
  - Loss of tensile strength
  - Especially after only 1-2 years of infestation

*A 5” diameter limb will break with the same force as a 1” limb in a healthy tree

*Uprooting is common

*Catastrophic and unpredictable trunk/branch failures *with no load!*

- Safety issue- trees cannot be climbed for removal
  - Aerial lifts, cranes- $$$
- Liability issue


Snapped Ash
Near Trail


Snapped Ash
Onto Trail
Joe Boggs, OSU Extension©

3. Do nothing

- Worst option
- Huge liability/safety issue
- More expensive

Brian Skinner, National Grid Arborist: "If your tree falls and causes a power outage, you are responsible and will be billed for clean-up and associated costs. Will your homeowner's insurance cover?"

Contacts

Landscape Trees-

sjg42@cornell.edu

315-788-8450

We have a list of certified arborists and pest control applicators

Forest Settings-

Glen Roberts

NYS DEC Forester

glen.roberts@dec.ny.gov

315-376-3521

Emerald Ash Borer

Response and Control

Abigail Jantzi
ajantzi25@yahoo.com

ARBORCARE
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Three Responses to EAB:

1. Mechanical
2. Biological
3. Chemical

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Some Options….

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- Even if a tree is injected with the insecticide, it may take several years to fully recover from the EAB infestation, and re-treatment may be needed to prevent additional infestations.
- For best results, the insecticide should be injected prior to infestation, or as soon after infestation as possible, and during adult EAB emergence in the late spring or early summer

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- TREE-äge will kill the EAB larvae under the bark as well as adult beetles that feed on the tree.
- TREE-äge will provide 2 years residual control.
- The long term prognosis for trees that are treated early (i.e., before vascular injury) is very good to excellent.
- Tree recovery from an established infestation is relative to the severity of the infestation at the time of treatment.
- Cost for Arborcare to come out and treat is $12 per inch at breast height.

ARBORCARE
TREE SERVICE

Abby Jantzi
Arborcare Tree Service
ISA Certified Arborist (SO-10231A)
Certified Plant Healthcare Technician
NYS DEC Pesticide Applicator

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ajantzi25@yahoo.com

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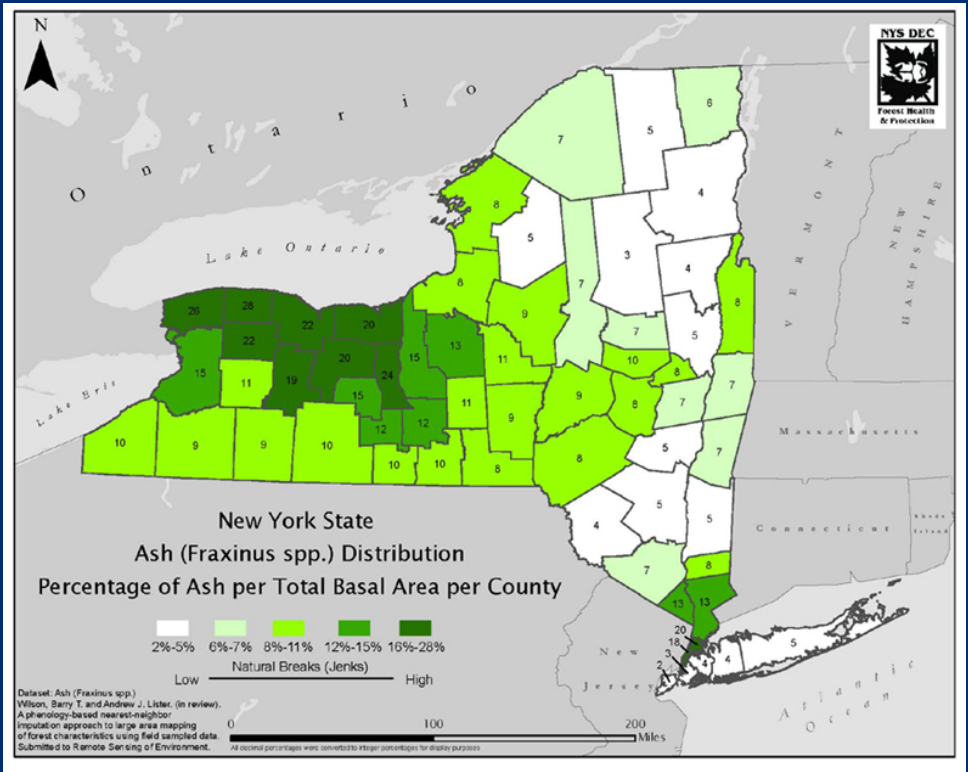
Forest Management Guidelines

Options For Forest and Woodland Owners

March 26,2021

Ash species (white, green and black) comprise almost 8% of all trees in NY State.



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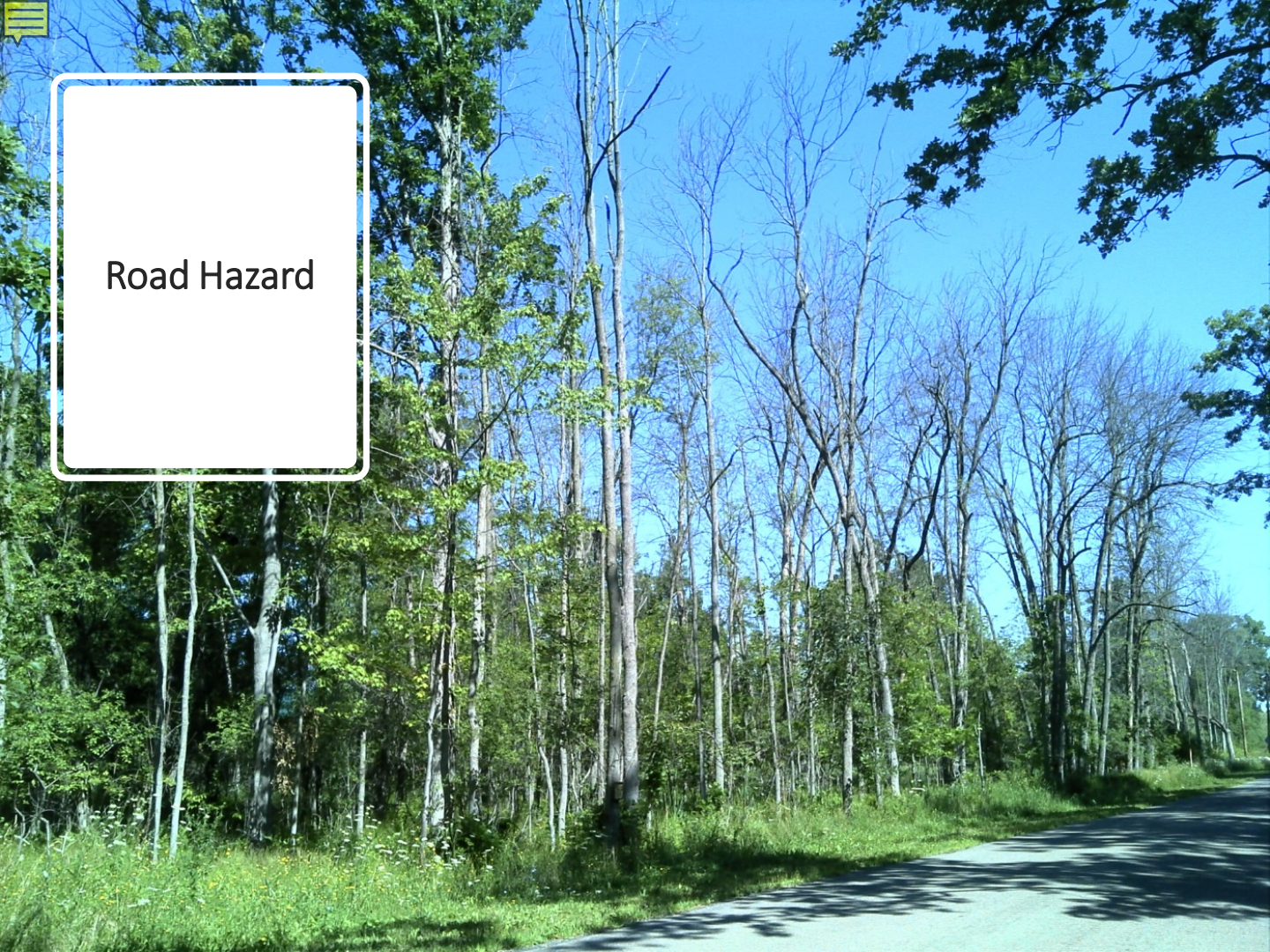
Department of Environmental Conservation


Act Now Be Proactive

Proactive

- Stimulate natural regeneration.
- Control invasive or undesirable regeneration
- Salvage timber
- Improve the growth of desirable remaining trees to reduce stress from loss of surrounding trees.
- Preparing or planning for a timber sale will help prevent collateral damage. DEEP RUTS, damage to non-ash trees.
- Choose a good professional forester.


Road Hazard

Ecological Value of Ash

- Seed for bird species and small rodents.
- Browse.
- Cover.
- Cavities.


For All Woodlands
Greater that 99% of all ash larger than one inch in diameter will die.

Woodland Management

- Landowners Goals & Objectives.
- Species Composition, size and quality
- Operational Considerations.

Ash Decline

Sapling
What is the percentage of Ash

Sapling
What about restoration

Pole Timber: Percentage of ash

Pole Timber
Salvage firewood, Crop tree mgt?

Sawtimber
Evaluate the Over story

Sawtimber: Evaluate Stand conditions

Sawtimber
Cut the biggest trees first

How Much Volume do you need?

Movement of Firewood

New York has a regulation to restrict the movement of firewood of any tree species to within 50 miles of its source or origin. If you must move ash wood that is not firewood, be sure to follow DEC's guidelines on moving ash wood responsibly. The firewood regulation remains unchanged and in effect despite the changing or lifting of any EAB quarantines

Lowland Management

- Complicated due to:
- Limited diversity
- Site hydrology
- Invasive plants

Wetlands

- Unpredictable winter access.
- Harvesting in wetlands??

Timber harvesting in wetlands: harvesting of trees in wetlands is allowed; however, clear-cutting is restricted.

Reforestation

Landowner Assistance

EQIP.??

Regenerate New York.???

Thank You

- Glen Roberts
- Forester
- 7327 State Route 812
  Lowville
- glen.roberts@dec.ny.gov
- Phone: 315-376-3521

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City of Watertown

EAB and Ash Tree Management Strategy

- Community Outreach
- Strategic Treatment of Ash Trees
- Strategic Removal of Ash Trees
- Replanting

EAB and Ash Tree Management Strategy

Public Outreach

- Workshops and Webinars
- Press Releases
- City Council Work Sessions

Tree Watertown Outreach

- 2012 privately ash tree inventory
- 200 Privately owned ash

Ash on Public Property

- 2018 Citywide Street and Park Tree Inventory & MGMT Plan
- 430 Publicly owned ash trees

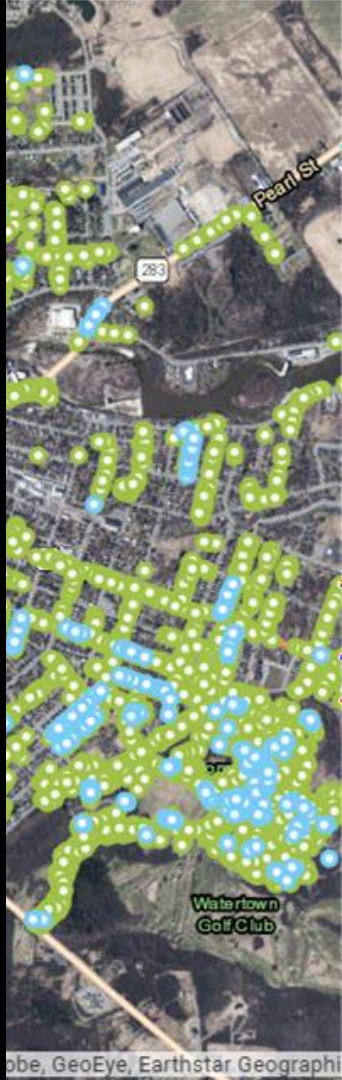
Photo Credit: "Texas A&M." *Texas A&M Forest Service - Trees of Texas - List of Trees*, texastreeid.tamu.edu/content/TreeDetails/?id=42.

EAB and Ash Tree Management Strategy

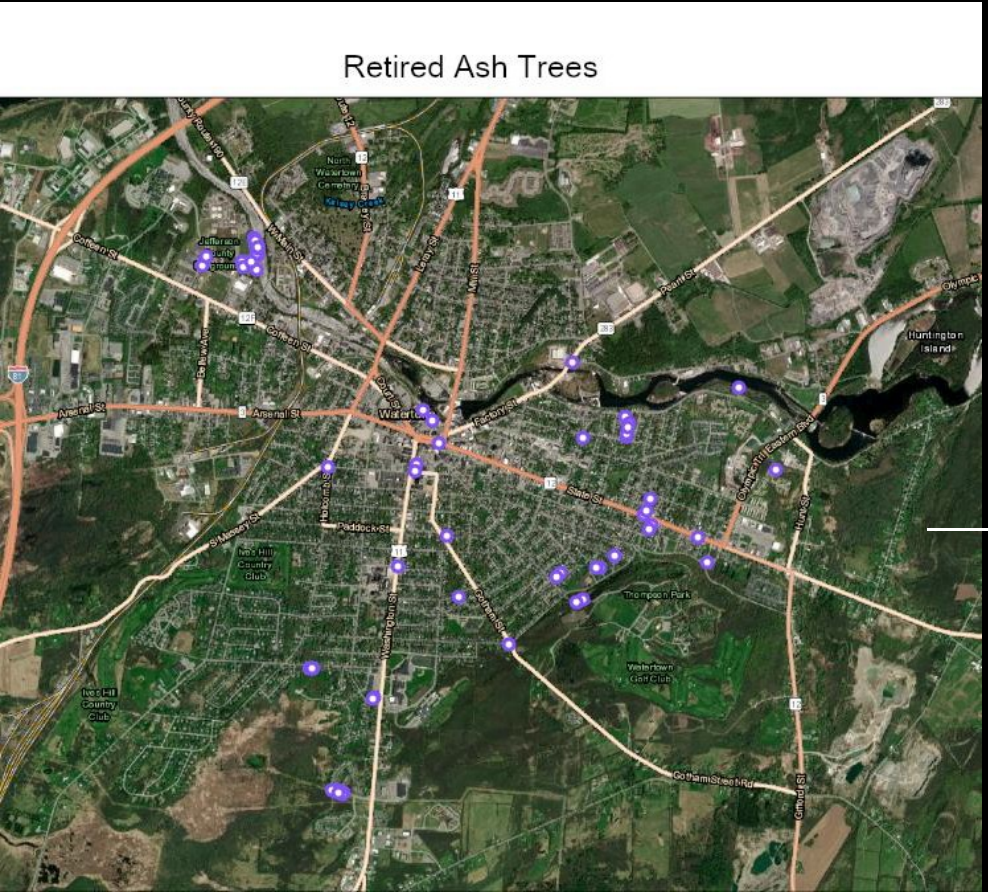
Street and Park Trees

- 7,300 Total City Trees
- 370 City Owned Ash Trees

5% of Total Tree Population



Strategic Removal of Ash Trees



Phase 1: 2020
50 ash removals

Phase 2: 2021
50 ash removals

Phase 3 & 4: ???

Strategic Removal of Ash Trees

St. Lawrence County EAB Task Force and National Grid sponsored training:

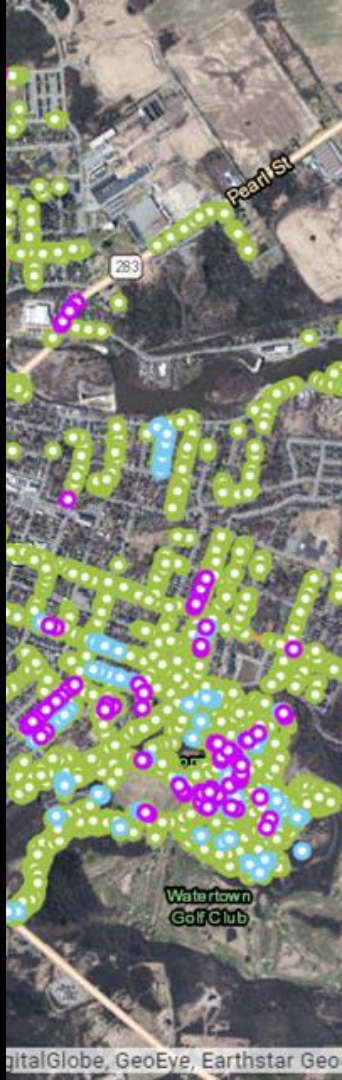
Bark Peeling Training

Strategic Treatment of Publicly Owned Ash Trees

City Tree Population
7,300

Non-Treatable Ash
140 trees

Treatable Ash
230 trees….for now….



Strategic Treatment of Publicly Owned Ash Trees

- Main entrances to the City
- Culturally important spaces
- Specimen ash

Strategic Treatment of Publicly Owned Ash Trees

City of Watertown
2020 Ash Tree Treatment Project

Revision:	Description of Revision:	Date:	By:

Project: Ash Tree Treatment

Title: Sources of Funding

CITY OF WATERTOWN, NEW YORK
GIS DEPARTMENT
ROOM 305B, MUNICIPAL BUILDING
245 WASHINGTON STREET
WATERTOWN, NEW YORK 13601
TEL: (315) 785-7793 EMAIL: gis@watertown-ny.gov

Project: Ash Tree Treatment	
Requested By: M.DeMarco	
Drawn By: G.Jeronimo	Approved By:
Date: 12/29/2020	Date:
Scale: 1 inch = 1,200 feet	Map Number:
Title: Sources of Funding	

Adopt a Tree

- Monitor for Invasive Pests
- Report sightings
- Help Water

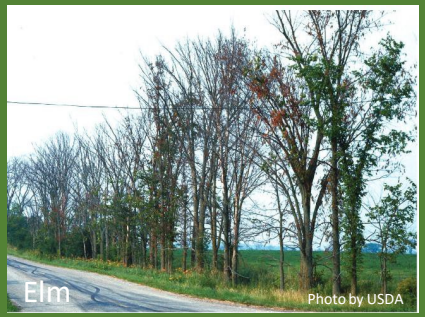
Selecting Replacement Trees for Resiliency

Robert Smith
SLELO PRISM Terrestrial Restoration and Resiliency Coordinator

SLELO PRISM
ST. LAWRENCE EASTERN LAKE ONTARIO PARTNERSHIP FOR REGIONAL INVASIVE SPECIES MANAGEMENT

Tree Planting in the 20th Century

- Early 20th century - American elm planted in large numbers
- 1930's - Dutch Elm Disease starts to kill off these trees
- 1970's - 40 million elm trees had died
- Many replaced in Midwest and Northeast with maples and ashes
- 2002 - emerald ash borer (EAB) first discovered in southeastern Michigan
- Killed 10's of millions of ash trees across 30 states



Strategies for Increasing Resiliency

Increase Species Diversity!

- Species diversity decreases the chance that a single invasive species will seriously damage your forest
- Minimizes the resources required to manage for the invasive species
- Maintains ecosystem services such as:
  - Improving Air Quality
  - Reducing Greenhouse Gases
  - Reducing Stormwater Runoff
  - Reducing Heating/Cooling Expenses
  - Etc.

Increase Species Diversity (cont.)

Consider selecting native tree species when increasing diversity

- Supports Local Wildlife (NYS DEC)
  - Birds, Mammals, Insects, etc. prefer Native Plants
- Low Maintenance (NYS DEC)
  - less water
  - little to no fertilizer
  - little to no pesticides
  - less pruning
  - less of your time
- Unlikely to be invasive or overly competitive with other native plants (U.S. Forest Service)

Yellow Poplar

Bitternut Hickory

Eastern Hophornbeam

Increase Species Diversity (cont.)

Avoid Selecting Invasive Tree Species

- iMapInvasives Website (NY Natural Heritage Program) lists non-native tree species known to spread into native communities (forests, riparian corridors)

- Includes species such as:
  - Tree-of-Heaven
  - Norway Maple
  - Black Locust

Norway Maple

Yellow Poplar

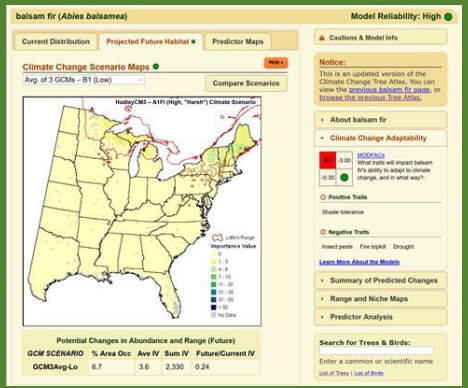
Black Locust

Ea

Tree-of-Heaven

Select Less Vulnerable Tree Species

- Invasive Pests and Pathogens
  - Plant trees without known invasive pests and pathogen problems
  - Good Resource: Paper by Potter et al. (www.sciencedirect.com/science/article/pii/S2351989418304864)
- Climate Change
  - Select species that grow in a wide variety of conditions
  - Select species located at the northern extent of their distribution
  - Plant climate change adaptable trees
  - Good Resources:
    - USDA Forest Service Climate Change Atlas (www.fs.fed.us/nrs/atlas/)
    - Paper by Potter, Crane, and Hargrove (www.srs.fs.usda.gov/pubs/ja/2017/ja_2017_hargrove_001.pdf)



Always Consider Right Tree, Right Place

- Healthy trees are more resilient trees
- Each location must be carefully matched with tree suitability
  - soil type
  - pH
  - Salinity
  - Shade Tolerance
  - Cold hardiness
  - Moisture levels
  - Growing space

American Sycamore

ank

u!

Northern White-Cedar

Please Visit The

orest Sustainability

SLELO PRISM Website

Guide and Additional Urban Forest

for the

Sustainability Resources

www.sleloinvasives.org/urbanforests

ustainability/

SLELO PRISM Urban Forest

Sustainability Program

Email:

American Basswood

Sassafras