

Letters to the Editor



"The fact that foresters, ecologists, fire managers and fire researchers in southern British Columbia are coming to the realization that fire exclusion practices and the corresponding lack of prescribed burning in their short-interval fire regime ecosystems have contributed to a forest-fire fuel situation that is remarkably similar to the current U.S. wildland fire scene is indeed encouraging."

An Emerging Fire Management Issue in Canada: Forest-fire Fuels

It was gratifying to see the article "Growing Threat of Wildfire" by Bruce Blackwell and Bob Gray in the Summer 2002 issue of Canadian Silviculture. It's certainly worth noting that the current wildfire situation in the U.S. as described by Blackwell and Gray was prophesied by Harold Weaver, a forester with the U.S. Bureau of Indian Affairs, 60 years ago (Weaver 1943)! Less this be denounced as simply coincidence, one only need read Thomas 's (2002) recent "heads up" article to appreciate that this is not the case (Thomas is a former Chief of the U.S. Service Forest). And there were several subsequent post-Weaver warnings (e.g., Wilson and Dell 1971; Dodge 1972) so the notion of the benefit of hindsight is not relevant either.

The fact that foresters, ecologists, fire managers and fire researchers in southern British Columbia are coming to the realization that fire exclusion practices and the corresponding lack of prescribed burning in their short-interval fire regime ecosystems have contributed to a forest-fire fuel situation that is remarkably similar to the current U.S. wildland fire scene is indeed encouraging (see Holmes 1995; Taylor *et al.* 1998). While we wish our neighbours to the south the best in their endeavors to manage their hazardous fuel situation, it may well be a case of being too late. The same may be said for southern British Columbia - "only time will tell" unless we act now.

What about the larger boreal forest region of Canada? The nature of wildfire occurrences in the past two and a half decades would suggest that perhaps we are beginning to see the early indications of attempted fire exclusion policies in regards to the

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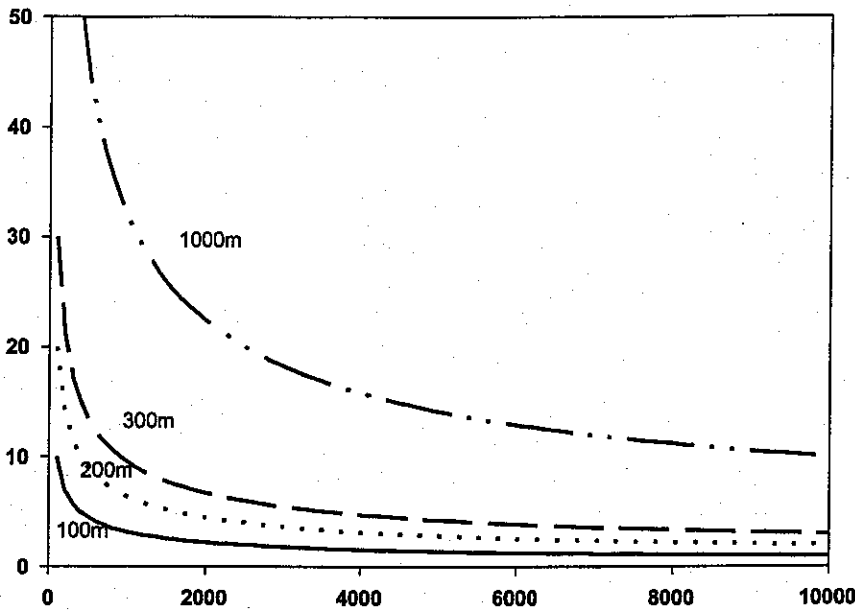
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continuity aspect of the fuel type mosaic in the boreal forest; the situation in southern British Columbia is more a case of increased fuel loads at a given point (commonly referred to as "fuel buildup"). Fire control has been practiced in the boreal forest region for 50-80 years. Based on my travels across Canada in the last two and half decades, I think it would be fair to say that past and present forest management practices may have also had an unknowing, detrimental affect.

It has been suggested that the increase in annual area burned since about 1980 may be attributable to climate change but weather is only one of the three elements of the "fire environment" (the others being fuel and topography) which along with ignition sources determine fire occurrence and fire behavior. There is good circumstantial evidence (e.g., the post-fire mosaics from the 1988 fires in the Greater Yellowstone area) to suggest that the fuel component of the fire environment needs to be examined equally well as the weather or climatic component in any global change research effort.

It would be easy to reject this whole notion that attempted fire exclusion/forest management practices have perhaps and/or will contribute to the occurrence of catastrophic wildfires in the future. Admittedly, it's not a popular idea considering the funds and effort that have been invested in controlling wildfires in Canada. However, we only need to examine Harold Weaver's earlier prophesy regarding the wildfire threat to the ponderosa pine forests in the U.S. Inland West and Pacific Northwest to attest to the importance of being prudently cautious.

A preliminary study of the issue of managing fuels on the boreal forest landscape (Amiro et al. 2001) suggests that it's just as "daunting" a task in the boreal forest as it is in dry forest type ecosystems of southern British Columbia (see graph on next page). However, not all areas are equally at risk. Assessments need to be carried and priorities established. There are admittedly many knowledge gaps to be addressed (e.g., variations in fuel flammability in time and space, spot fire behavior). Nevertheless, what we can't do is simply wait. The forestry community in Canada has a responsibility and the related experiences to start addressing a problem that was certainly not foreseen when they received their early forestry school training. The issues are so subtle as to almost make them imperceptible in the short-term. The long-term consequences are however, horrific. It's time we acknowledge this!



Limit of single fire area

Geometrics of a proactive fuel isolation treatment (from Amiro et al. 2001). The lines are curves of the % of the landscape area that needs to be treated to provide a fuel break of a given width (100m, 200m, 300m, 1000m), such that the maximum fire size is limited to that shown on the x-axis. This assumes that the fuel isolation treatments are in a square grid pattern, and act as perfect fuel breaks.

Martin E. Alexander, PhD, RPF
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ADDENDUM

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