

2005 WASTE PROCEDURES MANUAL

TRAINING

www.for.gov.bc.ca/hva/scale/index.htm



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Overview

1. Take or Pay
2. Key Definitions
3. Billing & Measuring Standing Trees
4. Benchmarks
5. Responsibility
6. Qualifications



Take or Pay

Legislation

Bill 45

- Removed mandatory timber utilization requirements
- Require payments of stumpage for timber removed and waste assessments for standing or cut timber left behind



Take or Pay

Policy

Merchantable Crown timber, whether standing or felled, that is not reserved from cutting and remains on site upon the completion of primary logging of each cut block or at the expiry of the agreement or cutting permit is waste. The ministry will issue waste bills charging for this waste.



Take or Pay

Merchantable Timber is:

Timber that meets or exceeds the timber merchantability specification in the *Provincial Logging Residue and Waste Measurement Procedures Manual*. Timber that is graded dry Y (5) or Z (Coast), Grade 5, 6 or Z (Interior) is not merchantable.



Take or Pay

Waste is:

Timber, except timber reserved from cutting, whether standing or felled, which meets or exceeds the timber merchantability specifications described for the Coast and the Interior in the *Provincial Logging Residue and Waste Measurement Procedures Manual*, that was not removed from the cutting authority area.



Take or Pay

Table 1-1 Coast Timber Merchantability Specifications

Description		Mature*	Immature*
Stumps**			
•	no higher than	30 cm	30 cm
Top diameter (inside bark)			
•	all timber that meets or exceeds	15 cm	10 cm
Slab thickness:			
•	all slabs that meet or exceed (cedar only)	15 cm	10 cm
•	all slabs that meet or exceed (all other species)	10 cm	10 cm
Minimum length			
•	log or slab	3 m	3 m
*	"mature" means timber which has an average age of 121 years or older and "immature" means timber which has an average age of less than 121 years.		



Take or Pay

Table 1-2 Interior Timber Merchantability Specifications

Description		All Stands	
Stumps**			
•	no higher than	30 cm	
Diameter (outside bark) at stump height			
•	Lodgepole pine: all timber that meets or exceeds	15 cm	
•	All other species: all timber that meets or exceeds	20 cm	
Top diameter (inside bark or slab thickness)			
•	For all species and ages, except Cedar older than 141 years, all timber that meets or exceeds	10 cm	
•	For Cedar older than 141 years	15 cm	
Minimum length			
•	log or slab	3 m	
**	Measured on the side of the stump adjacent to the highest ground.		



Take or Pay

Implementation:

- By survey date
- All cutblocks surveyed after January 1, 2005 are subject to Take or Pay



Take or Pay

Implementation

MPB Salvage Blocks (Interior Only)

- Survey areas logged after January 1, 2005
- MPB benchmarks eliminated
- Use Normal Interior Benchmarks



Take or Pay

Waste Billing by

(Coast) Log Grade X or better

Measure: Yes

Applied to

Benchmark: Yes

Rates

Avoidable: 12-month average sawlog rate

Unavoidable: \$0



Take or Pay

Waste Billing by

(Coast) Log Grade Y

Measure: Yes

Applied to

Benchmark: No

Rates

Avoidable: \$0.25/m³

Unavoidable: \$0



Take or Pay

Waste Billing by

(Coast) Log Grade 5 (dry Y)

Measure: No

Applied to

Benchmark: No

Rates

Avoidable: \$0

Unavoidable: \$0



Take or Pay

Waste Billing by

(Coast) Log Grade Z

Measure: No

Applied to

Benchmark: No

Rates

Avoidable: \$0

Unavoidable: \$0



Take or Pay

Waste Billing by

(**Interior**) Log Grade Blank

Measure: **Yes**

Applied to

Benchmark: **Yes**

Rates

Avoidable: **12-month average sawlog rate**

Unavoidable: **\$0**



Take or Pay

Waste Billing by

(**Interior**) Log Grade **3 Endemic**

Measure: **Yes**

Applied to
Benchmark: **No**

Rates

Avoidable: **\$0.25/m³**

Unavoidable: **\$0**



Take or Pay

Waste Billing by

(**Interior**) Log Grade **3 Catastrophic**

Measure: **Yes**

Applied to

Benchmark: **Yes (First)**

Rates

Avoidable: **\$0.25/m³**

Unavoidable: **\$0**



Take or Pay

Waste Billing by

(Interior) Log Grade 4

Measure: Yes

Applied to
Benchmark: No

Rates

Avoidable: \$0.25/m³

Unavoidable: \$0



Take or Pay

Waste Billing by

(**Interior**) Log Grade **5**

Measure: **No**

Applied to
Benchmark: **No**

Rates

Avoidable: **\$0**

Unavoidable: **\$0**



Take or Pay

Waste Billing by

(Interior) Log Grade 6

Measure: No

Applied to
Benchmark: No

Rates

Avoidable: \$0

Unavoidable: \$0



Take or Pay

Waste Billing by

(Interior) Log Grade Z

Measure: No

Applied to
Benchmark: No

Rates

Avoidable: \$0

Unavoidable: \$0



Take or Pay

Deciduous Species (standing or cut)

- Measure the same as coniferous species
- Sawlog grade applied to benchmark
- Billed at applicable appraisal manual stumpage rates



Billing Standing Trees

CPs Issued Before November 4, 2003 Standing trees Billed as Waste (Yes or No)

CP Status	Cancelled/Expired
Timber harvesting has commenced.	Yes on all harvested, partially harvested and non-harvested blocks.
No timber harvesting.	No on all blocks.
Licensee redirected operations due to beetle.	Yes on harvested blocks. No on partially or non-harvested blocks.



Billing Standing Trees

CPs Issued Before November 4, 2003 Standing trees Billed as Waste (Yes or No)

CP Status	Surrendered
Timber harvesting has commenced.	Yes on all harvested or partially harvested blocks. On non-harvested blocks, no if CP was surrendered by June 1, 2004 (July 1, 2004, for woodlots). Yes, if not surrendered by these dates.
No timber harvesting.	No on all blocks.
Licensee redirected operations due to beetle.	Yes on harvested blocks. No on partially or non-harvested blocks.



Billing Standing Trees

CPs Issued After November 4, 2003 Standing trees Billed as Waste (Yes or No)

CP Status	Cancelled/Expired/Surrendered
Timber harvesting has commenced.	Yes on all harvested, partially harvested and non-harvested blocks.
No timber harvesting.	No on all blocks.
Licensee redirected operations due to beetle.	Yes on harvested blocks. No on partially or non-harvested blocks.



Billing Standing Trees

District Manager's Discretion (Y/N)

CPs issued Before November 4, 2003

- Yes on cutblocks where timber harvesting was completed before January 1, 2005
- Yes on CPs cancelled or expired before January 1, 2005
- No in all other cases except extenuating circumstances



Billing Standing Trees

District Manager's Discretion (Y/N)

CPs issued After November 4, 2003

- No discretion in all cases except extenuating circumstances



Billing Standing Trees

Forestry Licence to Cut

Standing Trees are not billed:

- For salvage removal of a specific timber volume
- Where stumpage payment is area based



Measuring Standing Trees

Clearcut

- Measure standing trees that are not reserved timber
- Reference appropriate document e.g., Schedule B and/or Appraisal Map to determine conifer/deciduous leave trees by species



Ocular Estimate Standing Trees

Clearcut

- Count the number of standing trees ①
- Estimate average net piece volume per tree ②

Total Standing Tree volume = ① x ②



Ocular Estimate Standing Trees

(continuation from previous page)

Clearcut

- Enter total Standing Tree volume in Waste System using the 'Percent Estimate Method'
- Break down total ST volume by percentages of species and grade



Measuring Standing Trees

Clearcut

Measuring Individual Standing Tree

- Must be kept separate from plots
- Record in 100% measure stratum



Measuring Standing Trees

Clearcut

Record individual standing trees on FS 161. Enter:

Piece #

Species

Kind: T for standing trees

D for downed trees

Class: Avoidable or unavoidable

Length: Between top diameter and
30 cm stump height

(continued on next page)



Measuring Standing Trees

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Clearcut

Record individual standing trees on FS 161. Enter:

Top: 10 cm or 15 cm

Butt: Measure at 30 cm stump height
accounting for flare

Grade: Scale grade code

Deductions: Enter where necessary



Measuring Standing Trees

Clearcut

Patches

- Run a closed traverse around patch to determine area in hectare ①
- Obtain the net cruise volume per hectare for the timber type in patch ②
- Determine patch volume by ① x ②
- Derive timber volume by grade using historical grade profile



Measuring Standing Trees

Partial Cut

- Reference the appropriate documents to determine the "LEAVE VOLUME" for the cutblock



Measuring Standing Trees

Partial Cut

Leave Volume = Percent Reduction* used in a timber cruise compilation

*Reduced by one or more of

- Species
- timber type
- risk group/tree class
- treatment unit



Measuring Standing Trees

Partial Cut

$$\text{Waste Volume} = \text{Unharvested* Volume} - \text{Leave Volume}$$

- *Unharvested volume is determined by a recruise or putting in waste plots



Measuring Standing Trees

Unharvested Cutblock

- DM may bill an unharvested cutblock using the net cruise volume
- Grades may be derived from historical records or from RPF



Waste Benchmark

Year 2005

Coast

Immature

10 m³/ha

Mature

35 m³/ha

- Avoidable waste (grade X or better) from Dispersed, Accumulated, Standing Tree subpopulations applied to benchmark
- Grade Y not applied but billed at \$0.25/m³ in all cases



Waste Benchmark

Year 2005

Interior

Dry Belt

4 m³/ha

Transition

10 m³/ha

Wet Belt

20 m³/ha

- Avoidable waste * from Dispersed, Accumulated, Standing Tree subpopulations applied to benchmark

* Endemic marks: Sawlog only

* Catastrophic marks: Grade 3 first, followed by sawlog



Waste Benchmark

Eligibility

- Not applied to log decks subject to scaling
- Not applied to unharvested cutblocks



Waste Benchmark

Year 2006

- Waste benchmarks will be eliminated
- CWD targets specified in Schedule B will be used
- Must specify CWD targets by species and grade
- Only the sawlog portion of the CWD target will be used to offset avoidable sawlog waste
- CWD applied to dispersed subpopulation only



COAST
Worksheet for Waste Billing Against Benchmarks

Ministry of
Forests



To be Completed by by Licensees

Licence No.		CP No.		Cut Block	
Timber Mark			Reporting Unit No.		
Primary Logging Completion Date			Cut Block Net Area ha		
Location			Stand/Site Type		

Calculations

Avoidable waste (sawlog) = _____ M³/ha..... (A)
 Established benchmark = _____ M³/ha..... (B)
 (A) - (B) = _____ M³/ha..... (C)
 If (C) < or = 0.0000, stop
 If (C) > 0.0000, proceed as follows:
 Waste Monetary Reduction Factor (WMRF) = (C)/(A) = _____(D)
 (to four decimals)

To be Completed by Forest Service

Processing

If (C) is < or = 0.0000, on FS 702, code:

Avoidable all species sawlogs (X or better): \$0.00/m³
 Avoidable all species grade Y: \$0.25/m³
 Unavoidable all species all grades: \$0.00/m³

If (C) is > 0.0000, request average sawlog rate from HBS

Average coniferous sawlog rate (HBS) = \$ _____ /m³(E)
 Deciduous sawlog rate = \$ _____ /m³(F)

On FS 702, code

Avoidable coniferous species sawlogs (D x E) = \$ _____ /m³
 Avoidable deciduous species sawlogs: (D x F) = \$ _____ /m³
 Avoidable all species grade Y: \$0.25/m³
 Unavoidable all species all grades: \$0.00/m³

Approved by Forest Officer (signature)

Date



INTERIOR ENDEMIC
Worksheet for Waste Billing Against Benchmarks

Ministry of
Forests



To be Completed by Licensees

Licence No.	CP No.	Cut Block
Timber Mark	Reporting Unit No.	
Primary Logging Completion Date	Cut Block Net Area ha	
Location	Stand/Site Type	

Calculations

Avoidable Waste:

$$\begin{aligned}
 \text{Sawlog} &= \text{_____} \text{ M}^3/\text{ha} \dots (A) \\
 \text{Grade 3} &= \text{0} \text{ M}^3/\text{ha} \dots (B) \\
 \text{Establish benchmark} &= \text{_____} \text{ M}^3/\text{ha} \dots (C) \\
 [(A) + (B)] - (C) &= \text{_____} \text{ M}^3/\text{ha} \dots (D)
 \end{aligned}$$

If (D) < or = 0.0000, stop

If (D) > 0.0000, proceed as follows:

Waste Monetary Reduction Factor

$$\text{(WMRF)} = \frac{D}{A} = \frac{\text{_____}}{\text{(to four decimals)}} \dots (E)$$

To be Completed by Forest Service

Processing

If (D) is < or = 0.0000, on FS 702, code:

Avoidable all species sawlogs:	\$0.00/m ³
Avoidable all species grade 3:	\$0.25/m ³
Avoidable all species grade 4:	\$0.25/m ³
Unavoidable all species all grades:	\$0.00/m ³

If (D) is > 0.0000, request average sawlog rate from HBS

Average coniferous sawlog rate (HBS) =	\$ _____ /m ³	(F)
Deciduous sawlog rate =	\$ _____ /m ³	(G)

On FS 702, code

Avoidable coniferous species sawlogs (E x F) =	\$ _____ /m ³
Avoidable deciduous species sawlogs: (E x G) =	\$ _____ /m ³
Avoidable all species grade 3:	\$0.25/m ³
Avoidable all species grade 4:	\$0.25/m ³
Unavoidable all species all grades:	\$0.00/m ³

Approved by Forest Officer (signature)

Date



 INTERIOR CATASTROPHIC Worksheet for Waste Billing Against Benchmarks		Ministry of Forests 
To be Completed by Licensees		
Licence No.	CP No.	Cut Block
Timber Mark	Reporting Unit No.	
Primary Logging Completion Date	Cut Block Net Area ha	
Location	Stand/Site Type	
Calculations		
Avoidable Waste:		
Sawlog	=	_____ M ³ /ha..... (A)
Grade 3	=	_____ M ³ /ha..... (B)
Establish benchmark	=	_____ M ³ /ha..... (C)
$[(A) + (B)] - (C)$	=	_____ M ³ /ha..... (D)
If (D) < or = 0.0000, stop		
If (D) > 0.0000, proceed as follows:		
Waste Monetary Reduction Factor		
(WMRF) =	$\frac{D}{A}$	= _____(E) <small>(to four decimals)</small>
To be Completed by Forest Service		
Processing		
If (D) is < or = 0.0000, on FS 702, code:		
Avoidable all species sawlogs:		\$0.00/m ³
Avoidable all species grade 3:		\$0.00/m ³
Avoidable all species grade 4:		\$0.25/m ³
Unavoidable all species al grades:		\$0.00/m ³
If (D) is > 0.0000, request average sawlog rate from HBS		
Average coniferous sawlog rate (HBS) =	\$ _____ /m ³	(F)
Deciduous sawlog rate =	\$ _____ /m ³	(G)
On FS 702, code		
Avoidable coniferous species sawlogs (E x F) =	\$ _____ /m ³	
Avoidable deciduous species sawlogs: (E x G) =	\$ _____ /m ³	
Avoidable all species grade 3: \$0.00/m		
Avoidable all species grade 4: \$0.25/m ³		
Unavoidable all species all grades: \$0.00/m ³		
Approved by Forest Officer (signature)		Date



**INTERIOR CATASTROPHIC
Worksheet for Waste Billing Against Benchmarks**

Ministry of
Forests



To be Completed by Licensees

Licence No.		CP No.	
Timber Mark		Reporting Unit No.	
Primary Logging Completion Date		Cut Block Net Area ha	
Location		Stand/Site Type	

Calculations

Avoidable Waste:

Grade 3	=	<u> </u> M ³ /ha.....	(A)
Establish benchmark	=	<u> </u> M ³ /ha.....	(B)
(A) - (B)	=	<u> </u> M ³ /ha.....	(C)

Waste Monetary Reduction Factor

(WMRF) = $\frac{C}{A}$ = (D)
(to four decimals)

To be Completed by Forest Service

Processing

Request average sawlog rate from HBS

Average coniferous sawlog rate (HBS) =	\$ <u> </u> /m ³	(F)
Deciduous sawlog rate =	\$ <u> </u> /m ³	(G)

On FS 702, code

Avoidable coniferous species sawlogs (F) =	\$ <u> </u> /m ³	
Avoidable deciduous species sawlogs: (G) =	\$ <u> </u> /m ³	
Avoidable all species grade 3: \$0.25/m ³ x D =	\$ <u> </u> /m ³	
Avoidable all species grade 4: \$0.25/m ³		
Unavoidable all species all grades: \$0.00/m ³		

Approved by Forest Officer (signature)

Date



Responsibility

DM is responsible for:

- Forestry Licence to Cut
- Occupant Licence to Cut
- TSLs (non-BCTS)
- Check Surveys



Responsibility

TSM is responsible for:

- TSLs
- Forestry Licences to Cut
- Permits



Responsibility

Licensees are responsible for:

- Major Licences (i.e., FLs, TFLs)
- Woodlot Licence
- Community Forest Agreement
- Community Salvage Licence
- Road Permits



Qualifications

Ocular Estimates

- No licence qualifications unless required by Regional Manager for revenue concerns



Qualifications

Plot Surveys

Must be:

- A licensed Waste surveyor or a licensed Scaler

If not, must be signed off

- by RPF or RFT



Qualifications

- Grade estimations for standing trees left in a clearcut, partial cut or unharvested cutblock must be derived using historical grade profiles
- If not, grade estimations must be signed off by RPF



The End