100 MILE HOUSE Free Press

Fir trees falling victim to beetle infestation

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While the Mountain pine beetles have succeeded in munching their way through much of the South Cariboo's pine forest, turning what was once a vista of green, into a sea of red and dead trees, it appears that Pinus contorta isn't the only local species on the endangered list.

Now, flame coloured fir trees are slowly making their way into the picture of devastation. Rick Stock, Forest Health Stewardship department head at the 100 Mile District Forestry Office, said that Douglas fir, which flourishes in pockets on the Cariboo landscape has its own voracious enemy in the Douglas fir bark beetle. It does its dirty work in much the same style as the pine beetle, tunneling through the inner bark and infecting trees with a fungus that plugs conductive tissue much like cholesterol plugs arteries in humans. Larvae also eat their way through the soft inner bark and cut off the tree's life flow.

(top) David Bolivar hangs one of his beetle traps in a large fir tree and (left) attaches an MCH anti-aggregation pheromone in another.

Stock said the situation with fir trees is not yet at the serious stage, but evidence of fir beetle infestation has been growing in a slow, but continual manner.

The reason, he said, is one we've all heard before. It's kind of like the mountain pine beetle problem, where there hasn't been cold enough weather to kill the bugs.

Nature's method of control would involve an October dip in temperature to -30 C, or to -40 C for a three to four week period in mid-winter. Forest fires also play an important role in pest control, but man's need to intervene discounts that option.

Stock said that managing the infestation has been somewhat of an extra challenge, with previously available government funding having been cut back three years ago

when forest company licensees took over management of their own cutting areas.

At that time, he said, companies chose to concentrate on the mountain pine beetle problem, which was escalating rapidly.

With what dollars were still available, Stock ran a small-scale program involving removal of infected trees, which he said was quite effective. He also used a new anti-aggregation pheromone, not yet approved by the Canadian government, but available to him under a research permit.

The pheromone, known as MCH, was hung on healthy trees and worked by giving a false signal to flying beetles that the tree was already filled to capacity.

Stock said he saw good results in small spots with less than 10 trees. That works well in Cariboo country, with fir trees accounting for just 31 percent of the 100 Mile District forest cover and being generally found in a mixed stand among other species. Stock noted that pine accounts for 55 percent of the total volume, with spruce and balsam taking nine percent and aspen and others accounting for the remainder.

With limited resources at its disposal, luckily, the Forest Service isn't the only body interested in saving trees from the fir beetle.

Private land owner, David Bolivar became concerned five years ago when he lost a giant fir tree to the destructive bugs. He began his own campaign to do battle and devised a plan of attack through consultation with Stock and plenty of his own research. The first volley involved a different pheromone trap which attracted, caught and killed the fir beetles. He estimated 20,000 were trapped and annihilated on his property in the first season, even after removing trees he'd already identified as infested.

It was amazingly effective, he said, but noted that many beetles still parked themselves on surrounding trees and burrowed in.

The fight was on, and he began devising methods that used a combination of attractants in the centre of a stand and repellants on the outside. It proved to be successful, but he said using the scheme involves a careful assessment of the forest cover and a formulated plan involving precise placement of the different pheromones, plus removal of obvious hosts.

The hosts include any fir trees, recently injured or fallen. Beetles are normally attracted to trees suffering from stress, such as extreme age and damage from logging. With the latter, it's created a Catch 22 situation.

People have been taking out their infested pine trees to deal with the pine beetle, but the resulting damage to fir is resulting in a host bed for fir beetles, said Bolivar. It's fueling the fire for fir to go next.

He said some people also unknowingly promote beetle population growth through their fir firewood piles, which if left unburned past the month of April, also become breeding beds.

The life cycle of the fir beetle sees a flight and search for a breeding ground in about April. Eggs are laid under the fir bark and larvae emerge to feed on the inner bark for two or three months. The following spring, they emerge as adult beetles and take flight to continue the cycle. Bolivar stressed that it makes timing crucial in trying to control the beetle.

With practical experience backing him up, Bolivar is launching a new fir beetle control service which he believes is currently the only one of its kind in British Columbia.

He said the first step is up to the property owner who identifies if there is a problem.

You typically look for spots of red sawdust on the trunk of your trees and maybe sap running down the side, he said, explaining that the fine dust collects around burrow holes of the beetles.

Another sign is an unhealthy looking tree with red needles in an otherwise healthy stand, he added.

Bolivar said no two properties are alike, but he can put together an intensive management plan that will implement the tools necessary to do the job. It could include clean-up of existing fir debris that would be a tempting breeding ground and probably bring into action the previously restricted MCH, which he said just recently gained Canadian government approval. He's acquired a stock of it, along with pheromone traps, and is ready to put it out to battle.

Bolivar said he's also equipped with chainsaws, an excavator, the man-power and whatever else it takes to carry out a beetle management plan.

And if people just want a consultation, that can be arranged, too, he said. Nobody else seems to be saying or doing anything to preserve the value of our land right now. There could be a fir disaster just like the pine beetle one and I'm concerned.