



COAST MARKET PRICING SYSTEM

Update – 2025



January 1, 2025

Timber Pricing
Branch

1. INTRODUCTION

The purpose of this paper is to provide an overview of the annual January 1, 2025 update to the Coast Market Pricing System (MPS).¹

2. AUCTION DATASET

The auction dataset used in the update contains winning bids and data from 925 sales over the 18-year period July 1, 2006 through June 30, 2024.

3. FINAL ESTIMATED WINNING BID EQUATIONS

There were two major changes implemented in the Estimated Winning Bid Equations in the 2025 Coast MPS Updates:

- 1) Veneer Price Update: The “*West Coast veneer Douglas fir CD 1/10-inch fob mill mix*” from the RISI Random Lengths price series was replaced with the “*West Coast veneer Douglas fir CD 1/8-inch fob mill mix*,” as the 1/10-inch series was discontinued.
- 2) Outlier Removal: For both the Loss Factor Cruise and Call Grade Net Factor Cruise equations, the two most influential outliers were removed using Cook’s distance to improve the regression estimation.

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 are contained in the *Coast Appraisal Manual (CAM)*. The *Coast Appraisal Manual* contains the policies and procedures referred to in Section 105 of the *Forest Act*.

3. ESTIMATED WINNING BID REGRESSIONS

3.1 2025 Winning Bid – Loss Factor Cruise

For cutting permits where the cruise data comes from a standard “Loss Factor” cruise.

| Explanatory Variable | 2025 Winning Bid | |
|--|------------------|-------------|
| | Coefficient | t-Statistic |
| Constant | -16.0137 | -3.314 |
| Number of Bidders | 4.7375 | 16.9767 |
| Cedar Lumber High Grade | 0.1839 | 14.9653 |
| Cedar Lumber Mid Grade | 0.0955 | 15.7376 |
| Fir Lumber High and Mid Grade | 0.3473 | 18.1732 |
| Hembal Lumber High Grade | 0.0337 | 2.4994 |
| Hembal Lumber Mid Grade | 0.0319 | 4.6079 |
| Cypress Lumber High and Mid Grade | 0.1608 | 6.5326 |
| Old Growth LN (Volume per Log) | 14.5778 | 3.7264 |
| LN (Volume per Hectare/1000) | 23.1004 | 7.8732 |
| Conventional Slope * (1-Heli Share) | -0.3237 | -6.3768 |
| Heli Land Drop | -53.0751 | -12.9989 |
| Heli Water Drop | -50.3031 | -9.4508 |
| Location | -0.0998 | -6.1273 |
| Isolated | -13.6387 | -7.3738 |
| Lumpsum | -1.9273 | -1.135 |
| North American and Japanese Housing Starts | 0.015378 | 7.2935 |
| Harvest Volume | 1.1653 | 3.8367 |
| Number of Observations | 925 | |
| Adjusted R² | 0.7733 | |

Note: LN means natural logarithm

3.2 2025 Winning Bid – Call Grade Net Factor Cruise

There is a second set of EWB regressions (and a second EWB equation in the CAM) for appraisals where the cruise data is derived from an alternative cruising method known as “Call Grade Net Factor”. In these regressions, the BCTS auction data also derives from Call Grade Net Factor cruises. This method is used for non-BCTS cruise based cutting permits.

| Explanatory Variable | 2025 Winning Bid | |
|--|------------------|-------------|
| | Coefficient | t-Statistic |
| Constant | -4.1842 | -0.8671 |
| Number of Bidders | 4.8175 | 14.6113 |
| Cedar Lumber High Grade | 0.1526 | 15.0072 |
| Cedar Lumber Mid Grade | 0.0679 | 10.1866 |
| Fir Lumber High and Mid Grade | 0.2548 | 15.146 |
| Cypress Lumber High and Mid Grade | 0.0893 | 4.638 |
| Old Growth LN (Volume per Log) | 19.2378 | 4.4412 |
| LN (Volume per Hectare/1000) | 30.3051 | 9.0788 |
| Conventional Slope | -0.4228 | -7.2759 |
| Heli Land Drop | -59.4128 | -12.1796 |
| Heli Water Drop | -46.7876 | -7.0908 |
| Location | -0.1169 | -6.1448 |
| Isolated | -10.5349 | -4.866 |
| Lumpsum | -4.384 | -2.3513 |
| North American and Japanese Housing Starts | 0.028836 | 11.6403 |
| Harvest Volume | 1.0097 | 2.9987 |
| Number of Observations | 684 | |
| Adjusted R² | 0.7875 | |

Note: LN means natural logarithm

4. Specified Operations

The auction dataset used to develop MPS is comprised of 925 auctions. There are some harvesting situations that are not well represented in the auction dataset (for example, inland water transportation) and therefore, a specified operation cost estimate is used in the calculation of stumpage rates. See Appendix 2 for definitions of each specified operation.

The specified operations are shown below.

| Specified Operations | January 2025 Update |
|--|---|
| Skyline Logging (over 600 metres) | Appraised as heli |
| Inland Water Log Transportation | \$11.08/m ³ |
| Tree Crown Modification | \$33.37/tree (old growth) |
| | \$15.30/tree (2nd growth) |
| Barging | \$8.09/m ³ to \$11.45/m ³ |
| Clayoquot Sound Operating Costs | \$12.69/m ³ |
| Ecosystem Based Management | \$9.39/m ³ |
| Haul Distance Above 100km | \$0.167/m ³ per km beyond 100km |
| High Development Cost (only applies to BCTS upset rates) | See Section 4.4.6 of the Coast Appraisal Manual |

5. TENURE OBLIGATION ADJUSTMENTS

As outlined in the Coast Tenure Obligations Adjustment paper (dated July 1, 2012), the adjustments are based on cost surveys.

The tenure obligation adjustments are shown below.

| Tenure Obligations | January 2025 Update |
|---------------------------------------|----------------------------|
| Forest Planning & Administration Cost | \$17.56/m ³ |
| Low Volume Cost | \$10.61/m ³ |
| Road Development Cost | See Section 5.3 of CAM |
| Road Management Cost | \$5.48/m ³ |
| Road Use Charges | Approved actuals |
| Basic Silviculture Cost | See Section 5.7 of CAM. |
| BCTS Infrastructure | \$0.32/m ³ |
| Low Grade Adjustment | See Section 5.8 of CAM |
| Return to Forest Management | 1.086 |

6. SUMMARY

The new final equation, specified operations and tenure obligation adjustments will be used to calculate stumpage rates for appraisals on the Coast, starting January 1, 2025.

APPENDIX 1 - COAST MPS DECEMBER 2025 UPDATE FINAL REGRESSIONS

A1. Final Loss Factor Winning Bid

MODEL INFO:

Observations: 925

Dependent Variable: RWB_183.6

Type: OLS linear regression

MODEL FIT:

$F(17, 907) = 186.3623$, $p = 0.0000$

$R^2 = 0.7774$

Adj. $R^2 = 0.7733$

Standard errors: OLS

| | Est. | S.E. | t val. | p | VIF |
|---|----------|--------|----------|--------|--------|
| (Intercept) | -17.4037 | 5.2516 | -3.3140 | 0.0010 | |
| NB | 4.7375 | 0.2791 | 16.9767 | 0.0000 | 1.2338 |
| CEDARCE_HGCEDAR_LUMBER_2MR183.6/CPI | 0.1839 | 0.0123 | 14.9653 | 0.0000 | 3.2217 |
| CEDARCE_MGCEDAR_LUMBER_2MR183.6/CPI | 0.0955 | 0.0061 | 15.7376 | 0.0000 | 2.8865 |
| FIR_ALL_GRADES_FIR_VL_HYBRID_2MR*183.6/CPI_one_year | 0.3473 | 0.0191 | 18.1732 | 0.0000 | 3.1653 |
| CYPRESS(CY_HG+CY_MG)CYP_LUM_2MR183.6/CPI | 0.1608 | 0.0246 | 6.5326 | 0.0000 | 1.4662 |
| HEMBALHGHEM_2MR183.6/CPI | 0.0337 | 0.0135 | 2.4994 | 0.0126 | 2.5469 |
| HEMBALMGHEM_2MR183.6/CPI | 0.0319 | 0.0069 | 4.6079 | 0.0000 | 2.2842 |
| LOG(VPL)OG_FR | 14.5778 | 3.9121 | 3.7264 | 0.0002 | 1.6860 |
| LOG(VPH/1000) | 23.1004 | 2.9340 | 7.8732 | 0.0000 | 1.8212 |
| SLOPE(1-HELI) | -0.3237 | 0.0508 | -6.3768 | 0.0000 | 1.8215 |
| HELI_LAND | -53.0751 | 4.0830 | -12.9989 | 0.0000 | 1.4992 |
| HELI_WATER | -50.3031 | 5.3226 | -9.4508 | 0.0000 | 1.3719 |
| LOCATION | -0.0998 | 0.0163 | -6.1273 | 0.0000 | 2.2595 |
| ISOLATED | -13.6387 | 1.8496 | -7.3738 | 0.0000 | 1.4136 |
| LUMPSUM | -1.9273 | 1.6980 | -1.1350 | 0.2567 | 1.2476 |
| NAJ_starts12MR | 0.0154 | 0.0021 | 7.2935 | 0.0000 | 1.6376 |
| HARVEST_12MR_AAC | 1.1653 | 0.3037 | 3.8367 | 0.0001 | 1.2854 |

A2. Final Call Grade Net Factor Winning Bid

MODEL INFO:

Observations: 684
 Dependent Variable: RWB_183.6
 Type: OLS linear regression

MODEL FIT:

$F(15,668) = 169.7738$, $p = 0.0000$
 $R^2 = 0.7922$
 Adj. $R^2 = 0.7875$

Standard errors: OLS

| | Est. | S.E. | t val. | p | VIF |
|---|----------|--------|----------|--------|--------|
| (Intercept) | -5.5742 | 6.4283 | -0.8671 | 0.3862 | |
| NB | 4.8175 | 0.3297 | 14.6113 | 0.0000 | 1.3172 |
| CEDARCE_HGCEDAR_LUMBER_2MR183.6/CPI | 0.1526 | 0.0102 | 15.0072 | 0.0000 | 2.9985 |
| CEDARCE_MGCEDAR_LUMBER_2MR183.6/CPI | 0.0679 | 0.0067 | 10.1866 | 0.0000 | 2.4691 |
| FIR_ALL_GRADES_FIR_VL_HYBRID_2MR*183.6/CPI_one_year | 0.2548 | 0.0168 | 15.1460 | 0.0000 | 2.2033 |
| CYPRESS(CY_HG+CY_MG)CYP_LUM_2MR183.6/CPI | 0.0893 | 0.0193 | 4.6380 | 0.0000 | 1.2694 |
| LOG(VPL)OG_FR | 19.2378 | 4.3316 | 4.4412 | 0.0000 | 1.5540 |
| LOG(VPH/1000) | 30.3051 | 3.3380 | 9.0788 | 0.0000 | 1.7924 |
| SLOPE(1-HELI) | -0.4228 | 0.0581 | -7.2759 | 0.0000 | 1.7810 |
| HELI_LAND | -59.4128 | 4.8781 | -12.1796 | 0.0000 | 1.5205 |
| HELI_WATER | -46.7876 | 6.5983 | -7.0908 | 0.0000 | 1.2935 |
| LOCATION | -0.1169 | 0.0190 | -6.1448 | 0.0000 | 2.2475 |
| ISOLATED | -10.5349 | 2.1650 | -4.8660 | 0.0000 | 1.3691 |
| LUMPSUM | -4.3840 | 1.8645 | -2.3513 | 0.0190 | 1.2654 |
| NAJ_starts12MR | 0.0288 | 0.0025 | 11.6403 | 0.0000 | 1.3442 |
| HARVEST_12MR_AAC | 1.0097 | 0.3367 | 2.9987 | 0.0028 | 1.0770 |

Appendix 2 - Variables and Definitions

| | |
|-----------------------------------|---|
| Predicted Bid | Used in the Number of Bidders equation: The estimated winning bid for the cutting authority from the corresponding winning bid equation, expressed in $\$/m^3$. |
| Cedar Lumber High Grade | A composite of cedar lumber prices (C\$/mfbm, net of duties) times the fraction of the coniferous net cruise volume that is cedar and grade D through H. |
| Cedar Lumber Mid Grade | A composite of cedar lumber prices (C\$/mfbm, net of duties) times the fraction of the coniferous net cruise volume that is cedar and grade U through I. |
| Fir Lumber High Grade | A composite of fir veneer and lumber prices (C\$/m ³ , net of duties) times the fraction of the coniferous net cruise volume that is fir and grade B through H. |
| Fir Lumber Mid Grade | A composite of fir veneer and lumber prices (C\$/m ³ , net of duties) times the fraction of the coniferous net cruise volume that is fir and grade U through I. |
| Hembal Lumber High Grade | An index of hemlock lumber prices (Stats Can, 2010=100, net of duties) times the fraction of the coniferous net cruise volume that is hemlock or balsam and grade D through H. |
| Hembal Lumber Mid Grade | An index of hemlock lumber prices (Stats Can, 2010=100, net of duties) times the fraction of the coniferous net cruise volume that is hemlock or balsam and grade I or J. |
| Cypress Lumber High and Mid Grade | Average cypress lumber export price (C\$/m ³ , net of duties) times the fraction of the coniferous net cruise volume that is cypress and grade D through U. |
| Old Growth LN(Volume per Log) | The natural logarithm of the volume per tree times the fraction of the coniferous volume that is old growth. |
| LN(Volume per Hectare/1000) | The natural logarithm of the coniferous volume per hectare divided by 1000. |
| Helicopter Land Drop | For land drop only: 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. HELILAND is in decimal form, rounded to 2 decimal places. |
| Helicopter Water Drop | As for “Helicopter Land Drop” but applies to the fraction that is water dropped. |

| | |
|--|---|
| District Average Number of Bidders | The average number of bidders for the forest district the cutting authority area is located within is listed in Table 4-2 of the CAM. |
| Conventional Slope | The average side slope (%) of the fraction of the cutting permit that is not helicopter yarded. |
| CPI | The BC Consumer Price Index approved by the director for use on the effective date of the appraisal, reappraisal or quarterly adjustment. |
| Location | The net cruise volume weighted average straight line distance measured in kilometres between the geographic centre of each part of a cut block and the nearest major centre that is closest to that part of the cutting authority area. |
| Isolated | Isolated =1, if all parts of the cutting authority area are accessible by air or water only and is not serviced by public ferry service. |
| North American and Japanese Housing Starts | 12-month total of North American and Japanese Housing Starts, as published in the approved stumpage appraisal parameters. |
| Total Harvest | Rolling 12-month total Coast harvest volume, AAC adjusted, as published in the approved stumpage appraisal parameters. |

APPENDIX 3 - MORE DETAIL ON SPECIFIED OPERATIONS

If sufficient auction data is not available, the ministry will, for those identified situations, implement specified operations.

The specified operations will be used to adjust the MPS stumpage rate for the estimated incremental cost of the identified situation. The explicit assumption is that if a bidder was faced with a similar situation, he or she would lower the bid by the extra cost incurred because of the identified situation.

The situations that may be eligible for specified operations adjustment will be determined according to the following principles:

- The expectation that a bid would be influenced by this situation
- Representation (number of samples, if any, in the auction data set)
- Materiality of estimated cost differential (supported by verifiable financial data); and
- Statistical analysis (including the premise that other represented situations and variables in the MPS database and equations may serve as a proxy for the situation in question).

The ministry, after considering the above and any other relevant technical information, may or may not designate the situation as an identified situation eligible for a specified operation and, if eligible, specify the dollars per cubic metre adjustment.

The ultimate objective is to have a representative auction database and hence, few, if any, specified operations adjustments.

The following are identified as specified operations for the Coast MPS.

Cost estimates from the current *Coast Appraisal Manual* are used for a – h below.

a) Skyline Logging

For those areas within a cutblock that:

- Are 600 metres or greater measured in a straight-line horizontal distance from the centre of the closest possible landing or place where a landing may be located; and
- Are yarded by skyline.

b) Inland Water Transportation

- Where logs must be towed on Great Central, Owikeno or Powell Lake or other authorized inland water location.

c) Clayoquot Sound

- Applies where orders under Section 93.4 of the *Land Act* specific to Clayoquot Sound require a higher level of land use planning and/or different harvesting methods.

d) Tree Crown Modification

- To protect the standing trees adjacent a harvested area by trimming tree crowns to reduce sail area and decrease the potential for windthrow damage.

e) Ecosystem Based Management

- Applies where orders under Section 93.4 of the *Land Act* specific to the Great Bear Rainforest and Haida Gwaii require a higher level of land use planning and/or different harvesting methods.

f) Haul Distance Above 100km

- A specified operation cost estimate for permits with haul distances greater than 100km from the cutting authority area to the appraisal log dump.

g) BCTS High Development Cost

- Allows an upset rate reduction for BCTS auction sales with development costs exceeding \$15.46/m³.

h) Barging

- Allows a specified operation of \$10.88/m³ for that part of a cutting authority that is barged rather than towed. The specified operation is \$13.86/m³ if the cutting authority is in Haida Gwaii.