

# Montana Forest Health Highlights 2006

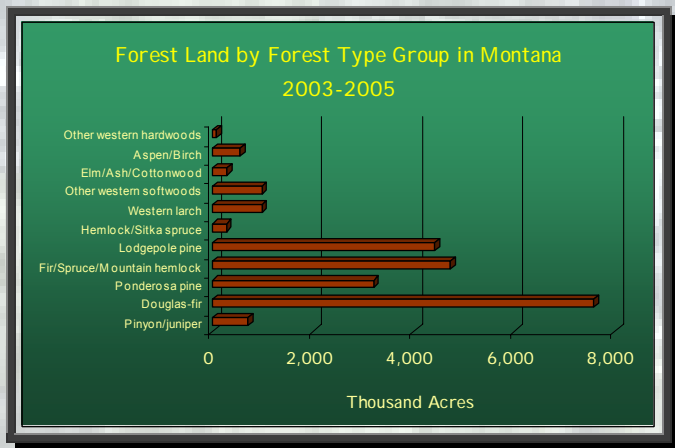
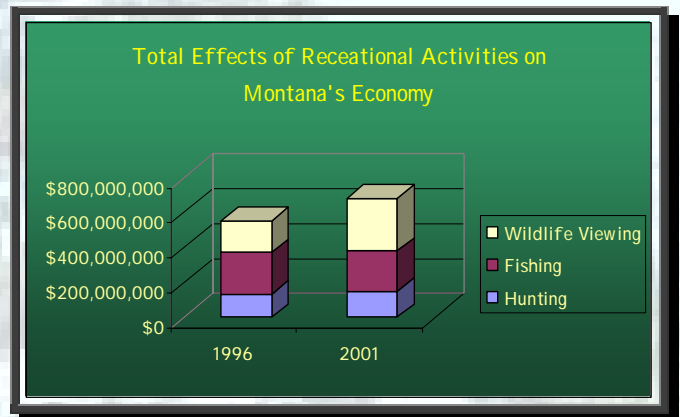


## The Forest Resource

The forests of Montana's "Big Sky" country are a reflection of the states' inland geographic position and its topography. West of the Continental Divide warm and moist Pacific air masses create more diverse forests. East of the Divide, a colder and drier climate favors relatively sparser, more homogenous forests.

The following graph presents a breakdown of forest cover, or forest type, on all land ownerships using the latest annualized FIA surveys from 2003 to 2005. The survey reflected about 25.8 million acres of forestland, with about 18.4 million acres publicly owned and almost 7.4 million acres privately owned. The predominant forest types are Douglas-fir (31%), lodgepole pine (21%), ponderosa pine (12%) and fir/spruce/hemlock (20%). Detailed information is available from the [Interior West FIA](#).

Forests add significant value to Montana's economy. It is estimated that forest products (lumber, pulp, biomass, etc.) contributes over \$970 million annually to the economy. Recreational use of forests also has large effect on the state's economy. Over 9.2 million non-residents visited the state in 2002. Many of them came to enjoy the natural resources associated with our forests. Outfitter services and campgrounds provided direct income of \$106 million from these visitors and, overall, hunting, fishing, and wildlife viewing contributed more than \$680 million.

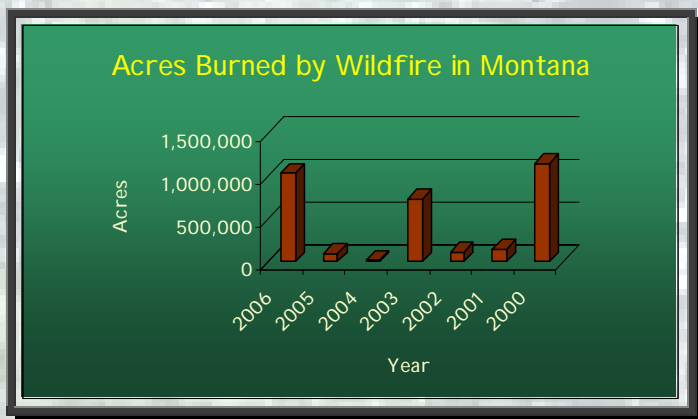
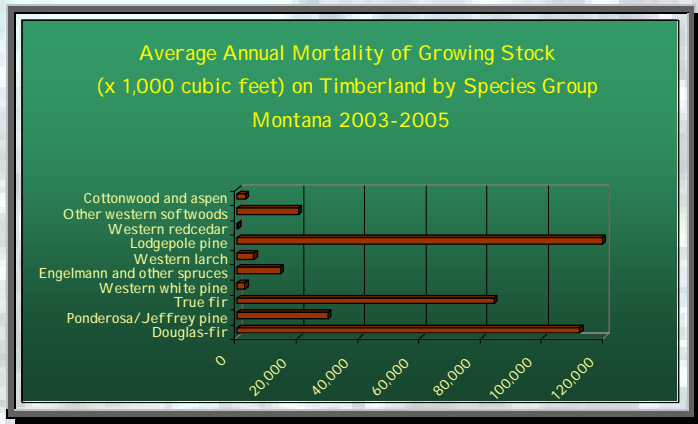
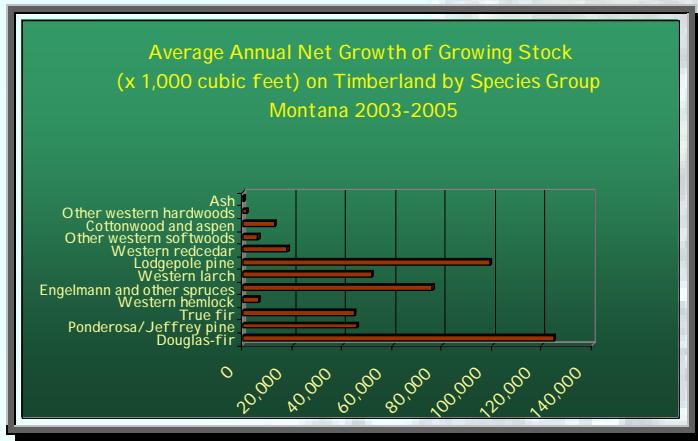


## Components of Change

Natural forces and human activities are responsible for changes in Montana's forests. Growth and mortality reflect the changes brought about by insects and disease, fire and harvesting. Wildland fire was a major change component in 2006 in Montana. Over 1 million acres of forest and rangeland burned across the state compared to over 103,000 acres in 2005. This approached the level burned in the year 2000 and exceeded the annual average.

Average annual net growth of all live trees on forested lands for the period from 2003 to 2005 was 486,623 thousand cubic feet per year. The average

annual mortality during that same time was 390,224 thousand cubic feet per year.



### Forest Health Issues

Precipitation in most of Montana continued to increase in 2006 following the severe drought

conditions that existed from 1999 to 2004. Both aerial and ground-collected data showed decreasing bark beetle infestations for several species. *Mountain pine beetle*-infested areas increased in many locations, though in some locations the intensity decreased as susceptible hosts were depleted. *Mountain pine beetle* caused the highest level of tree mortality, infesting over 800,000 acres of lodgepole, ponderosa, western white, and whitebark pines. The intensity and extent of *mountain pine beetle* increased significantly in whitebark pine stands. Over 180,000 whitebark pine trees on more than 118,000 acres were recorded as having been killed in 2005 during the 2006 aerial detection survey in Montana.

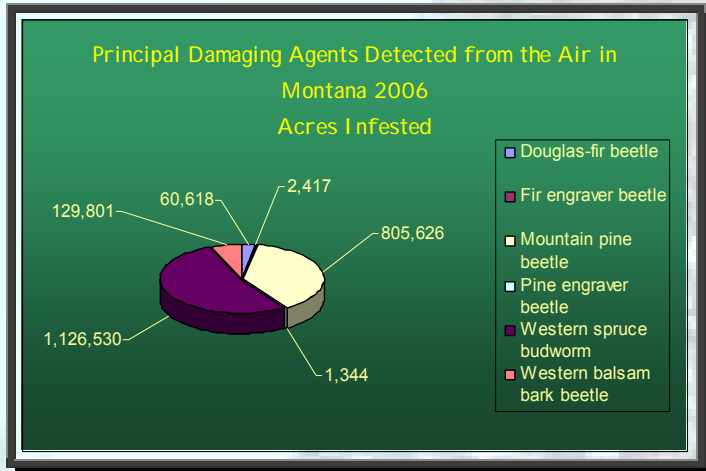
*Douglas-fir beetle*-infested acres decreased in western Montana. Populations remained high at a few locations in southwestern and central Montana, however, even in those locations they have dropped from their peak of the past several years. Overall, infested acres decreased in 2006, and beetle activity is returning to endemic levels in many areas. Grand fir mortality attributable to *fir engraver* continued decreasing; and *western balsam bark beetle*-killed subalpine fir was mapped on fewer acres than in 2005, although fewer areas were surveyed.

Many areas are moderately to heavily infested with *western spruce budworm*, the most prevalent defoliator in Montana. Other defoliators were more localized, with minimal acres of defoliation detected. No *gypsy moths* were found in monitoring traps. Mortality and growth losses from *root disease* continue to be high throughout the state. *Root disease*-caused mortality is more common west of the Continental Divide, causing mortality on over one million acres. The non-native invasive *white pine blister rust* continues to be present throughout the range of five-needle pines in the state. Rust severity is highest in the northwestern part of the state where the disease continues to cause extensive mortality in western white pine and whitebark pine.

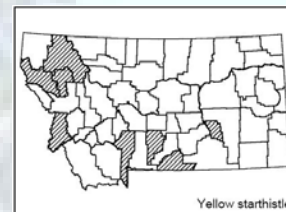
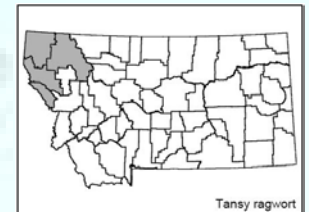
Survey details are contained in the annual insect and disease conditions report available at [Forest Health Protection](#) or [Current Insect & Disease Conditions](#). The following chart provides data on the main insect and disease agents causing damage to Montana's forests based on observations from the air in 2006.

These numbers are underestimates for the year because of limited aerial observations in some parts of the state. Comparisons with other year's data should not be done directly because of this limitation.

(From The 2005 Montana Weed Management Plan, Celestine A. Duncan, compiler  
<http://agr.state.mt.us/weedpest/pdf/2005weedPlan.pdf>)



Montana is initiating an early detection and rapid response plan along its border with Idaho and Wyoming to slow or stop the entry of noxious weeds into the state. Two of the Category 3 species, rush skeletonweed and yellow star thistle, are present in Idaho and known to have significant impacts on forests and rangelands.

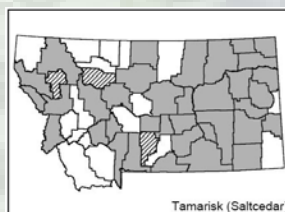
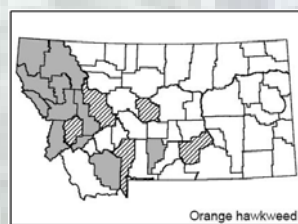
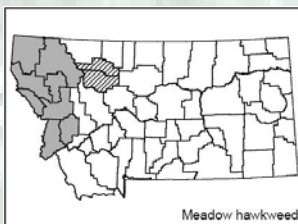


Currently Reported   
  Historically Present, Not Currently Reported   
  Not Reported

(From The 2005 Montana Weed Management Plan, Celestine A. Duncan, compiler  
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*Non-native invasive plants* continue to be major issues in the forests and rangelands of Montana. Over 8.2 million acres of Montana are infested by 27 species of noxious weeds, many of these acres being forest or rangeland. Noxious weeds are classified into 3 categories in Montana: Category 1 are wide-spread noxious weeds, Category 2 are established new invaders, and Category 3 are non-established new invaders. There are eight category 2 plants, several of which affect wildlands.

### Select Category 2 Noxious Weeds Affecting Wildlands



Currently Reported   
  Historically Present, Not Currently Reported   
  Not Reported

**For More Information:**

[Forest Health Protection](#)

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[Interior West Forest  
Inventory & Analysis](#)

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