



MEMORANDUM

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To: Regional Managers

From: The Honourable David Zirnelt
Minister of Forests

I hereby approve Amendment No. 6 to the *Interior Appraisal Manual*, and attach a copy of it for your use. The following sections are amended:

Section 1.7	Clarify that the section applies to comparative value pricing.
Section 6.7.2	Update Table 6-2, "Miscellaneous Stumpage Rates for Timber Licences".
Section 7.2	Enable quarterly adjustments and reappraisals under the market pricing system.
Appendix I	Clarify the notes on "Equipment and Labour Rates".

This amendment will come into force on April 1, 1999. Further amendments or revisions to this manual require my approval.

David Zirnelt
Minister

Attachments

pc: Bill Howard, Director, Revenue Branch

All Subscribers, *Interior Appraisal Manual*



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MANUAL TITLE

Interior Appraisal Manual

REVISION No.

6

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MANUAL CO-ORDINATOR

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Revenue Branch

AUTHORIZATION (Name, Title)

W. Howard
Director, Revenue Branch

Please make the following changes to your copy of the above Ministry manual. Please insert the following specified pages and **file this notice** immediately after the Amendments Tab.

ACTION (Remove/Insert)	(VOL.) CHAPTER-SECTION-SUBJECT TABLE OF CONTENTS	PAGE(S)	COMMENTS
INSERT	Parameters		Behind Parameters Tab
INSERT	Transmittal Sheet & Minister's Letter		Behind Amendment Tab
REMOVE	TOC	i - vi	
INSERT	TOC	i - vi	
REMOVE	Chapter 1	9 - 10	
INSERT	Chapter 1	9 - 10	
REMOVE	Chapter 6	11 - 12	
INSERT	Chapter 6	11 - 12	
REMOVE	Chapter 7	3 - 8	
INSERT	Chapter 7	3 - 10	
REMOVE	Appendices	A-3 to A-4	
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1.7 CVP Stumpage Adjustments

Unless a cutting authority or the application and tender for a timber sale licence specifies that stumpage rates are fixed for a specified period or for the full term of the cutting authority, stumpage rates are adjusted quarterly on January 1, April 1, July 1, and October 1, of each year, subject to Section 6.5.

Each quarter the adjusted stumpage rates reflect changes in estimated selling prices (as authorized in this manual since the previous adjustment), and the recalculated operating cost based on the appropriate trend factors shown in Section 4.12. In addition, the adjustment reflects changes in the Statistics Canada Interior Softwood Lumber Index, the Statistics Canada Pulpwood Chip Index for British Columbia, the Interior Base Rate and the Interior Mean Value Index.

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6.7.2 Miscellaneous Stumpage Rates for Timber Licences

The stumpage rates in Table 6-2 apply only to timber licence cutting authorities that are not appraised and have a cutting authority term that began before May 1, 1995.

For each species of timber in column 1 of Table 6-2, the stumpage rate immediately opposite that species in columns 2, 3 and 4 respectively, apply to sawlogs scaled in the indicated forest regions on and after April 1, 1999.

Table 6-2 Miscellaneous Stumpage Rates for Timber Licences

Column 1 Species of timber	Forest Region		
	Column 2 Vancouver except the Mid-Coast and Queen Charlotte Forest Districts (that part west of the Cascades Mountains) \$/cubic metre	Column 3 Prince Rupert and the Mid-Coast and Queen Charlotte Forest Districts (that part west of the Cascades Mountains) \$/cubic metre	Column 4 All forest regions and those parts of regions east of the Cascade Mountains \$/cubic metre
Fir	33.90	25.70	25.10
Spruce	39.00	30.50	24.20
Balsam	15.80	12.70	21.30
Cedar	24.20	19.00	36.00
Hemlock	15.30	12.00	22.50
Cypress	26.70	21.80	25.90
White pine	18.80	16.00	32.00
Yellow pine	18.80	16.00	22.40
Larch	18.80	16.00	25.10
Lodgepole pine	8.60	6.40	22.90
Other conifers	18.80	16.00	25.90
All non-conifers	1.00	1.00	0.50
All species Grades 3, 4, 5, and 6	N/A	N/A	0.25
All species Firmwood reject	NIL	NIL	NIL
All species grade Y	0.25	0.25	N/A

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7.2 MPS Principles and Procedures

7.2.1 MPS Appraisals

The initial upset stumpage rate will be calculated using the *Interior Appraisal Manual* and monthly parameters (Selling Prices and Consumer Price Index (CPI)) in effect on the date of calculating (appraisal effective date). This rate plus the bonus bid remains in effect from the date of award of the sale until the next quarterly adjustment.

7.2.2 MPS Stumpage Adjustments

Unless a cutting authority or the application and tender for a timber sale licence specifies that stumpage rates are fixed for a specified period or for the full term of the cutting authority, stumpage rates are adjusted quarterly on January 1, April 1, July 1, and October 1, of each year.

At the time of the quarterly adjustment, the MPS upset rate will be re-calculated based on the equations applicable for the appraisal effective date and the cutting authority data. The monthly parameters effective for the month of the adjustment will be used in the calculation instead of the original values. All other data remain unchanged.

This process is repeated quarterly until the cutting authority is reappraised.

7.2.3 Reappraisals for MPS Appraisals

Revised data and revised monthly parameters will be used with the equations in effect on the reappraisal date. The original bonus bid remains in effect.

7.2.4 Calculation Conventions

Stumpage rate calculations are performed according to the methods specified in the document entitled, *Specification: Calculating Stumpage Rates for Interior Appraisals for the Market Pricing System* approved by the Director of Revenue Branch.

7.2.5 Methodology

Calculating the upset stumpage rate for Small Business Forest Enterprise Program (SBFEP) timber sales, issued under Section 20 and 21 of the Forest Act after January 1, 1999, will be done using the following methodology:

1. Calculate a Selling Price (SP) of the products that can be recovered from the stand using Section 7.3 with the variables as defined.
2. Calculate the market stumpage price using the equation in Section 7.4.2, the variables for the stand and the SP calculated in Section 7.3.
3. Calculate the upset stumpage rate by discounting the market stumpage price calculated in Section 7.4.2 using the discount factor in Section 7.5.

One stumpage rate is determined for all appraised coniferous sawlogs in each cutting authority area. Other products and deciduous species are priced using miscellaneous stumpage rates as specified under Section 6.7.

7.3 MPS Selling Prices

Selling prices for MPS are based on three month averages of schedules of lumber values collected and published monthly by Revenue Branch. When the MPS values are compiled and distributed they become an integral part of this manual.

7.3.1 MPS Lumber Average Market Values

Monthly market value information for the interior is obtained by Revenue Branch from lumber producers located in each average market value zone. The zones are defined by point of appraisal (see Section 2.5). Average market values (AMV) for each species are compiled by dividing total sales value by total sales volumes for each zone.

The volume that is manufactured to Canadian Lumber Standard/American Lumber Standard (CLS/ALS) sizes is reported in foot board measure (fbm). Lumber manufactured in non-CLS/ALS sizes is adjusted to equivalent CLS/ALS sizes. The total volume for each species includes all sizes and grades of rough and dressed lumber in the green and dried state. Also included are finger jointed lumber and machine stress rated lumber.

The total net sales value for each species or species group is reported in Canadian dollars FOB mill. These sales values are rolled up into three month averages each month. There is approximately a one month lag in reporting.

7.3.2 Calculation of Species Lumber Selling Price

The total lumber selling price (SP) in $\$/\text{m}^3$ is determined for each species using lumber recovery factors (LRF) from the cruise compilation summary, LRF update add-ons and current applicable lumber average market values (AMV) for the species and zone.

1. Zonal LRF update add-ons are found in Table 3-1, by species.
2. Lumber AMVs as published every month.
3. Calculation of Total Species Lumber Selling Price.
 - a. Appraisal LRF = Cruise LRF + LRF update add-on
 - b. Species SP ($\$/\text{m}^3$) = Species AMV($\$/\text{mbm}$)/1000 * Appraisal LRF
4. The stand SP is the volume prorated sum of the species SP.

7.4 Market Stumpage Price Calculation

The market stumpage price is calculated as detailed in this section. It is assumed that the market stumpage price will approximate the final stumpage rate, including the bonus bid, based on the variables used.

7.4.1 Market Stumpage Price Variables

MSP	=	Market Stumpage Price for the cutting authority in (\$/m ³).
CPIF	=	B.C. Consumer Price Index (P110000) for current month divided by the base CPI of 109.3.
SP	=	Lumber Selling Price (\$/m ³). See section 7.3.
VOL	=	Total net cruise volume of coniferous timber (m ³).
S%	=	Average cruise side slope for ground and cable yarding systems (does not include the area for horses and helicopter yarding systems).
VPT	=	Net cruise coniferous volume per tree (m ³). Does not include the volume for horses and helicopter yarding systems.
VPH	-	Net cruise coniferous volume per hectare (m ³ /ha).
BWDN%	=	Blowdown as a percent of net cruise coniferous volume.
CY%	=	Overhead cable yarding coniferous volume (includes skyline) as a percent of VOL.
HP%	=	Helicopter yarding coniferous volume as a percent of VOL.
HORSE%	=	Horse yarding coniferous volume as a percent of VOL.
CYCLE	=	Hauling round trip cycle time from the landing to the point of appraisal or water dump site and return (hrs). See Section 4.5.1
TOW	=	Water towing of logs, distance from dump site to dewatering site. (km).
Z6	=	Skeena selling price zone, dummy variable.
Z9	=	Fort Nelson Peace selling price zone, dummy variable.

7.4.2 Market Stumpage Price Equation

Using the variables defined in Section 7.4.1, the selling price calculated in Section 7.3.2 and the equation below, calculate the market stumpage price (MSP).

$$\begin{aligned} \text{MSP} = & [17.9126 + 0.3043 * \text{SP/CPIF} + 0.2564 * (\text{VOL}/1000) - 0.3005 * \text{S\%} + \\ & 12.1037 * \text{VPT} + .04629 * \text{VPH} - 18.0267 * (\text{BWDN\%}/100) - 16.9130 * \\ & (\text{CY\%}/100) - 43.6800 * (\text{HP\%}/100) - 8.6777 * (\text{HORSE\%}/100) - 3.6290 * \\ & \text{CYCLE} - 0.03966 * \text{TOW} - 8.1365 * \text{Z6} - 11.2927 * \text{Z9}] * \text{CPIF} \end{aligned}$$

For the above equation the following definitions apply:

- if the selling price zone is Skeena (6) then Z6 = 1, otherwise enter 0,
- if the selling price zone is Fort Nelson Peace (9) then Z9 = 1, otherwise enter 0, or
- if VOL is greater than 50 000, then VOL = 50 000.

7.5 Calculation of MPS Stumpage Rate

For each cutting authority area, the MPS upset stumpage rate is determined by selecting the greater of:

- the MPS upset stumpage rate, or
- the prescribed minimum stumpage rate.

7.5.1 Upset Stumpage Rate Calculation

The upset stumpage rate is calculated by taking the MSP result and discounting it by the discount factor (DF).

$$\text{USR} = \text{MSP} * (1 - \text{DF})$$

Where:

USR	=	Upset stumpage rate
MSP	=	Market Stumpage Price as defined in Section 7.4.2
DF	=	0.30

7.5.2 Prescribed Minimum Stumpage Rate

The minimum stumpage rate is prescribed by the Minimum Stumpage Rate Regulation (BC Regulation 354/87). The current minimum stumpage rate is \$0.25 per cubic metre.

7.5.3 Total MPS Stumpage Rate

The total stumpage rate is the upset stumpage rate plus any bonus bid.

7.6 Deciduous and Miscellaneous Forest Products

The stumpage rates for deciduous sawlogs, all species grade 3, 4, 5 and 6 logs and other miscellaneous forest products are found in Section 6.7.

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- The above rates will be used for all engineered estimates made under this manual,
- the machine rate includes labour for the operator (all found). Crew transportation, supervision, and camp/cookhouse costs, where applicable, are included in the standard phase costs of the manual. No additions are required, and
- use of equipment rates not listed in this appendix must be approved by the Regional Appraisal Co-ordinator.

Appendix II Lumber Recovery Factors (board feet/cubic metre)

Species

Log Top Diameter (cm)	Cedar	Hemlock, Cypress, White Pine, Dry Belt Fir	All Others
4.5 - 5.49	91	91	91
5.5 - 6.49	97	102	103
6.5 - 7.49	103	111	113
7.5 - 8.49	108	120	123
8.5 - 9.99	115	129	134
10.0 - 14.9	132	151	158
15.0 - 19.9	156	172	185
20.0 - 24.9	177	187	202
25.0 - 29.9	197	199	217
30.0 - 34.9	215	210	226
35.0 - 39.9	227	217	234
40.0 - 44.9	235	222	240
45.0 - 49.9	238	228	246
50.0 - 54.9	239	233	252
55.0 - 59.9	239	237	258
60.0 - 64.9	237	240	263
65.0 - 69.9	233	241	266
70.0 - 74.9	228	240	267
75.0 - 79.9	223	237	265
80.0 - 84.9	217	234	263
85.0 - 89.9	210	231	261
90.0 - 94.9	201	227	259
95.0 - 99.9	193	224	257
100.0 +	184	221	254

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