

File: 195-30/CAPP

JUN 27 2000

To: Regional Managers

From: The Honourable Jim Doyle
Minister of Forests

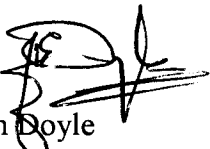
Re: Amendment No. 1 to the *Coast Appraisal Manual*

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

- Section 4.1 Housekeeping change.
- Section 4.5.2.2 Revised towing cost estimate for those points of origin that require a log tow on the Fraser River.
- Section 4.5.2.2 Revised towing cost estimate for the mouth of Knight Inlet to correct a mathematical error in the initial calculation of the cost estimate.



This amendment will come into force on July 1, 2000. Further amendments or revisions to this manual require my approval.


Jim Doyle
Minister

Attachments

pc: Bill Howard, Director, Revenue Branch

All Subscribers, *Coast Appraisal Manual*



FOR FURTHER INFORMATION CONTACT:

George Silvestrini
Sr. Timber Pricing Forester (Coast)
Revenue Branch
Ministry of Forests
Victoria, B.C.
V8W 3E7
Phone: 387-8377
E-mail: george.silvestrini@gems9.gov.bc.ca
FAX: 387-5670

MANUAL TITLE

Coast Appraisal Manual

REVISION No.
Amendment No. 1

ISSUE DATE
July 1, 2000

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 (Remove/Insert)	(VOL.) CHAPTER-SECTION-SUBJECT	PAGE(S)	COMMENTS
	TABLE OF CONTENTS		
REMOVE	Table of Contents	i - ii	
INSERT	Table of Contents	i - ii	
REMOVE	Chapter 4	1 - 4	
INSERT	Chapter 4	1 - 4	
REMOVE	Chapter 4	27 - 28	
INSERT	Chapter 4	27 - 28	
REMOVE	Index	3 - 4	
INSERT	Index	3 - 4	
INSERT	Minister's Letter and Manual Transmittal		After Amendments Tab

Table of Contents

1 Introduction

1.1 Terms of Reference and Conventions	1-2
1.1.1 Terms and Conventions	1-2
1.1.2 Terms of Reference	1-2
1.2 Area of Application	1-3
1.3 Cutting Authority	1-4
1.3.1 Cutting Authority Area	1-4
1.4 Responsibility for Stumpage	1-5
1.5 Market Pricing System	1-6
1.6 Comparative Value Timber Pricing	1-7
1.7 Stumpage Adjustments (CVP)	1-9

2 Appraisal Principles and Procedures

2.1 Types of Determination	2-2
2.2 Time Schedule - Appraisals and Reappraisals	2-3
2.3 Reappraisal	2-5
2.4 Fixed Stumpage Rate and Extensions of Term	2-9
2.5 Point of Appraisal	2-11
2.6 Calculation Conventions	2-12
2.7 Second Growth Coniferous Timber	2-13

3 Average Selling Price Estimation

3.1 Average Log Market Value (AMV) Determination	3-2
3.2 Log Grade Percentages	3-3
3.2.1 Billing History Record	3-3
3.2.2 Log Grade Percentage Criteria	3-4
3.2.3 Source of Log Grade Percentage for Each Cutting Authority	3-6
3.2.3.1 Log Grade Percentages for a Cutting Authority Within the Geographic Boundaries of a Tree Farm Licence	3-6
3.2.3.2 Log Grade Percentages for a Cutting Authority Within a Timber Supply Area	3-7
3.2.4 Damaged Timber	3-8
3.3 Calculation of Stand Selling Price (SP)	3-9
3.3.1 Low Volume Cypress Exception	3-10
3.3.2 Salvage	3-10

4 Operating Cost Estimation

4.1 Cost Estimates	4-2
4.1.1 Specified Operations	4-2
4.2 Appraisal Data Requirements	4-4
4.3 Development	4-5
4.3.1 Development Cost Categories	4-6
4.3.1.1 Development Cost Allocation	4-9
4.3.1.1.1 Development Cost Estimates on Crown Lands	4-9
4.3.1.1.2 Development Cost Estimates for Full Appraisal on Timber Licence (TL) Cutting Authorities	4-10
4.3.1.1.3 Development Cost Estimates on Private Land	4-10
4.3.1.1.4 Existing Roads and Structures	4-11
4.3.1.1.5 Extended Road Amortization	4-11
4.3.2 Tabular Road and Bridge Cost Estimates	4-12
4.3.2.1 Subgrade Construction	4-12
4.3.2.2 Drainage Structures	4-16
4.3.2.2.1 Log Bridges	4-16
4.3.2.2.2 Permanent or Portable Bridges	4-16
4.3.2.2.3 Culverts	4-17
4.3.2.3 Additional Stabilizing Material	4-19
4.3.3 Detailed Engineering Cost Estimates	4-22
4.3.3.1 Data Requirements	4-23
4.4 Tree To Truck	4-24
4.4.1 Conventional Logging	4-24
4.4.2 Helicopter Logging	4-24
4.5 Log Transportation	4-26
4.5.1 Truck Hauling	4-26
4.5.2 Water Transportation	4-27
4.5.2.1 Dump, Sort, Boom and Scale	4-27
4.5.2.2 Towing or Barging	4-27
4.5.3 Routine Maintenance and Deactivation	4-30
4.5.4 Road and Land Use Charges	4-30
4.6 Administration and Other Costs	4-32
4.6.1 Corporate and Forestry Overhead	4-32
4.6.2 Crew Transportation (Labour)	4-32
4.6.3 Camp Operations and Overhead	4-33
4.6.3.1 General Camp Overhead	4-33
4.6.3.2 Accommodation	4-34
4.6.4 Low Volume Cost Estimate Additive	4-35
4.7 Total Logging Cost Estimate	4-36
4.8 Basic Silviculture	4-37
4.9 Cost Trend	4-38

Operating Cost Estimation

4

The Operating Cost is the sum of the trended Total Logging Cost Estimate and the trended Basic Silviculture Cost Estimate as detailed in this chapter.

4.1 Cost Estimates

The phase cost estimates, predictive formulas and most of the tables in this manual are derived from data collected through surveys of logging and forest management costs incurred by licensees and contractors operating in the Coast Region of British Columbia in 1998.

The survey collects licensee costs from both company and contract operations: including wages, benefits, overtime, depreciation, fuel, supplies, repair and maintenance, moving assistance, freight, applicable licences, insurance, etc. from a representative sample of coast operations. Contract costs, including contractor profit and risk margins, overhead, crew transportation, etc., are also included.

Phase cost estimates are complete and reflect average conditions, operating practices, and phase accounting allocations as found in the survey data. With the exception of specified operations listed in Section 4.1.1, no additions to or subtractions from the phase cost estimates are permitted.

The Appraisal Coordinator must estimate total operating costs for a cutting authority area in a manner which will produce the appraisal least total operating cost estimate for the cutting authority area.

The appraisal estimate of harvesting and transportation costs must be determined by using the criteria for determining the harvesting and transportation costs as set out in this manual.

The estimate of harvesting costs must be determined for the method of harvesting referred to in this manual, other than a method that the District Manager states is unsuitable for the cutting authority area, that will produce the appraisal least total operating cost estimate.

The estimate of the transportation costs must be determined for the method of transportation referred to in this manual, other than a method that the District Manager states is unsuitable for the cutting authority area, that will produce the appraisal least total operating cost estimate.

4.1.1 Specified Operations

In addition to the logging phases and systems that are covered by this manual, there are specified operations which require special cost estimates.

The following is a complete list of specified operations for which certain cost phase estimates are based on the information on hand rather than on the tables and formulas in this manual. Specified operation cost estimates are combined with associated

Coast Appraisal Manual phase cost estimates to determine the total operating cost for the cutting authority being appraised.

SPECIFIED OPERATIONS	AFFECTED PHASE
A-frame Logging	Tree-to-Truck (Section 4.4)
Balloon Logging	Tree-to-Truck (Section 4.4)
Blowdown Timber	Tree-to-Truck (Section 4.4)
Partial Harvesting	Tree-to-Truck (Section 4.4)
Salvage Logging	Tree-to Truck (Section 4.4)
Skyline Logging	Tree-to Truck (Section 4.4)
Tree Crown Modification	Tree-to-Truck (Section 4.4)
Lake Transportation	Log Transportation (Section 4.5)
Skidder Swinging	Log Transportation (Section 4.5)
Towing to Tie-up Grounds (over 10 km Distance)	Log Transportation (Section 4.5)
Camp Moves (of greater than 10 km)	Administration and Other Costs (Section 4.6) except Helicopter Logging
Destumping for Root Disease Control	Administration and Other Costs (Section 4.6)

The specified operations phase costs are monitored and updated by the regional manager and may not be part of the annual cost collection and analysis process.

4.2 Appraisal Data Requirements

The cruise and all other pertinent information required for the appraisal must be submitted with the appropriate *COAST APPRAISAL DATA SHEET*.

Unless otherwise specified by the Director, Revenue Branch, cruise data must be gathered and compiled according to the approved utilization specifications and in accordance with the following Ministry of Forests publications:

- Ministry of Forests Provincial Cruising Manual,
- Cruise Compilation Design Manual,
- Forest Service Policies (e.g., Timber Utilization Policy & Procedures for the Coast of the Province), and
- Regional Publications (e.g., Operational Cruising Requirements in the Vancouver and Prince Rupert Forest Regions).

In order to verify the accuracy of the cruise compilation program, the licensee must provide, on request, photocopies of the tally sheets and a magnetic copy of the compilation in a format prescribed by the regional manager.

The appraisal uses the net cruise volume of timber. The net cruise volume (m^3) is the gross volume (m^3) less decay, waste and breakage for all the species listed in Section 3.3. The cutting authority total net cruise volume is determined by multiplying the net cruise volume per hectare (m^3/ha) by the total merchantable timbered area (ha) to be harvested under the cutting authority. The total merchantable timbered area is determined from the cruise summary if available.

If the application for a cutting authority is subsequently modified, the cruise submission must be recompiled by the applicant when more than five percent of the total number of compiled plots used in the cruise submission lie outside the boundaries established for the initial appraisal of the cutting authority.

Each reappraisal uses the net cruise volume by species determined by adjusting the original cruise volume on the basis of approved amendments since the last appraisal.

Plots located in areas requiring helicopter logging or specified operations are included in the cruise compilation calculation of conventional logging.

4.5.2 Water Transportation

This phase covers all operating cost elements from the local tie-up ground to the point of appraisal. The point of appraisal policy in Section 2.5 governs the determination of the cost estimates.

4.5.2.1 Dump, Sort, Boom and Scale

Cost estimates for this phase are based on two log transportation systems:

- towing logs, and
- barging logs.

Barge transportation is recognized where part of the route from local tie-up grounds at the appraised point of origin to point of appraisal is exposed to the open ocean swell.

Only points on the West Coast of Vancouver Island north of Port Renfrew, (except those routes totally east of a line drawn from Cape Beale to Amphitrite Point, including Ucluelet Harbour), and all points north of Cape Caution on the mainland are considered to require barge transportation.

Where barge transportation is not recognized, towing of sorted logs or camp-run logs from the local tie-up ground at the appraised point of origin to point of appraisal is assumed.

All on-site and central sort costs related to dump, sort, boom, scale and re-load from dryland sorts where required, are included for the system as follows. Local towing of up to 10 km is also included.

Condition	Cost Estimate for all Operations
Towing	\$8.48/m ³
Barging	\$10.67/m ³

This cost estimate is also applied when neither towing nor barging is required (i.e., when point of origin and point of appraisal are the same location).

4.5.2.2 Towing or Barging

The following tables list the towing and barging cost estimates from specific points of origin. For unlisted points of origin the cost estimates from two adjacent points of origin may be averaged.

Table 4-7: Towing Cost Estimates

Code	Point of Origin	P/A	\$/m3	Code	Point of Origin	P/A	\$/m3
ALBE	ALBERNI	A	0.00	BUIM	M. OF BUTE INLET	G	1.71
CHCK	CHINA CREEK	A	0.55	KIIM	M. OF KINGCOME INLET	G	2.90
COCK	COLEMAN CREEK	A	0.65	KNIM	M. OF KNIGHT INLET	G	2.53
SARV	SARITA RIVER	A	0.81	LOUM	M. OF LOUGHBOROUGH	G	1.96
SPCK	SPENCER CREEK	A	0.69	TOIM	M. OF TOBA	G	1.73
TOBY	TOQUART BAY	A	0.97	NACK	NAKA CREEK	G	2.39
UCHU	UCHUCKLESIT	A	0.75	NOBY	NORTHWEST BAY	G	1.04
UCLU	UCLUELET	A	1.06	PHAR	PHILLIPS ARM	G	1.90
CHEM	CHEMAINUS	C	0.00	PTEB	PORT ELIZABETH	G	2.57
COBY	COWICHAN BAY	C	0.69	PTHD	PORT HARDY	G	3.00
JORV	JORDAN RIVER	C	1.45	PTHV	PORT HARVEY	G	2.37
LADY	LADYSMITH	C	0.57	PTMN	PORT McNEILL	G	2.74
NANA	NANAIMO	C	0.71	PTNE	PORT NEVILLE	G	2.31
SOOK	SOOKE	C	1.34	PORV	POWELL RIVER	G	1.26
VICT	VICTORIA	C	1.10	SENA	SECOND NARROWS	G	0.77
AGAM	AGAMEMNON	G	1.02	SYIN	SEYMOUR INLET	G	3.96
BECV	BEAVER COVE	G	2.64	SEBY	SOUTHWEST BAY	G	2.26
COUR	COURTENAY	G	1.43	SQUA	SQUAMISH	G	0.75
DRIN	DRURY INLET	G	3.12	STIL	STILLWATER	G	1.10
EVRV	EVE RIVER	G	2.31	TEAR	TEAKERNE ARM	G	1.57
FOHA	FORWARD HARBOUR	G	2.10	THIN	THEODOSIA INLET	G	1.57
FRAR	FREDERICK ARM	G	1.83	THSO	THOMPSON SOUND	G	2.71
BUIH	H. OF BUTE INLET	G	2.18	WASA	WAKEMAN SOUND	G	3.08
JEIH	H. OF JERVIS INLET	G	1.51	GAMB	GAMBIER ISLAND	G	0.00
KIIH	H. OF KINGCOME INLET	G	3.14	CHWK	CHILLIWACK	P	1.40
KNIH	H. OF KNIGHT INLET	G	3.14	HALF	FOOT HARRISON LAKE	P	2.22
LOUH	H. LOUGHBOROUGH	G	2.17	PILF	FOOT OF PITT LAKE	P	0.35
SEIH	H. OF SECHELT INLET	G	1.36	HABY	HARRISON BAY	P	1.62
TOIH	H. OF TOBA INLET	G	1.98	HATZ	HATZIC	P	1.03
INAR	INDIAN ARM	G	0.93	HALH	HEAD HARRISON LAKE	P	3.69
KLBY	KELSEY BAY	G	2.14	PILH	HEAD OF PITT LAKE	P	0.95
MNCK	McNAB CREEK	G	0.65	HALM	MID HARRISON LAKE	P	3.04
MEBY	MENZIES BAY	G	1.98	PIRV	PITT RIVER BRIDGE	P	0.00
MESD	MEREWORTH SOUND	G	3.55	SICK	SILVERHOPE CREEK	P	3.42
JEIM	MOUTH JERVIS INLET	G	1.06	WHON	WHONNOCK	P	0.58

P/A = Point of Appraisal as follows:

- A = ALBE - ALBERNI - the head of Alberni Inlet;
- C = CHEM - CHEMAINUS - tie-up grounds in the vicinity of Chemainus representing the facilities from Nanaimo Harbour to Cowichan Bay;
- G = GAMB - GAMBIER ISLAND - representing all facilities in Howe Sound area;
- P = PIRV - PITT RIVER BRIDGE - representing the facilities along the Fraser River and Pitt River.

Responsibility for Stumpage, 1-5
Road and Land Use Charges, 4-30
Roads, 4-5
Rock Mass Classification, 4-13
Routine Maintenance and Deactivation,
4-30

S

Salvage, 3-10
Salvage Logging, 4-3
Second Growth Coniferous Timber, 2-13
Selling Price Estimation, 3-1
Skidder Swinging, 4-3
Skyline Logging, 4-3
Small Business Forest Enterprise Program,
2-9
Small Business Forest Enterprise Program
(SBFEP) Sales, 6-5
Source of Log Grade Percentage for Each
Cutting Authority, 3-6
Special Forest Products, 6-7
Specified Operations, 4-2
Statistics Canada Price Index, 5-5
Stumpage Rate Adjustments (CVP), 1-9
Stumpage Rate Determination, 5-1
Subgrade Construction, 4-12
Subgrade Cost Estimates, 4-13

T

Tabular Cost Estimates, 4-5
Tabular Road and Bridge Cost Estimates,
4-12
Terms of Reference and Conventions, 1-2
Time Schedule, 2-3
Total Corporate and Forestry Overhead, 4-
32
Total Logging Cost Estimate, 4-36
Total MPS Stumpage Rate, 7-11
Total Volume of 2 000 to 5 000 m³, 6-3
Total Volume of less than 2 000 m³, 6-3
Towing Cost Estimates, 4-28
Towing or Barging, 4-27
Towing to Tie-up Grounds (over 10 km),
4-3

Tree Crown Modification, 4-3
Tree-To-Truck, 4-24
Tributary, 4-5, 4-11
Truck Hauling, 4-26
Trucking of Stabilizing Material, 4-21
Types of Determination, 2-2

U

Upset Stumpage Rate (Step 4), 7-10

V

Value Index, 5-3
Value Indexes by District and Species, 6-2

W

Water Transportation, 4-27
Woodlot Licence, 2-9, 3-5, 4-11

This page is intentionally left blank.