



## Revelstoke TSA

### A G&Y Perspective on Timber Supply

Primary Sources:  
 Timber Supply Area Analysis Report, December, 1998  
 AAC Rationale, August, 1999

**Short Summary:** Dominated by hemlock (33%), spruce (24%) and cedar (21%); this TSA is facing a 30% falldown in 40-70 years.

Characteristic or sensitivity	Short-term	Mid-term	Long-term	Implications
Final AAC and base case harvest flows	Final AAC and base case 0.23M	Steep decline beginning at 40 yrs, 10% per decade	0.16M LTHL at 70 yrs, 30% below current AAC	Look for ways to mitigate the falldown such as raising the LTHL
Age-class distribution under base case	62% of THLB above MHA	Non-THLB ages and provides most old seral after 100yrs	Old seral reserves mostly in the non-THLB	THLB 13% of total TSA and 31% of productive forest, large non-THLB buffers some constraints.
Alternate harvest flows	1) max even flow 0.17M; 2) Maintain AAC long as possible; 3) drop AAC gradually; 4) max AAC 0.30M	2) falls 35% at 60 yrs and dips below LTHL; 3) 4% per decade 10-90yrs; 4) drops 10% per decade at 10yrs	2) attains base case LTHL at 140yrs; 3) at 90 yrs; 4) reaches a reduced LTHL at 70 yrs	Little short-term flexibility with current data and assumptions
Sensitivity to site index of managed stands (OGSI)	Base case maintained	Adjusting all spp reduces mid-term fall 18%; just spruce, 7%	Adjusting all spp LHTL 0.19M at 140yrs; just spruce 0.164M	Adjustments may only be able to mitigate a portion of the large falldown
Sensitivity to green-up ages (height based)	+/-10yrs Base case maintained	+10yrs hastens fall to 30yrs; -10yrs no effect	+10yrs slightly lower LTHL; -10yrs slightly higher LTHL	Not much sensitivity; it is rarely underestimated (+10yrs scenario); green-up is linked to site index
Sensitivity to managed stand yields	+/- 10% Base case maintained	Both follow base case decline	Direct and proportional effect on LTHL out 60-80yrs; +10% only reduces fall 20%	Improving PHR yields (site index, select seed, yield tables, OAFs, etc) mostly effects LTHL; small potential compared to falldown magnitude
Sensitivity to existing stand yields	+/-10% Base case maintained	+10% postpones drop 2 decades; -10% hastens drop 2 decades	+10% slightly higher LTHL; -10% slightly lower LTHL	Audit indicated inventory estimates are generally OK

Other issues	<ul style="list-style-type: none"> <li>• Uncertainty exists around DWB estimates in cedar/hemlock. Sensitivity analyses indicate it mostly affects timing of the falldown, not magnitude. Utilize new BEC-based volume/decay models and consider a Net Volume Adjustment Factor project.</li> <li>• Old seral supply from large non-THLB raises issues around projections of stand development (aging) and natural disturbance.</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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