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B1 TETON VALLEY NEWS - JULY 28, 2011

BUGS AND CRUD

USFS STUDIES INSECT, DISEASE EFFECTS ON FOREST

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Part one of a two-part series

Forest health scientists are researching the magnitude and effects of insect and disease attacks in the Teton Basin and Palisades ranger districts of the Caribou-Targhee National Forest.

Mountain pine beetle activity can be found in areas just east of Victor, said USFS Entomologist Carl Jorgensen. The Bridger-Teton National Forest has also had mountain pine beetle activity for quite awhile, he said and "right now around the Palisades Reservoir there's quite a bit of MPB activity."

Western spruce budworm is also kicking up west of Victor, he said.

"Budworm has started to take off and be more prevalent," Jorgensen said, but Douglas fir beetle is down from previous years.

The damage from spruce budworm could be sustained over several years of defoliation. Consecutive years stress the trees, and in the larger Douglas fir trees, the DFB could come in behind and kill the tree.

"Mountain pine beetle and Douglas fir beetle are the two primary tree killers of their tree species," Jorgensen said. In this area, the former attacks lodgepole and whitebark pine and others, while the latter comes and goes, often after major fires.

"It concentrates on the largest Douglas firs that have been scorched or damaged, then spills out into adjacent trees," he said.

If those are stressed by competition, drought or defoliation by the budworm, there is the opportunity for the DFB population to explode. That's been seen in the past in Teton Canyon, Grand Targhee and Teton Pass.

"You can see the grey ghosts still standing out there," he said.

Prevention against the DFB includes MCH, a pheromone that hangs in packets on trees and is very effective, even during large outbreaks, said Jorgensen.

The long-term management tactic against all of these native insects is reduced tree competition and

increased tree vigor.

"You want to create a mosaic of stand conditions with different size and age classes and different species compositions that help create a more resilient forest to insects and diseases," he said. "You're never going to get rid of them, but you can reduce their impacts."

The USFS is working on protecting seed trees for whitebark pine, using Verbenone and carbaryl treatments for tree protection to prevent attacks, said Jorgensen, "mostly to ensure we get a cone crop in these trees that are resistant to blister rust. Those are very concentrated and high-value trees and they're pretty expensive to treat."

High-value trees are defined as those situated where high concentrations of people use them, such as in campgrounds, Jorgensen said.

Verbenone is a chemical the mountain pine beetle produces that helps regulate attack densities.

"So when a MPB flies up to a tree and smells Verbenone, it signals to the beetle that this tree is full, go someplace else," he said. "Hopefully they'll stay out of our high-value areas and move on to places they're

going to anyway."

Its effectiveness is sometimes questionable during MPB outbreaks with large populations, Jorgensen said.

Carbaryl, an insecticide applied hydraulically, is more effective. The bark sucks it up somewhat and provides a barrier against attacking mountain pine beetles that can't get inside the tree. It's effective in 95 percent or better of treated trees.

About 800 trees have been treated with carbaryl in Mike Harris Campground, said Jim Robertson, USFS natural resource specialist, silviculturist. Verbenone packets can be seen on many trees in the Teton Canyon



USFS Entomologist
Carl Jorgensen

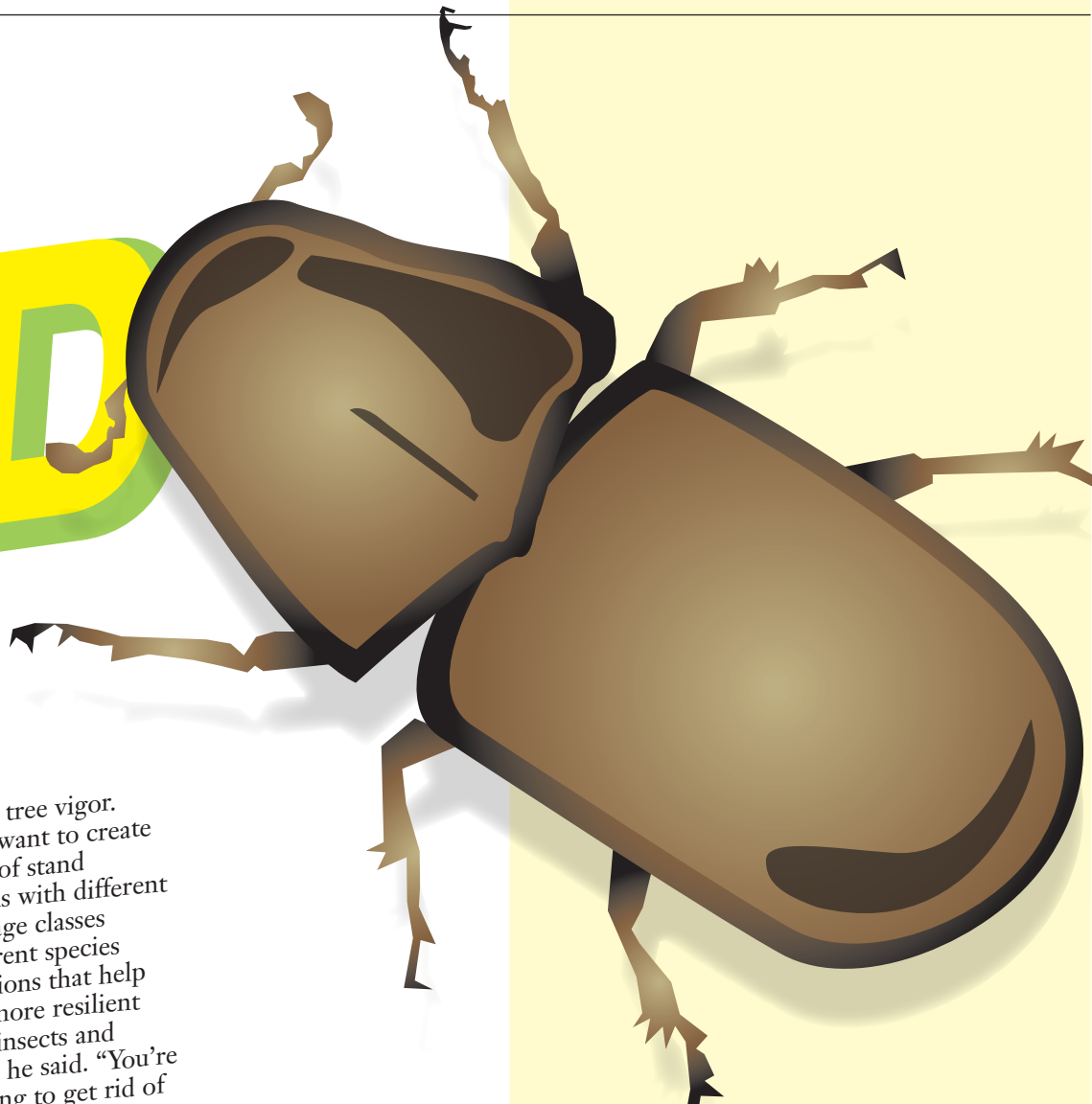


Photo courtesy C.L. Jorgensen/USFS

Signs and Symptoms of mountain pine beetle attack

- Popcorn-shaped masses of resin on the trunk where beetle tunneling begins. May be brown, pink or white
- Boring dust in bark crevices and on the ground immediately adjacent to tree base
- Evidence of woodpecker feeding on trunk. Patches of bark are removed and bark flakes lie on the ground or snow below tree
- Foliage turning yellowish to reddish throughout the tree crown, usually 8-10 months after an attack
- Presence of live MPB (eggs, larvae, pupae and/or adults as well as galleries under bark are the most certain indicators of infestation
- Blue-stained sapwood

Information courtesy Colorado State University.

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Campground, the Boy Scout Camp, Darby Girls Camp and Trail and Pine creek campgrounds, said James Hoffman, USFS plant pathologist, forest health protection.

In most of the rest of the forest, it's mainly wait-and-see. Ongoing projects include sanitation.

"The projects are pretty small scale compared to the large scale of the MPB outbreak that's been ongoing since about 2003 in Idaho," Jorgensen said.

Overall, the two ranger districts have moderate forest insect activity, he said.

"Some stands of mature lodgepole pine, like around Mike Harris Campground and Palisades Reservoir, will continue to experience significant MPB-caused mortality over the next few years," said Jorgensen.

DFB activity has dropped off in recent years, but can still be found scattered across these ranger districts. East of Driggs, western spruce budworm is defoliating some stands, he said.

Next week: *Fungi in the forest*

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Photo courtesy USDA Forest Service Region 4 Intermountain Archive

Mountain Pine beetle.



Photo courtesy Jim Robertson/USFS

Paul Martin, a certified pesticide applicator for the U.S. Forest Service, sprays carbaryl on trees in Mike Harris Campground in this 2009 photograph. He's using a 12-foot wand to get as high up into the tree as possible.