

Mountain pine beetles a threat to Canada's boreal forest

By CAROLINE ALPHONSO
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Canada's vast boreal forest is facing the devastating threat of mountain pine beetles as early as this summer, causing widespread economic and environmental damage, warns one of the country's foremost experts on the grain-sized insects.

Last summer, a great swarm of beetles was caught in prevailing winds, blowing into Alberta and landing at the doorstep of the boreal forest.

Alberta recently declared the growing pine beetle problem an emergency and has set out to cut and burn infected trees.

"If the stars align and the beetles are transported long distances to the east, there is a possibility that the mountain pine beetle could get into the margins of the boreal forest in 2007," said Allan Carroll, a research scientist with the Pacific Forestry Center in Victoria, British Columbia.

"If the beetles from last year were able to get nearly there in one go (through wind dispersal), then just given that there could be even more beetles available to one of these dispersal events, the possibility is there."

Experts believe that if large numbers of pine beetles on the western side of the Rocky Mountains emerge this summer and happen to correspond with strong eastward winds, there's a possibility those insects could go even farther and land in the boreal forest as early as the summer.

The boreal forest, which extends across the northern half of the country, is a remarkable ecosystem that plays an essential part in the storage of carbon, itself a key form of natural environmental regulation.

Carroll said his climate-change predictions - even the most conservative ones he has produced - indicate that the boreal forest is going to be a fairly good place for beetles before too long.

"The pine beetle has been responding to a warming environment for a couple of decades now. What it's doing is predictable given a warming environment and it really indicates what can happen as things change and ecosystems rearrange themselves in the face of a changing environment," he said.

The pine beetle, which is indigenous to British Columbia, feeds mainly on mature lodgepole pine, but scientists say they could easily jump to Jack pines, which are located in the boreal forest.

They attack trees by laying eggs under the bark. When the eggs hatch, the larvae mine the phloem area beneath the bark and kill the tree by cutting its supply of nutrients. The tree turns a brownish-red color.

Pine beetles can't survive in Canada's cold weather, but several consecutive mild winters in Western Canada have resulted in the beetle problem reaching epidemic levels. Researchers suggest that by 2013, it will have killed 80 percent of the mature pine in British Columbia.

Carroll fears that there's not much more that can be done other than focus on early detection and removing infected trees.

The Canadian Food Inspection Agency last week expanded a containment area in Nova Scotia to stop the spread of the brown spruce longhorn beetle. The beetle, a European pest that attacks dead or dying trees, was first spotted in Point Pleasant Park in Halifax. Scientists believe it came to the area in 1990 through infested wood packaging materials brought through the port there.

Meanwhile, the emerald ash borer, discovered in 2002, has infected roughly a million ash trees in southwestern Ontario. Government officials say they have been able to control another foreign species in the area, the Asian longhorned beetle, by cutting down infected trees.

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