

# Recovery Plan for Laurel Wilt on Redbay and Other Forest Species



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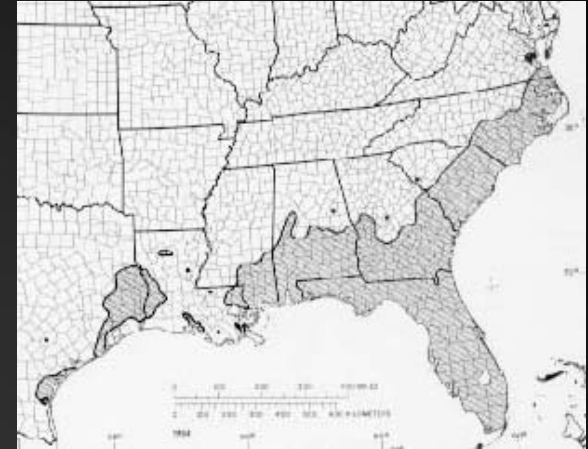
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# So, what is a redbay?

*Persea borbonia* (Lauraceae)

- Aromatic, broadleaved, evergreen of the US Southeastern Coastal Plain



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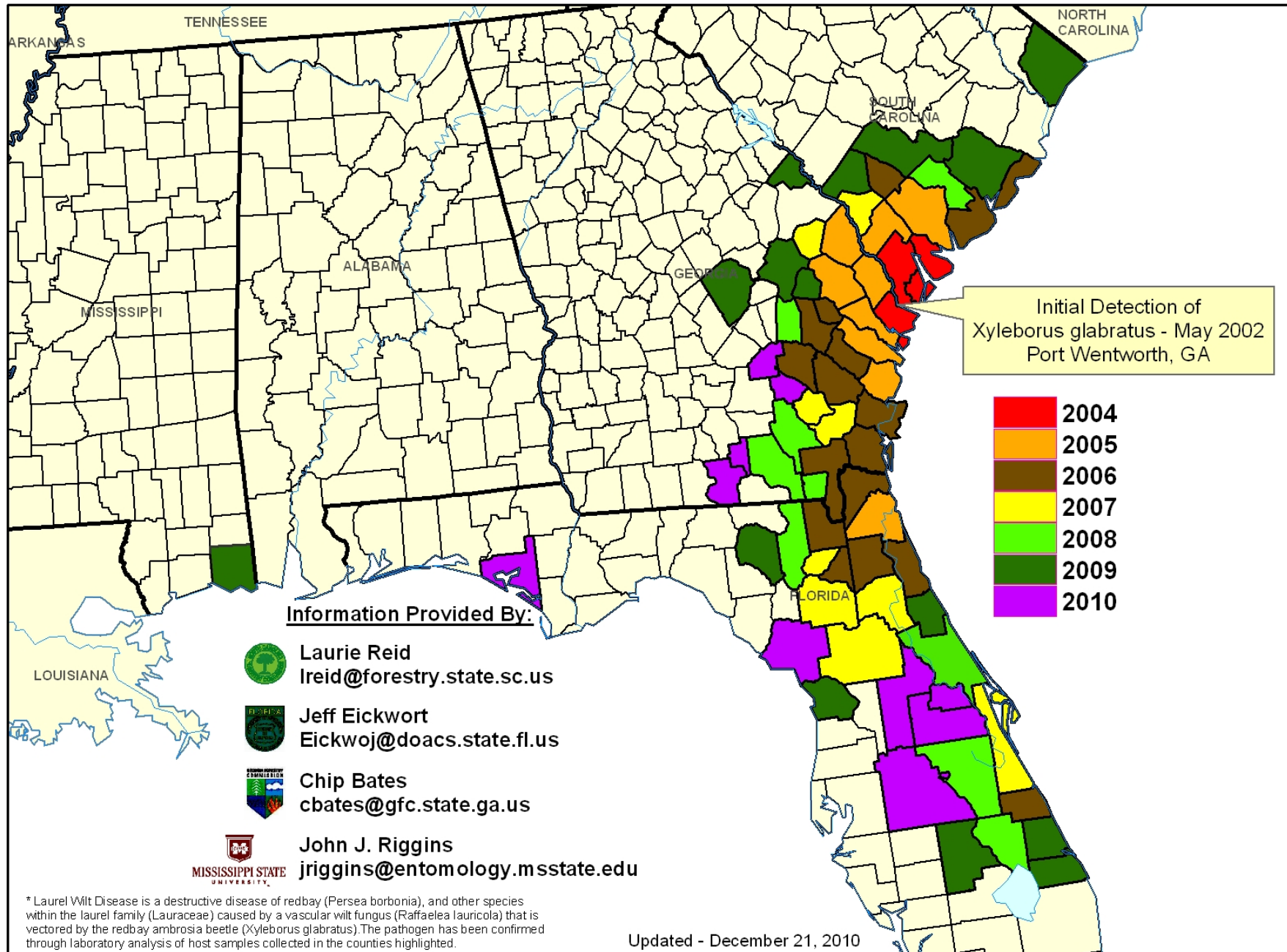


# Brief History of Laurel Wilt

- 2002: An Asian ambrosia beetle (*Xyleborus glabratus*) detected near Savannah, GA
- 2004-2005: Beetle determined to be vector of fungus (*Raffaelea lauricola*) causing wilt disease, widespread redbay mortality (SC, GA, FL)
- 2005-2011: continued range expansion in Southeastern US



# Distribution of Counties with Laurel Wilt Disease\* by year of Initial Detection





# Redbay Ambrosia Beetle (*Xyleborus glabratus*)



- Native to India, Bangladesh, Myanmar, Taiwan, Japan
- Reported Asian host families (genera):
  - Lauraceae (*Lindera, Litsea, Phoebe*)
  - Dipterocarpaceae (*Shorea*)
  - Fagaceae (*Lithocarpus*)
  - Fabaceae (*Leucaena*)

# Redbay Ambrosia Beetle (*Xyleborus glabratus*)

- Coleoptera: Curculionidae: Scolytinae
- Symbiont fungi, mandibular mycangia
- Partial parthenogenesis, sib mating





# Laurel Wilt: Crown Symptoms





# Laurel Wilt: Stem Symptoms





# Impact



**Mixed maritime forests**



**Coastal dunes**



**Bayhead swamps**



**Neighborhoods**



# Confirmed Laurel Wilt Hosts Plants in US

## Confirmed in the field:

- Redbay (*Persea borbonia*)<sup>1</sup>
- Swamp bay (*Persea palustris*)<sup>1</sup>
- Sassafras (*Sassafras albidum*)<sup>1</sup>
- Pondspice (*Litsea aestivalis*)<sup>1</sup> - endangered
- Pondberry (*Lindera melissifolia*)<sup>1</sup> - endangered
- Camphor (*Cinnamomum camphora*)<sup>3</sup>
- Avocado (*Persea americana*)<sup>2</sup>



# Recovery Plan: Executive Summary

- Slow the long distance, human-assisted spread of the disease.
- Improve our understanding of the biology, host associations, and impacts of the disease and its vector.
- Protect individual, high-value landscape trees with pesticides when feasible and continue research on treatment efficacy and options.



# Recovery Plan: Executive Summary

- Develop other management tools:
  - Sanitation and other silvicultural methods
  - Trap-out or attract-and-kill techniques
  - Use of resistant genotypes
  - Biological control
- Assess the need for a germplasm conservation program for threatened hosts.
- Continue to monitor the geographic spread of the disease, assess its impacts on host species as it spreads to new ecosystems, and educate the public about the issue.

USFS Laurel Wilt Website:

[www.fs.fed.us/r8/foresthealth/laurelwilt](http://www.fs.fed.us/r8/foresthealth/laurelwilt)

Thank you

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