

File: 280-20

**FEB 27 2005**

**BY EMAIL**

To: Cindy Stern  
Regional Manager  
Coast Forest Region

From: The Honourable Michael de Jong  
Minister of Forests

**Re: Amendment No. 4 to the *Coast Appraisal Manual***

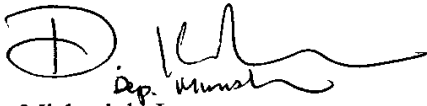
I hereby approve Amendment No. 4 to the *Coast Appraisal Manual*, and attach a copy for your use. The following sections have been amended.

|                  |                                                      |
|------------------|------------------------------------------------------|
| Section 1.1:     | Added BC Timber Sales.                               |
| Section 3.3.3:   | Annual reappraisals of salvage cutting authorities.  |
| Section 4.2:     | Revised cable yarding definition and housekeeping.   |
| Section 4.2.5:   | Point of origin policy clarified.                    |
| Section 5.2.1:   | Housekeeping.                                        |
| Section 5.3:     | Housekeeping.                                        |
| Section 5.3.2:   | Revised existing road definition.                    |
| Section 5.3.2.1: | Clarification of extended road amortization policy.  |
| Section 6.2.4:   | Housekeeping.                                        |
| Section 7.5:     | Incorporates changes to provincial salvage policy.   |
| Section 7.5.1:   | Levies now permitted on salvage cutting authorities. |
| Appendix I:      | Updated equipment descriptions.                      |



Cindy Stern

This amendment will come into force on March 1, 2005. Further amendments or revisions to this manual require my approval.

A handwritten signature in black ink, appearing to read "Michael de Jong". The signature is stylized with a large initial "M" and a long, sweeping underline.

Michael de Jong  
Minister

Attachment

pc: Bill Howard, Director, Revenue Branch

All Subscribers, *Coast Appraisal Manual*



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**MANUAL TITLE**

Coast Appraisal Manual

**REVISION No.**

Amendment No. 4

**ISSUE DATE**

March 1, 2005

**MANUAL CO-ORDINATOR**

Judy Laton  
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<br>(Remove/Insert) | (VOL.) CHAPTER-SECTION-SUBJECT    | PAGE(S)          | COMMENTS                    |
|---------------------------|-----------------------------------|------------------|-----------------------------|
| REMOVE                    | Table of Contents                 | i - iv           | After Table of Contents Tab |
| INSERT                    | Table of Contents                 | i - iv           |                             |
| REMOVE                    | Chapter 1                         | 1 - 4            | After Chapter 1 Tab         |
| INSERT                    | Chapter 1                         | 1 - 4            |                             |
| REMOVE                    | Chapter 3                         | 3 - 8            | After Chapter 3 Tab         |
| INSERT                    | Chapter 3                         | 3 - 8            |                             |
| REMOVE                    | Chapter 4                         | 3 - 4<br>15 - 16 | After Chapter 4 Tab         |
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| REMOVE                    | Chapter 5                         | 3 - 4<br>9 - 10  | After Chapter 5 Tab         |
| INSERT                    | Chapter 5                         | 3 - 4<br>9 - 10  |                             |
| REMOVE                    | Chapter 6                         | 3 - 4            | After Chapter 6 Tab         |
| INSERT                    | Chapter 6                         | 3 - 4            |                             |
| REMOVE                    | Chapter 7                         | 7 - 8            | After Chapter 7 Tab         |
| INSERT                    | Chapter 7                         | 7 - 8            |                             |
| REMOVE                    | Appendices                        | 1 - 2            | After Appendices Tab        |
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# **Definitions and Interpretations**

# **1**

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## 1.1 Definitions and Interpretations

In this manual:

**"Act"** means *Forest Act*;

**"Appraisal Data Submission"** means the information required by the person who determines the stumpage rate to determine that rate including the appraisal map, appraisal summary report, cruise compilation and any other information required by the Regional Manager or District Manager in the form required by the Director, signed by a Professional Forester registered in the Province of British Columbia;

**"Appraisal Log Dump"** means the log dump that is the closest log dump to a part of a cutting authority area;

**"Billing history record"** means the log scale data reported on stumpage invoices issued by Revenue Branch. The billing history record is kept by the ministry. The billing history record of a particular geographic area or licence is a record of log scale data reported on stumpage invoices issued by the Revenue Branch for timber scaled under section 94 of the *Act*;

**"BCTS"** means British Columbia Timber Sales;

**"Coniferous cruise volume"** means that part of the total net cruise volume which is coniferous timber;

**"Detailed engineering"** means non-tabular;

**"Cutting authority"** means a cutting permit issued under a forest licence, a timber sale licence, a timber licence, tree farm licence, a community forest agreement, a community salvage licence, a woodlot licence, or forestry licence to cut; a timber sale licence; a licence to cut; or a road permit;

**"Cutting authority area"** means the area where timber may be harvested under a cutting authority which has a unique timber mark or marks;

**"Deciduous timber"** means timber that is any of the alder, birch, cottonwood and maple species;

**"Director"** means director of Revenue Branch of the Ministry of Forests;

**"District manager"** means district manager or district manager's designate;

**"Licensee"** means the holder of a cutting authority;

**"Manual"** means *Coast Appraisal Manual*;

**"Mature coniferous timber"** means coniferous timber that is 141 years old or older;

**"Minister"** means Minister of Forests;

**"Ministry"** means Ministry of Forests;

**"Net cruise volume"** means the gross volume of all species listed in section 4.2.3(1), plus alder, birch, cottonwood and maple in the cutting authority area minus the volume of decay, waste and breakage in that timber unless otherwise specified in the *Cruising Manual*.

**"Regional manager"** means regional manager or regional manager's designate;

**"Regulations"** means regulations under the *Act*;

**"Remaining volume"** means the total net cruise volume of a cutting authority area minus the total volume of timber in the billing history record of the cutting authority area on the effective date of the reappraisal of the cutting authority area;

**"Revenue Branch"** means revenue branch of the ministry;

**"Second growth coniferous timber"** means coniferous timber that is less than 141 years old;

**"Selling price zone 51"** means the table of coast market pricing system log values for mature logs, approved by the director, Revenue Branch;

**"Selling price zone 52"** means the table of coast market pricing system log values for second growth logs, approved by the director, Revenue Branch;

**"Stumpage price"** means the market stumpage price;

**"Stumpage rate"** means market stumpage rate;

**"Skyline"** means any method of yarding where the logs are fully suspended above the ground with a short span, long span, or multi-span system using a carriage standing or running lines;

**"Total net cruise volume"** of a cutting authority area (tnvc) is the product of the net cruise volume per hectare of the cutting authority area (ncv/ha) multiplied by the total merchantable timbered area to be harvested under the cutting authority (tmta). Expressed as an equation: 
$$\text{tnvc} = \frac{\text{ncv}}{\text{ha}} \times \text{tmta}$$

**"Tributary cutting authority area"** means a cutting authority area from which timber must be transported over the road that is developed, or a cutting authority area to which bulk fuels, supplies, equipment and harvesting crews necessary to carry out the day-to-

day harvesting activities on that area must be taken on a regular basis over the road that is developed;

**"Unit cost"** means cost estimate expressed in dollars per cubic metre.

### 3.2 Appraisals

1. An appraisal is a process used to determine a stumpage rate for a cutting authority area using the manual in effect on the effective date of the cutting authority. The appraisal is effective on the effective date of the cutting authority.
2. A licensee or BCTS shall submit the appraisal data submission to the district manager when the licensee or BCTS makes an application for a cutting authority.
3. The district manager may require the licensee or BCTS to complete and submit an estimated stumpage rate calculation for both helicopter and cable methods of harvesting when the district manager is not satisfied that the method proposed by the licensee or BCTS is the only method that is suitable for the area intended to be harvested.
4. The district manager may review the licensee or BCTS appraisal data submission and may inform the licensee or BCTS of any omissions, errors or provisions of the manual that, in the opinion of the district manager, the signing professional forester may not have considered. The licensee or BCTS signing professional forester may consider the district manager's information and may revise the appraisal data submission.
5. The district manager shall give any information supplied by the licensee or BCTS under this section to the person who determines the stumpage rate together with any other information that the district manager considers relevant to the appraisal.
6. The person who determines the stumpage rate may review the licensee or BCTS submission, and information supplied by the district manager, and may inform the licensee or BCTS of any omissions, errors or provisions of the manual that, in the opinion of the person who determines the stumpage rate, the signing professional forester may not have considered. The licensee or BCTS signing professional forester may consider the information and may revise appraisal data submission.
7. The person who determines the stumpage rate shall consider:
  - a. the information provided by the licensee or BCTS and the district manager, and
  - b. any information available to the person who determines the stumpage rate that is relevant to the appraisal.
8. Regional staff will notify the applicant of the stumpage rate determination.

### 3.3 Reappraisals

1. A reappraisal is a process used to redetermine a stumpage rate for a cutting authority using the manual in effect on the effective date of the reappraisal.
2. Except as provided for under sections 3.3.1(1)(d), 3.3.2 and 3.3.4, a reappraisal is based on a complete reassessment of the cutting authority area on the effective date of the reappraisal, as if the area has been returned to the condition as it was prior to development or harvesting.
3. Non-tabular cost estimates made in the appraisal of a cutting authority area may be re-estimated once in a subsequent reappraisal after works have been constructed using information required under section 5.3.4.
4. Road development costs originally estimated using ministry approved competitive bids may not be re-estimated in a reappraisal.

#### 3.3.1 Changed Circumstances

1. In this section a changed circumstance means a circumstance where:
  - a.
    - (i) The licensee plans to use a method of harvesting to harvest at least twenty-five percent of the volume of timber in the cutting authority area that is different from the method that was planned to be used for that timber at the time of the most recent appraisal or reappraisal of the cutting authority area, and
    - (ii) the different method of harvesting that is planned to be used:
      - (aa) when used in the changed circumstance reappraisal will produce the highest stumpage rate, and
      - (bb) is different from the method of harvesting that was used in the most recent appraisal or reappraisal, or
  - b. there has been or will be a change in the amount of road development of at least twenty-five percent in the total road development unit cost since the most recent appraisal or reappraisal caused by changes to the appraisal field data that will be used in the changed circumstances reappraisal, or
  - 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 either:
    - (i) twenty-five hectares or

- (ii) twenty-five 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 twenty-five percent of the total net cruise volume that was used in the most recent appraisal or reappraisal of the 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 any of sections 75 through 95 of the *Forest Practices Code of British Columbia Act* or the *Forest Fire Prevention and Suppression Regulation*.
- 2. The licensee must notify the district manager immediately of a changed circumstance.
- 3. Where the district manager believes that a changed circumstance has occurred, the district manager will notify the licensee of that belief.
- 4. A cutting authority other than a road permit or a cutting authority with fixed rates, must be reappraised when a changed circumstance has occurred.
- 5. Where a cutting authority area is reappraised because of a changed circumstance, any bonus bid in existence prior to the reappraisal does not change and remains in effect.

#### 3.3.1.1 Changed Circumstance Reappraisal Procedure

- 1. Where the cutting authority area must be reappraised because of a changed circumstance, the licensee shall submit to the district manager an appraisal data submission.
- 2. Thereafter, the reappraisal procedure shall be the procedure required by section 3.2(2) through 3.2(8).

#### 3.3.1.2 Effective Date of Changed Circumstance Reappraisal

- 1. Except as provided in subsections (2) and (3) of this section, the effective date of the reappraisal under section 3.3.1 is the first day of the month following the date of the licensee's notification to the district manager or the district manager's notification to the licensee that a changed circumstance has occurred.
- 2. Where the changed circumstance is because of amendments to the cutting authority area referred to in subsection 3.3.1 (1)(c), the reappraisal is effective on the first day of the month following the date that the district manager approves the last amendment.
- 3. Where the changed circumstance is because of sudden and severe damage to the appraised timber referred to in subsection 3.3.1(1)(d), the effective date of the

reappraisal is the first day of the month following the date of the occurrence of the damage.

### **3.3.2 Annual Reappraisal of a Road Permit**

1. Subject to section 7.3, a road permit must be reappraised effective November 1, 2004 and annually on February 1<sup>st</sup> of every year thereafter.
2. The stumpage rate determined under subsection (1) of this section will be a fixed stumpage rate until the road permit is reappraised.

### **3.3.3 Annual Reappraisal of a Salvage Cutting Authority**

1. Subject to section 7.5, a salvage cutting authority must be reappraised effective March 1, 2006 and annually on March 1st of every year thereafter.
2. The stumpage rate determined under subsection 1 of this section will be a fixed stumpage rate until the cutting authority is reappraised.

### **3.3.4 Minister's Direction**

1. The Minister may direct that a reappraisal be made at any time and that the redetermined stumpage rate will be effective on any future date.
2. The Minister may specify criteria and procedures for an appraisal or reappraisal.

#### **3.3.4.1 Minister's Direction Reappraisal Procedure**

1. Where the Minister directs a reappraisal to be made under section 3.3.4, and the district manager requests the licensee to submit an appraisal data submission, the submission shall be submitted to the district manager within forty-five days of the district manager's request.
2. Thereafter the reappraisal procedure shall be the procedure required by section 3.2 (2) through 3.2 (8).

### 3.4 Quarterly Adjustments

1. Unless a cutting authority, previous manual, or a provision of this manual specifies that the stumpage rates of a cutting authority are fixed, the stumpage rate of a cutting authority is adjusted quarterly on January 1, April 1, July 1, and October 1 of each year.
2.
  - a. At the time of the quarterly adjustment referred to in subsection (1) of this section, the stumpage rate will be recalculated in accordance with the equations applicable for the appraisal effective date and the appraisal data submission which was used in the most recent appraisal or reappraisal. The log selling prices and CPI effective for the month of the adjustment will be used in the calculation of the adjustment. All other data, including the estimated number of bidders, will remain unchanged.
  - b. The procedure referred to in this subsection is conducted each quarter until the cutting authority area is reappraised or the cutting authority expires.

### 3.5 Fixed Rates and Extensions of Term

#### Timber Sale Licences

1. A fixed stumpage rate for a timber sale licence means that the upset stumpage rate and bonus bid will not change during the term of the timber sale licence and all extensions, except where:
  - a. a reappraisal is done under section 3.3.1(d) due to sudden and severe damage, or
  - b. a reappraisal is done under section 3.3.4 due to the Minister's direction.
2. Every timber sale licence entered into under section 20 of the *Act* that was advertised on or after November 1, 2003 must have a fixed stumpage rate.
3. Notwithstanding anything to the contrary in this manual, a fixed stumpage rate for a timber sale licence may not be corrected where there has been an error in the appraisal.

#### Woodlots

4. a. The stumpage rate for a cutting authority area issued under a woodlot licence shall be adjusted quarterly unless:
  - i) a woodlot licensee chooses in accordance with section 3.5(4)(b) to have a fixed stumpage rate, or
  - ii) the cutting authority is a road permit.
- b. A licensee may choose to change the adjusting stumpage rate to a fixed stumpage rate at any time by giving written notice of that choice to the regional appraisal coordinator. This choice is a one time irrevocable option that is not retroactive. Where the licensee gives notice of that choice the stumpage rate will be fixed three weeks after the regional appraisal coordinator receives the notification at the stumpage rate in effect at the time that the stumpage rate is fixed. Except where the cutting authority area is reappraised under section 3.3.1(d) or section 3.3.4, the stumpage rate shall thereafter not change during the term of the cutting authority and all extensions.
- c. Where, on October 1, 2003, a woodlot licence cutting authority had a stumpage rate that is not adjusted quarterly, and except where the cutting authority area is reappraised under section 3.3.1(d) or section 3.3.4, the stumpage rate shall not change during the term of the cutting authority and all extensions.

## 4.2 Market Pricing System (MPS) Variables

|                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STUMPAGE PRICE | The stumpage price for the cutting authority expressed in $\$/\text{m}^3$ .                                                                                                                                                                                                                                                                                                                                                                                            |
| ALP            | Average coniferous log selling price estimate expressed in $\$/\text{m}^3$ . This is based upon a consideration of log grades and species for the cutting authority area, and schedules of log market values collected and published by the Revenue Branch.                                                                                                                                                                                                            |
| DFIR 2G        | If selling price zone in the appraisal data submission is 52, then DFIR 2G is the fraction of the coniferous cruise volume that is Douglas-fir. If the selling price zone is not 52, then DFIR 2G = 0.                                                                                                                                                                                                                                                                 |
| HEMBAL 2G      | The fraction of the coniferous cruise volume that is hemlock and balsam, if selling price zone is 52. If selling price zone is not 52, then HEMBAL 2G = 0.                                                                                                                                                                                                                                                                                                             |
| HEMBAL OG      | The fraction of the coniferous cruise volume that is hemlock and balsam, if the selling price zone is not zone 52. If the selling price zone is 52, then HEMBAL OG = 0.                                                                                                                                                                                                                                                                                                |
| SLOPE          | The average side slope percentage for that part of the cutting authority area that will not be helicopter yarded.                                                                                                                                                                                                                                                                                                                                                      |
| VPH            | The volume of coniferous timber per hectare expressed in $\text{m}^3/\text{ha}$ . This is calculated by dividing the total net coniferous cruise volume ( $\text{m}^3$ ) by the total merchantable area (ha).                                                                                                                                                                                                                                                          |
| HELI           | The fraction of the total net cruise volume, including deciduous volume of timber in a cutting authority area that must be helicopter yarded or yarded by skyline where logs are fully suspended more than 600 m in a straight line to the centre of the closest possible landing. This is calculated by dividing the total volume of timber that must be helicopter yarded or skyline yarded over 600 m by the total net cruise volume of the cutting authority area. |
| HAUL           | The truck haul distance expressed in km. This is calculated using the procedures prescribed in section 4.2.4.                                                                                                                                                                                                                                                                                                                                                          |
| PENB           | The preliminary estimated number of bidders that would compete for the cutting authority.                                                                                                                                                                                                                                                                                                                                                                              |
| VOL            | That part of the total net cruise volume in the cutting authority area that is coniferous timber expressed in $\text{m}^3$ except that where the cutting authority is a timber licence or is issued under a licence with an AAC greater than 10 000 $\text{m}^3$ , then VOL = 18 874.                                                                                                                                                                                  |
| CPIF           | The BC Consumer Price Index (P110000) approved by the director for use on the effective date of the appraisal, reappraisal or                                                                                                                                                                                                                                                                                                                                          |

quarterly adjustment, divided by the base CPI of 109.3.

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CABLE                      | The fraction of the total net cruise volume of timber in a cutting authority area <b>where terrain conditions require timber to be cable yarded</b> . Cable yarding is an overhead cable system including highlead (spar), mobile (grapple or dropline) and skyline less than 600 m in a straight line horizontal yarding distance. <b>Timber from within road right-of-ways that traverse cutting authority areas will have its volume assigned to the harvest method used to determine the stumpage rate in the same area on which the road lies.</b> |
| CRUISE                     | Where the source of the log grades of fifty percent or more of the total net cruise volume has been determined from the cruise compilation, then CRUISE = 1. In all other cases the CRUISE = 0.                                                                                                                                                                                                                                                                                                                                                         |
| LOCATION<br>(Major Centre) | The net cruise volume weighted average straight line distance measured in kilometres between the geographic centre of each part of a cutting authority area and the latitude and longitude co-ordinate listed in table 4-1 that is closest to that part of the cutting authority area.                                                                                                                                                                                                                                                                  |
| BARGEDIST                  | BARGEDIST is the barging distance expressed in kilometres <b>determined under section 4.2.5.3.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

**Table 4-1: Latitude and Longitude Co-ordinates**

| Degrees and Minutes: |           | At or Near     |
|----------------------|-----------|----------------|
| Latitude             | Longitude |                |
| 50°01'               | 125°15'   | Campbell River |
| 49°11'               | 121°55'   | Chilliwack     |
| 54°23'               | 126°39'   | Houston        |
| 50°07'               | 120°46'   | Merritt        |
| 49°10'               | 123°57'   | Nanaimo        |
| 54°18'               | 130°19'   | Prince Rupert  |
| 54°31'               | 128°36'   | Terrace        |
| 49°16'               | 123°06'   | Vancouver      |
| 48°25'               | 123°21'   | Victoria       |

|                   |                                                  |
|-------------------|--------------------------------------------------|
| Gambier Island    | At Gambier Harbour on Gambier Island.            |
| Pitt River Bridge | At the confluence of the Fraser and Pitt Rivers. |

#### 4.2.5.2 Log Towing

1. a. The information in table 4-4 is not used in an appraisal or reappraisal but must be used by the licensee when completing the appraisal data submission.
- b. Where the appraisal log dump is at a towing point of origin listed in table 4-4, that towing point of origin must be reported in the appraisal data submission.
- c. Where the appraisal log dump lies between two towing points of origin, both towing points of origin must be reported in the appraisal data submission.

#### 4.2.5.3 Log Barging and the Determination of Barging Distance (Bargedist)

1. Log barging is a log transportation method that may be considered in an appraisal or reappraisal.
2. a. Table 4-5 lists barging points of origin, the corresponding point of appraisal for each barging point of origin, and the distance between a barging point of origin and the corresponding point of appraisal.
- b. Where an appraisal log dump is at a barging point of origin, the bargedist is the distance between that barging point of origin and the corresponding point of appraisal for that barging point of origin.
- c. Where an appraisal log dump lies between two barging points of origin that both have the same corresponding point of appraisal the bargedist is the average of the two distances between the two barging points of origin and the point of appraisal.
- d. Where an appraisal log dump lies between two barging points of origin where each barging point of origin has a different corresponding point of appraisal the bargedist is the average of the distances between each barging point of origin and its corresponding point of appraisal.

**Table 4-4: Towing Points of Origin**

| Code | Point of Origin      | P/A | Code | Point of Origin      | P/A |
|------|----------------------|-----|------|----------------------|-----|
| ALBE | ALBERNI              | A   | BUIM | M. OF BUTE INLET     | G   |
| CHCK | CHINA CREEK          | A   | KIIM | M. OF KINGCOME INLET | G   |
| COCK | COLEMAN CREEK        | A   | KNIM | M. OF KNIGHT INLET   | G   |
| SARV | SARITA RIVER         | A   | LOUM | M. OF LOUGHBOROUGH   | G   |
| SPCK | SPENCER CREEK        | A   | TOIM | M. OF TOBA           | G   |
| TOBY | TOQUART BAY          | A   | NACK | NAKA CREEK           | G   |
| UCHU | UCHUCKLESIT          | A   | NOBY | NORTHWEST BAY        | G   |
| UCLU | UCLUELET             | A   | PHAR | PHILLIPS ARM         | G   |
| CHEM | CHEMAINUS            | C   | PTTB | PORT ELIZABETH       | G   |
| COBY | COWICHAN BAY         | C   | PTHD | PORT HARDY           | G   |
| JORV | JORDAN RIVER         | C   | PTHV | PORT HARVEY          | G   |
| LADY | LADYSMITH            | C   | PTMN | PORT McNEILL         | G   |
| NANA | NANAIMO              | C   | PTNE | PORT NEVILLE         | G   |
| SOOK | SOOKE                | C   | PORV | POWELL RIVER         | G   |
| VICT | VICTORIA             | C   | SENA | SECOND NARROWS       | G   |
| AGAM | AGAMEMNON            | G   | SYIN | SEYMOUR INLET        | G   |
| BECV | BEAVER COVE          | G   | SEBY | SOUTHWEST BAY        | G   |
| COUR | COURTENAY            | G   | SQUA | SQUAMISH             | G   |
| DRIN | DRURY INLET          | G   | STIL | STILLWATER           | G   |
| EVRV | EVE RIVER            | G   | TEAR | TEAKERNE ARM         | G   |
| FOHA | FORWARD HARBOUR      | G   | THIN | THEODOSIA INLET      | G   |
| FRAR | FREDERICK ARM        | G   | THSO | THOMPSON SOUND       | G   |
| BUIH | H. OF BUTE INLET     | G   | WASA | WAKEMAN SOUND        | G   |
| JEIH | H. OF JERVIS INLET   | G   | GAMB | GAMBIER ISLAND       | G   |
| KIIH | H. OF KINGCOME INLET | G   | CHWK | CHILLIWACK           | P   |
| KNIH | H. OF KNIGHT INLET   | G   | HALF | FOOT HARRISON LAKE   | P   |
| LOUH | H. LOUGHBOROUGH      | G   | PILF | FOOT OF PITT LAKE    | P   |
| SEIH | H. OF SECHELT INLET  | G   | HABY | HARRISON BAY         | P   |
| TOIH | H. OF TOBA INLET     | G   | HATZ | HATZIC               | P   |
| INAR | INDIAN ARM           | G   | HALH | HEAD HARRISON LAKE   | P   |
| KLBY | KELSEY BAY           | G   | PILH | HEAD OF PITT LAKE    | P   |
| MNCK | McNAB CREEK          | G   | HALM | MID HARRISON LAKE    | P   |
| MEBY | MENZIES BAY          | G   | PIRV | PITT RIVER BRIDGE    | P   |
| MESD | MEREWORTH SOUND      | G   | SICK | SILVERHOPE CREEK     | P   |
| JEIM | MOUTH JERVIS INLET   | G   | WHON | WHONNOCK             | P   |

P/A = Point of Appraisal as follows:

A = ALBE = Alberni  
 C = CHEM = Chemainus  
 G = GAMB = Gambier Island  
 P = PIRV = Pitt River Bridge

## 5.2 Forest Planning and Administration Cost

1. The forest planning and administration cost is based on surveyed expenses at the corporate licensee level including all aspects of executive and administrative expenses at the head office attributable to the harvest of Crown timber. The kinds of expenses that were taken into consideration to calculate this cost were:
  - a. head office general and administrative expenses (\$3.38/m<sup>3</sup>).
  - b. logging department, log trading and log supply expenses (\$3.98/m<sup>3</sup>).
  - c. fees and taxes applicable to stumpage bearing timber (\$0.83/m<sup>3</sup>).
  - d. engineering and forestry overhead expenses (\$4.77/m<sup>3</sup>).
2. The total forest planning and administration cost is \$12.96/m<sup>3</sup>.

### 5.2.1 Low Volume Cost

1. A low volume cost of \$7.51/m<sup>3</sup> may be included in the tenure obligation adjustment where:
  - a. the cutting authority area being appraised or reappraised is the subject of cutting authority issued under a licence that provides for an allowable annual cut of not more than 10 000 m<sup>3</sup> of Crown timber, and
  - b. the total net cruise volume of the cutting authority area is not more than 5 000 m<sup>3</sup>.

### 5.3 Road Development Cost

1. Except as provided in section 5.3.2, where a road development provides access to Crown timber a road development cost may be estimated for new road construction, and road reconstruction.
2.
  - a. Except as provided in subsections (2)(b) and (2)(c) of this section the total net cruise volume is used to calculate the unit cost for new road construction and road reconstruction in an appraisal or reappraisal of a cutting authority area.
  - b. Where a road development project was not taken into consideration in a prior appraisal or reappraisal of the cutting authority area, the remaining volume shall be used to calculate the road development unit cost for that project in the reappraisal of the cutting authority area.
  - c. Where the reappraisal is because of sudden and severe damage the road development cost is calculated as follows:
    - i) The road construction project costs prior to the sudden and severe damage reappraisal are totalled,
    - ii) The sum of those project costs is the total project cost.
    - iii) From the total project cost calculated in subsection 2(c)(i) of this section is subtracted the product of the total project cost multiplied by the total volume of timber in the billing history record of the cutting authority area on the effective date of the reappraisal, divided by the total net cruise volume of the cutting authority area.
    - iv) The difference calculated in subsection (2)(c)(iii) of this section is then divided by the sum of the remaining volume plus the volume of timber that was suddenly and severely damaged,
    - v) The calculation of the road development cost expressed as an algorithm is:

$$\text{Road Development Cost} = \frac{\text{total project cost} - (\text{total project costs} \times \text{volume in the billing history record}) / \text{total net cruise volume}}{\text{remaining volume} + \text{volume suddenly and severely damaged}}$$

3. Except as further provided for in this manual the road development cost for a road development may only be used in the appraisal or reappraisal of a tributary cutting authority area.
4. A road development cost may be amortized in accordance with section 5.3.2.1.

#### 5.3.1.4 Total Road Development Cost

1. The total road development cost is the sum of the total new road construction unit cost plus the total road reconstruction unit cost.

#### 5.3.2 Existing Roads

1. The following roads may not be considered in the appraisal or reappraisal of a cutting authority area:
  - a. a **constructed** road that has been previously **included** in an appraisal or reappraisal of another cutting authority area,
  - b. a road previously constructed to access private timber, and
  - c. a road previously constructed in whole or in part for a purpose unrelated to the harvesting of timber on the cutting authority area being appraised or reappraised.

##### 5.3.2.1 Extended Road Amortization

1. Subject to subsection (2) of this section where the total road development cost calculated in an appraisal or reappraisal is greater than \$14.00/m<sup>3</sup>, the licensee and regional manager may agree that only a portion of an estimated road development cost will be used in the appraisal or reappraisal of the cutting authority area and that the balance of the estimated road development cost will be used in the appraisal or reappraisal of **one or more** tributary cutting authority areas.
2. **Future tributary timber included in the extended road amortization agreement must be in an approved cutting permit or cutblocks shown in the licensee's forest development plan or forest stewardship plan in effect on the appraisal effective date.**
3. The agreement must provide that:
  - a. it may not be changed unless by **mutual** agreement, and
  - b. it is entered into only for the purposes of calculating a stumpage rate and confers no obligation on the Crown to compensate the licensee for any unamortized costs.

#### 5.3.3 Tabular Cost Estimates

1. A tabular cost estimate must be calculated on the basis that the construction project will be completed using commonly used logging road construction practices and that the roads will have single lane width roads, turnouts and landings.

2. Weighted averages for each variable (eg. uphill side slope, rock, etc.) are applied to each road section. Averages are obtained by weighting the cross-section measurements taken at representative points along the road by the applicable road section length. The length of bridges and end haul sections in each section of a road that are appraised under section 5.3.4 may not be used in the calculation of this estimate.

### 5.3.3.1 Subgrade Construction

1. The estimated cost per kilometre for subgrade construction is provided for each combination of construction category and uphill side-slope for two rock mass classification categories, 'RMC 5 Only' and 'Other RMC's'.
2. Construction category (CC) is determined on the basis of the percent rock in relation to the total volume of all materials.
3. The percent rock is determined as follows:

$$\% \text{ rock} = \frac{h^2}{H^2} * 100\%$$

Where:

h = the vertical cut height of all rock measured from the bottom of the ditch

H = the total vertical cut height of all materials including organic layers, glacial till and hardpan measured from the bottom of the ditch

4. Construction category may show a range of variation ( $\pm$  one CC) within any section length, and is recorded to the nearest integer. Hardpan is CC1, whether drilled and blasted or not. Rippable rock and boulders may occur in CC2 to CC6.
5. The following table defines the construction categories.

**Table 5-1: Construction Categories**

| Construction Category (CC) | 1 | 2    | 3     | 4     | 5     | 6   |
|----------------------------|---|------|-------|-------|-------|-----|
| % rock                     | 0 | 1-12 | 13-37 | 38-62 | 63-87 | 88+ |

6. Rock mass classification (RMC) is based on the physical characteristics of rock encountered in forest road development and is the subject of a report commissioned by the Forest Engineering Research Institute of Canada in 1978 and prepared by Piteau & Associates/Geotechnical Consultants.

### **6.1.5 Market Price**

The stumpage rate is the market price.

## **6.2 Stumpage Rate Calculation for a Cutting Authority Other than a Cutting Authority Entered into Under Section 20 of the *Act* or a Cutting Authority for which a Stumpage Rate is Determined Under Chapter 7**

Sections 6.2.1 through 6.2.5 are the policies and procedures for determining a stumpage rate for a cutting authority other than timber sale licence entered into under section 20 of the *Act* or a cutting authority for which a stumpage rate is determined under chapter 7.

### **6.2.1 Indicated Rate (IR)**

1. The IR is the difference between the final estimated winning bid (FEWB) determined for the cutting authority under section 4.5 and the tenure obligation adjustment (TOA) determined under section 5.10.
2. Expressed as an equation:

$$\text{IR} = \text{FEWB} - \text{TOA}$$

### **6.2.2 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.

### **6.2.3 Upset Stumpage Rate**

The **upset** stumpage rate for a cutting authority is determined by selecting the greater of:

1. the indicated rate, or
2. the prescribed minimum stumpage rate.

### **6.2.4 Stumpage Rate**

The stumpage rate is the total of the upset stumpage rate plus the bonus bid, if any, that must be paid by the licensee.

### **6.2.5 Market Price**

The stumpage rate is the market price.

## 7.5 Salvage Logging Stumpage Rates

1. The source of salvaged timber is:
  - a. Post Harvest Material:
    - i. **w**ooden culverts and bridges, and
    - ii. **p**ost logging residue, and
  - b. Damaged Timber:
    - i. **b**lowdown green and aged timber, and
    - ii. **f**ire, disease, insect **or physically** damaged timber.
2. The qualifying criteria and methodology for calculating salvage logging stumpage rates for round logs is specified below:
  - a. post harvest material must not be combined in the same cutting authority area with timber damaged through natural events.
  - b. except where damage to adjacent or contiguous timber occurs after harvesting is completed on the adjacent primary logging cutting permit area and the harvesting equipment has been demobilized from the area, damaged timber salvage cutting authority areas must be scattered, and not adjacent or contiguous to an existing cutting authority area.
  - c. the total area of a salvage harvesting area shall not exceed 2 hectares.
  - d. **o**nly damaged trees and hazard trees as approved by the Ministry may be removed on a damaged timber salvage cutting permit.
  - e. **p**ost **h**arvest salvage may only occur after primary logging has been satisfactorily completed and residue and waste assessments have been submitted to and accepted by the Ministry.
  - f. **s**alvage can not occur on a road right-of-way which has an active timber mark associated with it.
  - g. the stumpage rate will be fixed for a period not exceeding one year.**
3. Where the source of the salvaged timber is damaged timber, the stumpage rate for each species of the salvaged timber in a forest district will be determined using schedule of average sawlog stumpage rates for damaged timber approved by the Director.

4. Where the source of the salvaged timber is post harvest material, the stumpage rate for each species of timber in a forest district will be determined using the schedule of average sawlog stumpage rates for post-harvest material approved by the Director.
5. The salvage logging stumpage rate for any district and species shall not be less than \$4.00/m<sup>3</sup>.

#### **7.5.1 Levies for Salvage Forestry Licences to Cut Cutting Authorities**

1. 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.
2. A basic silviculture levy may be added to the reserve stumpage rate. The levy is equal to the district manager's cost estimate of silviculture liability to be incurred by the Crown.

# Appendices

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## Appendix I Equipment and Labour Rates

(Cost Base July 1, 2001)

| MACHINE DESCRIPTION                             | TYPICAL MODEL                              | \$/HOUR |
|-------------------------------------------------|--------------------------------------------|---------|
| Crawler Tractor                                 | Cat D9R, Komatsu D275/355                  | 249.10  |
| Crawler Tractor                                 | Cat D9N (years: 1993 thru 1997)            | 236.20  |
| Crawler Tractor                                 | Cat D8N, Komatsu D155AX-3                  | 186.25  |
| Crawler Tractor                                 | Cat D7R, Liebherr PR742, Fiat Allis FD255  | 151.65  |
| Crawler Tractor                                 | Cat D6M, Fiat Allis FD175, Komatsu D58E    | 129.10  |
| Crawler Tractor                                 | Cat D5C, JD 650G                           | 98.35   |
| Rock Drill (includes labour)                    | Compressor: 750 cfm on tank chassis        | 206.01  |
| Grader                                          | Cat 14H, Komatsu GD750                     | 112.90  |
| Front End Loader (Gravel)                       | Cat 970F, Komatsu WA450-3, Case 921        | 140.65  |
| Front End Loader (Logs)                         | Cat 972G, Kawasaki 90Z, Volvo L180C/D      | 163.15  |
| Hydraulic Excavator incl. Brush Guard & Thumb   | Hitachi EX400-3, Komatsu PC400LC           | 238.70  |
| Hydraulic Excavator incl. Brush Guard & Thumb   | Cat 330BL, Case 9050B, Link Belt 4300Q     | 196.41  |
| Hydraulic Excavator incl. Brush Guard & Thumb   | Hitachi EX300LC, Kobelco SK300LC           | 173.14  |
| Hydraulic Excavator incl. Brush Guard & Thumb   | Cat 325BL, Hitachi EX270LC, JD 270LC       | 158.62  |
| Hydraulic Excavator incl. Brush Guard & Thumb   | Cat 322BL, Komatsu PC220LC-6, JD 230LC     | 146.58  |
| Hydraulic Excavator incl. Brush Guard & Thumb   | Cat 320BL, Hitachi EX200LC-5, JD 200LC     | 136.90  |
| Gradall                                         | Gradall G1000, XL5200                      | 158.50  |
| Logging Truck (Highway)                         | All Triaxle                                | 90.60   |
| Logging Truck (Off Highway)                     | All                                        | 138.21  |
| Self Loading Log Truck                          | Highway log truck + 4.5 t deck crane       | 103.80  |
| Gravel Truck                                    | 10.7 m <sup>3</sup>                        | 78.93   |
| Gravel Truck Articulated (labour included)      | 25 - 29 tonne: Cat D30C/D, Terex 2766/3066 | 123.65  |
| Lowbed                                          | 5 axle unit: tandem tractor and lowbed     | 81.50   |
| Lowbed                                          | 150 tonne (same as Off-Hwy Truck)          | 138.21  |
| Concrete Mix Truck                              | 6.1 m <sup>3</sup>                         | 87.60   |
| Concrete Vibrator (labour not included)         | 5 m <sup>3</sup>                           | 4.18    |
| Concrete Mixer (labour not included)            | 0.17 m <sup>3</sup>                        | 6.66    |
| Crane - Truck Mounted                           | 18 tonne                                   | 93.70   |
| Soft Track Skidder                              | KMC 2100/2400                              | 137.75  |
| Rubber Tired Skidder                            | Cat 515, Clark H-66-G, JD 548-G            | 94.60   |
| Vibrator Compactor                              | Cat 515 plus 2.7 t to 3.6 t roller         | 107.15  |
| Tractor and Grid Roller                         | Cat 515 plus grid roller                   | 108.05  |
| Labourer                                        | Includes 40% payroll loading               | 30.16   |
| Roadman                                         | Includes 40% payroll loading               | 30.41   |
| Crib/Culvert Maker, Powderman                   | Includes 40% payroll loading               | 31.93   |
| Landingman                                      | Includes 40% payroll loading               | 32.35   |
| Rockdriller & Powderman (for load & blast only) | Includes 40% payroll loading               | 69.53   |
| Bridgeman                                       | Includes 40% payroll loading               | 38.35   |
| Powersaw (labour not included)                  | All                                        | 4.70    |
| Faller, including powersaw cost                 | Includes 40% payroll loading               | 58.59   |

Sources:

Cost surveys, B.C. Road Builders & Heavy Construction Association, Equipment Rental Rate Guide (rates based on a 3 year old machine), and IWA agreement rates including payroll loading.

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