

File: 20600-00

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To: District Cruising Staff
Southern Interior Forest Region

From: D. S. Robertson, A.T.E.
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Southern Interior Forest Region

Re: Check Cruising -- Age Sampling (*Cruising Manual* Section 3.6.3.1)

An issue has been raised by some consultants that Ministry check cruising staff are not checking ages correctly when a check cruise is being conducted.

Specifically, the concern is that check cruisers:

- are not age sampling the same trees that the cruiser sampled;
- have not checked any of the ages that were done on the original cruise; and
- are unwilling to show the cruiser the check cruise card(s).

Section 3.6.3.1 of the *Cruising Manual* states:

- a. *The age in 10's and tree classes must result in the correct application of the loss factors consistent with the Tree Class Modification of Loss Factor Tables at the end of Table 17. The original and check cruiser must agree on the maturity class of the trees upon review of the drilled cores.*
- b. *95 percent of all trees must be placed in the correct immature and mature class for loss factors*

Regional Interpretation:

1. A key role in the Ministry's mandate of check cruising (and checking the accuracy of data that is to be used for timber pricing purposes) is to verify that trees tallied are given the right tree class and maturity code. If the original cruise has not sampled



sufficient trees to determine that 95 % of all stems are placed in the “correct” maturity classes it could be considered that the sampling technique is biased.

This is a very serious concern in uneven aged stands. Verifying maturity class can only be done when sufficient numbers of tree ages of different diameter classes throughout the timber cruise are sampled.

When the ages taken in a cruise are in the largest diameter trees AND the ages have indicated older immature (or younger immature), it may be reasonable to assume that the rest of the trees are of the same maturity class. This does not mean that smaller trees should not be sampled. These may be suppressed trees (or the largest trees are on exceptionally good growing sites). Common sense and a level of reasonable care should prevail.

IF, on the other hand the largest trees were determined to be mature, it does not follow that the rest of the trees sampled are mature. In this case there must be a verification of these smaller trees’ maturity classes.

2. Ages should be also checked on those sample trees that the cruiser originally measured. This allows Ministry staff to verify that the original ages were measured and recorded accurately. If there are any discrepancies, these should be discussed and further ages should be taken, or an independent party could “count” the ages of the trees in question. The check cruiser may also sample trees that the consultant did not sample.
3. There should be no question as to the transparency of the check cruising process. Ministry check cruising should be done to the highest standard, and check cruise data must be available to all parties, especially if there is a discussion or dispute involved in the check cruise process.

Regional Best Practices for Determining Ages during Check Cruising

1. Trees that have clearly defined age rings that are easily counted (with or without a magnification lens) shall be measured to the nearest year. *If the check cruise is done at a later date than the original cruise (i.e. more than one year) then common sense would indicate that there will be age differences.*
2. Trees with extremely dense annual rings (not clearly defined and cannot be readily counted) must be within 5 years of the check cruise age determination.
3. A bias occurs when ages are checked and the original ages are consistently lower (or higher) than the check age. If this is the situation, the cruise must be rejected, and all ages must be redone.
4. It can be beneficial if other individuals count the same core when annual rings are dense and hard to count. Some district cruising staff often bring the tree cores back to their office and have other staff count the rings.

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This corroborates the age determinations, reassures staff that their measurement and counting techniques are acceptable and reduces the potential for checking bias by the check cruiser (I.e. the check cruiser is not consistently measuring one way or another).

Please use these interpretations and guidelines in check cruising and when determining tree age and tree maturity classes.

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