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To: Regional Managers

From: The Honourable Jim Doyle
Minister of Forests

Re: Amendment No. 3 to the *Interior Appraisal Manual*

I hereby approve Amendment No. 3 to the *Interior Appraisal Manual* and attach a copy for your use. The following sections are amended as follows:

Section 4.4.3.4	Remove words "in the cutting permit document".
Section 4.7.2	Corrects numbering of subsection.
Section 4.8.2	Corrects reference to Section 4.4.2(6).
Section 6.7.2	Updates Table 6-2, Miscellaneous Stumpage Rates for Timber Licences.
Section 7.2.5	Corrects typing error.
Section 7.3.3	Corrects typing error.



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


Jim Doyle
Minister

Attachment

pc: Bill Howard, Director, Revenue Branch

All Subscribers, *Interior Appraisal Manual*



FOR FURTHER INFORMATION CONTACT:

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MANUAL TITLE Interior Appraisal Manual	
REVISION No. Amendment No. 3	ISSUE DATE April 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		
INSERT	Parameters		After the Parameters Tab
REMOVE	Chapter 4	33 - 34 47 - 50	
INSERT	Chapter 4	33 - 34 47 - 50	
REMOVE	Chapter 6	11 - 12	
INSERT	Chapter 6	11 - 12	
REMOVE	Chapter 7	3 - 6	
INSERT	Chapter 7	3 - 6	
REMOVE	Index	1 - 4	
INSERT	Index	1 - 4	
INSERT	Minister's Letter and Manual Revision Transmittal		After Amendments Tab

The Tree-to-truck cost estimate for both variations is determined from the equation as follows:

$$\$/m^3 = \text{CONSTANT} + (7.37 * \text{SLOPE\%/100}) - (6.77 * \text{VOLHA/1000}) + (6.07 * \text{BD\%/100}) + (2.51 * \text{DEFECT\%/100}) + (5.39 * \text{DPCUT}) - (4.13 * \text{PCUT/100}) + (1.55 * \text{CAMP}) + (0.80 * \text{DISTC125/100}) + (2.22 * \text{DISTNC125/100})$$

Where CONSTANT =

REGION	Biogeoclimatic Zone						
	BWBS	CWH/MH	ICH	IDF	MS	ESSF	Other
Cariboo **	15.84	20.97	20.35	18.46	19.06	19.77	17.14
Kamloops	14.13	19.26	18.64	16.75	17.35	18.06	15.43
Prince George*	15.23	20.36	19.74	17.85	18.45	19.16	16.53
Prince Rupert	15.19	20.32	19.70	17.81	18.41	19.12	16.49
Other including (FNP)	17.76	22.89	22.27	20.38	20.98	21.69	19.06

* Excluding FNP.

When the volume per tree is less than 0.20 m³, an additional cost estimate will apply to the Ground Skidding Tree-to-truck cost estimates in all Forest Regions. The small tree cost estimate is determined as follows:

$$\$/m^3 = 2.04 - 4.16 * \text{VOLTREE}$$

4. Overhead Cable Logging

Overhead cable logging cost estimates will be recognized when required. The method includes both highlead (spar) mobile (grapple) yarders and skyline yarders, but variations in machine size, spar/boom height, winch line capacity and yarding technique are not recognized.

Variations recognized within the method are:

a. Highlead and Grapple

The tree-to-truck cost estimate for clear cut and partial cut is determined from the equation as follows:

$$\$/m^3 = \text{CONSTANT} + (10.72 * \text{SLOPE\%/100}) - (7.33 * \text{VOLHA/1000}) - (3.68 * \text{GVOL}) + (0.49 * \text{GVOLSQR}) + (4.91 * \text{BD\%/100}) + (2.29 * \text{DPCUT}) + (2.12 * \text{CAMP}) + (10.29 * \text{DISTC150/100})$$

Where CONSTANT =

Region	Biogeoclimatic Zone	
	SBS	Other
Cariboo	28.22	31.03
Kamloops	28.91	31.72
Prince George *	29.15	31.96
Prince Rupert	30.43	33.24
Other (including FNP)	32.43	35.24

* Excluding FNP

b. Skyline and Intermediate Support Skyline

Skyline yarding estimates will be recognized where the average yarding distance is greater than 300 m, or intermediate supports are required.

The Average Yarding Distance is determined by:

1. Drawing a series of transects (minimum four) with their origin at the landing, being equi-angle apart and measured to the back-line. This is done for each block; blocks will not be amalgamated for the purpose of Average Yarding Distance Calculation. The volume for the system is the sum of the volumes of qualifying blocks.
2. Yarding distance will be measured as slope distance from the centre of the landing to the falling boundary.
3. The sum of transect lengths divided by the number of transects equals the Average Yarding Distance.

4.7 Road and Land Use Charges

Prior to a road or land use charge being included in an appraisal, the licensee must:

- a. submit a "Request for Approval of a Road Use Charge" form with the data sheet; and
- b. receive written approval of the road or land use charge from the Regional Manager.

1. Charges as a Share of Road Maintenance

- a. No recognition is made of such charges. The routine road maintenance cost estimate, Section 4.6, includes all relevant costs whether incurred directly by the licensee or by payment to another party for services performed.

2. Charges Other Than for Road Maintenance

There are three main categories of road status:

a. Forest Service Roads

A road that is declared, determined, built, maintained or modified by the ministry, as defined in forest legislation. No road use charges will be considered in appraisals,

b. Permitted Roads

Roads built on Crown land, authorized by road permit or other cutting authority documents. This category also includes foreshore leases, camp areas and dryland sorts. No road use charges will be considered in appraisals,

c. Other Roads

Road use charges for roads on Indian Reserves or on private land owned by an arm's length third party and not subject to a lease held by the licensee, their affiliate or an agent of either, may be considered in appraisals provided there is no lower cost route capable of development through Crown land.

The charges recognized must be reasonable, must not exceed compensation that might be determined under forest legislation and must be proven through the presentation of auditable documents.

3. Other Land Use Charges

Only non-governmental land use charges will be considered in appraisals.

4.8 Administration and Other Costs

4.8.1 Overhead

Overhead cost estimates are for the related administration and supervisory activities attributed to development, tree-to-truck, transportation and basic silviculture that occur at the head office, branch office and camp or operation.

Overhead costs include:

- Office Operations,
- Scaling,
- Cruising,
- Environmental Protection,
- Consultants fees (Section 4.3.3), and
- Engineering (road layout, survey (including geotechnical surveys), and design), other than those applicable as Engineered Cost Estimate.
- Archaeological surveys,
- Waste and Residue surveys,
- Right-of-way easements,
- Foreshore and other land leases,

Cost estimates by forest district are shown in the following table:

Table 4-8 Administration Cost Estimates

District	\$/m ³	District	\$/m ³
100 Mile House	7.57	Kispiox	9.15
Arrow	12.28	Kootenay Lake	11.82
Boundary	8.89	Lakes	6.50
Bulkley (Cassiar)	7.33	Lillooet	12.23
Chilcotin	6.40	Mackenzie	7.21
Clearwater	10.38	Merritt	8.48
Columbia (Golden, Revelstoke)	13.79	Morice	6.95
Cranbrook	9.85	Penticton	8.65
Dawson Creek	7.97	Prince George	7.57
Fort Nelson	5.04	Quesnel	7.05
Fort St. James	6.86	Robson Valley	10.45
Fort St. John	5.97	Salmon Arm	10.36
Horsefly	7.58	Vanderhoof	5.94
Invermere	12.13	Vernon	8.52
Kalum	12.11	Williams Lake	7.60
Kamloops	8.00		

4.8.2 Isolated Cutting Authority Areas

An isolated cutting authority area has no continuous road access to the nearest support centre (listed in Section 4.4.2(6)). Continuous road access includes public ferry service, private daily ferry and daily barge service. The exception is where there is continuous road access, but the route is not routinely used to transport people, equipment or supplies to the cutting authority area.

For isolated cutting authorities not serviced by camps the isolation cost estimate covers, the costs of moving people, equipment and supplies to and across the non-road portions of the route to the camp (or cutting authority area where there is no camp) whether by crew boat, periodic barge service, air, or rail. Also covered are the depreciation, maintenance and operating costs of any camp facilities and the non-recoverable costs incurred for a cookhouse, family quarters, bunk houses, shop, office and other pertinent buildings.

For isolated cutting authorities serviced by camps, the costs of moving people, equipment or supplies by road from the isolated camp location to the cutting authority are covered by the distance variable in the tree-to-truck equation.

The cost estimates for isolated cutting authorities at the following locations are:

Rail access:	$\$/\text{m}^3 = 6.46$
Lake/ocean access:	$\$/\text{m}^3 = 6.22$

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 m^3 and less than $3\,000 \text{ m}^3$;

$$\$/\text{m}^3 = 10.94$$

2. Where the licence to which cutting authority belongs has an AAC of $3\,000 \text{ m}^3$ or greater and the net cruise volume for the cutting authority is less than $3\,000 \text{ m}^3$;

The cost estimate is: (prorated by volume)	Ground Skidding(clearcut & partial)	$\$0.79/\text{m}^3$
	Cable Yarding	$\$1.30/\text{m}^3$
	All Other	$\$0.00/\text{m}^3$

3. Where the licence to which cutting authority belongs has no AAC and the cutting authority net cruise volume is less than $3\,000 \text{ m}^3$;

$$\$/\text{m}^3 = 4.05$$

4.9 Post-Logging Treatment Costs

Post-logging costs are those which are incurred after logging because of treatments specified in the cutting authority. All post-logging requirements are included in the tree-to-truck phase.

6.7.2 Miscellaneous Stumpage Rates for Timber Licences

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

For each species of timber in column 1 of Table 6-2, the stumpage rate immediately opposite that species in columns 2, 3 and 4 respectively, apply to sawlogs scaled in the indicated forest regions on and after April 1, 2000.

Table 6-2 Miscellaneous Stumpage Rates for Timber Licences

Column 1 Species of timber	Forest Region		
	Column 2 Vancouver except the Mid-Coast and Queen Charlotte Forest Districts (that part west of the Cascades Mountains) \$/cubic metre	Column 3 Prince Rupert and the Mid-Coast and Queen Charlotte Forest Districts (that part west of the Cascades Mountains) \$/cubic metre	Column 4 All forest regions and those parts of regions east of the Cascade Mountains \$/cubic metre
Fir	33.40	27.20	34.40
Spruce	34.90	29.00	32.80
Balsam	17.50	14.40	28.90
Cedar	31.10	25.50	49.90
Hemlock	17.00	14.20	30.80
Cypress	30.30	25.70	36.10
White pine	21.90	19.40	47.00
Yellow pine	21.90	19.40	32.50
Larch	21.90	19.40	34.40
Lodgepole pine	10.50	8.00	31.00
Other conifers	21.90	19.40	36.10
All non-conifers	1.00	1.00	0.50
All species Grades 3, 4, 5, and 6	N/A	N/A	0.25
All species Firmwood reject	NIL	NIL	NIL
All species grade Y	0.25	0.25	N/A

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7.2 MPS Principles and Procedures

7.2.1 MPS Appraisals

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

7.2.2 MPS Stumpage Adjustments

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

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

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

7.2.3 Reappraisals for MPS Appraisals

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

7.2.4 Calculation Conventions

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

7.2.5 Methodology

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

1. Calculate a Selling Price (SP) of the products that can be recovered from the stand using Sections 7.3.1 and 7.3.2 with the variables as defined.
2. Calculate the stand Quality Index (QI) for products that can be recovered from the stand using Section 7.3.3 with the variables as defined.
3. Calculate the market stumpage price using the equation in Section 7.4.2, the variables for the stand, the QI calculated in Section 7.3 and the SP calculated in Section 7.3.
4. Calculate the upset stumpage rate by discounting the market stumpage price calculated in Section 7.4.2 using the discount factor in Section 7.5.

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

7.3 MPS Selling Prices

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

7.3.1 MPS Lumber Average Market Values

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

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

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

7.3.2 Calculation of Species Lumber Selling Price

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

1. Zonal LRF update add-ons are found in Table 7-1, by species.
2. Lumber AMVs as published every month.
3. Calculation of Total Species Lumber Selling Price.
 - a. Appraisal LRF = Cruise LRF + LRF update add-on
 - b. Species SP ($\$/m^3$) = Species AMV($\$/mbm$)/1000 * Appraisal LRF
4. The stand SP is the volume prorated sum of the species SP.

7.3.3 Calculation of Stand Log Quality Index

The stand log quality index (QI) is a relative term used to judge the potential to produce lower or higher quality/value products from different stands. The stand log quality index is a species volume weighted number.

It is determined using each species lumber recovery factor (LRF) from the cruise compilation summary, the Zonal LRF update add-ons by species from Chapter 7 and the average appraisal LRF.

1. Zonal LRF update add-ons are found in Table 7-1, by species.
2. Appraisal LRF = Cruise LRF + LRF update add-on, by species.
3. Calculate a species volume weighted total stand appraisal LRF.
4. The stand QI is the volume prorated sum of the species LRF divided by the average appraisal LRF of 229.5.

Table 7-1 LRF Update Add-ons for MPS

Species	Zone 5	Zone 6	Zone 7	Zone 8	Zone 9
Balsam	72	55	69	60	60
Cedar	24	5	21	13	-
Douglas Fir	29	-	25	17	-
Hemlock	23	6	23	14	-
Larch	27	-	25	17	-
Lodgepole Pine	70	47	66	56	61
Spruce	78	57	77	65	67
White Pine	26	-	24	17	-
Yellow Pine	-	-	27	18	-

Index

A

Access Management, 4-9, 4-25
 Accessible Camp, 4-31
 Adjustable Stumpage Rates, 6-6
 Adjustments
 CVP, 1-9
 MPS, 7-3
 Administration and Other Costs, 4-48
 Administrative Line, 1-3
 Amendments, 2-6
 AMVs for Licences which Require Utilization of Small Logs, 3-3
 Applicable Licences, 4-2
 Appraisal Data Submission (Interior Appraisal Data Sheet), 2-3
 Appraisal LRF, 3-10
 Appraisals
 New MPS, 7-3
 New MPS Reappraisals, 7-3
 Area, 4-4
 Average Cost Estimates, 4-7
 Average Stumpage Rate, 1-8

B

Barge/Ferry, 4-42
 Barge/Ferry Not Used for Truck Haul, 4-42
 Basic Silviculture, 4-51
 Basic Silviculture Levy, 6-7
 Benefits, 4-2, 4-54
 Biogeoclimatic Zone, 4-29
 Biogeoclimatic Zones, 4-15
 Blasting, 4-14
 Block Roads, 4-14
 Bonus bid, 5-8

Bonus Bid, 1-7
 Boom, 4-41
 Borrow Pit, 4-22
 Boulders, 4-14
 Breakage, 4-4
 Bridge Removal, 4-25
 Bridges, 4-25
 Brushing, 4-52
 Burned Timber, 3-5

C

Calculation of MPS Stumpage Rate, 7-10
 Calculation of Total Species End Product Selling Price, 3-9
 Camp, 4-41
 Canadian Lumber Standard/American Lumber Standard, 3-2
 Cascade Mountains, 1-3
 Cattle Guards, 4-23
 Charges as a Share of Road Maintenance, 4-47
 Charges Other Than for Road Maintenance, 4-47
 Chip Value, 3-10
 Chip Yield, 3-10
 Chip Yield Derivation, 3-8
 Chip Yield Factors, 3-8
 Chips, 4-54
 Clear Cut, 4-32
 Clearing, 4-12
 Combined Product Recovery Factors, 3-6
 Continuous Road Access, 4-49
 Corduroy, 4-25
 Cost Trend, 4-57
 Cost Trend Factors, 4-57
 Crib Back Fills, 4-20
 Cruise Compilation, 4-4
 Cruise Data, 4-4
 Cruising Manual, 4-4
 Culverts, 4-13, 4-18
 Cut/Fill Slope Stabilization, 4-25
 Cutting Authority, 1-4
 Cutting Authority Document, 4-3
 Cycle Time, 4-38

D

Dead/Live Useless Snags, 4-35
Debris Disposal, 4-13
Decay, 4-4
Deciduous, 4-53
Decked Timber, 6-5
Deep Fill, 4-25
Depreciation, 4-2, 4-54
Detailed Engineering Cost Estimates, 4-6, 4-7
Determination of Stud Log Percent, 3-8
Development Costs, 4-6
Development Costs on Private Land, 4-11
Development Levy, 6-7
Dewater, 4-40, 4-54
Dewater and Reload, 4-41
Distance to Support Centre, 4-30
District Average Value Index, 2-10
District Manager, 2-3
Ditch Construction, 4-12
Drain Structure Cost Estimates, 4-7
Drainage Structures, 4-18
Drilling, 4-14
Dump, 4-41

E

Effective Date, 4-57
End Haul Construction, 4-24
Existing Roads and Structures, 4-11
Extended Road Amortization, 4-12

F

Fences, 4-23
Fire Damage, 4-35
Fixed Stumpage Rates, 6-6
Forest Act, 1-2
Forest Development Plan, 4-3
Forest District Specific, 6-10
Forest Service *Cruising Manual*, 4-35
Forest Service Roads, 4-47
Free-Growing Stocking Standards, 4-51
Fuel, 4-2, 4-54
Full Appraisal, 2-2

G

Geo-tech Fabric, 4-25
Gravel, 4-21
Gross Volume, 4-31
Ground Skidding, 4-28, 4-32
Grubbing, 4-12
Gullies, 4-24

H

Haul Method, 4-39
Helicopter, 4-28
Helicopter Logging, 4-32
Highway Haul, 4-39
Highway Hauling, 4-39
Horse, 4-28
Horse Logging, 4-32

I

Indicated stumpage rate, 5-7
Indicated Stumpage Rate, 1-7, 5-7
Installation, 4-20
Insurance, 4-2, 4-54
Interior Appraisal Data Sheet, 4-4
Interior Base Rate, 1-7, 5-7
Interior Mean Value Index, 5-7
Interior Target Rate, 1-7, 5-5
Interior, Area of Application, 1-3
Isolated Cutting Authorities, 4-31
Isolated Cutting Authority Areas, 4-49

L

Landings, 4-13
Least Total Harvesting Cost Estimate, 4-2
Log Bridges, 4-20
Low Volume Additive, 4-49
LRF Update Add-ons, 3-6
Lumber, 4-54
Lumber Market Values, 1-8
Lumber Recovery Factors, 3-5

M

Main service road, 4-6
Maintenance, 4-2, 4-54

Major Culvert Removal, 4-25
Mandatory Grade 4 Hemlock AMVs, 3-3
Manufacturing Cost Differential, 3-9
Manufacturing Costs, 1-2
Market Pricing System, 7-2
Material Costs, 4-13
Mathematical Error, 2-7
Mean Value Index, 1-7
Minimum Stumpage Rate, 1-7
Minister's Direction, 2-8
Miscellaneous Stumpage Rates, 1-8, 2-10,
6-8
Moving Assistance, 4-2
MPS Upset Stumpage Rate, 7-10

N

New Construction, 4-7
New Construction and Upgrading, 4-24
New Cutting Authority, 2-3
Non-Commercial Brush (NCBR), 4-53

O

Off-Highway Haul, 4-40
Off-Highway Hauling, 4-39
Operating Cost, 1-7, 5-3
Operational Roads, 4-14
Order, 2-2
Other Land Use Charges, 4-47
Other Roads, 4-47
Overhead, 4-2
Overhead Cable Logging, 4-28, 4-33
Overland Construction, 4-24
Overtime, 4-2, 4-54

P

Partial Cutting, 4-29
Percent (%) Stud AMV, 3-8
Percent Blowdown, 4-29
Percent Partial Cut, 4-29
Percent Rock, 4-14
Percentage of the Indicated Stumpage Rate,
1-7, 5-8
Permitted Roads, 4-47
Pipe Line Rights-of-Way, 6-10

Pipeline Crossings, 4-23
Point of Appraisal, 4-38
Prescribed Minimum Stumpage Rate, 7-10
Primary Haul, 4-39
Profit and Risk Margins, 4-2
Pull Back Unstable Sidecast, 4-25
Pushover Logging, 4-3

R

Railway, 4-41
Railway Transportation, 4-42
Random Lumber, 3-2
Random Lumber AMVs, 3-3
Reappraisal, 2-2, 2-3, 2-5
Reappraisal at Anniversary Date, 2-6
Reconstruction, 4-25
Reconstruction and Replacement, 4-8
Regional Manager, 2-2
Regional Manager's Rates, 2-10
Regional Revenue Staff, 2-2
Reload, 4-40
Repair, 4-2, 4-54
Request for Approval for a Road Use
Charge, 4-47
Reserve Stumpage Rate, 1-7
Retaining Walls, 4-25
Right-of-way Felling, 4-13
Rip Rap, 4-20
Road Type, 4-14
Road Use Charges, 4-47
Roads, 4-6
Rock, 4-14
Rock Drilling, 4-22
Root Disease Control, 4-3
Routine Road Maintenance Cost Estimate,
4-43

S

SBFEP, 6-6
Secondary Haul, 4-40
Section 20 Timber Sale Licences, 6-6
Section 21 Timber Sale Licences, 6-6
Section Length, 4-13
Sector Times, 4-38

Selling Price, 1-7, 5-3
 Shipping Differential, 3-9
 Side Slopes, 4-24
 Silviculture Prescription, 4-3, 4-53
 Site Preparation, 4-20
 Skidder Swinging, 4-3
 Skyline, 4-34
 Slope, 4-29
 Slough Removal, 4-25
 Small Business Forest Enterprise Program, 2-9
 Small Log, 3-2
 Small Log AMVs, 3-2
 Small Scale Salvage Initiative, 6-3
 Snow Road Reconstruction, 4-24
 Snow Roads, 4-14, 4-17
 Soil Moisture Regime (SMR), 4-15
 Special Structures, 4-25
 Stabilizing Material, 4-21
 Stripping, 4-13
 Stud, 3-2
 Stud Lumber, 3-3
 Stump Removal, 4-3, 4-12
 Stumpage Rate Calculations, 2-13
 Subgrade Construction, 4-12
 Subgrade Cost Estimate, 4-15
 Sudden and Severe Damage, 2-5
 Supplies, 4-2, 4-54
 Supply and Delivery, 4-20

T

Tabular Cost Estimates, 4-6
 Tally Sheets, 4-4
 Timber Licence, 2-10
 Timber Supply Areas, 4-43
 Total Coniferous Volume of 2 000 m³ to 5000 m³, 6-3
 Total Coniferous Volume of Less than 2000 m³, 6-3
 Total Merchantable, 4-4
 Total MPS Stumpage Rate, 7-10
 Total Stumpage Rate, 1-7
 Tow, 4-41
 Treatment Regimes, 4-51
 Tree Farm Licence, 4-43

Tributary Cutting Authorities, 4-6
 Truck Hauling, 4-22
 Truck to Rail Transfer, 4-41
 Turnout Construction, 4-13

U

Unloading, 4-54
 Uphill Side Slope, 4-14
 Upset Stumpage Rate, 1-7, 5-8
 Upset Stumpage Rate Calculation, 7-10

V

Value Index, 1-7, 5-2, 5-7
 Volume per Hectare, 4-4
 Volume Per Hectare, 4-29
 Volume Per Tree, 4-31
 Volume Removal Factor, 4-53

W

Wages, 4-2, 4-54
 Waste, 4-4
 Weeding, 4-52
 Woodlot Licences, 4-43
 Woodlots, 2-9