

NEWTON CENTRAL APPRAISAL DISTRICT



AGRICULTURE, TIMBER AND RURAL LAND

VALUATION REPORT

2024 APPRAISAL YEAR

SUMMARY

OPEN-SPACE VALUATION

Agriculture Values for 2023 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 2023 for pasture are the same as 2022. There are approximately 30,200 acres in pasture land.

TIMBER VALUATION

To calculate the 2023 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 7.59%

Management costs have remained level. Furthermore, the Capitalization Rate for 2023 increased .11%

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

TIMBER VALUE MODEL

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

2024 AGRICULTURE PRODUCTIVITY VALUES

PASTURE 180

2024 AG CALCULATIONS

PASTURE	YEAR	RENT	MGMT. FEE	R.E. TAXES	NET TO LAND	NET TO LAND
	2019	\$20.00	\$1.75	\$3.39	\$14.86	
	2020	\$20.00	\$1.50	\$3.25	\$15.25	\$18.02
	2021	\$25.00	\$1.50	\$3.34	\$20.16	
	2022	\$25.00	\$1.75	\$3.21	\$20.04	
	2023	\$25.00	\$2.25	\$2.97	\$19.78	
					\$90.09	
	Capitalized		\$180.18		\$180.00 / acre	

Ag Land Capitalization Rate used for 2024 10.00%

Management Fee is equal to 7% of Revenue

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:

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

100

Pasture Tax Calculation 3.2467446

2021 Calculations for Productivity Values

School district 2021 Tax Rate

Newton ISD 1.257581

Burkeville ISD 1.0865

Deweyville ISD 1.038027

Total 3.382108

Average ISD Tax Rate 1.127369

Newton County + Lateral Road .728586

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 3.340719

2022 Calculations for Productivity Values

School district	2022 Tax Rate
Newton ISD	1.1486
Burkeville ISD	1.0255
Deweyville ISD	1.018
Total	3.1881
Average ISD Tax Rate	1.064
Newton County + Lateral Road	0.719914

Tax Rate Calculation for Ag Productivity Calculations:

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

100

Pasture Tax Calculation 3.211056

2023 Calculations for Productivity Values

School district	2023 Tax Rate
Newton ISD	1.1466
Burkeville ISD	0.7752
Deweyville ISD	0.8942
Total	2.816
Average ISD Tax Rate	0.9387
Newton County + Lateral	0.7096

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 2.966863

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%	2023	7.59%
1992	12.00%	2024	7.85%
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%		

2019 TIMBER VALUES

TYPE	SOIL I	SOIL II	SOIL III
PINE	471	305	229
MIXED	259	158	90
HARDWOOD	147	68	42
PINE RGT & SMZ	236	153	115
MIXED RGT & SMZ	130	79	45
HARDWOOD RGT & SMZ	74	34	21
PASTURE	180/PER ACRE		

SMZ = STREAMSIDE MANAGEMENT ZONE RGT = REFORESTATION

2020 TIMBER VALUES

TYPE	SOIL I	SOIL II	SOIL III
PINE	449	316	234
MIXED	283	170	96
HARDWOOD	163	75	45
PINE RGT & SMZ	250	158	117
MIXED RGT & SMZ	142	85	48
HARDWOOD RGT & SMZ	88	34	23
PASTURE	180/PER ACRE		

SMZ = STREAMSIDE MANAGEMENT ZONE RGT = REFORESTATION

2021 TIMBER VALUES

TYPE	SOIL I	SOIL II	SOIL III
PINE	460	283	216
MIXED	303	183	103
HARDWOOD	182	87	51
PINE RGT & SMZ	230	142	108
MIXED RGT & SMZ	152	92	52
HARDWOOD RGT & SMZ	91	44	26
PASTURE	180/PER ACRE		

SMZ = STREAMSIDE MANAGEMENT ZONE RGT = REFORESTATION

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		

SMZ = STREAMSIDE MANAGEMENT ZONE

RGT = REFORESTATION

2023 TIMBER VALUES

TYPE	SOIL I	SOIL II	SOIL III
PINE	404	247	193
MIXED	259	154	87
HARDWOOD	164	82	48
PINE RGT & SMZ	202	124	97
MIXED RGT & SMZ	130	77	44
HARDWOOD RGT & SMZ	82	41	24
PASTURE	180/PER ACRE		

SMZ = STREAMSIDE MANAGEMENT ZONE RGT = REFORESTATION

2024 TIMBER VALUES

TYPE	SOIL I	SOIL II	SOIL III
PINE	391	238	188
MIXED	250	149	84
HARDWOOD	163	83	49
PINE RGT & SMZ	196	119	94
MIXED RGT & SMZ	125	75	42
HARDWOOD RGT & SMZ	82	41	24
PASTURE	180/PER ACRE		

SMZ = STREAMSIDE MANAGEMENT ZONE RGT = REFORESTATION

Tax Year

2024

Five Year Period

2019
2020
2021
2022
2023

Cap Rate

7.85%

Stumpage Prices

	Large Pine Sawtimber		Small Pine Sawtimber		Hardwood Sawtimber		Pine Pulpwood		Hardwood Pulpwood	
	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted
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
2022	\$26.99	\$30.15	\$12.75	\$13.42	\$33.36	\$33.17	\$6.56	\$6.57	\$7.11	\$8.27
2023	\$26.82	\$30.60	\$14.00	\$14.01	\$33.73	\$33.99	\$6.14	\$6.62	\$8.37	\$8.39

Management Costs East Texas

	Pine				Mixed				Hardwood			
	I	II	III	IV	I	II	III	IV	I	II	III	IV
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	47.09	40.61	26.00	14.65	33.67	28.89	21.37	15.60	25.34	22.38	16.08	12.66
2022	47.09	40.61	26.00	14.65	33.67	28.89	21.37	15.60	25.34	22.38	16.08	12.66
2023	47.09	40.61	26.00	14.65	33.67	28.89	21.37	15.60	25.34	22.38	16.08	12.66

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 School District Property Value Study (SDPVS). TFS will not have completed its work in developing management costs for the 2022 tax year until November or December 2023. As a result, these spreadsheets use the 2021 management costs for the 2022 tax year. Values to be used in the 2023 SDPVS will be somewhat different when TFS's management costs for the 2022 tax year are incorporated into the 2023 SDPVS.

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 +	217	351.87	96.80	21.86	28.73	4.58
	85 - 119	317	261.23	67.96	19.43	32.07	4.52
	50 - 84	140	179.93	65.80	7.19	26.03	4.16
	< 50	7	168.00	3.30	7.05	34.92	1.33
Mixed	120 +	54	194.06	24.68	112.38	6.78	8.60
	85 - 119	109	135.02	19.09	68.77	8.44	9.09
	50 - 84	74	100.00	23.68	36.50	7.56	8.54
	< 50	9	32.05	10.07	37.28	6.76	3.49
Hardwood	120 +	109	69.85	8.10	150.30	2.66	8.21
	85 - 119	247	32.77	7.17	114.74	2.40	8.87
	50 - 84	189	14.48	7.15	70.15	1.50	6.81
	< 50	65	15.38	1.51	53.10	1.11	5.08

*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 +	217.35	351.87	76,479.02	96.80	21,038.78	21.86	4,751.86	28.73	6,245.56	4.58	995.77
85-119	316.54	261.23	82,690.61	67.96	21,511.49	19.43	6,151.71	32.07	10,152.18	4.52	1,429.70
50-84	139.71	179.93	25,136.88	65.80	9,193.12	7.19	1,004.68	26.03	3,636.17	4.16	580.55
<50	6.86	168.00	1,151.95	3.30	22.60	7.05	48.36	34.92	239.45	1.33	9.15
Totals	680.46		185,458.46		51,765.99		11,956.61		20,273.36		3,015.17
			+ 680.46		+ 680.46		+ 680.46		+ 680.46		+ 680.46
			= 272.55 bd. ft.		= 76.08 bd. ft.		= 17.57 bd. ft.		= 29.79 cu. ft.		= 4.43 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 +	53.73	194.06	10,426.14	24.68	1,326.16	112.38	6,037.98	6.78	364.16	8.60	462.03
85-119	109.08	135.02	14,727.58	19.09	2,081.81	68.77	7,501.46	8.44	920.87	9.09	991.40
50-84	73.78	100.00	7,378.09	23.68	1,746.93	36.50	2,693.25	7.56	557.65	8.54	629.75
<50	9.28	32.05	297.32	10.07	93.42	37.28	345.86	6.76	62.71	3.49	32.35
Totals	245.87		32,829.13		5,248.32		16,578.55		1,905.39		2,115.53
			+ 245.87		+ 245.87		+ 245.87		+ 245.87		+ 245.87
			= 133.52 bd. ft.		= 21.35 bd. ft.		= 67.43 bd. ft.		= 7.75 cu. ft.		= 8.60 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 +	108.64	69.85	7,588.18	8.10	879.51	150.30	16,328.22	2.66	289.06	8.21	891.78
85-119	247.26	32.77	8,101.92	7.17	1,771.94	114.74	28,370.63	2.40	592.64	8.87	2,192.98
50-84	188.62	14.48	2,731.27	7.15	1,349.28	70.15	13,231.72	1.50	283.39	6.81	1,284.45
<50	65.12	15.38	1,001.31	1.51	98.47	53.10	3,458.08	1.11	72.59	5.08	330.67
Totals	609.64		19,422.68		4,099.20		61,388.65		1,237.68		4,699.88
			+ 609.64		+ 609.64		+ 609.64		+ 609.64		+ 609.64
			= 31.86 bd. ft.		= 6.72 bd. ft.		= 100.70 bd. ft.		= 2.03 cu. ft.		= 7.71 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	272.55	76.08	17.57	29.79	4.43
Mixed	133.52	21.35	67.43	7.75	8.60
Hardwood	31.86	6.72	100.70	2.03	7.71

* 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	5,162.6	÷	28,417.3	=	18.167%	x	0.49037	=	0.08909
13 - 14.9	4,995.1	÷	28,417.3	=	17.578%	x	0.52460	=	0.09221
15 - 16.9	4,635.3	÷	28,417.3	=	16.311%	x	0.59120	=	0.09643
17 - 18.9	3,836.7	÷	28,417.3	=	13.501%	x	0.65273	=	0.08813
19 - 20.9	3,199.0	÷	28,417.3	=	11.257%	x	0.70653	=	0.07953
21 - 28.9	5,397.2	÷	28,417.3	=	18.993%	x	0.81153	=	0.15413
29+	1,191.4	÷	28,417.3	=	4.193%	x	0.92181	=	0.03865
	28,417.3				100.00%				0.63817
Weighted Conversion Factor for Large Pine Sawtimber = 0.63817									
HARDWOOD									
11 - 12.9	2,100.9	÷	15,998.0	=	13.132%	x	0.46377	=	0.06090
13 - 14.9	2,452.0	÷	15,998.0	=	15.327%	x	0.52923	=	0.08112
15 - 16.9	2,296.1	÷	15,998.0	=	14.352%	x	0.59130	=	0.08486
17 - 18.9	2,157.9	÷	15,998.0	=	13.489%	x	0.64600	=	0.08714
19 - 20.9	1,817.3	÷	15,998.0	=	11.360%	x	0.69327	=	0.07876
21 - 28.9	4,003.4	÷	15,998.0	=	25.025%	x	0.78412	=	0.19623
29+	1,170.4	÷	15,998.0	=	7.316%	x	0.87323	=	0.06389
	15,998.0				100.00%				0.65290
Weighted Conversion Factor for Hardwood Sawtimber = 0.65290									

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 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	1.3914	0.4108	0.1032	0.9930	0.1551
Mixed	0.6817	0.1153	0.3963	0.2583	0.3010
Hardwood	0.1626	0.0363	0.5918	0.0677	0.2699

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
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
2022	\$26.99	\$30.15	\$28.57	\$12.75	\$13.42	\$13.09	\$33.36	\$33.17	\$33.27
2023	\$26.82	\$30.60	\$28.71	\$14.00	\$14.01	\$14.01	\$33.73	\$33.99	\$33.86

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
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
2022	\$6.56	\$6.57	\$6.57	\$7.11	\$8.27	\$7.69
2023	\$6.14	\$6.62	\$6.38	\$8.37	\$8.39	\$8.38

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)						=		
	Large Pine* x Price ** +	Small Pine* x Price ** +	Hardwood* x Price ** +	Pine* x Price ** +	Hardwood* x Price ** +										
2019	(1.3914 x \$28.50 )+(	0.4108 x \$13.82 )+(	0.1032 x \$35.39 )+(	0.9930 x \$9.16 )+(	0.1551 x \$13.49)=		\$60.17				
2020	(1.3914 x \$23.61 )+(	0.4108 x \$13.02 )+(	0.1032 x \$32.55 )+(	0.9930 x \$7.39 )+(	0.1551 x \$8.29)=		\$50.19				
2021	(1.3914 x \$27.77 )+(	0.4108 x \$13.95 )+(	0.1032 x \$32.96 )+(	0.9930 x \$7.45 )+(	0.1551 x \$8.24)=		\$56.45				
2022	(1.3914 x \$28.57 )+(	0.4108 x \$13.09 )+(	0.1032 x \$33.27 )+(	0.9930 x \$6.57 )+(	0.1551 x \$7.69)=		\$56.27				
2023	(1.3914 x \$28.71 )+(	0.4108 x \$14.01 )+(	0.1032 x \$33.86 )+(	0.9930 x \$6.38 )+(	0.1551 x \$8.38)=		\$56.84				

MIXED															Average Annual Gross Income
Year	Sawtimber Growth (tons)						Pulp Growth (tons)						=		
	Large Pine* x Price ** +	Small Pine* x Price ** +	Hardwood* x Price ** +	Pine* x Price ** +	Hardwood* x Price ** +										
2019	(0.6817 x \$28.50 )+(	0.1153 x \$13.82 )+(	0.3963 x \$35.39 )+(	0.2583 x \$9.16 )+(	0.3010 x \$13.49)=		\$41.48				
2020	(0.6817 x \$23.61 )+(	0.1153 x \$13.02 )+(	0.3963 x \$32.55 )+(	0.2583 x \$7.39 )+(	0.3010 x \$8.29)=		\$34.90				
2021	(0.6817 x \$27.77 )+(	0.1153 x \$13.95 )+(	0.3963 x \$32.96 )+(	0.2583 x \$7.45 )+(	0.3010 x \$8.24)=		\$38.00				
2022	(0.6817 x \$28.57 )+(	0.1153 x \$13.09 )+(	0.3963 x \$33.27 )+(	0.2583 x \$6.57 )+(	0.3010 x \$7.69)=		\$38.18				
2023	(0.6817 x \$28.71 )+(	0.1153 x \$14.01 )+(	0.3963 x \$33.86 )+(	0.2583 x \$6.38 )+(	0.3010 x \$8.38)=		\$38.78				

HARDWOOD															Average Annual Gross Income
Year	Sawtimber Growth (tons)						Pulp Growth (tons)						=		
	Large Pine* x Price ** +	Small Pine* x Price ** +	Hardwood* x Price ** +	Pine* x Price ** +	Hardwood* x Price ** +										
2019	(0.1626 x \$28.50 )+(	0.0363 x \$13.82 )+(	0.5918 x \$35.39 )+(	0.0677 x \$9.16 )+(	0.2699 x \$13.49)=		\$30.33				
2020	(0.1626 x \$23.61 )+(	0.0363 x \$13.02 )+(	0.5918 x \$32.55 )+(	0.0677 x \$7.39 )+(	0.2699 x \$8.29)=		\$26.31				
2021	(0.1626 x \$27.77 )+(	0.0363 x \$13.95 )+(	0.5918 x \$32.96 )+(	0.0677 x \$7.45 )+(	0.2699 x \$8.24)=		\$27.26				
2022	(0.1626 x \$28.57 )+(	0.0363 x \$13.09 )+(	0.5918 x \$33.27 )+(	0.0677 x \$6.57 )+(	0.2699 x \$7.69)=		\$27.34				
2023	(0.1626 x \$28.71 )+(	0.0363 x \$14.01 )+(	0.5918 x \$33.86 )+(	0.0677 x \$6.38 )+(	0.2699 x \$8.38)=		\$27.91				

**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	55.7	168.4	113.2	10.3	356.7
Angelina	15.4	84.2	178.1	21.2	1.1	299.9
Bowie	7.8	16.9	130.2	48.9	5.6	209.4
Camp	1.4	6.6	20.0	8.4	0.0	36.4
Cass	12.5	78.5	219.1	62.0	7.5	379.6
Chambers	0.0	1.8	5.6	16.6	2.4	26.3
Cherokee	10.4	75.4	186.4	90.4	1.9	364.4
Franklin	1.0	1.2	33.7	30.7	11.7	78.4
Gregg	2.3	8.1	52.1	15.6	0.0	78.1
Grimes	0.0	5.7	27.3	80.4	25.8	139.1
Hardin	11.6	69.4	186.5	139.9	10.7	418.1
Harris	2.4	11.1	53.6	57.5	6.5	131.1
Harrison	7.9	76.1	203.5	43.1	2.1	332.6
Henderson	0.4	4.5	45.2	73.0	51.0	174.0
Houston	3.6	36.6	146.9	96.3	6.4	289.7
Jasper	22.1	82.3	186.0	142.2	13.4	446.0
Jefferson	3.2	9.6	23.6	19.6	9.4	65.5
Leon	0.0	5.1	67.5	138.7	67.9	279.3
Liberty	15.5	52.9	128.4	123.7	20.6	341.1
Madison	1.0	2.9	19.1	32.9	7.0	62.9
Marion	3.6	41.2	124.3	19.2	0.6	189.0
Montgomery	4.5	39.2	155.2	92.4	16.9	308.1
Morris	1.2	6.1	29.6	15.7	0.3	52.8
Nacogdoches	20.2	127.9	188.6	35.8	2.2	374.7
Newton	17.2	98.8	226.7	137.0	7.2	486.9
Orange	1.2	16.2	36.7	40.3	4.4	98.8
Panola	19.8	104.8	178.2	33.2	1.2	337.1
Polk	30.4	98.7	211.2	135.9	13.4	489.5
Red River	3.2	13.5	134.1	131.9	17.0	299.7
Rusk	15.5	74.4	131.6	80.9	3.0	305.5
Sabine	10.0	59.3	102.4	8.1	0.0	179.7
San Augustine	11.9	59.5	106.6	6.2	0.5	184.8
San Jacinto	5.7	34.4	95.4	57.4	9.4	202.3
Shelby	16.6	63.6	133.8	23.6	0.0	237.6
Smith	2.7	25.9	122.2	60.9	6.9	218.7
Titus	0.0	9.8	45.5	30.1	7.0	92.4
Trinity	14.5	53.9	115.3	57.1	5.2	246.0
Tyler	10.4	82.7	210.9	141.3	7.8	453.1
Upshur	5.3	33.4	113.9	34.7	3.5	190.8
Van Zandt	0.0	0.0	52.5	55.4	27.3	135.3
Walker	6.9	38.8	115.5	77.4	8.6	247.1
Waller	0.6	3.7	24.3	29.9	9.8	68.4
Wood	0.1	20.6	135.0	55.3	9.8	220.7
All Counties	329.1	1,790.3	4,870.6	2,714.1	423.1	10,127.4

**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)					
	163	163	123	85	60	Total
	165+	120-165	85-120	50-85	<50	
Anderson	1,477.7	9,077.2	20,717.0	9,623.1	618.2	41,513.3
Angelina	2,503.0	13,718.4	21,900.3	1,803.9	68.4	39,993.9
Bowie	1,271.7	2,759.5	16,015.0	4,152.4	337.2	24,535.8
Camp	224.9	1,083.9	2,454.1	714.7	0.0	4,477.6
Cass	2,041.6	12,798.4	26,951.9	5,269.2	448.5	47,509.6
Chambers	0.0	289.7	683.6	1,408.4	142.0	2,523.7
Cherokee	1,695.7	12,288.2	22,923.4	7,682.7	111.6	44,701.7
Franklin	169.5	197.9	4,144.1	2,613.1	703.2	7,827.9
Gregg	367.4	1,316.4	6,413.0	1,327.2	0.0	9,424.1
Grimes	0.0	927.2	3,352.1	6,830.3	1,548.0	12,657.5
Hardin	1,892.3	11,305.2	22,943.9	11,888.8	642.5	48,672.6
Harris	394.6	1,803.7	6,587.0	4,890.3	388.7	14,064.3
Harrison	1,280.1	12,399.9	25,028.4	3,665.5	125.5	42,499.3
Henderson	58.7	728.6	5,557.6	6,205.3	3,058.3	15,608.6
Houston	579.7	5,966.4	18,065.1	8,183.9	383.0	33,178.1
Jasper	3,600.0	13,412.2	22,883.8	12,088.5	801.7	52,786.3
Jefferson	524.9	1,560.8	2,907.8	1,670.2	564.4	7,228.0
Leon	0.0	836.0	8,306.0	11,791.8	4,073.1	25,006.9
Liberty	2,528.9	8,615.8	15,795.7	10,513.5	1,237.9	38,691.9
Madison	166.3	469.3	2,347.5	2,795.6	418.7	6,197.4
Marion	584.7	6,713.5	15,295.0	1,635.7	36.0	24,265.0
Montgomery	725.9	6,383.7	19,094.2	7,852.1	1,011.2	35,067.0
Morris	198.3	987.5	3,635.1	1,335.3	18.0	6,174.2
Nacogdoches	3,300.6	20,845.6	23,198.7	3,039.8	129.6	50,514.3
Newton	2,798.1	16,097.8	27,889.4	11,643.8	433.7	58,862.8
Orange	202.1	2,640.2	4,509.6	3,429.7	261.3	11,042.8
Panola	3,229.0	17,078.5	21,914.9	2,818.2	70.8	45,111.4
Polk	4,949.4	16,090.2	25,973.9	11,551.6	801.0	59,366.1
Red River	525.7	2,196.7	16,494.3	11,209.8	1,022.9	31,449.4
Rusk	2,534.4	12,121.3	16,189.0	6,880.0	182.4	37,907.1
Sabine	1,634.8	9,660.0	12,592.1	684.9	0.0	24,571.8
San Augustine	1,944.4	9,703.8	13,107.7	531.2	31.2	25,318.4
San Jacinto	924.4	5,599.1	11,737.7	4,882.2	566.1	23,709.5
Shelby	2,698.3	10,363.4	16,463.3	2,007.7	0.0	31,532.8
Smith	443.8	4,221.6	15,032.2	5,179.1	416.0	25,292.7
Titus	0.0	1,592.2	5,594.5	2,557.4	421.7	10,165.7
Trinity	2,366.4	8,779.8	14,177.4	4,856.5	311.6	30,491.7
Tyler	1,702.7	13,474.7	25,937.7	12,011.0	466.6	53,592.6
Upshur	867.1	5,443.3	14,008.8	2,947.5	208.5	23,475.2
Van Zandt	0.0	0.0	6,462.6	4,707.7	1,641.0	12,811.3
Walker	1,126.3	6,321.9	14,202.4	6,578.7	513.9	28,743.3
Waller	102.6	604.6	2,992.5	2,541.9	587.8	6,829.5
Wood	13.0	3,351.9	16,600.9	4,701.7	586.9	25,254.6
All Counties	53,649.1	291,826.1	599,081.2	230,702.4	25,388.9	1,200,647.6

$1,200,647.6 \div 10,127.4 = 118.55$ 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
2019	\$60.17	x 1.37	= \$82.43	\$60.17	x 1.04	= \$62.58	\$60.17	x 0.72	= \$43.32	\$60.17	x 0.51	= \$30.69
2020	\$50.19	x 1.37	= \$68.76	\$50.19	x 1.04	= \$52.20	\$50.19	x 0.72	= \$36.14	\$50.19	x 0.51	= \$25.60
2021	\$56.45	x 1.37	= \$77.34	\$56.45	x 1.04	= \$58.71	\$56.45	x 0.72	= \$40.64	\$56.45	x 0.51	= \$28.79
2022	\$56.27	x 1.37	= \$77.09	\$56.27	x 1.04	= \$58.52	\$56.27	x 0.72	= \$40.51	\$56.27	x 0.51	= \$28.70
2023	\$56.84	x 1.37	= \$77.87	\$56.84	x 1.04	= \$59.11	\$56.84	x 0.72	= \$40.92	\$56.84	x 0.51	= \$28.99
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
2019	\$41.48	x 1.37	= \$56.83	\$41.48	x 1.04	= \$43.14	\$41.48	x 0.72	= \$29.87	\$41.48	x 0.51	= \$21.15
2020	\$34.90	x 1.37	= \$47.81	\$34.90	x 1.04	= \$36.30	\$34.90	x 0.72	= \$25.13	\$34.90	x 0.51	= \$17.80
2021	\$38.00	x 1.37	= \$52.06	\$38.00	x 1.04	= \$39.52	\$38.00	x 0.72	= \$27.36	\$38.00	x 0.51	= \$19.38
2022	\$38.18	x 1.37	= \$52.31	\$38.18	x 1.04	= \$39.71	\$38.18	x 0.72	= \$27.49	\$38.18	x 0.51	= \$19.47
2023	\$38.78	x 1.37	= \$53.13	\$38.78	x 1.04	= \$40.33	\$38.78	x 0.72	= \$27.92	\$38.78	x 0.51	= \$19.78
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
2019	\$30.33	x 1.37	= \$41.55	\$30.33	x 1.04	= \$31.54	\$30.33	x 0.72	= \$21.84	\$30.33	x 0.51	= \$15.47
2020	\$26.31	x 1.37	= \$36.04	\$26.31	x 1.04	= \$27.36	\$26.31	x 0.72	= \$18.94	\$26.31	x 0.51	= \$13.42
2021	\$27.26	x 1.37	= \$37.35	\$27.26	x 1.04	= \$28.35	\$27.26	x 0.72	= \$19.63	\$27.26	x 0.51	= \$13.90
2022	\$27.34	x 1.37	= \$37.46	\$27.34	x 1.04	= \$28.43	\$27.34	x 0.72	= \$19.68	\$27.34	x 0.51	= \$13.94
ool District Property V	\$27.91	x 1.37	= \$38.24	\$27.91	x 1.04	= \$29.03	\$27.91	x 0.72	= \$20.10	\$27.91	x 0.51	= \$14.23

*From Table 8

**From Table 10

TABLE 12.
Average Annual Timber Production Costs

Year	Production Cost
2019	\$37.82
2020	\$38.19
2021	\$40.61
2022	\$40.61
2023	\$40.61

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 School District Property Value Study (SDPVS). TFS will not have completed its work in developing management costs for the 2022 tax year until November or December 2023. As a result, these spreadsheets use the 2021 management costs for the 2022 tax year. Values to be used in the 2023 SDPVS will be somewhat different when TFS's management costs for the 2022 tax year are incorporated into the 2023 SDPVS.

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									
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	=	\$47.09	x	=	\$40.61	x	=	\$26.00	x	=	\$14.65
2022	x	=	\$47.09	x	=	\$40.61	x	=	\$26.00	x	=	\$14.65
2023	x	=	\$47.09	x	=	\$40.61	x	=	\$26.00	x	=	\$14.65

MIXED												
Soil Productivity Class	I			II			III			IV		
Year	Cost	Factor	Prorated Cost									
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	=	\$33.67	x	=	\$28.89	x	=	\$21.37	x	=	\$15.60
2022	x	=	\$33.67	x	=	\$28.89	x	=	\$21.37	x	=	\$15.60
2023	x	=	\$33.67	x	=	\$28.89	x	=	\$21.37	x	=	\$15.60

HARDWOOD												
Soil Productivity Class	I			II			III			IV		
Year	Cost	Factor	Prorated Cost									
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	=	\$25.34	x	=	\$22.38	x	=	\$16.08	x	=	\$12.66
2022	x	=	\$25.34	x	=	\$22.38	x	=	\$16.08	x	=	\$12.66
2023	x	=	\$25.34	x	=	\$22.38	x	=	\$16.08	x	=	\$12.66

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 School District Property Value Study (SDPVS). TFS will not have completed its work in developing management costs for the 2022 tax year until November or December 2023. As a result, these spreadsheets use the 2021 management costs for the 2022 tax year. Values to be used in the 2023 SDPVS will be somewhat different when TFS's management costs for the 2022 tax year are incorporated into the 2023 SDPVS.

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
2019	\$82.43	- 44.07	= \$38.36	\$62.58	- 37.82	= \$24.76	\$43.32	- 24.59	\$18.73	\$30.69	- 13.70	= \$16.99
2020	\$68.76	- 44.56	= \$24.20	\$52.20	- 38.19	= \$14.01	\$36.14	- 24.99	\$11.15	\$25.60	- 15.03	= \$10.57
2021	\$77.34	- 47.09	= \$30.25	\$58.71	- 40.61	= \$18.10	\$40.64	- 26.00	\$14.64	\$28.79	- 14.65	= \$14.14
2022	\$77.09	- 47.09	= \$30.00	\$58.52	- 40.61	= \$17.91	\$40.51	- 26.00	\$14.51	\$28.70	- 14.65	= \$14.05
2023	\$77.87	- 47.09	= \$30.78	\$59.11	- 40.61	= \$18.50	\$40.92	- 26.00	\$14.92	\$28.99	- 14.65	= \$14.34
5 Year Average			\$30.72			\$18.66			\$14.79			\$14.02
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
2019	\$56.83	- 31.06	= \$25.77	\$43.14	- 26.71	= \$16.43	\$29.87	- 20.26	\$9.61	\$21.15	- 15.32	= \$5.83
2020	\$47.81	- 31.88	= \$15.93	\$36.30	- 27.32	= \$8.98	\$25.13	- 20.50	\$4.63	\$17.80	- 15.29	= \$2.51
2021	\$52.06	- 33.67	= \$18.39	\$39.52	- 28.89	= \$10.63	\$27.36	- 21.37	\$5.99	\$19.38	- 15.60	= \$3.78
2022	\$52.31	- 33.67	= \$18.64	\$39.71	- 28.89	= \$10.82	\$27.49	- 21.37	\$6.12	\$19.47	- 15.60	= \$3.87
2023	\$53.13	- 33.67	= \$19.46	\$40.33	- 28.89	= \$11.44	\$27.92	- 21.37	\$6.55	\$19.78	- 15.60	= \$4.18
5 Year Average			\$19.64			\$11.66			\$6.58			\$4.03
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
2019	\$41.55	- 26.41	= \$15.14	\$31.54	- 23.80	= \$7.74	\$21.84	- 17.37	\$4.47	\$15.47	- 13.97	= \$1.50
2020	\$36.04	- 24.06	= \$11.98	\$27.36	- 21.22	= \$6.14	\$18.94	- 15.52	\$3.42	\$13.42	- 12.40	= \$1.02
2021	\$37.35	- 25.34	= \$12.01	\$28.35	- 22.38	= \$5.97	\$19.63	- 16.08	\$3.55	\$13.90	- 12.66	= \$1.24
2022	\$37.46	- 25.34	= \$12.12	\$28.43	- 22.38	= \$6.05	\$19.68	- 16.08	\$3.60	\$13.94	- 12.66	= \$1.28
2023	\$38.24	- 25.34	= \$12.90	\$29.03	- 22.38	= \$6.65	\$20.10	- 16.08	\$4.02	\$14.23	- 12.66	= \$1.57
5 Year Average			\$12.83			\$6.51			\$3.81			\$1.32

*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 School District Property Value Study (SDPVS). TFS will not have completed its work in developing management costs for the 2022 tax year until November or December 2023. As a result, these spreadsheets use the 2021 management costs for the 2022 tax year. Values to be used in the 2023 SDPVS will be somewhat different when TFS's management costs for the 2022 tax year are incorporated into the 2023 SDPVS.

TABLE 15.
Calculation of Timber Productivity Values

CAPITALIZATION RATE

7.85% 2024 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	\$30.72	\$391.34	\$18.66	\$237.71	\$14.79	\$188.41	\$14.02	\$178.60
Mixed	\$19.64	\$250.19	\$11.66	\$148.54	\$6.58	\$83.82	\$4.03	\$51.34
Hardwood	\$12.83	\$163.44	\$6.51	\$82.93	\$3.81	\$48.54	\$1.32	\$16.82

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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 School District Property Value Study (SDPVS). TFS will not have completed its work in developing