Timber Supply Impact Assessment of the 2004 Visual Landscape Inventory on the Ft St James Forest District (excluding TFL)

Ministry of Forests

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Introduction

In 2004, the Ministry of Forests updated and consolidated the visual landscape inventory (VLI) for the Ft St James Forest District (excluding TFL). This new VLI is intended to replace the old VLI in effect during Timber Supply Review #2 (TSR2). To determine the timber supply impact of the new VLI on the timber harvesting landbase (THLB) compared to the old VLI used in TSR2 for the Ft St James Forest District the following assessment was undertaken. This work is referred to as an "assessment" because it does not involve the rigor and complexity of a full blown timber supply analysis. This assessment is designed to minimize subjectivity as it applies to determining timber supply impact but it relies on the following broad assumptions which impose limitations on its accuracy and application.

Assumptions

- This assessment is based on the results reported in the Prince George TSA Analysis Report September 2001 as well as old and new VLI landbase data summaries provided by MSRM. .
- The impact assessment only applies to the long term harvest flow. It does not address short-term timber supply in any respect. Short-term impact depends on where actual harvesting operations will occur.
- No disturbance occurs in the Non-Harvesting Land Base (NHLB)
- Based on a visual assessment of the TSR2 base case long term harvest flow, the average harvest age of all stands in the Ft St James Forest District is estimated to be 100 years.
- An average harvest of 2.3 m3/ha/year was determined as follows:
  total volume harvested per year in long term / THLB=
  2994207 m3 per year / 1277341.2 ha = 2.3 m3/ha/year (figure accounts for unsalvaged losses and regen. delay).
- This assessment is based on the concept of "implied rotation age" . Implied rotation is the earliest age stands may be harvested in the long-term while meeting the management objective. This approach assumes an equal area is harvested each and every year. Implied rotation age can be determined by the following calculation:
  100% divided by the % up to which the THLB can be disturbed and still meet the visual quality objectives (VQO) times the years it takes to reach visually effective green up equals implied rotation age.
  If the implied rotation age is less than the average long term harvest age or rotation age (100 years) then one can assume the visual targets are not constraining to timber supply.
- Using managed stand yield curves and the TSR2 data file, the average number of years required to reach a 5 meter green up is 26. This green up age was determined by area weighting the 5 meter green up age for each analysis unit by the area of the analysis units.

SUMMMARY CALCULATIONS

Volumes associated with differences in implied rotation ages for the 2004 VLI

old VLI VQO	new VLI VQO	Revised IMP. ROT.OLD	Revised IMP. ROT. NEW	DIFF. IN MAI	MAI (m3/ha/yr)	THLB (ha)	REL. NEW HARVEST (m3/yr)
P	P	100	100			29.6	0
P	R	1595	199	2.0-1.1	0.9	31.9	28.71
P	PR	1931	100	2.4-1.1	1.3	13.7	17.81
P	M	2880	100	2.4-1.1	1.3	56.1	72.93
P	MM					0.0	0
P	NONE	842	100	2.4-1.1	1.3	232.4	302.12
R	P	478	3827	1.1-1.1		80.8	0
R	R	127	127	2.4-2.4		1236.3	0
R	PR	287	104	2.4-1.4	1	2297.5	2297.5
R	M	303	100	2.4-1.3	1.1	1019.9	1121.89
R	MM					0.0	0
R	NONE	108	100	2.4-2.5	-0.1	2216.4	-221.64
PR	P	102	2235	1.1-2.4	-1.3	515.6	-670.28
PR	R	112	309	1.3-2.5	-1.2	1936.5	-2323.8
PR	PR	101	101	2.4-2.4		47254.4	0
PR	M	108	100	2.4-2.5	-0.1	20148.9	-2014.89
PR	MM	176	100	2.4-2.1	0.3	399.2	119.76
PR	NONE	100	100	2.4-2.4		25946.9	0
M	P					0.0	0
M	R	100	277	1.5-2.4	-0.9	470.0	-423
M	PR	100	100	2.4-2.4		7302.6	0
M	M	100	100	2.4-2.4		32482.3	0
M	MM	100	100	2.4-2.4		11170.1	0
M	NONE	100	100	2.4-2.4		21696.0	0
MM	P					0.0	0
MM	R					0.0	0
MM	PR	100	100			293.4	0
MM	M	100	100			5588.7	0
MM	MM	100	100			19.5	0
MM	NONE	100	100			524.0	0
NONE	P	100	1426			385.9	0
NONE	R	100	244			2449.4	0
NONE	PR	100	128			46942.9	0
NONE	M	100	100			62233.6	0
NONE	MM	100	100			5771.2	0
NONE	NONE	100	100			1043779.1	0
						1344524.8	-1692.89

The decrease in timber supply of 1693 m³/year is equivalent to decreasing the THLB by 736 ha as result of the new VLI

Mai figures are slightly over-estimated because they do not account for lost productivity resulting from regeneration delays or unsalvaged losses.

CONCLUSION

The assessment indicates the timber supply could decrease by 1693 m3 per year in the long term This is equivalent to decreasing the THLB by 736 ha in the long-term.

We have no empirical data as to the accuracy of the assessment described in this report.

Future breakdowns or summaries of VLI data should be by VQO class for each landscape unit. This will enable assessments to be more reflective of how VQOs were actually modelled in the FSSIM timber supply analysis model.

It should be noted that TSR2 THLB and Gross Area figures vary from those used in the MSRM data set (designed to represent TSR2) that compares the old and new VLIs. This difference is likely due to differences in the net down assumptions and process. Either way, this inconsistency should not impact the results of the assessments because both old and new VLIs are compared using the same MSRM data set.

Based on the assessment completed; the new VLI for the FSJD has a minor impact to long term timber supply when compared to the TSR2 data.