



Estimating the Range of Expected Tongass Timber Purchase And Sale Offer

Key Message

The Tongass National Forest, in compliance with the Tongass Timber Reform Act, must seek to provide an annual supply of timber to meet market demand to the extent consistent with providing for multiple use and sustained yield of all renewable forest resources.

Issue

The 1997 Record of Decision for the Tongass Land and Resources Management Plan Revision committed the Forest Service to develop procedures to ensure that annual timber sale offerings would be consistent with implementing the “seek to meet market demand” language of the Tongass Timber Reform Act. In April 2000, the Forest Service published its procedures in *Responding to the Market Demand for Tongass Timber* (Morse 2000).

The U.S. Forest Service Pacific Northwest Research Station has published several studies that estimate derived demand for timber in Southeast Alaska, most recently, Brackley et al. (2006). The derived demand projections from Brackley were incorporated in the Morse methodology and used to estimate the needed annual Tongass timber sale offering for fiscal year 2012.

Background

The Morse methodology is used to estimate the needed annual Tongass timber sale offering. The general approach of the Morse methodology is to consider the timber requirements of the region’s sawmills at different levels of operation and under different assumptions about market conditions and technical processing capacity. The procedures address the uncertainty associated with forecasting market conditions, considering the continuing transformation of the timber industry and the inability of the Forest Service to respond quickly to market fluctuations due to the time it takes to prepare timber for sale.

Since the methodology was initially developed, inputs to the model have been adjusted to reflect new understandings and information, such as share of raw material provided by the Tongass National Forest to local processors, amount of time between purchase and harvest of a timber sale, and mill capacity. The methodology allows for adaptations to current situations.

As indicated in the model, planning the annual timber program requires more than just pure economic factors. To account for delays in timber sale preparation, administrative appeals, and/or litigation, sufficient contingency volume must be included in the annual timber sale program to account for realistic fall-downs. Budget and organizational constraints limit the extent to which the Forest Service can respond to economic cycles and the associated fluctuations in timber demand. All of these factors must be considered in evaluating the annual market demand for timber and setting annual timber offerings.

The 2012 model results are attached.

More Information

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Predicting likely timber purchases and offer levels on the Tongass National Forest—Fiscal Year 2012

Elements	Notation	Limited Lumber	Expanded Lumber	Medium Integrated	High Integrated
Demand					
A. Installed and operable mill capacity (MMBF, log scale)	a	116	116	116	116
B. Industry rate of capacity utilization	b	33%	45%	66%	70%
C. Share of industry raw material provided by the Tongass	c	87%	87%	87%	87%
D. Percent usable wood in average NF timber sale	d	53%	65%	89%	89%
E. Annual Tongass timber consumption (MMBF, theoretical)	$e=((a*b)*c)/d$	61	70	75	80
F. Standard deviation of lead time (years)	f	1.03	1.03	1.03	1.03
G. Average lead time (years)	g	1.05	1.05	1.05	1.05
H. Prob. of meeting consumption (one-tailed test for 90% at infinity)	h	1.28	1.28	1.28	1.28
I. Timber inventory requirements (MMBF)	$i=(e*g)+((e*h)*f)$	144	166	178	189
J. Volume under contract as of September 30, 2011 (MMBF)	j	105	105	105	105
K. Projected harvest (MMBF), FY 12 from PNW	k	54	91	204	286
L. Projected inventory shortfall (MMBF)	$l=i-j$	39	61	73	84
M. Low range of expected timber purchases (MMBF), FY 12	$m=\text{if } l < 0, k+l, \text{ else } k$	54	91	204	286
N. High range of expected timber purchases (MMBF), FY 12	$n=\text{if } l < 0, k, \text{ else } k+l$	94	151	277	370
O. Expected timber purchases, FY 12	$o=\text{median}(m:n)$	74	121	241	328
Offer					
P. Fall-down between volume offered and volume sold	p	10%	5%	2%	2%
Q. Required offered to meet VUC sell objectives (MMBF), FY 12	$q=o+(p*o)$	81	127	245	335