

Bark beetles raise fire danger

By *BRODIE FARQUHAR*
Star-Tribune correspondent

Something extraordinary is going on with forests in Wyoming and the West.

While bark beetles have always been part of forest life cycles, massive spruce beetle outbreaks are reported from Alaska to Utah; ponderosa pines are dying in numbers not seen in centuries; pinon pines are vanishing as a keystone species in much of the Southwest; and mountain pine beetle outbreaks are occurring where they've never occurred before.

"You've heard of urban renewal," said Bill Schaupp, an entomologist with the Forest Service office in Rapid City, S.D., "well, this is extreme forest renewal."

On a massive scale that senior and retired entomologists have never seen before, "bug 'n crud" specialists like Schaupp are reporting an epidemic of insect infestations from sagebrush to timberline in the West.

Weakened by drought, overcrowding, rising temperatures and even fire, forests throughout the West are under siege by bark beetles, so much so that federal entomologists report that beetles in 12 Western states killed 8.6 million acres of trees last year, compared with 1.4 million acres in 1997.

Wyoming forests have been part of that trend, losing 556,000 acres of trees last year, compared to 59,000 acres in 1997.

Bill Crapser, Wyoming State Forester, said the hot spots in the state include the Cody area, the Jackson area, Casper Mountain and the Black Hills.

"Pretty much anywhere you have trees," he said. Even trees in town are getting hit with invasives like the banded elm beetle that's hitting Newcastle and Cheyenne trees, he said.

"We are seeing a huge increase in outbreaks," said Crapser. Current thinking blames a variety of factors like the ongoing drought, age and density of forests. One rising theory blames warmer winters or even global warming.

Jesse Logan of the Rocky Mountain Research Station and James Powell of Utah State University, co-authored a study that finds rapid expansion of the mountain pine beetle into areas that had previously been too cold for them; unusually large and extensive outbreaks in high altitude forests; and range expansion north and east of historic ranges in Canada.

"Any one of these events would be unusual," wrote Logan and Powell. "their simultaneous occurrence is nothing short of remarkable."

Logan and Powell write that a warming climate could see a dramatic increase in the range of the mountain pine beetle n upwards into whitebark pine stands at timberline or worse, get into the vast jack pine forests of northern Canada, which currently do not have a resident bark beetle.

Warmer climates have shortened the life cycle of mountain pine beetles from two years to one year,

thus accelerating brood production and swarming behavior of the flying beetles.

"We're actually getting reports from the field that spruce beetles, for example, are attacking pine trees. Because the infestation rates are so high, different beetle species are attacking alternative host trees," said Jeri Lynn Harris, forest health monitoring coordinator for the Forest Service's Rocky Mountain Region Office for forest health management, headquartered in Golden, Colo.

"They aren't successful at breeding in alternative host trees, but they are very successful in killing those trees," Harris said.

Greg DeNito, Harris' counterpart in Missoula, Mont., said there have been bigger mountain pine beetle outbreaks in the past -- Montana lost 3 million acres of trees in the 1970s, while the current outbreak is approaching 1 million acres.

"What's unique is that we have so many ongoing outbreaks at the same time," DeNito said -- multiple beetle species in multiple locations.

In the Greater Yellowstone Area, said DeNito, Douglas fir beetle infestations are high but tapering off; the Englemann spruce beetle is inside the park; and "it is harder to find a whitebark pine that's still alive," he said.

A big concern with bark beetle infestations, said DeNito, is the increased fire danger, particularly the first year after a tree has died.

"All the branches, twigs and needles are still on the tree and are a real fire hazards," he said. If a fire gets started and gets into the dead crowns of dead or dying trees, he said, you can have an explosive fire. Fire danger actually drops two to three years after a tree dies, he said, but only until branches start dropping off and trees start falling down in a jack straw fashion.

"That's when you can have very hot ground fires," he said.

Steve Munson, a colleague of Harris and DeNito, said of western Wyoming that the outbreak is two years long and running strong, with large Douglas fir beetle outbreaks in the Snake River Valley.

Mountain pine beetle has been hammering whitebark pine stands in western Wyoming as well, said Munson. He just had a staff entomologist fly over much of western Wyoming for a survey, and virtually all stands are showing the tell-tale rusty foliage characteristic of bark beetle infestation.

"Whitebark pine have had past infestations," he said, "but not to this scale." That bodes ill for grizzly bears, who fatten up for winter hibernation on the fatty nuts of whitebark pine.