

10. OKANAGAN IFPA – VRI ADJUSTMENT OPTIONS

Memo

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To: Glen Dick
From: René de Jong
cc: Gord Lester, Kelly Sherman, Guillaume Thérien
Date: November 22, 2002
Project: OKI-004
Location: P:\Okanagan IFPA\oki-005\Reports\AAC application Jan 31 2003\Appendix V\App-V_JST appendix V main.doc
Re: Okanagan IFPA – VRI Adjustment Options

Glen,

Timberline (TFIC) generated preliminary harvest flows for three separate VRI adjustment options to quantify differences in short and mid-term harvest flows. The three options include 1) Fraser Protocol, 2) Proportional 10% increase over unadjusted VDYP curves, and 3) JST volume adjustment regression. Preliminary future site index¹¹ for managed stands (as defined under the recommended composite run in JST memo dated October 29, 2002) were included in these runs. TSR2 harvest flows have also been added for comparison.

Application of the Fraser Protocol consisted of revising VDYP curves based on adjusted age and height attributes, plus applying volume adjustment ratios. Application of the proportional 10% option increased unadjusted VDYP curves by 10% across all age classes.

Application of the JST volume adjustment regression shifted the unadjusted VDYP curves by a fixed volume difference at each age class. For a given 10-year growth period, a polygon's volume was adjusted by the average predicted volume difference over the period from the stand's current to next age class. Volumes at subsequent periods were then adjusted by the amount specific to each period. We felt this reflected the most appropriate application of the JST volume adjustment regression option that accounted for changes in volume adjustment by age class. Table 1 summarizes the predicted volume differences by age class that were applied against the unadjusted VDYP curves.

¹¹ Note that site index estimates for the drybelt region are based on the September 26, 2002 version of PEM. Adjusted site index estimates resulting from subsequent revisions to the PEM map entities have not yet been included in this analysis.

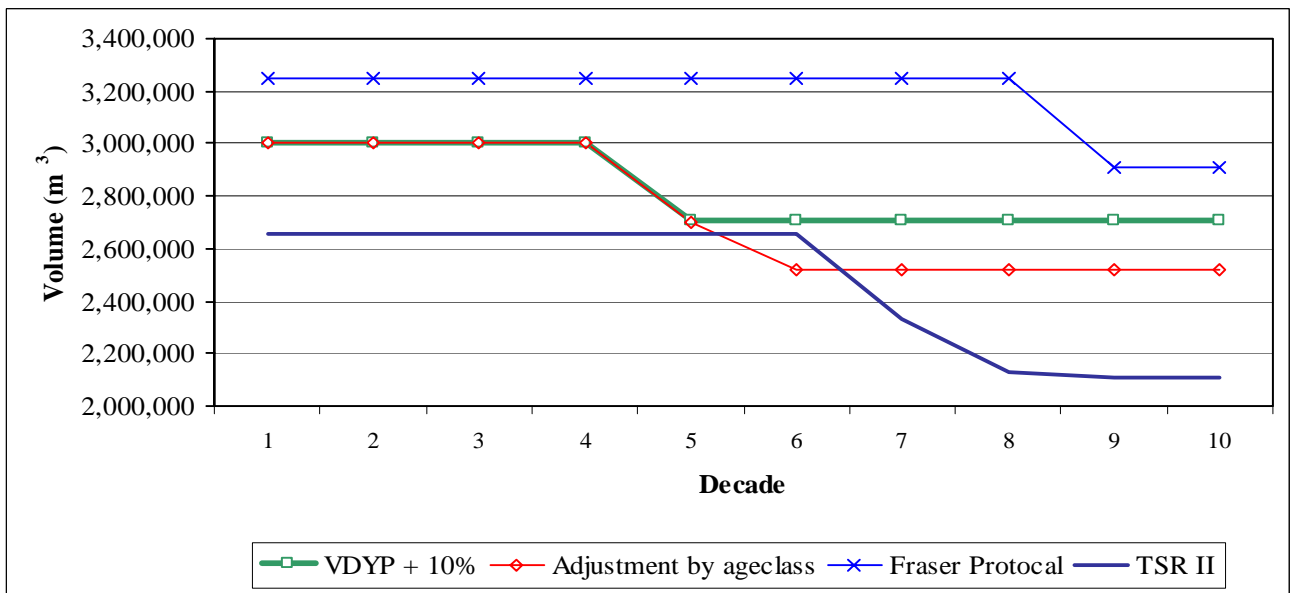
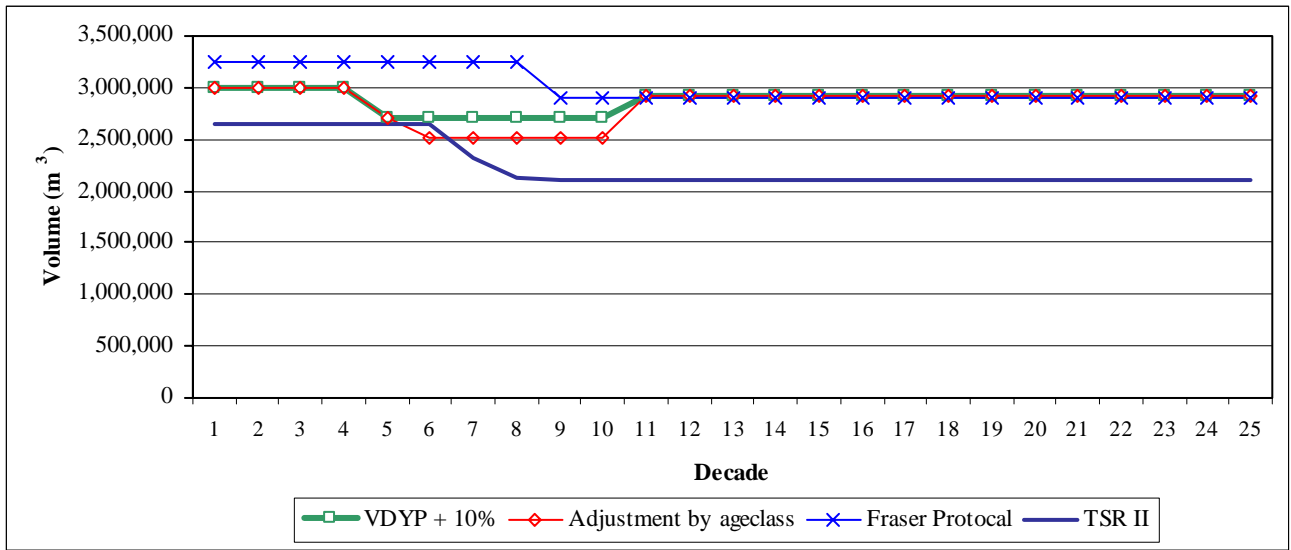
Table 1. Results of JST volume adjustment regression. Comparison between adjusted and inventory volumes by age class. Shaded column lists the volume differences applied to unadjusted VDYP curves at each age class (taken from table 2 in the memo by Guillaume Thérien to Albert Nussbaum on re-adjusting the Okanagan IFPA VRI, dated November 6, 2002).

Age Class (yrs)	Area (ha)	Adjusted Volume (m ³ /ha)	Inventory Volume (m ³ /ha)	Difference	
				(m ³ /ha)	%
2	72,507	28.5	3.8	24.7	647%
3	41,696	117.5	59.8	57.7	96%
4	133,417	170.4	125.6	44.8	36%
5	99,179	208.1	183.0	25.0	14%
6	162,883	255.5	253.2	2.3	1%
7	135,266	283.2	284.3	-1.1	0%
8	325,838	311.5	281.6	29.9	11%
9	75,639	423.0	393.8	29.3	7%
Total	1,046,427	252.1	228.3	23.7	10

To ensure starting conditions approximated the expected volume adjustments, TFIC compared the percent standing inventory increases at time zero of the timber supply analysis. For both the Fraser Protocol and JST volume adjustment regression options, the yield increases at time zero were approximately 7%, while the proportional 10% option showed a 10% starting increase. This difference in starting yield differences may partially be accounted for through a comparison of landbase differences between that used to apply the VRI adjustment, versus the THLB. We found that approximately 25% of the VRI adjusted area fell outside the THLB (ie., through subsequent netdown rules). It is understandable, therefore, that the volume adjustment applied to the THLB may be somewhat different from what was originally computed. Without re-running the VRI adjustment against the THLB landbase alone, we have no way of knowing the exact volume adjustment for the THLB. Based on the above observation, however, it may be closer to 7%.

Results

As illustrated in the attached figures, the Fraser Protocol generates the highest harvest flows, followed by the proportional 10% and JST regression options. As discussed previously, the harvest flow for the Fraser Protocol is a combined product of increases to both site index and volume adjustment. Both the proportional 10% and JST regression options generate similar initial harvest flows that can be maintained for four decades, after which both decrease in the mid-term, where the JST regression option has a slightly lower mid-term harvest flow. With the exception of the period between decades five and six, all options generate harvest flows greater than that generated for the TSR2 - LRMP. We hope these options help provide the technical committee with enough starting information to assist in defining the volume adjustment option for the composite run.



Results from TFIC's harvest flows between the three volume adjustment options, relative to the TSR2 – LRMP base case.