

**Alexander, Martin E. \***

What kind of fire behavior is required to open serotinous cones of jack pine and lodgepole pine?

**Abstract:** A methodology has been developed for defining the threshold conditions required for the opening of serotinous cones and viable seed release in jack pine (*Pinus banksiana*) and lodgepole pine (*Pinus contorta* var. *latifolia*) forests on the basis of fireline intensity and in turn rate of fire spread and fuel consumption. The extent to impacts to the overstory canopy (i.e., crown scorching and flame defoliation) and the type of fire (i.e., low- to high-intensity surface, intermittent crown, and active crown) vary at any given fireline intensity level is principally a function of foliar moisture content, canopy base height, stand height, and canopy bulk density. The viability of the seed stored in serotinous cones of the two pine species drastically decreases once the flame front residence time at the ground level of an active crown fire in a stand exceeds approximately 50 seconds.

\*University of Alberta, Edmonton

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