Management Objectives for the Non-Timber Values of Aspen Stands

Supplement to TFL 52 - Management Plan 2

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The approval of Management Plan 2 for TFL 52 included a condition that West Fraser develop management objectives for aspen stands in order to account for non-timber values.

Aspen on the TFL has a wide seral distribution, ranging from very young fire and harvesting-originated stands to natural "old-growth" stands (i.e. over 50-60 years old). Aspen occurs in pure stands and as a major and minor component of coniferous stands. Most of the aspen is found within the Sub-Boreal Spruce moist, warm sub-zone (SBSmw), and the wet, cool subzone (SBSwk1) which corresponds to the lower elevations of the TFL 52. Table 1 provides an area summary of aspen-leading and aspen-secondary stands on the TFL.

Table 1 Age – Stand Composition of Aspen on TFL 52

Stand Type	Age	Area (hectares)
Aspen leading, >50%	<25 years	1,072
	26-50 years	598
	>50 years	3,403
Aspen secondary, 30-50%	<25 years	1,524
	26-50 years	269
	>50 years	2,224

In the Management Plan 3 Timber Supply Analysis, 2,722 ha. of deciduous-leading stands that are not expected to produce at least 120m^3 of coniferous volume by age 150 years are excluded from the timber harvesting land base. Excluding these stands helps ensure that a deciduous inventory will be maintained.

Table 2 provides a summary of aspen harvested over the past five years. West Fraser has not harvested the expected volume of aspen because of weak markets for chips used in pulp and oriented strand board. In 1999and 2000, the harvested volume was down considerably because of a shift in harvest capacity to the forest licence to salvage stands infested with mountain pine beetle. There are, however, several blocks proposed in the development plan where aspen comprises a high proportion of the total volume.

Table 2 Summary of Aspen Harvested

	Year					
	1995	1996	1997	1998	1999	2000
Volume (m^3)	9,933	7,574	7262	8818	4414	1287

Non-Timber Values

Aspen is an important variable for managers who are trying to integrate various competing values on a landscape. The species regenerates easily, is used by a number of different birds and mammals, and decays quickly. The non-timber values of aspen are for wildlife, biodiversity, recreation, cattle grazing, and visual quality (adapted from "Aspen Managers' Handbook for BC").

- **Recreation**

The Recreation Inventory update done for Management Plan 3 did not identify any mature aspen-leading or aspen-secondary stands associated with provincially or regionally significant features. These recreational features are generally related to the historical artifacts and access routes to Barkerville and Wells, and to the mountains in the eastern portion of the TFL. Locally significant recreational pursuits, such as fishing, hunting and snowmobiling, occur to some degree in the western part of the TFL, which is also where a high proportion of the aspen is found. Due to the nature of the recreational pursuits, management activities directed towards aspen, whether stand tending or harvesting, are not expected to have a detrimental impact.

Several historic trails or routes to Barkerville have been identified that pass through areas having aspen stands. The management constraints that apply to coniferous forest management along historic trails also apply to aspen forests.

- **Grazing**

There are seven range tenure holders with a combined use of approximately 1,800 AUM's either on or adjacent to the TFL. Some range use occurs in aspen stands, but there are no anticipated impacts as a result of any operations that may be conducted by West Fraser.

- **Visual Quality**

A landscape inventory of visually sensitive areas has been completed for the TFL. There are no cut blocks with aspen-leading or aspen-secondary identified anywhere within an area where visual quality objectives (i.e. preservation, retention, partial retention or modification) have been established. Stand tending activities such as spacing or brushing may occur in small areas classed as "partial retention", but, because of the nature of the activity, there should be no conflict with visual quality objectives. Retention of aspen may be used to reduce visual impacts for specific reasons on some cut blocks, but generally, management of aspen as it relates to visual quality is not a significant issue on the TFL.

- **Wildlife and Biodiversity**

Forest management activities will influence the distribution of aspen and composition of stands on the TFL. However, some of the resulting changes are expected to be beneficial for both aspen-dependant wildlife and biodiversity because of the resultant establishment

of an early seral aspen component on some sites. The attached map indicates that this is in fact occurring after harvesting and reforestation is done.

Mammals that utilize aspen stands include bears, moose, mule deer, beavers, chipmunks, mice, voles and shrews, as well as the animals that prey on them. Ruffed grouse, cavity-dependent birds (such as pileated woodpeckers), and migratory song birds use the various seral stages of aspen stands for feeding, shelter and nesting. Aspen forests have been found to have higher densities and varieties of bird species than coniferous forests. The number of cavity-dependent birds increases markedly in 60-80 year old aspen stands as compared to younger stands. As aspen stands age, the change in stand attributes results in successional changes to mammal and bird communities. This is neither good nor bad, but is simply changed.

While a small component of mature aspen will be harvested over time, it is expected that, during the same time, early seral aspen stands established as a result of past harvesting, will reach maturity. No net loss of late seral aspen stands is expected on the TFL.

Figure 1. Regenerated Stands with an Aspen Component (Sovereign Creek)

Figure 2. ***Aspen, Cottonwood and Birch Residuals***

Management Objectives

Aspen is one component to be considered in an integrated management program. Management activities on TFL 52 will be conducted in a manner that will ensure:

- temporal and spatial seral stage distribution (early to late) of aspen in the sub-boreal spruce sub-zones, where aspen is a widespread tree species.
- habitat is maintained or enhanced for aspen-dependent species.
- free growing obligations on harvested areas are met.
- aspen-leading stands which may be harvested will be regenerated to an aspen-leading stand; stand having a minor component of aspen at time of harvesting will have an aspen component at the free growing stage.

In order to attain these objectives, some or all of the following measures may be incorporated in harvesting and silviculture plans:

- accepting a minor component of aspen in silviculture surveys, as per current free growing guidelines.

- including a minor component of aspen in stand management prescriptions.
- including aspen, where it is a component of the stand, as part of the 9% wildlife tree patch component at the cut block level.
- leaving scattered standing aspen in stands where aspen is a minor component, and where doing so does not compromise site preparation methods specified in an approved silviculture prescription.[1]
- creating stubs from standing aspen during the falling phase of harvesting
- leaving felled aspen as coarse woody debris, when it does not meet utilization standards.
- mixed wood management prescriptions, where aspen is the leading species in a stand.

[1] standing aspen have been left in some broadcast burned blocks, but the trees were killed; this option is not recommended because of safety concerns and the high risk of not saving the aspen.

References

Peterson, Everett B. and N. Merle Peterson. 1995. *Aspen Managers' Handbook for British Columbia*. FRDA Report 230, BC Ministry of Forests, Victoria, BC.

Steneker, G.A. 1976. *Guide to the Silvicultural Management of Trembling Aspen in the Prairie Provinces.* Information Report NOR-X-164, Northern Forest Research Centre, Edmonton, AB.