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November 17, 2022

BY EMAIL

To: Regional Executive Directors

From: Allan Bennett, Director, Timber Pricing Branch

Re: Amendment No. 7 to the *Provincial Logging Residue and Waste Measurement Procedures Manual – Interior Version*

I hereby approve Amendment No. 7 to the *Provincial Logging Residue and Waste Measurement Procedures Manual – Interior Version*.


The manual can be found here:

[Provincial Logging Residue and Waste Measurement Procedures Manual – Interior Version](#)

The purpose of this amendment is to update the *Provincial Logging and Waste Measurement Procedures Manual – Interior Version* to:

- Extend the due dates of surveys in 2022 related to the Harvest Residue Compiler,
- Correct minor inconsistencies in terminology and survey instructions,
- Create a minor efficiency in selection of sample blocks in aggregates
- Establish a minimum reportable waste volume of 1 m³/ha for simplified waste surveys.

Amendment No. 7 comes into effect on November 21, 2022.



Allan W. Bennett, RPF
Director
Timber Pricing Branch

pc: Melissa Sanderson, Assistant Deputy Minister, Timber, Range, and Economics Division
Patrick Asante, Manager, Timber Pricing
Jason Smith, Provincial Waste Specialist
Michael Wedel, Cruising and Waste Policy Forester

Amendment No. 7 – Provincial Logging Residue and Waste Procedures Manual – Interior

Version Highlights

Section, Table or Appendix Number	Description
1.4.2	Terminology is corrected to “Area Director” instead of “Area Manager”.
3.2.2.1	Conflicting language around waste rate determination is corrected.
4.2.4	Interior waste surveys that were due in 2022 have final submission due dates extended to December 31, 2022.
6.7.2	For aggregate populations larger than 200 ha, surveyors may choose to submit randomizer requests to Timber Pricing Branch or elect to sample all waste assessment areas in the population.
8.4.2	Conflicting language around plot location on strip lines is corrected.
8.5.4.2	Pile plot sampling procedures are edited for clarity.
8.10	Cold deck procedures are edited for clarity.
10.1.3	The minimum waste volume in the simplified waste survey procedure is 1.0 m ³ /ha.
10.1.4	Species distribution in the simplified waste survey procedure is by the species percentage displayed in the Cutting Permit Summary of the cruise.

TIMBER PRICING BRANCH

Provincial Logging Residue and Waste Measurement Procedures Manual – Interior Version

Effective: April 1, 2019

Includes Amendments

Amendment No. 1
Amendment No. 2
Amendment No. 3
Amendment No. 4
Amendment No. 5
Amendment No. 6
Amendment No. 7

Effective Date

July 22, 2019
September 1, 2020
April 1, 2021
June 17, 2021
November 15, 2021
April 1, 2022
November 21, 2022



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10.1.4	Calculation of species distribution in the simplified waste survey procedure is by the species breakdown in the Cutting Permit Summary of the cruise.

1.4 Responsibility

The responsibilities are as follows:

1.4.1 Timber Pricing Branch

1.4.1.1 Director, Timber Pricing Branch

The Director, Timber Pricing Branch is responsible for:

1. Approving *Provincial Logging Residue and Waste Measurement Procedures Manual* and amendments.
2. Processing and maintaining waste data.
3. Billing licensees by issuing waste invoices.

1.4.1.2 Residue and Log Salvage Policy Forester, Timber Pricing Branch

The Residue and Log Salvage Policy Forester is responsible for:

1. Developing and maintaining standards and procedures for determining and reporting waste.
2. Providing training and technical support.
3. Providing policy interpretation to industry and ministry staff.
4. Maintaining software compilation programs and standards.
5. Conducting technical reviews of Forest Regions and Forest Districts for policy and procedure compliance.

1.4.2 Area **Director of Pricing and Tenures**

The Area **Director of Pricing and Tenures** is responsible for:

1. Ensuring that district staff adhere to policy and procedures, and where necessary, provide training to district staff.
2. Recommending survey procedure changes where necessary, to the Director, Timber Pricing Branch.
3. Advising industry and forest district staff on matters relating to waste assessments.
4. Processing waste reports and FS 702 for waste monetary billing and cut control where required.

The applicable rates charged will include any bonus bids and levies as applicable.

1. Avoidable coniferous species graded:
 - a. Grade 1 and 2 are billed using the weighted average sawlog stumpage rate for the 12 month period multiplied by the waste monetary reduction factor (WMRF), and
 - b. Grade 4 is billed using the rates established in the *Interior Appraisal Manual*.
2. Avoidable deciduous species graded:
 - a. Sawlog is billed using either:
 - i. The appraised rate, or, if there is no appraised rate,
 - ii. The fixed rate for the species as specified in the *Interior Appraisal Manual*, and
 - b. Other than sawlog is billed using the fixed rate in the *Interior Appraisal Manual*.

3.2.2.1 Waste Assessment Areas with Harvesting

For waste assessment areas with harvesting, the waste rate for coniferous sawlogs is calculated using the weighted average stumpage rate **invoiced** for the sawlogs (grade code 1 and 2) **using the following formula:**

$$WR = TS / TV$$

Where:

1. **WR** = The waste rate for the cutting authority.
2. **TS*** = Total billed sawlog stumpage (sum of Upset Stumpage*, and Bonus Bid) for timber harvested under the applicable timber mark for the twelve-month period ending one month after the month the waste assessment area was PLC.
3. **TV*** = Total billed volume (accumulated volume in cubic metres that derived the total billed stumpage for the sawlogs) for the twelve-month period ending one month after the month the waste assessment area was PLC.
 - a. ***TV** includes silviculture and development levies.

Remaining areas of standing timber within a waste assessment area that are left unharvested at the expiry, surrender, termination, or cancellation of the cutting authority are waste billed using the PLC date for the cutblock.

The District Manager may waive the 30 day submission requirement if the block:

- 1) is submitted to the waste system,
- 2) was reviewed, and
- 3) is not held for field audit.

4.2.1.2 Submission Requirements for Waste Assessment Areas Not Requiring Site Treatments or Hazard Abatement

This section applies to waste assessment areas that do not require site treatments or hazard abatement in the same year (first fall or winter) as the PLC date. Waste assessment areas must be surveyed and submitted as outlined below.

Where a waste assessment area has a PLC date between:

1. January 1st and July 31st, the waste assessment must be submitted no later than September 15th of the same year, or
2. August 1st and December 31st, the waste assessment must be submitted no later than June 30th of the year following the PLC date.

4.2.2 Submission of Waste Assessments Not Requiring a Field Survey

Waste assessment areas that will have the waste assessment volumes determined under section 4.3.2 (district averages) must be submitted no later than 30 days after the PLC date for the block.

4.2.3 Overdue Waste Assessments and Reports

Where the holder of an agreement, other than an agreement entered into with the timber sales manager, does not complete the waste assessment and submit it to the District Manager as required under section 4.2, the District Manager may, in a notice given to the licensees, take actions to complete and submit a waste assessment for a block or blocks. The District Manager may complete a survey or hire a contractor and require the holder to pay the costs incurred in carrying out the assessment.

Where the holder of an agreement entered into with the Timber Sales Manager that is required by that agreement to conduct a waste assessment, fails to conduct that waste assessment, the Timber Sales Manager may carry out the assessment, and in a notice given to the holder, may require the holder to pay the costs incurred by the Timber Sales Manager in carrying out the assessment.

4.2.4 Waste Survey Extensions in 2022

Timelines for compilation and submission into the Waste System have been extended in 2022. Surveys that were required by this manual to be submitted in June 30, 2022 or September 15, 2022

are now due on December 31, 2022.

6.7 Implementation

6.7.1 Single Waste Assessment Area Sample Plans

1. Identify the sample population,
2. Select a sampling design,
3. Determine the sample size, including:
 - a. The number of plots in dispersed strata
 - b. The number of accumulation samples,
4. Prepare the waste assessment area survey map,
5. The waste assessment area survey map is signed by a Forest Professional, and
6. Submit the waste assessment area survey map.

6.7.2 Aggregate Sample Plans

1. Identify the sample population,
2. For populations larger than 200 ha, submit the list of waste assessment areas and required details to Timber Pricing Branch using the required template. **This step is optional. If a randomizer request is not submitted, all waste assessment areas in the population must be included in the sampling plan.**
3. Timber Pricing Branch will select the non-sampled waste assessment areas using a randomizer application. The selection list will be sent back to the submitter with a copy to the District and Area.
4. Select a sampling design (SRS or ratio),
5. Using the Aggregate Sample Plan in HRC, enter only the waste assessment areas selected for sampling to determine the sample size:
 - a. Number of plots in dispersed strata,
 - b. Number of plots in other strata as required,
 - c. The plots are distributed with a consistent plot intensity within the population and are allocated using a random starting point,
 - d. The exact plot numbers assigned in the Aggregate Sample Plan Report in each waste assessment area and stratum combination must be used to label the plots on the survey map and to record the plots in EForwasteBC,
 - e. Some small waste assessment areas selected for sampling may not be assigned any plots in the Aggregate Sample Planner. These will be treated as non-sampled waste assessment areas and do not require stratification or fieldwork.
6. The sample plan is endorsed by a Forest Professional,

4. Starting at the point of intersection of the local grid, locate the IS at the SPIF distance. The IS must be oriented North/South.
5. Locate all remaining strips at the full GSD along the baseline from the IS and orient them North/South.
6. Number the strips:
 - a. Sequentially from West to East.
 - b. All strips that fall within the harvested area must be numbered.
7. Locating the plots:
 - a. All plot locations that fall within the harvested area must be mapped.
 - b. On odd numbered strips, locate the **first plot** at one half the GSD along the strip from the baseline. Locate the remaining plots at full GSD along the strip.
 - c. On even numbered strips, locate one plot at the intersection of the strip and the baseline, and all remaining plots at full GSD along the strip.

Occasionally the number of located plots on the map will not match the intended number of plots. This can be caused by two situations:

- i. The sample grid was not completed correctly (incorrect GSD, missed plot location, etc.), or
 - ii. The configuration of the cutblock results in a reduced or increased number of sample points.
8. Adjust the GSD when:
 - a. In a single waste assessment area, the number of plots is greater than plus or minus 1 plot from the intended number, or
 - b. In aggregate populations, the located number of plots does not match the intended number from the sample plan.

For survey plans drawn by hand, the grid is reduced or increased in 10 metre increments.

For survey plans drawn using GIS, use the first grid spacing that will result in the required number of plots.

9. Number the plots. Each plot in the dispersed stratum must have a unique number identified on the survey plan map.
 - a. Starting from strip 1, number the plots sequentially from north to south along each strip.

8.5.4.1 Sample Selection Process

To select the piles to be sampled:

1. Calculate the sample pile interval. To do this:

- a. Divide the number of piles by the planned number of samples.
- b. Round the result to the nearest whole number.

Note: This will occasionally result in more samples than intended.

- i. In a single waste assessment area, establish the extra plot.
 - ii. In an aggregate, only establish the required number of plots as specified on the Aggregate Sample Plan.
2. Use the date of the month when the surveyor first arrives on site to do the survey to select the first pile to be sampled. Where the date is greater than the number of piles, use the last digit of the date. If the last digit of the date is zero, use the first number of the date.

Example 1:

- 36 piles requiring 15 samples, surveyed on the 23rd of the month
- $36 \text{ piles} / 15 \text{ samples} = 2.40$; survey every 2nd pile
- Select the following piles: 23, 25, 27, 29, 31, 33, 35, 1, 3, 5, 7, 9, 11, 13, 15

Example 2:

- 25 piles requiring 13 samples, surveyed on the 30th
- $25 \text{ piles} / 13 \text{ samples} = 1.92$; survey every 2nd pile
- Select the following piles: 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 2

8.5.4.2 Plot Location Procedure

In spot accumulation strata, the plot is placed on the front for even numbered **sample plots**, and on the back for **odd numbered sample plots**. If it is not safe to work around the correct plot location, establish the plot on the side of the pile closest to the POC for odd numbered plots and farthest away from the POC for even numbered plots.

The plot size and shape to be used for pile plots is 50 m². When a rectangular (or other shape as necessitated by the shape of the pile) is used, the plot edges must be painted and clearly marked in the field using stakes or ribbon.

8.10 Cold Decks

Log decks that remain on a waste assessment area and are to be removed and scaled at a scale site, or are field scaled, are not to be included in a waste assessment as the scale data will be reported in HBS. These decks must be clearly marked by the licensee.

All cold decks **within a receiving area such as a** roadside or landing must be stratified into an accumulation stratum and measured using the procedures in section 9.5.8.

Cold decks within the **area where timber has been forwarded away from the stump** may be surveyed in one of two different ways – as part of the dispersed stratum or as a unique deck accumulation stratum.

1. Surveyed as part of the dispersed stratum. Under this method:
 - a. Dispersed plots established in the field will include all dispersed cold decks or portions thereof within the plot,
 - b. All pieces that fall within the 200 m² dispersed plot will be measured and recorded, and
 - c. Plots cannot be moved or altered to exclude decks or portions of decks contained within the plot boundary.
2. Surveyed as a deck accumulation stratum. Under this method:
 - a. All decks within the dispersed stratum must be stratified separately from the dispersed, roadside, or landing strata,
 - b. All decks must be identified and sampled throughout the waste assessment area,
 - c. The areas of the decks in both the accumulation and dispersed strata must be noted on the final map and the deck areas removed from their respective strata areas,
 - d. Dispersed sample plot centers must be offset away from all decks, and
 - e. Dispersed plots may be moved as per section 9.2.6 as required to avoid overlapping a deck stratum; however, must retain a 200 m² size.

The following additional requirements must be met to use the simplified waste survey:

1. The cutblock must be within a cutting authority that was cruised with a sampling error of 15.0% or less.
2. All cutblocks in the cutting authority are PLC at the time of waste assessment calculation.
3. This method cannot be used if any cutblock within the cutting authority has an outstanding late waste assessment or the waste submission has been submitted later than the date required in this manual.

10.1.3 Waste Volume Calculation

The total waste assessment volume is determined for the cutblock as follows:

The difference of

Net Cruise Volume – Total Harvest Billing Volume

Where

Net Cruise Volume = (the total net cruise volume for the cutting authority as submitted in ECAS) * (the net merchantable area of the cutblock) / (the net merchantable area of the cutting authority)

Total Harvest Billing Volume = the total scaled volume from the cutting authority as invoiced in HBS * (the net merchantable area of the cutblock) / (the net merchantable area of the cutting authority)

If this calculation results in a waste volume less than 1.0 m³/ha, the simplified waste survey volume is submitted as 1.0 m³/ha.

10.1.4 Species, Grade, and Classification

The species distribution is calculated using the percentage breakdown that is reported for the cutting authority in the **Cutting Permit Summary of the full volume cruise as submitted in ECAS**.

The grade distribution is calculated using the district average waste reports produced by Timber Pricing Branch. For each species, three categories must be reported:

1. Avoidable Sawlog waste m³/ha
2. Avoidable Grade 4 waste m³/ha
3. Unavoidable waste m³/ha

10.1.5 Population, Subpopulation, and Stratum

The population size is reported as the net merchantable area of the cutblock as submitted in ECAS. Where applicable, road permit area is included in the area.

The entire survey volume may be reported in one dispersed subpopulation and one dispersed stratum. This will allow simplified data entry.

10.1.6 Reporting

The following files must be attached to the WASTE submission for a simplified waste survey:

1. A worksheet with values and calculations to determine eligibility and waste assessment volumes.
2. A map of the cutblock and road permit area.
3. HBS Cut to Cruise Comparison Report.
4. HBS scale reports (Mark Monthly Billing History Selection Report) showing total harvest volume delivered secondary fibre facilities, if applicable.
5. **Cutting Permit Summary of the full volume cruise as submitted in ECAS.**