

Regional Forest Health Staff



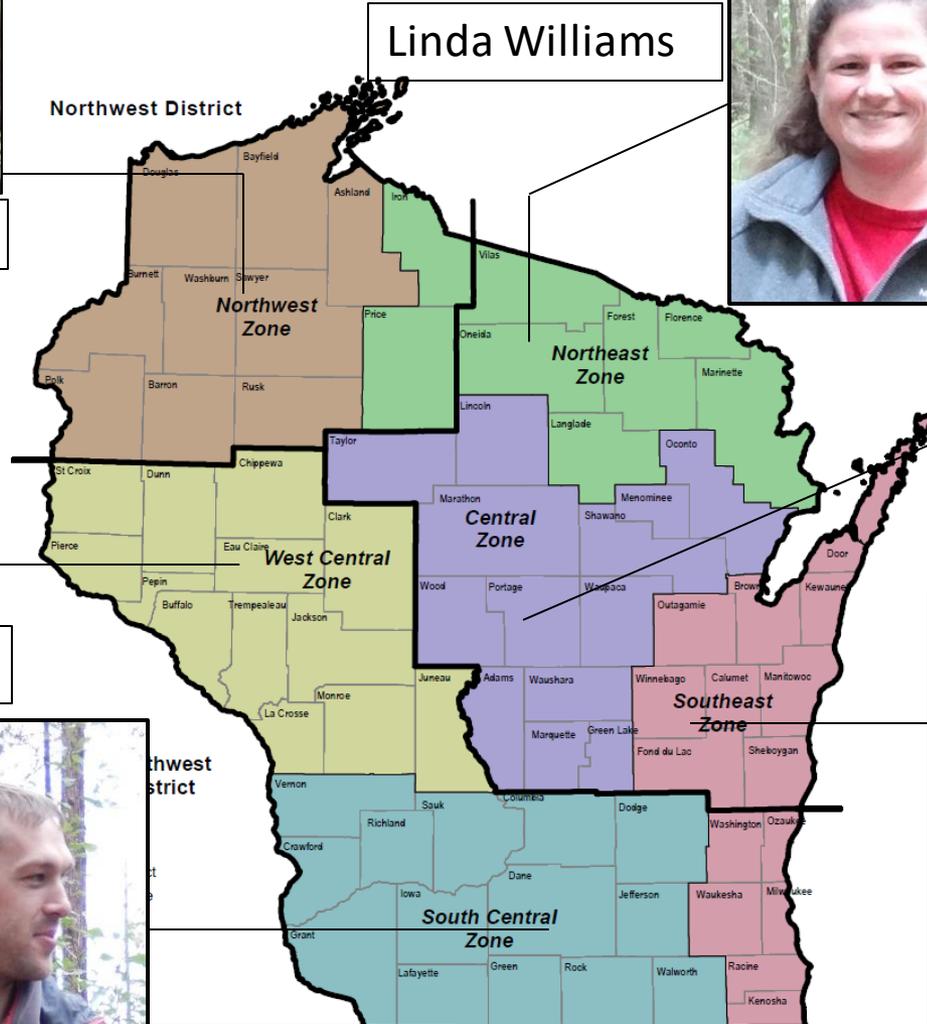
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Linda Williams



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Background on EAB

- Invasive wood boring beetle from East Asia, most likely china
- First detected in Detroit area, and Winsor Ontario in 2002
- Most destructive and costly forest insect to invade the U.S.
 - “worst-case scenario”



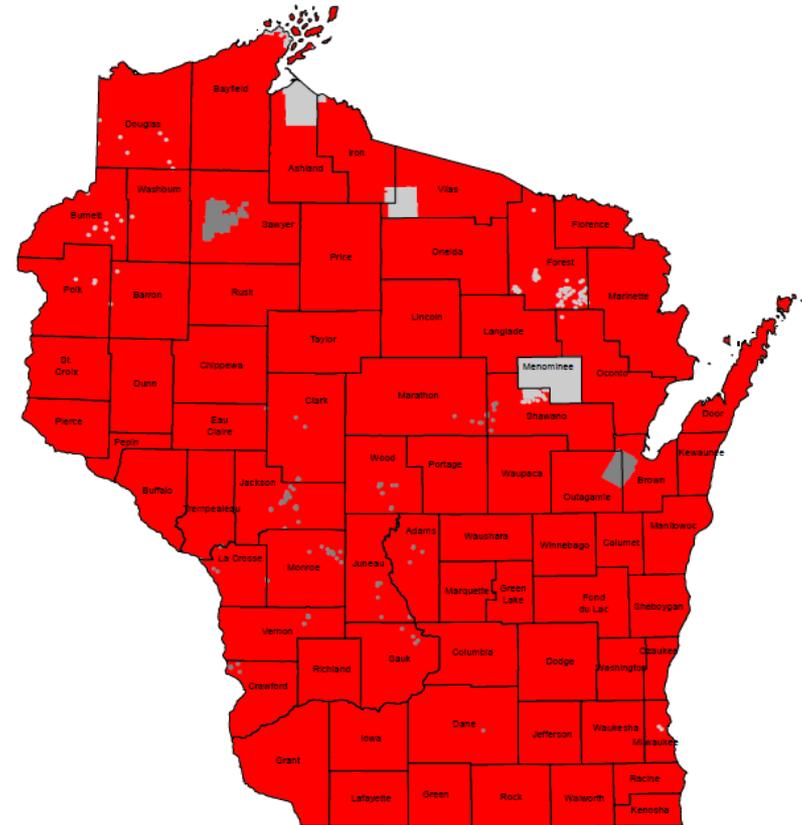
A screenshot of the Michigan Invasive Species website. The page title is "Michigan Invasive Species". Below the title, there are several sections: "Invasive Species", "Species Profiles & Reporting Information", and "Watch List". The "Watch List" section is highlighted, showing a list of species. The first entry is "Asian Longhorned Beetle (Anaglyptus glabripennis)", which is marked as "Prohibited in Michigan". The second entry is "Asian Sand Sedge (Carex kobomugi)", which is marked as "Watch List". The third entry is "Asian Woolly Adelgid (Adelges piceae)", which is also marked as "Watch List". The website includes a navigation menu on the left with options like "Home", "Species Profiles & Reporting Information", "Invasive Species", "Species Profiles & Reporting Information", "Watch List", "Take Action", "Laws", "Permits", "Control & Management", "Education & Outreach", "Graphic", "Media Center", "Contacts", and "Local Resources".



Regulatory Status of EAB in Wisconsin

- Statewide quarantine went into effect at the end of March 2018 and remains
- Allows unrestricted movement of ash materials within WI
- Removal of the federal EAB quarantine likely in 2019

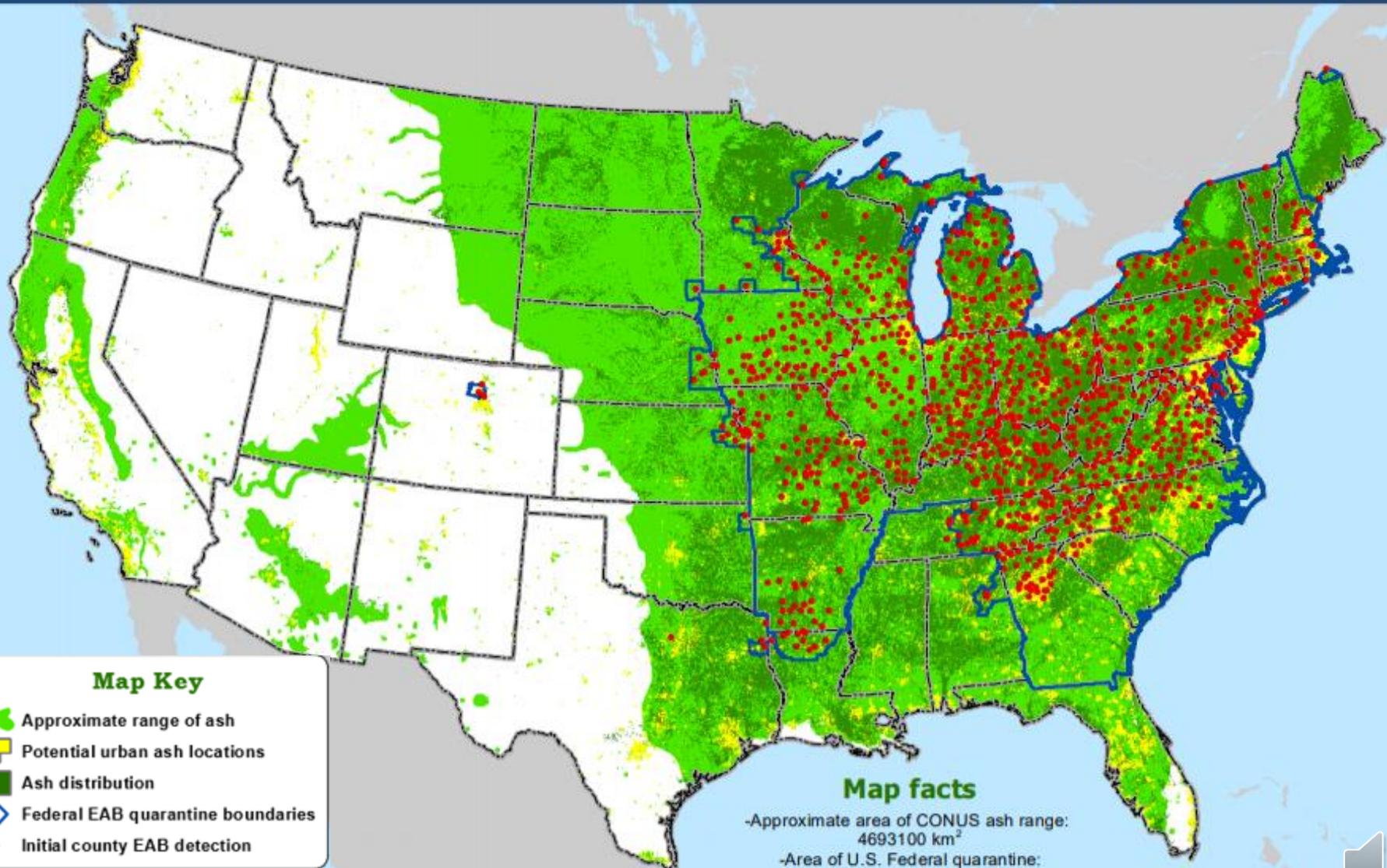
Wisconsin Emerald Ash Borer Quarantine
Effective March 30, 2018



Quarantine status	
■	Quarantined
■	Tribal Land Quarantined
■	Tribal land Not Quarantined

Data shown on this map were obtained from various sources and are of varying age and resolution. This map is not intended to be used for navigation, and is not an authoritative source of information about legal land ownership or public access. The Department of Agriculture, Trade and Consumer Protection does not guarantee the accuracy, applicability for a particular use, completeness, or legality of data provided by other sources. No warranty, expressed or implied, is made regarding the accuracy or utility of information depicted on this map.





Map Key

-  Approximate range of ash
-  Potential urban ash locations
-  Ash distribution
-  Federal EAB quarantine boundaries
-  Initial county EAB detection

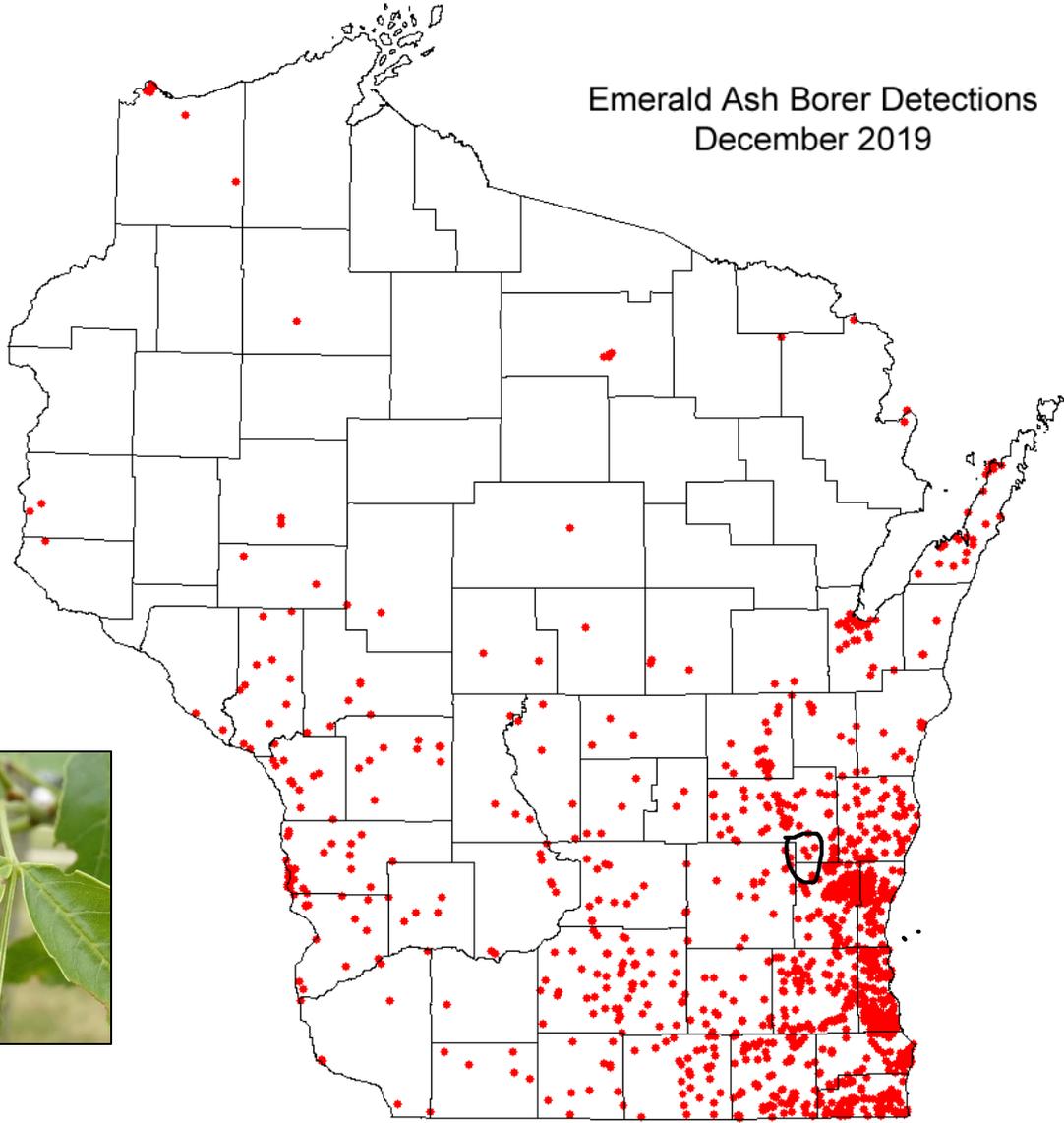
Map facts

- Approximate area of CONUS ash range:
4693100 km²
- Area of U.S. Federal quarantine:
2269665 km²

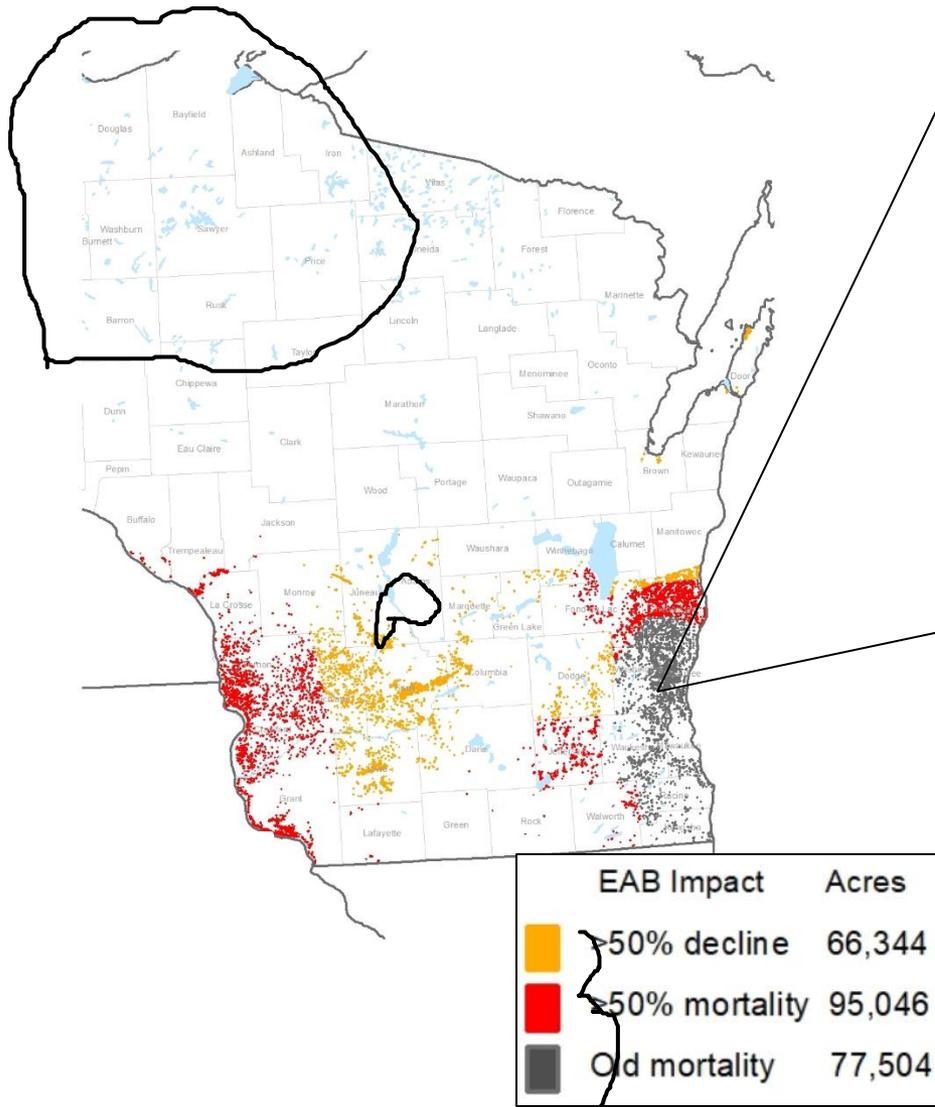


EAB Detections

Emerald Ash Borer Detections
December 2019



Mapped EAB Damage – 2019



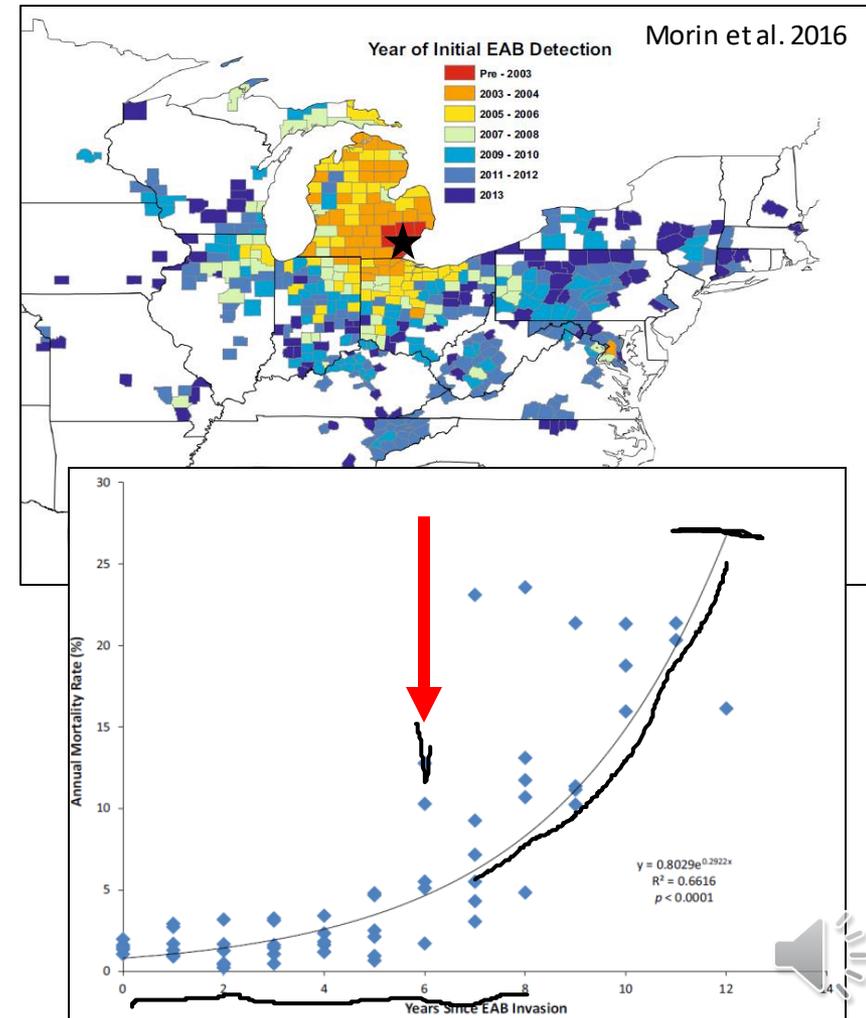
- EAB-caused tree mortality and crown dieback was mapped on **161k acres**, mostly in southeastern and southwestern WI
- Damage was also mapped in Green Bay, Rhinelander, Sturgeon Bay, and Superior





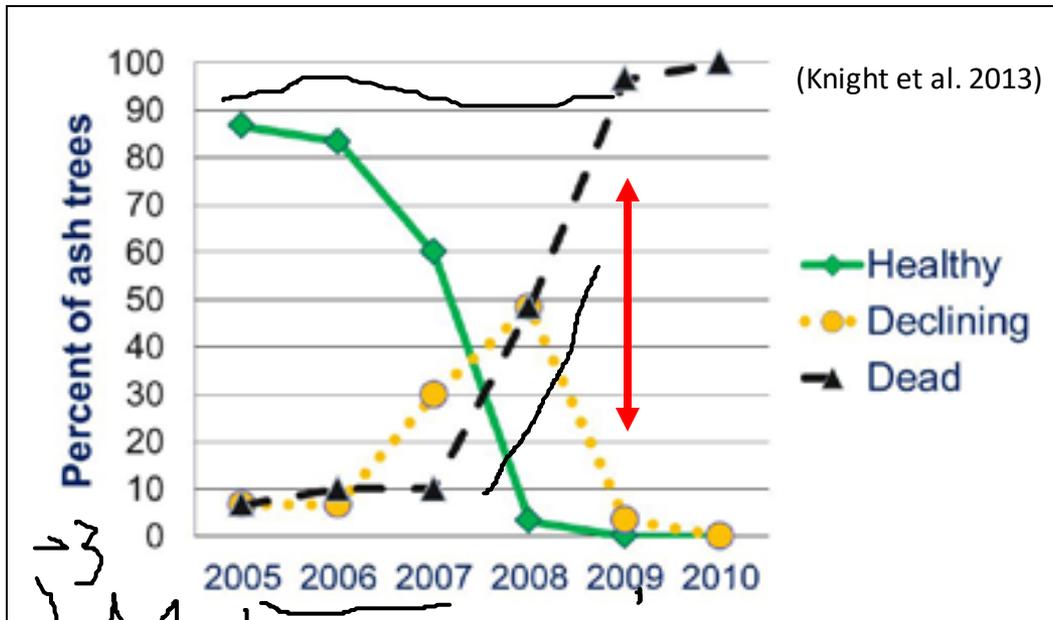
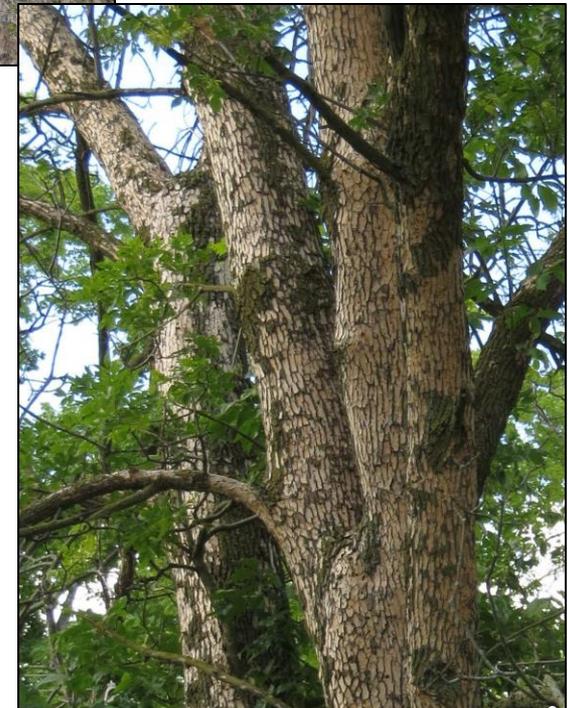
How fast does ash mortality spread across the landscape?

- In southeastern Michigan from 1998 to 2001, when infestations were more scattered, ash mortality spread at a rate of **2 miles per year**
- Between 2001 to 2003, the rate increased to **8 miles per year** as satellite populations grew and coalesced
- Major finding: After EAB found in a county, ash mortality increases significantly **6-7 years later** until most ash in the area are killed - about 12 years after being discovered



How fast does ash die within a stand?

- Within a stand, after exit holes are first found, **it's about 5 years until most ash are killed**—roughly 7-8 years after arrival in stand.



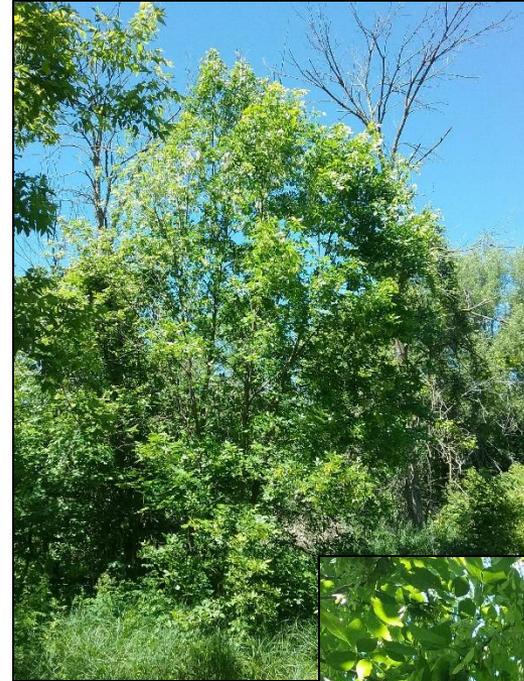
How many ash trees die?

- Expected to kill 99% of white, green, and black ash in Wisconsin, regardless of a stand's size, ash density or species composition
- Attacks and kills trees 1 inch in diameter and greater
- White ash may be less preferred but still likely to suffer significant mortality
- Blue Ash, a native of s.e. WI, is more tolerant of EAB
- Growth rates of non-ash species increase after ash death as competition for light and soil resources decreases



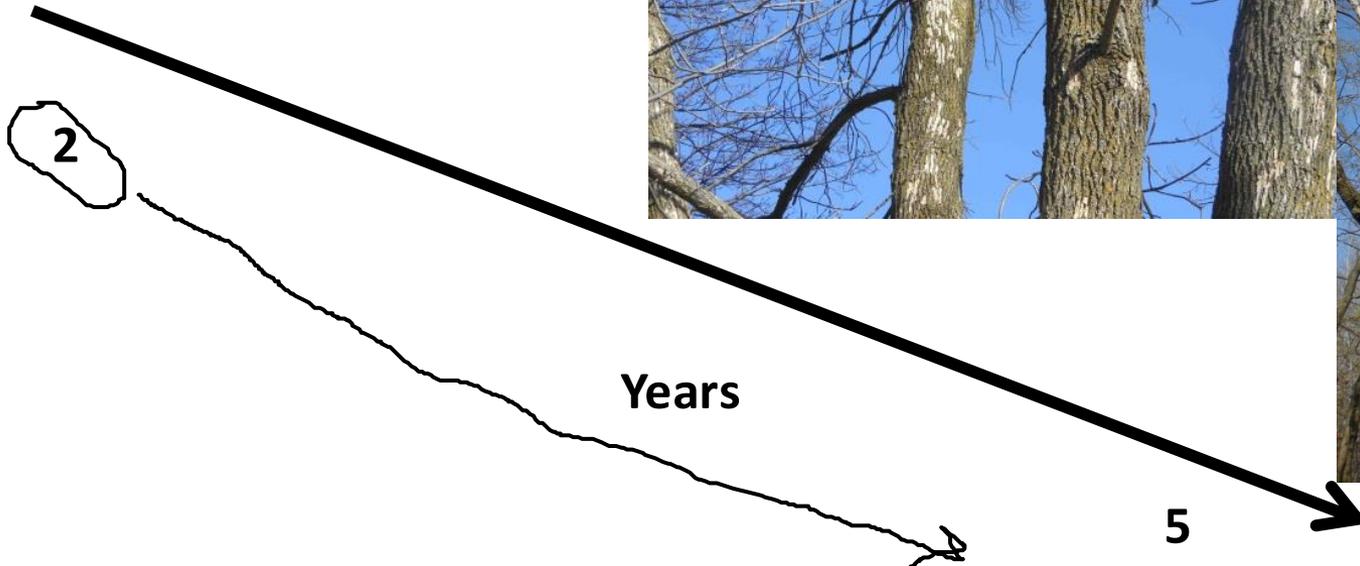
What's the long-term fate of ash?

- In many places, ash regeneration from seeds and sprouts is present
- Ash may persist in the long term if it can sprout or produce seed before being killed by EAB
- However, ash is unlikely to be as common as it currently and can be re-infested by EAB once it grows one inch caliper
- “Lingering Ash”: Little natural resistance to EAB in the native ash population, but a small proportion of ash remain alive after the surrounding ash have died
- After initial wave of tree mortality, EAB populations decline dramatically. Low numbers remain in small, regenerating ash as well as surviving, larger trees and low-level ash mortality continues



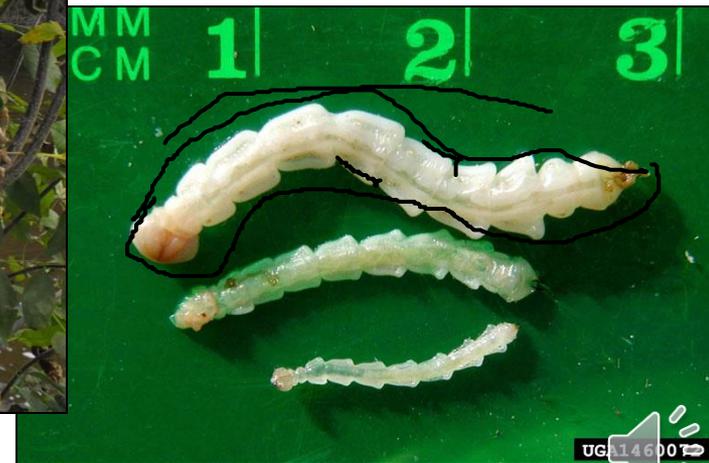
EAB Signs & Symptoms

Woodpecker flecking



EAB Signs & Symptoms

D-shaped exit holes, bark cracks, feeding tunnels, larvae





Thank you!

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