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Abstract

Paper Birch and Fireweed Stand Establishment Decision Aids

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The Coastal Western Hemlock subarctic biogeoclimatic subzones (CWHds1 and ds2) occur in the inland valleys of coastal British Columbia, where the climate is commonly transitional between the province's coastal and interior regions. Vegetation management issues in these subzones include species such as fireweed (*Epilobium angustifolium*) and paper birch (*Betula papyrifera*). On wetter, rich sites of the CWH zone, management options for other vegetation (e.g., salmon-berry, devil club, and elderberry) are well documented; however, little research has focussed on the competing species found primarily in the subarctic British Columbia subzones.

A field guide for the region (Green and Klinka 1994) lists a number of vegetation concerns for the CWH subarctic subzones. Practitioners, however, have identified a need for more information about paper birch and fireweed. The vegetation management Stand Establishment Decision Aids (SEDAS) included in this extension note are designed to fill this gap. Although initially developed to address the needs of coastal managers, much of the information presented here can be applied to other areas of the province experiencing similar issues related to successful conifer regeneration. Most of the content was adapted from previously published information on paper birch and fireweed management in the former Cariboo Forest Region (Swift and Turner 2002).

The majority of the information provided for paper birch emanates from research conducted in the province's southern interior (Simard 1996; Simard and Henigman 1996), where birch is well distributed and can affect crop tree regeneration and survival. Earlier legislation required free-growing trees to be 150% of the height of competing vegetation; however, the relatively small canopy of paper birch compared to other hardwood species such as alder makes it a less serious deterrent to conifer development. Therefore, foresters working in the CWH subarctic subzones must determine the effect that existing levels of birch will have on the short- and long-term growth of crop trees. Additionally, research has shown that birch within a regenerating stand of Douglas-fir are beneficial to ectomycorrhizal development (see Jones *et al.* 1997; Simard *et al.* 1997a and b). Licensees working in subarctic subzones, where a shift from timber-oriented objectives to ecosystem biodiversity and long-term site productivity objectives may occur, could greatly benefit from further research into the effects of paper birch on regeneration.

This extension note provides a general guide for managing paper birch and fireweed in the Coast Forest Region. Peterson *et al.* (1997) provide a more complete discussion of paper birch throughout the majority of its range. Additional information sources for both paper birch and fireweed are listed in the Resource and Reference sections.

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