

File: 280-20/115104

JUL 31 2008

To: Bill Warner
Regional Manager
Northern Interior Forest Region

Phil Zacharatos
Regional Manager
Southern Interior Forest Region

From: The Honourable Pat Bell, Minister of Forests and Range

Re: Amendment No. 1 to the Interior Appraisal Manual

I hereby approve Amendment No. 1 to the *Interior Appraisal Manual* and attach a copy for your use. The following sections have been amended:

Section 1.1: Revised definition of fully appraised to include upset stumpage rates for BCTS set at variable cost to prepare timber for sale.

Table 4-1: Three expired Points of Appraisal (POAs) are removed.

Section 4.1.1: An expiry date for the Fort Nelson POA is added.

Section 6.3 and 6.3.1: Revised wording to specify woodlot non-adjusting rates are not included in the data used to determine district or timber supply area average stumpage rates.

Section 6.5: Revised wording to allow a silviculture levy to be added to the stumpage rate for partially harvested timber.

This amendment will come into force on August 1, 2008. Further amendments or revisions to this manual require my approval.



~~Pat Bell~~
Dep. Minister

pc: Murray Stech, Director, Revenue Branch
All Subscribers, *Interior Appraisal Manual*



Ministry of
Forests
and Range



MANUAL REVISION TRANSMITTAL

<p>FOR FURTHER INFORMATION OR IF YOU HAVE A CHANGE OF ADDRESS, PLEASE CONTACT:</p> <p>Bob Bull Senior Timber Pricing Forester (Interior) Revenue Branch Ministry of Forests 1st Floor, 1520 Blanshard Street Victoria, BC V8W 3K1 Phone: 356-7709 PROFS userid: Bob.Bull@gov.bc.ca FAX: 387-5670</p>	MANUAL TITLE	
	Interior Appraisal Manual	
	AMENDMENT	ISSUE DATE
	Amendment No. 1	August 1, 2008
MANUAL CO-ORDINATOR		
Judy Laton Manuals Co-ordinator		
AUTHORIZATION (Name, Title)		
Murray Stech Director, Revenue Branch		

Please make the following changes to your copy of the above Ministry manual.

ACTION (Remove/Insert)	(VOL.) CHAPTER-SECTION-SUBJECT	PAGE(S)	COMMENTS
	TABLE OF CONTENTS		
Remove	Chapter 1	3 - 4	After Chapter 2 Tab
Insert		3 - 4	
Remove	Chapter 2	3 - 4	After Chapter 2 Tab
Insert		3 - 4	
Remove	Chapter 4	3 - 4 11 - 12 45 - 48	After Chapter 4 Tab
Insert		3 - 4 11 - 12 45 - 48	
Remove	Chapter 5	7 - 8	After Chapter 5 Tab
Insert		7 - 8	
Remove	Chapter 6	3 - 10 13 - 14	After Chapter 6 Tab
Insert		3 - 10 13 - 14	
Remove	Chapter 7	7 - 10	After Chapter 7 Tab
Insert		7 - 10	
INSERT	Letter from Minister and Transmittal Sheet		After Amendments Tab

“Coniferous cruise volume” means that part of the total net cruise volume which is coniferous timber,

“Cutting Authority” means:

1. A cutting permit issued under:
 - a. a forest licence,
 - b. a timber sale licence that provides for the issuance of cutting permits,
 - c. a tree farm licence,
 - d. a community forest agreement,
 - e. a woodlot licence,
 - f. a timber licence,
 - g. a community salvage licence,
 - h. a master licence to cut, or
 - i. a forestry licence to cut.
2. A timber sale licence under which cutting permits have not or will not be issued.
3. All other licences to cut.
4. A road permit.

“Cutting Authority Area” means the area where timber may be harvested under a cutting authority, which has a unique timber mark,

“Deciduous timber” means timber that is not of a coniferous species,

“Decked timber” means timber that has been 100% decked at roadside,

“Director” means director of Revenue Branch Ministry of Forests and Range,

“District Manager” means district manager or district manager’s designate,

“Fully Appraised” means stand data (site specific or borrowed) has been used by the general appraisal system to calculate an indicated stumpage rate or an upset stumpage rate, **including upset stumpage rates for BCTS set at variable cost to prepare timber for sale,**

“Licensee” means the holder of a cutting authority,

“Manual” means *Interior Appraisal Manual*,

“Minister” means Minister of Forests and Range,

“**Ministry**” means Ministry of Forests and Range,

“**New Construction**” means the following construction phases: subgrade construction, placement of additional stabilizing material and the construction and installation of drainage and other pertinent structures,

“**Partially Harvested Timber**” means timber that has been felled and/or bucked and not yet forwarded to roadside.

“**Prescribed Minimum Stumpage Rate**” means the minimum stumpage rate prescribed by the minimum stumpage rate regulation (BC Regulation 354/87).

“**Reconstruction and Replacement**” means replacement or structural repair of a major drainage structure (e.g., replacing stringers, cross ties, or cribbing), or major resurfacing, which means resurfacing sections of more than 0.3 km in length that were initially surfaced but have deteriorated due to long term wear and tear, where stabilizing material was not previously used, or major reconstruction, which means restoring at least 0.1 km of road (per occurrence) that requires complete rebuilding of the subgrade,

“**Regional Manager**” means regional executive director or regional executive director’s designate,

“**Regulations**” means regulations under the *Act*,

“**Remedial Fences and Wing Fences**” means fencing that is required to remedy, reduce or manage the impact of timber harvesting activities on range management,

“**Revenue Branch**” means the Revenue Branch of the Ministry,

“**Skidder Swing**” means situations where two of the different harvest methods as listed in section 4.4.1 are required to move timber to an existing road or landing where it can be loaded onto a haul truck. Where skidder swing is included in an appraisal the harvest method that moves the felled timber first is the method that is indicated in the appraisal data submission,

“**Salvage**” except as provided in section 6.4, means a cutting authority area where greater than one-third of the net coniferous cruise volume is attacked by mountain pine beetle or other pests,

“**Species Net Volume**” is the species net volume reported in the appraisal summary report from the cruise compilation for the cutting authority area,

“**Stud Log Percent**” means the net volume of 5 m logs with top diameters under 20 cm expressed as a percentage of the total net cruise volume. The stud log percent is rounded to the nearest whole percentage point,

2.2 Reappraisals

1. Where these policies and procedures require a reappraisal to be performed, the stumpage rate must be redetermined in accordance with the relevant policies and procedures that are or were in effect as the case may be on the effective date of the reappraisal.
2. Except as provided in sections 2.2.1(1)(d), 2.2.2, 2.2.3 and Appendix VI, a reappraisal is based on a complete reassessment of the cutting authority area at the time of the reappraisal, as if the area has been returned to the condition it was in prior to development or harvesting.
3. At the time of a reappraisal, initial detailed engineering cost estimates may be re-estimated once after construction utilizing information as specified in section 4.3.3. However, development costs originally estimated using ministry approved competitive bids are not re-estimated in a reappraisal.

2.2.1 Changed Circumstances

1. In this section a changed circumstance means a circumstance where:
 - a.
 - (i) The licensee has used or will use a harvest method to harvest at least fifteen percent of the volume of timber in the cutting authority area that is different from the method used in the most recent appraisal or reappraisal of the cutting authority area, and
 - (ii) the different harvest method that has been used or will be used when used in the changed circumstance reappraisal will produce the least cost total harvesting, development, and transportation cost estimate, or
 - b. There will be a difference of at least fifteen percent between the total appraised development cost estimate in the changed circumstance reappraisal and the total appraised development cost estimate that was used in the most recent appraisal or reappraisal where the change is caused by circumstances other than a change in the manual or a change as a result of a stumpage adjustment.
 - c. Land containing merchantable timber has been either added to or deleted from the cutting authority area since the most recent cruise compilation or recompilation was used in an appraisal or reappraisal that exceeds the lesser of
 - i. fifteen hectares, or
 - ii. fifteen percent of the area of the cutting authority area as it was prior to the addition or deletion of the land, or

- d. at least fifteen percent of the volume of the appraised timber in a cutting authority area has been suddenly and severely damaged, unless the timber was damaged by a fire for which the licensee was responsible and the licensee failed to comply with the *Wildfire Act* or *Wildfire Regulations*.
Notwithstanding subsection 2.2(2), where the cutting authority area is reappraised because of sudden and severe damage the redetermined stumpage rate is based upon the remaining timber only. The reappraisal cost estimate for development takes into account volume of timber already removed from the cutting authority area. This subsection is applicable to cutting authorities with either a non-adjusting (fixed) stumpage rate or a quarterly adjusted stumpage rate.
- e. a cutting permit authorizing the harvesting of timber on the cutting authority area:
 - i. was issued before April 1, 2006, and
 - ii. surrendered on or after April 1, 2006, because of the interior log grade change, and
 - iii. the volume of timber in cutblocks where harvesting has not started (remaining timber) is greater than twenty-five percent (25 %) of the volume of timber that was on the cutting authority area when the cutting permit was issued (the original timber), and
 - iv. the District Manager is satisfied that the remaining timber is significantly different than what has been harvested under the cutting authority.
2. Where a changed circumstance has occurred with respect to a cutting authority area, other than a cutting authority area that is subject of a road permit or a cutting authority area with a non-adjusting stumpage rate, the cutting authority area must be reappraised in accordance with section 2.2.1.1.
3. Where a cutting authority is reappraised because of a changed circumstance, any bonus bid in existence does not change and remains in effect.

2.2.1.1 Changed Circumstance Reappraisal Procedure

1. The licensee must submit to the district manager within thirty days of the completion of log transportation activities on the cutting authority area or thirty days prior to the expiry of the cutting permit whichever comes first, an appraisal data submission if the cutting authority area must be reappraised because of a changed circumstance under section 2.2.1. Thereafter the changed circumstance reappraisal procedure is the same procedure as that required by section 2.1(2) through 2.1(7).

2. The point of appraisal that when used in the calculation of the operating cost estimate produces the least cost total development, harvesting and transportation determination of the operating cost estimate unless:
 - a. five years have passed from the date that a milling facility was permanently rendered incapable of producing lumber and chips, and
 - b. it was the only milling facility associated with that point of appraisal.
3. Where a point of appraisal cannot be selected under subsection (2) of this section because of the conditions of paragraphs (a) and (b) of that subsection, the point of appraisal that produces the next lowest total development, harvesting and transportation estimate must be used in the determination of the operating cost estimate in accordance with the requirements of subsection (2) of this section.
4. The process in subsection (3) of this section is continued until a point of appraisal can be selected without being excluded by the conditions of paragraphs (2)(a) and (b).
5. For the purposes of determining the least cost total harvesting, development and transportation estimate, the locations that were used in measurement of cycle time for each point of appraisal in Table 4-1 as of October 1, 2003 will be used.
6. The manufacturing costs and average market values for the selling price zone in Table 4-1 for the least cost point of appraisal selected under paragraphs 2, 3 or 4 must be used in the appraisal.

Table 4-1 Points of Appraisal

Northern Interior (Zone 5, 15, 25 & 35)			
Bear Lake	Fort St. James	Mackenzie	Smithers
Burns Lake	Fraser Lake	Prince George	Strathnaver
Clear Lake	Houston	Quesnel	Vanderhoof
Engen	Isle Pierre		
Skeena (Zone 6, 16, 25 & 36)			
Terrace	Carnaby	Hazelton	Kitwanga

Southern Interior (Zone 7, 17, 25 & 37)					
Adams Lake	Galloway	Merritt	Thrums		
Armstrong	Grand Forks	Midway	Valemount		
Canal Flats	Kamloops	Okanagan Falls	Vavenby		
Canoe	Kelowna	Princeton	Westbank		
Castlegar	Lavington	Radium	Ymir		
Craigellachie	Lumby	Revelstoke			
Creston	McBride	Slocan			
Elko					
South Cariboo (Zone 8, 18, 25 & 38)					
100 Mile House	Chasm	Lytton	Squamish	Williams Lake	Boston Bar
Fort Nelson - Peace (Zone 9, 19 & 25)					
Chetwynd	Fort Nelson	Fort St. John			

7. The following Points of Appraisal will expire on the dates indicated: Carnaby (February 24, 2010), Boston Bar (June 30, 2009), **Fort Nelson (October 31, 2010)**.

4.3.2 Tabular Cost Estimates

Tabular costs are determined using the procedures and criteria in this section for the total length of road that the submitting professional certifies is required to remove the timber from the cutting authority area.

4.3.2.1 Subgrade Construction

The subgrade construction cost estimate includes:

- clearing,
- grubbing,
- stripping,
- debris disposal,
- stump removal,
- ditch construction,
- turnout construction (not landings),
- material costs, and
- installation of culverts with diameters up to 950 mm or the equivalent cross-section area or single log abutment culverts up to 3.4 m span.

Right-of-way felling and logging is excluded.

4.3.2.2 Subgrade Construction Variables

For appraisal purposes the following subgrade construction variables are recognized:

1. Section length: (L)
 - a. Each section should be representative of a single moisture class. Section lengths are recorded to the nearest 0.1 km. Each section should be 1 km or longer, although some individual section lengths less than 1 km but greater than or equal to 0.100 km are acceptable for extreme variations of slope or percent rock. The section length includes that portion traversing through landings. For ground skidding, short roads (up to and including 100 m long) that access single landings are included in the tree-to-truck cost estimates (section 4.4) and are not eligible for development cost estimates.
 - b. All road segments less than 0.100 km, excluding short ground skidding spurs less than 0.100 km, are to be aggregated with other adjacent road segments, making appropriate adjustments to average site conditions using the distance-weighted averages for the site variables for that section.
 - c. A short spur road less than 0.100 km that does not access a single landing may be aggregated with a similar stand-alone non-adjacent road section.

2. Road Types :

- Snow/Ice Road (WINTER): - A single lane seasonal road including turnouts, with a flat road profile that is built with a combination of snow, ice and dirt, on a surface that may or may not have been stumped. The driving surface is built up using multiple layers of snow and ice such that extra stabilizing material costs are not applicable. A flat road profile means the side slope is less than or equal to 15% and there is minimal side cut. Minimal means, cuts into mineral or organic soil must not exceed 0.5 m in depth for distances up to 0.1 km. Seismic lines being used for roads, that have not previously been used as roads, will be considered as new construction and qualify as snow/ice roads provided they fall within the above criteria.
- Long Term (LT) - A long term road is a road that will be used for more than two years for harvesting or hauling and has a ditch line and raised subgrade. A road within a cutblock is not considered long term unless the road will be extended beyond the cutblock to provide **access** to additional tributary cutblocks within the cutting authority area.
- Short Term (S) - A short term road is a road that is neither temporary or long term.
- Temporary (T) - A temporary road is a road that is planned to be used for harvesting and/or hauling for less than one year.

3. Uphill Side Slope: (SLOPE %)

Uphill side slope percent may show a variation (+/- 15% about the average) within any section length and represents the average of all slopes in the section to a maximum of 50%. To derive an average for uphill side slope percent, several representative cross-section measurements are taken along the section length and the sum of one-half of the distance on each side of the measurement is applied as a weight against the measurement at that cross-section. The uphill side slope percent is measured at right angles to the road centreline and is recorded to the nearest integer. Where the road is located on a bench, the uphill side slope of the bench is used.

4. Percent Rock: (ROCK %)

Rock includes bedrock and large boulders (each greater than 1.5m in diameter) . It may be rippable or may require drilling and blasting. Rock percent may show a variation (+/- 15% about the average) within any section length and represents the average of all rock percents in the section to a maximum of 50%. To derive an average percent rock, representative cross-section measurements are taken along the section length and the percent rock calculated. The sum of one-half of the distance on each side of where the measurements were taken is applied as a weight against the percent rock calculated at that cross-section. The percent rock is determined as follows:

4.8 Administration and Other Costs

4.8.1 Forest Management Administration

Forest management administration costs are those costs directly related to supervision and administration of the activities listed below:

- Office Operations,
- Scaling,
- Cruising,
- Environmental Protection,
- Consultants fees (section 4.3.3),
- Archaeological surveys,
- Waste and Residue surveys,
- Right-of-way easements,
- Foreshore and other land leases,
- Tree marking Beetle probing & Pheromone baiting,
- Engineering (road layout, survey including geotechnical surveys, and design, other than those applicable as engineered cost estimate).

The forest management administration cost estimate in an appraisal is determined as follows:

$$$/m^3 = 2.01345 + (0.19721 * CPSlope\%)$$

Where:

\$2.15/m³ is set as the minimum. If equation yields less than \$2.15/m³ then use \$2.15/m³.

\$17.06/m³ is set as the maximum. If equation yields more than \$17.06/m³ then use \$17.06/m³.

CP Slope % - is the cutting permit average slope from the cruise appraisal summary report.

4.8.2 Camp Costs

1. A camp cost estimate may be included in an appraisal if the workers who work on cutting authority area, reside in the camp, and travel on each day of work during timber harvesting operations from the camp to the cutting authority area.
2. A camp must:
 - a. be a permanent structure,
 - b. have a cookhouse and a bunkhouse,
 - c. have been established through the expenditure of capital costs,
 - d. have full time camp staff, and

- e. be outside of a support centre listed in section 4.4.2(7).
3. Where a cutting authority area, serviced by a camp, may be accessed only by rail, the camp cost estimate for that cutting authority area is \$5.00/m³, otherwise the cost estimate is \$2.51/m³.

4.8.3 Low Volume Cost Estimate

All fully appraised cutting authorities are eligible for a specific low volume cost estimate in addition to all other phase cost estimates.

1. Where the licence to which the cutting authority belongs has an allowable annual cut of Crown timber greater than 0 m³ and less than 3 000 m³:

$$$/m^3 = 8.35$$

2. Where the licence to which cutting authority belongs has an AAC of 3 000 m³ or greater and the net cruise volume for the cutting authority is less than 3 000 m³:

The cost estimate is: (prorated by volume)	Ground Skidding	\$0.63/m ³
	Highlead & Grapple	\$0.81/m ³
	All Other	\$0.00/m ³

4.9 Basic Silviculture Cost Estimate

1. The basic silviculture cost estimates includes the cost of every treatment that is required to achieve a licensee's free-growing stand obligations.
 - a. Except as provided in section 5.6.4 of this manual, a treatment may not be included in basic silviculture cost estimate in the appraisal unless:
 - i. the licensee is obligated by law to carry out the treatment,
 - ii. the licensee carries out the treatment, and
 - iii. the treatment is not funded by the Crown or an agent of the Crown.
2. The area of land where a treatment is to be applied that may be considered in the basic silviculture cost estimate is the net area to be reforested (NAR) for which the licensee has an obligation to establish a free-growing stand. The NAR includes the net merchantable area (NMA) from the cruise.
3. Table 4-9 lists the associated cost estimates (\$/ha) for Biogeoclimatic Ecosystem Classification (BEC) zone, subzone, and variant combinations across the interior. Where the subzone/variant combination is not listed in the table, the BEC undifferentiated subzone "un" cost estimate is used.
4. Where a cutting authority area includes more than one BEC/zone/subzone/variant combination, a prorated BEC zone/subzone/variant cost estimate will be determined by prorating the cost estimates from Table 4-9 for the primary and secondary BEC combination identified in the appraisal data submission based on their respective percent by net merchantable area identified in the appraisal data submission. -
5. The cutting authority basic silviculture cost estimate is calculated as follows:

$$\$/\text{m}^3 = \frac{[\text{NMA} * \text{Cost} * (\text{CAPCUT}\% / 100) * 1.25] + [(\text{NAR} - \text{NMA}) * \text{Cost}]}{\text{NMV}}$$

Where:

NMA	=	Net Merchantable area (ha) from the cruise appraisal summary report. This area must be the same area directly attributed to the appraised net merchantable volume for the cutting authority. Where the licence requires harvesting in deciduous stands the NMA includes the area for the deciduous volume.
Cost	=	Prorated BECzone/subzone/variant cost (\$/ha) using Table 4-9.
NAR	=	Net area to reforest (ha) within the cutting authority area for which the licensee has free-growing obligations (ha) and has not yet received a basic silviculture cost estimate in any appraisal. For the purpose of this section the NAR can not be less than the NMA.
NMV	=	Net merchantable volume (m ³) for the cutting authority area from the cruise appraisal summary report.
CAPCUT	=	Cutting Authority (CA) partial cut % calculated under section 4.4.2(5). If CAPCUT% > 80% CAPCUT% = 80, otherwise: CAPCUT% = (CANMV/CA Gross NMV) * 100

$$\text{CA Gross NMV(m}^3\text{)} = {}^v\text{GS(C)} + ({}^v\text{GS(P)} / \text{GS(PCUT/100)}) + {}^v\text{OC(C)} + ({}^v\text{OC(P)} / \text{OC(PCUT/100)}) + {}^v\text{SK(C)} + {}^v\text{Horse(C)} + {}^v\text{Heli(C)} + ({}^v\text{Heli(P)} / \text{Heli(PCUT/100)})$$

Where:

PCUT	=	Logging method PCUT (%) from section 4.4.2,(6)
CAPCUT	=	Cutting Authority (CA) partial cut percent
^v	=	Net merchantable volume (m ³) required to be logged by each system
Heli (C)	=	helicopter logging (clear cut)
Heli (P)	=	helicopter logging (partial cut)
Horse(C)	=	horse logging (clear cut)
GS (C)	=	ground skidding (clear cut)
GS (P)	=	ground skidding (partial cut)
OC(C)	=	overhead cable logging (clear cut)
OC(P)	=	overhead cable logging (partial cut)
SK(C)	=	skyline logging (clear cut)

5.6 Calculation of Stumpage Rate

5.6.1 Calculation of Indicated Stumpage Rate

The indicated stumpage rate for a cutting authority is defined as:

$$\text{ISR} = \text{IBR} + (\text{VI} - \text{IMVI})$$

Where:

ISR = Indicated Stumpage Rate

IBR = Interior Base Rate as defined in Section 5.5

VI = Value Index for the cutting authority as defined in Section 5.2

IMVI = Interior Mean Value Index, as defined in Section 5.3

5.6.2 Prescribed Minimum Stumpage Rate

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

5.6.3 Reserve Stumpage Rate

For each cutting authority area, except those containing timber licence volume, the reserve stumpage rate is determined by selecting the greater of:

- the indicated stumpage rate, or
- the prescribed minimum stumpage rate.

5.6.4 Levies

1. A silviculture levy may be added to:
 - a. the reserve stumpage rate determined under section 5.6.3,
 - b. the stumpage rate determined under sections 6.2(1), 6.4(5) or 6.5(3),(4),(6),
 - c. the reserve rate indicated in Table 6-4 for all species grades 4 and 6,
2. The levy is equal to the district manager's cost estimate of silviculture costs to be incurred by the Crown.

3. Development/Administration Levy:
 - a. A development levy may be added to the reserve stumpage rate. The development levy is equal to the appraisal cost estimate of road construction provided by the Crown as approved by the regional manager.
 - b. An administration levy may be added to the reserve stumpage rate. The administration levy is equal to the district manager's cost estimate of administration provided by the Crown for preparing a Forestry Licence to Cut for salvage timber. An administration cost estimate is made for every cutting authority where the district office has to prepare all details of a Forestry Licence to Cut for salvage. No levy is applicable to professional applications.
4. The amount of any levy may be re-determined at reappraisal only.

5.6.5 Upset Stumpage Rate

The upset stumpage rate is the total of the reserve stumpage rate plus any development, silviculture and administration levies which may be charged as defined in section 5.6.4.

5.6.6 Total Stumpage Rate

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

4. Notwithstanding any other subsections of this section, the stumpage rate must not be lower than the prescribed minimum stumpage rate.

6.1.1 Incidental Conifer in Deciduous Leading Stands

1. Except as provided in section 7.5.1(5), this section applies to coniferous timber in a cutting authority area where the total volume of all deciduous species to be harvested is greater than 70 percent of the total net cruise volume to be harvested.
2. The stumpage rate for each species of coniferous timber must be determined by using the stumpage rate prescribed in Table 6-1 for the forest zone in which the cutting authority area is located.
3. A stumpage rate determined under subsection 2 shall be redetermined on August 1, of each year in accordance with this section.

6.2 Cutting Authorities With 5 000 m³ or Less Volume

1. Where the total coniferous volume to be harvested in a cutting authority area is 2 000 m³ or less, and where the agreement under which the cutting authority authorizing harvesting on the cutting authority area has been issued has a coniferous allowable annual cut of not more than 3 000 cubic metres, or no coniferous annual allowable cut:
 - a. The stumpage rate for each species of coniferous timber in the cutting authority area must be determined using the stumpage rate in Table 6-1 for the forest zone in which the cutting authority area is located, except that,
 - b. Where the agreement holder is not required to establish a free growing crop of trees on the cutting authority area, the stumpage rate for each species of timber shall be
 - i. the sum of the rate determined under paragraph (a) of this subsection and the basic silviculture cost for the species in the forest region, or
 - ii. where the Crown has the responsibility for silviculture, the silviculture levy determined under section 5.6.4.
2. Except as provided in subsection 3 of this section, where the total coniferous volume to be harvested on a cutting authority area is 5 000 m³ or less, and the cutting authority authorizing harvesting on the cutting authority area is a competitively awarded forestry licence to cut, other than a BCTS licence:
 - a. Subject to section 5.6.2 and paragraph (d) of this subsection, the upset stumpage rate for each species of coniferous timber in the cutting authority area will be 70 % of the stumpage rate for that species in Table 6-1 for the forest zone in which the cutting authority area is located, except that,
 - b. Where applications for a forestry licence to cut have been invited with upset stumpage rates determined under this subsection and no applications have been received, the upset stumpage rate for each species of coniferous timber shall be the rate requested by the district manager and approved by the regional manager.
 - c. Where the regional manager does not anticipate that applications for a forestry licence to cut will be received due to market conditions or timber profile, the upset stumpage rate for each species of coniferous timber shall be the rate requested by the district manager and approved by the regional manager.
 - d. Where the Crown is responsible for basic silviculture on the cutting authority area, the upset stumpage rate for each species of coniferous timber in the cutting authority area will be the sum of the stumpage rate determined under paragraphs (a), (b) or (c) of this subsection and the basic silviculture levy determined under section 5.6.4.

3. Each upset stumpage rate determined under subsection (2) of this section shall not be less than the district's variable cost per cubic meter to prepare the timber for sale calculated by the district manager.
4. Except as provided in section 2.2.2, where the upset stumpage rate is determined under subsections 1 and 2 of this section, the total stumpage rate is fixed for the term of the cutting authority and all extensions.
5. a. Notwithstanding subsections (1) or (2) of this section, where the total coniferous volume to be harvested on a cutting authority area is 5 000 m³ or less, the stumpage rate may be determined:
 - i. for a cutting authority other than a BCTS licence by an appraisal in accordance with chapters 2, 3, 4, 5, and
 - ii. for a BCTS licence by an appraisal in accordance with chapter 7.
- b. Where the stumpage rate is determined in accordance with this subsection:
 - i. the cruise data that is used in the appraisal may be from the cruise of the cutting authority area or from the cruise of a comparable cutting authority that has similar stand and terrain characteristics,
 - ii. the district manager may require the selection of a comparable cutting authority to be in accordance with procedures set out in section 2.1.2.2 of the *Cruising Manual*, and
 - iii. except as provided in sections 2.3(4) and 7.2.1(2) the total stumpage rate is adjustable for the term of the cutting authority and all extensions.

6.3 Road Permits

1. In this section the area of a forest district or the area of a timber supply area does not include the area of a park located within that district or timber supply area.
2. Except as provided in subsections (3) and (7) of this section, the stumpage rate for a road permit shall be the weighted average sawlog stumpage rate for:
 - a. all cutting authorities, authorizing harvesting on cutting authority areas that have been fully appraised, that authorize the harvesting of timber in the same forest district in which the road permit cutting authority area is located, and that are issued under the licence that entitles the licensee to apply for the road permit, or
 - b. if the licence permitting the granting of the road permit has an allowable annual cut of 3 000 m³ or more per year, and there are no records from which the weighted average sawlog stumpage rate may be determined under:
 - i. paragraph (a), then, **except as provided under subsection (6) of this section**, all the cutting authorities, authorizing harvesting on cutting authority areas that have been fully appraised, that authorize the harvesting of timber on land located in the smaller of the area of the same forest district or the area of the same timber supply area in which the road permit cutting authority area is located, or
 - ii. paragraphs (a) or (b)(i), then, **except as provided under subsection (6) of this section**, all cutting authorities, authorizing harvesting on cutting authority areas that have been fully appraised, that authorize the harvesting of timber on land located in the larger of the area of the same forest district or the area of the same timber supply area in which the road permit cutting authority area is located, or
 - c. if the licence permitting the granting of the road permit has an allowable annual cut of less than 3 000 m³ per year, and there are no records from which the weighted average sawlog stumpage rate may be determined under:
 - i. paragraph (a), then, **except as provided under subsection (6) of this section**, all cutting authorities authorizing harvesting on cutting authority areas that have been fully appraised, that are for licences that have an allowable annual cut of less than 3 000 m³ in the smaller of the area of the same forest district or the area of the same timber supply area in which the road permit cutting authority area is located, or
 - ii. paragraphs (a) or (c)(i), then, **except as provided under subsection (6) of this section**, all cutting authorities, authorizing harvesting on cutting authority areas that have been fully appraised, that are for licences that have an allowable annual cut of less than 3 000 m³ in the larger of the area of the same forest district or the area of the same timber supply area in which the road permit cutting authority area is located, or

- iii. paragraphs (a), (c)(i) or (c)(ii) then, **except as provided under subsection (6) of this section**, all cutting authorities, authorizing harvesting on cutting authority areas that have been fully appraised that authorize the harvesting of timber on land located in the smaller of the area of the same forest district or the area of the same timber supply area in which the road permit cutting authority area is located, or
 - iv. paragraphs (a), (c)(i), (c)(ii), or (c)(iii) then, **except as provided under subsection (6) of this section**, all cutting authorities, authorizing harvesting on cutting authority areas that have been fully appraised that authorize the harvesting of timber on land located in the larger of the area of the same forest district or the area of the same timber supply area in which the road permit cutting authority area is located.
3. If there are no records from which the weighted average sawlog stumpage rate may be determined under paragraphs (a), (b) or (c) of subsection (2) of this section, then the stumpage rate, for each species of coniferous timber, is the rate in Table 6-1 for the forest zone in which the road permit cutting authority area is located.
4. a. In paragraph (a) of subsection (2) of this section, the weighted average sawlog stumpage rate that is in effect for the period between June 1 of one year in this subsection hereinafter referred to as the first year, and May 31 of the following year is determined as follows:

$$\$/m^3 = \frac{(\text{sum of Grade 1 value billed}) + (\text{sum of Grade 2 value billed})}{(\text{sum of Grade 1 volume billed}) + (\text{sum of Grade 2 volume billed})}$$

- b. Subject to subsection (10) of this section, volumes and values in the formula above are taken from the history billing records for coniferous sawlogs during the 12-month billing period ending on March 31 in the first year, if the volume of those coniferous sawlogs is greater than 500 cubic metres.
5. a. In paragraphs (b) and (c) of subsection (2) of this section, the weighted average sawlog stumpage rate that is in effect for the period between June 1 of one year **hereinafter referred** in this section to as the first year, and May 31 of the following year is determined as follows:

$$\$/m^3 = \frac{(\text{sum of Grade 1 value billed}) + (\text{sum of Grade 2 value billed})}{(\text{sum of Grade 1 volume billed}) + (\text{sum of Grade 2 volume billed})}$$

- b. Subject to subsection (10) of this section, volumes and values in the formula above are taken from the history billing records for coniferous sawlogs during the 12-month billing period ending on March 31 in the first year, if the volume of those coniferous sawlogs is greater than 500 cubic metres.
6. **A fully appraised cutting authority issued under a woodlot licence that has a non-adjusting stumpage rate at any time during the twelve-month billing period ending on March 31 in the first year may not be used to determine a stumpage rate under**

paragraphs (b) and (c) of subsection (2) of this section for the period between June 1 of the first year and May 31 of the following year.

7. The stumpage rate for a road permit granted to the holder of a timber sale licence entered into under section 20 of the *Forest Act* will be the same as the stumpage rate for the timber sale licence which entitled the licensee to apply for the road permit.
8. Except as provided in Appendix VI, the stumpage rate for a road permit shall be redetermined on June 1 of each year in accordance with the procedure in this section.
9. The costs of roads constructed under road permits are eligible for inclusion as development cost estimates under section 4.3 in the appraisal of the licensees' first fully appraised tributary cutting authority. These roads will not be considered as existing roads under section 4.3.1.1.3(2).
10. No information from a billing history record may be used in the determination of a weighted average sawlog stumpage rate under this section if the information on the record is in a horizontal line of information that contains a negative number.

6.3.1 Blanket Salvage Cutting Permits

1. In this section the area of a forest district or the area of a timber supply area does not include the area of a park located within that district or timber supply area.
2. Except as provided in subsection (3) or subsection (5) of this section the stumpage rate for a blanket salvage cutting permit shall be the weighted average sawlog stumpage rate for:
 - a. all cutting authorities authorizing harvesting on cutting authority areas that have been fully appraised, that authorize the harvesting of timber in the same forest district as is the land in which the blanket salvage permit cutting authority area is located, and that have been issued under the same licence, or
 - b. if the licence permitting the granting of the blanket salvage permit has an allowable annual cut of 3 000 m³ or more per year, and there are no records from which the weighted average sawlog stumpage rate may be determined under:
 - i. paragraph (a), then, **except as provided under subsection (5) of this section**, all cutting authorities, authorizing harvesting on cutting authority areas that have been fully appraised, that authorize the harvesting of timber on land located in the smaller of the area of the same forest district or the area of the same timber supply area in which the blanket salvage permit cutting authority area is located, or
 - ii. paragraphs (a) or (b)(i), then, **except as provided under subsection (6) of this section**, all cutting authorities, authorizing harvesting on cutting authority areas that have been fully appraised, that authorize the harvesting of timber on land located in the larger of the area of the same forest district

- or the area of the same timber supply area in which the blanket salvage permit cutting authority area is located, or
- c. if the licence permitting the granting of the blanket salvage permit has an allowable annual cut of less than 3 000 m³ per year, and there are no records from which the weighted average sawlog stumpage rate may be determined under:
 - i. paragraph (a), then, **except as provided under subsection (5) of this section**, all cutting authorities, authorizing harvesting on cutting authority areas that have been fully appraised, that are for licences that have an allowable annual cut of less than 3 000 m³ in the smaller of the area of the same forest district or the area of the same timber supply area in which the blanket salvage permit cutting authority area is located, or
 - ii. paragraphs (a) or (c)(i), then, **except as provided under subsection (5) of this section**, all cutting authorities, authorizing harvesting on cutting authority areas that have been fully appraised, that are for licences that have an allowable annual cut of less than 3 000 m³ in the larger of the area of the same forest district or the area of the same timber supply area in which the blanket salvage permit cutting authority area is located, or
 - iii. paragraphs (a), (c)(i) or (c)(ii) then, **except as provided under subsection (5) of this section**, all cutting authorities, authorizing harvesting on cutting authority areas that have been fully appraised, that authorize the harvesting of timber on land located in the smaller of the area of the same forest district or the area of the same timber supply area in which the blanket salvage permit cutting authority area is located, or
 - iv. paragraphs (a), (c)(i), (c)(ii) or (c)(iii) then, **except as provided under subsection (5) of this section**, all cutting authorities, authorizing harvesting on cutting authority areas that have been fully appraised, that authorize the harvesting of timber on land located in the larger of the area of the same forest district or the area of the same timber supply area in which the blanket salvage permit cutting authority area is located.
 3. If there are no records from which the weighted average sawlog stumpage rate may be determined under paragraphs (a), (b) or (c) of subsection (2), then the stumpage rate for each species of coniferous timber must be determined, using Table 6-1 for the forest zone in which the blanket salvage cutting authority area is located.
 4. a. In paragraph (a) of subsection (2) of this section, the weighted average sawlog stumpage rate that is in effect for the period between August 1 of one year **hereinafter referred in** this section to as the first year, and July 31 of the following year is determined as follows:

$$\$/\text{m}^3 = \frac{(\text{sum of Grade 1 value billed}) + (\text{sum of Grade 2 value billed})}{(\text{sum of Grade 1 volume billed}) + (\text{sum of Grade 2 volume billed})}$$

- b. Subject to subsection (8) of this section volumes and values in the formula above are taken from the billing history records for coniferous sawlogs during the 12-month billing period ending on March 31 in the first year, if the volume of those coniferous sawlogs is greater than 500 cubic metres.
5. A fully appraised cutting authority issued under a woodlot licence that has a non-adjusting stumpage rate at any time during the twelve-month billing period ending on March 31 in the first year may not be used to determine a stumpage rate under paragraphs (b) and (c) of subsection (2) of this section for the period between August 1 of the first year and July 31 of the following year.
6. a. In paragraphs (b) and (c) of subsection (2) of this section, the weighted average sawlog stumpage rate that is in effect for the period between August 1 of one year in this subsection hereinafter referred to as the first year, and July 31 of the following year is determined as follows:

$$$/m^3 = \frac{(\text{sum of Grade 1 value billed}) + (\text{sum of Grade 2 value billed})}{(\text{sum of Grade 1 volume billed}) + (\text{sum of Grade 2 volume billed})}$$

- b. Subject to subsection (8) of this section, volumes and values in the formula above are taken from the billing history records for coniferous sawlogs during the 12-month billing period ending on March 31 in the first year, if the volume of those coniferous sawlogs is greater than 500 cubic metres.
7. Except as provided in Appendix VI, the stumpage rate for a blanket salvage cutting permit shall be redetermined on August 1 each year in accordance with the procedure in this section.
8. No information from a billing history record may be used in the determination of a weighted average sawlog stumpage rate under this section if the information on the record is in a horizontal line of information that contains a negative number.

6.5 Decked and Partially Harvested Timber

1. When decked timber only is advertised for sale to the highest bidder, the upset stumpage rate for the timber shall be:
 - a. The prescribed minimum stumpage rate if the timber has been decked for over three years, or
 - b. Seventy percent of the stumpage rate from Table 6-2 for the applicable species and forest zone if the timber has been decked for three years or less.
2. When decked timber only is sold directly without the use of the competitive bidding process, the stumpage rate for the timber shall be:
 - a. The district's variable cost to prepare the timber for sale if the timber has been decked for over three years, or
 - b. The stumpage rate from Table 6-2 for the applicable species and forest zone if the timber has been decked for three years or less.
3. When partially harvested timber only is advertised for sale to the highest bidder the upset stumpage rate for the timber shall be **the total of the silviculture levy determined under section 5.6.4 and:**
 - a. The prescribed minimum stumpage rate, if three years or more have passed since the timber was felled, or
 - b. Seventy percent of the stumpage rate for the applicable species and forest zone from Table 6-3 if less than three years have passed since the timber was felled.
4. When partially harvested timber only is sold directly without the use of the competitive bidding process, the stumpage rate for the timber shall be **the total of the silviculture levy determined under section 5.6.4 and:**
 - a. The district's variable cost to prepare the timber for sale if three years or more have past since the timber was felled, or
 - b. The stumpage rate from Table 6-3 for the applicable species and forest zone if less than three years have passed since the timber was felled.
5. Where applications for a forestry licence to cut have been invited with an upset stumpage rate determined under subsections 1(b) or 3(b) of this section and no applications have been received, the upset stumpage rate shall be the rate requested by the district manager and approved by the regional manager. The rate approved by the regional manager shall not be less than the district's variable cost to prepare the timber for sale.

6. a. Where applications for a forestry licence to cut that applies to both decked timber and partially harvested timber have been invited, the upset stumpage rate shall be **the total of the rate** determined using the procedures in subsections (1) of this section, as if the timber was all decked timber **and the silviculture levy determined under section 5.6.4.**
- b. **Where a forestry licence to cut that applies to both decked timber and partially harvested timber is entered into directly without the use of the competitive bidding process the stumpage rate shall be the total of the rate determined using the procedure in subsection 2 of this section as if the timber was all decked timber and the silviculture levy determined under section 5.6.4.**
7. Where the upset stumpage rate or the stumpage rate has been determined using this section the total stumpage rate shall be fixed for the term of the cutting authority and all extensions.
8. Notwithstanding any other paragraph of this section the stumpage rate shall not be less than the minimum stumpage rate.

7.4 Market Price Calculation

The market price must be calculated in accordance with this section

7.4.1 Market Price Variables

The calculation of each market price variable must include the total net deciduous volume unless otherwise indicated in the description of that variable below.

MP	=	Market Price for the cutting authority in (\$/m ³).
RSP	=	Real Stand Selling Price for coniferous species (\$/m ³). See section 7.3.
PC	=	Fraction of harvest method volume that is appraised as partial cut. $PC = (100 - CAPCUT\%)/100$. See section 4.9 for definition of CAPCUT %. The 80% limit in section 4.9 does not apply.
FIR	=	Fraction of total net coniferous volume that is Douglas fir.
VOL	=	Total net coniferous volume (m ³).
CY	=	Fraction of total harvest method volume that is appraised as overhead cable yarding.
HP	=	Fraction of total harvest method volume that is appraised as helicopter yarding.
HORSE	=	Fraction of total harvest method volume that is appraised as horse yarding.
FIRE	=	Fraction of total net coniferous volume that is fire damaged.
CYCLE	=	Hauling round trip cycle time (Primary CT (hrs) + Secondary CT (hrs)). See section 4.5.1.
HB	=	Fraction of total net coniferous volume that is hemlock and balsam.
CEDAR	=	Fraction of total net coniferous volume that is cedar.
VPT	=	Cutting permit average volume per tree from cruise (m ³).
DECID	=	Total net deciduous volume (m ³) / (total net deciduous volume (m ³) + total net coniferous volume (m ³)).
SLOPE	=	Cutting permit average slope from cruise (%).

DANB	=	Average number of bidders by district from the auction dataset (see Table 7-2).
DECAY	=	Prorated coniferous species decay (%) from cruise/100.
Z9	=	Fort Nelson - Peace selling price zone variable. Z9 = 1 if cutting authority is appraised with selling price zone 9, otherwise Z9 = 0.
AUC2007	=	2007 Auctions variable. AUC2007 = 1.
DECK	=	DECK_VOL / VOL
DECK_VOL	=	The total net coniferous volume that has been felled and decked in the timber sale (m ³).
HWY	=	1 if primary haul method is Highway, otherwise HWY = 0.
GO	=	Fraction of the total net coniferous volume that is Lodgepole pine green attack plus the fraction of total net coniferous volume that is other attack.
RG	=	Fraction of the total net coniferous volume that is Lodgepole pine red attack plus the fraction of the total net coniferous volume that is Lodgepole pine grey attack.
ER	=	Exchange Rate (\$US/\$C). Bank of Canada three-month average rate beginning four months prior to the stumpage rate effective date, as published by Revenue Branch.
CD	=	Competitive Deciduous Equals 1 if the upset stumpage rate is determined under section 7.5.1(5), otherwise CD = 0.
CPI	=	Monthly B.C. Consumer Price Index (CANSIM 326-0020, 2002 = 100) x 1.1787.
CPIF	=	Consumer Price Index Factor calculated as CPI/109.3.

Table 7-2 District Average Number of Bidders (DANB)

Forest District	DANB	Forest District	DANB
100 Mile House	4.3	Kootenay Lake	3.9
Arrow Boundary	3.2	Mackenzie	2.3
Cascades	5.0	Nadina	5.1
Central Cariboo	4.8	Okanagan Shuswap	4.2
Chilcotin	2.1	Peace	3.4
Columbia	3.8	Prince George	3.5
Fort Nelson	2.5	Quesnel	4.4
Fort St. James	2.9	Rocky Mountain	3.7
Headwaters	4.8	Skeena Stikine	3.0
Kalum	2.5	Vanderhoof	2.7
Kamloops	4.6		

7.4.2 Market 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 price (MP).

$$\begin{aligned}
 \text{MP} = & [50.80 + 0.193 * \text{RSP} - 3.88 * \text{PC} + 7.34 * \text{FIR} + 2.36 * \ln(\text{VOL}/1000) \\
 & - 8.21 * \text{CY} - 61.08 * \text{HP} - 9.21 * \text{HORSE} - 16.14 * \text{FIRE} - 1.75 * \\
 & \text{CYCLE} - 21.75 * \text{HB} + 37.24 * \text{CEDAR} - 1.37 * [(1/\text{VPT}) * (1 - \text{HB})] \\
 & - 7.77 * [\text{DECID} * (1 - \text{CD})] - 0.0244 * \text{SLOPE} + 0.678 * \text{DANB} - 19.43 * \\
 & \text{DECAY} - 4.60 * \text{Z9} - 3.86 * \text{AUC2007} + 6.58 * \ln(\text{VPT}) + 85.18 * \text{DECK} \\
 & + 0.343 * \text{HWY} - 6.79 * \text{GO} - 9.10 * \text{RG} - 22.23 * \text{ER} - 16.58 * \text{CD}] * \\
 & \text{CPIF}
 \end{aligned}$$

If MP less than \$0.25 then MP = \$0.25

7.4.3 Specified Operations

The following only are identified as specified operations. Cost estimates from the current *Interior Appraisal Manual* are used for 1, 2 and 3 below.

1. Rail Haul

Rail haul including truck to rail transfer and rail transport.

2. Barge/Ferry

Barge/ferry used for truck haul (private).

Barge/ferry not used for truck haul (private).

3. Dump, Boom, Tow, Dewater, Reload

Dump, boom

Tow

Dewater and reload.

4. Camp Costs

Cost estimate is \$2.69/m³.

5. Skyline Yarding

Cost estimate is \$8.42/m³ for the volume appraised as skyline.

6. High Development Cost

Where the development cost estimate (DC) determined under chapter 4, is greater than \$3.51/m³ the high development cost specified operations estimate (HDC) is calculated as follows:

$$\text{HDC } \$/\text{m}^3 = \text{DC} - 1.35$$

$$\text{If } \text{DC} \leq 3.51 \text{ HDC} = 0$$