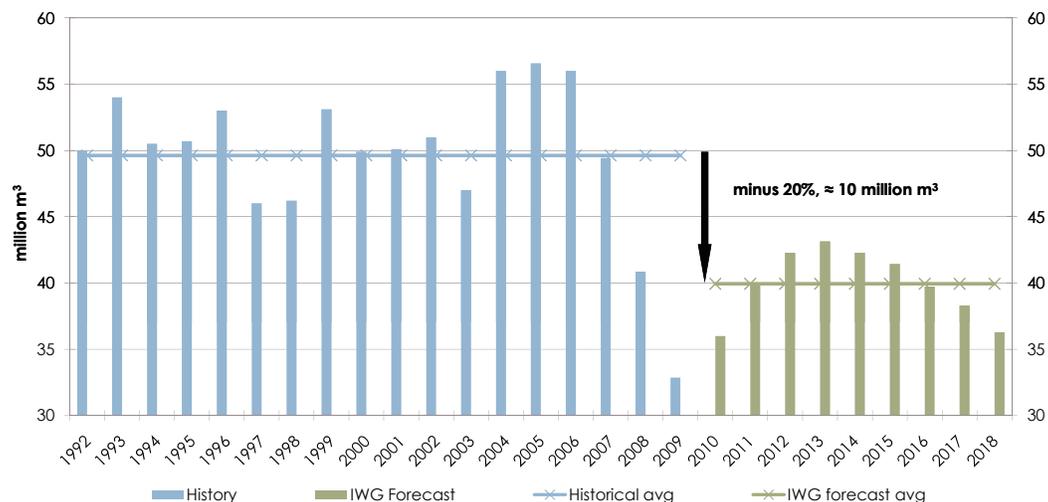


# Timberland Research and Education

## Canada Mountain Pine Beetle Outbreak Update

The lodgepole pine of the Canadian western spruce-pine-fir (SPF) forests of interior British Columbia (BC) and Alberta, one of the world's largest pulp and wood products producing regions, is under attack from the mountain pine beetle (MPB). MPB is endemic to parts of Western North America<sup>1</sup> and is normally kept in check by sustained cold winter weather (-30C/-22F). Winter temperatures this low for an extended period have not occurred since about 1995, and the beetle population has exploded and devastated the pine forests. Some 53,000 square miles of mature pine forest is dead in BC alone and the province is projected to lose 80 percent of its mature pine trees by 2013. The epidemic could eventually kill up to one billion m<sup>3</sup> of standing lodgepole pine timber in the BC Interior.

**Figure 1 Projection of reduced BC Interior Timber Harvest due to MPB Mortality**



Sources: BC MoFR, IWG

<sup>1</sup> Pine mortality from MPB is not confined to Canada although the extent is much greater there. See maps at <http://www.fs.fed.us/r6/nr/fid/as/mpb-r6.shtml> for Washington and Oregon beetle damage. There have also been outbreaks in Colorado, Wyoming, and Montana. A Colorado MPB map can be found at [http://www.greentreescolorado.com/pdf/co-mpb-2008-8x11\\_map\\_of\\_infestation.pdf](http://www.greentreescolorado.com/pdf/co-mpb-2008-8x11_map_of_infestation.pdf)

Usually the MPB does not attack younger, more vigorous stands, and if there is such an attack the mortality rate of the trees is much lower. The high percentage of older timber in the region has contributed to the high mortality rate in Canada. This is a good example of why, in managed stands of the type that typify investment timberland, the risk of insect outbreak is greatly reduced.<sup>2</sup>

Even before the outbreak, Canada's forest products sector had many factors working against it. Wood product manufacturing costs have been rising in Canada at a rate that has typically outpaced increases in other countries. The Canadian dollar's appreciation against the U.S. dollar has exacerbated the situation given that the industry exports 60% of its production. The past decade has also seen a significant increase in production capacity in other countries, where lower costs and faster growth rates translate into a competitive advantage. Moreover, these factors were all in play before the dramatic collapse of global financial markets and the virtual halt of new housing construction in the U.S. Add to this the export tax on lumber shipments to the U.S., 15 percent at current lumber prices, and Canadian wood processors already had a major disadvantage before the issues related to pine beetle mortality arose.

To allow salvage of this beetle-killed wood, the BC provincial government has raised allowable cut (AAC) levels. Three of the hardest hit Timber Supply Areas increased their AAC 27 percent. The irony is that with much more wood available from the beetle-killed forest, production is way down due to low demand in the U.S. British Columbia is now producing only 54% of its total production in 2006. China has stepped up its purchases of low-grade lumber produced from beetle-killed timber but it doesn't begin to replace the loss due to the housing collapse in the U.S. market.

A study by Vancouver-based Wood Markets<sup>3</sup> notes two things happen as dead wood is allowed to age before being harvested: 1) the lumber recovery becomes much more skewed to lower value lumber and 2) more wood is left in the forest because it is not economically feasible to haul it to the mill. With wood greater than five years dead, the production costs go up for mills as the wood fiber changes (wood becomes harder, drier, and more brittle).

The study also predicts that, in the short-term, in excess of 225 million cubic meters of wood biomass, including harvesting waste, unmerchantable timber, and some standing dead timber, might be available to support new biomass consuming industries in the Interior, if the economics of fiber recovery can be supported. However, as sawmill closures occur and the provincial AAC falls, potential biomass surpluses will be reduced significantly. Nonetheless, a number of combined heat and power and pellet mills have been proposed, built, or expanded in the region.

<sup>2</sup> See Campbell Global report "Physical Risks for Managed Timberland: Fire, Wind, Insects, and Disease"

<sup>3</sup> BC Interior Mountain Pine Beetle Attack: Impact and Outlook on BC Timber Availability and Wood Products Production. International Wood Markets Group, Inc. Vancouver, BC. March 2010. Analysis used with permission of the author.

According to the Wood Markets report (and assumptions), lumber output at Interior sawmills is expected to peak within three to five years as the economics of processing dead pine logs and the shelf-life of the logs reach an imbalance. Coupled with reductions in the Ontario and Quebec timber supplies, the pine beetle epidemic is expected to reduce Canada's share of the U.S. lumber market by 50 percent. RISI analysis<sup>4</sup> predicts a smaller decline in BC harvests, in the neighborhood of 15-25%, but this conservative view seems to be in the minority.

The key factor for U.S. timberland owners is that decreasing harvests from beetle-killed forests in Canada will reduce lumber supply to U.S. customers. Canada supplies about 30 percent of U.S. lumber demand. This should provide upward pressure on U.S. lumber prices. While there are other sources of offshore wood, notably Europe and Latin America, these all come with higher shipping costs and, at current exchange rates, significant currency disadvantages. The Wood Markets study opines that one of the mid-term outcomes of this catastrophe should be much higher lumber prices for those mills that survive,<sup>5</sup> as production from other parts of Canada and the U.S. will not be enough to meet market demand unless increased prices stimulate more output. Another analyst<sup>6</sup> predicts that in the medium-term (around 2012-2013), lumber prices and timber values in the BC Interior are expected to "skyrocket" as the annual allowable cut is reduced and as the capital destruction of the past four years translates into fewer-than-expected North American mill restarts.

The outcome of this epidemic will be long lasting. As the Wood Markets study says,<sup>7</sup> "While a massive salvage program has been underway for much of the last ten years, eroding log quality, poorer conversion economics and shorter shelf-life of the dead timber will all result in a much smaller BC industry in the future as a result of sawmill and plywood mill closures."

#### Disclosures

The information in this document is based on certain assumptions, information and conditions applicable at a certain time and may be subject to change at any time without notice. No representation, warranty or undertaking is given as to the accuracy or completeness of the information and opinions contained herein. No reliance may be placed for any purpose on the information and opinions contained in this document or their accuracy or completeness and nothing contained herein shall be relied upon as a promise or representation as to future performance.

Certain information in this document has been derived from materials furnished by outside sources. Although that information has been obtained from sources reasonably believed to be reliable, Campbell Global, LLC does not guarantee its accuracy, completeness, or fairness. Any forecasted timber growth, timber harvest activity, timber consumption patterns, timber prices, future macroeconomic measurements, opinions, and estimates set forth herein are presented for informational purposes only and involve a number of assumptions that may not prove to be valid and may change without notice.

<sup>4</sup> Peter Barynin, personal communication, April 2010.

<sup>5</sup> The study predicts that 16 mills will close permanently. For example, the Canfor sawmill in Quesnel, BC announced a curtailment of operations in January 2010 citing as one of the factors, that the mill has been running a heavy percentage of beetle-killed timber, which increases the cost of running the mill and lowers the quality of the lumber produced.

<sup>6</sup> Scotiabank commodities expert Patricia Mohr cited at <http://www.theprovince.com/business/Boost+lumber+industry/2742160/story.html>

<sup>7</sup> Quoted by CBC at <http://www.cbc.ca/technology/story/2010/03/19/bc-pine-beetle-forestry-report.html>

Certain information contained in this document constitutes forward-looking statements, which can be identified by the use of forward-looking terminology such as “may,” “will,” “should,” “expect,” “anticipate,” “target,” “project,” “estimate,” “intend,” “continue,” or “believe,” or the negatives thereof or other variations thereon or comparable terminology. The projections and forward-looking statements included herein are subject to risks, uncertainties, and assumptions. Some important factors that could cause actual results to differ materially from those in any forward-looking statements include the following: changes in financial, market, and economic or legal conditions, among others.