

NEWTON CENTRAL APPRAISAL DISTRICT



AGRICULTURE, TIMBER AND RURAL LAND

VALUATION REPORT

2022 APPRAISAL YEAR

SUMMARY

OPEN-SPACE VALUATION

Agriculture Values for 2022 were calculated after pasture rental information was obtained from the Agricultural Advisory Board. Rents of \$25.00 for pasture land were used. The capitalization rate furnished by the State Comptroller's office was 10%. This capitalization rate is set in Section 23.53 of the Property Tax Code. The Manual for Appraisal of Agriculture was used to calculate the productivity value. The resulting values for 2022 for pasture are the same as 2021. There are approximately 30,200 acres in pasture land.

TIMBER VALUATION

To calculate the 2022 Timber Productivity Values, we used the Timber Production Value Spreadsheet and Capitalization Rate of 6.85% that we received from the State Comptroller's office. This Capitalization Rate is set in Section 23.74 of the Property Tax Code. The 2021 cap rate was 6.96%

Management costs have remained level. Furthermore, the Capitalization Rate for 2022 decreased .15%

Overall, there is approximately 548,000 acres in Timber use. Timber is the primary industry in Newton County. We also have the best soil in the state to produce and grow Pine trees.

The Texas Property Tax Division contracts with the Texas Forest Service to develop the management and production costs the P.T.D. uses to determine value. Changes to growth rates and other factors based on on-going updates to the Forest Inventory and Analysis are conducted by the U.S. Forest Service.

MODEL

LAND VALUE MODEL

VALUE = ACRES X UNIT PRICE X SIZE ADJ.....X ROAD FACTOR

AG VALUE MODEL

VALUE = $\frac{\text{RENT... - EXPENSES... - TAX RATE..}}{\text{CAP RATE}}$

TIMBER VALUE MODEL

VALUE = $\frac{(\text{PRICE PER ACRE X GROWTH RATES X SOIL TYPES}) - \text{COST}}{\text{CAP RATE}}$

2016 Calculations for Productivity Values

School district	2016 Tax Rate
Newton ISD	1.33
Burkeville ISD	1.3027
Deweyville ISD	1.19752
Total	3.83022
Average ISD Tax Rate	1.27674
Newton County + Lateral Road	.719769

Tax Rate Calculation for Ag Productivity Calculations:

$$\text{Taxes} = \frac{(\text{Av. Tax Rate for ISD} + \text{County Rate}) * \text{Previous Year Productivity Value}}{100}$$

Pasture Tax Calculation 3.5937

2017 Calculations for Productivity Values

School district	2017 Tax Rate
Newton ISD	1.35
Burkeville ISD	1.30020
Deweyville ISD	1.195828
Total	3.846028
Average ISD Tax Rate	1.28200
Newton County + Lateral Road	.713246

Tax Rate Calculation for Ag Productivity Calculations:

$$\text{Taxes} = \frac{(\text{Av. Tax Rate for ISD} + \text{County Rate}) * \text{Previous Year Productivity Value}}{100}$$

Pasture Tax Calculation 3.59144

2018 Calculations for Productivity Values

School district	2018 Tax Rate
Newton ISD	1.38
Burkeville ISD	1.28861
Deweyville ISD	1.190824
Total	3.859434
Average ISD Tax Rate	1.2286478
Newton County + Lateral Road	.690735

Tax Rate Calculation for Ag Productivity Calculations:

Taxes=(Av. Tax Rate for ISD + County Rate)*Previous Year Productivity Value

100

Pasture Tax Calculation 3.5589834

2019 Calculations for Productivity Values

School district	2019 Tax Rate
Newton ISD	1.288086
Burkeville ISD	1.15669
Deweyville ISD	1.109507
Total	3.5542
Average ISD Tax Rate	1.18474
Newton County + Lateral Road	.765648

Tax Rate Calculation for Ag Productivity Calculations:

$$\text{Taxes} = \frac{(\text{Av. Tax Rate for ISD} + \text{County Rate}) * \text{Previous Year Productivity Value}}{100}$$

Pasture Tax Calculation 3.39142

2020 Calculations for Productivity Values

School district	2020 Tax Rate
Newton ISD	1.257581
Burkeville ISD	1.1582
Deweyville ISD	.98775
Total	3.40353
Average ISD Tax Rate	1.13443
Newton County + Lateral Road	.669317

Tax Rate Calculation for Ag Productivity Calculations:

$$\text{Taxes} = \frac{(\text{Av. Tax Rate for ISD} + \text{County Rate}) * \text{Previous Year Productivity Value}}{100}$$

Pasture Tax Calculation 3.2467446

2022 AG PRODUCTIVITY VALUES

PASTURE 180

2022 AG CALUCLATIONS

PASTURE	YEAR	RENT	MGMT. FEE	R.E. TAXES	NET TO LAND	
	2016	\$25.00	\$1.75	\$3.59	\$19.66	
	2017	\$20.00	\$1.75	\$3.59	\$14.91	5 yr
	2018	\$20.00	\$1.50	\$3.56	\$14.94	Av. net
	2019	\$25.00	\$1.50	\$3.39	\$20.11	\$17.92
	2020	\$25.00	\$1.75	\$3.24	\$20.01	

\$89.63

Capitalized \$ 179.26 \$ 180.00/acre

Ag Land Capitalization Rate used for 2022 10.00%

Management Fee is equal to 7% of Revenue

TIMBER CAPITALIZATION RATE HISTORY

YEAR	CAP RATE	YEAR	CAP RATE
1986	14.00%	2018	7.42%
1987	13.25%	2019	7.45%
1988	12.75%	2020	7.28%
1989	12.45%	2021	6.96%
1990	12.75%	2022	6.85%
1991	12.45%		
1992	12.00%		
1993	11.00%		
1994	10.00%		
1995	10.75%		
1996	10.75%		
1997	10.35%		
1998	10.60%		
1999	9.65%		
2000	10.90%		
2001	10.85%		
2002	6.90%		
2003	6.40%		
2004	6.40%		
2005	7.17%		
2006	9.05%		
2007	10.13%		
2008	9.86%		
2009	8.74%		
2010	8.60%		
2011	8.72%		
2012	8.44%		
2013	8.02%		
2014	8.00%		
2015	7.72%		
2016	7.53%		
2017	7.39%		

2022 TIMBER VALUES

TYPE	SOIL I	SOIL II	SOIL III
PINE	443	274	210
MIXED	286	172	96
HARDWOOD	176	87	50
PINE RGT & SMZ	222	137	105
MIXED RGT & SMZ	143	86	48
HARDWOOD RGT & SMZ	88	34	25
PASTURE	180/PER ACRE		

2022 RESTRICTED-USED TIMBER VALUES

CLASS	CLASS	VALUE
SMZ-P1	RGT-P1	222
SMZ-P2	RGT-P2	137
SMZ-P3	RGT-P3	105
SMZ-M1	RGT-M1	143
SMZ-M2	RGT-M2	86
SMZ-M3	RGT-M3	48
SMZ-H1	RGT-H1	88
SMZ-H2	RGT-H2	34
SMZ-H3	RGT-H3	25

SMZ = STREAMSIDE MANAGEMENT ZONE

RGT = REFORESTATION

Tax Year

2022

Five Year Period

2017

2018

2019

2020

2021

Cap Rate

6.85%

Stumpage Prices

	Large Pine Sawtimber		Small Pine Sawtimber		Hardwood Sawtimber		Pine Pulpwood		Hardwood Pulpwood	
	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted
2017	\$26.43	\$25.54	\$10.92	\$9.75	\$27.80	\$30.95	\$7.91	\$7.91	\$8.71	\$9.38
2018	\$23.91	\$28.74	\$12.41	\$13.80	\$29.96	\$29.86	\$6.95	\$7.16	\$10.21	\$9.81
2019	\$26.57	\$30.42	\$13.16	\$14.47	\$35.41	\$35.36	\$8.37	\$9.95	\$13.77	\$13.21
2020	\$21.97	\$25.25	\$12.08	\$13.95	\$32.10	\$32.99	\$7.11	\$7.66	\$9.25	\$7.33
2021	\$25.77	\$29.77	\$13.35	\$14.55	\$32.57	\$33.34	\$7.10	\$7.79	\$7.57	\$8.91

Management Costs East Texas

	Pine				Mixed				Hardwood			
	I	II	III	IV	I	II	III	IV	I	II	III	IV
2017	41.72	35.71	23.52	13.38	29.46	25.22	18.95	13.75	24.02	21.30	15.09	11.84
2018	43.01	36.88	24.26	13.97	29.93	25.84	19.40	14.34	24.25	21.53	15.47	12.29
2019	44.07	37.82	24.59	13.70	31.06	26.71	20.26	15.32	26.41	23.80	17.37	13.97
2020	44.56	38.19	24.99	15.03	31.88	27.32	20.50	15.29	24.06	21.22	15.52	12.40
2021	44.56	38.19	24.99	15.03	31.88	27.32	20.50	15.29	24.06	21.22	15.52	12.40

PLEASE NOTE: THESE SPREADSHEETS ARE A WORK IN PROGRESS.

The Comptroller's Property Tax Assistance Division contracts with the Texas A&M Forest Service (TFS) to develop the management costs for use in determining timberland productivity values for the Property Value Study (PVS). TFS will not have completed its work in developing management costs for the 2021 tax year until November or December 2022. As a result, these spreadsheets use the 2020 management costs for the 2021 tax year. Values to be used in the 2022 PVS will be somewhat different when TFS's management costs for the 2021 tax year are incorporated into the 2022 PVS.

TABLE 1.
Net Average Annual Growth Per Acre by Forest Type and Site Class for Private Timberland

Forest Type	Site Class	Number of Plots	Average Large Pine Sawtimber Growth/Acre (Board Feet)*	Average Small Pine Sawtimber Growth/Acre (Board Feet)*	Average Hardwood Sawtimber Growth/Acre (Board Feet)*	Average Pine Pulpwood Growth/Acre (Cubic Feet)*	Average Hardwood Pulpwood Growth/Acre (Cubic Feet)*
Pine	120 +	221	347.11	96.73	21.84	29.01	4.58
	85 - 119	324	257.09	67.55	19.25	32.17	4.47
	50 - 84	143	176.37	65.57	6.96	25.96	4.13
	< 50	7	166.23	2.55	7.05	34.51	1.32
Mixed	120 +	54	190.06	25.87	112.95	6.58	8.40
	85 - 119	111	132.86	19.23	68.65	8.46	9.09
	50 - 84	75	98.68	24.15	36.21	7.65	8.47
	< 50	9	32.42	10.07	37.28	6.83	3.49
Hardwood	120 +	110	68.97	8.08	149.02	2.68	8.09
	85 - 119	254	33.29	7.10	113.71	2.40	8.79
	50 - 84	192	14.27	7.20	69.58	1.48	6.79
	< 50	65	14.62	1.54	53.60	1.09	5.05

*Board feet are expressed in terms of International 1/4 inch log rule.

Source: Texas A&M Forest Service, from the U.S. Department of Agricultural Forest Service Survey of Texas Timber

TABLE 2. Calculation of Average Annual Growth, Per Acre, by Forest Type and Forest Product

FOREST TYPE: PINE											
		Large Pine Sawtimber		Small Pine Sawtimber		Hardwood Sawtimber		Pine Pulpwood		Hardwood Pulpwood	
Site Class	Number of Plots	Average Growth/Acre (board feet)*	Total Growth per Site Class	Average Growth/Acre (board feet)*	Total Growth per Site Class	Average Growth/Acre (board feet)*	Total Growth per Site Class	Average Growth/Acre (cubic feet)*	Total Growth per Site Class	Average Growth/Acre (cubic feet)*	Total Growth per Site Class
120 +	220.71	347.11	76,609.44	96.73	21,348.12	21.84	4,819.82	29.01	6,402.93	4.58	1,010.08
85-119	324.04	257.09	83,307.73	67.55	21,888.90	19.25	6,237.19	32.17	10,424.22	4.47	1,446.86
50-84	143.17	176.37	25,250.69	65.67	9,386.96	6.96	996.76	25.96	3,716.46	4.13	591.27
<50	6.88	166.23	1,144.29	2.55	17.53	7.05	48.55	34.51	237.60	1.32	9.08
Totals	694.80		186,312.15		52,641.51		12,102.32		20,781.21		3,057.29
			+ 694.800330109731		+ 694.800330109731		+ 694.800330109731		+ 694.800330109731		+ 694.800330109731
			= 268.15 bd. ft.		= 75.76 bd. ft.		= 17.42 bd. ft.		= 29.91 cu. ft.		= 4.40 cu. ft.
FOREST TYPE: MIXED											
		Large Pine Sawtimber		Small Pine Sawtimber		Hardwood Sawtimber		Pine Pulpwood		Hardwood Pulpwood	
Site Class	Number of Plots	Average Growth/Acre (board feet)*	Total Growth per Site Class	Average Growth/Acre (board feet)*	Total Growth per Site Class	Average Growth/Acre (board feet)*	Total Growth per Site Class	Average Growth/Acre (cubic feet)*	Total Growth per Site Class	Average Growth/Acre (cubic feet)*	Total Growth per Site Class
120 +	53.84	190.06	10,233.76	25.87	1,392.83	112.95	6,081.76	6.58	354.15	8.40	452.49
85-119	111.42	132.86	14,802.83	19.23	2,142.12	68.65	7,648.56	8.46	942.84	9.09	1,012.50
50-84	74.80	98.68	7,380.83	24.15	1,806.41	36.21	2,708.66	7.65	572.03	8.47	633.52
<50	9.29	32.42	301.20	10.07	93.54	37.28	346.33	6.83	63.45	3.49	32.39
Totals	249.35		32,718.62		5,434.90		16,785.31		1,932.47		2,130.90
			+ 249.346279971828		+ 249.346279971828		+ 249.346279971828		+ 249.346279971828		+ 249.346279971828
			= 131.22 bd. ft.		= 21.80 bd. ft.		= 67.32 bd. ft.		= 7.75 cu. ft.		= 8.55 cu. ft.
FOREST TYPE: HARDWOOD											
		Large Pine Sawtimber		Small Pine Sawtimber		Hardwood Sawtimber		Pine Pulpwood		Hardwood Pulpwood	
Site Class	Number of Plots	Average Growth/Acre (board feet)*	Total Growth per Site Class	Average Growth/Acre (board feet)*	Total Growth per Site Class	Average Growth/Acre (board feet)*	Total Growth per Site Class	Average Growth/Acre (cubic feet)*	Total Growth per Site Class	Average Growth/Acre (cubic feet)*	Total Growth per Site Class
120 +	109.80	68.97	7,572.59	8.08	887.52	149.02	16,361.76	2.68	293.92	8.09	888.40
85-119	253.85	33.29	8,451.84	7.10	1,802.58	113.71	28,864.95	2.40	609.82	8.79	2,232.28
50-84	191.94	14.27	2,739.12	7.20	1,382.35	69.58	13,355.86	1.48	283.92	6.79	1,303.99
<50	65.27	14.62	954.09	1.54	100.39	53.60	3,498.83	1.09	71.19	5.05	329.65
Totals	620.86		19,717.64		4,172.84		62,081.40		1,258.85		4,754.32
			+ 620.85759988869		+ 620.85759988869		+ 620.85759988869		+ 620.85759988869		+ 620.85759988869
			= 31.76 bd. ft.		= 6.72 bd. ft.		= 99.99 bd. ft.		= 2.03 cu. ft.		= 7.66 cu. ft.

*Board feet are expressed in terms of International 1/4 inch log rule.

TABLE 3.
Average Annual Timber Growth, Measured in Terms of Forest Products,
on an Average Acre of Timberland, by Forest Type

Forest Type	Board Feet* per Acre per Year			Cubic Feet per Acre per Year	
	Large Pine Sawtimber	Small Pine Sawtimber	Hardwood Sawtimber	Pine Pulpwood	Hardwood Pulpwood
Pine	268.15	75.76	17.42	29.91	4.40
Mixed	131.22	21.80	67.32	7.75	8.55
Hardwood	31.76	6.72	99.99	2.03	7.66

* Million board feet are expressed in terms of International 1/4 inch log rule.

TABLE 4.
Calculation of the Weighted Conversion Factors
Used to Change the Volume of Large Pine Sawtimber and Hardwood Sawtimber
Measured in International 1/4 inch Long Rule to Doyle Log Rule

Diameter Class	Volume in Million bd. ft. International 1/4" Log Rule		Total Volume		Percent of Total Volume		Conversion Factor		Weighted Contribution
PINE									
11 - 12.9	5,561.9	÷	30,413.5	=	18.288%	x	0.49037	=	0.08968
13 - 14.9	5,404.5	÷	30,413.5	=	17.770%	x	0.52460	=	0.09322
15 - 16.9	4,963.0	÷	30,413.5	=	16.318%	x	0.59120	=	0.09647
17 - 18.9	4,102.1	÷	30,413.5	=	13.488%	x	0.65273	=	0.08804
19 - 20.9	3,392.2	÷	30,413.5	=	11.154%	x	0.70653	=	0.07881
21 - 28.9	5,694.9	÷	30,413.5	=	18.725%	x	0.81153	=	0.15196
29+	1,295.0	÷	30,413.5	=	4.258%	x	0.92181	=	0.03925
	<u>30,413.5</u>				<u>100.00%</u>				<u>0.63743</u>
Weighted Conversion Factor for Large Pine Sawtimber = 0.63743									
HARDWOOD									
11 - 12.9	2,201.6	÷	16,806.8	=	13.099%	x	0.46377	=	0.06075
13 - 14.9	2,580.2	÷	16,806.8	=	15.352%	x	0.52923	=	0.08125
15 - 16.9	2,408.8	÷	16,806.8	=	14.332%	x	0.59130	=	0.08475
17 - 18.9	2,296.8	÷	16,806.8	=	13.666%	x	0.64600	=	0.08828
19 - 20.9	1,899.9	÷	16,806.8	=	11.304%	x	0.69327	=	0.07837
21 - 28.9	4,220.3	÷	16,806.8	=	25.111%	x	0.78412	=	0.19690
29+	1,199.2	÷	16,806.8	=	7.135%	x	0.87323	=	0.06230
	<u>16,806.8</u>				<u>100.00%</u>				<u>0.65260</u>
Weighted Conversion Factor for Hardwood Sawtimber = 0.65260									

Volume Data from United States Forest Service, Forest Inventory and Analysis
Conversion Factors for International 1/4 Inch Log Rule to Doyle Log Rule from Mississippi State Study conducted by Thomas Matney
Conversion Factors for Doyle Log Rule to Tons from Texas A&M Forest Service

Table 5.

Converting Sawtimber Volumes Measured in International 1/4 Inch Rule and Pulpwood Cubic Foot Volumes to Tons, by Forest Type

FOREST TYPE: PINE													
Forest Product	MBF International 1/4" Rule*		Weighted Doyle Conversion Factor**	=	MBF Doyle Rule	+	MBF Conversion	=	Growth in Board Feet	x	Ton Conversion Factor	=	Growth In Tons

Large Pine Sawtimber	268.15	x	0.63743	=	170.93	+	1,000	=	0.17093	x	8.00	=	1.3674
Hardwood Sawtimber	17.42	x	0.65260	=	11.37	+	1,000	=	0.01137	x	9.00	=	0.1023

	Cubic Feet*		MBF International 1/4" Rule*	+	Cord Conversion Factor	=	Growth in Cords	x	Ton Conversion Factor	=	Growth In Tons
Small Pine Sawtimber			75.76	+	500	=	0.15152	x	2.70	=	0.4091
Pine Pulpwood			29.91	+	81	=	0.36926	x	2.70	=	0.9970
Hardwood Pulpwood			4.40	+	80	=	0.05500	x	2.80	=	0.1540

FOREST TYPE: MIXED													
Forest Product	MBF International 1/4" Rule*		Weighted Doyle Conversion Factor**	=	MBF Doyle Rule	+	MBF Conversion	=	Growth in Board Feet	x	Ton Conversion Factor	=	Growth In Tons

Large Pine Sawtimber	131.22	x	0.63743	=	83.64	+	1,000	=	0.08364	x	8.00	=	0.6691
Hardwood Sawtimber	67.32	x	0.65260	=	43.93	+	1,000	=	0.04393	x	9.00	=	0.3954

	Cubic Feet*		MBF International 1/4" Rule*	+	Cord Conversion Factor	=	Growth in Cords	x	Ton Conversion Factor	=	Growth In Tons
Small Pine Sawtimber			21.80	+	500	=	0.04360	x	2.70	=	0.1177
Pine Pulpwood			7.75	+	81	=	0.09568	x	2.70	=	0.2583
Hardwood Pulpwood			8.55	+	80	=	0.10688	x	2.80	=	0.2993

FOREST TYPE: HARDWOOD													
Forest Product	MBF International 1/4" Rule*		Weighted Doyle Conversion Factor**	=	MBF Doyle Rule	+	MBF Conversion	=	Growth in Board Feet	x	Ton Conversion Factor	=	Growth In Tons

Large Pine Sawtimber	31.76	x	0.63743	=	20.24	+	1,000	=	0.02024	x	8.00	=	0.1619
Hardwood Sawtimber	99.99	x	0.65260	=	65.25	+	1,000	=	0.06525	x	9.00	=	0.5873

	Cubic Feet*		MBF International 1/4" Rule*	+	Cord Conversion Factor	=	Growth in Cords	x	Ton Conversion Factor	=	Growth In Tons
Small Pine Sawtimber			6.72	+	500	=	0.01344	x	2.70	=	0.0363
Pine Pulpwood			2.03	+	81	=	0.02506	x	2.70	=	0.0677
Hardwood Pulpwood			7.66	+	80	=	0.09575	x	2.80	=	0.2681

*From Table 3

**From Table 4

Conversion Factors for International 1/4 Inch Log Rule to Doyle Log Rule from Mississippi State Study conducted by Thomas Matney

Conversion Factors for Doyle Log Rule to Tons & for International 1/4" Rule to Cord from Texas A&M Forest Service, Timber Price Trends

TABLE 6.
Average Annual Timber Growth, Measured in Tons per Acre per Year, by Forest Type and Forest Product

Forest Type	Large Pine Sawtimber	Small Pine Sawtimber	Hardwood Sawtimber	Pine Pulpwood	Hardwood Pulpwood
Pine	1.3674	0.4091	0.1023	0.9970	0.1540
Mixed	0.6691	0.1177	0.3954	0.2583	0.2993
Hardwood	0.1619	0.0363	0.5873	0.0677	0.2681

**TABLE 7.
Average Stumpage Prices Measured in Price per Ton for Forest Products**

Year	Large Pine Sawtimber			Small Pine Sawtimber			Hardwood Sawtimber		
	Unweighted Average Prices	Weighted Average Prices	Average of Unweighted and Weighted Prices	Unweighted Average Prices	Weighted Average Prices	Average of Unweighted and Weighted Prices	Unweighted Average Prices	Weighted Average Prices	Average of Unweighted and Weighted Prices
2017	\$26.43	\$25.54	\$25.99	\$10.92	\$9.75	\$10.34	\$27.80	\$30.95	\$29.38
2018	\$23.91	\$28.74	\$26.33	\$12.41	\$13.80	\$13.11	\$29.96	\$29.86	\$29.91
2019	\$26.57	\$30.42	\$28.50	\$13.16	\$14.47	\$13.82	\$35.41	\$35.36	\$35.39
2020	\$21.97	\$25.25	\$23.61	\$12.08	\$13.95	\$13.02	\$32.10	\$32.99	\$32.55
2021	\$25.77	\$29.77	\$27.77	\$13.35	\$14.55	\$13.95	\$32.57	\$33.34	\$32.96

Year	Pine Pulpwood			Hardwood Pulpwood		
	Unweighted Average Prices	Weighted Average Prices	Average of Unweighted and Weighted Prices	Unweighted Average Prices	Weighted Average Prices	Average of Unweighted and Weighted Prices
2017	\$7.91	\$7.91	\$7.91	\$8.71	\$9.38	\$9.05
2018	\$6.95	\$7.16	\$7.06	\$10.21	\$9.81	\$10.01
2019	\$8.37	\$9.95	\$9.16	\$13.77	\$13.21	\$13.49
2020	\$7.11	\$7.66	\$7.39	\$9.25	\$7.33	\$8.29
2021	\$7.10	\$7.79	\$7.45	\$7.57	\$8.91	\$8.24

Unweighted averages are arithmetic means of reported transactions.

Weighted averages are equal to the total value of reported transactions divided by the total volume of reported transactions.

Source: Texas A&M Forest Service

TABLE 8.
Calculation of the Annual Average Gross Income of an Acre of Timber Growth, by Forest Product

PINE														Average Annual Gross Income								
Year	Sawtimber Growth (tons)						Pulp Growth (tons)						=	Average Annual Gross Income								
	Large Pine*	x	Price **	+	Small Pine*	x	Price **	+	Hardwood*	x	Price **	+			Pine*	x	Price **	+	Hardwood*	x	Price **	
2017	(	1.3674	x	\$25.99	)+(	0.4091	x	\$10.34	)+(	0.1023	x	\$29.38	)+(	0.9970	x	\$7.91	)+(	0.1540	x	\$9.05	)=	\$52.06
2018	(	1.3674	x	\$26.33	)+(	0.4091	x	\$13.11	)+(	0.1023	x	\$29.91	)+(	0.9970	x	\$7.06	)+(	0.1540	x	\$10.01	)=	\$53.00
2019	(	1.3674	x	\$28.50	)+(	0.4091	x	\$13.82	)+(	0.1023	x	\$35.39	)+(	0.9970	x	\$9.16	)+(	0.1540	x	\$13.49	)=	\$59.45
2020	(	1.3674	x	\$23.61	)+(	0.4091	x	\$13.02	)+(	0.1023	x	\$32.55	)+(	0.9970	x	\$7.39	)+(	0.1540	x	\$8.29	)=	\$49.59
2021	(	1.3674	x	\$27.77	)+(	0.4091	x	\$13.95	)+(	0.1023	x	\$32.96	)+(	0.9970	x	\$7.45	)+(	0.1540	x	\$8.24	)=	\$55.75

MIXED														Average Annual Gross Income								
Year	Sawtimber Growth (tons)						Pulp Growth (tons)						=	Average Annual Gross Income								
	Large Pine*	x	Price **	+	Small Pine*	x	Price **	+	Hardwood*	x	Price **	+			Pine*	x	Price **	+	Hardwood*	x	Price **	
2017	(	0.6691	x	\$25.99	)+(	0.1177	x	\$10.34	)+(	0.3954	x	\$29.38	)+(	0.2583	x	\$7.91	)+(	0.2993	x	\$9.05	)=	\$34.98
2018	(	0.6691	x	\$26.33	)+(	0.1177	x	\$13.11	)+(	0.3954	x	\$29.91	)+(	0.2583	x	\$7.06	)+(	0.2993	x	\$10.01	)=	\$35.81
2019	(	0.6691	x	\$28.50	)+(	0.1177	x	\$13.82	)+(	0.3954	x	\$35.39	)+(	0.2583	x	\$9.16	)+(	0.2993	x	\$13.49	)=	\$41.10
2020	(	0.6691	x	\$23.61	)+(	0.1177	x	\$13.02	)+(	0.3954	x	\$32.55	)+(	0.2583	x	\$7.39	)+(	0.2993	x	\$8.29	)=	\$34.59
2021	(	0.6691	x	\$27.77	)+(	0.1177	x	\$13.95	)+(	0.3954	x	\$32.96	)+(	0.2583	x	\$7.45	)+(	0.2993	x	\$8.24	)=	\$37.64

HARDWOOD														Average Annual Gross Income								
Year	Sawtimber Growth (tons)						Pulp Growth (tons)						=	Average Annual Gross Income								
	Large Pine*	x	Price **	+	Small Pine*	x	Price **	+	Hardwood*	x	Price **	+			Pine*	x	Price **	+	Hardwood*	x	Price **	
2017	(	0.1619	x	\$25.99	)+(	0.0363	x	\$10.34	)+(	0.5873	x	\$29.38	)+(	0.0677	x	\$7.91	)+(	0.2681	x	\$9.05	)=	\$24.81
2018	(	0.1619	x	\$26.33	)+(	0.0363	x	\$13.11	)+(	0.5873	x	\$29.91	)+(	0.0677	x	\$7.06	)+(	0.2681	x	\$10.01	)=	\$25.47
2019	(	0.1619	x	\$28.50	)+(	0.0363	x	\$13.82	)+(	0.5873	x	\$35.39	)+(	0.0677	x	\$9.16	)+(	0.2681	x	\$13.49	)=	\$30.13
2020	(	0.1619	x	\$23.61	)+(	0.0363	x	\$13.02	)+(	0.5873	x	\$32.55	)+(	0.0677	x	\$7.39	)+(	0.2681	x	\$8.29	)=	\$26.13
2021	(	0.1619	x	\$27.77	)+(	0.0363	x	\$13.95	)+(	0.5873	x	\$32.96	)+(	0.0677	x	\$7.45	)+(	0.2681	x	\$8.24	)=	\$27.08

* From Table 6

**From Table 7

TABLE 9.
Calculation of the Potential Growth of an Average Acre of Timber, East Texas

County	Number of Privately-Owned Acres (000's) by Site Class					All Classes
	165+	120-165	85-120	50-85	<50	
Anderson	9.1	59.0	182.5	125.9	10.3	386.8
Angelina	15.4	91.2	194.0	21.1	1.1	322.8
Bowie	7.8	18.2	142.7	51.4	5.6	225.7
Camp	1.4	6.6	21.7	8.4	0.0	38.1
Cass	12.5	85.7	243.1	65.8	7.5	414.5
Chambers	0.0	1.8	5.5	19.4	2.4	29.0
Cherokee	10.4	84.8	198.8	96.6	1.9	392.4
Franklin	1.0	1.2	36.3	31.2	11.7	81.4
Gregg	2.3	8.1	56.1	16.4	0.0	82.9
Grimes	0.0	5.7	25.8	87.2	26.1	144.7
Hardin	10.3	72.2	200.8	155.6	11.0	449.9
Harris	2.4	11.1	49.5	67.2	6.5	136.7
Harrison	8.1	79.4	224.1	45.8	2.1	359.5
Henderson	0.4	4.8	52.3	75.9	51.0	184.3
Houston	3.6	35.4	154.3	102.7	7.7	303.5
Jasper	21.9	84.9	204.7	155.9	14.2	481.7
Jefferson	3.2	9.6	23.5	19.8	9.3	65.4
Leon	0.0	5.1	78.2	147.8	67.8	299.0
Liberty	15.5	56.3	140.6	132.9	20.6	365.9
Madison	1.0	1.9	17.7	38.2	7.0	65.7
Marion	3.6	43.8	133.7	21.0	0.6	202.6
Montgomery	4.4	39.4	165.4	97.9	17.3	324.4
Morris	1.2	7.3	30.8	16.8	0.3	56.5
Nacogdoches	20.2	138.9	210.1	39.1	2.2	410.6
Newton	17.2	103.1	253.7	150.1	8.5	532.5
Orange	1.2	16.5	40.9	39.6	4.4	102.5
Panola	19.8	111.4	202.1	33.3	1.2	367.7
Polk	31.3	106.3	230.7	147.3	13.6	529.2
Red River	3.2	15.2	151.3	133.0	17.0	319.8
Rusk	15.5	80.2	139.4	83.4	3.0	321.6
Sabine	10.0	65.8	108.3	12.0	0.0	196.1
San Augustine	11.9	70.7	110.2	6.2	0.5	199.6
San Jacinto	5.3	35.5	109.6	63.1	9.7	223.3
Shelby	16.6	68.8	146.9	24.7	0.0	256.9
Smith	2.7	26.1	137.5	61.7	6.9	235.0
Titus	0.0	9.8	48.4	33.5	7.0	98.7
Trinity	14.5	58.8	118.0	68.9	5.2	265.5
Tyler	10.4	85.5	231.4	153.2	7.7	488.3
Upshur	5.3	37.0	123.4	36.4	3.5	205.6
Van Zandt	0.0	0.0	57.1	56.2	27.3	140.6
Walker	7.9	39.4	120.6	84.3	8.6	260.7
Waller	0.6	3.7	24.2	35.2	9.8	73.5
Wood	0.1	21.8	146.7	58.9	9.8	237.3
All Counties	329.4	1,907.7	5,292.5	2,920.9	427.8	10,878.4

TABLE 9.
Calculation of the Potential Growth of an Average Acre of Timber, East Texas
(continued)

Growth Potentials County / Soil Type	Potential (Cubic Feet of Growth) x Number of Acres (000's)					Total
	163 165+	163 120-165	123 85-120	85 50-85	60 <50	
Anderson	1,477.7	9,619.0	22,444.9	10,704.1	618.2	44,863.9
Angelina	2,503.0	14,868.7	23,861.6	1,792.0	68.4	43,093.8
Bowie	1,271.7	2,969.1	17,547.3	4,371.5	337.2	26,496.8
Camp	224.9	1,083.9	2,673.4	712.4	0.0	4,694.6
Cass	2,037.2	13,961.8	29,900.9	5,589.2	448.5	51,937.5
Chambers	0.0	289.7	678.3	1,647.2	142.0	2,757.2
Cherokee	1,695.7	13,818.6	24,455.5	8,208.6	111.6	48,290.0
Franklin	169.5	197.9	4,460.1	2,652.0	703.2	8,182.8
Gregg	367.4	1,316.4	6,903.6	1,394.3	0.0	9,981.7
Grimes	0.0	927.2	3,175.0	7,407.8	1,563.1	13,072.9
Hardin	1,678.5	11,765.3	24,698.9	13,224.4	660.3	52,027.4
Harris	394.6	1,803.7	6,089.8	5,714.8	388.6	14,391.5
Harrison	1,325.6	12,937.7	27,564.5	3,891.7	125.5	45,844.9
Henderson	58.7	777.8	6,426.9	6,452.1	3,058.3	16,773.8
Houston	579.7	5,769.1	18,974.1	8,725.8	459.1	34,507.8
Jasper	3,574.3	13,836.6	25,172.7	13,255.0	854.3	56,692.9
Jefferson	524.9	1,560.8	2,886.8	1,684.2	559.8	7,216.4
Leon	0.0	836.0	9,620.6	12,565.1	4,069.5	27,091.2
Liberty	2,528.9	9,173.9	17,298.8	11,293.3	1,235.5	41,530.3
Madison	166.3	307.7	2,171.6	3,244.9	418.7	6,309.1
Marion	584.7	7,132.8	16,445.8	1,784.3	36.0	25,983.6
Montgomery	724.1	6,419.4	20,345.0	8,317.5	1,038.8	36,844.8
Morris	198.3	1,197.1	3,792.9	1,430.0	18.0	6,636.4
Nacogdoches	3,300.6	22,637.4	25,845.3	3,326.8	129.6	55,239.7
Newton	2,798.1	16,805.7	31,201.0	12,755.0	507.9	64,067.6
Orange	202.1	2,686.6	5,029.7	3,364.0	261.3	11,543.7
Panola	3,229.1	18,151.3	24,853.7	2,831.9	70.8	49,136.8
Polk	5,102.7	17,318.9	28,380.4	12,519.1	816.6	64,137.8
Red River	525.7	2,481.3	18,604.0	11,306.8	1,022.9	33,940.6
Rusk	2,530.0	13,080.3	17,145.7	7,088.3	182.4	40,026.7
Sabine	1,634.8	10,719.4	13,322.4	1,023.6	0.0	26,700.1
San Augustine	1,944.4	11,518.6	13,559.0	528.5	31.2	27,581.7
San Jacinto	871.0	5,792.1	13,479.0	5,362.0	583.1	26,087.2
Shelby	2,698.3	11,208.0	18,068.9	2,098.9	0.0	34,074.1
Smith	443.8	4,251.0	16,915.3	5,247.8	416.0	27,273.8
Titus	0.0	1,591.7	5,953.6	2,844.9	421.7	10,811.9
Trinity	2,366.4	9,591.3	14,518.0	5,860.4	309.6	32,645.8
Tyler	1,702.7	13,939.2	28,465.5	13,021.4	464.0	57,592.8
Upshur	867.1	6,023.7	15,180.5	3,094.7	208.5	25,374.4
Van Zandt	0.0	0.0	7,018.9	4,775.8	1,641.0	13,435.7
Walker	1,281.4	6,427.0	14,832.0	7,163.8	513.9	30,218.1
Waller	102.6	599.4	2,977.0	2,994.4	587.8	7,261.2
Wood	13.0	3,561.5	18,041.2	5,007.4	586.9	27,210.0
All Counties	53,699.8	310,954.4	650,980.0	248,277.3	25,669.8	1,289,581.3

$1,289,581.3 \div 10,878.4 = 118.55$ cubic feet per acre per year

Data from the United States Forest Service, Forest Inventory and Analysis
 Growth potentials based on the 1975 Boyce Study

TABLE 10.
Calculation of Soil Productivity Multipliers

Soil Productivity Class	Average Maximum Potential Productivity in Southern United States (cu. ft. / acre / yr.)	÷	Average Maximum Potential Productivity (cu. ft. / acre / yr.)	=	Productivity Multiplier
I	163	÷	118.55	=	1.37
II	123	÷	118.55	=	1.04
III	85	÷	118.55	=	0.72
IV	60	÷	118.55	=	0.51

Source: Average Maximum Potential Productivity from Boyce Study

TABLE 11. Calculation of Average Annual Potential Growth Income by Forest Type and Soil Productivity Class

PINE												
Soil Productivity Class	I			II			III			IV		
Year	Gross Income*	Prod. Mult.**	Potential Gross Income	Gross Income*	Prod. Mult.**	Potential Gross Income	Gross Income*	Prod. Mult.**	Potential Gross Income	Gross Income*	Prod. Mult.**	Potential Gross Income
2017	\$52.06 x	1.37 =	\$71.32	\$52.06 x	1.04 =	\$54.14	\$52.06 x	0.72 =	\$37.48	\$52.06 x	0.51 =	\$26.55
2018	\$53.00 x	1.37 =	\$72.61	\$53.00 x	1.04 =	\$55.12	\$53.00 x	0.72 =	\$38.16	\$53.00 x	0.51 =	\$27.03
2019	\$59.45 x	1.37 =	\$81.45	\$59.45 x	1.04 =	\$61.83	\$59.45 x	0.72 =	\$42.80	\$59.45 x	0.51 =	\$30.32
2020	\$49.59 x	1.37 =	\$67.94	\$49.59 x	1.04 =	\$51.57	\$49.59 x	0.72 =	\$35.70	\$49.59 x	0.51 =	\$25.29
2021	\$55.75 x	1.37 =	\$76.38	\$55.75 x	1.04 =	\$57.98	\$55.75 x	0.72 =	\$40.14	\$55.75 x	0.51 =	\$28.43
MIXED												
Soil Productivity Class	I			II			III			IV		
Year	Gross Income*	Prod. Mult.**	Potential Gross Income	Gross Income*	Prod. Mult.**	Potential Gross Income	Gross Income*	Prod. Mult.**	Potential Gross Income	Gross Income*	Prod. Mult.**	Potential Gross Income
2017	\$34.98 x	1.37 =	\$47.92	\$34.98 x	1.04 =	\$36.38	\$34.98 x	0.72 =	\$25.19	\$34.98 x	0.51 =	\$17.84
2018	\$35.81 x	1.37 =	\$49.06	\$35.81 x	1.04 =	\$37.24	\$35.81 x	0.72 =	\$25.78	\$35.81 x	0.51 =	\$18.26
2019	\$41.10 x	1.37 =	\$56.31	\$41.10 x	1.04 =	\$42.74	\$41.10 x	0.72 =	\$29.59	\$41.10 x	0.51 =	\$20.96
2020	\$34.59 x	1.37 =	\$47.39	\$34.59 x	1.04 =	\$35.97	\$34.59 x	0.72 =	\$24.90	\$34.59 x	0.51 =	\$17.64
2021	\$37.64 x	1.37 =	\$51.57	\$37.64 x	1.04 =	\$39.15	\$37.64 x	0.72 =	\$27.10	\$37.64 x	0.51 =	\$19.20
HARDWOOD												
Soil Productivity Class	I			II			III			IV		
Year	Gross Income*	Prod. Mult.**	Potential Gross Income	Gross Income*	Prod. Mult.**	Potential Gross Income	Gross Income*	Prod. Mult.**	Potential Gross Income	Gross Income*	Prod. Mult.**	Potential Gross Income
2017	\$24.81 x	1.37 =	\$33.99	\$24.81 x	1.04 =	\$25.80	\$24.81 x	0.72 =	\$17.86	\$24.81 x	0.51 =	\$12.65
2018	\$25.47 x	1.37 =	\$34.89	\$25.47 x	1.04 =	\$26.49	\$25.47 x	0.72 =	\$18.34	\$25.47 x	0.51 =	\$12.99
2019	\$30.13 x	1.37 =	\$41.28	\$30.13 x	1.04 =	\$31.34	\$30.13 x	0.72 =	\$21.69	\$30.13 x	0.51 =	\$15.37
2020	\$26.13 x	1.37 =	\$35.80	\$26.13 x	1.04 =	\$27.18	\$26.13 x	0.72 =	\$18.81	\$26.13 x	0.51 =	\$13.33
2021	\$27.08 x	1.37 =	\$37.10	\$27.08 x	1.04 =	\$28.16	\$27.08 x	0.72 =	\$19.50	\$27.08 x	0.51 =	\$13.81

*From Table 8

**From Table 10

TABLE 12.
Average Annual Timber Production Costs

Year	Production Cost
2017	\$35.71
2018	\$36.88
2019	\$37.82
2020	\$38.19
2021	\$38.19

Texas A&M Forest Service develops production costs used in the Comptroller's annual Property Value Study for each of the twelve classes of timberlands. See Texas Timberland Management Cost Studies. Costs listed above are those developed by the Texas A&M Forest Service for Pine II, the most common class in East Texas.

PLEASE NOTE: THESE SPREADSHEETS ARE A WORK IN PROGRESS. The Comptroller's Property Tax Assistance Division contracts with the Texas A&M Forest Service (TFS) to develop the management costs for use in determining timberland productivity values for the Property Value Study (PVS). TFS will not have completed its work in developing management costs for the 2021 tax year until November or December 2022. As a result, these spreadsheets use the 2020 management costs for the 2021 tax year. Values to be used in the 2022 PVS will be somewhat different when TFS's management costs for the 2021 tax year are incorporated into the 2022 PVS.

TABLE 13.
Production Costs Adjusted for Soil Productivity by Forest Type and Soil Productivity Class

PINE												
Soil Productivity Class	I			II			III			IV		
Year	Cost	Factor	Prorated Cost	Cost	Factor	Prorated Cost	Cost	Prorated Cost	Cost	Factor	Prorated Cost	
2017	x	=	\$41.72	x	=	\$35.71	x	\$23.52	x	=	\$13.38	
2018	x	=	\$43.01	x	=	\$36.88	x	\$24.26	x	=	\$13.97	
2019	x	=	\$44.07	x	=	\$37.82	x	\$24.59	x	=	\$13.70	
2020	x	=	\$44.56	x	=	\$38.19	x	\$24.99	x	=	\$15.03	
2021	x	=	\$44.56	x	=	\$38.19	x	\$24.99	x	=	\$15.03	
MIXED												
Soil Productivity Class	I			II			III			IV		
Year	Cost	Factor	Prorated Cost	Cost	Factor	Prorated Cost	Cost	Prorated Cost	Cost	Factor	Prorated Cost	
2017	x	=	\$29.46	x	=	\$25.22	x	\$18.95	x	=	\$13.75	
2018	x	=	\$29.93	x	=	\$25.84	x	\$19.40	x	=	\$14.34	
2019	x	=	\$31.06	x	=	\$26.71	x	\$20.26	x	=	\$15.32	
2020	x	=	\$31.88	x	=	\$27.32	x	\$20.50	x	=	\$15.29	
2021	x	=	\$31.88	x	=	\$27.32	x	\$20.50	x	=	\$15.29	
HARDWOOD												
Soil Productivity Class	I			II			III			IV		
Year	Cost	Factor	Prorated Cost	Cost	Factor	Prorated Cost	Cost	Factor	Prorated Cost	Cost	Factor	Prorated Cost
2017	x	=	\$24.02	x	=	\$21.30	x	\$15.09	x	=	\$11.84	
2018	x	=	\$24.25	x	=	\$21.53	x	\$15.47	x	=	\$12.29	
2019	x	=	\$26.41	x	=	\$23.80	x	\$17.37	x	=	\$13.97	
2020	x	=	\$24.06	x	=	\$21.22	x	\$15.52	x	=	\$12.40	
2021	x	=	\$24.06	x	=	\$21.22	x	\$15.52	x	=	\$12.40	

Texas A&M Forest Service develops production costs used in the Comptroller's annual Property Value Study for each of the twelve classes of timberlands. Proration no longer necessary.

PLEASE NOTE: THESE SPREADSHEETS ARE A WORK IN PROGRESS.

The Comptroller's Property Tax Assistance Division contracts with the Texas A&M Forest Service (TFS) to develop the management costs for use in determining timberland productivity values for the Property Value Study (PVS). TFS will not have completed its work in developing management costs for the 2021 tax year until November or December 2022. As a result, these spreadsheets use the 2020 management costs for the 2021 tax year. Values to be used in the 2022 PVS will be somewhat different when TFS's management costs for the 2021 tax year are incorporated into the 2022 PVS.

TABLE 14.
Calculation of Average Annual Net Income

PINE												
Soil Productivity Class	I			II			III			IV		
Year	Potential Gross Income*	Annual Costs**	Net Income	Potential Gross Income*	Annual Costs**	Net Income	Potential Gross Income*	Annual Costs**	Net Income	Potential Gross Income*	Annual Costs**	Net Income
2017	\$71.32	- 41.72	= \$29.60	\$54.14	- 35.71	= \$18.43	\$37.48	- 23.52	= \$13.96	\$26.55	- 13.38	= \$13.17
2018	\$72.61	- 43.01	= \$29.60	\$55.12	- 36.88	= \$18.24	\$38.16	- 24.26	= \$13.90	\$27.03	- 13.97	= \$13.06
2019	\$81.45	- 44.07	= \$37.38	\$61.83	- 37.82	= \$24.01	\$42.80	- 24.59	= \$18.21	\$30.32	- 13.70	= \$16.62
2020	\$67.94	- 44.56	= \$23.38	\$51.57	- 38.19	= \$13.38	\$35.70	- 24.99	= \$10.71	\$25.29	- 15.03	= \$10.26
2021	\$76.38	- 44.56	= \$31.82	\$57.98	- 38.19	= \$19.79	\$40.14	- 24.99	= \$15.15	\$28.43	- 15.03	= \$13.40
5 Year Average			\$30.36			\$18.77			\$14.39			\$13.30

MIXED												
Soil Productivity Class	I			II			III			IV		
Year	Potential Gross Income*	Annual Costs**	Net Income	Potential Gross Income*	Annual Costs**	Net Income	Potential Gross Income*	Annual Costs**	Net Income	Potential Gross Income*	Annual Costs**	Net Income
2017	\$47.92	- 29.46	= \$18.46	\$36.38	- 25.22	= \$11.16	\$25.19	- 18.95	= \$6.24	\$17.84	- 13.75	= \$4.09
2018	\$49.06	- 29.93	= \$19.13	\$37.24	- 25.84	= \$11.40	\$25.78	- 19.40	= \$6.38	\$18.26	- 14.34	= \$3.92
2019	\$56.31	- 31.06	= \$25.25	\$42.74	- 26.71	= \$16.03	\$29.59	- 20.26	= \$9.33	\$20.96	- 15.32	= \$5.64
2020	\$47.39	- 31.88	= \$15.51	\$35.97	- 27.32	= \$8.65	\$24.90	- 20.50	= \$4.40	\$17.64	- 15.29	= \$2.35
2021	\$51.57	- 31.88	= \$19.69	\$39.15	- 27.32	= \$11.83	\$27.10	- 20.50	= \$6.60	\$19.20	- 15.29	= \$3.91
5 Year Average			\$19.61			\$11.81			\$6.59			\$3.98

HARDWOOD												
Soil Productivity Class	I			II			III			IV		
Year	Potential Gross Income*	Annual Costs**	Net Income	Potential Gross Income*	Annual Costs**	Net Income	Potential Gross Income*	Annual Costs**	Net Income	Potential Gross Income*	Annual Costs**	Net Income
2017	\$33.99	- 24.02	= \$9.97	\$25.80	- 21.30	= \$4.50	\$17.86	- 15.09	= \$2.77	\$12.65	- 11.84	= \$0.81
2018	\$34.89	- 24.25	= \$10.64	\$26.49	- 21.53	= \$4.96	\$18.34	- 15.47	= \$2.87	\$12.99	- 12.29	= \$0.70
2019	\$41.28	- 26.41	= \$14.87	\$31.34	- 23.80	= \$7.54	\$21.69	- 17.37	= \$4.32	\$15.37	- 13.97	= \$1.40
2020	\$35.80	- 24.06	= \$11.74	\$27.18	- 21.22	= \$5.96	\$18.81	- 15.52	= \$3.29	\$13.33	- 12.40	= \$0.93
2021	\$37.10	- 24.06	= \$13.04	\$28.16	- 21.22	= \$6.94	\$19.50	- 15.52	= \$3.98	\$13.81	- 12.40	= \$1.41
5 Year Average			\$12.05			\$5.98			\$3.45			\$1.05

*From Table 11
** From Table 13

PLEASE NOTE: THESE SPREADSHEETS ARE A WORK IN PROGRESS.

The Comptroller's Property Tax Assistance Division contracts with the Texas A&M Forest Service (TFS) to develop the management costs for use in determining timberland productivity values for the Property Value Study (PVS). TFS will not have completed its work in developing management costs for the 2021 tax year until November or December 2022. As a result, these spreadsheets use the 2020 management costs for the 2021 tax year. Values to be used in the 2022 PVS will be somewhat different when TFS's management costs for the 2021 tax year are incorporated into the 2022 PVS.

**TABLE 15.
Calculation of Timber Productivity Values**

CAPITALIZATION RATE

6.85% 2022 Value

Forest Type	Productivity Class							
	I		II		III		IV	
	Net Income	Productivity Value	Net Income	Productivity Value	Net Income	Productivity Value	Net Income	Productivity Value
Pine	\$30.36	\$443.21	\$18.77	\$274.01	\$14.39	\$210.07	\$13.30	\$194.16
Mixed	\$19.61	\$286.28	\$11.81	\$172.41	\$6.59	\$96.20	\$3.98	\$58.10
Hardwood	\$12.05	\$175.91	\$5.98	\$87.30	\$3.45	\$50.36	\$1.05	\$15.33

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The Comptroller's Property Tax Assistance Division contracts with the Texas A&M Forest Service (TFS) to develop the management costs for use in determining timberland productivity values for the Property Value Study (PVS). TFS will not have completed its work in developing management costs for the 2021 tax year until November or December 2022. As a result, these spreadsheets use the 2020 management costs for the 2021 tax year. Values to be used in the 2022 PVS will be somewhat different when TFS's management costs for the 2021 tax year are incorporated into the 2022 PVS.