

# SUCCESS

REGIONS 1 & 4, STATE AND PRIVATE FORESTRY

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*"Without direct intervention, the prognosis for many whitebark pine populations is bleak."*

*John Schwandt,  
Forest Service  
pathologist, Idaho*

*Outbreaks of mountain pine beetle-induced mortality in whitebark pine are occurring throughout the range of the species and may kill 90% of mature whitebark pine in just a few years.*

*The US Fish and Wildlife Service issued a finding in July 2011 that determined the listing of the whitebark pine as a threatened or endangered species was warranted but precluded due to higher priorities. Whitebark pine was added to the FWS candidate species list.*

## Whitebark Pine Restoration Program

### **Contribution to a Species in Peril**

*A recent whitebark pine health assessment found this tree species is declining dramatically and has actually disappeared from many parts of its historic range, due principally to white pine blister rust (an introduced fungus), mountain pine beetle attack, and competition from other species.*



Caging whitebark pine cones for protection

John Schwandt, forest pathologist in Forest Health Protection's Coeur d'Alene office notes the urgency of the situation has recently increased due to large outbreaks of mountain pine beetle, which may kill 90 percent of mature whitebark pine trees including those that may be resistant to white pine blister rust.

Whitebark pine grows in high elevation areas and at timberline, where it is a

keystone species. Keystone species are individual species that are the foundation of their ecosystem and play a role much greater than their abundance may indicate. At tree line, it is the only tree species that can get started and as it grows, it moderates the site enabling other plant species to get a foothold. With those other plants come many animals that depend on those plants for protection and sustenance. The pine's large, protein-rich seeds are an important food source to birds, small mammals, as well as black and grizzly bears. Whitebark pine protects soil from eroding in the harsh subalpine environment by blocking wind, modifying snow patterns, and moderating spring runoff. Without whitebark pine, high elevation ecosystems would be in great jeopardy.

The national *Whitebark Pine Restoration Program* was begun in 2007 by Forest Health Protection to provide seed money for projects that promote all aspects of whitebark pine restoration. The restoration program has grown each year, and over the past 4 years has been able to contribute a total of \$3.5 million to whitebark pine restoration projects throughout the West.

### Contact

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John Schwandt, the restoration program coordinator, notes that Forest Health Protection's financial contribution to date—\$1.4 million—has been more than doubled by support from a wide array of cooperators and partners. One of the partners involved in the restoration program is the Whitebark Pine Ecosystem Foundation, a nonprofit organization dedicated to counteracting the decline of whitebark pine and enhancing scientific knowledge of its ecosystem.

Over 120 projects have received funding since the whitebark pine restoration program began, including the development of restoration plans, gene conservation projects, surveys and monitoring, planting, silviculture treatments, education, and public outreach. Some examples of specific restoration projects include:

- Using pheromones to protect white bark pine from mountain pine beetle attacks;
- Monitoring and special technical development projects focusing on whitebark pine;

- Collecting cones for gene conservation; and
- Identifying and monitoring critical populations of high elevation pines.

In addition, John and other Forest Health Protection staffers are working with several districts and Montana State University to conduct direct seeding trials to determine if planting seeds (rather than seedlings) can be used to successfully reforest areas with difficult access. As part of the outreach and education effort, the restoration program helped fund the development and distribution of the report *Whitebark Pine: an Ecosystem in Peril* through the American Forests organization.

All the activities supported by the whitebark pine restoration program and Forest Health Protection are efforts to help this critically important species persevere under pressure from disease, insects, and competition.

*Whitebark pine occurs in roughly two bands across two mountain ranges in southwestern Canada and the western US. One band is located in the Rocky Mountains, primarily in Montana and Idaho where the species is concentrated.*

*The second band of whitebark pine runs through the Coastal and Cascade ranges in Oregon and Washington and through the Sierra Nevada in California.*

*"From the Canadian Rockies and North Cascades, to Yellowstone and the Sierra Nevada, some 98 percent of the whitebark pine's range is national forest land, national parks, state lands, Indian reservations, and national wilderness."*

*Gary Lantz,  
Whitebark Pine, an  
Ecosystem in Peril,  
American Forests,  
Spring 2010*