

Threats to Oak Trees in the Eastern U.S.

Dr. David R. Coyle

 @drdavecoyle

Southern Regional Extension Forestry – Forest Health and Invasive Species Program

University of Georgia – D.B. Warnell School of Forestry and Natural Resources



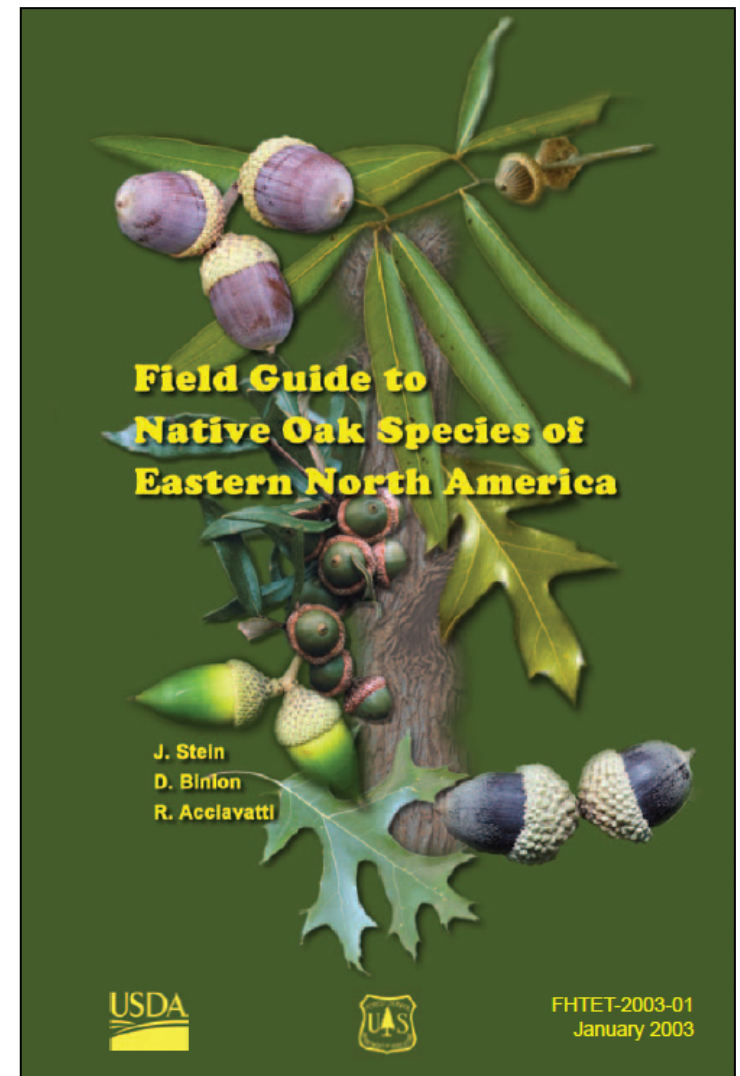
FOREST HEALTH
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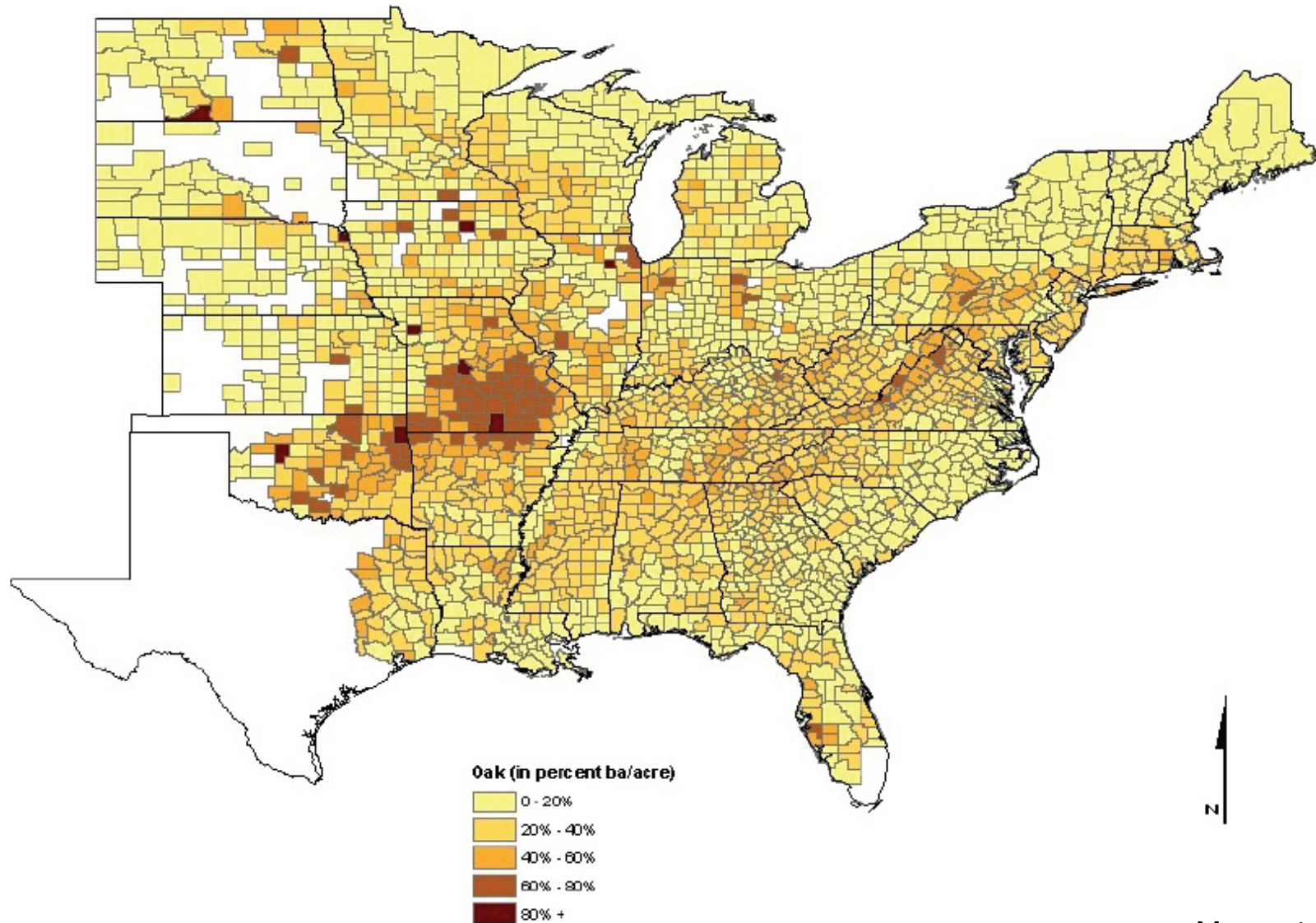
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Oaks in the eastern U.S.

- 50 species
- Native to every eastern state
- About 1 in 4 trees in natural areas are oaks
- Important for...pretty much everything
 - Timber
 - Wildlife
 - Ecology



Oaks are everywhere



Moser et al. 2006

There's lots of oak

- Volume = 1.2 billion ft³

= 8,282 of these →



Issues are on the radar

- From Rick's talk yesterday:
 - Gypsy moth
 - Polyphagous shot hole borer
 - Sudden oak death
 - Winter moth
 - Forest tent caterpillar
 - Oak wilt
 - Gold spotted oak borer



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Categorizing threats to eastern oaks

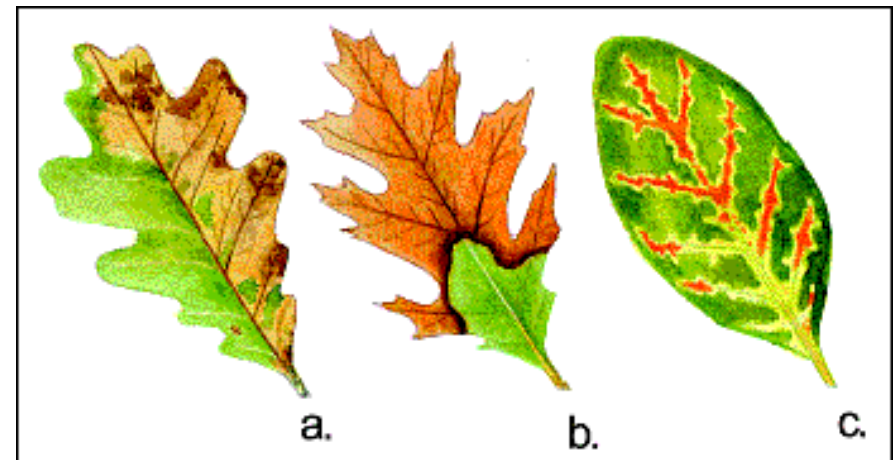
- Native
- Already here
- Management ✓
- Know potential ✓

Oak Wilt: Background

- Native fungal disease and found only in N. America
- All oak species are susceptible:
 - red oaks most susceptible and die suddenly
 - white oaks die more slowly
- Came in the limelight in 1980s from tree wounding during home construction within oak forests
 - Historical fire suppression possibly allowed oaks to grow where they normally would not

Oak Wilt: Symptoms

- Wilt symptoms appear just after full leaf expansion in Spring, especially with water and willow oaks
- Leaf margins scorched, vein necrosis on live oaks



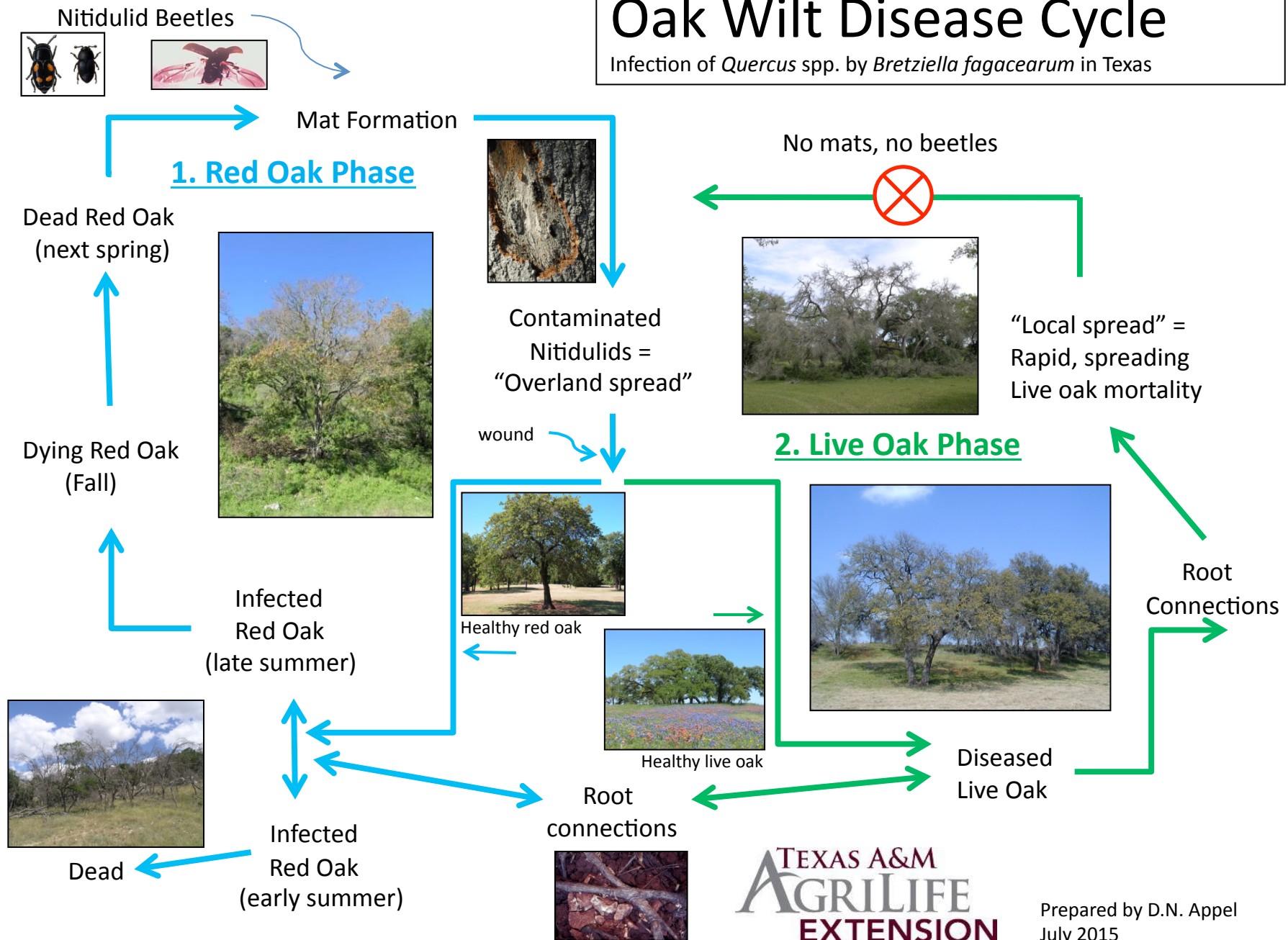
Oak Wilt: Symptoms

- Dark staining is present within sapwood of branches
- Vertical bark cracks on trunks at least 12" DBH may indicate fungal mats underneath



Oak Wilt Disease Cycle

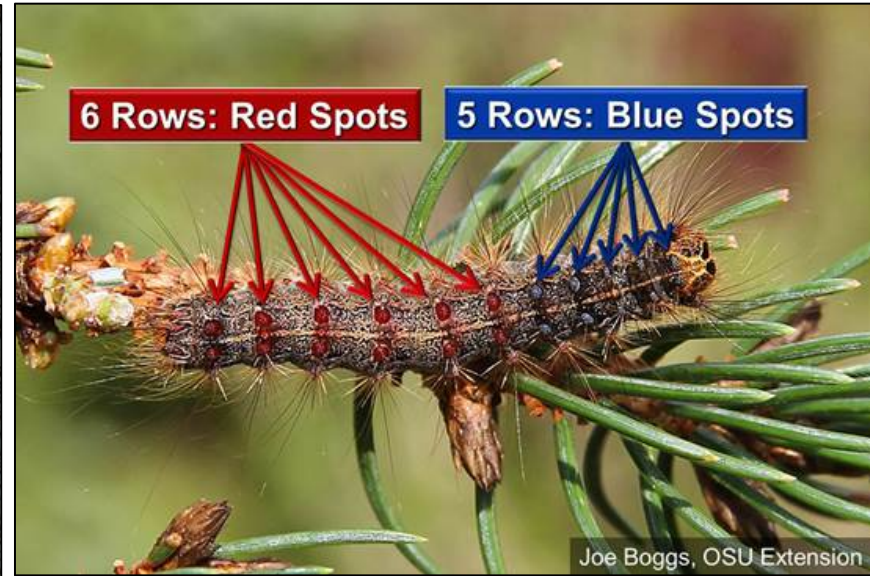
Infection of *Quercus* spp. by *Bretziella fagacearum* in Texas



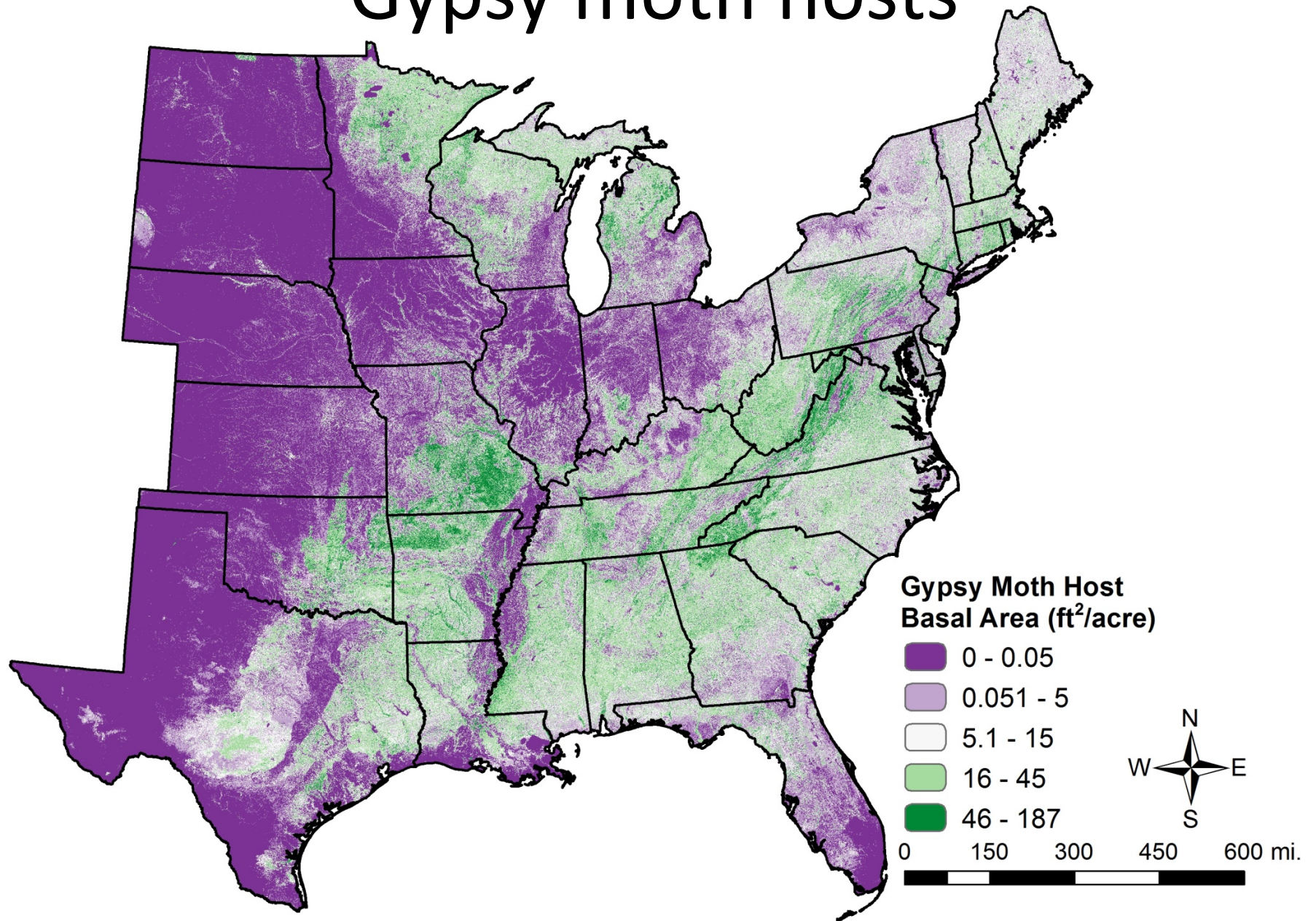
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Gypsy moth

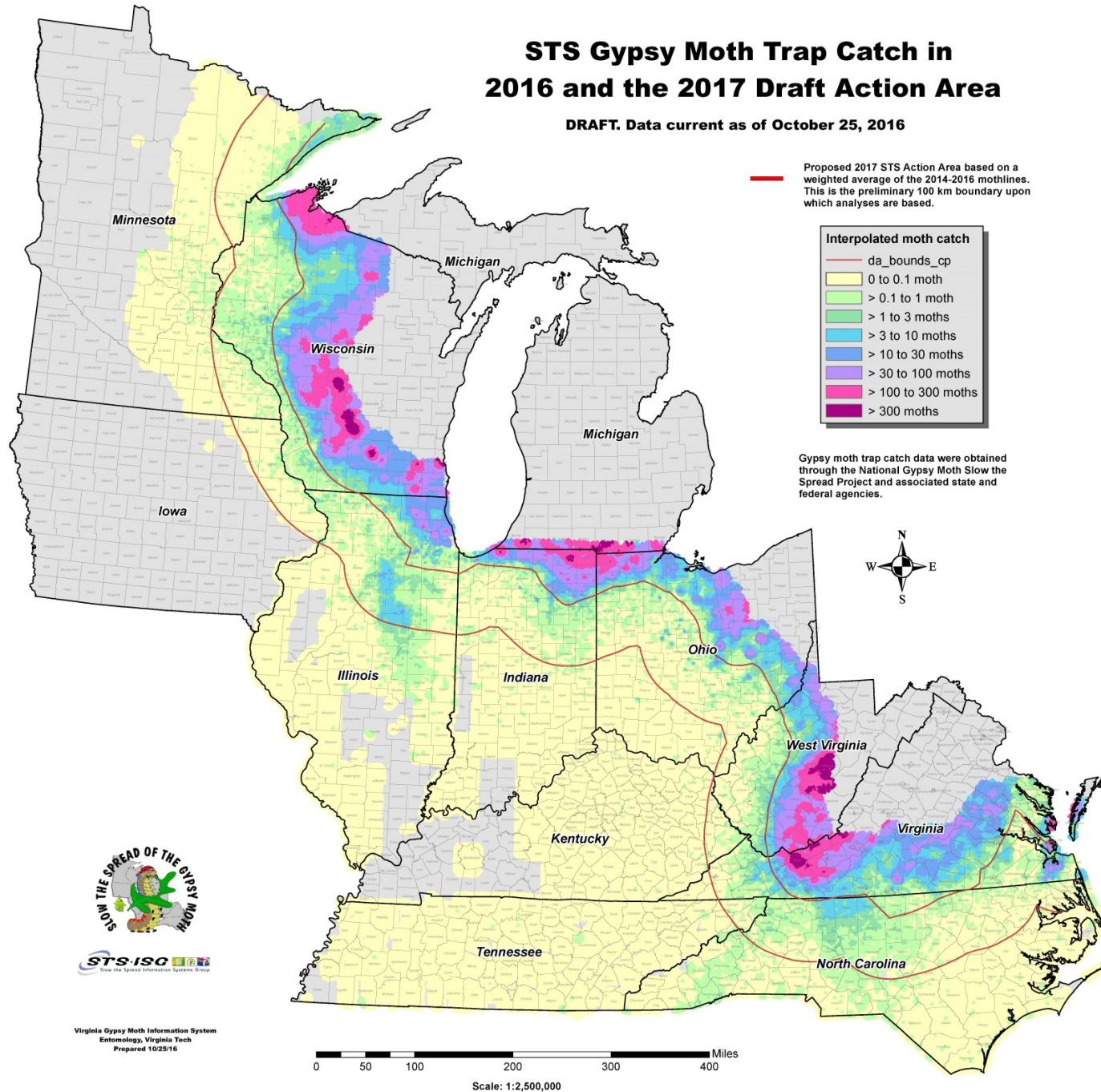


Gypsy moth hosts



STS Gypsy Moth Trap Catch in 2016 and the 2017 Draft Action Area

DRAFT. Data current as of October 25, 2016



Categorizing threats to eastern oaks

- Native
- Not here (yet?)
- Management ?
- Know potential ?

Goldspotted oak borer

- Native to AZ, Mexico
- Prefer red oak group
 - Almost never white oak group
 - 27 red oak group sp. in eastern NA
- Major oak mortality
 - Natural
 - Park/camping areas



Goldspotted oak borer damage



Categorizing threats to eastern oaks

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Euwallacea shot hole borers

- Aggressive ambrosia beetles
 - Polyphagous (PSHB)
 - Kuroshio (KSHB)



5477252

Euwallacea shot hole borers

- Several oak species attacked
- No known treatment other than sanitation



So...



We have an opportunity to learn
from our experiences.



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We also have an opportunity to be
more proactive.

ANY
QUESTIONS
?