



Wildfires – The Problems and the Solutions

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Abstract

British Columbia is annually threatened by wildfire. Long-term impacts of successful fire control efforts have resulted in ecological changes and elevated levels of forest fuels. These changes in forest fuel conditions have resulted in faster spreading and higher intensity wildfires, with increased difficulty of control. Significant investments focused on reducing the risk of wildfire and improving forest health are urgently required to address the growing threat to public safety and significant losses to social, economic and environmental values that are important to communities throughout BC.

Wildfires have been, and will likely continue to be, one of the most significant forest management issues facing British Columbia (BC) over the coming decades. In recent years, these wildfires have been associated with dry summers and long-term impacts of successful fire suppression. BC's successful fire control efforts have resulted in ecological changes, however, that have increased tree density (numbers of trees) and fuel continuity, resulting in elevated levels of fire hazard across the Province. Not only are many of these forests a fire threat, but years of fire suppression and associated ecological change have increased competition for soil moisture and nutrients, contributing to environmental stress and a resultant decline in forest health.

Additionally, the mountain pine beetle epidemic that has impacted lodgepole pine forests throughout the central and southern Interior has produced changes in fuel properties that have increased loadings of dry surface fuel, rates of fire spread and the intensity (energy output) of wildfires. These changes in fire behavior have increased the threat to public safety and difficulty of fire control. The problem has been further exacerbated by the number of homes developed within the forest in areas where the forest meets the community, commonly defined as the wildland-urban interface.

Currently, many of our land management goals conflict with basic principles of fire management. Over the last 25 years, our ability to treat fuels through the application of prescribed fire has been limited by smoke restrictions, and important environmental management legislation and standards. The multiple goals of maintaining timber inventories, human structures and high air quality have outweighed the need to reduce hazardous fuels and restore altered ecosystems. Yet it is generally not realized that large uncontrolled fires may have a far greater impact on air quality when compared with the release of carefully controlled and monitored smoke from prescribed burning. While human health and other values cannot be overlooked, rules and regulations must be balanced to mitigate fire risk.

The Province has responded by adopting recommendations of the Filmon Report¹ and implementing a \$40 million fuel management program. While the efforts undertaken to date show recognition of the problem, they pale in comparison to the scope and scale of the issue. Our fuel treatment efforts have primarily focused on the protection of communities and human life, yet the problem more broadly affects the sustainability of watersheds, wildlife populations, timber supply, recreation, tourism and cultural values.

To effectively deal with this growing problem, efforts must be expanded beyond small-scale treatments within and immediately adjacent to communities, and must also be expanded to a larger strategic landscape approach. The focus of a landscape-level approach should be on linking fuel reduction treatments at a large scale and effectively creating what can be defined as a fuel break system. These fuel breaks will help to reduce fire behaviour potential by: 1) moving fire from tree crowns to the ground; 2) reducing overall fire intensity; and 3) providing a safety zone where firefighters can work to conduct fire suppression.

Without a fuel break strategy, the current fuel conditions throughout much of BC are susceptible to rapid fire growth during periods of high fire danger, as demonstrated by the 2010 Binta Lake fire which moved more than 20 kilometers during a single 12 hour period. Under these types of fire weather conditions, suppression resources can do little to control the fire, given safety concerns and the difficulty of control.

Policy changes are required to increase the utilization of small-diameter fuels for biofuels. These policy changes could be difficult, however, as they impact land ownership, the economics of harvest, and trade-offs in environmental objectives. However, such changes may improve the overall economics of treatment and reduce the burden on the public treasury for wildfire management. Further investment and strategic coordination of forestry operations are required to address the threat to public safety and the sustainability of our forest resource. Significant investments focused on reducing the risk of wildfire and improving forest health are urgently required to address the growing threat to public safety and significant losses to social, economic and environmental values that are important to communities throughout B.C.

¹ <http://www.2003firestorm.gov.bc.ca/firestormreport/FirestormReport.pdf>