

Introduction

British Columbia is currently experiencing the largest recorded mountain pine beetle outbreak in North America. This forest health epidemic is causing widespread mortality of lodgepole pine, the Interior's most abundant commercial tree species.

Mountain pine beetles have reached epidemic levels several times over the last century in B.C., however past outbreaks were generally confined to limited geographic areas and were typically curtailed by cold weather.

In response to the epidemic, the Provincial government has introduced various measures aimed at mitigating the social, economic and environmental consequences of this widespread forest damage, both now and in the future. A significant challenge is to address this epidemic in a manner that captures the best economic value of beetle-killed forests while respecting the other values and resource objectives identified in land use plans.

Recognising that mitigating the impacts of the epidemic will go well beyond forestry activities, the Provincial government has put in place a framework plan to guide all stakeholders in responding in a sustainable manner, and in ways that maintain forest values and minimize economic impacts.



Some specific actions that the companies operating in the area have taken involve moving harvests from areas that are not infested to areas that are heavily infested in an effort to capture economic value and to control the spread of the beetle. We have also received approval from the Ministry of Forests to temporarily shift harvests away from spruce rich areas towards infested pine rich ones. While making these shifts, biodiversity standards have not been relaxed and riparian management regimes remain fully in place. For further details on the provincial plan see :- http://www.for.gov.bc.ca/hfp/mountain_pine_beetle/actionplan/2005/

Some Facts about the Mountain Pine Beetle

Lodgepole pine and the mountain pine beetle have always co-existed as a natural part of the ecosystem in British Columbia's interior forests. Forests of mature lodgepole pine are prime habitat for the mountain pine beetle. The beetle thrives under warm weather conditions.

The interior of British Columbia has an abundance of mature and over-mature lodgepole pine, and has experienced several consecutive mild winters and drought-like summers. As a result, beetle populations in many parts of interior B.C. have increased to epidemic levels.



How exactly does the mountain pine beetle kill trees?

Beetles attack pine trees by laying eggs under the bark. The beetle itself is about the size of a grain of rice. When the eggs hatch, the larvae mine the phloem area beneath the bark and eventually cut off the tree's supply of nutrients.

The beetles also carry a fungus that causes dehydration and inhibits a tree's natural defences against beetle attacks. The fungi stains the wood blue or grey. Despite the discoloration, the wood remains as structurally sound as unattacked pine and can still be used for high-quality products, both lumber and pulp or paper.

What is the impact on the fibre properties of the pulp?

Since 2002, extensive testing has been conducted on chips from beetle killed trees by Canfor R&D, our pulp mills and by the Pulp and Paper Research Institute of Canada (Paprican). The most obvious effect we see is that residual chips from trees that were attacked 2 or more years ago have a lower moisture and cooking conditions need to be adjusted to allow for this. These chips from older trees have a lower resin level making some aspects of cooking easier, but reducing the volume of valuable tall-oil that can be produced.

The morphology of the pine on any given site in the region is quite similar to that of the spruce, and in both cases harvesting is of mature and over-mature trees. The increase in pine content has in some cases shown a narrower distribution of fibre width properties in the pulp, an effect that should lead to a slightly more uniform pulp being produced. Pulp strength has not been affected, not a surprise since the wood itself has not decayed.

What will the long term impact be?

In the short term, the epidemic has resulted in the timber harvest levels being increased to use the affected trees. We anticipate that this short-term surplus of harvestable timber will be followed by a reduction in the allowable cut, 10 –20 years from now.

While such a reduction in cut would probably occur in areas where Canfor Pulp sources its chips, the unique versatility and geographic range of the saw mills and the tenures in the region will minimise the impact on both lumber and chips for pulp.

If you would like more information on this or other topics, please contact your Canfor Pulp sales manager, or email us at michael.bradley@canforpulp.com