



Merritt TSA
A G&Y Perspective on Timber Supply

Primary Source: ®
 Timber Supply Area Analysis Report, March 2001
 AAC Rationale, October 2001

Short Summary: A fairly robust timber supply. Pine dominated TSA with beetle and smallwood issues. Significant opportunities for improving site productivity estimates in pine to help mitigate falldown.

Characteristic or sensitivity	Short-term	Mid-term	Long-term	Implications
Final AAC and base case harvest flow	Final AAC 1.51M (salvage uplift terminated); base case 1.45M	Falldown to LTHL starting at 60 yrs	1.12M LTHL attained at 90 yrs	Look for ways to mitigate projected 26% falldown from 60-90 yrs
Age-class distribution under base case	Fairly good distribution, provides flexibility	By 100 yrs, few stands in THLB held past MHA under the base case		Base case somewhat constrained (VQO, winter range, etc) but non-TLHB contributing to help offset
Alternate harvest flows	1.95M over first decade	Stepping down 9% per decade	Base case LTHL attained in 60 yrs	Illustrates some inherent short-term flexibility
Sensitivity to site index of managed stands (OGSI)	Base case maintained	Delays decline to LTHL until 180 yrs	1.29M LTHL 15% over base case; smallwood pine adjustment increased LTHL 8%	Documenting better PHR site index estimates in pine is usually rewarding.
Sensitivity to green-up ages	Base case maintained	Base case maintained	5yr increase had no effect; 5yr decrease raised LTHL <1%	Little site index effect apparent here, so main site index effect likely from increased PHR yields
Sensitivity to managed stand yields	Base case maintained	Base case maintained	Direct and proportional effect on LTHL	Improved PHR yields (incl. site index, yield tables, OAFs) might also have short-term effects given other flexibilities
Sensitivity to existing stand yields	Base case maintained	Step down occurs 50 yrs earlier with 10% yield decrease; 40 yrs later with 10% increase	No change in LTHL, just timing	Little concern since inventory audit seems OK.

Other issues	<ul style="list-style-type: none"> • G&Y of complex stands, particularly related to partial cutting and contribution of dry IDF to the THLB. • Improve site index estimate for pine, including smallwood.
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; **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).

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