



Golden TSA

A G&Y Perspective on Timber Supply

Primary Sources:

Timber Supply Area Analysis Report, August, 1998

AAC Rationale, May 1999

Short Summary: Dominated by spruce (39%) and pine (22%) and doug-fir (22%); the TSA is looking at a 16% harvest decline over the next 30 years. Similar to Invermere.

Characteristic or sensitivity	Short-term	Mid-term	Long-term	Implications
Final AAC and base case harvest flow	Final AAC 0.53M; base case 0.54M	Cut drops after 20 yrs	0.45M LTHL at 30 yrs	Apparent sensitivity to a number of issues represents opportunities
Age-class distribution under base case	Fragmented distribution with 56% above MHA	Distribution stabilizes after 100 yrs	Old seral reserves mostly in the non-THLB	THLB 14% of total TSA and 56% of productive forest, non-THLB buffers some constraints
Alternate harvest flows	1) 0.45M max even flow; 2) hold AAC for 40 yrs	2) dips below LTHL to 0.42M	2) steps up to base case LTHL at 100 yrs	Little short-term flexibility with current data and assumptions
Sensitivity to site index of managed stands (OGSI)	+/- 2.5m site index has no short-term effect	+2.5m extends AAC to 30yrs, -2.5m no effect	+2.5m LTHL 0.48M; -2.5m LTHL 0.40M	Improving site index estimates shows promise with best opportunity in pine
Sensitivity to green-up ages	+5yrs decreases cut 1%; -5yrs has no short-term effect	+5yrs steps to LTHL at 20yrs; -5yrs reaches LTHL at 30yrs	+5yrs LTHL 1% below base case; -5yrs 1.8% above base case	Green-up ages are rarely underestimated (+5yrs scenario), a reduction helps mitigate adjacency pinch
Sensitivity to managed stand yields	+/- 10% no effect on short term	+10% creates a midterm dip by raising LTHL	Direct and proportional effect on LTHL at 60-70yrs	Improving PHR yields (site index, select seed, yield tables, OAFs, etc) mostly effects LTHL
Sensitivity to existing stand yields	+/-10% no effect on short-term	+10% postpones drop to 50 yrs; -10% dips below LTHL	Both return to base case LTHL in 80-100yrs	Although the inventory audit appears OK, age of the inventory is of significant concern (species comp issues, etc)
Other issues	<ul style="list-style-type: none"> Other G&Y-related issues identified in TSR include DWB, MHA, THLB definition (site productivity and utilization), and inventory and dynamics of large non-THLB in parks. Partial retention (VQO, etc) and multi-species stands indicate the need to support improved modelling of complex stands (e.g., PrognosisBC and TASS). 			

Standard caveats	<ul style="list-style-type: none"> • A long-term G&Y data and model building strategy is needed to continually check and improve G&Y predictions. This includes a rationalized data strategy incorporating PSP's, EP's and Monitoring Plots. G&Y co-ops help coordinate these strategies across management units to gain cost and logistic efficiencies. • Under a given a set of data and assumptions, every unit has many possible timber supply forecasts depending on harvest policy and analyst prerogative. A base case and its associated sensitivity analyses represent only one perspective; there are many others. Before pursuing investments to improve the base case harvest flow, one should first determine what alternate forecasts are possible with the existing data and assumptions. • Regardless of AAC effects, G&Y investments should be pursued in their own right, as a matter of due diligence, in continuous pursuit of better information to support sustainable forest management. A balanced program looks at both positive and negative factors affecting G&Y and AAC. For PHR yields, this means moderating potential growth with realistic management expectations through appropriate application of site index, models and OAFs. • Ecosystem mapping is frequently justified solely as a spatial linkage for PHR site index estimates. It is also becoming an important management tool to support and document an ecosystem-based approach to sustainable forest management.
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Abbreviations used: AAC, Allowable Annual Cut; CMAI, Culmination of Mean Annual Increment; DWB, Decay, Waste and Breakage; EP, Experimental Plot; G&Y, Growth and Yield; LTHL, Long-term Harvest Level; M, million (cubic meters); MHA, Minimum Harvest Age; OAF, Operational Adjustment Factor; OGS, Old-growth Site Index, PHR, Post-harvest Regenerated (managed stands); PSP, Permanent Sample Plot; THLB, Timber Harvesting Land Base; TSA, Timber Supply Area; TSR, Timber Supply Review; VQO, Visual Quality Objective

Selected TSR terms: **Short-term**, harvest flow over the first couple decades relying solely on the current inventory of existing mature and over-mature stands; **Mid-term**, the gradual transition (fall down) to LTHL that occurs during the shift to managed PHR stands; **Long-term**, maintenance of the LTHL where harvesting has reached equilibrium with growth and other management objectives (harvest constraints).

For more information about SIGY, contact:

Steve Stearns-Smith, RPF
SIGY General Manager
250-642-7689
steve.stearns-smith@shaw.ca

Alan Thorne, RPF
SIGY President (2002)
250-679-3234
al_thorne@interfor.com

Website:

<http://srmwww.gov.bc.ca/forestproductivity/regional/sigy/index.htm>