



**Quesnel TSA**  
**A G&Y Perspective on Timber Supply**

Primary Source: ®  
 Quesnel Timber Supply Area Analysis Report, February, 2001  
 AAC Rationale, June 2001

**Short Summary:** A pine dominated TSA (85%) with a normally robust timber supply currently under attack by the beetle. (TSR accelerated and abbreviated due to beetle urgency)

Characteristic or sensitivity	Short-term	Mid-term	Long-term	Implications
Final AAC and base case harvest flow	Final AAC 3.25M; base case 2.34M, plus a 1.0M beetle uplift	With beetle lift cut drops below LTHL (2.08M) at 20 yrs; base case stays constant	2.20M LTHL attained at 140 yrs with beetle lift and 190 yrs under base case	Beetle uplift has mid-term consequences without some mitigation  Sensitivity analyses all incorporated beetle uplift
Age-class distribution under base case	Lots of pine stands at or over MHA			An age class distribution that would normally add flexibility, now adds risk to beetle
Alternate harvest flow	Only the beetle uplift above			
Sensitivity to site index of managed stands (SIBEC)	Applied to beetle lift scenario	After 10 year beetle lift, base case harvest could be maintained	2.46M LTHL, 12% above base case, attained at 260 yrs	Large potential given pine dominance; large effect on LTHL but also mid-term mitigation of beetle uplift effects
Sensitivity to green-up ages	Sensitivity not included in report			Adjacency temporarily waived during beetle uplift, which might have long term consequences
Sensitivity to managed stand yields	Sensitivity not included in report			Along with site index above, improving PHR yields (yield tables, OAFs, etc) would have biggest effects on LTHL
Sensitivity to existing stand yields	Base case maintained	A 10% yield decrease drops cut below LTHL from 30-160 yrs	No change in LTHL	Some concern since inventory audit indicated mature may be overestimated especially in the Narcosli and SBPS, this may offset some productivity gains when combined

Other issues	<ul style="list-style-type: none"> <li>• In addition to beetle mortality, normal over-mature pine stand break-up (species succession) is a regular issue in timber supply analyses. Pine rust is reducing yields in some PHR and needs to be quantified.</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 other 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; **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; **OGSI**, 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>