Forest Health Highlights

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Thousand Cankers Disease (TCD)
Geosmithia morbida

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What is TCD?

A disease that consists of a pathogen (*Geosmithia morbida),* a vector (Walnut Twig Beetle), and a host (Black Walnut)

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Fungus

Vector

Host

Photos byWhitney Cranshaw,Colorado State University

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How fast can TCD kill black walnuts?

- Can take 5-10 years for mortality to occur
- Symptoms usually show up 2-3 years before mortality
  Drought is a likely contributor needed for death to occur

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What do you look for?

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Flagging

- Usually the first symptom you see
- Yellowing leaves throughout the crown
- Leaves may wilt and die in mid-summer

Photo courtesy of Ned Tisserat

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Photo courtesy of Ned Tisserat

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Whitney Cranshaw,Colorado State University

Two 18-in logs produced 23,040 beetles in one year after being cut!

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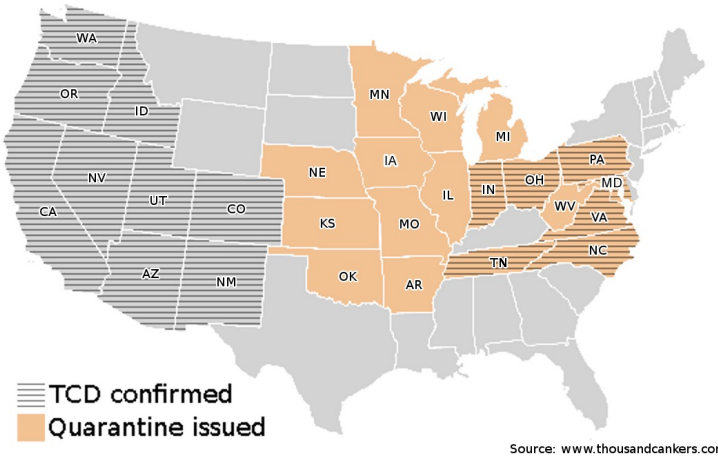
Where is TCD Now?
-Only 2 locations in Haywood County

Distribution of Thousand Cankers Disease as of April 20, 2015



Source: www.thousandcankers.com

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Sudden Oak Death (*Phytophthora ramorum*)

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Sudden Oak Death

Cankers caused by this pathogen

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Host Plants for SOD

- Very numerous: 100+
- Includes California bay laurel and Douglas-fir in woodland settings
- Camellias and rhododendron typically most common host in nursery stock
- Does not cause mortality in these plants

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What does it look like on other hosts?

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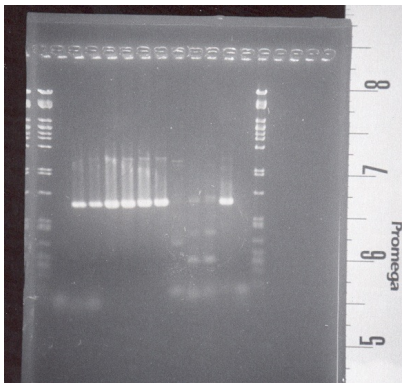
How to confirm Sudden Oak Death



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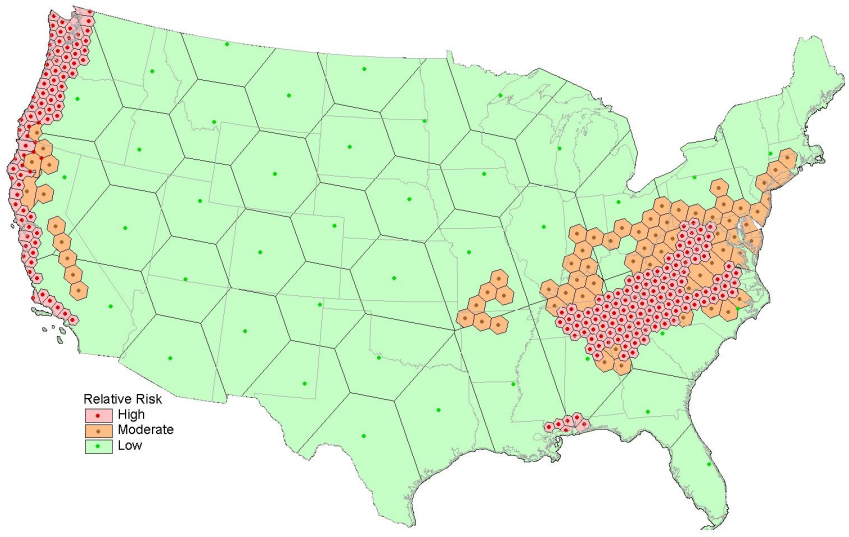
Preliminary SOD Risk/Hazard Map



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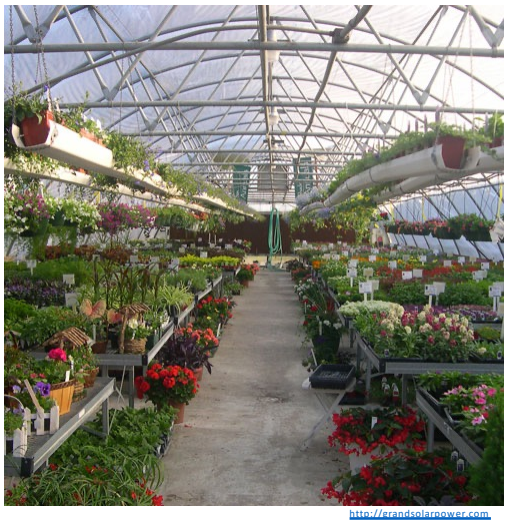
How does it spread?

- Nursery Industry
  - Can move infected plants quickly over a very long distance



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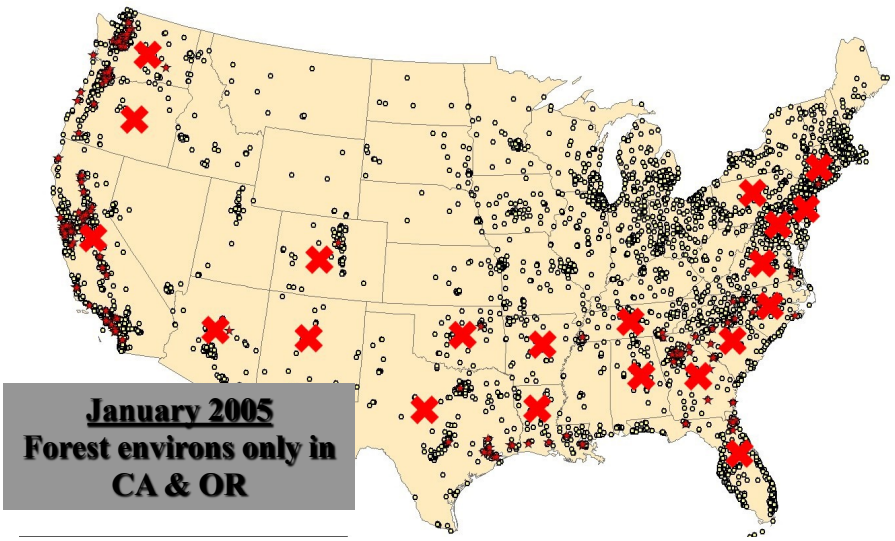
US States with Confirmed *P. ramorum*



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Current Surveys

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White Pine Bast Scale and Caliciopsis Canker

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History

- Both the scale and the canker are native pests
- Started noticing problems around 2006 in the Southern Appalachians
- Have had long term problems in the northeastern states, but mostly on stressed white pine

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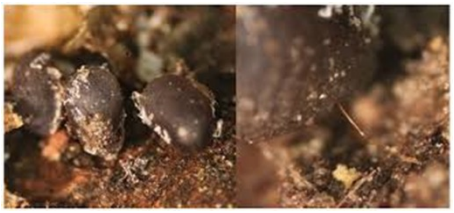
White Pine Bast Scale

- Difficult to see in the field
- Prefer secluded sites to establish
  - Under lichen
  - At branch nodes
  - They like thin bark so their piercing moth parts can access nutrients in the cambium



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Caliciopsis Canker

- Recognized by fruiting bodies that look like eyelashes (not to be confused with similar looking fruiting bodies of lichen themselves)
- Usually found on thin bark that is less than ½ inch thick

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How does this Complex Work?

- The scale inserts its mouth parts into the tree
  - This creates a wound that is suitable for the canker
- Cankers then become established at these past feeding sites
- Numerous cankers cause branches to die and can eventually lead to tree death.
  - But sometimes the tree can callous over the cankers and continue to grow.

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Symptoms of this Complex

- Needles dying and turning red
- Branch dieback, starting from the lowest branches
- Oozing sap

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Symptoms of this Complex (cont.)

- White pine mortality in the understory
  - Typically, slow growing and suppressed trees

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What do we do?

- Research
- Monitor progression of this complex
- Stay calm for now.

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Fall Cankerworm

Fall cankerworms on oak.

Photo by J. R. Baker

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Female Lays Eggs in the Fall

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Early June 2022
Ashe/Watuaga County Line

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Late August

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Control

- Typically let it run its course, and expect some mortality
- Urban areas have done aerial spraying and have been successful

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Needlecast

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Needlecast vs. Needle Spot

- Needlecast
  - Typically occurs at one time when conditions are right (late spring/early summer)
  - Infections do not continue throughout the year
- Needle Spot
  - Have short incubation periods and can continue to spread throughout the year

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What to Look For

- Needlecast infections are usually initiated on young current-year needles
- Symptoms of infection are not evident until the following winter or spring
- New growth appears uninfected, while the previous years needles change color and drop off
- Considered a minor stressor

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Table Mountain Pine in Madison County

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Table Mountain Pine (cont.)

- Complete defoliation in early spring
- Happened before current year's growth started
- Confirmed as needlecast, but species was not identified
- Summer examination showed no signs of decline

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