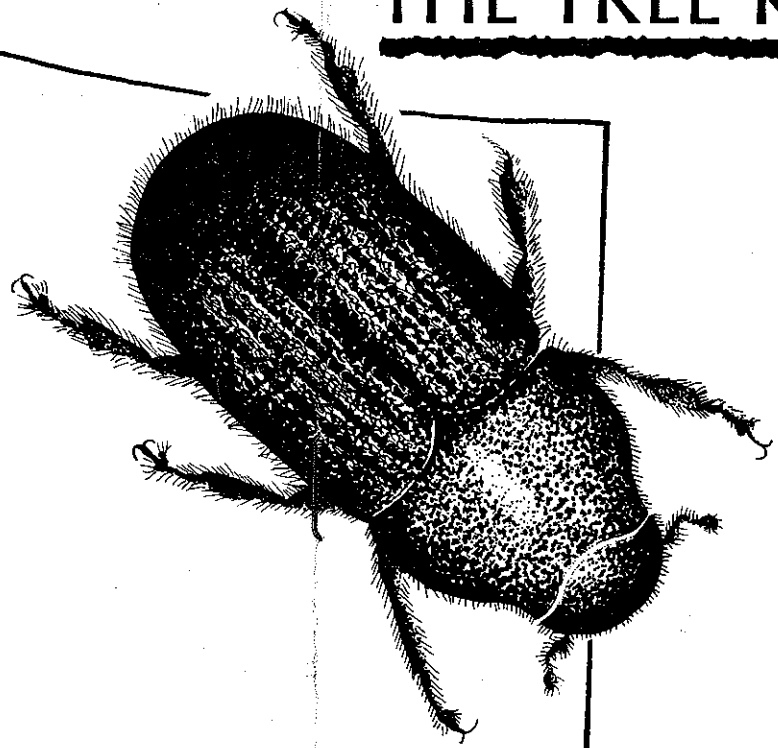
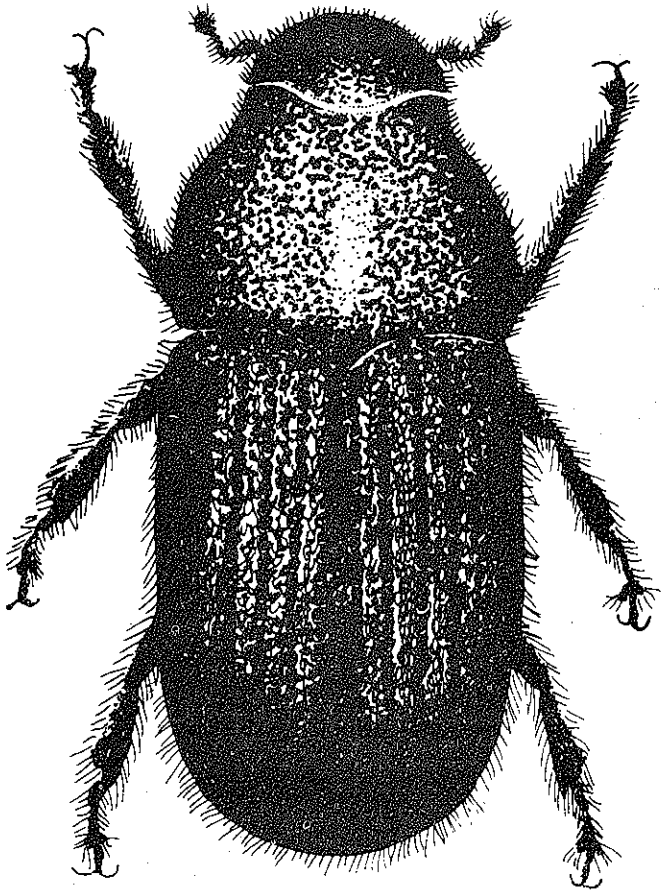
THE TREE KILLER



Province of British Columbia
Ministry of Forests

Mountain Pine Beetle attacks in the Nelson Forest Region

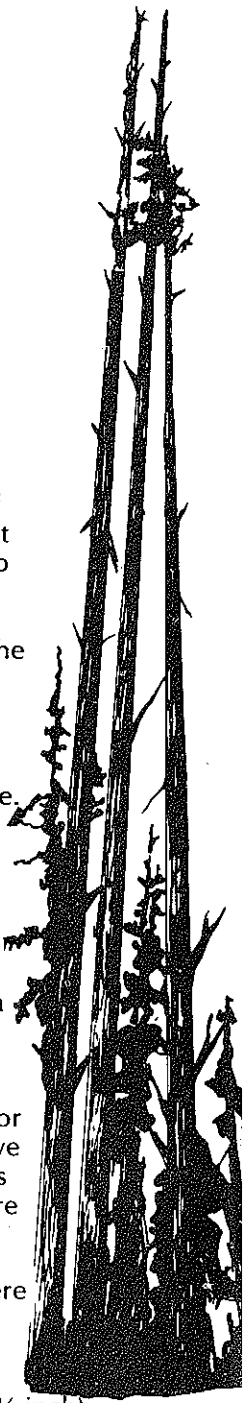


THE TREE KILLER

Beetle is major threat to sawmills

One of the most destructive forest pests, the mountain pine beetle, is attacking large areas of lodgepole pine in the Nelson Forest Region of the Ministry of Forests.

Lodgepole pine grows over much of the province, but some of the largest stands occur in the Flathead and into the Akamina-Kishenina valleys, spreading over into the Waterton Lakes National Park in Alberta and the Glacier National Park to the south over the Canada-U.S. border. In the West Kootenays area of the Nelson region there are also large but less concentrated areas of lodgepole pine.



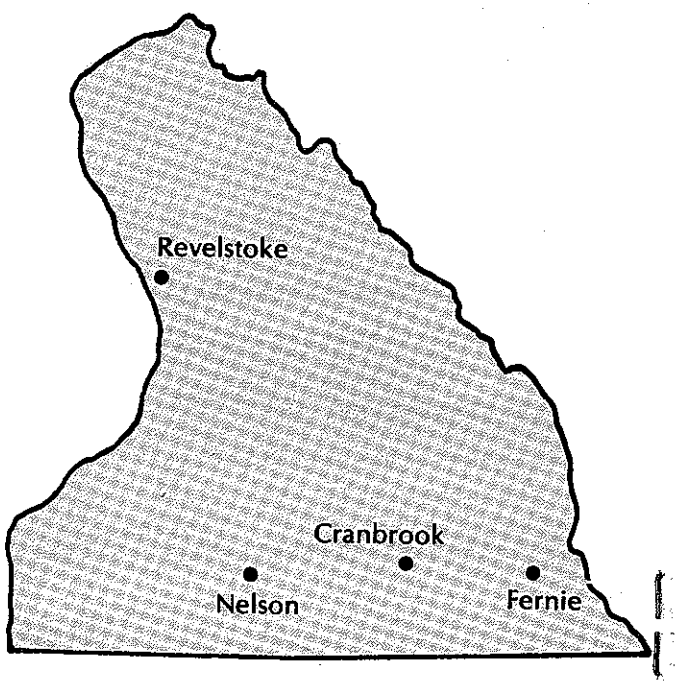
Insects and diseases cause great damage to our forests, even greater than that caused by fire, the other traditional enemy. Many insects and diseases retard the growth of trees, but the mountain pine beetle does a much more thorough job. In some years it kills trees by the thousand. Attacks are usually made on mature pine, about 80 years old and ready for harvesting. However, the beetles have become so numerous in recent years that much younger stands of trees are being attacked.

The beetle breeds rapidly where there are hot dry summers and relatively mild winters - the normal climate of the Nelson Forest region. Under the bark the adult beetle, about 7 mm (¼ inch)

long, rings the tree with galleries, laying eggs and at the same time introducing a blue stain fungus which cuts off the flow of water up the tree. This kills the tree and its needles turn from green to yellow to red brown over a 12-month period. From the air, vast areas of red brown trees show lodgepole pine that is already dead.

In July and August the mature adults bore exit holes in the bark and then fly to new areas, carried considerable distances by winds.

THE NELSON FOREST REGION



In the Nelson region, at the beginning of 1980, about 100,000 hectares (250,000 acres) of forest had been attacked and another 600,000 hectares (1,500,000 acres) were in danger. It is estimated that in the region the mountain pine beetle kills enough trees each year to build 25,000 homes.

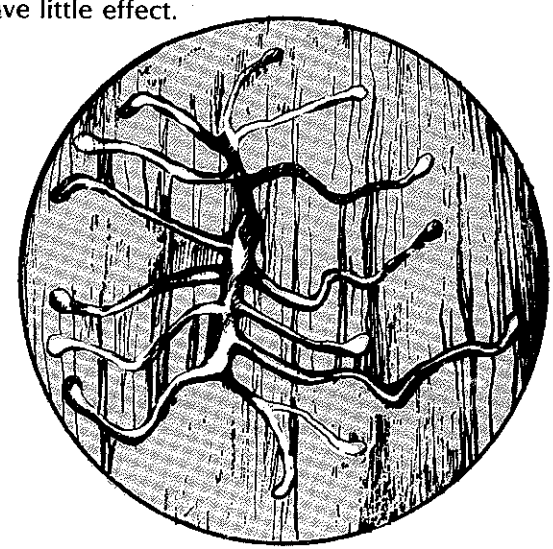
Years ago, nature had its own way of controlling the mountain pine beetle. The dead trees became a fire hazard and fire, usually caused by lightning, burned uncontrolled over huge areas.

As a result the beetle infestation was halted and for the next 80 years lodgepole pine grew to maturity without threat from the beetle.

Today, when the forest industry generates more than half the total income of British Columbia, our natural resources have become too valuable to leave entirely to nature.

Fire in the forest is now kept under tight control. One adverse side-effect is that the beetle spreads rapidly and, itself, becomes a major threat.

What can be done? Many types of insects can be controlled by chemical sprays, predators or other methods that prevent the insect from breeding. Unfortunately, because the mountain pine beetle lives under the bark of the tree, which protects it, these measures have little effect.



Gallery system of breeding under the bark

The only way to control the beetle is to log trees in the infested area and far enough around so that it cannot fly the distance to new stands of trees.

ECONOMIC LOSS

Within two to three years of an attack the lodgepole pine is of little economic value. The checks and cracking that develop after it has been killed are disastrous. In the sawmill the tree will disintegrate and it becomes equally valueless as chips for pulp.

For salvage purposes, the lodgepole pine has to be harvested relatively soon after a beetle attack. As infestations spread, new logging plans have to be developed resulting in new roads, changes in sawmill machinery and an over-abundance of lodgepole pine in the sawmill's operations which can affect the market for the product.

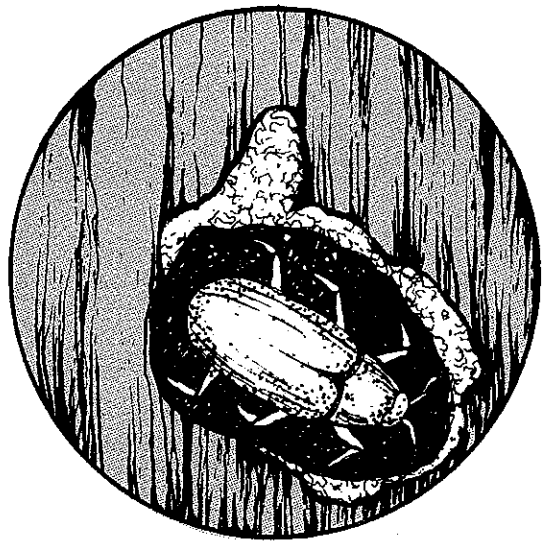
The problem is that the mountain pine beetle moves fast and in unpredictable directions. In attempting to control an attack and to salvage the trees, it may be necessary to remove large stands.

The problems caused by the mountain pine beetle have to be faced, otherwise there will be considerable economic loss to the Nelson Forest Region. Representatives of industry, government departments and other groups meet as the East Kootenay Insect and Disease Committee and the Kettle Insect and Disease Control Committee discuss such problems as those caused by specific logging decisions due to the mountain pine beetle - the possibility of erosion, stream diversion, game runs and the maintenance of a scenic balance for tourists and outdoor enthusiasts.

As a result, new strategies in forest management are worked out in which, when

areas are logged, a mixture of trees that will resist the beetle are planted and the new forest is developed for maximum use by both man and animals.

However, it's an uphill battle. The mountain pine beetle - and other insects and diseases - are very determined adversaries.



Mountain Pine Beetle under the bark