



STATE OF WEST VIRGINIA  
Department of Revenue  
State Tax Department

2008 JAN 28 PM 3:13

Joe Manchin III  
Governor

Christopher G. Morris  
State Tax Commissioner

ADMINISTRATIVE NOTICE 2008-12

**SUBJECT:** Property Tax -- State Tax Commissioner's Statement for the Determination of the Capitalization Rates for Managed Timberland for Property Tax Purposes for Tax Year 2008, Pursuant to § 110 CSR 1H-12.

On May 1, 1999, the Legislative Rule for the appraisal of managed timberland properties (See § 110 CSR 1H) became effective. This notice will address one of the valuation variables, the capitalization rate, setting forth the generally accepted appraisal procedures used in developing the respective rates and in applying the rates to income streams generated by managed timberland properties. To this end, this notice will discuss development of capitalization rates for managed timberland.

DISCUSSION

The International Association of Assessing Officers text *Property Appraisal and Assessment Administration*, 1990, defines a capitalization rate as: "Any rate used to convert an estimate of income to an estimate of market value; the ratio of net operating income to market value." In other words a rate used to convert an estimate of future income into an estimate of present value.

The average statewide capitalization rate (based on a 5-year weighted moving average of various components) for managed timberland is determined annually by the Tax Commissioner through the use of generally accepted methods of determining such rates. The rate is based on the assumption of a discounted cash flow model based upon harvest intervals reflected in Appendix 4 of § 110 CSR 1H.

Generally, there are three (3) components that must be considered and, if appropriate, developed and included in an overall capitalization rate. These components are: the discount component, the recapture component, and the property tax component. The development of the components is discussed in the Rule under Sections § 110 CSR 1H-12.1. These are as follows:

### DISCOUNT COMPONENT

The summation technique is used to develop a discount component of the capitalization rate. The five sub-components of the discount component are:

**Safe Rate.** -- The safe rate reflects a rate of return that an investor could expect on an investment of minimal risk. This rate is developed through weighted averages of interest rates offered on five-year United States Treasury Bills for the five years immediately preceding the appraisal date.

**Nonliquidity.** -- The nonliquidity rate is developed through an annual review to determine a reasonable estimate of time that timberland, when exposed for sale, remains on the market before being sold. The time thus determined is used to identify United States Treasury Bills with similar time differentials in excess of thirteen-week Treasury Bills. The interest differential between these securities is used to represent the nonliquidity rate. For example, if it is determined that a tract of timberland remains on the market for an average of nine months (39 weeks) before being sold, the nonliquidity rate is derived by subtracting the rate on 13-week Treasury Bills from the rate on one-year Treasury Bills. This review considers the weighted average of these differences for a five-year period immediately preceding the appraisal date.

**Risk Rate.** -- The relative degree of risk of an investment in timberland is developed through an annual review of thirty-year United States Treasury Bills less five-year United States Treasury Bills. The review considers the weighted averages of debt and equity components of these differences for a five-year period immediately preceding the appraisal date.

**Management Rate.** -- The management rate represents the cost of managing the investment, not the cost of managing the timberland. Historically, the management rate has been one-half of one percent (0.5%); therefore, this rate is considered the industry standard for current applications.

**Inflation Rate (negative).** -- Nominal interest rates, including the "safe rate" mentioned above, are higher than real rates by an amount representing expectation of future inflation. Therefore, the capitalization rate must be a real rate, net of expectation of inflation. The inflation rate is established through a weighted average analysis of the most recent five calendar year's urban consumer price index as determined by the United States Department of Labor, Bureau of Labor Statistics.

In determining the discount component of the capitalization rate, the Tax Commissioner determines the sum of the safe rate, the nonliquidity rate, the risk rate, and the management rate, and deducts from this sum the inflation rate.

RECAPTURE COMPONENT

The discount component previously discussed provides an investor with a rate of return-on-investment (interest). The second capitalization rate component, recapture, provides the investor with a return-of-investment principal (i.e.: provides an estimate of return necessary for the investor to recover the principal invested). Once a capitalization rate has been developed, the income series is discounted to present worth through selection of a multiplier(s). The multiplier has a built in factor for recapture thus removing the need to separately accommodate for recapture in the capitalization rate.

PROPERTY TAX COMPONENT

The final component, property taxes, is derived for Class II, Class III, and Class IV properties by multiplying the assessment rate by the statewide average of tax rates on such classes of property.

APPLICATION

The rates as developed above (and shown on attachments) are applied against the difference between future values of the harvest (at determined harvest intervals) less the future value of the management costs less a property tax adjustment for each class of property.

For more information concerning the development of capitalization rates for managed timberland properties see § 110 CSR 1H or contact the State Tax Department at (304) 558-3940.

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West Virginia State Tax Department

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## Key 2005 Managed Timberland Statistics

### Estimation of Required Rate of Return: Class II Rates

**A. Safe Rate of Return (5 Year T-Bill Rate)**

Year	Rate	W/A %	W/A Rate
2006	4.7450	33.33%	1.5817
2005	4.0458	26.67%	1.0789
2004	3.4290	20.00%	0.6858
2003	2.9683	13.33%	0.3958
2002	3.8150	6.67%	0.2543

3.996 %

**B. Nonliquidity Rate**

(12 Month T-Bills vs. 3 Month T-Bills)

Year	Rate	W/A %	W/A Rate
2006	0.0845	33.33%	0.0282
2005	0.4050	26.67%	0.1080
2004	0.4920	20.00%	0.0984
2003	0.2142	13.33%	0.0286
2002	0.3690	6.67%	0.0246

0.288 %

**C. Risk Rate (30 yr T-bills vs 5 yr T-bills)\***

Year	Rate	W/A %	W/A Rate
2006	0.6070	33.33%	0.2023
2005	0.6000	26.67%	0.1600
2004	1.6180	20.00%	0.3236
2003	1.9892	13.33%	0.2652
2002	1.5666	6.67%	0.1044

1.056 %

**D. Management Factor**

0.500 %

**E. Property Tax Component**

(60% of Class II Rate)

Year	Rate	W/A %	W/A Rate
2006	0.726	33.33%	0.2420
2005	0.738	26.67%	0.1968
2004	0.744	20.00%	0.1488
2003	0.744	13.33%	0.0992
2002	0.744	6.67%	0.0496

0.736 %

**F. Inflation Rate:**

(Bureau of Labor Statistics)

Year	Rate	W/A %	W/A Rate
2006	2.500	33.33%	0.8333
2005	3.400	26.67%	0.9067
2004	3.300	20.00%	0.6600
2003	1.900	13.33%	0.2533
2002	2.400	6.67%	0.1600

(2.813) %

**TOTAL REQUIRED RATE OF RETURN (REAL)**

3.763 %

**LESS: PROPERTY TAX COMPONENT**

(0.736)

**TOTAL DISCOUNT COMPONENT**

3.026 %

\* 30 yr T-bills. 2002- 2005 not available, 20 yr. T-bill data used. 2006, 30 yr. T-bill data available

**2006 Stumpage Prices:**

	<u>Sawtimber</u>	<u>Pulpwood</u>			
Stumpage Price Adjustment Fac	0.20%	-0.96%			
		1.0724	1.0941	1.1162	1.1733

**SAWTIMBER**

Region	Current \$/MBF	\$/MBF at age 35	\$/MBF at age 45	\$/MBF at age 55	\$/MBF at age 80
Region 1	257.70	276.37	281.95	287.64	302.37
Region 2	221.10	237.12	241.90	246.78	259.42
Region 3	311.99	334.59	341.35	348.23	366.07
Region 4	258.72	277.46	283.06	288.78	303.57
Region 5	229.97	246.63	251.61	256.69	269.83

**PULPWOOD:**

Region	\$/Cord	\$/cd at age 35	\$/cd at age 45	\$/cd at age 55	\$/cd at age 80
Region 1	8.91	6.36	5.77	5.24	4.12
Region 2	8.72	6.22	5.65	5.13	4.03
Region 3	6.71	4.79	4.35	3.95	3.10
Region 4	6.29	4.48	4.07	3.70	2.91
Region 5	7.13	5.09	4.62	4.19	3.30

**2005 Management Costs:**

Region	\$/acre (1)
1	2.50
2	2.50
3	2.50
4	2.50
5	2.50
State	

**Tax Rates:**

Effective Federal Income Tax Rate	35.00%
Effective WV State Income Tax Rate (6.5% * (1-35))	4.23%
Effective WV Severance Tax Rate (6.0% * (1-35))	3.90%

**Yield (Volumes) (80 year rotation)**

Timberland Productivity Grades	Site Index	Yield - MBF	Yield - Cords
Grade I	75 or more	14.5	10.5
Grade II	65-74	9.7	14.9
Grade III	less than 65	4.5	18.5

## Tax Year 2008 Managed Timberland Statistics

### Estimation of Required Rate of Return: Class III Rates

**A. Safe Rate of Return (5 Year T-Bill Rate)**

Year	Rate	W/A %	W/A Rate
2006	4.7450	33.33%	1.5817
2005	4.0458	26.67%	1.0789
2004	3.4290	20.00%	0.6858
2003	2.9683	13.33%	0.3958
2002	3.8150	6.67%	0.2543

3.996 %

**B. Nonliquidity Rate**

(12 Month T-Bills vs. 3 Month T-Bills)

Year	Rate	W/A %	W/A Rate
2006	0.0845	33.33%	0.0282
2005	0.4050	26.67%	0.1080
2004	0.4920	20.00%	0.0984
2003	0.2142	13.33%	0.0286
2002	0.3690	6.67%	0.0246

0.288 %

**C. Risk Rate (30 yr T-bills vs 5 yr T-bills)\***

Year	Rate	W/A %	W/A Rate
2006	0.6070	33.33%	0.2023
2005	0.6000	26.67%	0.1600
2004	1.6180	20.00%	0.3236
2003	1.9892	13.33%	0.2652
2002	1.5666	6.67%	0.1044

1.056 %

**D. Management Factor**

0.500 %

**E. Property Tax Component**

(60% of Class III Rate)

Year	Rate	W/A %	W/A Rate
2006	1.326	33.33%	0.4420
2005	1.344	26.67%	0.3584
2004	1.356	20.00%	0.2712
2003	1.350	13.33%	0.1800
2002	1.356	6.67%	0.0904

1.342 %

**F. Inflation Rate:**

(Bureau of Labor Statistics)

Year	Rate	W/A %	W/A Rate
2006	2.500	33.33%	0.8333
2005	3.400	26.67%	0.9067
2004	3.300	20.00%	0.6600
2003	1.900	13.33%	0.2533
2002	2.400	6.67%	0.1600

(2.813) %

**TOTAL REQUIRED RATE OF RETURN (REAL)**

4.368 %

**LESS: PROPERTY TAX COMPONENT**

(1.342)

**TOTAL DISCOUNT COMPONENT**

3.026 %

\* 30 yr T-bills. 2002- 2005 not available, 20 yr. T-bill data used. 2006, 30 yr. T-bill data available

**Stumpage Prices:**

	<u>Sawtimber</u>	<u>Pulpwood</u>			
Stumpage Price Adjustment Factor	0.20%	-0.96%			
		1.0724	1.0941	1.1162	1.1733
<b>SAWTIMBER</b>	Current \$/MBF	\$/MBF at age 35	\$/MBF at age 45	\$/MBF at age 55	\$/MBF at age 80
Region 1	257.70	276.37	281.95	287.64	302.37
Region 2	221.10	237.12	241.90	246.78	259.42
Region 3	311.99	334.59	341.35	348.23	366.07
Region 4	258.72	277.46	283.06	288.78	303.57
Region 5	229.97	246.63	251.61	256.69	269.83
		0.7135	0.6479	0.5883	0.4622
<b>PULPWOOD:</b>		\$/cd at age 35	\$/cd at age 45	\$/cd at age 55	\$/cd at age 80
Region 1	8.91	6.36	5.77	5.24	4.12
Region 2	8.72	6.22	5.65	5.13	4.03
Region 3	6.71	4.79	4.35	3.95	3.10
Region 4	6.29	4.48	4.07	3.70	2.91
Region 5	7.13	5.09	4.62	4.19	3.30

**Management Costs:**

Region	<u>\$/acre (1)</u>
1	2.50
2	2.50
3	2.50
4	2.50
5	2.50

**Tax Rates:**

Effective Federal Income Tax Rate		35.00%
Effective WV State Income Tax Rate	(9%*(1-.35))	5.85%
Effective WV Severance Tax Rate	(6.0%*(1-.35))	3.90%

**Yield (Volumes) (80 year rotation)**

Timberland Productivity Grades	Site Index	Yield - MBF	Yield - Cords
Grade I	75 or more	14.5	10.5
Grade II	65-74	9.7	14.9
Grade III	less than 65	4.5	18.5

## Tax Year 2008 Managed Timberland Statistics

### Estimation of Required Rate of Return: Class IV Rates

**A. Safe Rate of Return (5 Year T-Bill Rate)**

Year	Rate	W/A %	W/A Rate
2006	4.7450	33.33%	1.5817
2005	4.0458	26.67%	1.0789
2004	3.4290	20.00%	0.6858
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**B. Nonliquidity Rate**

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**C. Risk Rate (30 yr T-bills vs 5 yr T-bills)\***

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2004	1.6180	20.00%	0.3236
2003	1.9892	13.33%	0.2652
2002	1.5666	6.67%	0.1044

1.056 %

**D. Management Factor**

0.500 %

**E. Property Tax Component**

(60% of Class IV Rate)

Year	Rate	W/A %	W/A Rate
2006	1.794	33.33%	0.5980
2005	1.758	26.67%	0.4688
2004	1.770	20.00%	0.3540
2003	1.770	13.33%	0.2360
2002	1.770	6.67%	0.1180

1.775 %

**F. Inflation Rate:**

(Bureau of Labor Statistics)

Year	Rate	W/A %	W/A Rate
2006	2.500	33.33%	0.8333
2005	3.400	26.67%	0.9067
2004	3.300	20.00%	0.6600
2003	1.900	13.33%	0.2533
2002	2.400	6.67%	0.1600

(2.813) %

**TOTAL REQUIRED RATE OF RETURN (REAL)**

4.801 %

**LESS: PROPERTY TAX COMPONENT**

(1.775)

**TOTAL DISCOUNT COMPONENT**

3.026 %

\* 30 yr T-bills. 2002- 2005 not available, 20 yr. T-bill data used. 2006, 30 yr. T-bill data available



**Stumpage Prices:**

	<u>Sawtimber</u>	<u>Pulpwood</u>			
Stumpage Price Adjustment Factor	0.20%	-0.96%			
		1.0724	1.0941	1.1162	1.1733
<b>SAWTIMBER</b>	Current	\$/MBF at age	\$/MBF at age	\$/MBF at age	\$/MBF at age
Region	\$/MBF	35	45	55	80
Region 1	259.89	278.72	284.34	290.08	304.94
Region 2	214.52	230.06	234.71	239.44	251.71
Region 3	314.31	337.08	343.88	350.82	368.79
Region 4	256.18	274.74	280.28	285.94	300.58
Region 5	220.26	236.22	240.99	245.85	258.44
		0.7135	0.6479	0.5883	0.4622
<b>PULPWOOD:</b>		\$/cd at age	\$/cd at age	\$/cd at age	\$/cd at age
Region	\$/Cord	35	45	55	80
Region 1	7.21	5.14	4.67	4.24	3.33
Region 2	7.43	5.30	4.82	4.37	3.44
Region 3	8.73	6.23	5.65	5.13	4.03
Region 4	5.36	3.83	3.47	3.15	2.48
Region 5	9.04	6.45	5.86	5.32	4.18

**Management Costs:**

Region	<u>\$/acre (1)</u>
1	2.50
2	2.50
3	2.50
4	2.50
5	2.50

**Tax Rates:**

Effective Federal Income Tax Rate		35.00%
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