

Isaak Forest Resources Ltd. Tree License 57 - Addendum to Timber Supply Analysis Report (August 28, 2003)

Introduction and Background

The Timber Supply Analysis Report for Management Plan 1 for TFL 57 (dated December 30, 2002) was reviewed by Ministry of Forests Timber Supply Branch staff. In order to address issues that arose during the review the following changes have been made to the timber supply analysis:

1-Operational adjustment factors (OAF's) on existing stands (both VDYP and TIPSY) – The intention here was to apply a 9.8% reduction to the TIPSY curves for future regenerated stands (see section 8.5 of the Information Package for more details) to account for growth reductions due to shading by leave trees under the variable retention system. In the timber supply analysis this deduction was applied to all stands (existing and future). This was corrected for the additional timber supply harvest forecast reported in this section.

2-Species composition for existing stands with TIPSY curves – Some of these analysis units (31, 32, 33 – leading hemlock good, medium, and poor sites respectively) show (from the VRI inventory) a component of subalpine fir (B1) instead of amabilis fir (Ba). In generating the TIPSY curves white spruce was substituted for subalpine fir (the correct substitution) whereas western hemlock is to be substituted for amabilis fir. The impact on volumes was substantial since the TIPSY volumes are capped as soon as the height growth of one species (even a minor stand component) levels off. This also affected some VDYP curves (analysis units 24, 25, 26, 34, 35, 36) although the impact on the volumes was much smaller than for the TIPSY curves. The TIPSY and VDYP curves were changed to a western hemlock substitution for amabilis fir.

3- Minimum harvest ages- The minimum harvest age for analysis unit 136 (TIPSY) is shown as 270 years. This was corrected to 180 years in accordance with the minimum harvest age criteria specified in the Information Package. The minimum harvest age for analysis unit 36 was reduced to 140 years from 150 as a result of changes due to the species composition revisions listed in 2 above.

On the basis of the above changes one more harvest forecast has been produced.

Existing timber volume check

In addition to the changes described above the inventory to yield table volume comparison which was not included in the Information Package has now been completed and is included:

Existing timber volume check table:

	Inventory volume (m3)	Yield table volume (m3)	Percent difference
Total volume	10,444,421 m3	9,334,276 m3	10.6%

Analysis results

The revised base case shows a non-declining harvest of 91,000 m3. This is 8.1% higher than the level of 84,150 m3 reported for the original base case.

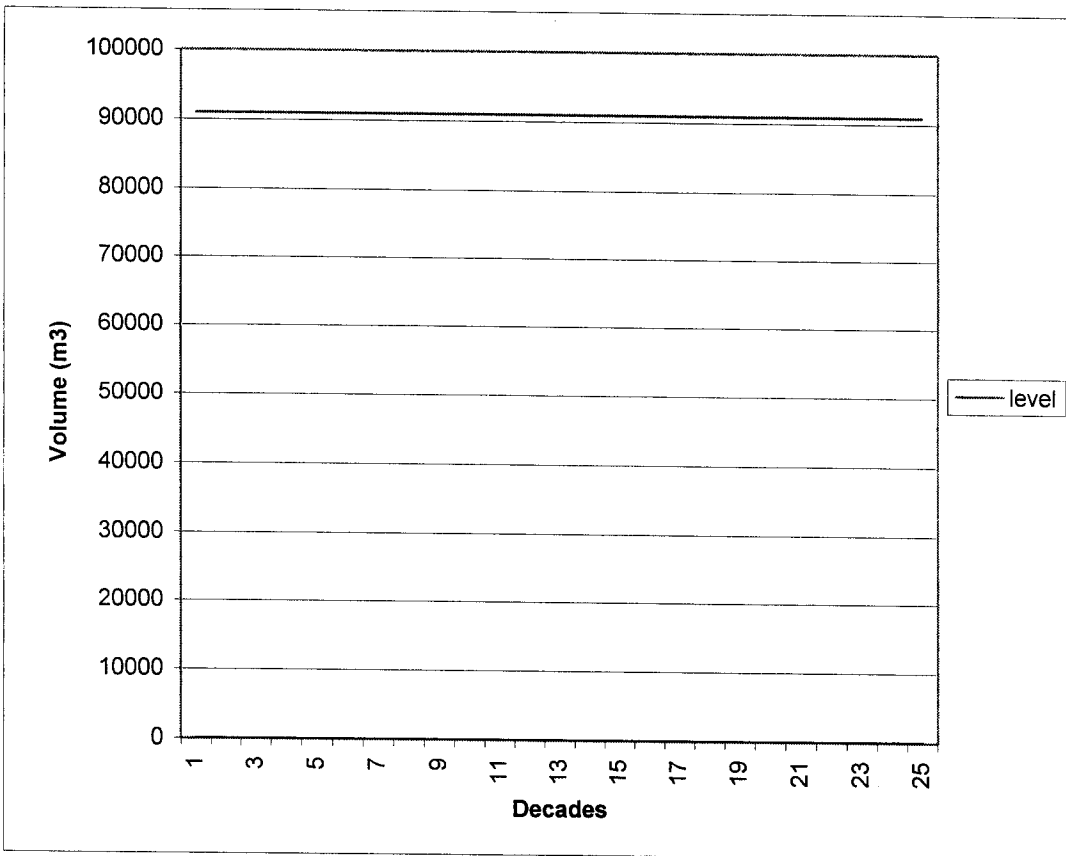


Figure 1 – Revised base case harvest forecast

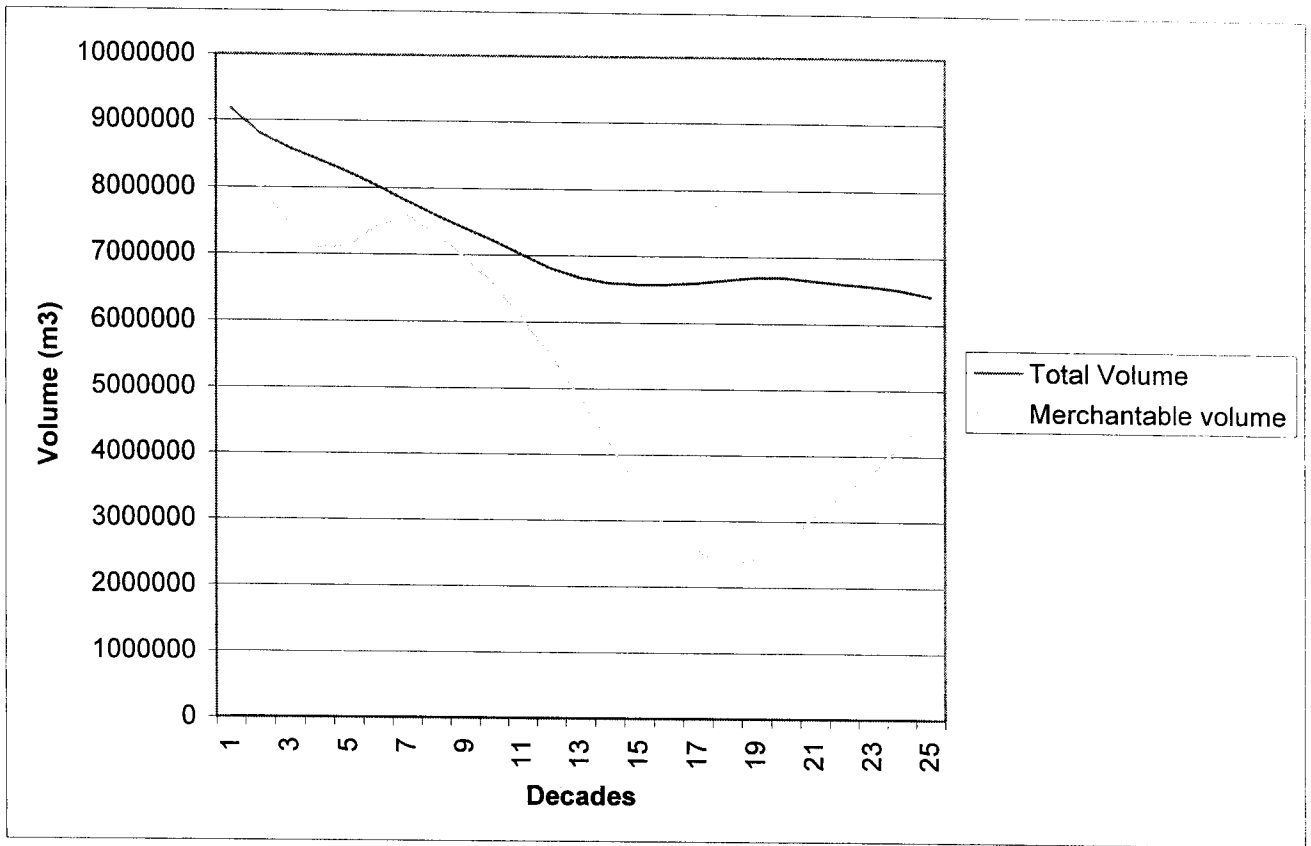


Figure 2 – Growing stock profile

Total inventory includes all of the softwood volume supported on the timber harvesting land base. Merchantable volume is the proportion of the total volume above minimum harvest age. The total inventory gradually declines over the first thirteen decades to reach a reasonably stable level for the last part of the analysis time horizon. Somewhat higher harvest levels could have been sustained but this produces a significant decline in total growing stock near the end of the forecast horizon. The merchantable growing stock declines to a low point in decade 18 although the low point is significantly higher than in the original base case harvest forecast.

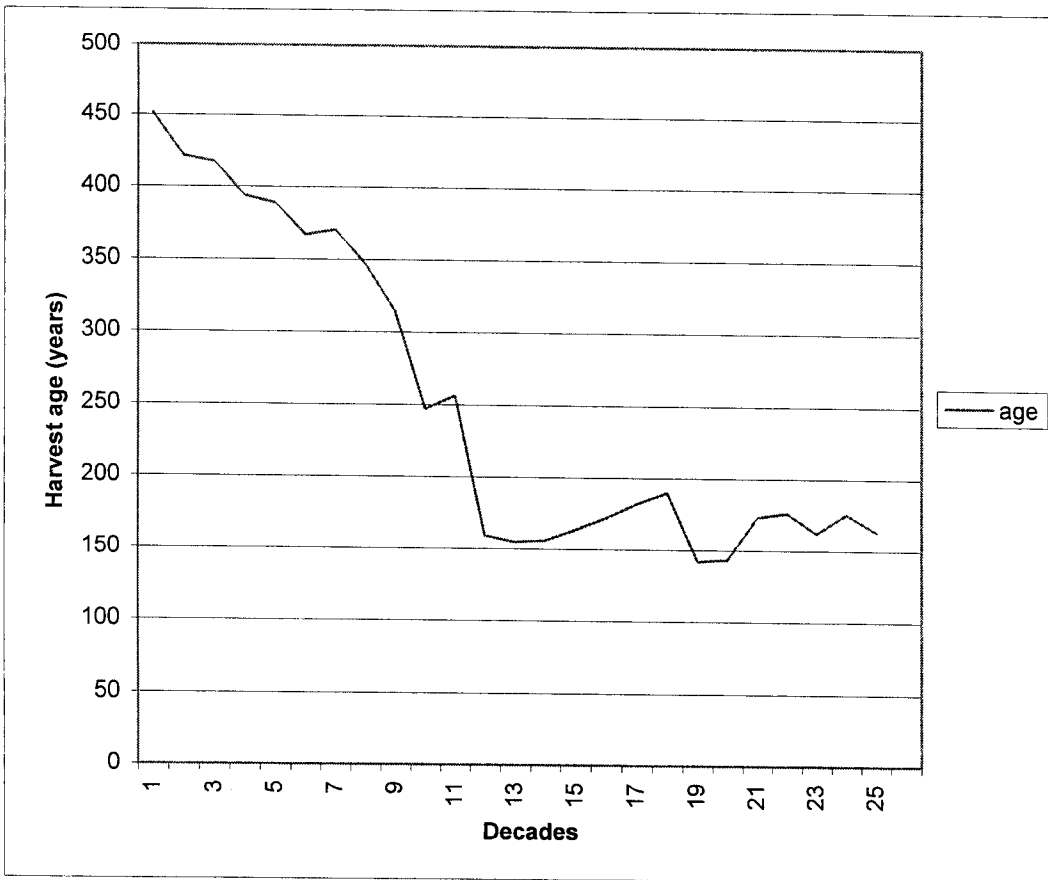


Figure 3 – Average harvest age

In a pattern similar to the base case the average harvest age drops steadily over the first 120 years as the transition from harvesting older stands to harvesting managed second growth stands is completed. It does not, however drop below 100 years as shown in the base case results.

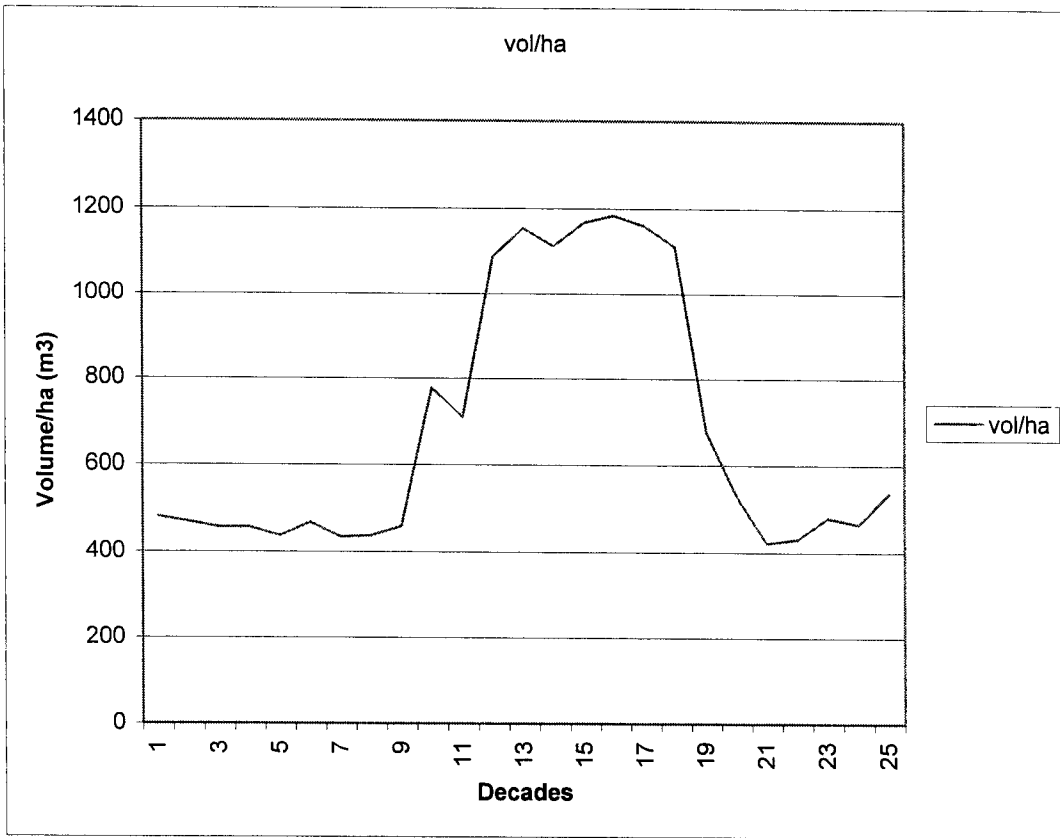


Figure 4 – Average volume per hectare

The trend over time is similar to the base case although the volumes are higher due to the revisions listed above. In particular the TIPS Y volumes are much higher as is apparent between decades twelve and eighteen.

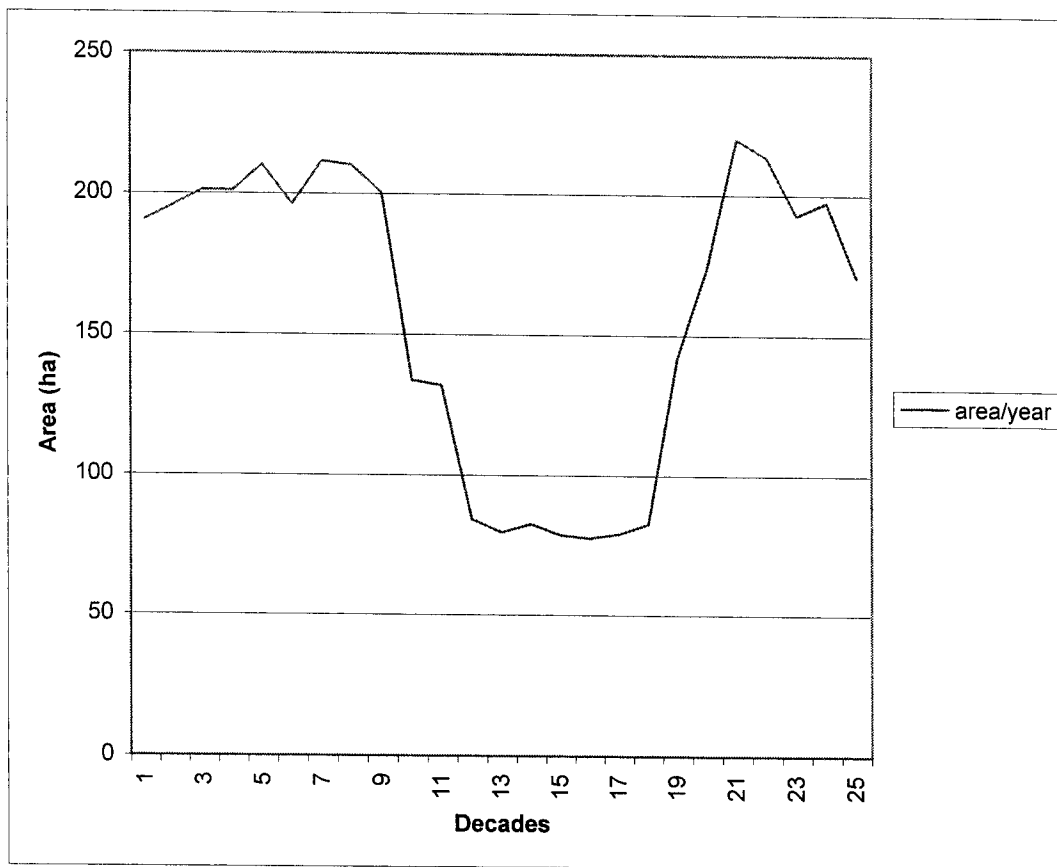


Figure 5 – Average area harvested

This also displays a similar trend to the base case although the areas harvested are smaller due to the higher volumes. This is significant given that the harvest volume is higher.

Discussion

The changes made result in a harvest forecast with a non declining flow of 91,000 M3, 8.1% higher than the base case. As in the original base case this harvest level is determined largely by available timber 150-200 years from the present. The changes made affect all parts of the harvest forecast time horizon with the elimination of the variable retention OAF increasing short-term available volume per hectare by 10%. In the mid-term the increased volumes due to species adjustments in the TIPSY curves for analysis units 31-33 are significant. In the long-term the reduction in the minimum harvest age for analysis unit 136 is significant since this analysis unit includes approximately 6400 ha of the timber harvesting land base. The non-declining flow approach results in increases in available volume at a constraining point anywhere in the time horizon affecting immediate harvest levels.