Dry forests of ponderosa pine (Pinus ponderosa) and interior Douglas-fir (Pseudotsuga menziesii var. glauca) occur along the valleys at low- to mid-elevations within the southern interior of British Columbia. Fire suppression, overgrazing, and selective logging in these forests are believed to have caused forest encroachment on grasslands and ingrowth within open forests. Ingrowth is excessive tree recruitment, primarily by shade-tolerant species, such as interior Douglas-fir, within low-density, open forests.

Ingrowth often results in the retrogression of understory plant communities, the loss of habitat for sensitive wildlife species, and an increased risk of catastrophic wildfires. Changes in forest structure within ingrown forests reduces forage availability for wildlife and livestock. For example, a lack of light and increased competition from pinegrass may limit the abundance of important forage species such as bluebunch wheatgrass and rough fescue. Habitat value for grassland and open-forest dependent wildlife species such as the badger is also diminished with ingrowth.

Forage production of all grasses combined was tripled at the ponderosa pine site on areas partially-cut to allow a 44% increase of understory light compared to areas partially-cut to allow 17% more understory light (408 kg/ha versus 125 kg/ha, respectively) (Fig. 1). Most of the forage increase was due to pinegrass (Calamagrostis rubescens) with some contribution from bunchgrass. Total forage production was almost doubled at the Douglas-fir site.

The ratio of rough fescue (Festuca campestris) frequency to pinegrass frequency has decreased slightly over time at both sites, an indication that pinegrass is “winning the race” relative to rough fescue (Fig 2).

It is evident that desirable plant species such as rough fescue have not yet been able to reproduce substantially with the treatments employed, and under the environmental conditions experienced over the study period. Possible limiting conditions include grazing by cattle, elk and deer, and drought.

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