

WATER SCALING AT DESTINATION SITE

Almost all coastal production was piece-scaled in the water until the introduction of dryland log sorts in the 1970s.

Although water-scaling of logs is a method accepted in the Scaling Manual, it is currently underutilized. This method of scale offers an opportunity to reduce log handling touches, reduce inventory time, reduce delivered log costs and maintain log values.

The Coast Log Handling Project undertook a pilot project to review this method of scaling and remove any barriers to its use.

Key results and findings from the Water Scaling Pilot Project;

- Primary scaling and check scaling at a water scaling destination can be done safely and accurately.
- Site-specific Standard Operating Procedures (SOP) must be in place in order to manage safety and revenue risks associated with water scaling.
- Good timber marking, record keeping, and procedures to maintain timber mark or bundle integrity, must be maintained to ensure accurate revenue billing when water scaling.
- There is an increase in the cost of water scaling when bundle integrity is being maintained. This is primarily the result of added boom boat time while handling, stowing and marking the logs to bundle integrity. The attached generic SOP requires timber mark integrity to be maintained until the logs are scaled. To scale by bundle, the steps for maintaining separation by bundle until the time of scale can be inserted into the SOP.
- Species and log diameter are important considerations in water scaling safety and accuracy. Cedar and fir logs, approximately 14 inches (35cm) or larger in top diameter, were found to be well-suited for safe and accurate scaling on the water.
- The number of log handling touches can be reduced by using water scaling as the primary scale method. This can assist in maintaining log value by decreasing log damage.
- Delivered log costs and log inventory time can be reduced by utilizing water scaling.
- The requirements of the water transportation phase can directly influence the water scaling process.
- The check scaling process on the water can be simplified through the implementation of the [Fluid Check Scale](#) process

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A well-defined SOP and associated safe work procedures are critical in order to ensure the successful implementation of water scaling. This generic SOP is provided as a guidance document to prospective water scale site operators when developing site-specific safety procedures and control measures.

Water Scale - Standard Operating Procedures

Safety:

At all times site safety procedures shall take precedence over all other items. All individuals will ensure that they have reviewed and signed off on the applicable Safe Work Procedures prior to commencing water scaling. A safe work environment is fundamental and is implicit in this SOP.

Scope:

The targeted sorts for water scaling are currently cedar and fir >14" in top diameter. A minor component of incidental logs as part of these sorts which are <14" top diameter are acceptable for water scaling provided they can be boomed securely. If they cannot be boomed securely they need to be subsequently bundled by timber mark and transported for scaling at a land facility. The Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNRORD) district needs to be informed and notified prior to the movement of these logs for scaling.

Scaling Software:

Scaling software with fluid check scale functionality is recommended for water scaling as this enables a 20 – 50 m³ checkable size parcel to be generated.

Supply Chain – Timber Mark Integrity:

Logs for water scaling can be delivered as bundles or loose logs however timber mark integrity must be maintained until the logs are scaled.

Procedures:

These procedures outline the step by step process to be followed from the arrival of the barge at scale site through to the completion of the scaled booms for transport.

1. Prior to the arrival of the barge, a separate storage bag is to be made available for each of the timber marks on the barge. Each storage bag is to be clearly marked with a boom board identifying the designated timber mark.
2. The Log Barge Transport Request (RCOTT01) and approved Mark Site Designation (MSD) transfer from the barge transporter to the receiving site supervisor.

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3. Only one timber mark is to be unloaded from the barge at a time into its designated bag. This bag must then be closed prior to the unloading of the next timber mark. Each timber mark on the barge is to be unloaded using the same segregated process.
4. When the bundles are subsequently moved from the segregated bags and into booms, only one bag with one timber mark is to be opened and sorted at a time.
5. When a bundle is removed from the bag, the bundle tag number is to be checked against the barge addendum record. The bundles are identified as broken or intact.
6. Bundles identified as broken and loose logs are to be tiered in a separate alley way than the complete bundles. This enables a bundle average to be calculated from the average of all intact bundles providing a comparison for the broken bundles.
7. Once the boom is complete it is to be closed off with a boomstick. A unique boom number is to be posted at the head of the boom on a waterproof paper tag identifying the timber mark in the boom. The boom is to be tightened and secured to enable safe walking on the logs for scaling. A wooden swifter log is not to be put on the boom until after scaling is complete.
8. The remaining bags are to be sorted one at a time and moved into individual booms using the same process. Depending on the volume being sorted, multiple booms of the same timber mark may be required in order to produce tight and secure packages for scaling.
9. Scaling of each boom can now commence. Utilization of the fluid check scale software simplifies the check scaling process.
10. Scaling should commence from the head of the boom towards the back in a systematic order. When using the fluid check scale process every 20 – 50 m³ of logs scaled is a reasonable size for a check parcel. Piece counts should be marked as necessary to enable check parcels to be generated using the fluid check parcel software.
11. When using the fluid check parcel process and a check scaler arrives to complete a check scale, the primary scaler and check scaler agree on the log to stop scaling at and the *check parcel* is generated. The primary scaler splits the load and specifies the start and end log of the *check parcel*. For example, if the last log scaled was number 11 it becomes log number 1 of parcel 2 of 2 and log number 1 to 10 comprise check parcel 1 of 2. This feature of the software is only required when a check scale is initiated in order to create a discrete parcel for tracking in HBS.

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12. At the completion of scaling each boom, the following information needs to be attached using a waterproof tag or log marking paint:
 - a) on the first log scaled in the boom: Load Arrival Number, Parcel Number (will be 1 parcel unless separated into additional parcels to generate a check scale), scaler licence, and return number.
 - b) On the last log scaled in the boom: piece count and net metric volume.
13. All records of scales performed must be retained on site and made available for a FLNRORD check scaler or forest officer.
14. When using the fluid check scale process a printout of the last 20-50m³ fluid check parcel scaled as a primary scale event type must be available on site if the original scaler has left.
15. Permission to move, process or otherwise alter the position of the last fluid check parcel from its originally scaled form must be given by the check scaler, forest officer, or other designated FLNRORD staff.
16. On completion of scaling a completed bundle reconciliation report indicating the barge ID, species and grade breakdown, and volume received must be submitted to FLNRORD.

For further details regarding the Water Scaling Pilot Project please contact the Timber Pricing Branch at Forests.RevenueBranchOffice@gov.bc.ca.