



Kootenay Lake TSA

A G&Y Perspective on Timber Supply

Primary Sources: ®
 Timber Supply Area Analysis Report, March, 2001
 AAC Rationale, November, 2001

Short Summary: Dominated by doug-fir (32%), pine (27%) and spruce/balsam (26%); TSA has a relatively stable short-term harvest with decline forecast around 50 years.

Characteristic or sensitivity	Short-term	Mid-term	Long-term	Implications
Final AAC and base case harvest flow	Final AAC 0.68M; base case 0.69M	10% decline beginning at 50 yrs but no dip below LTHL	0.60M LTHL at 60 yrs	Decline not imminent given current data and assumptions - but downward pressures appear to exceed upward
Age-class distribution under base case	51% of THLB above MHA with few stands >250 yrs old (old seral)	Non-THLB ages and provides more old seral	Old seral targets met mostly from non-THLB	THLB 21% of total TSA and 42% of productive forest, large non-THLB available to buffer some constraints.
Alternate harvest flows	1) 0.61M max even flow; 2) hold AAC to 60 yrs (another 10 yrs)	2) dips below LTHL from 100-110 yrs	All same base case LTHL	Extending current cut past 50 yrs triggers a dip
Sensitivity to site index of managed stands (OGSI)	Base case maintained	Postpones decline to 70 yrs then dips 7% below new LTHL	New LHTL 0.67M beginning at 120 yrs, only 1% below current AAC	Improving site index estimates shows promise, greatest opportunity usually in pine
Sensitivity to green-up ages	+/-5yrs - Base case maintained	+5yrs hastens fall to 30yrs; -5yrs delays it to 60yrs	+5 yrs same base case LTHL; -5yrs increased LTHL 4%	Green-up ages are rarely underestimated (+5yrs scenario) and they link directly to site index
Sensitivity to managed stand yields	+/- 10% - Base case maintained	+10% creates a midterm dip by increasing LTHL	Direct and proportional effect on LTHL out 70-100yrs	Improving PHR yields (site index, select seed, yield tables, OAFs, etc) mostly effects LTHL
Sensitivity to existing stand yields	Base case maintained with +10% yield; -10% drops cut 10%	+10% postpones drop to 90 yrs	+10% reaches LTHL at 90 yrs; -10% at LTHL in 10 yrs	Although the inventory audit appears OK, age of the inventory is a concern (species comp changes, etc)

Other issues	<ul style="list-style-type: none"> • Root Rot effects need better understanding – sensitivity indicated a 9% LTHL reduction if the root rot OAF is increased from 7 to 20%, recent CFS info indicates chronic growth-loss may have greater impact than mortality. • Prevalence of partial cutting (selective harvesting, etc) indicates 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.

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).

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