North Central Texas Council of Governments

What's Bugging You? Battling Invasive Pests in Community Forests

NCTCOG Webinar
February 23, 2026

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EPA United States Environmental Protection Agency

Texas Commission on Environmental Quality

North Central Texas Council of Governments Environment & Development

www.nctcog.org/WaterResources

This project was funded by the U.S. Environmental Protection Agency through the Texas Commission on Environmental Quality.

Webinar Procedures

The webinar is being recorded and will be posted to NCTCOG's website under the green banner called "Webinars" here:

https://www.nctcog.org/envir/natural-resources/water-resources

If you submitted an RSVP for this webinar, you will receive an email with the presentation slides and a link to the recording. If you did not RSVP and would like these webinar materials, please email aknox@nctcog.org.

Please keep your microphone on mute until the Question-and-Answer period at the end of the presentations.

Welcome and Introduction of Speakers

Webinar Agenda

- **"Emerald Ash Borer: An Update"** – Kimberlee Peterson
- **"DFW's Most Unwanted"** – Rachel Richter
- Discussion and Q&A

Speaker Introduction

Kimberlee Peterson

Woodland Ecologist

Texas A&M Forest Service

Emerald Ash Borer: An Update

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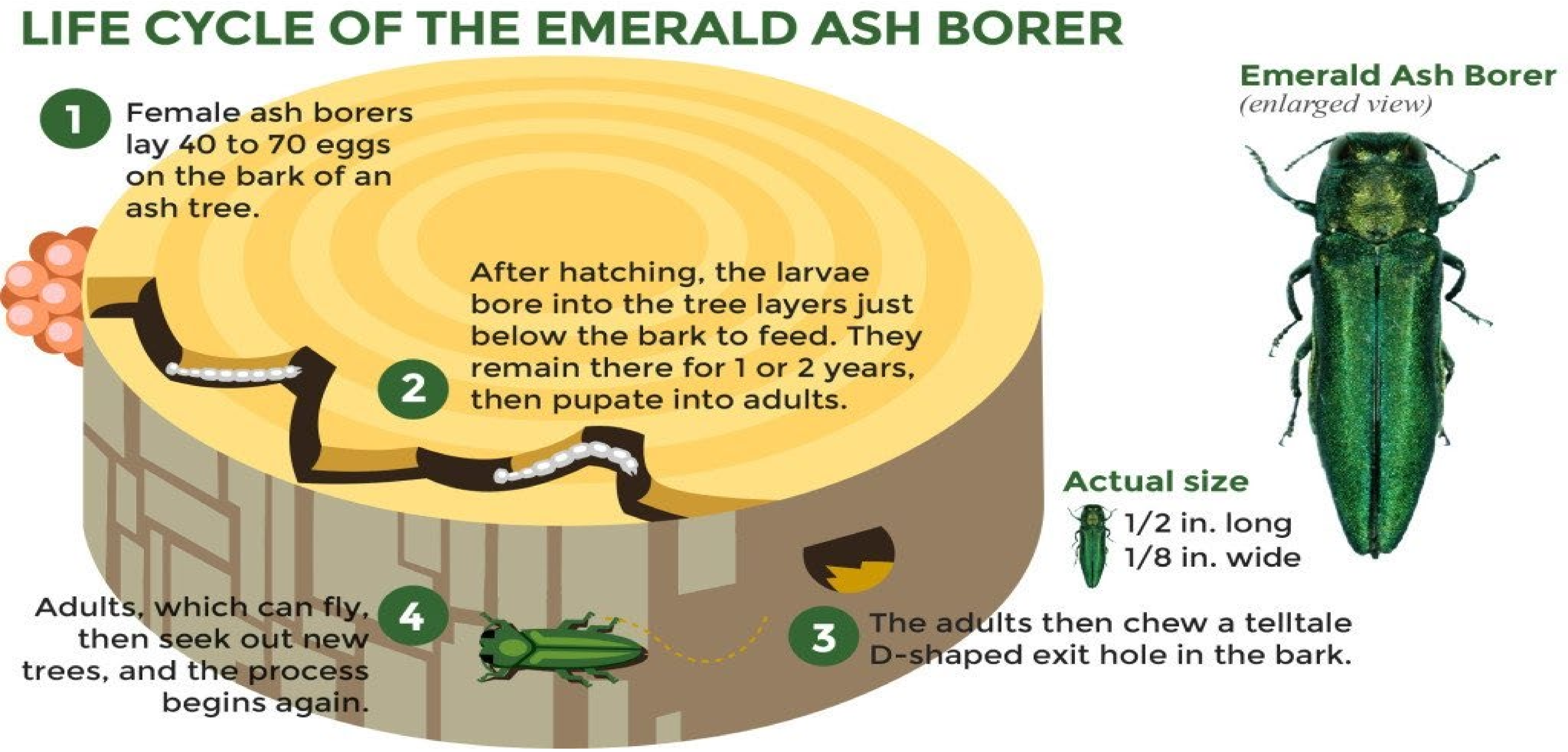
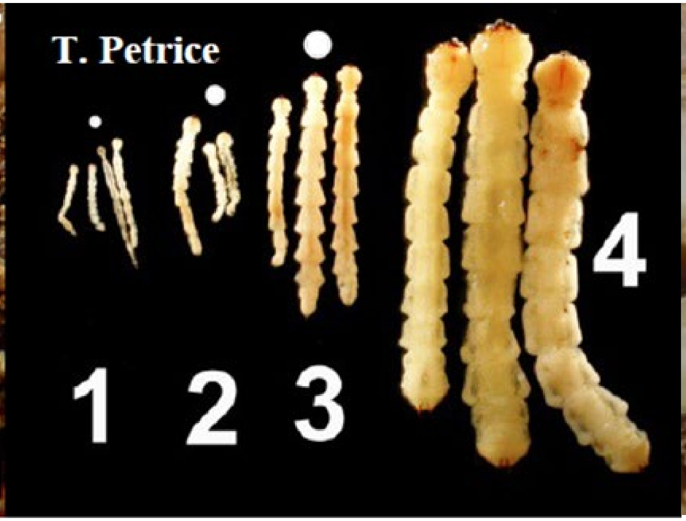
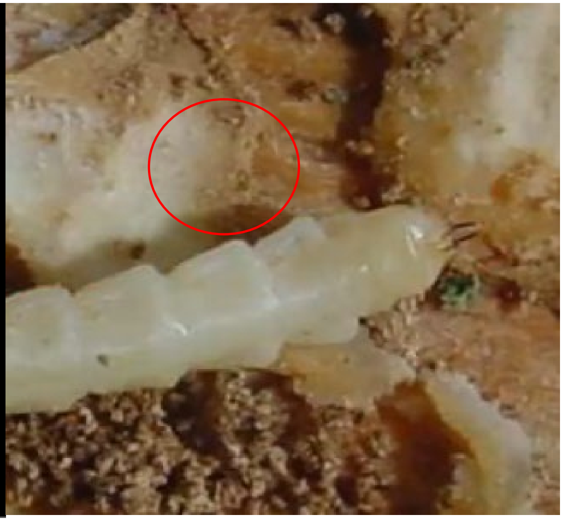

LIFE CYCLE OF THE EMERALD ASH BORER
1 Female ash borers lay 40 to 70 eggs on the bark of an ash tree.
2 After hatching, the larvae bore into the tree layers just below the bark to feed. They remain there for 1 or 2 years, then pupate into adults.
3 The adults then chew a telltale D-shaped exit hole in the bark.
4 Adults, which can fly, then seek out new trees, and the process begins again.
Emerald Ash Borer
(enlarged view)
Actual size
1/2 in. long
1/8 in. wide

EAB Larvae Identification

- Creamy white
- Dorso-ventrally flattened
- 10 bell-shaped abdominal segments
- 2 spine like projections at the end of their body.



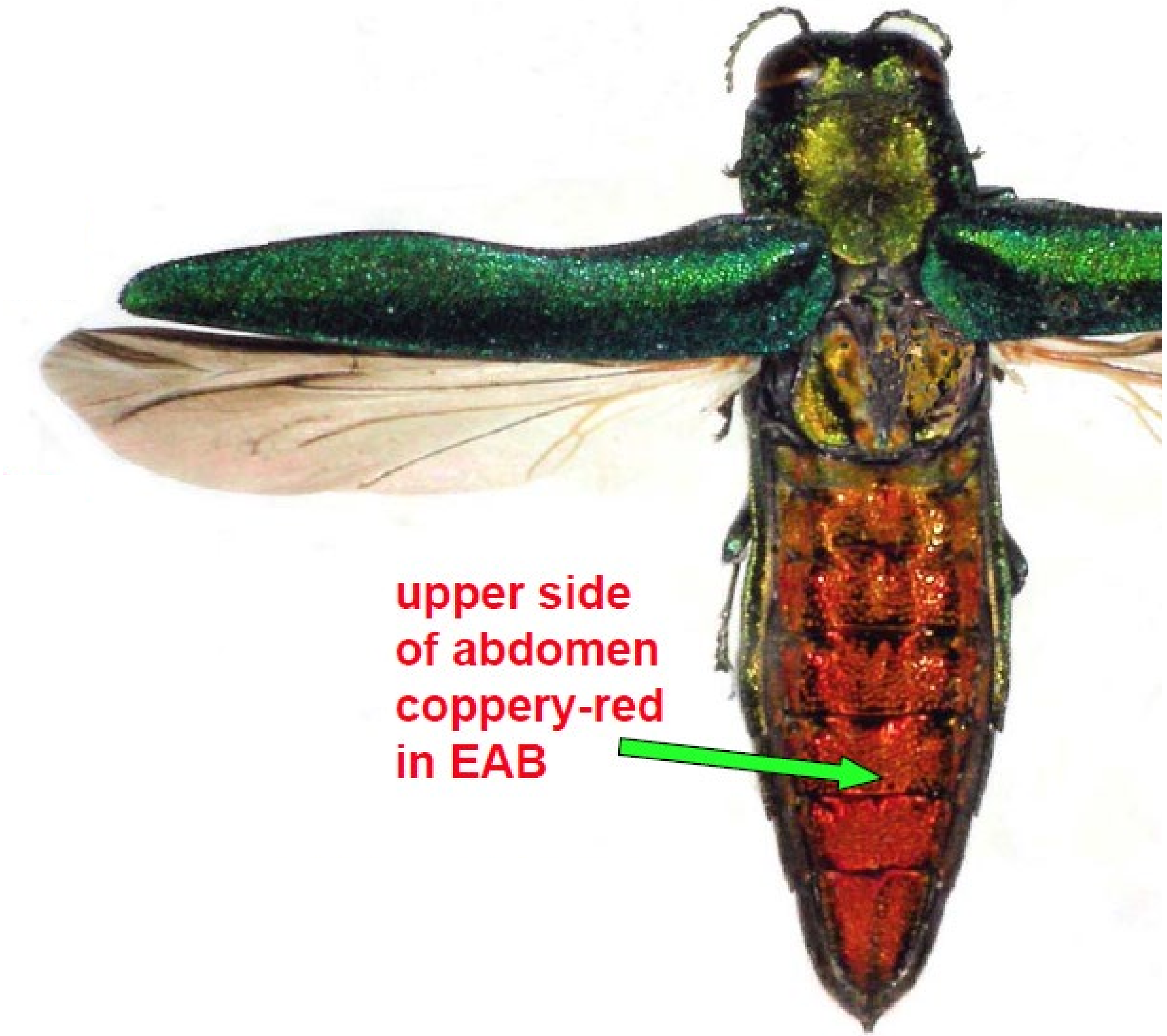


EAB Adult Identification

- Bright, metallic, emerald green
- Coppery or reddish reflections, especially on the pronotum and ventral surfaces.
- Base of the prothorax goes backwards as a lobe.
- Length: 10-13 mm or ½ inch.

EAB Adult Identification

- Dorsal surface of the abdomen is bright coppery-red.
- Diagnostic character for separating EAB from all other Agrilus in NA.



Signs of EAB

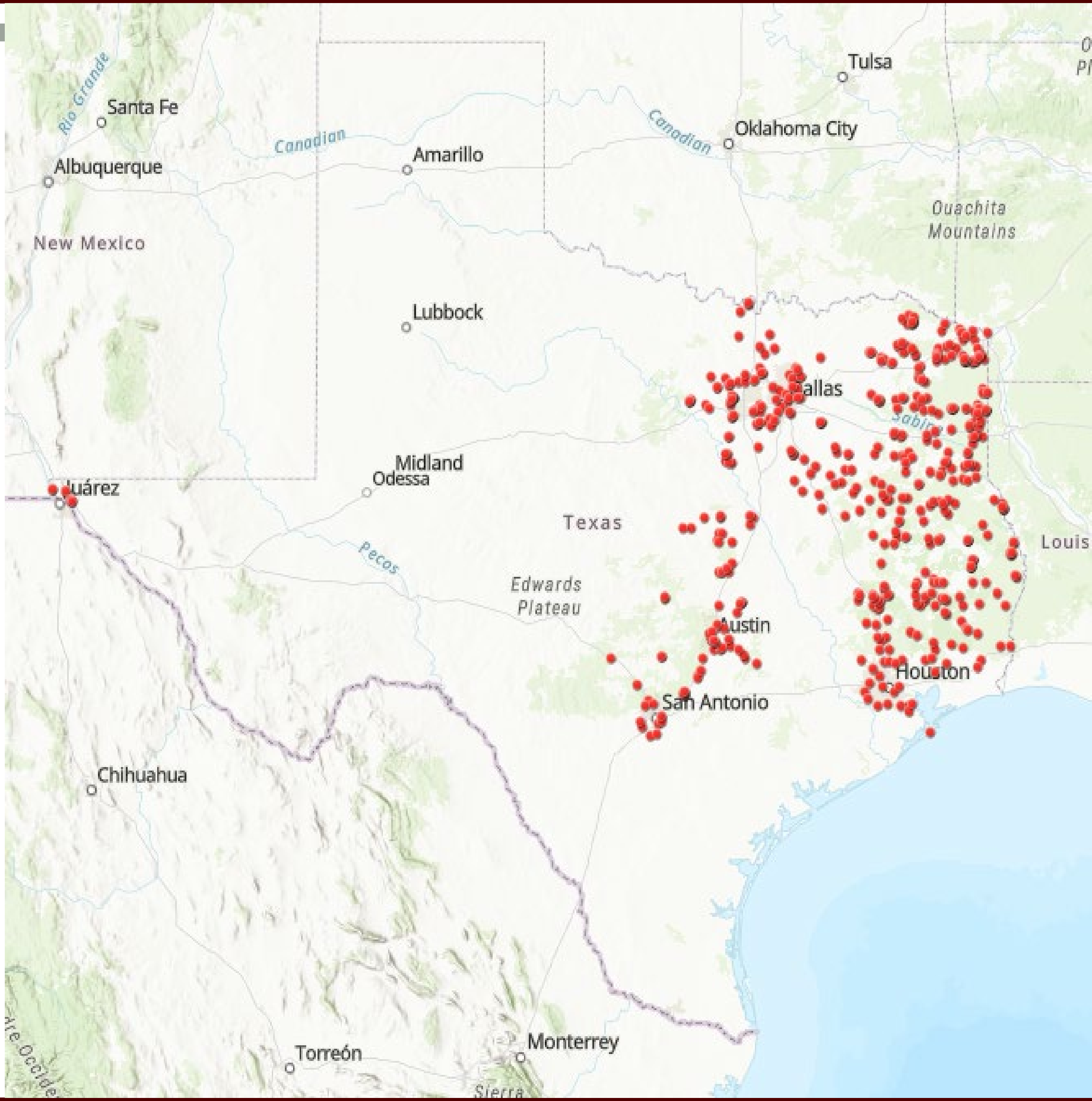
- S-shaped galleries
- Frass in zig-zag galleries
- White flat larvae
- D-shaped exit hole

Symptoms of EAB

- Canopy dieback
- Thinning of foliage
- Epicorpic shoots
- Bark splitting
- Branches with loose bark
- Heavy feeding by woodpeckers – “flecking” or “bronzing”

State Survey for EAB

- Partnership with USDA-APHIS, USFS Forest Health Protection, and Texas Parks and Wildlife.
- ~500 purple panel traps across Texas.
- TAMFS foresters install and service the traps.



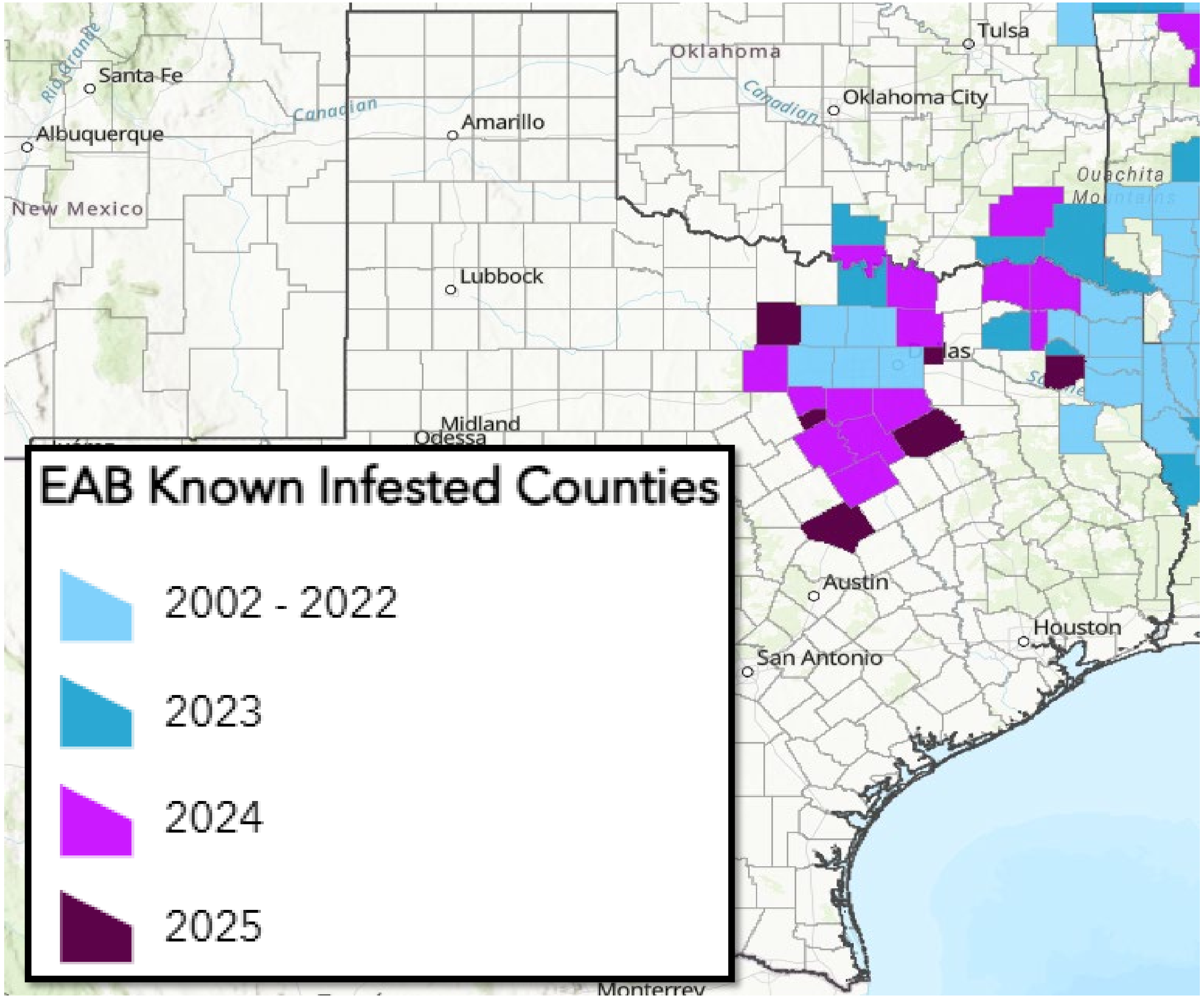
Trapping EAB

- Adults attracted to traps baited with the leaf alcohol cis-3-hexenol found in the volatiles from ash leaves.
- Short distance chemical – 100 ft / 30 m
- Does not pull beetles into an area. Detection purposes only.

In Texas Since 2016

- Under state quarantine by Texas Department of Agriculture.
- Regulates moving of potentially infested products.
- As of 2025 31 counties:

  - Bell
  - Bosque
  - Bowie
  - Camp
  - Cass
  - **Collin**
  - **Cooke**
  - **Dallas**
  - **Denton**
  - **Ellis**
  - Franklin
  - **Grayson**
  - Harrison
  - Hill
  - **Hood**
  - Hopkins
  - **Jack**
  - **Johnson**
  - Marion
  - McLennan
  - Morris
  - **Navarro**
  - **Palo Pinto**
  - **Parker**
  - Red River
  - **Rockwall**
  - Rusk
  - **Somervell**
  - **Tarrant**
  - Titus
  - **Wise**



EAB Management

- Slow the spread
- Removal
- Insecticides
- Biological control
- Diversity planting

Slow The Spread

- Movement of ash nursery trees, firewood, and other ash products is a risk.
- Allows EAB to reach new areas and create satellite populations.
- Buy and use firewood locally.

DON'T MOVE FIREWOOD.org

Insecticides

- Costs of protecting trees are substantially lower than cost of removal.
- Soil injections or drenches.
- Injected into the base of the trunk.
- Sprayed on the basal 1.5m of the trunk.

TABLE 1. Insecticide options for professionals and homeowners for controlling EAB that have been tested in multiple university trials. Some products may not be labeled for use in all states. Inclusion of a product in this table does not imply that it is endorsed by the authors or that it has been consistently effective for EAB control. Additional products that have not been tested in multiple university trials may be available in your area. See text for details regarding effectiveness.

Insecticide Formulation	Active Ingredient	Application Method	Recommended Timing
Products Intended for Sale to Professional Applicators			
Merit® (75WP, 75WSP, 2F)	Imidacloprid	Soil injection or drench	Early to mid spring or mid fall
Safari™ (20 SG)	Dinotefuran	Soil injection or drench	Mid to late spring
Transtect™ (70WSP)	Dinotefuran	Soil injection or drench	Mid to late spring
Xylam® Liquid Systemic Insecticide	Dinotefuran	Soil injection or drench	Mid to late spring
Xytect™ (2F, 75WSP)	Imidacloprid	Soil injection or drench	Early to mid spring or mid fall
Azasol™	Azadirachtin	Trunk injection	Mid- to late spring after trees have leafed out
Arbormectin™	Emamectin benzoate	Trunk injection	Mid to late spring after trees have leafed out
Imicide®	Imidacloprid	Trunk injection	Mid to late spring after trees have leafed out
TREE-äge™	Emamectin benzoate	Trunk injection	Mid to late spring after trees have leafed out
TreeAzin®	Azadirachtin	Trunk injection	Mid to late spring after trees have leafed out
SafariTM (20 SG)	Dinotefuran	Systemic basal bark spray	Mid to late spring after trees have leafed out
Transtect (70 WSP)	Dinotefuran	Systemic basal bark spray	Mid to late spring after trees have leafed out
Zylam® Liquid Systemic Insecticide	Dinotefuran	Systemic basal bark spray	Mid to late spring after trees have leafed out
Astro®	Permethrin	Preventive trunk, branch, and foliage cover sprays	Two applications at 4-week intervals; first spray should occur at 450–550 degree days (50°F, Jan.1); Coincides with black locust blooming
Onyx™	Bifenthrin		
Tempo®	Cyfluthrin		
Sevin® SL	Carbaryl		
Products Intended for Sale to Homeowners			
Bayer Advanced™ Protect and Feed II	Clothianidin + Imidacloprid	Soil drench	Early to mid spring
Bayer Advanced™ Tree & Shrub Insect Control	Imidacloprid	Soil drench	Early to mid spring
Optrol™	Imidacloprid	Soil drench	Early to mid spring
Ortho Tree and Shrub Insect Control Ready to Use Granules®	Dinotefuran	Granules	Mid to late spring after trees have leafed out

Products Intended for Professional Applicators

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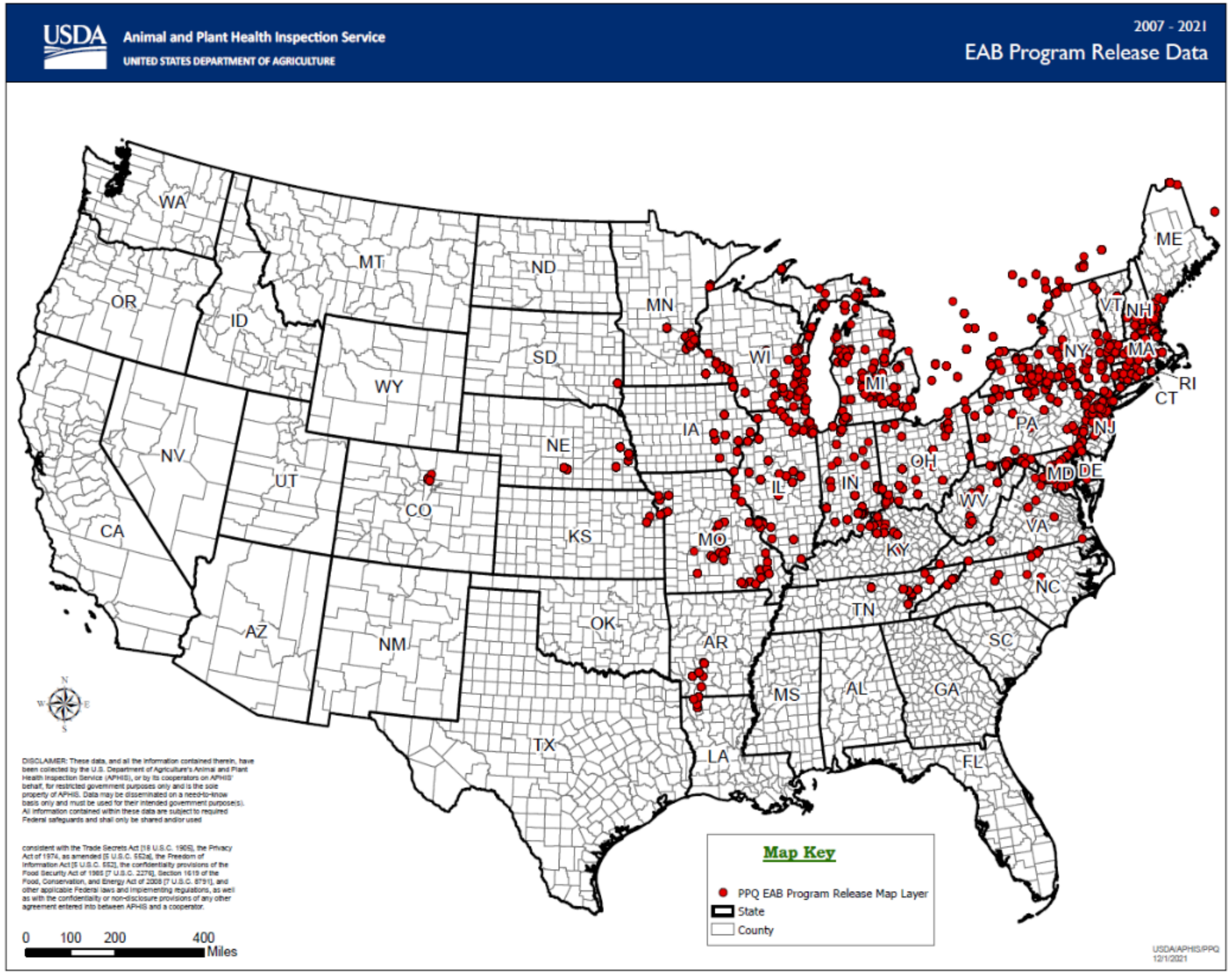
Systemic Injections

- Systemic injections of emamectin benzoate.
- Up to 3 years of nearly 100% EAB control.
- Works best in the morning when tree is translocating water.
- 2/3 of the canopy remaining.
- Inject when 15 miles from known spot.
- Can be applied to trees with EAB.

EAB Biocontrol Program

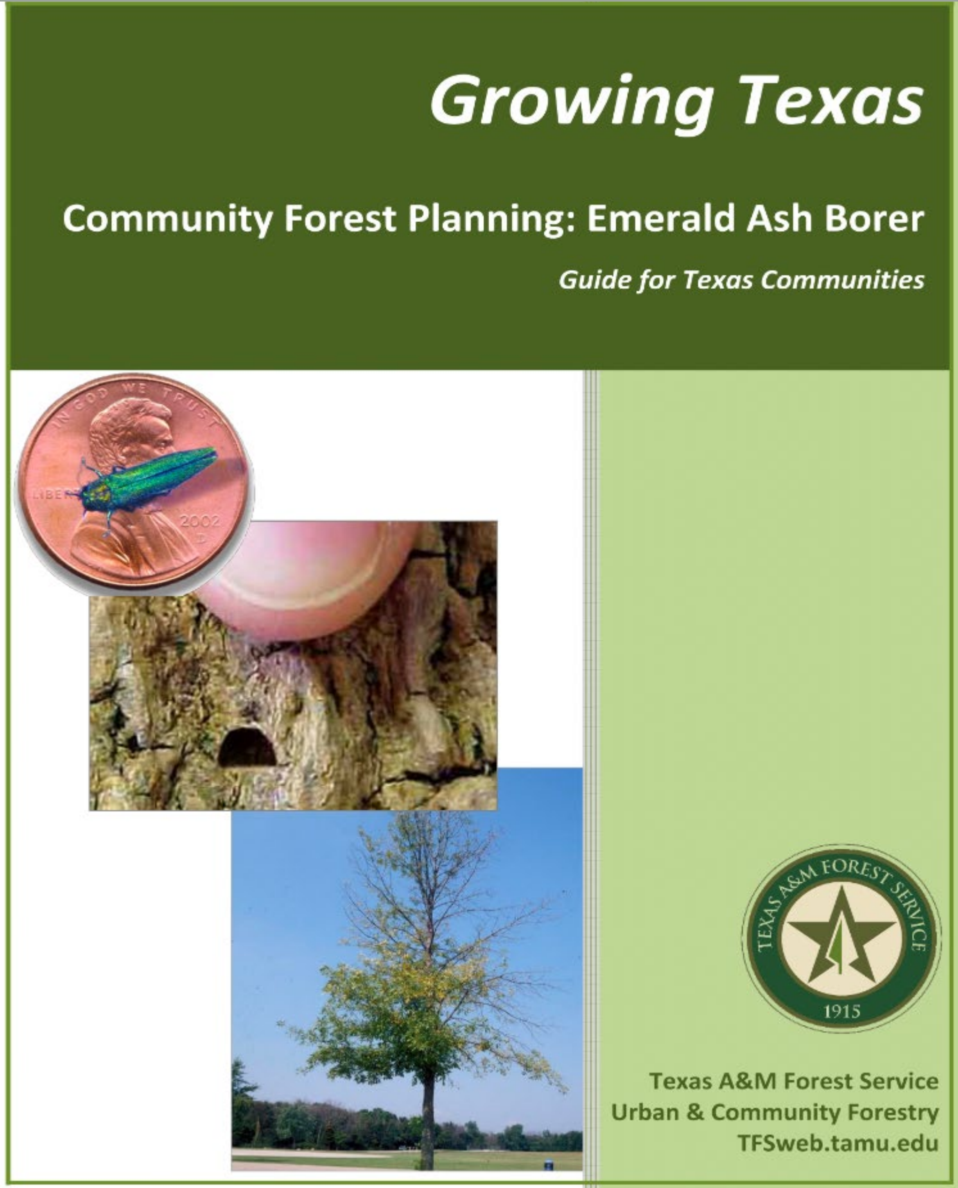
- USDA APHIS PPQ Biological Control Production Facility in Brighon, MI.
- Containment or suppression. Not for eradication.
- Primary management tool developed to suppress EAB densities in forest ecosystems.
- Different regions will need different parasitoids.
- **Has not been effective in southern states**



EAB Preparedness Plan

- Enable communities to address public and private needs.

1. Forest resources in community
2. Ash management policy
3. Surveying for EAB
4. Reforestation



CONSERVE.

PROTECT. LEAD.

Contact

Kimberlee Peterson

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Link Tree

- Oak Wilt
- Winter Storm
- Invasive Species
- TAMFS Contact
- Texas Forest Information
- Tree Planting
- West Texas Nursery

Speaker Introduction

Rachel Richter

Urban Wildlife Biologist, DFW

Texas Parks and Wildlife

DFW's Most Unwanted

Rachel Richter
Urban Wildlife Biologist
Texas Parks and Wildlife

TEXAS PARKS & WILDLIFE

How Did They Get Here?

- Descendants of domestic pigs
- Brought to U.S. by Hernando de Soto 1539
- In the early 1900s, Eurasian Wild Boars introduced for hunting purposes
- Free-range farming methods through the 1950s

Photo Credit: Visual Hunt

Reproduction

- Females can breed at 6-10 months
- Year-round breeding
- Average 4-6 piglets per litter
- 1-1.5 litters per year
- Abundant resources lead to higher reproductive rates

Population Growth

- Without control measures, the population will **triple every 5 years**
- **66%** of the population must be removed to stop population growth
- Currently all control efforts in Texas remove **29%** of the population
- Population is expected to **double every 5 years**

Photo Credit: AgriLife Today on Visual Hunt

Hog Signs: Wallows

Hog Signs: Rubs

Hog Signs: Rooting


$1.5-2.5 Billion in Damage Annually
Water Quality
Livestock
Erosion
Vehicle Collisions
Increase Invasive Plants
Irrigation Systems
Fencing
Native Wildlife
Landscaping
Domestic Pets
Crops
Native Plant Communities
Roads and Levees
Golf Courses
Athletic Fields

Water Quality

- Direct and indirect impacts
- Increase turbidity and sedimentation
- Alter pH
- Decrease dissolved oxygen
- Increase bacteria and nutrient loads
- Contaminate with diseases and parasites
- Can result in recreation/consumption bans


Photo Credit: Paul Gorbould via Flickr Creative Commons

Trapping Methods

- Locate areas with high pig activity
- Determine appropriate trap type (box or corral)
- Condition pigs to the trap
- Monitor traps
- Remove the entire sounder at once
- Collaborate with neighboring property managers

Privet

Privet Removal

- Physical removal
  - Hand pulling
    - Good for small saplings
  - Weed wrenches
    - Best for plants up to 2” in diameter
    - May disturb soil, not recommended near streams or steep slopes
  - Mulching and mowing
    - Effective at removing dense stands, but privet will resprout quickly
    - Regrowth can be treated with herbicide

Privet Removal

- Herbicide
  - Cut stump application
    - 41% or higher glyphosate or 44% or higher triclopyr amine
    - Apply within minutes of cutting, outer edge most important
  - Foliar treatment
    - 41% or higher glyphosate
    - Cover all leaves, but not to the point of runoff
  - Basal bark treatment
    - Triclopyr ester or triclopyr acid, mix with oil such as bark oil or diesel
    - Spray the bottom 12-18 inches of each trunk

Other Common Invasives

Chinese Tallow

Nandina

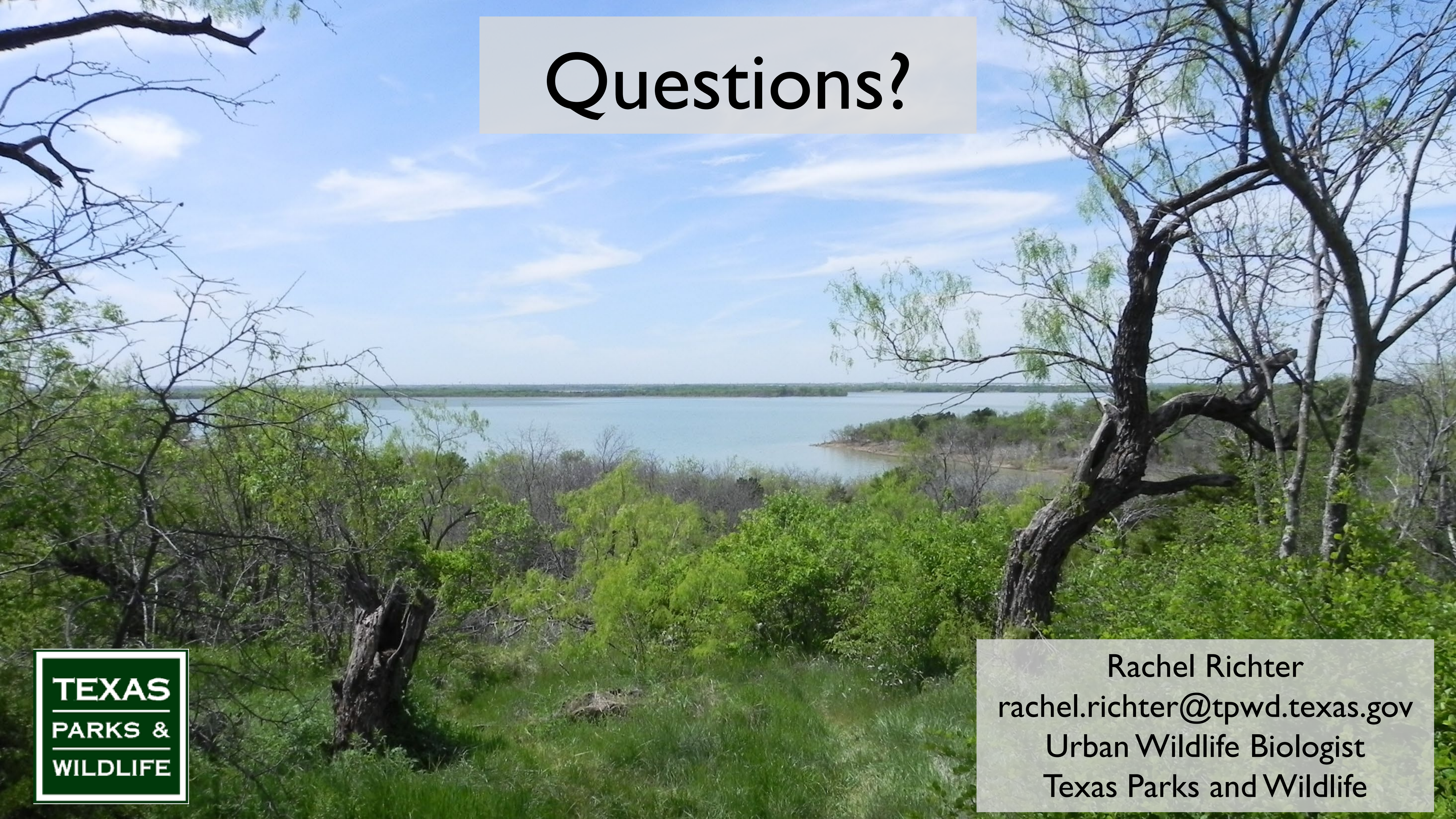
Japanese Honeysuckle

Chinaberry

Tips for Managing Invasives

- Identify invasive species in your area
- Biodiversity surveys
  - www.inaturalist.org
- Develop management plans
- Consult with animal welfare and health experts
- Public education and outreach
- Ongoing monitoring and maintenance

Questions?



Rachel Richter
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Urban Wildlife Biologist
Texas Parks and Wildlife

Questions & Discussion

Webinar Feedback

- Please provide your feedback on today's webinar in this brief survey. Thank you!

Provide Webinar Feedback Here

Water for North Texas Online Library

- Resources related to today's topic and other water-related subjects can be found on the Water for North Texas Online Library

Wrap-Up

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Thank you for attending!

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United States Environmental Protection Agency

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

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