Forest Products: Taking Stock

By Roy Anderson

BC, Beetles, and Increasing Timber and Timberland Values

For the last decade, mountain pine beetles have been devastating interior British Columbia's pine forests. The impact on the forest is obvious: 40 million acres have been affected to date, and it is estimated that up to 90 percent of the province's pine forests will be killed by the time the epidemic runs its course. What's less obvious, but what is becoming better understood, is the impact of the epidemic on the regional and global forest products industry.

The primary tactic in battling the beetle epidemic has been to quickly harvest the timber in affected areas. As a result, the ongoing salvage efforts have driven timber harvests above allowable cut levels. This will ultimately lead to harvest reductions to maintain sustainability.

Until recently, strong lumber demand combined with salvage harvesting spurred lumber production in British Columbia. Prior to the beetle outbreak, the province's sawmills produced about 10.5 billion board feet of softwood lumber per year. In 2005, British Columbia's lumber production peaked at almost 15 billion board feet. To put the 2005 production volume in perspective, it was equal to almost a quarter of all softwood lumber consumed in the United States that year.

By 2009, British Columbia's annual lumber production had dropped back to about nine billion board feet, primarily because of weak lumber demand. A recent report by International Wood Markets Group projects additional industry changes. According to the report, "BC Interior: Mountain Pine Beetle Attack," a looming sawlog shortage will cause up to 16 major sawmills in the region to permanently close by 2018. These closures would be in addition to 12 sawmills and veneer mills that have already shut down since the 2005 production peak, when there were 77 major sawmills and 13 veneer mills in operation.

Thus, British Columbia stands to lose more than 30 percent of its mills if the projections prove correct. Expressed another way, the 16 mills represent about 3.5 billion board feet of lumber production. That prospective lost capacity, combined with the already realized loss of six billion board feet of capacity (2009 production compared to 2005), means that BC's forest-products industry may constrict by about 9.5 billion board feet (2005 compared to 2018).

A key factor that will affect the extent of the constriction is the "shelf life" of the beetle-killed timber. The longer the beetle-killed timber remains viable, the less likely it will be that the region will lose sawmills because of log supply shortages. Some are projecting that beetle killed timber will have up to a 20-year shelf life.

The primary environmental factors affecting shelf life are the growing site, tree diameter when killed, and the moisture content of the site. Most important in the shelf-life calculus are the economics of harvesting and processing salvaged logs. The longer shelf-life projections are based on the assumption that when individual stands are salvaged, at least 20 percent of the volume can be recovered as sawlog material, while the balance of the material would be used for various bioenergy products. Regarding the processing economics, it depends heavily on the volume of lumber recovered from the salvaged logs as well as the value of lumber at the time the logs are processed. The bottom line is that the shelf life hinges on many variables, and it remains to be seen how shelf life will impact BC's sawlog supply.

In contrast to the expected decrease in British Columbia's lumber production, global lumber demand is expected to rise. The historic long-term per-capita consumption of softwood lumber in the United States averaged about 175 board feet annually prior to the market collapse. Since the market collapse, per capita consumption has decreased to roughly half of the long-term level. US consumption is believed to have bottomed out and is expected to return to historic levels over the next five to 10 years; driven by pent-up demand and population growth.

Increased lumber demand from China is another significant factor. Historically, Chinese sawmills have met much of China's rising lumber demand by processing logs imported from Russia. However, in 2008 Russia made plans to tax exported logs, though the plans have yet to be implemented. Given this uncertainty and the availability of relatively low-cost lumber, China has dramatically increased lumber imports from BC, buying 1.63 billion board feet in 2009, which was a doubling of the 2008 amount. China is now the second largest export market for BC lumber, and indications from the first part of 2010 are that the trend continues.

BC's dwindling sawlog supply and increasing global lumber demand are likely to have broad implications for US companies as the BC cut declines and lumber exports to Asia increase. Softwood lumber prices will likely rise, and rising lumber prices typically lead to increasing timber and timberland values. Thus, the good news is that the US forest products companies that have managed to survive an incredibly difficult period are likely to enjoy much better times ahead.

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IN BRIEF

Amazon Fires and REDD

Fire occurrence rates in the Amazon have increased in 59 percent of areas with reduced deforestation, and the increase risks cancelling part of the carbon savings achieved by United Nations measures to reduce greenhouse gas emissions from deforestation and degradation, according to research led by the University of Exeter in the United Kingdom. The results of the research were presented in the June 4 edition of *Science*.

According to a university press release, the research suggests that if sustainable fire-free land-management of deforested areas is not adopted in the UN-sponsored REDD (reducing emissions from deforestation and degradation) programs, any carbon savings achieved by avoiding deforestation would be partially offset by increased emissions from fires. Many Amazonian farmers keep agricultural land free of new growth by "slash and burn" methods, usually on a three- to five-year cycle. The extra carbon emitted by the "leakage" of fires from farms into surrounding forest edges and forest fragments, as well as deforestation of forest regrowth, may therefore be partially negating carbon savings achieved through the UN-REDD programs.

Manomet Report on Biomass and Carbon

The Massachusetts Department of Energy Resources and the Manomet Center for Conservation Sciences recently released the results of a study of using wood to produce energy in Massachusetts. The authors of "Biomass Sustainability and Carbon Policy Study" used a comprehensive lifecycle carbon accounting framework to show that using wood for energy can result in an initial "carbon debt," because burning wood releases more carbon dioxide into the atmosphere per unit of energy than fossil fuels (oil, coal, or natural gas). Unlike fossil fuels, however, forest regrowth sequesters carbon dioxide from the atmosphere, and over time the carbon debt can be "paid off." After the carbon debt is paid off, if the forest continues to grow, a "carbon dividend" is realized, and the use of wood for energy then becomes increasingly beneficial for greenhouse gas mitigation. As a result, the report states, using wood for energy can lead to lower atmospheric greenhouse gas levels than fossil fuels, but only after the point in time when the carbon debt is paid off. The report is available at www.manomet.org.

New England Forest Cover Decline

Forest cover is declining in all six New England states, according to a study released in May by Harvard University's Harvard Forest. The report, "Wildlands and Woodlands: A Vision for the New England Landscape," examines forest trends and promotes strategies for permanently retaining 70 percent of the New England landscape in forest over the next 50 years. The authors envision tripling the amount of conserved land in New England while leaving ample room for future development. They call for conserving most of the landscape (63 percent) as working woodlands owned and managed by private landowners and protecting a smaller portion (7 percent) as wildland reserves. The report is available at www.wildlandsandwoodlands.org.

University of Exeter

Fires in the Amazon may cancel some of the carbon savings achieved by UN-sponsored REDD (reducing emissions from deforestation and degradation) programs. This image shows evidence of fire "leakage" from deforested land into the surrounding forest in the state of Mato Grosso in southeast Amazonia.

PEFC Tropical Standard

PEFC International invites comment on a draft of its Tropical Natural Forest Management Standard by August 10, 2010. PEFC (Programme for the Endorsement of Forest Certification) is an international non-profit, nongovernmental organization dedicated to promoting sustainable forest management. About 225 million hectares of forest are certified by PEFC. For more information see www.pefc.org.

Violence in Forests, Parks

An analysis of National Park Service, US Forest Service, and Bureau of Land Management (BLM) statistics by Public Employees for Environmental Responsibility (www.peer.org) shows that attacks and threats against agency employees reached an all-time high in 2009. The agencies reported incidents ranging from murder to sexual assault and other lesser crimes.

The National Park Service reported 158 attacks or threats on its law enforcement rangers, more than triple the 36 incidents it reported for 2008 and nearly 50 percent above its previous record year of 2004. The US Forest Service reported 427 violent incidents in 2009, a 33-percent increase over 2008 and the greatest number ever recorded.

The BLM reported a slight increase in incidents. However, PEER's surveys of BLM law enforcement personnel indicate a strong sentiment that violence associated with users of off-road vehicles presents a new major threat on recreational desert lands.