



TIMBER PRICING TOPICS

- Nothing new on volume estimation (via cruise compilation)
- Stand valuation may be more responsive to bark beetle impacts (*Interior Appraisal Manual* annual update)
- Insect Damage reappraisal mechanism
- Priorities of the MPS technical committee



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Volume estimation – nothing new here

Cruise Compilation Manual

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2017 Cruise Compilation Manual Changes

The *Cruise Compilation Manual* is available on the Internet at:

<http://www2.gov.bc.ca/gov/content/industry/forestry/competitive-forest-industry/timber-pricing/timber-cruising/cruise-compilation-manual>

Section	Description
2.1 - Input Data	New version number 2017.01.
3.2.1 Step-by-Step Log Volume Calculation instructions	Step 3 #3: Insect damage . Spruce trees in all maturity classes with insect damage code 7 will be moved to the highest mature risk group. This means all insect damage code 7 trees in FIZ's A,B and C will move to risk group 2 and all insect damage code 7 trees in FIZ's D-L will move to mature risk group 3.



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		Total	Conifer	Decid	B	S	PL
Utilization Limits							
Min DBH	cm (M)				17.5	17.5	12.5
Stump Ht	cm (M)				30.0	30.0	30.0
Top Dia	cm (M)				10.0	10.0	10.0
Log Len	m				5.0	5.0	5.0
Volume and Size Data							
Gross Merchantable	m3	127023	126132	891	72432	46924	6775
Net Merchantable	m3	96470	96175	295	52808	38731	4636
Net Merch - All	m3/ha	415.283	414.014	1.269	227.327	166.729	19.958
Net Merch - Live	m3/ha	354.885	353.792	1.093	184.572	155.087	14.133
Net Merch - DP	m3/ha	60.398	60.222	0.176	42.754	11.642	5.826
Decay	%	16	16	43	19	11	13
Waste(billing)	%	7	7	61	8	5	7
Total Cull (DWB)	%	24	24	67	27	17	32
Net Merch Vol/Tree	m3	0.74	0.74	0.40	0.57	1.15	1.06
Avg 5.0 m Log Net	m3	0.22	0.22	0.11	0.19	0.28	0.25
Useless Dead/Living	%	1	1		1	0	
Net Second Growth	%						
All Burn Volume	%						
Heavy Fire Volume	%						
Blowdown Volume	%	7	7	14	9	5	2
Insect Volume	%	95	95		98	97	50



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All Method Summary

Species		Net Volume (m3)			Net Volume / ha		
Code	Description	All	Live	DP	All	Live	
BA	Balsam	52808	42876	9932	227.327	184.572	42
LO	L.P. Pine	4636	3283	1353	19.958	14.133	5
SP	Spruce	38731	36027	2704	166.729	155.087	11
AS	Aspen	287	246	41	1.236	1.060	0
CO	Cottonwood	8	8	0	0.033	0.033	0
	Conifer	96175	82186	13990	414.014	353.792	60
	Deciduous	295	254	41	1.269	1.093	0
	Total	96470	82440	14030	415.283	354.885	60

Harvesting Method Summaries

Species	Harvest Method	Net Volume	Average Slope%	Net Vol /Tree	Net Vol/ha	Defect% (DWB)
All Species	SC	96470	13	0.74	415.283	24
	All Methods	96470	13	0.74	415.283	24
Conifer	SC	96175	13	0.74	414.014	24
	All Methods	96175	13	0.74	414.014	24

Insect Damage Net Volume (m3)

				L.P. Pine		Red/Grey	
		L.P. Pine		All Other Conifer			
Green Attack	Red Attack	Grey Attack	Insect Damage	001:	071:	080:	081:
0	0	1261	90034				

Cutting Authority



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Valuation – something new here

TIMBER PRICING BRANCH

Interior Appraisal Manual

Effective July 1, 2020

Cost Base of: 20187



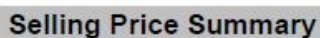
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- 3.1, 3.2 - EWB equation variables and tables updated.
- 3.2.9 - updated conifer decay variable.
- 3.2.13 - cycle time variable updated.
- 3.2.29 - isolated cutting authority variable updated to remove Smithers and Squamish as support centres.
- 3.2.32 - added an EWB adjustment variable.
- 3.3 - updated specified operations cost estimates.



EWB
(\$/m³)

$$\begin{aligned} &= \text{CPIF} * \\ &\quad [15.2317.28 \\ &\quad + 0.5043-0.4371 * \text{RSP} \\ &\quad - 5.993+ 6.820 * \text{CE} \\ &\quad - 128.1132.3 * \text{CE} * \text{CEDAR_DECAY} \\ &\quad - 10.3319.07 * \text{HE} \\ &\quad - 6.25110.05 * (\text{BA} + 2 * (\text{BA} - 0.5) * \text{BA}50) \\ &\quad - 23.7022.69 * \text{LAYE} \\ &\quad - 2.8822.814 * (\text{FIYE}) * \text{DRY_BELT} \\ &\quad - 29.6628.49 * \text{CABLE} \\ &\quad + 2.5612.406 * \ln(\text{VOL}/1000) \\ &\quad - 17.797.006 * \text{SB} * (\text{DECAY} - \text{OTHER_ATTACK}) \\ &\quad - 15.4914.70 * \text{FIRE} \\ &\quad + 7.9018.840 * \ln(\text{VPT}) \\ &\quad - 1.6021.706 * (\text{CYCLE} + (0.5 * \text{CYCLE_INC6})) \\ &\quad - 5.6739.264 * \text{ZONE_9} \\ &\quad - 22.0117.89 * (\text{DECID} - \text{BLOWDOWN}) * \text{CB} \\ &\quad - 8.9067.212 * (\text{CB} * (1 - \text{RG35})) \\ &\quad - 11.016.170 * (\text{CB} * \text{RG35}) \\ &\quad + 4.46517.16 * \text{AUCTION_YEAR}2018 \\ &\quad - 30.8647.6 * \text{GREY} * \text{CB} * \text{RG35} \\ &\quad - 0.014030.01028 * \text{GS_SLOPE} * \text{GS_FRACTION} \\ &\quad + 14.1238.45 * \text{DECK} \\ &\quad + 1.9681.586 * \text{DANB} \\ &\quad - 1.6003.050 * \text{PC} \\ &\quad - 7.4694.338 * \text{PC}2030 \\ &\quad - 0.042650.03924 * \text{SLOPE} \\ &\quad - 20.6315.42 * (\text{BLOWDOWN} - \text{GREY}) \\ &\quad - 42.9938.91 * \text{EXCHANGE} \\ &\quad + 0.40740.4402 * \text{TOT_HARV_12MR} \\ &\quad - 0.037220.04139 * \text{ISOLATED} * (\text{DISTANCE} - 100) \\ &\quad - 1.6041.663 * \text{CAMP} \\ &\quad - 35.278.254 * \text{OTHER_ATTACK} \\ &\quad + \text{EWB_ADJUSTMENT}] \end{aligned}$$



Final Estimated Winning Bid Summary

<u>Variable</u>	<u>Contribution</u>	<u>Variable</u>	<u>Contribution</u>
Balsam	-6.51	Blowdown	-0.88
Camp	0.00	Cruise Based	0.00
Cedar	0.00	Constant	17.28
Cycle Time	-9.21	Coniferous Volume	10.99
Cable Yarding	0.00	Deciduous	0.00
Deck	0.00	Decay	-1.09
Douglas Fir Yellow Pine	0.00	Exchange Rate	-28.97
Fire Damage	0.00	Fort Nelson	0.00
Gray Attack	0.00	Ground Skid Slope	0.00
Hemlock	0.00	Harvest Volume	16.34
Isolated	0.00	In(Volume Per Tree)	-2.66
Latest Year	17.16	Larch Yellow Pine	0.00
# of Bidders	4.28	Other Attack	-7.73
Partial Cut Between 20-30 Percent	0.00	Partial Cut	0.00
Real Stand Selling Price	50.60	Side Slope	-0.51
		Preliminary Estimated Winning Bid	59.09
		CPIF Adjusted	60.89
		Specified Operations	0.00
		Final Estimated Winning Bid	60.89



Selling Price Summary

	<u>BA</u>	<u>CE</u>	<u>HE</u>	<u>FI</u>	<u>LA</u>	<u>LO</u>	<u>SP</u>	<u>WH</u>	<u>YE</u>
Cruise LRF (fbm/m3)	169					178	210		
Appraisal LRF (fbm/m3)	286					305	335		
Average Market Value (\$/mbm)	389					389	389		
Species Volume (m3)	52808					4636	38731		
Species Selling Price (\$/m3)	111.25					118.65	130.32		
Stand Selling Price (\$/m3):									119.29

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- 17.797.006 * SB * (DECAY - OTHER_ATTACK)

- 35.278.254 * OTHER_ATTACK}

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Specified Operations	0.00
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Timber Pricing Branch

Final Estimated Winning Bid

- c. be located outside municipal boundaries and communities or settlements along a highway corridor, and
 - d. be approved by the regional appraisal coordinator.
4. A list of approved camps is available on the Timber Pricing Branch website and is the official record.

3.2.31 Other Attack Volume (OTHER_ATTACK)

- 1. OTHER_ATTACK is the fraction of Total Net Coniferous Volume that is insect attack other than **Defoliators** or Mountain Pine Beetle attacked Lodgepole pine.

3.2.32 EWB Adjustment (EWB_ADJUSTMENT)

- 1. EWB_ADJUSTMENT is the EWB adjustment as published every month in the Stumpage Appraisal Parameters (refer to section 1.2.2).



Insect Damage reappraisal – nothing new here

2.2.5 Insect Damage

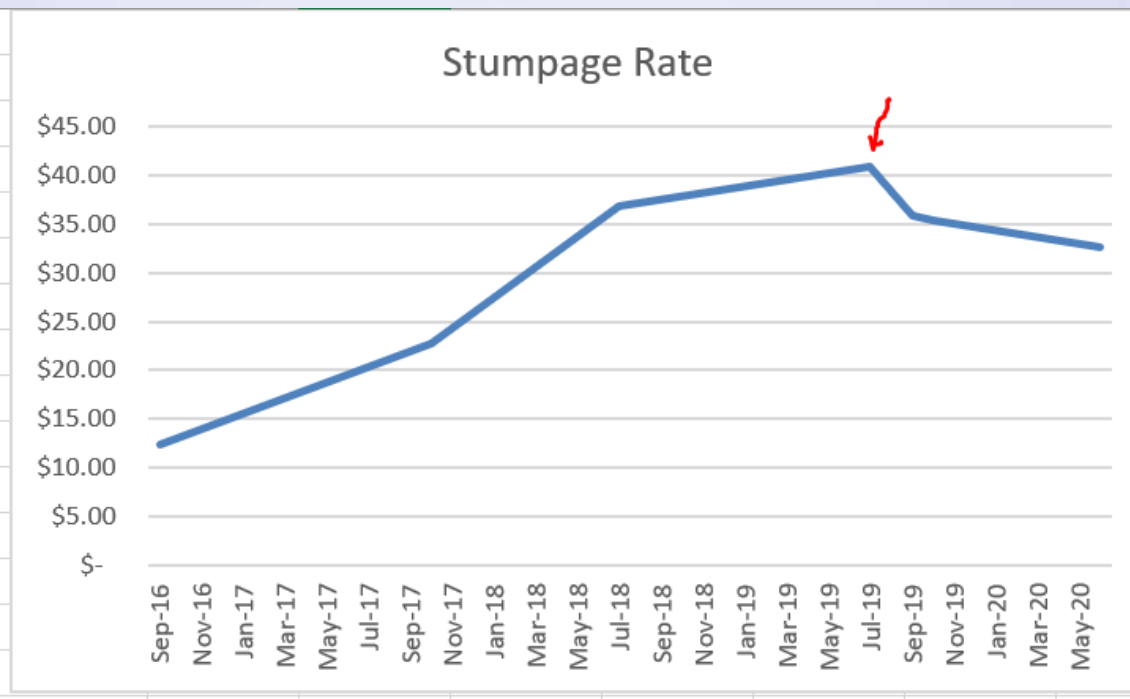
1. a. A cutting authority with an adjustable stumpage rate may be reappraised on or after April 1, 2006 in accordance with this subsection if the licensee submits a revised
- c. Subject to subsection (1)(d) of this section, the licensee may update the insect attack and the down tree code information for all the original trees in each plot in the field for codes 1, 2, 3, 5, 6, 7, 8, E and G as defined in the Cruising Manual and recompile the cruise for the cutting authority area by using the cruise data from the cruise in the original ADS for the plots in that part of the cutting authority area where timber has been harvested and combining that with the cruise data with updated insect attack and down tree codes for the plots in that part of the cutting authority area where timber has not been harvested.



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	Appraisal Type	Effective Date	ECAS Status	Status Change Date	Submitted Date	District Received Date	Region Date
LTD.	Reappraisal	2019-09-01	Confirmed	2019-09-11	2019-08-21	2019-08-26	2019-09-09
LTD.	Reappraisal	2019-07-01	Confirmed	2019-09-11			
LTD.	Reappraisal	2018-07-01	Confirmed				
LTD.	Reappraisal	2017-10-01	Confirmed				
LTD.	New	2016-09-06	Confirmed	2017-02-26	2016-07-04	2016-07-20	2016-10-04

Year	Stumpage Rate
Sep-16	\$ 12.40
Oct-17	\$ 22.78
Jul-18	\$ 36.80
Jul-19	\$ 40.93
Sep-19	\$ 35.93
Oct-19	\$ 35.43
Jun-20	\$ 32.58





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Priorities of the MPS technical committee

- Just some of the priorities (there are many), in no particular order, include:
 - Revisiting the POA Expiry Policy,
 - Examining the effects of spruce beetle on timber quality and price,
 - Increasing full TOA recovery,
 - Increasing utilization of primary and secondary material,
 - Reviewing salvage rates,
 - Expanding cruise based billing,
 - Reviewing commercial thinning policy, and
 - Recovering intensive silviculture costs.



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Reviewing salvage rates

Table 6-4: Coniferous Average Sawlog Stumpage Rates for Salvage of Damaged Timber in \$/m³

FOREST ZONE	BALSAM	CEDAR	FIR	HEMLOCK	LARCH	L. PINE	SPRUCE	W. PINE	Y. PINE	OTHER ¹
North Central	17.80	-	40.56	12.09	-	21.24	29.26	-	-	26.08
North East	9.96	-	-	-	-	14.13	14.67	-	-	14.19
North West	7.16	8.64	-	3.08	-	21.08	22.54	-	-	10.17
South Central	5.22	-	3.66	-	-	4.62	5.14	-	-	4.43
South East	20.77	27.42	27.51	16.87	26.45	24.72	29.90	23.23	20.74	26.28
South West	21.48	36.37	27.52	24.90	38.63	25.39	34.12	28.20	-	28.20

Currently discounted ~10%

MPS Tech. comm. reviewing the Tabular rate calculation methodology.

Possible November implementation date?

The TRICKY - Industry will need to produce supporting data and there is debate as to what that data should be.