

White Pine Health

Diseases threaten white pines in the East

U.S. Department of Agriculture
Forest Service
Northeastern Area State and Private Forestry



Description: White pine is a crucial ecological and economic component of forests in the Eastern United States. Three diseases are currently endangering white pines.

The white pine blister rust (WPBR) fungus has threatened forests and agricultural commodities since it was introduced in the early 1900s. This fungus produces spores on gooseberries that later infect and kill white pines. A Federal quarantine established in the 1920s prohibited gooseberry cultivation. After this Federal quarantine was lifted in the 1960s, coupled with the more recent availability of disease-resistant gooseberries, Northeastern States eased their restrictions on gooseberry cultivation. In 2011, however, observers in Connecticut discovered a breakdown of WPBR immunity in cultivated gooseberries.

The second white pine pest issue is an unprecedented epidemic of pathogens that have repeatedly defoliated white pines since 2010 following an unusually wet spring. The third pest, the native *Caliciopsis* canker (*Caliciopsis pinea*), has been receiving renewed interest because of its association with declining white pine health in Georgia, Virginia, West Virginia, and New Hampshire.

Key Issues:

- Any agent that harms white pine health or contributes to a decrease in the value of its wood will potentially have far-reaching ecological, economic, and social effects in a New England region that has long relied upon and revered this species.
- The breakdown of WPBR immunity in cultivated gooseberries could potentially have serious effects on the white pine resource.
- Not enough is known about the long-term impact of foliar pathogens or the climatic factors that favor these epidemics.
- The *Caliciopsis* canker degrades wood quality and reduces tree vigor, but little is known about how to manage the disease.

Accomplishments:

- In 2012 the New Hampshire Division of Forests and Lands conducted a preliminary survey to determine how often WPBR occurred in resistant cultivated gooseberries; survey personnel observed the disease at most sites.
- The Northeastern Area State and Private Forestry (NA S&PF), in cooperation with the States that it serves, completed aerial surveys that identified 76,000 acres of foliar damage to white pine forests in Maine, Massachusetts, New Hampshire, and Vermont.
- Scientists at NA S&PF and the University of New Hampshire (UNH) identified the pathogens that caused the foliar damage.
- NA S&PF, in cooperation with UNH and Forest Health cooperators from Maine, Massachusetts, New Hampshire, and Vermont, is assessing the long-term impact of foliar pathogens on tree health and identifying climatic conditions that contribute to epidemics.
- NA S&PF completed, printed, and distributed a white pine needle damage pest alert to resource managers in the Northeast.

Budget History:

The FY 2013 budget has yet to be determined; however Maine, New Hampshire, and UNH have submitted a joint request for \$152,000.

Future Direction:

- Continue regional surveys to evaluate the impact of WPBR.
- Continue to monitor and evaluate the impact of foliar diseases.
- Develop management guidelines for Caliciopsis canker.
- Continue to provide new and existing disease information products to all partners.

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