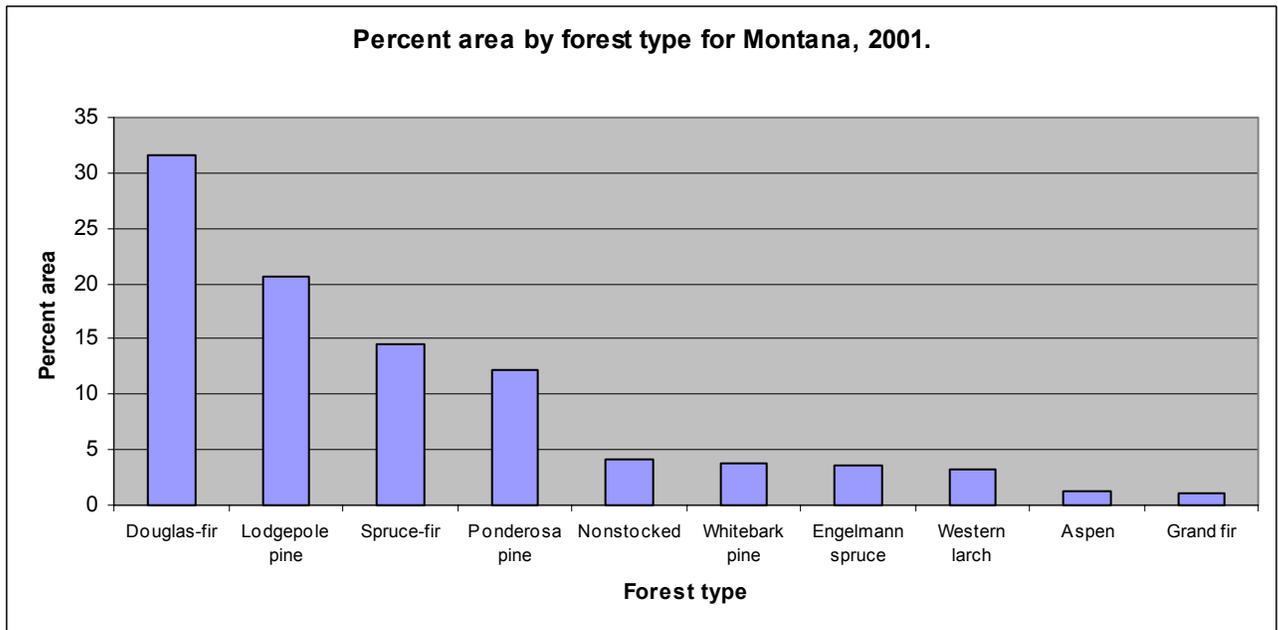


# Montana *Forest Health* *Monitoring and Inventory Highlights 2003*

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## The Resource

The most recent comprehensive dataset available for Montana's forest resource was completed in 2001. These data incorporate Forest Inventory and Analysis (FIA) inventories on all National Forest System (NFS) lands, but do not include information on reserved lands outside the NFS (except for Yellowstone National Park). The survey identified about 22.4 million acres of forestland, about one-fourth of the State's total area. In addition, the 2003 annual survey contributed approximately 1 million acres of forestland that occurs on the reserved lands that was not included in earlier dataset. Most of Montana's forestland is situated west of the Continental Divide. These lands tend to be wetter and influenced by Pacific Coast moisture. Lands east of the Divide are drier because of the continental influence. Approximately 3.7 million acres of the 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 (32%), lodgepole pine (21%), spruce-fir (15%), and ponderosa pine (12%). These occupy over 17.7 million acres. About 14.6 million acres are administered by the NFS and almost 6 million acres are privately owned. Most of the forest types are represented in the following chart.



## Forest Inventory Summary – 2003

This year, crews measured 465 phase 2 forest inventory plots, 52 of which were phase 3 forest health monitoring plots, thus initiating the state's annual inventory. The plan is to visit 10% of the inventory plots and 20% of the forest health monitoring plots each year. Summaries from these surveys should soon be available at the [Interior West FIA](#) website.

### **Forest Health Issue - 2003**

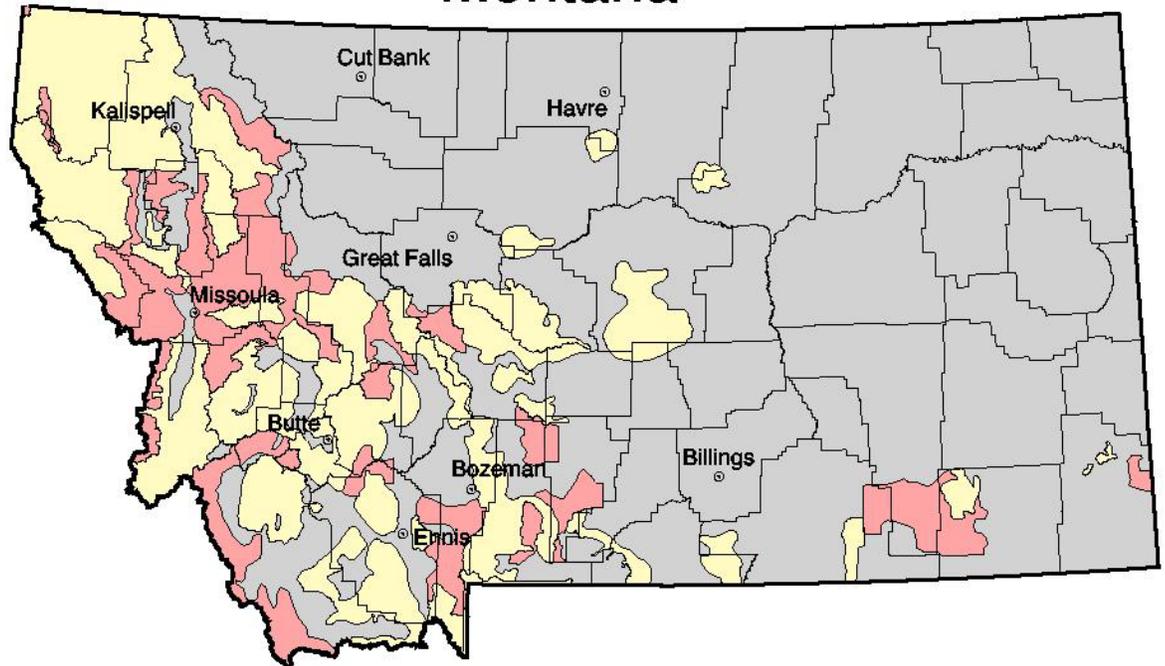
The unprecedented long period of drought persisted over much of Montana into its sixth year. This warmer- and drier-than-normal weather was a primary factor behind widespread tree mortality. Without adequate precipitation, trees were defenseless against insect attack. Populations of many bark beetles increased and, as a result, according to aerial survey, approximately a half-million trees died. According to estimates based on the annual FIA inventory, mortality from insects ranged as high as 5.4 million trees in 2003. This annual inventory showed about half of the total mortality volume was due to fire. Another 23 percent was due to insects, and 17 percent due to disease. Douglas-fir, Engelmann spruce, lodgepole pine and subalpine fir were the principal tree species affected by insects. Detailed information about drought in Montana and other locales is available at the [National Climatic Data Center](#).

As vegetation dried and died, the nature of these wildland fuels changed and the risk to wildfire became extreme. Over 2,300 wildfires were recorded in the state consuming vegetation over 735,619 acres. The impacts of these fires are many and the changes imposed on the forests will be long lasting.

### **Off Plot Survey – 2003**

Approximately 18.8 million acres of forested lands were surveyed for insect and disease caused mortality and defoliation in 2003. This excluded most reserved lands. Most of this area was surveyed using small aircraft flown at low elevation over the state's forests while recording tree mortality and defoliation on maps. This coverage is less than usual because of limited survey opportunities because of forest fires and smoke. These aerial survey data are available for review by contacting one of the information contacts that follow.

# Montana



- Area surveyed during the Forest Health Protection aerial detection survey in Montana in 2003.
- Area scheduled for 2003 but not flown.

Survey summaries are contained in insect and disease conditions reports available at [Forest Health Protection](#). In 2003 the insect most active in the state was western spruce budworm having infested Douglas-fir, grand fir, subalpine fir and spruce across 124,142 acres. This infestation is ongoing and the population trend has been increasing since 1999.

Results of Aerial Detection Survey - 2003	
Agent	Approximate Acres Affected
Douglas-fir beetle	75,982
Western balsam bark beetle	75,435
Mountain pine beetle	35,316
Fir engraver beetle	20,648
Spruce beetle	9,547
Pine engraver beetle	4,777
Western pine beetle	833
Western spruce budworm	124,142
Douglas-fir tussock moth	200
Western false hemlock looper	703
Pine sawfly	236

Aerial survey results are summarized in the following table:

**For more information contact:**



[Forest Health Protection](#)

USDA-Forest Service  
Missoula Field Office  
P.O. Box 7669  
Missoula, MT 59807

[Interior West Forest Inventory & Analysis](#)

USDA-Forest Service  
Ogden Forestry Sciences Laboratory  
507 25<sup>th</sup> St.  
Ogden, UT 84401

[Montana Department of Natural Resources and Conservation](#)

2705 Spurgin Road  
Missoula, MT 59801

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