

The 2017 Fire Season and a Renewed Call for Action for Fireproofing

By Bruce Blackwell

In February 2018, the Forest Analysis and Inventory Branch, Office of the Chief Forester Division within the BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development completed a review of the impacts that the 2017 fire season had within the Cariboo Region of the BC Interior.

In the report, it noted that the 2017 wildfires affected more than 1.2 million hectares, the largest impact on record (going back about 100 years) for a single fire season and the area affected was eight times larger than the average annual area burned in BC of 142,000 hectares. At the time of writing, the 2018 wildfire season has been the third worst on record; its impact is yet to be determined.

The objective of the review was to assist the Chief Forester in assessing if current allowable annual cuts should be

re-determined and to provide an initial assessment of the impacts the fires may have had on the post-salvage, mid-term timber supply levels.

About one million hectares or 80 per cent of the area impacted was in the Cariboo Region with the most severely affected management units being the Quesnel, Williams Lake, and 100 Mile House Timber Supply Areas (TSAs). Of the million hectares burned, 650,000 hectares of the fire impacts were on the timber harvesting land base (THLB) or between 12 per cent and 22.5 per cent of the total THLB depending on the TSA. For an area of the province already ravaged by pine beetles and other insects and diseases, this was not good news to the industry.

Fire severity mapping was completed to support salvage operations and to up-

date the forest inventory; re-measurement of existing inventory ground plots within fire perimeters was completed to quantify timber volume losses by fire severity classes; and forest inventories were updated to account for timber volume losses due to the fires using both the severity mapping and ground sampling information.

In addition to incorporating the impacts of the fires, an updated assessment of the timber harvesting land base was completed, and other modelling assumptions related to timber supply projections for pre- and post-fire conditions and managed-stand growth were made to ensure the most current basis for a re-assessment of the future timber supply.

While the results of the analysis varied between TSAs as a result of fire location, the updated timber supply projections

suggest that current AACs do not need to change as long as tenure holders remain focused on the salvage of dead trees. That said, reductions in mid-term timber supply (post salvage) of up to 10 per cent are likely, depending on the TSA and further, that to keep the impacts at this level, short-term harvest remaining focused on salvage is required.

There may also be a need for the Chief Forester to reconsider current AAC partitions to certain types of timber such as live trees versus dead trees to help ensure that salvage harvesting does not further impact mid-term supply. The three Cariboo Region TSAs were already heavily impacted by the mountain pine beetle and the impact of the 2017 fires only added additional downward pressure on timber supply in the mid-term.

Beyond the impacts on timber supply and the eventual impacts the fires will have on the industry reliant on the Cariboo Region AAC, the human impact of the fires was even more significant suggesting a growing need to fireproof rural communities against the next inevitable firestorm.

While many communities have completed Community Wildfire Protection

Plans (CWPPs) that identify wildfire protection priorities, the large majority of these plans have not been implemented and the communities' risk profile to wildfires remain unchanged. Where communities have started implementation, the fuel management mitigation efforts have been limited to small areas that will have little or no impact on future wildfires, much like those that burned in 2017. Additionally, there has been little or no emphasis on protection of broader watersheds, critical infrastructure, and other important resource values such as important wildlife habitats.

If important community values are to be protected from future wildfire damage, there is a need to invest heavily (potentially billions of dollars) in broad landscape-scale treatments that have the potential to influence the current high-severity fire potential that dominates our Interior forests. These investments need to be strategic and targeted to the areas of greatest risk. At the same time, we need to find better ways to utilize fibre and reduce waste that contributes to fire behavior (such as spread rates and head fire intensity) in our recent cutovers.

Our forest industry plays a critical role in integrating fuel treatment strategies into harvest planning and creating mechanized solutions to implementing fuel treatment strategies that lower costs and improve operability in low value forests. For example, in many of our dry forest ecosystems, historic clear-cut harvest methods need to change as the regenerated pole sapling and young dense forest stands only contribute to future wildfire behavior. More consideration needs to be given to partial cutting and prescribed burning to increase the amount of shade, and thereby promoting higher foliar moisture content of understory vegetation during periods of drought, lowering wind speeds and increasing the overall wildfire resilience of forest stands.

Much of the most important short- and mid-term timber supply is embedded in, or immediately adjacent to, dead or dying forest stands which makes our green wood even more vulnerable to wildfire. These areas need to be mapped and protection strategies need to be developed if we are to avoid even further reductions to future timber supply. In many areas like the Cariboo, the

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Okanagan and Kootenay's, this should be our highest forest management priority. Similarly, many of our Southern Interior watersheds have the same wildfire vulnerability and these areas could cost tens of millions of dollars to restore following a catastrophic fire event if we do not focus on their protection now. Significant damage to watersheds will impact the sustainability of our many rural communities.

Wildfire vulnerability has been one of the top forest management issues in BC since 2003, yet over the past 15 years we have achieved little in reducing our vulnerability. The problem has gotten worse as the dead pine and other insects and disease have contributed to surface fuel accumulations. Time has run out and immediate action is required if we are to avoid a series of damaging and costly wildfire seasons over the next 15 years.▲

In January 2018, the Ministry of Forest, Lands, Natural Resource Operations and Resource Development released: Post-Natural Disturbance Forest Retention Guidance: 2017 Wildfires. The document provides guidance on the forested areas that should be reserved from harvest to protect non-timber values (referred to as retention planning). When planning retention during salvage harvesting, there are six points of overarching guidance that should be contemplated. In order of priority:

- 1) Ensure human safety and minimize damage to existing infrastructure.
- 2) Sustain, restore or enhance the capacity of ecosystems to provide ecosystem values, such as those related to water quality and wild-life habitat.
- 3) Consider the collective disturbances on the landscape to mitigate cumulative impacts on environmental and societal values.

- 4) Facilitate the adaptation of forests to improve resilience to climate change.
- 5) Minimize impacts to timber supply by shifting logging from undamaged stands to damaged stands wherever possible.
- 6) Recover value from the burnt timber before the wood quality deteriorates.

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