

Log Term Definitions



QUESTION #1: What is pond value?

Pond value is the amount a mill will pay for a log delivered to the mill location. When a log arrives at a mill, a lot of the time, right after it is measured and graded (called scaling), it goes directly into the mill's holding pond. Thus the "pond value" is what that log is worth floating in the mill's pond.

This is different than say the stumpage value, which is what the log is worth still standing in the woods, or "on the stump".

Let's say a mill is willing to pay \$530 per thousand board feet (MBF) for a 3 Saw grade (3S) Douglas-fir log, if you plopped it into their mill pond. Now if you tried to sell that same log to the mill while it was still out in the woods, not yet cut down, the mill would give you less money for it. Their offer would probably be \$530 minus the costs for getting that log from the woods to their mill pond. These logging costs could include falling (cutting the tree down), bucking (cutting the tree into logs), yarding (transporting the log from the woods to a road), loading (taking the log from the road and placing it on a log truck), hauling (transporting the log via log truck from the road in the woods to the mill), and scaling (measuring the amount of wood in the log and grading it). Rule of thumb is that these costs usually run anywhere from \$125 to \$225 per MBF, depending on the difficulty of getting the trees out of the woods and the distance to haul them to the mill.

QUESTION #2: What is the unit of measurement?

Logs and lumber are usually measured in board feet. A board foot represents a solid piece of wood 12 inches wide, 12 inches long, and 1 inch thick. Sometimes we measure logs by weight, expressed by ton (2,000 pounds). Weight measurement is usually used when the logs are small, and low quality, when you don't want to measure and grade each

piece. The U.S. Forest Service (USFS) and Bureau of Land Management (BLM) sometimes use cubic foot measurement. A cubic foot is a solid piece of wood 1 foot wide, 1 foot thick, and 1 foot long. Here at Oregon Department of Forestry (ODF), we usually use board feet expressed as per thousand board (MBF). This is the timber industry standard for measuring logs and lumber.

QUESTION #3: What is the log scale used in Oregon?

Scaling is the determination of the gross and net volume of logs by the customary commercial units for the product involved. Volume may be expressed in terms of board feet, cords, cubic feet, linear feet, or number of pieces.

The measuring standard used in scaling logs, called a log rule, is a table intended to show amounts of lumber which may be sawed from logs of different sizes under assumed conditions. The log rule does NOT give an accurate measure of the number of board feet that will actually be cut from a given log. Instead, the log rule is, through custom and agreement, just a standard measure of log volume. The difference between the volume of log scale and the actual volume of lumber sawed from the same logs is called "overrun" if the lumber tally exceeds log scale, or "underrun" if it is less. An efficient mill will usually realize a greater overrun than a less efficient mill.

A log rule is the basis for a table of values from which the volume of a log can be expressed in the desired unit of measure. The actual volume of a log, as expressed by lumber tally, is dependent upon the log diameter, length, defect, and form. Variation in log form (taper) is one of the most important factors that determines the amount of overrun that can be realized from a log. A log with considerable taper will usually give a much larger percentage of overrun than will a log that has very little taper. A tree tapers from the stump to the tip.

The Scribner log rule and the modification thereof known as the Scribner Decimal C log rule is the most common rule in use. It is the main rule used in Oregon and Washington by private industry and state agencies. The Scribner log rule was developed by J.M. Scribner over one hundred-fifty years ago. The fourth edition of the rule was published in 1846, but the date of the initial edition is unknown. The original values still hold in spite of efforts to make improvements. The Scribner Dec. C log rule is a modification of the Scribner rule in which the board foot volume is taken to the closest 10 board feet, and then the last digit is dropped.

This rounding off of numbers greatly facilitates record keeping, yet when large numbers of logs are scaled together, the total from both scales will essentially be the same.

There is a slightly different variation of scaling methods used in Oregon and Washington between the west side and the east side of the Cascade mountains, called West-Side Scaling Methods and East-Side Scaling Methods. There is a different environment for growing trees for each side. On the west-side the limiting factor is sunlight. On the east-side the limiting factor is moisture. The maximum scaling length for west-side scaling methods is 40 feet. On the east-side the major portion of the usable wood is usually in the first 20 feet so maximum scaling length for east-side scaling methods is 20 feet. Thus the West-Side Scaling Methods are referred to as "Long Log Scale" and East-Side Scaling Methods are referred to as "Short Log Scale." There are some other subtle differences between west-side and east-side scaling such as: adding 1 inch every 10 feet to the diameter for taper (west-side) compared to measuring the actual taper (east-side); dropping the fraction in the measurement of the scaling diameter (west-side) compared to rounding up the fraction in the measurement of the scaling diameter (east-side); scale logs in multiples of one foot lengths (west-side) compared to scaling logs in multiples of two foot lengths (east-side). West-side log grades are the same as east-side log grades.

QUESTION #4: What are the log grades used in the ODF pond value report?

Here are some general, brief example descriptions of the grades that appear in the ODF Log Price Report.

1P = No. 1 Peeler (Plywood veneers; clear, uniform-colored, face stock veneer - 50%)

2P = No. 2 Peeler (Plywood veneers; clear, uniform-colored, face stock veneer - 35%)

3P = No. 3 Peeler (Plywood veneers; veneer center core, cross core, backs and better)

SM = Special Mill (Logs suitable for the manufacture of Select Merchantable & Better lumber grades - 65% or veneer center core, cross core, backs and better - 100%)

2S = No. 2 Sawmill DF (Logs suitable for the manufacture of Construction & Better lumber grades - 65%)

3S = No. 3 Sawmill DF (Logs suitable for the manufacture of Standard & Better lumber grades - 33%)

4S = No. 4 Sawmill DF (Logs not quite suitable for the manufacture of Construction & Better lumber grades - 33%)

1S = No. 1 Sawmill Pine (Old growth logs suitable for the manufacture of D Select & Better
lumber grades - 50%)

2S = No. 2 Sawmill Pine (Old growth logs suitable for the manufacture of D Select & Better
lumber grades - 35%)

3S = No. 3 Sawmill Pine (Old growth logs suitable for the manufacture of No. 2 Shop & Better
lumber grades - 50%)

4S = No. 4 Sawmill Pine (Logs suitable for the manufacture of No. 2 Common & Better lumber
grades - 50%)

5S = No. 5 Sawmill Pine (Logs 6" diameter suitable for the manufacture of No. 3 Common &
Better lumber grades - 33%)

6S = No. 6 Sawmill Pine (Logs 5" diameter suitable for the manufacture of No. 3 Common &
Better lumber grades - 33%)

SC = Special Peelable Cull (Logs that do not meet the minimum for Peeler or Sawlog grades,
but are suitable for rotary cutting of Firm White Speck and Better veneer - 50%)

Utility = Utility Grade (Logs that do not meet the minimum for Peeler or Sawlog grades, but
are suitable for the production of firm usable chips - 50%)

CR = Camp Run (Log production from the forest of the species or group of species being
logged, that are better than Cull grade)

Pulp = Utility Grade (Suitable for reducing into wood fiber for use in the manufacture of paper
and paper products; usually wood that is too small, of inferior quality, or the wrong
species to be used for lumber or plywood)

Wormy = Wormy Cedar Logs (Not meeting requirements of 4S because of excessive worm
holes)

Additional Comments for these descriptions of the grades:

1. Grade coding is typically species specific, (e.g. 2S WRC doesn't = 2S DF) and have different end product connotations.
2. These grade specifications may imply only that a log is suitable for producing certain types and qualities of products, but a manufacturer may choose to do otherwise, (e.g. a veneer plant may utilize 2S DF to produce veneer).
3. 1P, 2P, and 3P are designations for Douglas-fir (DF). Western Hemlock just has "Peeler". Spruce just has "Select".
4. Special Mill (SM) is all species except Western Red Cedar (WRC).

