



To: Greg Behuniak
From: Craig Mistal
cc: Gyula Gulyas
Date: September 24, 2006
Project: BC0107860
File: BC0107860_GP_percent_larch_memo_2007Sep24.doc
Re: Calculation of percent larch volume for Grande Prairie yield tables

Weyerhaeuser requires an adjustment factor to apply to the Grande Prairie FMA DFMP yield tables¹ to net out larch volume. The purpose of the memo of the memo is to describe the methods used to calculate the larch reduction adjustment factor.

We identified the last measurement PSPs used to develop the yield tables that were greater than or equal to 60 years of age according to the inventory (AVI) label. We compiled plot-level conifer volume per hectare, with and without larch, using the same procedures as used in the yield table analysis.¹ We then calculated the average of plot volumes by yield group (Table 1).

Table 1. Larch volume within each yield strata in the Grande Prairie FMA PSPs.

Yield strata	Description	BCG	Conifer merch. volume (m ³ /ha), with larch	Conifer merch. volume (m ³ /ha), without larch	Larch merch. volume (m ³ /ha)	# plots ≥ 60 years age	Strata area (ha) ≥ 60 years age
1	PI-AB	CX	187.7	187.2	0.91	72	44,775
2	PI-C	CX	245.6	245.4	0.21	81	58,006
3	PI-D	CX	259.5	259.5	0.00	38	33,237
4	[Sw,Fa]-AB	CX	146.0	145.6	1.81	52	57,473
5	[Sw,Fa]-CD	CX	182.8	182.8	0.05	19	19,431
6	[Sb,Lt]-AB	CX	95.3	92.2	3.15	16	20,102
7	[Sb,Lt]-CD	CX	123.4	123.0	0.45	14	12,734
8	PI-Sw-ABCD	CX	239.5	237.1	2.40	69	57,036
9	Sw-PI-ABCD	CX	234.8	234.8	0.00	39	35,618
10	[PI-Sb,Sb-PI]-AB	CX	110.7	109.2	1.51	19	18,189
11	[PI-Sb,Sb-PI]-CD	CX	153.0	153.0	0.00	12	9,952
12	[Sw-Sb,Sb-Sw]-ABCD	CX	116.7	114.9	1.79	13	14,668
13	PI-hwd-ABCD	CD	170.8	170.8	0.00	18	9,098
14	[Sw-Sb]-hwd-AB	CD	71.3	71.3	0.00	10	9,420
15	[Sw-Sb]-hwd-CD	CD	120.7	120.7	0.00	8	6,918
16	hwd-swd-AB	DC	96.9	96.0	0.95	24	19,459
17	hwd-swd-CD	DC	112.5	112.5	0.00	16	10,630
18	hwd-A	DX	43.5	43.5	0.00	24	23,569
19	hwd-B	DX	41.6	39.8	1.73	32	40,844
20	hwd-C	DX	31.6	31.5	0.02	61	92,154
21	hwd-D	DX	43.6	43.6	0.00	14	28,979
40	Conifer US	DC	108.4	108.3	0.13	27	27,893

We attached the area in the net landbase over 60 years of age to the yield strata and calculated the area-weighted volumes by broad cover group and overall (Table 2).

¹ J.S. Thrower and Associates Ltd. 2007. Grande Prairie Forest Management Yield Tables. Forest Management Agreement Area FMA #6900016. 38 pp + appendices. Project: WCG-009. Submitted to ASRD.

Table 2. Larch % reduction for the Grande Prairie FMA yield tables.

Landbase	BCG	Conifer merch. volume (m ³ /ha), with larch	Conifer merch. volume (m ³ /ha), without larch	Larch merch. volume (m ³ /ha)	Larch reduction (%)	# plots ≥ 60 years age	Strata area (ha) ≥ 60 years age
Conifer	CD	120.3	120.3	0.00	0.00	36	25,436
	CX	193.9	192.8	1.10	0.57	444	381,221
	DC	105.3	104.9	0.38	0.36	67	57,982
	<i>CD/CX/DC</i>	<i>178.8</i>	<i>177.9</i>	<i>0.95</i>	<i>0.53</i>	<i>547</i>	<i>464,639</i>
Deciduous	DX	37.1	36.8	0.39	1.05	131	185,546
<i>ALL</i>	<i>ALL</i>	<i>138.4</i>	<i>137.6</i>	<i>0.79</i>	<i>0.57</i>	<i>678</i>	<i>650,185</i>

Our calculations show that the overall reduction for larch to apply to the Grande Prairie yield table conifer volume is 0.53% for the coniferous landbase and 1.05% for the pure deciduous landbase.