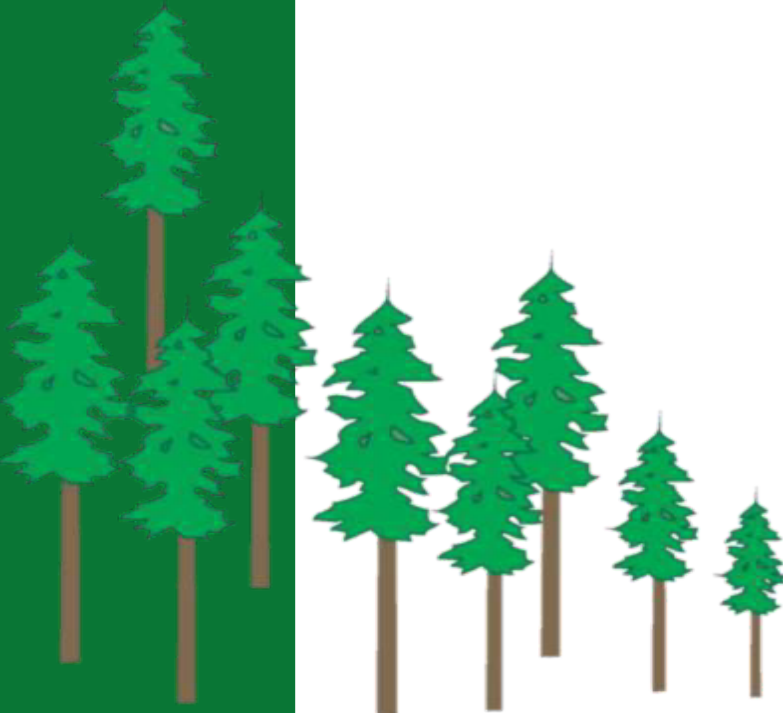




Coast Appraisal Training

Module 6

Post-Harvest Appraisal
Reconciliation Model



Coast Area
January 2025



Disclaimer: This document is intended for use during appraisal training activities and as a general guide to appraisals. It is not intended as a basis for legal interpretation of the *Coast Appraisal Manual (CAM)*. If there is any discrepancy between these materials and the *CAM*, the *CAM* in force on the effective date of the cutting authority is correct. The *CAM* is posted on Timber Pricing Branch's website is the official version. If there are any questions about a specific appraisal issue, please contact Coast Area appraisal staff at the Coast Area office.

Module 6 - PHARM

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Introduction

The Post-Harvest Appraisal Reconciliation Model (PHARM) came into force on the:

- Coast via amendment #2 on April 1, 2019 to the December 15, 2018 Coast Appraisal Manual (CAM).
- Interior via amendment #3 on April 1, 2017 to the July 1, 2016 Interior Appraisal Manual (IAM).

The method of appraisal in place on the Coast prior to the implementation of Coast PHARM utilized only pre-harvest estimates (supported by as-built data) of the timber extraction infrastructure (road sections & drainage structures) required to extract the stand of timber and the stand of timber to be harvested (species & volume characteristics and harvest method(s)). Coastal PHARM still uses the estimates submitted in the initial appraisal data submission (ADS) for the determination of the stumpage rate(s), but now reconciles the estimates with the actual cost of the timber extraction infrastructure and stand of timber harvested submitted in a post-harvest ADS for the determination of the stumpage rate(s).

The Coast PHARM is different from Interior PHARM in that a post-harvest ADS is required for each cutting authority, while Interior PHARM uses either a change circumstance certification or change circumstance reappraisal if the thresholds of specified changes are exceeded.

PHARM applies to all “fully appraised” cutting authorities, as defined in the CAM. PHARM does not apply to:

1. cutting authorities with an effective date prior to April 1, 2019,
2. cutting authorities where stumpage rate(s) are determined using Miscellaneous Timber Pricing Policy in Chapter 7 of the CAM (i.e., Great Bear Rainforest North, community forests, woodlot licences (except for specific circumstances outlined in CAM), road permits, salvage licences, most linear tenures, etc.); or
3. fully appraised cutting authorities issued by BC Timber Sales (BCTS).

BCTS cutting authorities require only an initial ADS to determine the upset stumpage rate. Immediately following the award of the Timber Sale Licence (cutting authority), the sale information is inputted into Electronic Commerce Appraisal System (ECAS) as a “second pass” submission for stumpage rate determination. This all occurs within the same ECAS ID. An auctioned timber cutting authority is therefore not subject to a post-harvest ADS and is exempted from the Evidence and Full Documentation requirements associated with PHARM.

Pre-PHARM

Prior to PHARM implementation on April 1, 2019, stumpage rates were determined using a forest professional's estimate of a cutting authority's forest characteristics and the associated timber extraction infrastructure required (appraisal data elements). These estimates were completed prior to harvest. Appraisal data elements that were estimated included (but were not limited to): harvest method, merchantable area, and development costs. These pre-harvest estimates remained unchanged post-harvest unless the "changed circumstance" reappraisal threshold had been exceeded.

PHARM

Under Coastal PHARM a fully appraised cutting authority will have at least two ECAS submissions, the:

1. **initial Appraisal Data Submission** (initial ADS) which is used to generate the initial stumpage rate(s). These stumpage rates are used to facilitate billing on the cutting authority prior to the completion of primary harvesting activities or cutting authority expiry.
2. **post-harvest Appraisal Data Submission** (post-harvest ADS) is used to generate a post-harvest stumpage rate(s) which reflects the actual post-harvest conditions and actual timber extraction infrastructure developed on the harvested/expired cutting authority. The cutting authority's billed stumpage value will be reconciled using the post-harvest stumpage rate(s). A post-harvest ADS must always be submitted for each cutting authority.

Between an initial ADS and a post-harvest ADS, a **reappraisal Data Submission** may be required due to.

1. Suddenly and Severely Damaged Timber, or
2. Minister's Direction.

PHARM – Processes

Effective Dates

The effective date of a fully appraised, non-auctioned timber cutting authority, for a:

1. **Initial ADS** and the initial stumpage rate determination is the effective date of the cutting authority (i.e. cutting permit issuance date).
2. **Post-harvest ADS** and post-harvest stumpage rate determination is the day after the initial ADS effective date or if a reappraisal occurred the day after the reappraisal stumpage rate determination.
3. **Reappraisal Data Submission** because of a;
 - a. **Sudden & Severe Damage** is the first of the month after the month that the event that caused the sudden & severe damage ceases.

NOTES • **Sudden & Severe damage reappraisal data submission will require two post-harvest ADS.**

1. **First post-harvest ADS from the cutting authority effective date of the day after the cutting authority effective date (same as majority of post-harvest ADS).**
 - ⇒ **Expiry date is the last day of the month that the damaging event ceased to occur.**
 - ⇒ **Appraisal data elements are reconciled/updated from the initial ADS appraisal data elements.**
2. **Second post-harvest ADS effective date is the first of the month after the event ceased to occur.**
 - ⇒ **Expiry date is the expiry date of the cutting authority.**
 - ⇒ **Appraisal data elements are the reconciled/updated appraisal data elements from the reappraisal data submission.**
- b. **Minister Direction** is the date of the minister’s determination, or the date specified in the minister’s determination.

NOTES • **Minister Direction may only be on the date the Minister signs the reappraisal direction or the Minister may direct the reappraisal to be on any future date from the date the Minister signs the direction.**

- The Minister has no ability to retroactively direct a reappraisal!

The effective date of the initial ADS establishes the CAM source of the equipment rates and labour rates for a cutting authority Engineering Cost Estimate (ECE) project. The source of equipment and labour rates for a:

1. sudden & severe damage reappraisal does not change.
2. Minister directed reappraisal does not change unless the Minister specifically directs it.

Coast Area Pricing appraisal staff recommend the practice of requesting the issuance of a cutting authority’s effective date be at least two days prior to the date of any proposed

timber pricing policy change to allow both the initial and post-harvest ADS to be under the same pricing policy.

Initial Appraisal Data Submission

For a fully appraised non-auctioned timber cutting authority, the initial ADS is submitted in ECAS to the district appraisal staff. The submission in ECAS occurs at the same time or after the Electronic Submission Framework (ESF) data submission is submitted to district tenure staff for cutting authority issuance.

The district must then review the initial ADS prior to the issuance of the cutting permit:

1. for errors and omissions relating to CAM sections 2.2.2 and 2.3.1 (e.g., the cruise has been confirmed to be acceptable; the cruise compilation is correct; the cutblock configuration within the cutting authority area is acceptable);
2. that the correct management unit is selected;
3. that the proposed harvest method is suitable and produces the highest stumpage (e.g. helicopter versus conventional); and
4. if applicable, an approved road use charge is attached.

District appraisal staff may seek clarification about possible errors or omissions regarding the above criteria, from the submitting forest professional. Subsequently, in the appraisal process, the Statutory Decision Maker (SDM) has the discretion to review all appraisal data elements of the initial ADS and seek clarification prior to the determination of the initial stumpage rate.

It is recommended that district appraisal staff notify an SDM if they become aware of an error or omission that is beyond the scope of their review. Additionally, district appraisal staff may communicate potential issues identified in the initial ADS that they think may be relevant during a post-harvest ADS review so that the information can be recorded in the risk rating system accordingly.

If a road is already constructed provide As Built information in the initial ADS. Remember that as an SFP you are required to retain information for a minimum of 7 years so it is possible you as an SFP, not the company/licensee, will be asked about your professional document at a post-harvest ADS should any clarification be required. Therefore, the best practice is to include all supporting documentation in the initial ADS rather than “will provide it if required at a post-harvest ADS”.

Reappraisal under PHARM

A fully appraised, non-auctioned timber cutting authority under PHARM can only be reappraised due to:

1. sudden and severe damage to the cutting authority timber; or
2. Minister's Direction.

It is important to understand that when a reappraisal to a cutting authority occurs under PHARM, the cutting authority may require more than a single post-harvest ADS from the submitting forest professional. As a rough rule of thumb, more than a single post-harvest ADS will be required if the reappraisal required a different cruise compilation at the time of the reappraisal. The reason for this is that the EWB variables are provided by the cruise compilation.

Sudden & Severe Damage

A sudden & severe damage reappraisal occurs when 15 percent or more of a cutting authority's total net cruise volume is suddenly & severely damaged by a single event. This type of damaging event occurs most often due to wildfire or a windstorm event.

A reappraisal data submission must be developed and submitted within 90 days of the event ceasing to occur. The stumpage rate determined because of sudden & severe damage reappraisal only applies to volumes that has yet to be harvested on the cutting authority area. The effective date of the sudden & severe damage reappraisal data submission is the first of the month after the event ceases to occur.

For a sudden & severe damage cutting authority, the submitting forest professional must submit two post-harvest ADS. The:

1. first post-harvest ADS:
 - a. provides reconciled/updated appraisal data elements from the initial ADS.
 - the same as would occur with a normal post-harvest ADS.
 - b. effective date being the day after the cutting authority effective date.
 - c. expiry date is the day before the sudden & severe damage reappraisal effective date.
2. second post-harvest ADS:
 - a. reconciled/updated appraisal data elements from the reappraisal data submission.
 - b. effective date being the reappraisal of the cutting authority effective date.
 - c. expiry date is the cutting authority expiry date.

Minister's Direction

A Minister Directed reappraisal occurs either for a:

1. very specific set of circumstances; or
2. new market pricing system (MPS) equation that the Minister directs that all active fully appraised cutting authorities must be reappraised using the new MPS equation.

A reappraisal data submission may be required for the Minister Directed reappraisal depending upon what the Minister directs.

Post-Harvest ADS

When a cutting authority has Minister Direction there may be more than one post-harvest ADS required to be submitted. The following are examples and not a complete list of the permutations and combinations that may occur during the term of the cutting authority. When the:

1. Cruise compilation;
 - a. does not change, when there is a single post-harvest ADS.
 - b. Changes, a post-harvest ADS must be submitted for the date that the cruise compilation changed.
2. Specified operation when cruise compilation does not change a single post-harvest ADS can be provided by the SFP. In the post-harvest ADS the SFP is required to provide:
 - a. specified operations(s) manually entered amount into the ECAS34- Specified Operations based upon information/conditions prior to Minister Direction.

Risk Rating and Review

The SDM will conduct a risk rating of a cutting authority post-harvest ADS and will notify the district and licensee when a post-harvest ADS has been selected for review.

The licensee will be notified within 60 days (as measured from the date that the ECAS status of “Received” occurred) that the post-harvest ADS will have an:

1. office review only, or
2. office review and field review.

The Ministry has 12 months to complete the review (as measured from the date that the ECAS status is “Received”) of the post-harvest ADS.

The risk rating goal is that 30% of the post-harvest ADS will have an office review and 15% will be subject to an office and field review. The risk rating system is responsive to a submitting forest professional’s submission quality, based on previous review results. High and medium risk submissions are more likely to be selected for review. The post-harvest stumpage rate will be determined after the completion of the review.

Those cutting authorities not selected for a review will proceed to the SDM after an administrative review is done for missing, incomplete, or incorrect appraisal details. The post-harvest stumpage rate will then be determined.

Post-Harvest ADS

A licensee's forest professional must submit a post-harvest ADS in ECAS within 180 days of the completion of primary harvest activities (i.e. "logging complete" on all the cutblocks in the cutting authority), or on expiry of the cutting authority (whichever occurs first). An extension to the 180 day limit can be requested to regional staff with a rationale and new timeline, which may be accepted. The post-harvest ADS must reflect post-harvest conditions, therefore the submitter must identify, as a minimum, the following:

- any changes to the appraised harvest method;
- any changes to the cutting authority harvest area
- the actual reserve tree characteristics;
- the actual wildlife tree retention areas (mapped vs un-mapped);
- any changes to specified operation(s);
- any changes to account for an intact cutblock (in accordance with CAM 3.2.2.1);
- the actual FRZ fraction of cutting authority area receiving FRZ waste billing rates;
- any changes to tenure obligation adjustments; and
- any other information that may be required in the post-harvest ADS.

A post-harvest ADS that has been amended because of a timber damaging event or a voluntary deferral of old growth technical advisory panel (TAP) polygons, may be able to include non-tributary development costs if the construction started prior to the event or deferral and was in the initial ADS.

Species and Volume

In the initial ADS, the SFP prescribes the species volumes and associated grades based on the harvest method and any planned reserves in the cutting authority area. When developing the post-harvest ADS, the SFP must reconcile the initial ADS prescription with 'what was actually harvested'.

Some common situations for the SFP to consider in the development of a post-harvest ADS for the cutting authority area:

1. Clearcut harvest
 - ⇒ Are all the species and grades harvested from the cutting authority area as prescribed in the initial ADS?
 - ⇒ If in the initial ADS
 - ◆ all species have equal reduction across the cutting authority area, but actual harvest indicates that all high-value trees (cedar, cypress, fir) were extracted and most of the lower-value trees were left on the cutting authority area to meet retention targets. The SFP of post-harvest ADS must submit information based on what was harvested. Adjustments in cruise compilation need to reflect these changes from prescribed harvest in the initial ADS to the actual harvest.
 - ◆ all species have equal reduction across the cutting authority area, but actual harvest results in clear-cut strips. The SFP of post-harvest ADS must submit what was harvested. A review of the cruise plots for consideration of their contribution to the cruise compilation is needed. A recompilation may be required depending on the location of the cruise plots within the reserve area(s).
2. Dispersed reserve tree retention (partial harvesting)
 - ⇒ Is the harvest dispersed throughout the area prescribed for dispersed reserve tree retention?
 - ⇒ Is the reserve tree retention prescription for all species and grades? If the actual harvest was heavy to the high-value species or grades, then the SFP when developing their post-harvest ADS must account for this in a recompilation.
3. Reserve area(s) that are either mapped or un-mapped.
 - ⇒ Were there any changes to retention areas that impacted cruise plots?
4. Amendments to the cutting authority area.
 - ⇒ Were there any amendments that added or deleted area (see appendix 6-1)?
5. Unamended changes to the cutting authority harvest area.
 - were there unamended areas left standing, or reserve areas moved around?

Amendments to Initial Merchantable Area

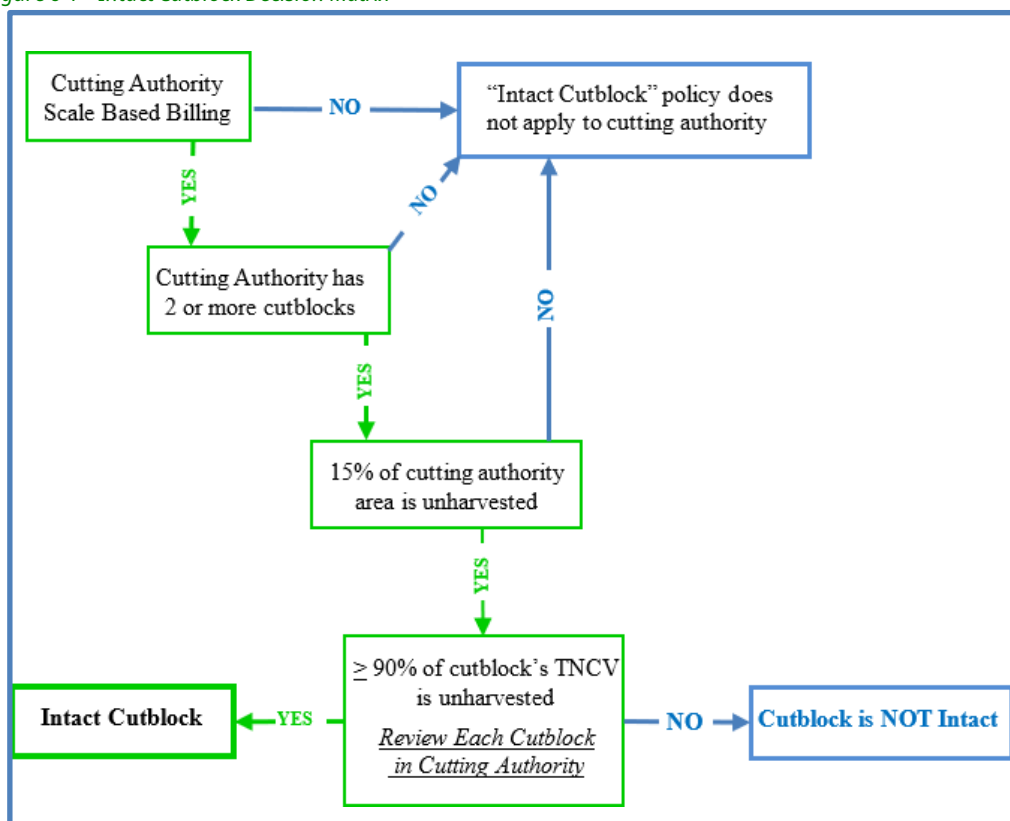
Changes to the cutting authority area boundaries require amendments to the cutting permit. Details regarding amendments to a cutting authority must be obtained from district tenure staff. This is of particular importance for cruise-based cutting authorities, as standing areas left will still be considered part of the cutting authority and stumpage will be billed on the areas, unless there is an approved amendment removing the area(s).

Intact Cutblock

When an SFP is developing the post-harvest ADS for a fully appraised cutting authority consideration of the intact cutblock policy must happen. An “intact cutblock” occurs (decision matrix flow diagram Figure 6-1) when;

1. a cutting authority has scale-based billing,
2. there are two or more cutblocks in the cutting authority,
3. 15% or more of the net merchantable area remains unharvested (standing, felled, or decked) in the cutting authority area, and
4. 90% or more of a cutblock’s total net cruise volume submitted in the initial ADS remains unharvested whether it be standing, felled, or decked.

Figure 6-1 – Intact Cutblock Decision Matrix



When a cutblock is identified as being intact all applicable appraisal information (cruise & development cost) must be removed from the post-harvest ADS. This means the removal of the cruise plots in the cruise recompilation and all road sections and drainage structures associated with the cutblock are not to be included.

Examples

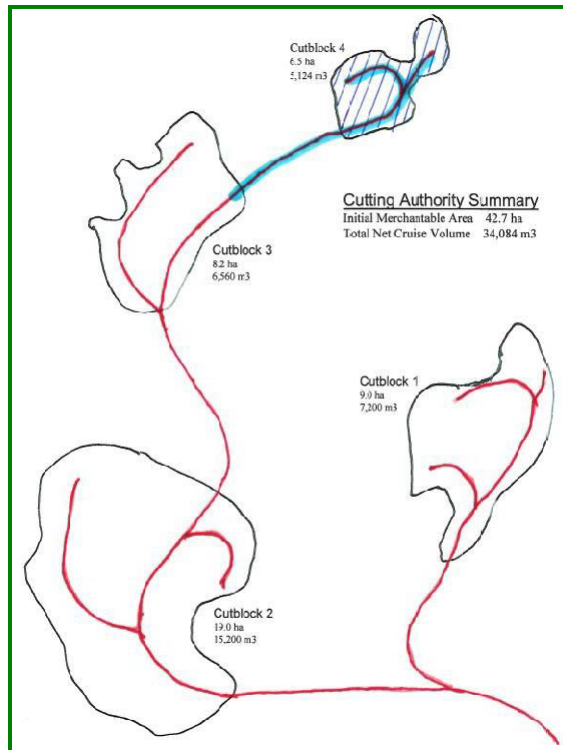
Scenario 1

Cutting authority initial merchantable area of 42.7 ha in the initial ADS. Cutblock 4 was unharvested (blue hash areas in Figure 6-2a) and is 6.5 ha in size containing 5,124 m³ of timber. All areas within cutblocks 1-3 are not intact cutblocks as they were harvested (meets the $\geq 90\%$ of total net cruise volume harvested).

The process for ascertaining if intact cutblock policy applies to a cutting authority is:

1. **Determine if intact cutblock policy is applicable to the cutting authority by:**
 - a. **field review of cutblock to ascertain area unharvested:**
 - i. **area of unharvested,**
 - ii. **volume in deck, and**
 - iii. **volume on the ground.**
 - b. review of scaled volume for the cutting authority.
 - c. for each cutblock use Figure 6-1b decision matrix on whether the cutblock is intact.
2. Results of the unharvested review are that cutblock 4 is unharvested, and cutblocks 1-3 have been fully harvested.
3. Intact cutblock policy review results are cutblock 4 is an intact cutblock.
4. Post-harvest ADS development:
 - a. cruise;
 - i. drop all cruise plots that are within the cutblock 4 area,
 - ii. drop all merchantable area associated with cutblock 4, and
 - iii. recompile cruise for post-harvest ADS appraisal data elements.
 - b. Any development cost (road sections and drainage structures) associated with cutblock 4 must be removed from the post-harvest ADS (blue highlighted in Figure 6-2a).

Figure 6-2a – Intact Cutblock Scenario 1



- NOTE
- the development costs that are associated with cutblock 4 that must be removed due to intact cutblock policy, *may* be used in future tributary cutting authorities.

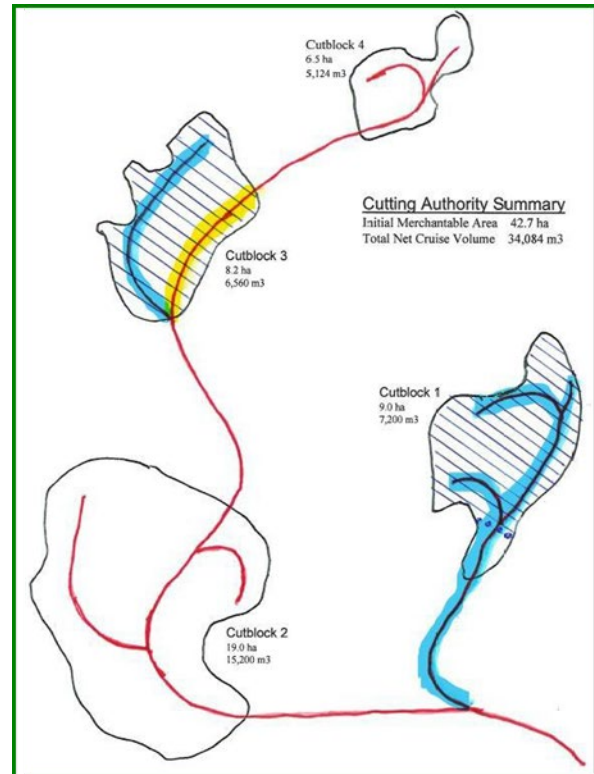
Scenario 2

Cutting authority initial merchantable area of 42.7 ha in the initial ADS. Cutblock 3 was unharvested (blue hash areas in Figure 6-2b) and is 8.2 ha in size containing 6,560 m³ of timber. Cutblock 1 only had 0.8 ha harvested the remained 8.2 ha is unharvested (blue hash areas in Figure 6-2b) as it met the $\geq 90\%$ of total net cruise volume harvested and it is 9.0 ha in size containing 7,200 m³ of timber.

The process for ascertaining if intact cutblock policy applies to a cutting authority is:

1. Determine if intact cutblock policy is applicable to the cutting authority by:
 - a. field review of cutblock to ascertain area unharvested:
 - i. area of unharvested,
 - ii. volume in deck, and
 - iii. volume on ground.
 - b. review of scaled volume for the cutting authority.
 - c. for each cutblock use Figure 6-1b decision matrix on whether the cutblock is intact.
2. Results of unharvested review for:
 - a. Cutblock 1 had 8.2 ha unharvested area.
 - b. Cutblock 2 had no unharvested area.
 - c. Cutblock 3 had 8.2 ha (no harvesting occurred) unharvested.
 - d. Cutblock 4 had no unharvested area.
3. Intact cutblock policy review results;
 - a. unharvested 15% of the initial merchantable area threshold has been met in this scenario,

Figure 6-2b – Intact Cutblock Scenario 2



Total area unharvested is 16.4 ha, therefore cutting authority area unharvested meets the intact cutblock policy as it exceeds 15% of the initial merchantable area threshold, which in this instance is 6.4 ha.

$$42.7 \text{ ha} * 0.15 = 6.4 \text{ ha}$$

- b. cutblock total net cruise volume (TNCV) is greater than or equal to 90% of cutblock's TNCV in initial ADS.

In this scenario the following have met these criteria;

Cutblock 1 8.2 ha unharvested results in 6,560 m³ of unharvested TNCV.

(vol per ha from cruise compilation for cutblock 1 is 800 m³/ha)

$$800 \text{ m}^3/\text{ha} * 8.2 \text{ ha} = 6,560 \text{ m}^3$$

$$7,200 \text{ (TNCV cutblock 1)} * 0.90 = 6,480$$

Cutblock 3 had no harvesting activity resulting in 6,560 m³ of unharvested TNCV.

4. Post-harvest ADS development:

a. cruise;

- i. drop all cruise plots that are within:

A. cutblock 1 area, and

B. cutblock 3 area.

- ii. drop all merchantable area associated with

A. cutblock 1 area, and

B. cutblock 3 area.

- iii. recompile cruise for post-harvest ADS appraisal data elements.

b. development cost (road sections and drainage structures) for:

- i. **Cutblock 1** must all (blue highlighted in Figure 6-2b) not be included in the post-harvest ADS.
- ii. **Cutblock 3** the blue highlighted road section and drainage structure development cost must not be included in the post-harvest ADS.

Reason why the yellow highlighted road section and drainage structure development may be included in the post-harvest ADS is that they are required to access Cutblock 4.

- NOTE
- **the development cost that is associated with cutblock 1 & 3 that must be removed due to intact cutblock policy, may be used in future tributary cutting authorities.**

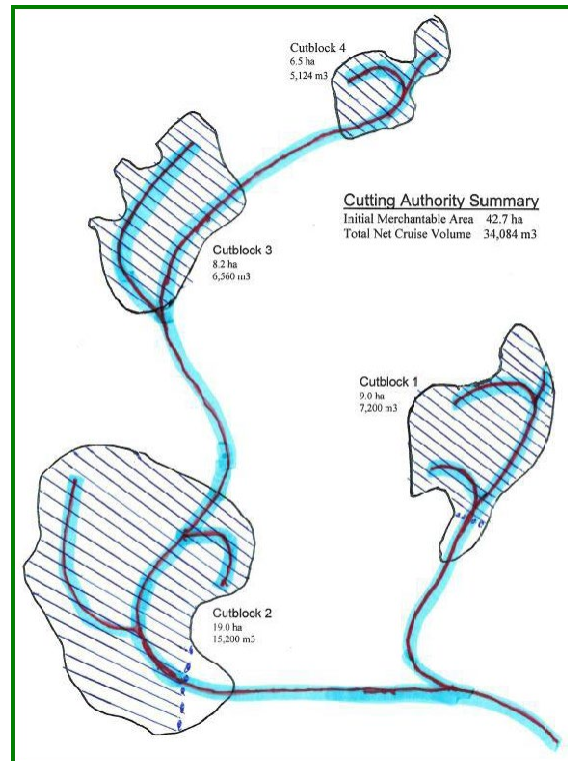
Scenario 3

Cutting authority initial merchantable area of 42.7 ha in the initial ADS. All Cutblocks are considered unharvested (blue hash areas in Figure 6-2c) as no harvesting occurred in Cutblocks 3 & 4 and Cutblocks 1 & 2 had less than 10% of the total net cruise volume harvested.

The process for ascertaining if intact cutblock policy applies to a cutting authority is:

1. **Determine if intact cutblock policy is applicable to the cutting authority by:**
 - a. **field review of cutblock to ascertain area unharvested:**
 - i. **area of unharvested,**
 - ii. **volume in deck, and**
 - iii. **volume on ground.**
 - c. review of scaled volume for the cutting authority.
 - d. for each cutblock use Figure 6-1b decision matrix on whether the cutblock is intact.
 2. Results of the unharvested review are all cutblocks have not been harvested.
 3. Intact cutblock policy review results are all cutblocks are intact cutblocks.
 4. Post-harvest ADS development:
 - a. Cruise
 - i. All cruise plots retained (thus no change to cruise compilation).
 - ii. Net merchantable area is retained (thus no change to the merchantable area).
 - b. All development cost from initial ADS is retained in cutting authority.
- NOTE • **Development costs in this cutting authority appraisal *can not* be included in another cutting authority appraisal. If the cutting authority is surrendered the costs could be used within two years in another cutting authority.**

Figure 6-2c – Intact Cutblock Scenario 3



Development Cost

Development cost for road sections and drainage structures in a post-harvest ADS must reflect the actual works.

Tabular Roads

Bank height tabular roads in a post-harvest ADS must be based upon actual measurement of the road after construction. There is no other supporting information required other than in the ECAS37 – Tabular Road screen.

It will be the appraisal data elements on the ECAS37 – Tabular Road screen that will be used for both the office and field review.

Tabular Bridges

Tabular bridges in a post-harvest ADS must be recorded based on actual measurement (length and abutment height) of the bridge after construction. There is no other supporting information required other than the ECAS35 – Bridges screen.

It will be the appraisal data elements on the ECAS35 – Bridges screen that will be used for both the office and field review.

Tabular Culverts

Tabular culverts in a post-harvest ADS must be recorded based on the actual location and measurement (diameter and length) of the culverts after construction. The Culvert Worksheet is the supporting information required for the total diameter and lengths recorded in the ECAS36 – Culvert screen. Culverts should be correctly identified on the Appraisal Map with their location and size.

It will be the appraisal data elements in the Culvert Worksheet that are provided in the ECAS70 – Attachment screen that will be used for the office and field review.

Engineering Cost Estimates

Engineering Cost Estimate project supporting information requirements are based on the total cost for the project;

1. Evidence for ECE projects less than \$25,000, or
2. Documentation for ECE projects greater than or equal to \$25,000.

Evidence

ECE projects that are less than \$25,000 require:

1. completed ECE Form, and
2. evidence that the project was completed.

If available, SFPs are strongly encouraged to provide as an attachment any other supporting information regarding the project.

Picture evidence needs to identify the location (direction of view [woods vs camp] road name & station number at a minimum in the georeferenced photographs.

Documentation

ECE projects that are equal to or greater than \$25,000 require evidence of construction, a completed ECE Form and supporting documentation. If the ECE project has been completed at the time of the initial ADS, it is strongly recommended that SFP attach the supporting information for the ECE project in the initial ADS ECAS Id.