



**Williams Lake TSA**  
**A G&Y Perspective on Timber Supply**

Primary Sources: ®  
 Timber Supply Area Analysis Report, September, 2001  
 AAC Rationale, November, 2002

**Short Summary:** A pine dominated TSA (67%) with a robust timber supply currently under attack by the beetle.

Characteristic or sensitivity	Short-term	Mid-term	Long-term	Implications
Final AAC and base case harvest flow	Final AAC 3.77M; base case with 5-yr beetle uplift at 3.76M	After 5 yrs, cut drops below LTHL to 2.92M	Increases to 3.25M LTHL at 180 yrs	Look for ways to mitigate the mid-term drop below LTHL - possibly exacerbated by beetle uplift
Age-class distribution under base case	Lots of older stands - future harvestability uncertain	Beetle harvest spike is evident; some stands in THLB carried past MHA	At 150 yrs, beetle spike less evident; stands over 150 yrs old mostly outside THLB	THLB is only 66% of productive forest, this provides buffer for some constraints
Alternate harvest flow	Two scenarios beginning at 3.76M	1) 3.05M even-flow (LTHL) at 5 yrs, vs. 2) CMAI harvest drops below LTHL to 2.70M	CMAI harvest increases to 3.3M LTHL at 170 yrs	1) accelerated PHR harvesting to bridge midterm dip reduces LHTL; 2) Little to gain from harvesting at CMAI
Sensitivity to site index of managed stands (OGSI)	No effect on first 5 yrs	Drops to 3.2M, 10% above base case mid-term	4.1M LTHL, 26% above base case, attained at 160 yrs	Large potential given pine dominance; largest effect on LTHL with lesser mid-term mitigation
Sensitivity to green-up ages	Sensitivity not reported			
Sensitivity to managed stand yields	Sensitivity not reported			Along with site index above, improving PHR yields (yield tables, OAFs, etc) would have biggest effects on LTHL
Sensitivity to existing stand yields	An audit adjustment was included in base case			Audit and VRI plots both indicated mature volumes were over-estimated by approx 12% overall.

Other issues	<ul style="list-style-type: none"> <li>• G&amp;Y in IDF and partial cutting -- work underway on PrognosisBC for the IDFdk3, gaps remain in other areas</li> <li>• Beetle related G&amp;Y affecting unsalvaged losses, regen, adjacency, etc</li> </ul>
Standard caveats	<ul style="list-style-type: none"> <li>• A long-term G&amp;Y data and model building strategy is needed to continually check and improve G&amp;Y predictions. This includes a rationalized data strategy incorporating PSP's, EP's and Monitoring Plots. G&amp;Y co-ops help coordinate these strategies across management units to gain cost and logistic efficiencies.</li> <li>• 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.</li> <li>• Regardless of AAC effects, G&amp;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&amp;Y and AAC. For PHR yields, this means moderating potential growth with realistic management expectations through appropriate application of site index, models and OAFs.</li> <li>• 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.</li> </ul>

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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