



Pre Harvest Waste Assessment

Waste System Data Entry Steps

The Pre Harvest Waste Assessment (PHWA) method uses the ocular assessment format to submit Historic Waste Information (HWI) into the Waste System. A full explanation of this method is described in the *Provincial Logging Residue and Waste Measurement Procedures Manual- Appendix 7*. The steps associated with submitting a PHWA into the Waste System as listed below. Two approvals are required prior to harvesting timber for the purpose of manufacturing it into SFP are also listed below.

1. Enter the block details such as the block area and historic m3/ha into the volume calculator spreadsheet as shown below and listed on the Forest Residue and Waste Homepage [PHWA & SFP](#)

PHWA HWI Volume Calculator													
Block	10	Area (ha)	25.5	Historic m3/ha	10.6	Total m3	270.300	Totals (Information only)					
Cruise Species		Grades									Totals (Information only)		
Species	%	1			2			4			Grade %	Species m3/ha	Species Vol (M3)
		% Spp	Vol by Spp	m3/ha	% Spp	Vol by Spp	m3/ha	% Spp	Vol by Spp	m3/ha			
LO	45%	1%	1.216	0	61%	74.197	2.91	38%	46.221	1.81	100%	4.770	121.635
FI	25%	1%	0.676	0.03	33%	22.300	0.87	66%	44.600	1.75	100%	2.650	67.575
Sp	22%	1%	0.595	0.02	65%	38.653	1.52	34%	20.218	0.79	100%	2.330	59.466
AS	8%	1%	0.216	0.01	62%	13.407	0.53	37%	8.001	0.31	100%	0.850	21.624
			0.000	0		0.000	0		0.000	0	0%	0.000	0.000
			0.000	0		0.000	0		0.000	0	0%	0.000	0.000
			0.000	0		0.000	0		0.000	0	0%	0.000	0.000
			0.000	0		0.000	0		0.000	0	0%	0.000	0.000
			0.000	0		0.000	0		0.000	0	0%	0.000	0.000
			0.000	0		0.000	0		0.000	0	0%	0.000	0.000
	100%		2.703	0.11		148.557	5.83		119.040	4.66		10.6	270.300

2. Identify the BEC zone for the block and then refer to the Benchmark and BEC Zone table within Appendix 5 of the Waste Manual to identify whether the zone is within the Dry, Transition or Wet Belt Benchmark zone.
3. The Benchmark Zone identified in step 2 is used to locate the respective m3/ha in Table A-2 “Average m3/ha of Historic Avoidable Waste by District”.
 - a. Enter the m3/ha value into the volume calculator spreadsheet as shown below.

Table A-2 Average Volume/Hectare of Historic Avoidable Waste by District

Area	Region	District		Benchmark Zones		
		Name	Symbol	Dry Belt	Transition	Wet Belt
North	Northeast RNO	Fort Nelson	DFN		4.1	
		Peace	DPC		11.0	12.4
	Omineca ROM	Fort St James	DJA	10.6	7.5	12.6
		Mackenzie	DMK		7.7	7.2
		Prince George	DPG	1.9	7.9	12.4
		Vanderhoof	DVA	3.2	6.0	
	Skeena RSK	Coast Mountain	DKM			83.1
		Nadina	DND	11.5	11.1	14.2
		Skeena Stikine	DSS		15.9	50.0
South	Cariboo RCB	Cariboo Chilcotin	DCC	3.2	6.3	10.6
		100 Mile	DMH	2.6	6.2	6.6
		Quesnel	DQU		5.2	5.9
	Kootenay/ Boundary RKB	Rocky Mountain	DRM	2.7	6.3	4.7
		Selkirk	DSE	5.4	8.0	13.9
	Thompson/ Okanagan RTO	Cascades	DCS	4.2	5.4	5.5
		Thompson Rivers	DKA	9.7	9.3	11.0
Okanagan Shuswap		DOS	6.2	7.7	11.0	

Note: Cells Highlighted

Most likely will not exist within the district.



PHWA HWI Volume Calculator													
Block	10	Area (ha)	25.5	Historic m3/ha	10.6	Total m3	270.300	Totals (Information only)					
Cruise Species	Grades												
	1			2			4						
Species	%	Spp	Vol by Spp	m3/ha	%	Vol by Spp	m3/ha	%	Vol by Spp	m3/ha	Grade %	Species m3/ha	Species Vol (M3)
LO	45%	1%	1.216	0	61%	74.197	2.91	38%	46.221	1.81	100%	4.770	121.635
FI	25%	1%	0.676	0.03	33%	22.300	0.87	66%	44.600	1.75	100%	2.650	67.575
Sp	22%	1%	0.595	0.02	65%	38.653	1.52	34%	20.218	0.79	100%	2.330	59.466
AS	8%	1%	0.216	0.01	62%	13.407	0.53	37%	8.001	0.31	100%	0.850	21.624
			0.000	0		0.000	0		0.000	0	0%	0.000	0.000
			0.000	0		0.000	0		0.000	0	0%	0.000	0.000
			0.000	0		0.000	0		0.000	0	0%	0.000	0.000
			0.000	0		0.000	0		0.000	0	0%	0.000	0.000
			0.000	0		0.000	0		0.000	0	0%	0.000	0.000
			0.000	0		0.000	0		0.000	0	0%	0.000	0.000
			0.000	0		0.000	0		0.000	0	0%	0.000	0.000
	100%		2.703	0.11		148.557	5.83		119.040	4.66		10.6	270.300

4. Refer to the Cruise Compilation Block Summary page and locate the Distribution % for each species and enter the associated data into the volume calculator spreadsheet as shown below.

*** FOR APPRAISAL PURPOSES ***										Block Summary				15-Mar-2011 09:47:21AM	
Average Line Method			Grades: MOF Computerized			FIZ: F			Region: 2 - Southern Interior			Filename: tcf-2011-12 cp 332.ccp			
TEMBEC INDUSTRIES INC.			Computerized Decay			PEYU: Upper Kootenay			District: 11 - Rocky Mountain			Compiled by: TFCO NRG Ltd.			
Licence Number: A18978 CP: 332			Computerized Waste			Region: 2 - Southern Interior			District: 11 - Rocky Mountain			Cruised by: JOR GALANDY			
Project: 2011-12			Computerized Breakage			District: 11 - Rocky Mountain			Version: 2010.00			TNRG build 5746			
Net Area: Block : (M) - 001:1, Plots in Block: 51, TUs: [A : 42.7]															
Gross Area: [R/W Removed : 4.3] [Reserves : 3.3] [Grand Total : 50.3]															
		Total	Conifer	C	B	S	PL	L	AC						
Utilization Limits															
Min DBH	cm (M)			17.5	17.5	17.5	12.5	17.5	17.5						
Stump Ht	cm (M)			30.0	30.0	30.0	30.0	30.0	30.0						
Top Dia	cm (M)			10.0	10.0	10.0	10.0	10.0	10.0						
Log Len	m			5.0	5.0	5.0	5.0	5.0	5.0						
Volume and Size Data															
Gross Merchantable	m3	17435	17396	82	5797	6661	4856		39						
Net Merchantable	m3	13911	13899	49	4130	5988	3732		11						
Net Merch - All	m3/ha	326	326	1	97	140	87		0						
Distribution	%	100	100	0	30	43	27		0						
Decay	%	12	12	21	19	7	8		50						
Waste	%	4	4	11	7	1	4		18						
Waste (billing)	%	5	5	18	10	1	5		63						
Breakage	%	5	5	8	2	2	11		4						
Total Cull (DWB)	%	20	20	40	29	10	23		72						
Stems/Ha (Live & DP)		527.6	525.1	2.8	258.9	138.7	124.7		2.5						
Avg DBH (Live & DP)	cm	30.9	30.9	37.3	27.1	36.6	31.2		28.1						
Snags/Ha		4.2	4.2		1.0	2.2	1.0								
Avg Snag DBH	cm	37.4	37.4		43.3	29.8	45.2								
Gross Merch Vol/Tree	m3	0.77	0.78	0.68	0.52	1.12	0.91		0.37						
Net Merch Vol/Tree	m3	0.62	0.62	0.41	0.37	1.01	0.70		0.10						
Avg Weight Total Ht	m	27.7	27.7	18.9	24.5	29.6	29.0		17.9						
Avg Weight Merch Ht	m	22.6	22.6	14.7	18.6	24.6	24.2		12.3						
Avg 5.0 m Log Net	m3	0.18	0.18	0.16	0.13	0.25	0.18		0.06						
Avg 5.0 m Log Gross	m3	0.22	0.22	0.23	0.18	0.27	0.21		0.19						
Avg # of 5.0 m Logs/Tree		3.58	3.59	3.00	2.93	4.11	4.41		2.00						
Net Immature	%	7.5	7.5		22.1	2.2									
Average Slope	%	40													
LRP and Log Summary															
Net Merch - Stud	%	29.9	29.9		46.0	19.8	28.7								
Net Merch - Small Log	%	71.0	71.0	100.0	81.3	56.8	81.8		100.0						
Net Merch - Large Log	%	29.0	29.0		18.7	43.2	18.2								
Avg LRF All	bdft/m3			130.5	165.7	205.5	171.4		138.1						
Statistical Summary															
Coeff. of Variation	%	61.3	61.4	714.1	104.4	86.6	142.1		714.1						
Two Standard Error	%	17.2	17.2	200.0	29.2	24.2	39.8		200.0						
Number and Type of Plots	MP = 51														
Number of Potential Trees		236													
Plots/Ha		1.2													
Cruised Trees/Plot		4.6													
FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage, , Wet Belt Fir CruiseComp Copyright© 1996-2010, TFCO Natural Resource Group Ltd.															



- Create a unique reporting unit
- add the block(s)
- On Waste 102 – select waste type ‘H’ for Historic Waste Information as shown below.

Dispersed

Waste Type	Harvest Method	Assessment Method	Plot Size (m ²)	Waste Level	Area (ha)		
H - Historic Waste Information	R - Rubber-tired Skidder	O - Ocular Estimate		X - Not Stratified	28.9	Save	Cancel

Accumulation

Waste Type	Harvest Method	Assessment Method	Plot Size (m ²)	Waste Level	Area (ha)		
						Save	Cancel

Standing Trees

Assessment Method	Net Area		
		Save	Cancel

7. Enter Species, grade and volume information into Waste System (Waste205).

Waste205 - Ocular Estimate

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Reporting Unit ID: 695	Forest District: DCC - Cariboo-Chilcotin Natural Resource District
Licensee: TOLKOL 00	Option: Ocular
Dispersed CV (%):	Accumulated CV (%):

Licence No: A57713	Cutting Permit: 31U
Block: 10	Timber Mark: GC231U
WASTE Block Status: BIS - Billing Issued	Exempted Block: N
Harvest Status: Complete	
Stratum: HBOM	

12 rows returned

Piece #	Sp.	Kind	Waste Class	Grade	Estimate (m ² /ha)	Estimate Volume (m ³)		
*	*	*	*	*			Save	Cancel
1	LO	L	A	1	0.0	1.216	Update	Delete
2	LO	L	A	2	2.9	74.197	Update	Delete
3	LO	L	A	4	1.8	46.221	Update	Delete
4	FI	L	A	1	0.0	0.676	Update	Delete
5	FI	L	A	2	0.9	23.300	Update	Delete
6	FI	L	A	4	1.7	44.600	Update	Delete
7	SP	L	A	1	0.0	0.595	Update	Delete
8	SP	L	A	2	1.5	38.653	Update	Delete
10	SP	L	A	4	0.8	20.218	Update	Delete
11	AS	L	A	1	0.0	0.216	Update	Delete
12	AS	L	A	2	0.5	13.407	Update	Delete
13	AS	L	A	4	0.3	8.000	Update	Delete

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8. Confirm data input is correct by generating a FS702 –Summary of Scale Report

BRITISH COLUMBIA		Ministry of Forests, Lands, and Natural Resource Operations			Reporting Unit ID: 695	
WASTE LICENSE		TIMBER MARK	CUT BLOCK	RETURN NUMBER	DATE	
1234		GC231U	10	1234	2016-05-03	
LOG COUNT		W. M. R. F.	PLC DATE	EIC		
12		0.3301	2016-05-02	Endemic		
COMMENT (OPTIONAL)						
[2016-05-12 16:12:20]						
NOTATION						
RATIO						
0.000						
REL. NO.						
695						
Species	Product	Grade	Avoidable Y/N	Pieces	Volume	Rate
AS		1	Y	1	0.22	0.08
AS		2	Y	1	13.41	0.08
AS		4	Y	1	8.00	0.25
FI		1	Y	1	0.68	0.08
FI		2	Y	1	23.30	0.08
FI		4	Y	1	44.60	0.25
LO		1	Y	1	1.22	0.08
LO		2	Y	1	74.20	0.08
LO		4	Y	1	46.22	0.25
SP		1	Y	1	0.60	0.08
SP		2	Y	1	38.65	0.08
SP		4	Y	1	20.22	0.25
				Total: 12	Total: 271.30	
SURVEYOR'S SIGNATURE						

Note: Total volume should be same as volume from *PHWA Ocular Estimate Volume Calculator* – minor differences in total volume may be found due to rounding. In this case the calculator volume is 270.30 and the FS702 volume 271.30.



9. If required produce the Block Type Summary Report

BRITISH COLUMBIA		Ministry of Forests, Lands, and Natural Resource Operations					WASTE453R			
BRITISH COLUMBIA		Waste System					DBQ01			
		Block Type Summary Listing					IDIR:SCYOUNG			
		(All Stratum Types)					Reporting Unit ID: 005			
							2018-06-10 13:48:05			
							Page: 1 of 5			
	License	Cutting Permit	Cut Block	Timber Mark	End Cat					
	A57713	31U	10	GC231U	N					
Type Strm	Area (Ha)									
HBOM	25.50									
		Grade Volumes (m3)				(m3) / Ha				
SP	Waste Class	Grd 1	Grd 2	Grd 4	Other	Grd 1	Grd 2	Grd 4	Other	
	Unavd	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Waste Class Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Species Class Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
AS	Avoid Log	0.2	13.4	8.0	0.0	0.0	0.5	0.3	0.0	
	Waste Class Total	0.2	13.4	8.0	0.0	0.0	0.5	0.3	0.0	
	Species Class Total	0.2	13.4	8.0	0.0	0.0	0.5	0.3	0.0	
FI	Avoid Log	0.7	23.3	44.6	0.0	0.0	0.9	1.7	0.0	
	Waste Class Total	0.7	23.3	44.6	0.0	0.0	0.9	1.7	0.0	
	Species Class Total	0.7	23.3	44.6	0.0	0.0	0.9	1.7	0.0	
LO	Avoid Log	1.2	74.2	46.2	0.0	0.0	2.9	1.8	0.0	
	Waste Class Total	1.2	74.2	46.2	0.0	0.0	2.9	1.8	0.0	
	Species Class Total	1.2	74.2	46.2	0.0	0.0	2.9	1.8	0.0	
SP	Avoid Log	0.6	38.7	20.2	0.0	0.0	1.5	0.8	0.0	
	Waste Class Total	0.6	38.7	20.2	0.0	0.0	1.5	0.8	0.0	
	Species Class Total	0.6	38.7	20.2	0.0	0.0	1.5	0.8	0.0	
All Species	Avoid	2.7	149.6	119.0	0.0	0.1	5.9	4.7	0.0	
	Unavd	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
	Type Stratum Total	2.7	149.6	119.0	0.0	0.1	5.9	4.7	0.0	

10. District Manager approves the PHWA in the Waste System.
11. District Manager approves the PHWA SFP authorization which identifies the associated cut blocks and scale sites.
12. Licensee commences harvesting operations.