Montana Forest Health Highlights 2010

2010 Aerial Detection Survey

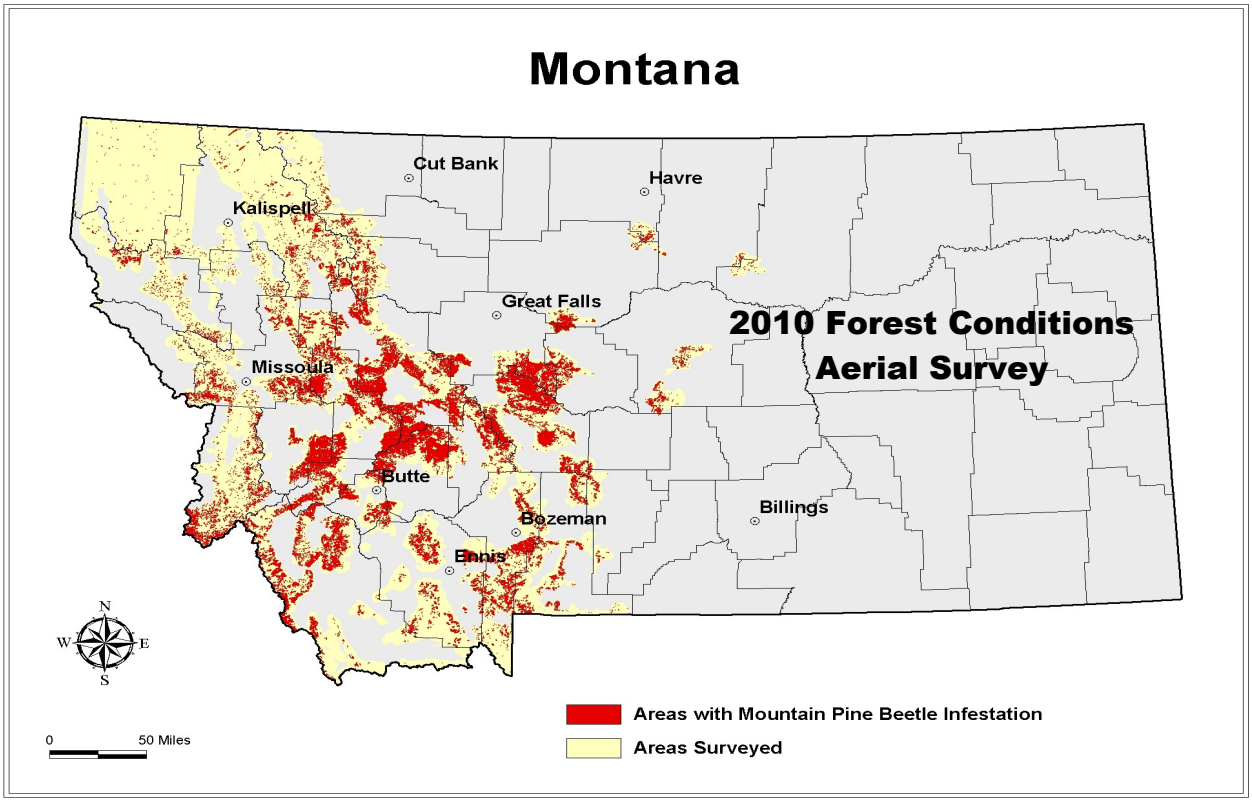
23 million acres were surveyed in Montana in 2010 by the USDA Forest Service Forest Health Protection Aerial Detection Survey Team. This is approximately 4.8 million acres fewer than surveyed in 2009. Because the number of acres surveyed vary from year to year, a decline in acres affected by a particular insect cannot necessarily be construed as an actual decline in the insect's extent.

Mountain Pine Beetle

Mountain pine beetle (MPB) continues to kill pines throughout the state and was detected on a little over 2.1 million acres in 2010. Populations have dropped in areas where MPB has consumed much of the available host, such as around Butte and Helena. In some localized situations, the sudden onset of cold in the fall of 2009 effectively killed beetles as they were transitioning into winter-hardiness. The cool, moist weather in the spring of 2010 may have further delayed populations. Nonetheless, mountain pine beetle is still active and continues to spread to new areas in western Montana where there is an abundance of susceptible hosts, particularly in the Bitterroot Valley (Ravalli County) and the Flathead (Flathead and Lake Counties).

Threats to Whitebark Pine Ecosystems

Mountain pine beetle continues to kill mature whitebark pine in high elevation ecosystems. Other factors, such as white pine blister rust (a non-native invasive pathogen) and fire exclusion, are having long-term effects on the survival and regeneration of whitebark pine ecosystems. A recent survey of whitebark pine stands conducted by Forest Health Protection concluded that approximately 75% of these stands will convert to other species without active restoration efforts or the occurrence of wildfire.



Western Spruce Budworm

Western spruce budworm (WSBW) continues to defoliate Douglas-fir and spruce in northwest and central Montana. Significant areas of defoliation included Beaverhead, Flathead, Gallatin, Lewis and Clark, Lincoln, Park, and Sanders Counties. The total area defoliated (326,000 acres) did decline from 2009 levels. This decline may be attributable to increased moisture and a cool spring or, in some areas, limited aerial detection survey. Recurring defoliation from the WSBW can kill understory trees. In some cases where drought and overstocking are prevalent, mature trees can also succumb after recurring years of defoliation.

Western spruce budworm

Pine Butterfly

Pine butterfly defoliation was not detected by aerial survey but ground observations indicate rising populations, particularly in the Bitterroot Valley (Ravalli County). Outbreaks of pine butterfly have been reported in the past in this area and did kill mature ponderosa pine. More intensive monitoring is planned for 2011.

Balsam Woolly Adelgid

Balsam woolly adelgid (BWA) has been confirmed in Montana. This non-native, invasive insect feeds on subalpine and grand fir and has been active in neighboring Idaho for years. An initial survey detected BWA in Ravalli, Mineral, Sanders, and Lincoln Counties. Cooperative surveys with the state of Idaho and the Forest Service will continue in 2011.

Root Disease

Root disease is not readily detected by aerial survey but nonetheless plays an important role in the composition and succession of Montana's forests. It is estimated that root disease kills approximately 30 million trees per year over 7 million acres in Montana. Root diseases are persistent on a site and, in addition to causing tree mortality and growth loss, affect management options and opportunities.

Gypsy Moth and Emerald Ash Borer

Cooperative surveillance for gypsy moth and emerald ash borer continued in 2010 with no suspect samples caught in traps or otherwise detected. The DNRC Forest Pest Management Program has coordinated with the Urban and Community Forestry Program to implement a forest health monitoring grant to educate master gardeners, extension agents, nursery and tree care professionals, and natural resource managers on early detection and response protocols for the top invasives. Presentations will be given in 30 cities and towns addressing identification and impacts of emerald ash borer, gypsy moth, Asian longhorned beetle, and Sirex woodwasp.

Gypsy moth trap

Acres impacted by each insect on various ownerships in 2010

Acres Surveyed/Pest	Federal	State	Private	Total
Mountain pine beetle	1,679,529	66,227	395,279	2,141,035
Douglas-fir beetle	12,295	462	1,933	14,690
Spruce beetle	5,800	7	20	5,827
Western spruce budworm	226,748	13,397	85,404	325,549
Total acres impacted —>	1,924,372	80,093	482,636	2,487,101