



5 Ministry of FLNR Map Area Statement (FS 121)

The Map Area Statement consists of required and optional information to be entered into the compilation program for compilation purposes.



BRITISH COLUMBIA
The Best Place on Earth

Ministry of Forests and Range



MAP AREA STATEMENT
CRUISE COMPILATION

FOREST REGION _____
COSSBY BY _____ DATE COMPLETED _____
CRUISE SUPERVISOR _____
COMPANY AGENCY _____

GRU SE IDENTITY CARD

U.T.M. GRID COORDINATES

ZONE	EAST	NORTH
REPORT TYPE		
TOTAL MERCHANTABLE STOCK (hectares)		
SALE TYPE		
TENURE		
ELEVATION (metres)		
UNIT IDENTITY	BLOCK	
UNIT NO.		
TYPE		
F.L.ZONE		
FOREST DISTRICT		
FOREST REGION		
NO. OF BLOCKS		
CUTTING PERMIT NO.		
CRUISER OR AGENCY		
LOCALITY DESCRIPTION		

COMPILATION STANDARD CARD

EXCEPTION #1	COMPLIATION STANDARD										EXCEPTION #2				
	LOG LENGTH (m)	TOP DIAMETER (cm)	STUMP HEIGHT (cm)	D.B.H. LOWER LIMIT (cm)	D.B.H. UPPER LIMIT (cm)	TYPE OF CORP.	SPECIES	LOG LENGTH (m)	TOP DIAMETER (cm)	STUMP HEIGHT (cm)		D.B.H. LOWER LIMIT (cm)	D.B.H. UPPER LIMIT (cm)	TYPE OF CORP.	SPECIES
1															
2															

TYPE DESCRIPTION CARD

CARD TYPE	NOT USED	TYPE NO.	SPECIES #					AGE CLASS	HEIGHT CLASS	STOCKING CLASS	SITE IDENTITY	L.S.O.U. (hectares)
			MAJOR	MINOR	#1	#2	#3					
1												
2												
3												
4												
5												
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PLEASE BE ADVISED THAT THIS INFORMATION MAY BE RELEASED UNDER THE FREEDOM OF INFORMATION AND PROTECTION OF PRIVACY ACT.

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Figure 5.1 Front Side of Map Area Statement Form (FS 121).

5.1 Cruise Identity (Card Type A)

This card establishes the location and describes the nature of the cutting authority.

5.1.1 Positions 2 to 7 Licence Number (required)

The license number can be Alpha-Numeric, and cannot exceed 6 spaces.

5.1.2 Positions 8 to 10 Cutting Permit (required)

The Cutting Permit can be Alpha-Numeric and cannot exceed 3 spaces.

5.1.3 Positions 11 to 13 Number of Blocks (required)

Must be between 1 and 999.

5.1.4 Positions 14 to 16 Forest Regions and Districts (required)

Refer to the [Region and District Codes](#) in the appendices for detailed region and district information.

5.1.5 Position 17 Forest Inventory Zones (required)

The province is divided into 12 Forest Inventory Zones:

- A, B, C are all Coast zones,
- D has portions in both the Coast and Interior, and
- E to L are all Interior zones.

The correct zone is vital for the application of volume equations, loss factors and LRFs.

If more than 1 FIZ exists in a cutting authority, use the FIZ with the greatest area.

Refer to the Mapview utility on the Internet for a detailed location of the FIZ and Special Cruise Number. <https://webmaps.gov.bc.ca/imfs/imf.jsp?site=mapview>

See the [Cruise Compilation Loss Factor Table](#) (Table 17 in Appendices) for details.

5.1.6 Positions 18 to 21 Unit and PSYU number (required)

Leave this position blank if none of the codes below apply.

Refer to the [Mapview](#) utility on the Internet to locate the PSYU Number (Special Cruise Number in Mapview). See [Cruise Compilation Loss Factor Table](#) (Table 17 in Appendices) for details.

If a cutting authority area occupies more than one Public Sustained Yield Unit (PSYU), then use the PSYU unit which has the greatest area within the cruise.

Enter 0 if the sale area is located within an established or proposed PSYU which is not part of a larger PHA (Pulp Harvesting Area).

1	if it is located within PHA 1
2	if it is located within PHA 2
3	if it is located within PHA 3
5	if it is located within PHA 5
7	if it is located within PHA 7

B	if located in Blue Mountain Forest Reserve
C	if sold under Beach Clearing Licence
E	if located in E & N Land Belt
G	if located in Gulf Islands
K	if located in Kitimat Valley but not in Skeena PSYU or TFL41
L	if sold as Pulp Timber Sale in Nootka PSYU
M	if located in a Municipality
P	if located in a Park
S	if located in a Special Sale Area
T	if located in a TFL
W	if located in a Watershed Reserve.

5.1.7 Positions 22 to 26 Elevation (required)

Record the elevation of the centre of the sale to the nearest 50 m. Must have at least a 1 entered.

5.1.8 Position 27 Tenure (required)

See the [Cruise Compilation Manual](#).

Tenure Description	Code
Coast	
Forest Licences	A
Timber Licences	B
C.G. 1914 to date - stumpage & royalty	S
C.G. 1914 to date - stumpage including royalty	U
Road Permits	V
Timber Sales & Licences to Cut	X
T.F.L. Cutting Permits	Y
Woodlot Licences	1
Interior	
Forest Licences	W
C.G. 1914 to date - stumpage & royalty	T
C.G. 1914 to date - stumpage including royalty	2
Road Permits	3
Timber Sales & Licences to Cut	5
T.F.L. Cutting Permits	6
Woodlot Licences	7
All	
First Nations Woodland Licences	C
Community Forest Agreements	4
Timber Sale Licence Major	8
Unauthorized Timber Harvest	9

5.1.9 Position 28 Quota Type (optional)

Leave this column blank if the licensee quota is in a proposed or managed TSA, TFL or SSA.

Enter:

D	for Regional Executive Director Quota
H	for Handlogging Timber Sale
N	for Non-quota timber sold in a managed PSYU, TFL or SSA.
R	for Prince Rupert 20 percent contractor Northline timber
S	for Dead and Down Salvage Sale
T	for Third Band Sale
Q	for Quota Holder

5.1.10 Position 29 Sale Type (optional)

Leave blank if none of the following apply.

See the [Cruise Compilation Manual](#).

Enter:

A	for Deciduous
B	for Salvage - Blowdown
C	for Salvage - Cleanup or Residuals
D	for Salvage - Dead or Down
E	for Salvage - Decadent
F	for Salvage - Flood Killed
G	for Salvage - Winter Killed
H	for Salvage - Pondage Clearing
I	for Salvage - Insect Killed
J	for Salvage - Disease Killed
K	for Salvage - Fire Killed
M	for Minor Products only
N	for Cash or Direct Sale
R	for Right of Way Clearing

5.1.11 Positions 30 to 37 Total Merchantable Area (Hectares) (required)

Enter the total net merchantable hectares to the nearest 0.1 hectare for the cutting authority.

5.1.12 Position 38 MFLNRO Appraisal Information (required)

All compilation reports must indicate whether they are for appraisal purposes. (Enter A for appraisal purposes).

5.1.13 Positions 39 to 53 UTM Co-ordinates (optional)

The following web site and instructions can be used to access UTM co-ordinates:

<http://a100.gov.bc.ca/pub/mascotw/>

5.1.14 Positions 54 to 66 Locality Description (optional)

Enter a brief description where the sale is located.

5.1.15 Positions 67 to 80 Cruised By (required)

Enter first and last name of the cruiser and professional designation, where applicable.

Where there is more than one cruiser on the cutting authority, enter the name of the company that performed the cruise.

5.2 Compilation Standard (Card Type B)

This card defines the standard of compilation and the output required for the cutting authority.

5.2.1 Position 11 Damage Reporting (required)

Identify whether damage is to be reported in the compilation. Damage must be reported for appraisal purposes, but is optional for non-appraisal compilations. If the value is left as blank, all damage will be compiled and reported.

5.2.2 Position 12 Selective/ Leave Tree Indicator (required)

blank	compile all trees (default)
C	compile only "C" indicated (cut trees) and blank indicated trees.
L	compile only "L" indicated (leave trees) trees.

5.2.3 Position 13 Double Sampling Indicator (required)

Indicates whether the compilation uses measure plots or a combination of measure and count plots. If the value is left as blank, all plots will be compiled. A value of 1 indicates that count plots should not be compiled.

5.2.4 Position 14 Special Compilation (required for interior cruises)

If the cutting permit occupies both Wet and Dry Belt BEC zones, subzones or variants, compile using the zone with the highest Douglas fir total net volume based on the post reduction cruise data. Wet/Dry Belt code is not a compilation check item if the compilation does not include any Douglas fir volume.

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WET AND DRY BELT DOUGLAS FIR ZONES		
	Biogeoclimatic Zone	Biogeoclimatic Subzone and Variant
Wet Belt Code = 1	ESSF (Englemann Spruce - Subalpine Fir)	dc, dk, dm, dv, mc, mk, mm, mv, mw, vc, vv, wc, wk, wm, wv
	ICH (Interior Cedar Hemlock)	dk, dm, dw, mc, mk, mm, mw, vc, vk, w, wk
	IDF (Interior Douglas Fir)	mw, ww
	MS (Montane Spruce)	undifferentiated, mw
	SBPS (Sub-Boreal Pine - Spruce)	dc, mc, mk
	SBS (Sub-Boreal Spruce)	undifferentiated, dh, dk, dw, mc, mh, mk, mm, mw, vk, wk
Dry Belt Code = 2	BG (Bunchgrass)	xh, xw
	ESSF (Englemann Spruce - Subalpine Fir)	xc, xv
	ICH (Interior Cedar Hemlock)	xw
	IDF (Interior Douglas Fir)	undifferentiated, dc, dk1, dk2, dm1, dm2, dw, xh, xk, xm, xw
	MS (Montane Spruce)	dc, dk, dm, dv, xk, xv
	PP (Ponderosa Pine)	xh, dh
	SBPS (Sub-Boreal Pine - Spruce)	xc

If subzones are missing from the above listing, the general rule to apply is: very dry and dry subzones are Dry Belt; and moist, wet and very wet are Wet Belt.

5.2.5 Positions 15 to 16 Tree Class and Species Compilations (optional)

The default values for appraisal purpose compilations are zero. This will ensure that useless tree class volumes are excluded and all species are compiled in the same manner.

5.2.6 Positions 17 to 18 Type of Compilation (required)

Enter 3 for Interior Cruises and 32 for Coastal cruises. This represents the appropriate end product or combination of products.

5.2.7 Positions 19 to 27 Timber Merchantability Specifications (required for Interior compilations)

This section indicates the minimum timber merchantability specifications that will be assigned by the cruise compilation programs when the compilation program is used for appraisal purposes.

Coast		DBH	Stump	Top
	Mature	17.5	30	15.0
	Immature	12.0	30	10.0
Interior	All	17.5	30	10.0
	Lodgepole Pine	12.5	30	10.0
	Cedar > 140 years	17.5	30	15.0

Red cedar (Interior only):

- if greater than 50.0 percent of the red cedar net volume is in trees less than 141 years old, the top diameter inside bark is 10.0 cm, and
- if greater than or equal to 50.0 percent of the red cedar net volume is in trees greater than 140 years old, the top diameter inside bark is 15.0 cm.

The stump height, top dib, DBH limit or log length can be altered in Positions 30 to 74 for one or more species on the sale in compilations that are not used for appraisal purposes.

5.2.8 Positions 28 to 29 Log Lengths (to the nearest metre) (required)

Log Lengths for product analysis. If not equal to 5 m for Interior or 10 m for Coast, reports are titled "Not for Appraisal Purposes".

One exception is the portion of the Coast Mountains Resource District west of the Cascade Mountains administrative line in coastal FIZ A utilizes Interior appraisals. This area is permitted to use 5 m logs for interior appraisal purposes.

Log Lengths for other purposes can be 1 to 99 m.

(Zero) 0 = total tree length between stump height and top dib.

5.2.9 Positons 30 to 74 Exceptions (optional)

See Sections [5.2.6](#) to [5.2.8](#). See Section [4.3.2.4](#) for species codes.

5.2.10 Position 75 Block or Average Line Method of Compilation (required)

Enter A for all cruises used for appraisal purposes as the average line method must be used.

5.2.11 Position 76 (required for CGNF cruises)

Enter C for CGNF cruises.

5.2.12 Position 77 100% (required for 100% cruises)

Enter A if this cruise or stump cruise is 100% measure.

5.2.13 Positions 78 to 80 Stump Cruise Information (required for stump cruises)

See Section [6.8](#).

5.3 Type Description (Card Type C)

This section contains the area information for the types, harvest methods and treatment units within the compilation.

5.3.1 Positions 14 to 15 Type Number (required)

The type number corresponds to the type number on the cruise map for the area to be compiled within that type polygon.

5.3.2 Positions 16 to 28 Map Label and Type Identity (optional)

Timber types were traditionally given labels that followed inventory naming conventions, but this is not mandatory. For further information, see the [Timber Type Label Information](#) in the appendices.

5.3.3 Positions 29 to 88 Timber Type Area (required)

Record the merchantable timbered hectares for each timber type (stratum) and treatment unit in the cutting authority to the nearest 0.1 ha.

5.4 Block Description (Card Type D)

This card must have an entry for each type within a block. The number of blocks entered must equal the number of blocks entered on Card Type A (See Section [5.1.3](#))

5.4.1 Positions 11 to 13 Block Number (required)

The block number must correspond to the block number on the cruise card. The block number may be Alpha-Numeric, but cannot exceed 3 characters.

5.4.2 Positions 14 to 15 Type Number (required)

Enter the type number (see Section [5.3.1](#)).

5.4.3 Position 16 Coast Block Maturity Indicator (required)

I	Immature
M	Mature

Each block must be compiled as mature or immature. All types within a block must be cruised and compiled to the same timber merchantability specifications (immature or mature).

The cut block will be compiled using immature timber merchantability specifications if the immature volume is at least 50.1% of the total net volume (post reduction).

5.4.4 Positions 17 to 76 Hectares/ Treatment Units (required)

Enter the total net merchantable hectares to the nearest 0.1 hectare of the block which is part of each treatment unit in the block and type.

Treatment Units are geographic units allowing the user to prescribe different prescriptions within a type, block or harvest method area.

At least one treatment unit must be assigned in the compilation program. Up to ninety nine (99) treatment units are allowed within the current compilation programs.

5.5 Height/Diameter Description (Card Type E)

See Section [6.8.2](#).

5.6 Harvesting Description (Card Type F)

Multiple Harvesting Methods may exist within a cutting authority. The harvesting method and corresponding plots must be clearly identified on the final cruise map to ensure the correct plots are assigned to the harvest method. The volume for the harvest method is based on the type information within the harvest method, but the average slope is associated with only the plots within the harvest method area.

5.6.1 Positions 12 to 13 Harvesting Method (required)

Record the Harvesting Method (see Section [4.3.1.22](#))

5.6.2 Positions 14 to 15 Type No. (required)

Enter the timber type (see Section [5.3.1](#))

5.6.3 Positions 17 to 76 Treatment Units Area (required)

Each harvest method area must equal the sum of the timber type areas in the harvest method to the nearest 0.1 ha.

5.7 Treatment Unit Description (Card Type G) (optional)

Up to ninety-nine user coded descriptions may be entered so that individual treatment unit summaries can be identified.

5.8 Non-productive Area Descriptions (Card Type H) (optional)

These areas may be entered and will contribute to the gross area of the compilation only. No volume will be associated with these areas and the areas are reported for information purposes only.

5.9 FS 221 – Percent Reduction

This form ([Figure 5.3 Percent Reduction Worksheet.](#)) enables the reduction of stems and volumes by percentage points. The percent reduction must be consistent with the cutting specifications in the site plan. Where dispersed faller selection or retention harvesting is to be used, a percent reduction must be applied. The reduction can be accomplished by a number of methods when the Forest Type Stand and Stock Table output has been analysed.

For more information on percent reductions, please refer to Chapter 5 of the [Cruise Compilation Manual](#).

The approved methods of reduction for the dbh classes are:

1. By species, timber type, risk group/tree class and treatment unit.
2. By species, timber type and treatment unit.
3. By species, risk group/tree class, mature/second growth, live/dead and treatment unit.
4. By species and treatment unit:

- a. Positions 1-2 - Species

These are the letter codes and all species letters must start in column 1. (Section [4.3.2.4](#))

- b. Position 3-4 - Timber Type

These are the numeric codes of the timber type.

- c. Position 5 - Risk Group or Tree Class

These codes are as follows:

CODE	RISK GROUP/ TREE CLASS
A	Risk Group 0 - Living Trees – not used at this time
B	Risk Group 1 - Living Trees
C	Risk Group 2 - Living Trees
D	Risk Group 3 - Living Trees
3	Tree class 3 - Dead Potential (Older Immature D.P. in the Interior)

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4	Tree Class 4 - Dead Useless
6	Tree Class 6 - Live Useless
7	Tree Class 7 - Mature Dead Potential
9	Tree Class 9 - Younger Immature Dead Potential

- d. Position 6-7 - Silviculture Treatment Units (99 are available) - This is the unit.
- e. Position 8-10 - Block Number - This is the block number, code blank if for appraisal.
- f. Position 11 - Damage Code - This field corresponds to the damage types:

DAMAGE CODE	DAMAGE TYPE	INCLUDED CODES IN CRUISE DATA
B	Blowdown	E, G
F	Fire	A, B, C
I	Insect	1 to 8, X, Y
R	Root Rot	J, K and L

100 percent of the trees with the appropriate damage type code will be included in the appraisal data.


- g. Postition 13 - Code "L" for live trees and "D" for dead trees. These codes allow for live tree classes 1, 2, 5 and 8 or L (all) or dead tree classes 3, 7 and 9 or D (all) to be included in the appraisal compilation.
- h. Position 14-82 - Percent Reduction for dbh classes (e.g. 10 cm class = 7.5 - 12.4 cm).

Use whole numbers only.


100 percent reduction means all trees will be excluded from the appraisal compilation.

A blank entry represents all values in a field.

CRUISE PERCENT REDUCTION WORKSHEET



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SPECIES		TIMBER TYPE		RENTAL CLASS		TREATMENT		BLOCK NO.		DAMAGE		MATURE		LIVENESS		PERCENT REDUCTION BY D.B.H. CLASS																																																																	
																1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120 to 275																						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82

COLUMN 5 CODE		COLUMN 13 CODE	
Code	Tree Class	Code	Tree Class
0	A	0	1, 2, 3
1	B	1	4, 5
2	C	2	6, 7
3	D	3	8, 9

Risk Group - Tree Classes 1, 2, 3, 4, 5, 6, 7, 8, 9 allowed
Note - 10% reduction = 10% leave

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Figure 5.3 Percent Reduction Worksheet.

5.10 Compilation Output

The cruise compilation shall accurately represent the area and net volume by species, grade, LRF, diameter class, timber type and risk group to be appraised and harvested and shall be compiled with the most recent version of the cruise compilation as of the date of the appraisal data submission to the MFLNRO.

The cruise compilation version must be approved by Timber Pricing Branch.

Modifications to the cruise compilation reports utilizing a calculator are not acceptable for initial compilations used in new appraisals. Manual or hand compilations shall only be used in exceptional cases as approved by the Regional Executive Director or their designate.

5.10.1 Summary of Required/Optional Reports and digital files

The following reports must be submitted electronically as specified in the [Interior and Coast Appraisal Manuals](#):

Required for all compilations

1. Cruise Statistics
2. CP, Type and Block Volume Summaries
3. Detailed Plot Summary
4. Harvest and all Harvest Method Summaries
5. Appraisal Summary
6. Digital data in ASCII format (dat, mof, .pr, .red)
7. Digital data in csv file format (CP Summary, Block Summaries and Harvest Method Summaries - full and reduced, where applicable)
8. Percent reduction input values (when used)
9. Double sampling ratios (when count plots are used)

Required if requested by MFLNRO

1. Edit Report (data listing) of cruise data
2. Extended Timber Type Stand and Stock Tables
3. Partial Cut Damage Reports
4. Stand, Stock and Leave Tree Tables
5. Volume and Lumber Recovery Information

Required for Stump Cruises

1. Scattergram of all heights and diameters
2. Scattergram of sample trees/regression coefficients
3. Original scattergram of sample trees/regression coefficients, if suggested curve is overridden. Actual keyed values and explanation is required.
4. Edit Report if height curves used

Optional

1. Plot Summary by Maturity
2. Harvest Method Treatment Unit Summaries

If a percent reduction is being applied, the following reports will also be required:

- (i) the **original** reports before percent reduction was applied,
- (ii) the reports after percent reduction was applied, and
- (iii) percent reduction table showing keyed input values for the percent reductions.

The source documentation for percent reductions must be provided to the MFLNRO upon request.

5.10.2 Valid Compilation Programs

The valid compilation programs can be viewed at the following web link:

www.for.gov.bc.ca/hva/manuals/validcompversions.htm