

Appendix 13. Fire Disturbance Mimicry at Cosh Creek¹

<p>Recommendations by McRae et al, 2001:</p> <p><i>“Much can be done to bring harvesting to more closely approximate wildfire patterns...”</i></p>	<p>IWS Plan Actions:</p> <p>Proposed application to the Cosh Creek area</p>
<p><i>“by using a combination of many smaller patch cuts and a few extremely large clear cuts”</i></p>	<p>Prior to the IWS Plan, timber harvesting in southern portions of the East Hyland Planning Unit consisted of cut blocks ranging from 2-22ha (YFMB East Hyland Report, 2000). Therefore, smaller patch cuts were the only size represented in the Cosh Creek area. With the newly proposed blocks (C4- C12) some of these small patches have been amalgamated into 8 proposed new blocks ranging from about 22 to 290 hectares in size. Thus the medium and large-sized patches are now better represented.</p>
<p><i>“Harvesting could emulate the general ellipse shape of burned patches”</i></p>	<p>The IWS Plan has proposed more natural block shapes for all units including the East Hyland. Cut block boundaries are proposed along timber types (old fire edges), brush patches, topographic features, etc. and are located in such a way as to conform to natural disturbance patterns and maximize wind-firmness. As can be seen from the final block shapes in the Cosh Creek area, the boundaries have amalgamated the existing straight edged blocks into longer elliptical patches with the ends of the ellipse representing the direction of the prevailing winds.</p>
<p><i>“Leaving ragged edges”</i></p>	<p>The boundaries of the Cosh Creek blocks do not follow straight, unnatural edges (with the exception of incorporated edges of existing blocks). On the edges where wind-firmness is not a concern, irregular deviations (fingers, etc.) have been included to diversify the elliptical pattern (just as a wildfire would burn erratically when not influenced by the wind). In addition, the proposed Variable Retention harvest will further feather the block edges by retaining dispersed retention of mature trees throughout the harvested area.</p>
<p><i>“Leave unburned ‘islands’”</i></p>	<p>Aggregated retention, in the form of internal reserves, has been proposed within the Cosh Creek blocks. These islands of mature timber have been left where they are wind firm and/or ecologically important. In addition, external reserves have been retained adjacent to the harvest areas and contiguous with the surrounding Forest Ecosystem Network (FEN) to provide larger areas of interior forest conditions.</p>
<p><i>“More standing trees and snags should be left on site”</i></p>	<p>A range of 10 to 40 dominant trees/ha. has been prescribed for all proposed blocks as part of the Variable Retention harvesting system. In addition snags, stubs, and non-merchantable advanced regeneration clumps have been prescribed to provide stand structural diversity in the harvested areas.</p>

¹ Adapted from P. Shuetz 2004. pers. comm.

Recommendations by McRae et al, 2001: <i>“Much can be done to bring harvesting to more closely approximate wildfire patterns...”</i>	IWS Plan Actions: Proposed application to the Cosh Creek area
<i>“Harvesting could be planned to emulate the topographic complexity of the landscape”</i>	<p>The proposed IWS Plan boundaries were adjusted both after the reconnaissance, and during the final layout stage in a site-specific manner so that they conform to natural features such as draws, timber types, slope breaks, old fire boundaries, etc. In addition, they exclude unique, rare, or important habitat features not found at the landscape plan level.</p> <p>The new block shapes compared to the old harvest block shapes in Cosh Creek clearly demonstrate the difference between natural disturbance emulation as advocated in the IWS Plan vs strict adherence to the THP & OG.</p>
<i>“A broader range of older age-classes”</i>	<p>In the IWS Plan, ‘Old Growth’ is defined as any forest stand older than 130 years. While the existing inventory of the East Hyland Planning Unit indicates old growth forests are rare, reconnaissance of the Cosh Creek area and the entire planning unit has proved otherwise. The data indicates that although the majority of forest types tend to be in the 80 to 130 year age range, many older stands are also present. A re-inventory of fire skips in the Lowland and riverine Natural Disturbance Zones (NDZ’s), and extensive areas in the sub alpine NDZ, will confirm the greater abundance of stands over 130 years old in these areas. Therefore, the IWS Plan strategy of targeting sub alpine, lowland and riverine habitats for inclusion into the FEN has, by default, included the most extensive and important old growth stands.</p> <p>In the Cosh Creek Blocks (Upland NDZ), timber cruising data indicates the average age of all trees measured was 142 years old. Considering the area cruised was in excess of 600 hectares it is obvious that the original estimation of less than 500 hectares of old growth forest in the entire East Hyland Planning Unit is low. It should also be noted that, outside of the harvest area boundaries, trees were found up to 375 years old. (Black spruce located on a hygic site that is a part of the proposed FEN).</p> <p>This suggests that old growth stands in the Southeastern portion of the planning unit are not at all rare and that the majority of them will be excluded from harvest in internal reserves, external reserves, riparian corridors and FENS. In addition, application of Variable Retention harvesting ensures dispersed old growth trees will be retained throughout all harvest blocks.</p> <p>As directed by the IWS Plan, these landscape and stand level actions will ensure maintenance of the broad range of older age classes recommended by McRae et al. 2001.</p>

Recommendations by McRae et al, 2001: <i>“Much can be done to bring harvesting to more closely approximate wildfire patterns...”</i>	IWS Plan Actions: Proposed application to the Cosh Creek area
<i>“The road networks left by harvesting have many direct and indirect environmental impacts ... roads are not usually associated with wildfire”</i>	<p>By amalgamating existing harvest blocks in Cosh Creek to form new blocks the ratio of access distance to timber extracted decreases. Therefore, the overall impact of road networks in the area will be diminished. For the remainder of the East Hyland Planning Unit the IWS Plan can proceed with sequential clustered development and deactivation (i.e., develop one sub-unit at a time and deactivate as you go to reduce the negative impacts of access as much as possible). The IWS Plan advocates the further development of road construction standards before future units are developed. Upon completion of harvesting and silviculture activities, road networks would be reviewed (maintained /deactivated) to ensure environmental compliance strategies are met (p. 35 IWS Plan Recommendations, 2003).</p> <p>Although roads are not usually associated with wildfire, the detrimental impact caused by the destruction of entire lowland forests, riverine zones, riparian habitats and steep slopes (as seen in the East Hyland Planning Unit) are not usually associated with harvesting.</p> <p>Both (Mc Rae et. al, 2001) and the IWS Plan are emphasizing the potential risk associated with soil disturbance (most of which results from access) and the need for management strategies in this regard.</p>