



Forest Health Monitoring

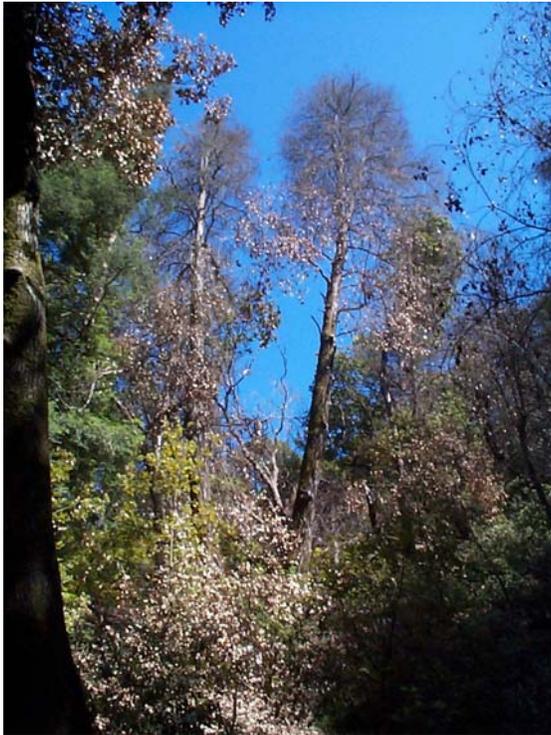
Fact Sheet Series



Sudden Oak Death National Detection Survey

Background

Sudden Oak Death, a newly identified forest disease caused by the pathogen *Phytophthora ramorum*, has been killing thousands of tanoak and oaks in coastal areas of central California. Small infestations were recently found in southern Oregon and eradication efforts have begun.



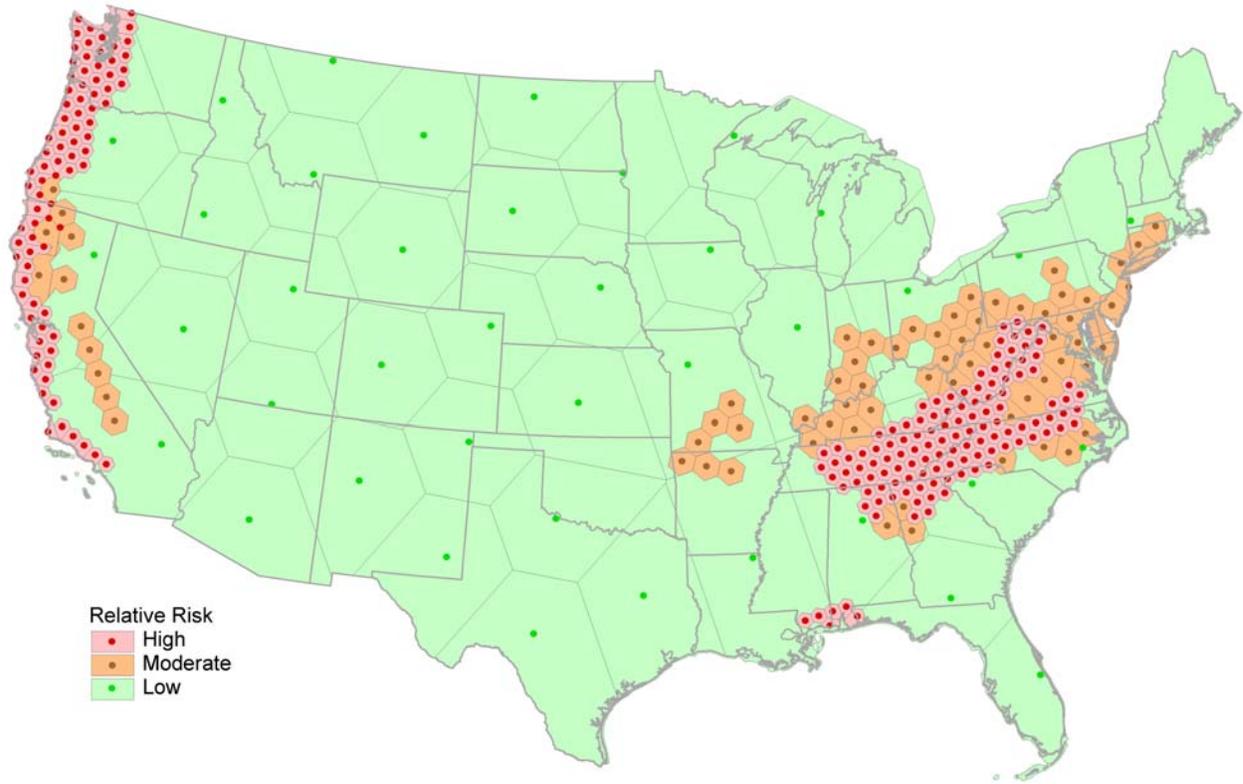
Dead tanoaks and coast live oaks in Marin County, California

Laboratory investigations indicate that other oak species, including northern red and pin oak, are susceptible to the pathogen. Concerns regarding the risk of this disease to the Nation's oak forests have led to development of a National Sudden Oak Death Detection Survey of forests through the Forest Health Monitoring¹ program.

¹ Forest Health Monitoring (FHM) is a national program designed to determine the status, changes, and trends in indicators of forest health on an annual basis. FHM covers all forested lands through a partnership involving USDA Forest Service, State Foresters, and other state and federal agencies and academic groups.

- **Objectives** – Detect new infestations of *P. ramorum*, the cause of Sudden Oak Death, in forests outside the known infested areas.
- **Risk-based Sampling** – The survey design attempts to detect new infestations by increasing sampling intensity in areas at high risk to invasion by *P. ramorum*.
- **Risk Factors** – The following factors, reflecting current understanding of the biology and ecology of *P. ramorum*, were used to assign risk and develop sampling polygons (map attached):
 1. Presence of likely hosts
 - a. Known (West) or suspected (East) tree hosts
 - b. Known (West) or suspected (East) shrub hosts
 2. Likely pathways of introduction to new areas
 - a. Rhododendron nurseries
 3. Climatic factors
 - a. Moisture – length of yearly moist weather period
 - b. Temperature – extreme temperature limits
 - c. Months of optimum moisture/temperature combination
- **Sampling Methods** –
 1. Site selection:
 - a. Forested areas around nurseries – Nursery selection based on Pilot National Survey for Nurseries coordinated by Animal and Plant Health Inspection Service.
 - b. General forested areas - Random sample locations are generated using road networks, host type, and risk category.
 2. At each site, suspected host plants are sampled on four 100 meter transects.
 3. Symptomatic leaves or stems are collected for laboratory analysis using approved diagnostic techniques.
- **Preliminary Results** – During the spring and summer of 2003, survey crews collected samples of suspected hosts in PA, WV, VA, GA NC, SC, and TN. Diagnostic laboratories processed over 800 samples. None of these were positive for *P. ramorum*.

Preliminary SOD Risk/Hazard Map



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