

Drought could reverse drop in Nevada tree beetles

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Scientists say there's been a significant reduction in the amount of Nevada forest under assault from bark beetles and similar bugs, but they fear lingering drought will further weaken trees and make them more susceptible to future attacks.

Nevada Division of Forestry forest health specialist Gene Phillips says aerial surveys show populations of the tree-killing insects plummeted across the state last year compared to 2012—from 500,000 acres to only about 50,000.

"These are some pretty dramatic decreases," Phillips told the Reno Gazette-Journal.

The trend was seen with the Pinyon Engraver beetle, also called the Ips, which infested some 12,000 acres of forest across Nevada in 2012. Last year, surveys concluded only about 2,500 acres were infested, a drop of more than 80 percent.

Infestation by mountain pine beetles—which have decimated forests in Colorado, Idaho, Montana and British Columbia—also dropped significantly in Nevada, down from 3,650 acres to 1,100, Phillips said.

The most dramatic reduction, nearly 90 percent, came in the amount of land under assault by the Pinyon needle scale, a pinhead-sized critter shaped like a bean. That infestation fell from an estimated 487,000 acres to only 49,000.

Phillips said it's most likely part of a normal cycle that produces booms and busts in insect populations.

Significant overpopulation of an insect species is often followed by a crash in numbers, he said. Big beetle populations can result in spikes in the number of natural predators like wasps, which then whittle down beetle numbers.

"Insect outbreaks are very cyclical," Phillips said. "They increase dramatically and they decrease dramatically. They increase and then they crash."

The biggest concern is that a 3-year-old drought may continue, stressing already-stressed trees to make them more susceptible to insect attack.

"It doesn't mean we might not see a dramatic increase this year," Phillips said. "If this drought continues, all tree species in Nevada are going to continue to be stressed and [bark beetles](#) sense that. That's when they get going."

Healthy trees can easily fend off attacks by a limited number of bark beetles by secreting resin and essentially booting the bugs out of their bark. But when trees are stressed by drought, their defense mechanisms are weakened. Beetles can then attack successfully and while doing so, secrete perfume-like pheromones that attract hordes of more aggressive beetles than can overwhelm trees relatively quickly.

Drought has resulted in huge spikes in beetle populations and widespread tree die-offs before, said Gary Blomquist, a biochemist at University of Nevada, Reno who has studied beetle pheromones.

The extensive drought the Reno-Tahoe area experienced from 1987 to 1994 resulted in nearly a third of the [trees](#) in the Lake Tahoe Basin being

killed by beetles, Blomquist said.

That beetle infestation didn't peak until the [drought](#) had lasted four to five years, he said.

"We've actually been very fortunate in this area. We haven't seen that much in the Sierra yet," Blomquist said. "We're going to see more of them."

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