

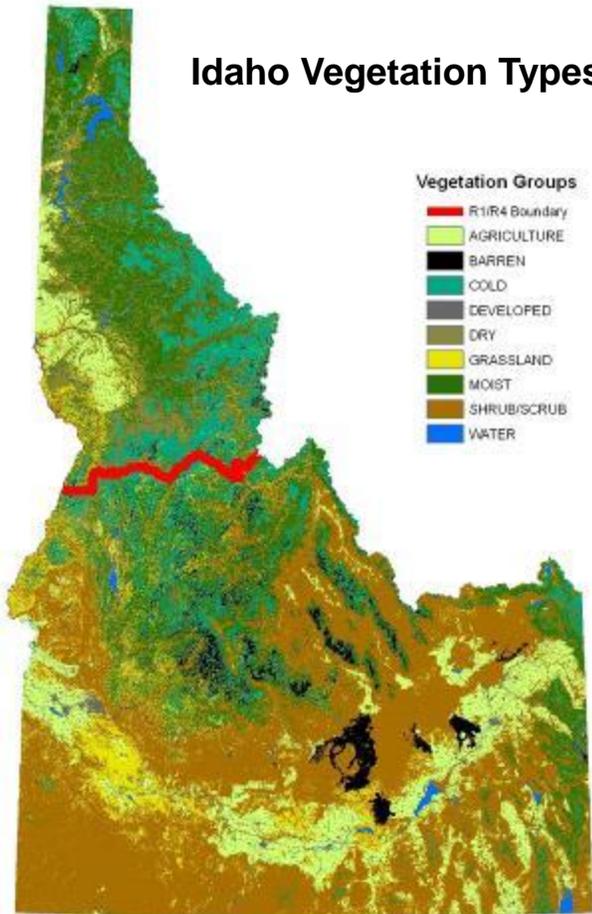


# Forest Health Highlights

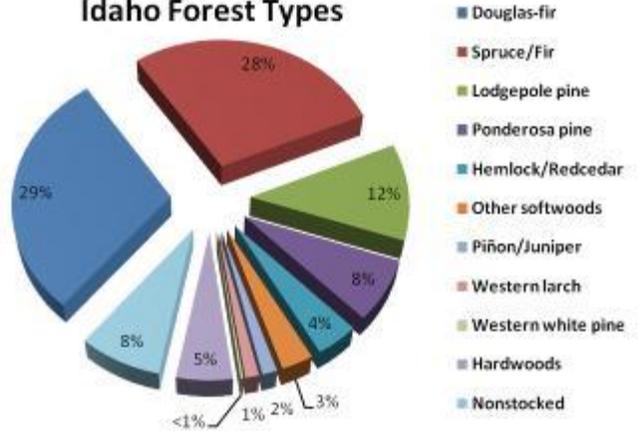
## Idaho's Forest Resources

Idaho has over 21 million acres of forest land, from the Canadian border in the north, to the Great Basin in the south. Elevations range from less than 1,000 feet along the Clearwater River valley to over 11,000 feet in the Sawtooth Range of southern Idaho. The mixed conifer forests in the Panhandle area can be moist forest types that include tree species found on the Pacific Coast such as western hemlock, Pacific yew, and western redcedar. Southern Idaho forests are generally drier, and ponderosa pine and Douglas-fir are most common. Lodgepole pine, Engelmann spruce, whitebark pine and subalpine fir occur at higher elevations throughout the state.

### Idaho Vegetation Types



### Idaho Forest Types



### A Diverse State

The Salmon River Valley generally divides the moister mixed conifer forests of the Panhandle region from the drier forests of southern Idaho. Much of southern Idaho is rangeland with scattered juniper-dominated woodlands typical of the Great Basin. The highest mountain peaks also occur in southern Idaho. Most of the commercial forest land is found in the north, and Douglas-fir, grand fir, western larch and western redcedar are valuable timber species.

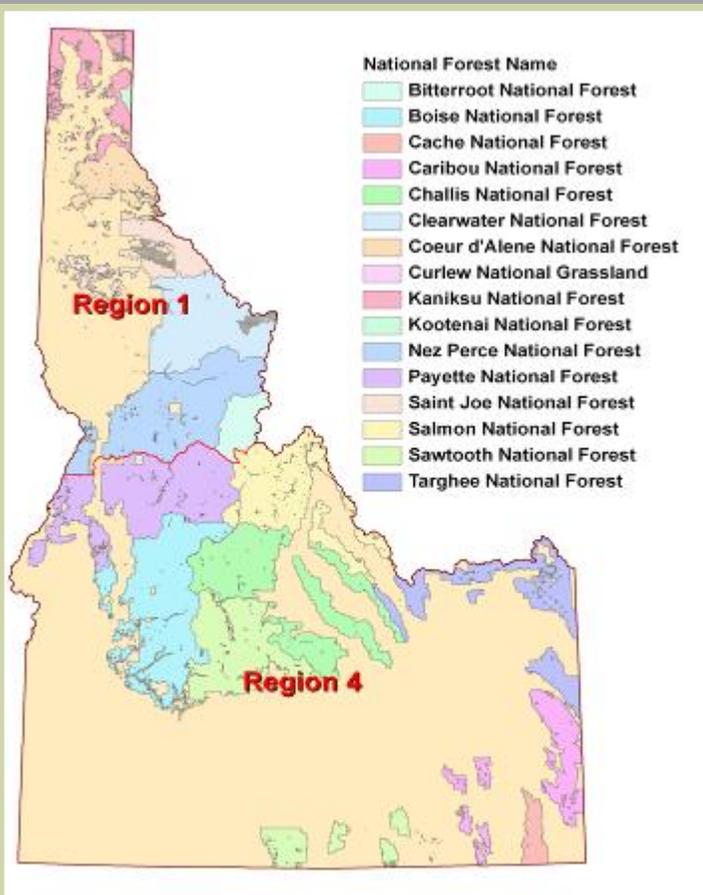
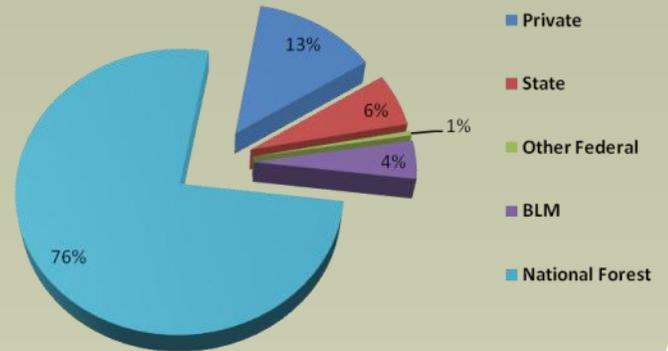
# The Importance of Idaho's Forests

Idaho's forests are important for many reasons. Forests are home to wildlife, provide watersheds for drinking water, and protect streams that are habitat for many species of fish, including salmon and steelhead. Forests are also important for recreation, and Idaho has over 4.5 million acres of wilderness. Idaho's forests are renewable, and are an important resource for the forest products industry. Maintaining healthy forests is crucial to protect all the things that they provide.

## Forest Ownership in Idaho

The majority of forest land in Idaho is owned by the Federal government (> 16 million acres), and of this, most is administered by the U.S. Forest Service. The state of Idaho owns just under 1.3 million acres, and private landowners own an additional 2.8 million acres. The various owners often have different management objectives.

## Forest Land Ownership



## Idaho's National Forests

Idaho's National Forests lie within two administrative regions. The Northern Region (Region 1) is located north of the Salmon River and is comprised of the Idaho Panhandle, Clearwater, Nez Perce and Bitterroot National Forests. The Intermountain Region (Region 4) is in southern Idaho and includes the Boise, Payette, Sawtooth, Salmon, Challis, Targhee and Caribou National Forests.

## Idaho's Forest Industry

Idaho has a productive forest industry, with 2013 revenues of wood and paper products totaling over \$2.4 billion dollars. An estimated 10,500 people were directly employed in the forest products industry in 2013. Most of Idaho's commercial forestland and larger production facilities are located north of the Salmon River. Forest products from Idaho's forests are sold throughout the world. [Link to Idaho Forest Products Commission.](#)



## Aerial Detection Survey Results

### Bark Beetles

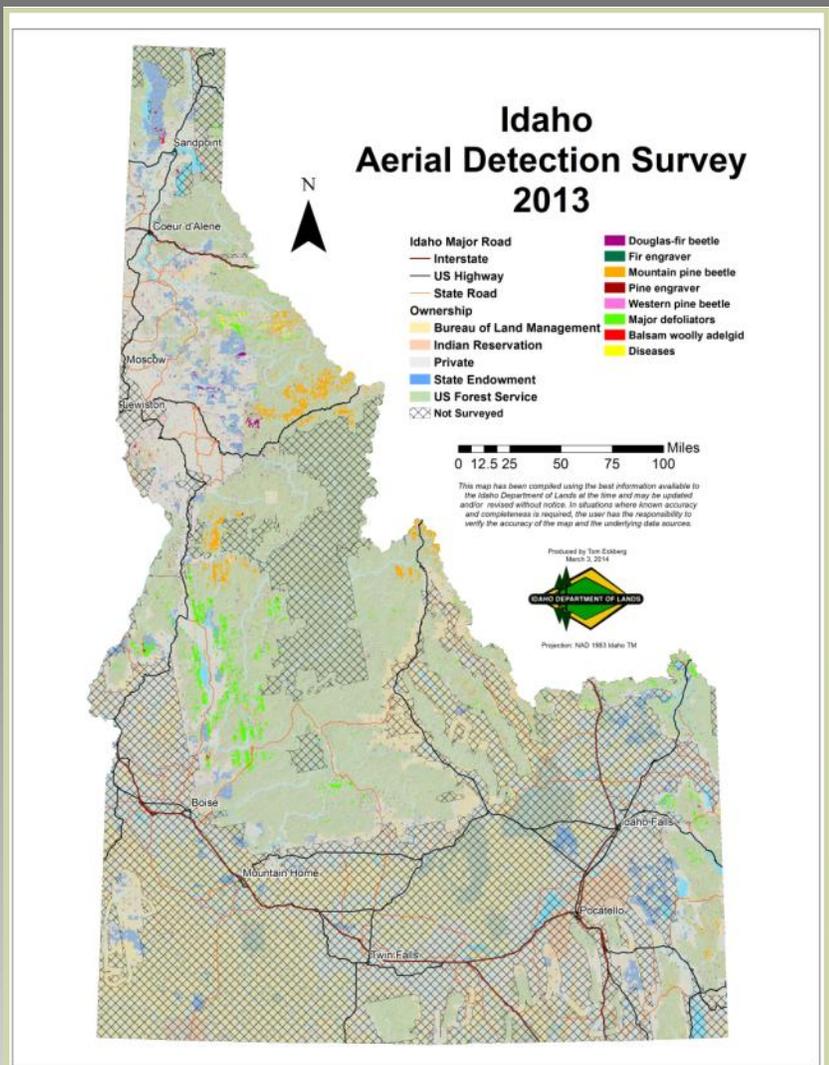
In 2013, mountain pine beetle caused mortality decreased by more than half to 298,000 acres. Most of the mortality was in lodgepole pine, but approximately 2,000 acres of ponderosa pine were killed in 2013, a substantial decrease from the 50,000 acres killed in 2012. Throughout Idaho, lodgepole pine stands are of an age and size that make them very susceptible to attack. Douglas-fir beetle caused mortality on over 37,000 acres in 2013 compared to approximately 59,000 acres in 2012. Other bark beetle species such as the fir engraver, western pine beetle and pine engraver continue to cause mortality statewide at levels similar to last year.

### Defoliators

Western spruce budworm is a major defoliator of Douglas-fir and grand fir in Idaho. Affected acres continued their decline from approximately 717,000 acres in 2012 to approximately 368,000 acres in 2013. Most of the defoliation is in southern Idaho. A late spring frost in parts of southern Idaho may be responsible for much of this decline. No Douglas-fir tussock moth defoliation was observed in Idaho in 2013, nor is any expected for at least the next 5 years.

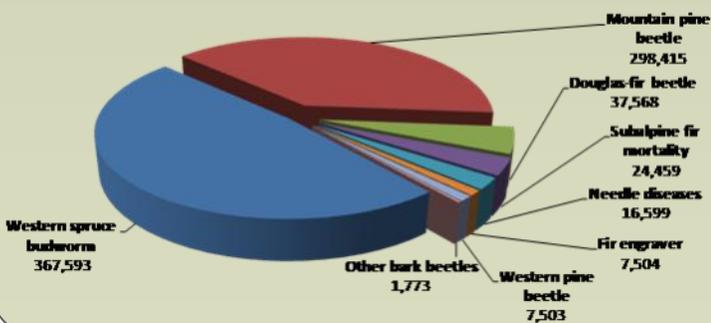
### Other Agents

Drier spring weather in 2013 contributed to a large decrease in needle disease on western larch. Approximately 16,000 acres was affected, compared to over 160,000 acres in 2012. Mortality of subalpine fir, attributed to balsam woolly adelgid, western balsam bark beetle and possible root disease was detected on over 24,000 acres.



[Link to larger map](#)

## Principal Damaging Agents (Acres)



## Principal Damaging Diseases /Declines

Damage Agent	Acres
Root Disease	Est. > 8,000,000
Dwarf Mistletoe	Est. > 2,500,000
Needle Disease	> 16,000
Subalpine fir Mortality	> 24,000
Aspen Decline/ mortality	> 1,500

## Notes on Aerial Detection Surveys

A total of 26.0 million acres were surveyed in Idaho in 2013, compared to 26.4 million acres in 2012. It is important to remember that trees attacked by bark beetles do not usually change color until the following year, so mortality observed in 2013 actually represents trees that were attacked in 2012.

Idaho's forests are also significantly impacted by diseases, but not all diseases are easily detected from the air. With the exception of foliar diseases, **most forest diseases are not well represented by aerial detection surveys.** Root diseases are very common in northern Idaho, affecting over 8 million acres, with most mortality occurring in Douglas-fir, grand fir, and subalpine fir. Root diseases are less common in the drier forests of southern Idaho. Dwarf mistletoes infect over 2.5 million acres of forest statewide. These parasites are common on many conifer species, but are especially damaging on western larch, Douglas-fir, lodgepole pine and ponderosa pine. White pine blister rust is widespread throughout the range of western white pine, whitebark and limber pines, and infects millions of trees, though an acreage estimate would be difficult to determine.

## Key Forest Insect Issues in Idaho



**Mountain pine beetle** continues to kill susceptible lodgepole, whitebark, and limber pines across the state. Many stands are of a susceptible size, age and density that are favorable for bark beetle attack. Overall the acreage of pines killed has decreased over the last several years. In 2013, the acreage of lodgepole pine killed was 298,380 acres compared to 663,869 acres in 2012. In some areas, the decrease is due to host depletion. Mountain pine beetle is causing mortality in ponderosa pine in the lower Salmon River valley within the Nez Perce and Payette National Forests. The acreage of impacted ponderosa pine decreased dramatically to just over 2,000 acres. In 2012, 50,000 acres of mortality was mapped. [Link to USFS publication:](#)

**The Douglas-fir tussock moth** is a defoliating insect that periodically infests Douglas-fir and true firs in Idaho. Outbreaks occur approximately once per decade, and the most damaging infestations have occurred in northern Idaho. The most recent outbreak occurred from 2010 to 2012, with defoliation peaking at approximately 100,000 acres in 2011. Historically, outbreaks have lasted 1-4 years, and then natural controls bring the populations down to undetectable levels. The Douglas-fir tussock moth will probably begin to defoliate forested areas in northern Idaho within the next 5-7 years. [Link to USFS brochure.](#)



**Western spruce budworm** infested acres continued to decrease in 2013 to approximately 367,000 acres, compared to over 717,000 acres in 2012. The 2011 total was over 1.8 million acres. Late spring freezes in 2012 and 2013 may have contributed to this decline. [Link to USFS publication:](#)

**Gypsy moth survey.** Over 2,300 pheromone traps were deployed in Idaho in 2013. One European gypsy moth was captured near Kingston, in Shoshone County. A delimit survey is planned in this area in 2014. [Link to IDL 2013 Gypsy Moth Report](#)

## Key Forest Disease Issues in Idaho



**Root diseases** north of the Salmon River kill millions of trees every year. Douglas-fir and grand fir are particularly susceptible. Root diseases are more prevalent than aerial detection survey data indicate, and are very common in northern Idaho. Root diseases can be managed through silviculture by encouraging tolerant species. While all conifer species are susceptible to root diseases (especially at a young age), pines, western larch and western redcedar are more tolerant, especially after the trees reach 20-25 years of age. *Photo (R) by J. Schwandt USFS.* [Link to additional information:](#)



**White pine blister rust** is an introduced disease that kills 5-needled pines (western white, whitebark and limber) throughout western North America. Western white pine (WWP) was the dominant tree species in much of northern Idaho. Due to rust, fire suppression and past management practices, western white pine is now a minor component of many of these same forests. Idaho's forest type that was dominated by western white pine is now reduced to 5% of its historic levels. The Idaho Department of Lands aggressively plants rust resistant WWP in stands where it was historically present. Western white pine is fast growing, drought tolerant, and is not highly susceptible to root diseases. *Photo (R) by J. Schwandt* [Link to USFS publication:](#)



**Dwarf mistletoes** infect many species of conifers in Idaho. Most damage is on western larch, Douglas-fir, ponderosa and lodgepole pines. These parasitic plants reduce growth and over time can kill trees. Dwarf mistletoes are fairly host specific, and can be managed through silviculture by removing heavily infected trees and by converting stands to nonhosts. [Link to USFS publication:](#)



**Foliar Diseases** can infect many species of conifers in Idaho, but damage is most noticeable on western larch and lodgepole pine. While the appearance can be dramatic, the effect on trees is usually minor. Cool, wet spring weather during needle development is favorable for disease development. Approximately 16,000 acres of foliar diseases were mapped in 2013. This is a dramatic decrease compared to 2012, when over 160,000 acres were mapped. Drier spring weather in 2013 is responsible for this decline. [Link to IDL Forester Forum:](#)

# 2013 Fire Season



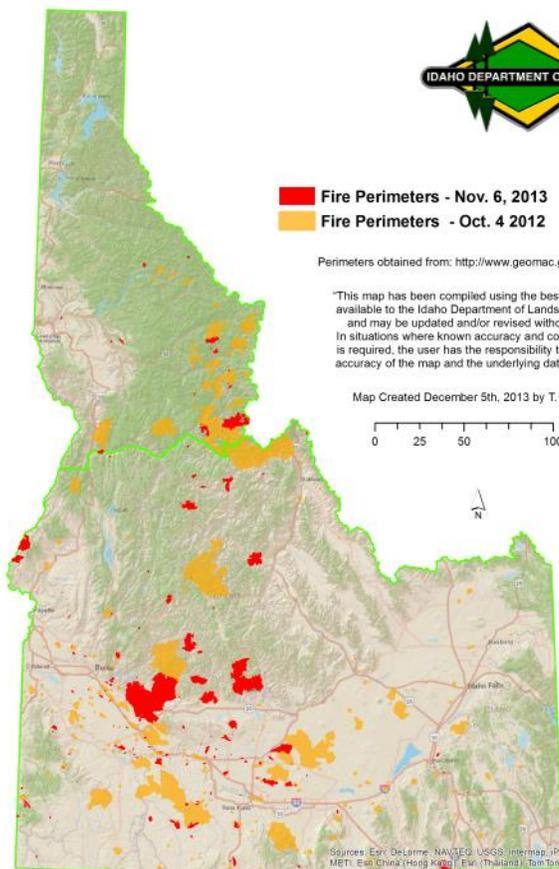
■ Fire Perimeters - Nov. 6, 2013  
■ Fire Perimeters - Oct. 4 2012

Perimeters obtained from: <http://www.geomac.gov/index.shtml>

"This map has been compiled using the best information available to the Idaho Department of Lands at the time and may be updated and/or revised without notice. In situations where known accuracy and completeness is required, the user has the responsibility to verify the accuracy of the map and the underlying data sources."

Map Created December 5th, 2013 by T. Eckberg

0 25 50 100 Miles



Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, MDT, Esri, Swis, Imagi, Ke, Esri, Thailand, Itan, T, Esri



## Fire Activity in Idaho, 2013

The total acreage burned in Idaho in 2013 was over 740,000 acres, compared to more than 1,700,000 acres in 2012. While many of these acres were rangeland in southern Idaho, several large fires occurred in forested areas. The Elk, Pony, and Beaver Creek Complex fires were three of the larger fires in USFS Region 4. The Elk and Pony Complex fires heavily impacted state owned timberlands. Most of the larger fires in Region 1 were in the Selway-Bitterroot and Frank Church wilderness areas. Fire activity on lands within the Idaho Department of Lands Protection Area (IDL, Clearwater-Potlatch Timber Protective Association, and Southern Idaho Timber Protective Association) was below historic levels. In 2013, most of the fire activity was on federal ownerships.

[IDL Fire Bureau 2013 Report](#)  
[2013 Fire Season Summary](#)

## Timber Salvage on Endowment Lands

While many of the fire impacted acres were on range land or federal forests, the Pony and Elk Complex fires burned substantial amounts of valuable Endowment timber near Prairie, Idaho. Because access was available and salvage could be accomplished economically, IDL was able to salvage approximately 40 million board feet of damaged timber from State lands.

## **For More Information:**

### **Forest Health Protection**

Coeur d'Alene Field Office  
USDA Forest Service  
3815 Schreiber Way  
Coeur d'Alene, ID 83814  
(208) 765-7342

### **AND**

Boise Field Office  
USDA Forest Service  
1249 S. Vinnell Way, Suite 200  
Boise, ID 83709  
(208) 373-4227

### **Interior West Forest Inventory & Analysis**

USDA Forest Service  
507 25th St  
Ogden, UT 84401  
(801) 625-5388

### **Idaho Department of Lands**

3284 W. Industrial Loop  
Coeur d'Alene, ID 83815  
(208) 769-1525

