

**DIVISION 321
TIMBER TAXES**

150-321.207(1)

Forestland Valuation Rule

(1) *Purpose:* The purpose of this rule is to describe the modeling process used to annually develop preliminary forestland values and to clarify the role of the models in the establishment of the final certified forestland values (ORS 321.216).

(2) *General concepts:*

(a) Values to be developed by this rule are the values of bare forestland.

(b) Models will be developed to determine the statistical relationship between market sales of highest and best use forestland and reasonable indicators of value related to the forest industry in Oregon.

(c) The relationship between market sales and the indicator that best reflects the changes in forestland value over time will be used to establish the preliminary values.

(d) Separate models will be developed for eastern Oregon and western Oregon.

(3) *Forestland Sales Data:*

(a) The department will collect and verify forestland sales data. Only sales with the following characteristics will be considered:

(A) The current or immediate future use of the land is the growing and harvesting of timber;

(B) The improvement values and other non-forestland values can be accurately extracted from the sale price;

(C) The transaction is at arm's-length;

(D) The purchase consideration is cash or financing methods standard to the real estate market;

(E) The allocated bare land value is greater than \$0, except for the FX productivity class in western Oregon; and

(F) For western Oregon sales, the value relationship between acres of each productivity class occurring on the property and sales price is identifiable.

(b) The department will compile the sales data in a forestland sales database.

(c) The department will analyze fiscal year (July 1 to June 30) data to determine a bare land value for each productivity class in western Oregon and one value for eastern Oregon. In doing so, the department will:

(A) Exclude individual forestland sales data that indicates values more than two standard deviations from the arithmetic mean of the forestland values for each western Oregon productivity class or the arithmetic mean of all of the value of sales in eastern Oregon. The department will apply this exclusion only once, either to all sales data within a productivity class on a fiscal year basis or on all sales over all years (1993 to current).

(B) Calculate the fiscal year forestland value for each productivity class as the arithmetic mean of individual sales data occurring during the fiscal year for classes FA-FX in western Oregon and for eastern Oregon as a whole. Only those sales remaining after elimination of any outlying sales as provided in paragraph (3)(c)(A) of this rule will be used to create the average.

(C) Replace fiscal year forestland value data that is unavailable for any of the western Oregon classes or eastern Oregon values due to lack of sales or after the application of paragraph (3)(c)(A). The missing data will be replaced as follows:

(i) If the missing data occurs for the first or last fiscal years, then these values will be replaced by the arithmetic average of all the other available years for the same class.

(ii) If the missing data occurs in the intervening years, then the missing data will be replaced with the arithmetic average of the preceding and following years of the missing data for the same class.

(D) Develop acreage weighted average forestland value for western Oregon (WAVWOR) from sales data for the current appraisal year. The acreage weights used in the WAVWOR calculation are:

FA	FB	FC	FD	FE	FF	FG	FX
3.2%	20.3%	30.2%	17.1%	15.1%	10.1%	3.5%	0.5%

(E) Develop average forestland value for eastern Oregon.

(4) *Forestland Models:*

(a) *Generally:*

(A) The modeling process is intended to find statistical relationships between the WAVWORs for western Oregon or the average forestland value for eastern Oregon for the period 1993 to present and leading or coincident indicators of forestland value (such as log price trends, stumpage price trends, lumber price trends and other indicators to be determined by the Department of Revenue). The result of the statistical analysis of each indicator represents a different model.

(B) Indicators of forestland value suitable for use as inputs in the models to obtain forestland values must be:

(i) Developed based on calculation methods and assumptions that are consistent over time;

(ii) Commonly used by the forest industry as indicators of the economic potential for the production of forest products;

(iii) Readily available and verifiable; and

(iv) Relevant to the operation of the forest products industry in Oregon.

(C) The models will be based on statistically significant structural relationships between historical forestland values and leading or coincident indicators of forestland value. If such a structural model cannot be found, then appropriate time series models may be substituted for the structural models.

(D) The relationships between economic variables in the models may not be contradicted by generally accepted economic theories.

(E) The models may be amended and new models may be added in the future if a more statistically significant correlation becomes evident after the addition of subsequent years' sales data.

(F) The models will be re-estimated in each future year after the addition of the subsequent year's sales data. Re-estimation may include changes to the specification of the error or lag structure.

(G) Forecasts of forestland value will be based on a single model and not the average forecasts of several models.

(b) *Model Selection Criteria:*

(A) Tentative models will be estimated with stumpage, delivered log prices, dimension lumber prices, or other relevant market data at lags of zero to four years to determine the best explanatory variable for inclusion in the final model.

(B) In determining the explanatory variables to be included in the final model, both in- and out-of-sample forecasts will be compared as well as the ability to forecast turning points in forestland values.

(C) The model that displays the best correlation between the WAVWORs or average forestland value for eastern Oregon over time and the trends in the indicators will be selected to determine the annual average forestland values (AAFV). "Best" means that the resulting statistical analysis shows major turning points in values while maintaining a close statistical relationship between the forestland values and the indicator.

(5) *Determination of Preliminary Forestland Values:*

(a) *Western Oregon Model:*

(A) The selected western Oregon model will determine AAFV to be used as the basis for the preliminary values.

(B) Western Forestland Class Spread (WFCS) is the percentage of initial value [ORS 321.354 (4)] by productivity class, FA through FX, as it relates to the acreage weighted average of these values. This spread is shown below:

Forestland Class	FA	FB	FC	FD	FE	FF	FG	FX
Initial values	\$ 450	\$ 357	\$ 299	\$ 254	\$ 169	\$ 122	\$ 51	\$ 6
WFCS	173%	137%	115%	98%	65%	47%	20%	2%

(C) The WFCS will be used to transform AAFV into preliminary forestland class, FA through FX, values. This will be accomplished by multiplying the AAFV by the WFCS percentage for each individual productivity class.

(b) *Eastern Oregon Model*: The selected eastern Oregon model will determine the AAFV to be used as the preliminary value for eastern Oregon.

(6) *Response to Preliminary Values*:

(a) Data pertinent to the forestland valuation process that was not evaluated previously may be collected during a review by the Forestland Value Advisory Committee (ORS 321.213) or through written comments submitted during the public hearing on proposed specially assessed forestland values (ORS 321.210). The pertinent data that meets the standards in subsection 3(a) of this rule will be added to the forestland sales database.

(b) The forestland database will be re-analyzed as in subsection 3(c). This includes screening of any outlying sales data as provided in paragraph (3)(c)(A).

(c) Models will be re-evaluated considering the new forestland sales data and pertinent input on indicators that have met the standards of section (3).

(d) The process of sections (4) and (5) will be used to create revised preliminary values.

(7) *Final values*: The Department of Revenue will use the revised preliminary values and any other information provided by additional research by the agency, the Forestland Value Advisory Committee, submitted written comments, or the hearing process to determine the final values to be certified under ORS 321.216.

Stat. Auth.: ORS 305.100

Stats. Implemented: ORS 321.257

Hist.: REV 10-2002, f. & cert. ef. 12-31-02

150-321.257(3)

Forestland Classification

The forestland classification for western Oregon is as follows:

Land Class	Site Class
FA	I+, I, I-
FB	II, II+
FC	II-, III+
FD	III
FE	III-, IV+
FF	IV, IV-
FG	V
FX	Below site V

Site class is based on Bulletin #201 tables dated 1930 and James King 50 year index tables dated 1966, topographical features, vegetation and soil types.

Stat. Auth.: ORS 305.100

Stats. Implemented: ORS 321.353

Hist.: RD 6-1994, f. 12-15-94, cert. ef. 12-30-94; Renumbered from 150-321.353(1), REV 5-2004, f. 7-30-04, cert. ef. 7-31-04