

**FOREST SERVICE HANDBOOK
PACIFIC SOUTHWEST REGION
(R5)
VALLEJO, CALIFORNIA**

**FSH 2409.11 - NATIONAL FOREST
LOG SCALING HANDBOOK
CHAPTER 30 - LOG DEFECTS
AND DEDUCTIONS**

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32 - Defect Types and Applicable Deduction Methods

Checks: Fire, Sun, Wind, Weather. These occur (1) in logs left in the woods for an extended period before scaling and (2) in dead trees (snags). Record, separately, deductions made for rot, check or other defects resulting from abnormal delay in scaling caused by the Purchaser and charge them to the Timber Sale Account. (See provision B3.47 of the Timber Sale Contract).

Weather checks, which in the judgment of the scaler are sufficient to affect lumber recovery, that is, which cannot be eliminated in the slab and edgings depicted in the Scribner log diagram rule shown in section 14, are not minor surface defects or blemishes and must receive an appropriate deduction from the gross volume of the log.

Pieces with one or more cull segments. When logs exceed the maximum scaling length, apply defect deductions to each segment separately to arrive at net scale. Scale each segment independently. For example, one 16' scaling segment of a 32-foot log could be cull and the other 16' segment could meet utilization standards.

33 - DEFECT TYPES AND DEDUCTION PROCEDURES

33.1 - Rots

33.1a - Rot, Conk

Phelinus pini is common in second growth ponderosa pine and can be found at low to mid-elevation sites on the west side of the Sierras and Cascades and the east side of the Coast range. Studies have found that deductible defect is limited to the heartwood. Use this rule for ponderosa pine logs with young growth characteristics.

Indicators include:

1. Breakdown of heartwood on butt end extending up the tree.
2. Small conks can be evident, normally limited to lower 16 feet but occasionally will extend to the second cut.
3. Conks are not always present when the heartwood is broken down and heartwood breakdown is not always present when conks are found.

Deductions will be based on the measurement of the heartwood to obtain the dimensions of the area to be squared out. When the deduction affects the entire segment, the squared area will be the result of the average of both ends of the heartwood. Deduct as follows:

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1. If conk is 4 feet or less from the log end and there is breakdown in the heartwood, run the defect for one half the segment length in even 2 foot multiples.
2. If conk is more than 4 feet from the log end and there is a breakdown of the heartwood, run the defect through the entire length of the segment using an average dimension of the heartwood on both ends of the log.
3. If the heartwood is broken down on one end only and no conks are visible, run the defect through one half the segment in even 2 foot multiples.
4. If the heartwood is broken down on both ends of log, average heartwood and run the defect through the length of the log.
5. If conks are located more than 6 feet from log end and there is no breakdown of heartwood, average heartwood and run the measurement 2 feet either side of conk. If running the defect on each side of the conk results in less than 6 feet left, extend through remaining portion of the log.
6. When conks are less than 4 feet from log end and there is no breakdown of heartwood, use the heartwood dimension and run defect 2 feet past conk. The deduction must be in 2 foot multiples.

33.8g. Wormholes

Make a deduction for wormholes that are over one quarter inch in diameter and massed. Massed wormholes are defined as wormholes located on the log end(s) which are 4 inches or less apart in any direction, and/or on the log surface which are 6 inches or less apart in any direction.

If wormholes on a log end are considered to be massed, and the extent of defect within the log cannot be determined, assume the penetration of defect to be one-half the segment length.

When wormholes are found in the sapwood area, determine the average depth of penetration on the log end(s). Use the appropriate deduction method for the area affected.