

Idaho 2008 Forest Health Highlights

The Forest Resource



Idaho contains some of the most remote, rugged and varied forests in the West extending from the Canadian border through the rugged central mountains and Sawtooth Wilderness area, past the Snake River plains to the "mountain islands of Southeastern Idaho.

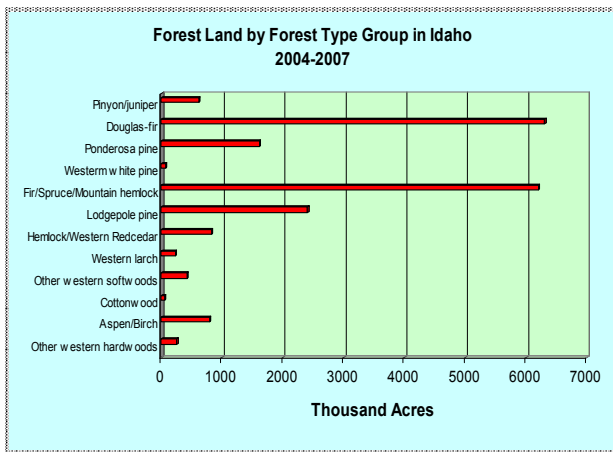


Figure 1. Acres of forest type by tree species.

Figure 1 represents a breakdown of forest types on all land ownerships using the latest annualized FIA surveys from 2004-2007. The surveys reflected more than 21.5 million acres of forest land, with about 18.9 million acres publicly owned and over 2.6 million acres privately owned. Approximately 3.8

million acres of forestland are in a reserve status, mainly National Forest wilderness areas, National Parks and Monuments. The predominant forest types in the state are Douglas-fir (29%), fir/spruce/mountain hemlock (29%), lodgepole pine (11%), and ponderosa pine (8%). Detailed information is available from the Interior West FIA¹.

Components of Change

Because Idaho forests have high recreational, scenic, habitat, watershed and timber values, it is important to track their condition. Natural forces and human activities are responsible for changes in Idaho's forests. Growth and mortality reflect the changes brought about by insects, disease, fire and harvest. In 2004, FIA began installing an annual system of plots to inventory the State's forests. From 2004 to 2007 these data indicate that the forests had an average annual net growth of 572,415 cubic feet of growing stock on timberland (Figure 2). During that same time, the average annual mortality of growing stock was 474,080 cubic feet (Figure 3).

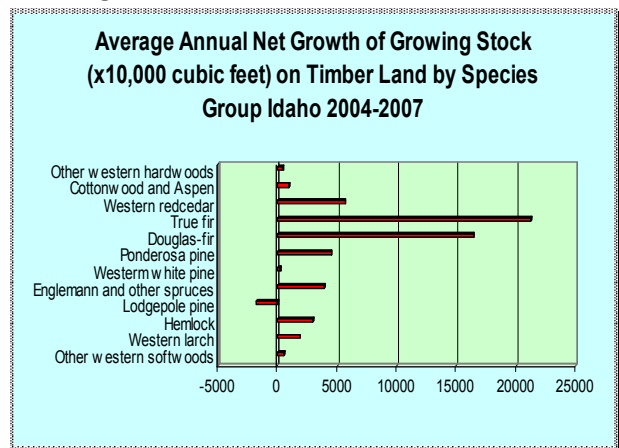


Figure 2. Average annual net growth of growing stock

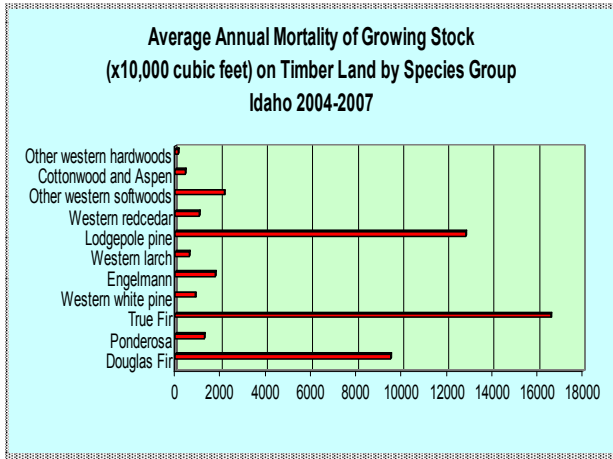


Figure 3. Average annual mortality of growing stock.

Fire

In Idaho, as in much of the interior west, wildland fire activity for 2008 was well below 2007 levels. Less than 117,000 wildland fire acres burned compared to nearly 2,000,000 acres in 2007 (Figure 4). An additional 52,000 acres were allowed to burn in wildland fire use management efforts to meet resource objectives.

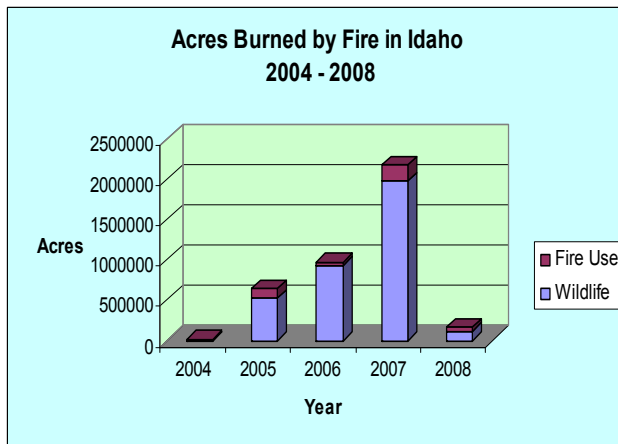


Figure 4. Acres burned by fire in Idaho

Forest Health Issues

Idaho's forests are faced with conditions that lead to increased vulnerability to fire, insects and diseases. This includes changing climate conditions and changes in forest

structure, composition and function due to overcrowding, fire suppression, insects, and diseases. In general, bark beetles are most damaging in southern Idaho and root diseases are most damaging in northern Idaho.

Forest Diseases

Unlike insect outbreaks and fires that may kill most trees in discrete areas in a single year, forest diseases often go unnoticed and are typically more widespread and have greater long-term impacts on forest composition, structure and function.

Armillaria, annosus and laminated root diseases are the most damaging and widespread diseases in Idaho. In northern Idaho alone, 8,272,600 acres have significant root disease. These acres lose an average of 4.4% of their larger trees per acre to root disease each year. That is roughly 37,226,600 trees each year.

These root diseases are the main cause of death and growth loss of Douglas-fir, true firs and western redcedar, and losses have increased as these species have replaced mature pines and larch. **Armillaria** infests approximately 6,298,400 acres, **annosus** infests 2,056,100 and **laminated root rot** infests 549,500 acres. Severe root disease where few live trees remain, has developed on approximately 190,400 acres in the state and is caused by one, two or even all three of these root pathogens.

White pine blister rust is an introduced disease that has spread throughout the ranges of five-needled pines in Idaho (over 5 million acres). It has dramatically changed forest succession across millions of acres in northern Idaho by effectively removing most white pines. Recent surveys in northern Idaho high-elevation forests have found blister rust infection rates of up to 90

percent in whitebark pine regeneration. There is a growing concern that severe losses of large diameter whitebark pine due to mountain pine beetle, coupled with regeneration losses due to blister rust, may have considerable impacts on water and wildlife in these fragile ecosystems. It is estimated that in northern Idaho whitebark pine's range has been reduced by approximately 98% since the early 1900's due to mountain pine beetle, fire suppression and the introduction of blister rust.

White pine blister rust has also contributed to the reduction of area over which western white pine dominated forests from nearly 3 million acres in the early 1900's to about 200,000 today. Limber pine acreage in Idaho is approximately 100,000 acres and blister rust is now being found throughout its range, although losses have not been quantified.

Dwarf mistletoe occurs over 2.5 million acres in Idaho and affects tree species including ponderosa and lodgepole pines, Douglas-fir and western larch. Damage includes growth reduction, loss of wood quality, poor tree form, and reduced seed crops.

Forest Insects

Aerial detection surveys are conducted annually to track mortality caused primarily by insects. Over 27.3 million acres of forested land were surveyed in 2008. Although not all areas are flown every year, these surveys provide general trends for major insect activity. In general, acres with reported damage or mortality from insects increased in 2008. This was at least partly due to increased aerial detection survey flight coverage compared to 2007. The following chart provides data on the main insect agents as well as aspen decline causing damage to Idaho's forest based on aerial observations in 2008.

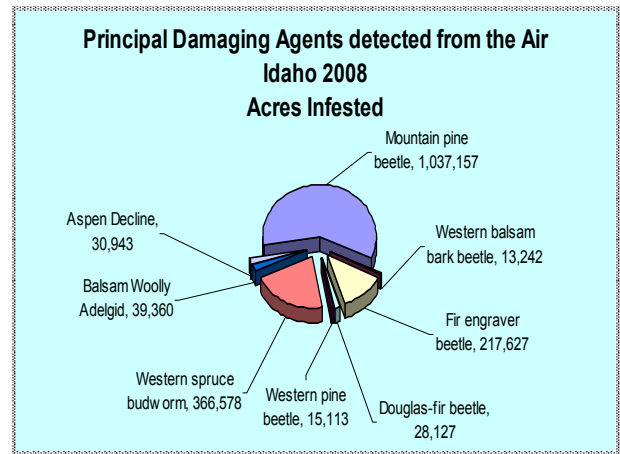


Figure 5. Principal Damaging Agents in Idaho as detected from the air.

Aerial surveys identified a 264% increase in **mountain pine beetle (MPB)** activity over 2007 levels to 1,037,157 acres affected. Mountain pine beetle continues to be the most damaging bark beetle in the state. In some areas, intensity of damage may be decreasing because of the depletion of suitable hosts to attack. However, MPB appears to be increasing and is causing extensive mortality in high-elevation whitebark and limber pines.

Western spruce budworm (WSBW) has been on the rise in grand fir in northern Idaho, but has been decreasing in western hemlock. In southern Idaho, subalpine fir, and Douglas-fir are being impacted by this defoliator. Statewide the ADS detection number of acres defoliated by WSBW stayed relatively stable from 2007 with approximately 367,000 acres observed.

Western balsam bark beetle increased three fold to about 13,000 acres over 2007 ADS reported acres. Again increased ADS coverage may account for these increased acres.

Non-native invasive plants continue to be major issues in the forests and rangelands of Idaho. In 2007, the state revised its noxious weed law which now includes 57 species

divided into 3 categories: statewide early detection rapid response noxious weeds (9 species), statewide control noxious weeds (24 species), and statewide containment noxious weeds (24 species). Noxious weeds are managed by 40 local cooperative weed management areas which engage all local land managers in the process of developing local strategic plans to manage noxious weeds across jurisdictional boundaries. The Idaho State Department of Agriculture (ISDA) administers a cost share program that funds priority weed management and education priorities identified by cooperative weed management areas. The statewide Idaho Weed Coordinating Committee supports the Idaho Weed Awareness Campaign intended to inform and educate the public about Idaho's noxious weeds.

Idaho continues to monitor the threat of **invasive insects**. In 2008, Idaho participated in the USDA Forest Service sponsored Early Detection/Rapid Response survey. Idaho Department of Lands and USDA APHIS PPQ ran eight trap sites across Idaho to monitor for invasive bark beetle and wood borers. No new threats were discovered; however, two new records for Idaho were noted. Idaho's Gypsy Moth Program caught three, single male moths in 2008: one in northern Idaho and two in southern Idaho. Delimiting surveys are planned for these areas in 2009. For more information on the Gypsy Moth Program see:

http://www.idl.idaho.gov/bureau/ForestAssist/insect_disease/20081216/gm_report2008.pdf

For More Information:

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