

CENTRAL ROCKY MOUNTAINS

by

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Conditions in Brief

Tree mortality due to insects increased sharply in the forested areas of the central Rocky Mountains in 1961. Infestations of the spruce budworm increased in severity and expanded in the true fir and Douglas-fir forests in southern Colorado. Severe outbreaks of the Black Hills beetle occurred in many places in stands of ponderosa pine along the Front Range in Colorado and along the southern end of the Bighorn Mountains in Wyoming. The rate of tree-killing in both areas was greater than occurred in 1960. The Engelmann spruce beetle was quite abundant in overmature stands of Engelmann spruce in Colorado, particularly in proximity to areas recently logged. Ips beetles caused considerable mortality in fringe-type ponderosa pine in the Black Hills of South Dakota and some top-killing throughout the forested area in the Black Hills.

Status of Insects

SPRUCE BUDWORM, *Choristoneura fumiferana* (Clem.). The acreage of spruce budworm infestations in the true fir and Douglas-fir forests in Colorado increased 13 percent over that infested in 1960. New outbreaks discovered on the Arapaho, Roosevelt, and Routt National Forests, when coupled with those previously known on the Rio Grande, San Juan, and Pike National Forests, extended over a total area of 589,200 acres. The severity of defoliation also increased in 1961, causing heavy tree mortality, particularly in the understory, on the Rio Grande, San Juan, and Pike Forests. Heavy defoliation and an increase in tree-killing is predicted for all infested areas in 1962 unless budworm populations are reduced by direct means.

BLACK HILLS BEETLE, *Dendroctonus ponderosae* Hopk. The Black Hills beetle continued in outbreak status in ponderosa pine

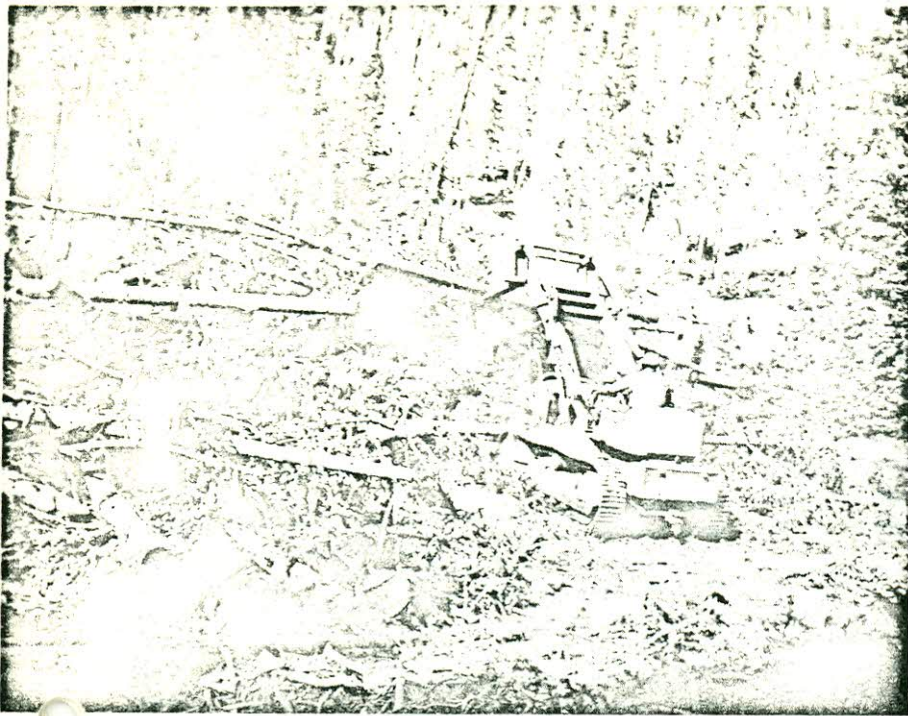
along the Front Range of the central Rocky Mountains. In comparison to 1960, there was a threefold increase in number of trees killed. The most serious outbreaks occurred on parts of the Pike and Roosevelt National Forests, and adjacent private lands, Colo. Others, of lesser magnitude, occurred on parts of the Bighorn National Forest and adjacent lands, Wyo., and the Black Hills National Forest, S. Dak. It is estimated that 53,000 infested trees will need to be treated in all affected stands by July 1962 to reduce outbreak populations to endemic levels.

ENGELMANN SPRUCE BEETLE, *Dendroctonus engelmanni* Hopk. The Engelmann spruce beetle was abundant in the mature and overmature stands of Engelmann spruce in Colorado, particularly in areas adjacent to recent cuttings. Two new outbreaks, both adjacent to logged areas, were discovered in 1961; one, on the Alpine Plateau, Grand Mesa-Uncompahgre National Forest, killed approximately 14,500 trees; the second, at West Crow Creek, Rio Grande National Forest, killed about 8,000 trees.

The outbreaks reported in 1960 on the San Juan National Forest were suppressed by trapping the newly emerged beetles in felled green spruce trees. A total of 16,000 spruce trees were felled in the trapping-for-control program, all of which were later salvaged.

OREGON PINE IPS, *Ips oregonis* (Eichh.). A deficiency of precipitation in western South Dakota favored a buildup of the Oregon pine ips and large numbers of ponderosa pines were killed and many others top-killed along the south and west edges of the Black Hills. Many of the killed trees were later infested by the Black Hills beetle.

MOUNTAIN PINE BEETLE, *Dendroctonus monticolae* Hopk. Mountain pine beetle infestations in stands of lodgepole and limber pine on parts of the Shoshone National Forest,



After cull logs and other debris from logging in stands of Engelmann spruce in Colorado are attacked by Engelmann spruce beetle, all such material is windrowed by tractor and burned to destroy the beetle broods.

Wyo., were much reduced from conditions reported there in 1960. There was one small outbreak, however, northwest of Dubois, Wyo., where an estimated 1,200 lodgepole pines were killed.

DOUGLAS-FIR TUSSOCK MOTH, *Hemerocampa pseudotsugata* McD. Small localized infestations of the Douglas-fir tussock moth occur on occasion west and south of Denver, Colo. One such infestation occurred in 1961 and Colorado blue spruce trees, planted in the area as ornamentals, were severely defoliated. The tops of the infested trees were killed.

PANDORA MOTH, *Coloradia pandora* Blake. First year larvae of the pandora moth were numerous in stands of lodgepole pine along the Colorado-Wyoming border. Defoliation of host trees was light, but heavy enough to be visible from low-flying aircraft. On the basis of aerial observations, it was estimated that 36,000 acres of host type were defoliated. Infestation spread has been northeastward within the Medicine Bow National Forest, Wyo.

GREAT BASIN TENT CATERPILLAR, *Malacosoma fragile* (Stretch). It is noteworthy that infestations of this defoliator in stands of aspen in southern Colorado continued a

downward trend in 1961. Infested patches of aspen were found only at scattered locations on the Gunnison and San Juan National Forests.

WESTERN BALSAM BARK BEETLE, *Dryocoetes confusus* Sw. Infestations of this bark beetle in subalpine fir stands in Colorado were little changed from conditions in 1960. In some locations, there was an increase in the rate of tree-killing. However, the trend was downward in most areas.

DOUGLAS-FIR BEETLE, *Dendroctonus pseudotsugae* Hopk. Low endemic infestations of the Douglas-fir beetle prevailed in all stands of Douglas-fir in the central Rocky Mountains.

OTHER INSECTS. An unidentified pine needle miner caused light defoliation on several thousand acres of ponderosa pine in southern Colorado. Infestations were most noticeable on the San Juan and San Isabel National Forests, and on private lands west of Colorado Springs.

An unidentified pine sawfly lightly defoliated approximately 400 acres of young lodgepole pines in the vicinity of Grand Lake, Colo. The infestation is expected to subside, however, because heavy wet snows in early September killed many of the larvae.