

# **Data Input and Edits**

---

# **2**

## 2.1 Data Inputs

The data collection requirements have changed for CGNF. Loss factors are not used to calculate net volume and the MOF grading algorithm is not used to calculate log grades. Therefore, pathological remarks, tree class, age in tens, and quality remarks are not recorded by the cruiser. Instead, for each log, the cruiser assigns the grade, log length and net factor (estimate of sound wood volume as a percent).

Card	Column	Attribute	New Codes	Error
A	18	Unit type	Blank	NA
A	19-20	Unit number.	Blank	NA
A	21	Block	Blank	NA
A	27	Tenure	Blank	NA
A	28	Quota	Blank	NA
A	29	Sale Type	Blank	NA
B	17-18	Type of Compilation	32	F
B	28-29	Log Length	13m	I
B	43-44	Log Length	13m, Blank	I
B	58-59	Log Length	13m, Blank	I
B	73-74	Log Length	13m, Blank	I
B	76	Grade Type	C (CGNF), Blank (computerized)	F
9	21-22	Age in Tens	Blank	NA
2	36	Tree class	Blank	NA
2	37	Conk	Blank	NA
2	38	Blind conk	Blank	NA
2	39	Scar	Blank	NA
2	40	Fork or crook	Blank	NA
2	41	Frost crack	Blank	NA
2	42	Mistletoe	Blank	NA
2	43	Rotten branch	Blank	NA
2	44	Dead or broken top	Blank	NA
2	45	Spiral grain	Blank	NA
2	46	Sweep	Blank	NA
2	47	Lean	Blank	NA
2	48	Live limb	Blank	NA
2	49	Stub	Blank	NA
2	50	Knots in 1 <sup>st</sup> 5m log	Blank	NA
2	51	Knots in 2 <sup>nd</sup> 5m log	Blank	NA
2	60	Root Rot	J,K,L, Blank	F

Card	Column	Attribute	New Codes	Error type
2	61	Insect	1, 2, 3, 4, 5, 6, 7, 8, X, Y, blank	F – (species specific)
2	62	Fire	A,B,C, Blank	F
2	63	Blowdown	E, G, Blank	F
2	64	Mature/ Second Growth	M, S	F
2	65	Live/Dead	L, D	F
2	66	Log 1 Grade	B-Z	F
2	67-68	Log 1 Length	1-99	F
2	69-70	Log 1 Net Factor	0-99, -	F
2	71	Log 2 Grade	B-Z, Blank	F
2	72-73	Log 2 Length	1-99, Blank	F
2	74-75	Log 2 Net Factor	0-99, -	F
2	76	Log 3 Grade	B-Z, Blank	F
2	77-78	Log 3 Length	1-99, Blank	F
2	79-80	Log 3 Net Factor	0-99, - Blank	F
2	81	Log 4 Grade	B-Z, Blank	F
2	82-83	Log 4 Length	1-99, Blank	F
2	84-85	Log 4 Net Factor	0-99, - Blank	F
2	86	Log 5 Grade	B-Z, Blank	F
2	87-88	Log 5 Length	1-99, Blank	F
2	89-90	Log 5 Net Factor	0-99, - Blank	F
2	91	Log 6 Grade	B-Z, Blank	F
2	92-93	Log 6 Length	1-99, Blank	F
2	94-95	Log 6 Net Factor	0-99, - Blank	F
2	96	Log 7 Grade	B-Z, Blank	F
2	97-98	Log 7 Length	1-99, Blank	F
2	99-100	Log 7 Net Factor	0-99, - Blank	F
2	101	Log 8 Grade	B-Z, Blank	F
2	102-103	Log 8 Length	1-99, Blank	F
2	104-105	Log 8 Net Factor	0-99, - Blank	F
2	106	Log 9 Grade	B-Z, Blank	F
2	107-108	Log 9 Length	1-99, Blank	F
2	109-110	Log 9 Net Factor	0-99, - Blank	F
2	111	Log 10 Grade	B-Z, Blank	F
2	112-113	Log 10 Length	1-99, Blank	F
2	114-115	Log 10 Net Factor	0-99, - Blank	F

## Notes:

1. The PSYU information is not required since the loss factors are not used for CGNF compilations.
  2. Attributes from age in tens, tree class, pathological remarks and quality remarks are not required for CGNF compilations.
  3. At least one log grade must be recorded per tree starting at log 1.
  4. The last log is signified by a “99” in the log length. No other log length in a tree should have log length “99”.
  5. The net factor of “—“or“-“ signifies no decay in the log.
  6. Species codes are requested for Mountain Hemlock (HM) and Western Hemlock (HW). A code of H will be considered Western Hemlock.
  7. Live/Dead – Position 64 on the tally card: Produce an edit error if CGNF code L (live trees) does not match tree classes 1, 2, 5, 6, 8 and code D (dead trees) does not match tree classes 3, 7, 9. This edit applies to both loss factor and CGNF compilations.
  8. Dead Tree Class 3, 7, 9 Trees: Produce an edit error if the tree does not contain at least eight consecutive meters of U-grade or better logs or Z-99-00. The tree will be included in the cruise volume if it contains at least 8m of U-grade. If the tree is coded Z-99-00, then it will be included in the CGNF waste percent. This edit applies to CGNF compilations.
  9. Dead Tree Class 4 Trees: Produce an edit error if the tree does not contain at least eight consecutive meters of U-grade or better logs. The tree will be included in the cruise volume if it contains at least eight consecutive meters of U-grade or better logs. The tree will be removed from the compilation if it does not contain at least eight consecutive meters of U-grade or better logs. This edit applies to both loss factor and CGNF compilations.
- \* Live Useless Tree Class 6 – An edit error is not required because the minimum 8m U-grade standard does not apply to live useless trees. These trees will be compiled in the snag percent in the loss factor cruise.

## 2.2 Validation Errors and Warnings

Unless specifically noted in this chapter the errors and warnings stated in the Cruise Compilation Manual also apply to CGNF compilations.

### 2.2.1 Errors

Grades, net factors and log lengths must be validated. If the log information does not meet the standards as found in Appendix 2, a validation error will be issued.

There is an exception for helicopter logging which has a minimum log length standard of 4 metres instead of 5 metres used in conventional logging.

An error should be produced when the cumulated log lengths is greater than the merchantable height. Example:

Species	W.R. Cedar	Log #	Grade	Log len (m)
DBH	120.0 cm	1	F	8
Total Height	32.0 m	2	H	13
F.I.Z.	C	3	J	8
Stump height	30 cm	4	U	8
Top diameter	15.0 cm	5	Y	99

Determine the merchantable height of the tree. For this example merch ht = 26.4 m.

Sum up the called log lengths starting from the first log (8+13+8+8m) = 37 m.

Since, the merch ht of the tree is only 26.4 m, the sum of the called log lengths of 37 m is greater and therefore, a validation error is produced. The compiler should check that the height or that the log lengths are correct.

### 2.2.2 Warnings

Top/Butt diameters must be validated that they are within acceptable limits. For instance a Douglas Fir D grade log that has a 10cm top diameter would not qualify as D grade. The compiler must ensure that each log is verified using a lookup table that provides acceptable top diameters by grade and species. Valid top diameters by grade and species as well as minimum log lengths and net factors per grade are shown in Appendix 2.

The top diameter of the logs will be given a fifteen percent (15%) allowance as compared to the taper equation. If the logs' compiled top/butt diameter has a greater than fifteen percent (15%) difference, a warning message will be issued.

The standard log length is 13 m. Preferred log lengths of 13, 11 and 8 metre lengths will also be called by the cruisers for individual logs. Any log length from 3 to 17 metres and 99 will be permitted for log grades B to Y. All “Z” or “N” grade logs may have cruised lengths greater than or equal to 1m, in 1m increments. However, when compiling the last logs, Z and N grade logs can have any length.

### 2.2.3 Examples

#### Example #1:

For a Douglas-fir with Grade B: log length: 4.0 m, top diameter: 50 cm, net factor: 75%. Both examples have conventional harvest methods.

The validation errors and warnings for this tree are:

Log Attribute	Minimum Requirement	Actual Log Example	Comments	Error/Warning Message
Grade		B	Grade B is permitted for Douglas-fir.	None
Log Length	5 m	4 m	B grade must be greater or equal to 5 m in length.	Error
Min Top Diameter	60 cm	50 cm	$60 \text{ cm} * (1-15\%) = 51.0 \text{ cm}$ . For diameters, a $\pm 15\%$ threshold is permitted. Since the log is 50 cm, this log is outside of the range.	Warning
Max Top Diameter	9999 cm (no limit)	-	There is no max top diameter for this grade.	-
Minimum Percent Recoverable	80 %	75 %	B grade must be greater or equal to 80 % net factor.	Error

**Example #2:**

For a Douglas-fir with Grade 1: log length: 8.0 m, top diameter: 38 cm, net factor: 70 %

The validation errors and warnings for this tree are:

Log Attribute	Minimum Requirement	Actual Log Example	Comments	Error/Warning Message
Grade		I	Grade I is permitted for Douglas-fir.	None
Log Length	5 m	8 m	Log > = 5 m.	None
Min Top Diameter	38 cm	38 cm	Within range.	None
Max Top Diameter	9999cm (no limit)	-	There is no max top diameter for this grade.	-
Min Net Factor	38-50 cm top diam; min NF = 75% > = 50 cm top diam; min NF = 50%	70 %	Since top Diam. = 38 cm, the min NF% permitted is 75%. Since the log has a NF % of 70 %, the log can't be an I grade because of size of the top diameter.	<b>Error</b>

This page is intentionally left blank.