



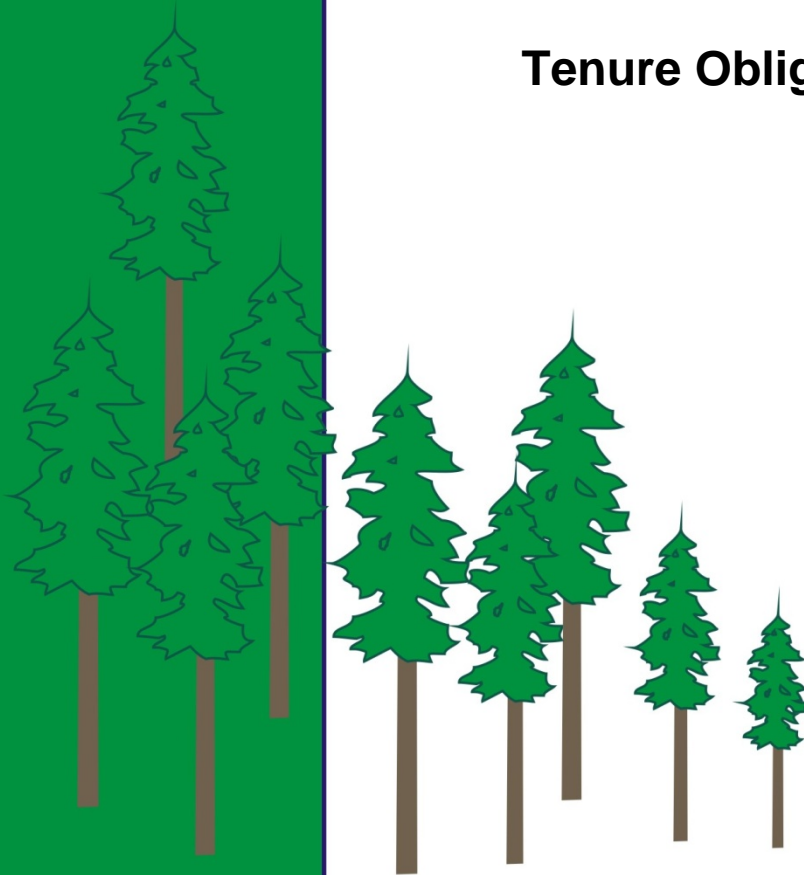
Coast

MARKET PRICING SYSTEM

Tenure Obligation Adjustments

July 1, 2012

Timber Pricing
Branch



Coast Market Pricing System - Tenure Obligation Adjustments

Table of Contents

1.	Introduction.....	1
2.	Policy and Procedure	1
3.	Forest Planning and Administration Costs (FPA)	2
4.	Roads.....	4
5.	BC Timber Sales Infrastructure and Services (BCTS).....	5
6.	Basic Silviculture Cost (BS).....	5
7.	Return to Forest Management (RFM).....	5
8.	Low Volume Cost (LVC)	5
9.	Low Grade Number (LG)	6
10.	Tenure Obligation Adjustment	6
11.	Summary	6
	Appendix 1	7
	Forest Planning Administration Costs.....	8
	Appendix 2	13
	Calculation of the Weighted Average Cost of Capital	14

Coast Market Pricing System - Tenure Obligation Adjustments

1. INTRODUCTION

In the Coast MPS, it is important that the costs incurred by long-term tenure holders fulfilling tenure obligations are recognized.

Licensees with long-term tenures have tenure obligations – they manage the public forest on behalf of the Province – including the costs of road construction and maintenance, silviculture, forest planning and administration. BC Timber Sales (BCTS) licensees may not have similar obligations because the Province, through BCTS, manages those forests. An adjustment to stumpage must be made for the differences in obligations.

This adjustment will be done through tenure obligation adjustments (TOA).

This paper and the appendices provide the technical methodology for calculating the tenure obligation adjustments ¹.

2. POLICY AND PROCEDURE

Cost data from BC Timber Sales as well as forest industry road development costs will provide the basis for the following TOAs. This list may change over time as new obligations become recognized.

Forest Planning/Administration

- Forest planning and administration costs (FPA)

Roads

- Road development costs (RD)
- Road management costs (RM)
- Market logger road cost (MLRC)
- Road use charges (RU)

¹ This paper is not intended to provide the basis for calculating stumpage rates nor should it be used as guidance for interpreting the legal policies and procedures for calculating stumpage rates, which will be contained in the *Coast Appraisal Manual*. The *Coast Appraisal Manual* contains the policies and procedures referred to in Section 105 of the *Forest Act*.

Coast Market Pricing System - Tenure Obligation Adjustments

B.C. Timber Sales Infrastructure and Services

- Log dumps
- Booming grounds and tie ups

Silviculture

- Basic silviculture costs (BS)

Return to Forest Management

- Return to forest management (RFM).

Low Volume Cost

- Low volume cost (LVC).

Two general principles will be followed in creating the above detailed TOA estimates:

1. *Coast Appraisal Manual* (CAM) procedures and estimates will be used where available.
2. Data directly related to tenure obligations will be collected and audited according to established standards (see Appendix 1, Coast Forest Planning Administration Cost Standard).

3. FOREST PLANNING AND ADMINISTRATION COSTS (FPA)

Forest planning and administration costs are those costs directly related to supervision and administration of the activities listed below. They are the costs that the long-term licensee bears, but that a market logger does not.

The forest planning and administration costs do not include business related or discretionary costs such as certain legal fees, corporate aircraft, stumpage, directors fees and expenses, sales expenses, restructuring costs, etc., unless portions of these costs are directly attributable to the management of the forest.

Coast Market Pricing System - Tenure Obligation Adjustments

Costs may include:

- Office Operations
- Cruising
- Consultants Fees
- Environmental Protection
- Foreshore and Other Land Leases
- Engineering (road layout, survey including geotechnical surveys, and design, other than those applicable as engineered cost estimate)
- Assessments and Surveys (as required under *Forest and Range Practices Act*)
- Waste and Residue Surveys
- Right-of-Way Easements
- Information Systems

Coast Market Pricing System - Tenure Obligation Adjustments

4. ROADS

A. Road Development Costs (RD)

Road development costs include roads and drainage structures and will be estimated using the procedures in the CAM.

B. Road Management Costs (RM)

Where the licensee is obliged to carry out road management, the TOA includes, but is not limited to, costs for the following activities estimated using procedures in the CAM:

- grading
- snow plowing
- sanding
- culvert repairs
- culvert replacement (= or < 900 mm)
- ditch maintenance and repair
- road use charges except those allowed for under the CAM
- dust control
- brushing control
- minor repairs
- slough removal (confined to ditchline)
- grass seeding
- deactivation

*Costs associated with managing on-block roads during logging are excluded.

C. Market Logger Road Cost (MLRC)

The MLRC is expressed in \$/m³ and is calculated from the MPS data set and is an estimate of the development costs BCTS licensees will incur.

Specific MLRC values may be calculated based on harvest method (ie: helicopter yarded directly to water) or timber age (i.e. second growth.).

D. Road Use Charges (RU)

Eligible road use charges, as specified in the CAM, may be used in the calculation of a TOA.

Coast Market Pricing System - Tenure Obligation Adjustments

5. BC TIMBER SALES INFRASTRUCTURE AND SERVICES (BCTS)

Where BCTS has provided infrastructure such as log dumps and tie-up grounds specifically for their competitive timber sale licensees, those expenditures will be used in the determination of the BCTS value for use in the TOA calculation.

6. BASIC SILVICULTURE COST (BS)

Silviculture cost estimates are determined for all cutting authorities where basic silviculture is required.

Silviculture cost estimates include all treatment costs that are required to achieve free-growing status.

7. RETURN TO FOREST MANAGEMENT (RFM)

The RFM recognizes the difference in financing costs incurred by long-term licensees and BCTS licensees. Licensees with long-term tenures incur costs over time – prior to and after harvest – in managing the public forests. The majority of planning and road development costs, for example, are incurred over several years prior to harvest. The costs of silviculture are mainly incurred after harvest. Since the costs incurred by the long-term tenure holder are not recouped until the time of harvest, the RFM recognizes the cost of capital employed making the pre-harvest (offset by the post-harvest) expenditures. BCTS licensees do not have these pre- and post-harvest costs. For the derivation of the weighted average cost of capital, see Appendix 2.

8. LOW VOLUME COST (LVC)

A low volume cost as specified in the CAM may be included in the TOA.

Coast Market Pricing System - Tenure Obligation Adjustments

9. LOW GRADE NUMBER (LG)

The TOAs noted above have to take into account the timber priced at the statutory rate. The cost data for the TOA is expressed as a cost per cubic metre of the total harvest. The costs reported represent the total cost of tenure obligations divided by the total harvest, comprised of all grades of timber. However, from a cost accounting perspective, these tenure obligation costs are properly charged against the saw log timber, and hence a low grade adjustment is required.

A low grade number is listed for each species by forest district. The low grade numbers are based on the fraction of grades X, Y for all species and the fraction of U grade hemlock and balsam billed during a recent twelve month period.

10. TENURE OBLIGATION ADJUSTMENT

With the above information, the total TOA is calculated as follows:

$$\text{TOA} = \left[\frac{\text{FPA} + \text{RD} + \text{RM} + \text{RU} + \text{BS} + \text{LVC}}{1 - \text{LG}} \right] * \text{RFM} - \left[\frac{\text{MLRC} + \text{BCTS}}{1 - \text{LG}} \right]$$

11. SUMMARY

TOAs are an important part of the Coast MPS and will be updated periodically.

Coast Market Pricing System - Tenure Obligation Adjustments

APPENDIX 1

Coast Market Pricing System - Tenure Obligation Adjustments

FOREST PLANNING ADMINISTRATION COSTS

Forest planning administration costs are only those costs directly related to administration and supervision for: forest planning, road development, road management and basic silviculture.

These costs do not include harvesting costs (direct or indirect), log sales or log purchasing costs, business related or corporate costs, discretionary costs, director's fees and expenses, unless portions of these costs are directly attributable to the management of the forest, nor do they include sales expenses, restructuring expenses or other expenses, which have been deemed unacceptable.

ALLOWABLE COSTS

Provided the "cost items" listed below are directly related to tenure obligations described above, they are allowable costs for appraisal purposes:

Licenses, Fees, Insurance:

- License permits/water/special use permits
- Environmental fees
- Memberships fees/dues and subscriptions to associations
- Insurance on building/office equipment/supplies

Taxes, Leases, Rentals:

- Business property and municipal tax
- Land leases
- Office building rents/leases
- Property rentals

Wages, Salaries, Benefits:

- Wages salaries and benefits
- Bonuses (management and staff, excludes executives and shareholders)
- Relocation costs

Vehicle Expense:

- Fuel and lubricants
- Insurance and licenses
- Repairs and maintenance
- Leases/Depreciation

Coast Market Pricing System - Tenure Obligation Adjustments

Office Expense:

Audit fees
Corporate aircraft (directly charged to forest planning only)
Information technology/data processing/service agreements
Fire protection supplies
Human resources/training development/recruitment costs
Legal fees (directly charged to forest planning only)
Meals and entertainment
Office building repairs/cleaning/maintenance
Office equipment repairs/rentals/leases
Office and computer supplies/postage/courier
Safety supplies
Travel and accommodation/room and board
Telephone/telex/radio communication/mobile
Utilities (light/heat/power)
Subscriptions
Employee relations
Insurance – general
Contractor services

Consulting Services:

Assessments and surveys (as required under FRPA)
Certification (ISO etc.)
Cruising
Development
Engineering (includes road layout, geo-technical and design, excluding engineered cost estimates)
Environmental protection
Forest protection
Inventory
Planning/layout/mapping/drafting
Residue and waste/surveys/reports
Right of way easements

Coast Market Pricing System - Tenure Obligation Adjustments

Depreciation (Administration Only):

Office buildings and equipment
Vehicles

Basic Silviculture:

Include any administration and supervision cost, which is included in basic silviculture.

UNACCEPTABLE COSTS

The following “cost items” are unacceptable costs for appraisal purposes unless portions of these costs are directly attributable to the management of the forest:

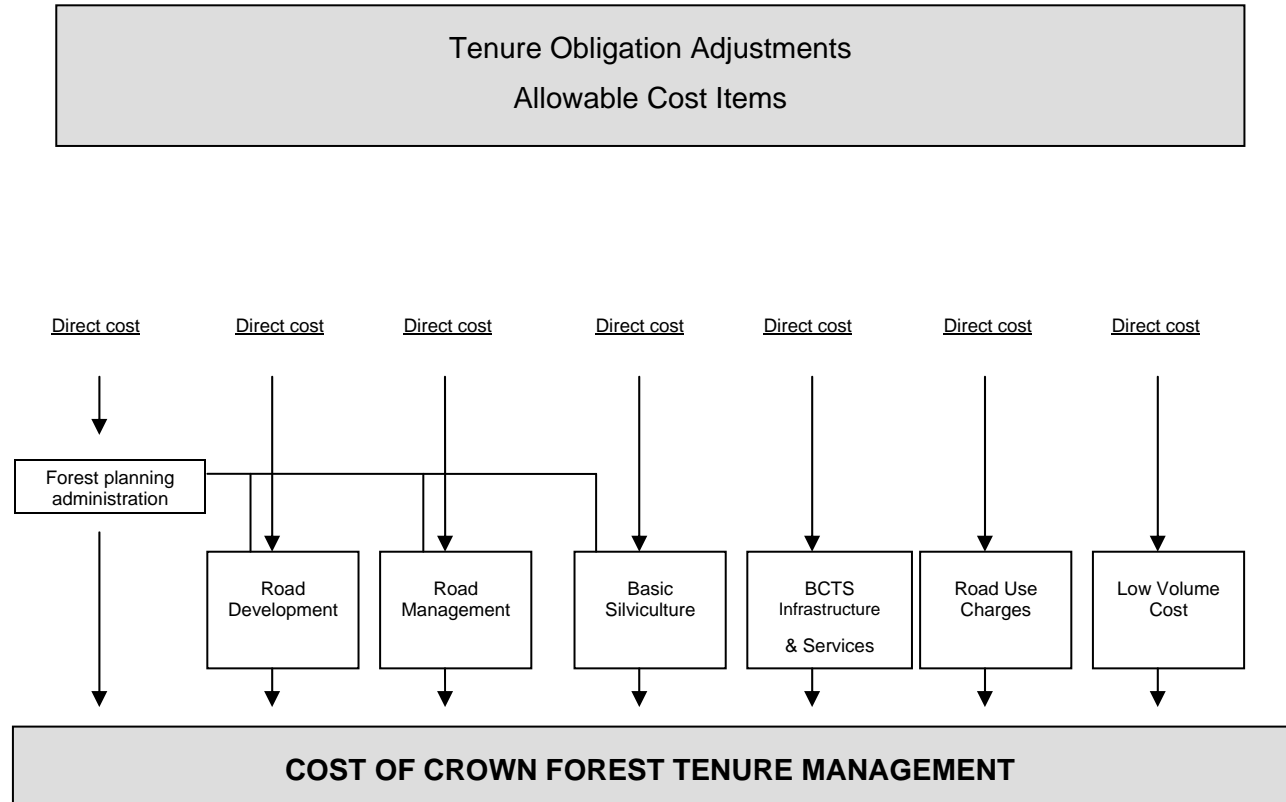
Advertising, promotion, marketing costs
Allocated costs for corporate head office : costs of plant operations (lumber mills, veneer, plywood, oriented strand board, pulp, paper etc)
Annual rents (Section 111 of the *Forest Act*)
Bad debts
Capital gains and losses
Corporate aircraft, helicopters (not directly related to the tenure obligation)
Directors' fees and expenses
Discretionary costs
Executive bonuses / profit sharing / share purchase plans / management bonuses
Short term incentive plans
Expenses for purposes other than earning logging income (penalties, fines etc)
Expenses of non-logging operations(pulp, newsprint, lumber etc)
Expenses relating to the interior and outside the Province of British Columbia
Federal and provincial taxes
Financing, credit charges and bank charges
Freight charges / leased car costs (all deducted from AMVs)
Gain / loss on disposal of fixed assets/investments
Income taxes and logging taxes
Legal fees (not directly related to forest management)
Logging (harvesting) direct and indirect costs (not applicable for Schedule A)
Lumber sales
Office relocation costs
Other business expenses not listed under the allowable expenses category
Corporate costs not directly related to Crown tenure management e.g. investor relations
Any other items that are not directly related to the management of the Crown tenure
Political/corporate donations
Logs that are privately owned, sold or purchased
Recreation expenses (donations, club dues, entertainment, etc.)

Coast Market Pricing System - Tenure Obligation Adjustments

Research and development (for other than harvesting and/or forest management projects)
Restructuring expenses (accounting and consulting)
Selling expenses /export duty /entry charges (deducted from AMVs)
Shareholder expenses (dividends, notices, transfer agent costs etc)
Stumpage fees and royalties
Wellness program

Coast Market Pricing System - Tenure Obligation Adjustments

TENURE OBLIGATION ADJUSTMENTS – COSTING MODEL



Coast Market Pricing System - Tenure Obligation Adjustments

APPENDIX 2

Coast Market Pricing System - Tenure Obligation Adjustments

CALCULATION OF THE WEIGHTED AVERAGE COST OF CAPITAL

The Weighted Average Cost of Capital (WACC) can be expressed as:

$$\text{WACC} = w_d k_d (1 - T) + w_p k_p + [r_f + \beta (k_e - r_f)] w_e$$

Where:

- w_d = The weighting or share of debt or leverage used by the firm/sector in its capital structure.
- k_d = The weighted average yield on debt instruments held by the firm/sector.
- T = Average corporate tax rate.
- w_p = Weighting or share of preferred shares used by the firm/sector in its capital structure.
- k_p = The required return of preferred shares paid on preferred shares issued by the firm/sector.
- w_e = The weighting or share of equity/retained earnings used by the firm in its capital structure.
- β = The relative volatility of the firm/sector to the overall market where a Beta of 1 indicates that the firm/sector experiences share prices that move in the same levels as the overall market. A Beta of greater than 1 indicates a more volatile share price movement than the overall market.
- k_e = The average expected return from the overall equity market.
- r_f = The risk of free rate of return.

Coast Market Pricing System - Tenure Obligation Adjustments

Data sources:

- r_f = The current yield for the Government of Canada bonds with 10 year maturity (source: Statistics Canada/Bank of Canada).
- w_d = The current weighted average net debt to total capital ratio for publicly traded British Columbia forest products (source: Salman Partners).
- T = The current average corporate tax for publicly traded British Columbia forest products companies (source: PriceWaterhouseCoopers).
- k_d = The current weighted average nominal yield on BBB grade corporate debt with 10 year maturity (source: CIBC World Markets).
- w_e = The current weighted average equity to total capital ratio for publicly traded British Columbia forest products companies (source: Salman Partners).
- k_e = The 10 year average year end nominal total return (including dividends) of S&P/TSX Composite Index (source: Statistics Canada).
- β = The two year average relative volatility of S&P/TSX Paper and Forest Products Subindex compared to the S&P/TSX Composite Index (sources: Statistics Canada and Bloomberg).
- W_p = 0, no preferred shares issued by British Columbia forest products companies.