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Forest Statistics for Southwest Arkansas Counties

*Arnold Hedlund
and
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Arkansas Forest Survey Regions

SOUTHWEST: Ashley, Bradley, Calhoun, Clark, Cleveland, Columbia, Dallas, Drew, Grant, Hempstead, Hot Spring, Howard, Lafayette, Little River, Miller, Nevada, Ouachita, Pike, Sevier, Union

OUACHITA: Garland, Logan, Montgomery, Perry, Polk, Pulaski, Saline, Scott, Sebastian, Yell

OZARK: Baxter, Benton, Boone, Carroll, Cleburne, Conway, Crawford, Faulkner, Franklin, Fulton, Independence, Izard, Johnson, Madison, Marion, Newton, Pope, Randolph, Searcy, Sharp, Stone, Van Buren, Washington, White

SOUTH DELTA: Arkansas, Chicot, Desha, Jefferson, Lee, Lincoln, Lonoke, Monroe, Phillips, Prairie

NORTH DELTA: Clay, Craighead, Crittenden, Cross, Greene, Jackson, Lawrence, Mississippi, Poinsett, St. Francis, Woodruff

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This report tabulates information from a new forest survey of southwest Arkansas, completed in 1969 by the Southern Forest Experiment Station. The tables are intended for use as source data in compiling estimates for groups of counties. Because the Arkansas sampling procedure is intended primarily to furnish inventory data for the State as a whole, estimates for individual counties have limited and variable accuracy.

The data on forest acreage and timber volume were secured by a systematic sampling method involving a forest-nonforest classification on aerial photographs and on-the-ground measurements of trees at sample locations. The sample locations were at the intersections of a grid of lines spaced 3 miles apart. At each forested location, 10 small plots were uniformly distributed on an area of about 1 acre.

Computations of the data were programmed on electronic computer facilities of the National Aeronautics and Space Administration in New Orleans.

The sampling errors to which the county area and volume totals are liable (on a probability of two chances out of three) are shown in table 1.

Table 1.—*Sampling errors¹ for forest land and timber volume by county, 1969*

County	Commercial forest land	Growing stock	Sawtimber volume	County	Commercial forest land	Growing stock	Sawtimber volume
----- Percent -----				----- Percent -----			
Ashley	3.5	6.8	8.8	Hot Spring	3.4	10.0	14.6
Bradley	2.1	7.7	9.7	Howard	2.1	10.3	14.2
Calhoun	1.9	3.4	15.6	Lafayette	4.3	10.5	16.4
Clark	3.6	6.7	9.0	Little River	2.9	12.6	18.8
Cleveland	1.4	7.7	10.2	Miller	3.5	12.6	17.6
Columbia	2.4	10.8	15.0	Nevada	1.8	8.4	13.0
Dallas	.6	7.1	10.7	Ouachita	2.3	7.4	10.5
Drew	2.2	9.1	13.0	Pike	.9	8.3	12.6
Grant	.7	8.9	11.9	Sevier	1.7	10.5	16.1
Hempstead	3.3	9.9	14.5	Union	1.6	6.4	8.7
				All counties	.5	1.9	2.7

¹ By random-sampling formula.

When data for two or more counties are grouped the error decreases; the approximate error for the group may readily be computed by standard statistical procedures.¹

Conversely, as data for individual counties are broken down by various subdivisions, the possibility of error increases and is greatest for the

¹ Freese, F. Elementary forest sampling. USDA Agr. Handbook 232, 91 pp. 1962.

smallest items. Sampling errors associated with the estimates of the principal timber species in southwest Arkansas are shown in table 2.

Because of differences in standards of tree measurement, meaningful comparisons cannot be made between the volume estimates in this report and those contained in earlier publications on Arkansas.

It is anticipated that data for other counties of Arkansas will be published as field work progresses. A Statewide interpretive report will be issued when all counties have been inventoried; it will include an evaluation of timber trends since the previous survey of 1959.

Table 2.—Sampling errors¹ for timber volume, 1969

Species	Growing stock	Sawtimber volume
— Percent —		
Softwood:		
Southern pines	3.2	3.8
Other softwoods	40.3	43.5
All softwoods	3.2	3.8
Hardwood:		
Select white oaks	6.4	8.2
Select red oaks	8.9	11.1
Other white oaks	6.3	9.4
Other red oaks	4.8	6.3
Hickory	8.9	13.3
Sweetgum	5.9	8.6
Tupelo and blackgum	9.6	13.0
Maple	15.4	26.8
Beech	22.4	22.7
Ash	14.9	20.6
Other hardwoods	10.2	16.3
All hardwoods	3.1	4.4
All species	1.9	2.7

¹By random-sampling formula.

DEFINITIONS OF TERMS

Acceptable trees.—Growing-stock trees of commercial species that meet specified standards of size and quality but do not qualify as desirable trees.

Commercial forest land.—Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization.

Desirable trees.—Growing-stock trees that are of commercial species, have no defects in quality for timber products, are of relatively high vigor, and contain no pathogens that may result in death or serious deterioration before rotation age.

Forest type.—A classification of forest land based upon the species forming a plurality of live-tree stocking.

Growing-stock trees.—Live trees of commercial species qualifying as desirable or acceptable trees.

Growing-stock volume.—Net volume in cubic feet of growing-stock trees 5.0 inches d.b.h. and over from a 1-foot stump to a minimum 4.0-inch top diameter outside bark of the central stem, or to the point where the central stem breaks into limbs.

Poletimber trees.—Growing-stock trees of commercial species at least 5.0 inches in diameter at breast height, but smaller than sawtimber size.

Sawtimber trees.—Live trees that are of commercial species, contain at least a 12-foot saw log, and meet Regional specifications for freedom from defect. Softwoods must be at least 9.0 inches in diameter at breast height and hardwoods at least 11.0 inches.

Sawtimber volume.—Net volume of the saw-log portion of live sawtimber in board feet, International ¼-inch rule.

Stand-size class.—A classification of forest land based on the size class of growing-stock trees on the area; that is, sawtimber, poletimber, or seedling and saplings.

Table 3.—Commercial forest land by ownership class and county, 1969

County	All ownerships	National forest	Other public	Forest industry	Farmer	Misc. private
----- Thousand acres -----						
Ashley	410.4	.	3.5	268.1	51.3	87.5
Bradley	354.0	..	.	194.9	76.8	82.3
Calhoun	348.0	.	(¹)	232.2	5.8	110.0
Clark	423.4	.	10.3	151.0	98.7	163.4
Cleveland	319.0	.	.	145.2	75.5	98.3
Columbia	379.5	..	.2	82.9	89.7	206.7
Dallas	372.6	..	(¹)	237.9	70.3	64.4
Drew	387.6	..	9.3	137.8	81.6	158.9
Grant	346.8	..	.	240.0	56.2	50.6
Hempstead	286.7	..	7.2	79.4	97.7	102.4
Hot Spring	294.8	0.4	6.2	154.3	53.7	80.2
Howard	254.8	1.2	9.0	165.6	63.8	15.2
Lafayette	212.8	.	(¹)	61.7	56.1	95.0
Little River	192.5	.	4.7	71.6	49.6	66.6
Miller	217.0	.	8.9	21.0	77.1	110.0
Nevada	300.0	..	7.2	90.1	90.1	112.6
Ouachita	384.3	.	9.9	103.8	85.5	185.1
Pike	319.0	2.2	6.8	220.6	81.3	8.1
Sevier	269.5	.	9.3	137.3	68.7	54.2
Union	572.4	..	.9	194.6	54.0	322.9
All counties	6,645.1	3.8	93.4	2,990.0	1,383.5	2,174.4

¹ Negligible.

Table 4.—Commercial forest land by forest type and county, 1969

County	All types	Loblolly- shortleaf pine	Oak- pine	Oak- hickory	Oak-gum- cypress	Elm-ash- cotton- wood
----- Thousand acres -----						
Ashley	410.4	205.2	79.8	57.0	68.4	..
Bradley	354.0	123.9	76.7	76.7	76.7	.
Calhoun	348.0	133.4	69.6	63.8	81.2	.
Clark	423.4	116.0	127.6	110.2	69.6	.
Cleveland	319.0	110.2	58.0	75.4	69.6	5.8
Columbia	379.5	144.9	96.6	55.2	82.8	..
Dallas	372.6	118.8	102.6	70.2	81.0	.
Drew	387.6	91.8	81.6	112.2	96.9	5.1
Grant	346.8	76.5	96.9	81.6	91.8	..
Hempstead	286.7	109.8	79.3	42.7	54.9	..
Hot Spring	294.8	80.4	87.1	107.2	20.1	.
Howard	254.8	93.1	88.2	49.0	19.6	4.9
Lafayette	212.8	78.4	56.0	22.4	44.8	11.2
Little River	192.5	38.5	77.0	33.0	38.5	5.5
Miller	217.0	56.0	56.0	21.0	63.0	21.0
Nevada	300.0	102.0	54.0	90.0	54.0	..
Ouachita	384.3	85.4	109.8	85.4	103.7	.
Pike	319.0	139.2	110.2	63.8	..	5.8
Sevier	269.5	78.4	39.2	78.4	58.8	14.7
Union	572.4	199.8	118.8	118.8	135.0	.
All counties	6,645.1	2,181.7	1,665.0	1,414.0	1,310.4	74.0

Table 5.—Commercial forest land by stand-size class and county, 1969

County	All classes	Sawtimber	Poletimber	Sapling and seedling	Nonstocked areas
----- Thousand acres -----					
Ashley	410.4	188.1	51.3	171.0	...
Bradley	354.0	171.1	53.1	123.9	5.9
Calhoun	348.0	116.0	63.8	168.2	...
Clark	423.4	226.2	87.0	104.4	5.8
Cleveland	319.0	150.8	75.4	92.8	...
Columbia	379.5	103.5	75.9	193.2	6.9
Dallas	372.6	156.6	91.8	124.2	..
Drew	387.6	163.2	76.5	142.8	5.1
Grant	346.8	137.7	86.7	122.4	...
Hempstead	286.7	103.7	85.4	97.6	...
Hot Spring	294.8	80.4	120.6	93.8	...
Howard	254.8	98.0	83.3	73.5	...
Lafayette	212.8	72.8	56.0	84.0	...
Little River	192.5	55.0	60.5	77.0	...
Miller	217.0	84.0	49.0	84.0	...
Nevada	300.0	102.0	108.0	90.0	...
Ouachita	384.3	146.4	152.5	85.4	...
Pike	319.0	92.8	121.8	104.4	...
Sevier	269.5	107.8	63.7	98.0	...
Union	572.4	280.8	91.8	199.8	...
All counties	6,645.1	2,635.9	1,644.1	2,330.4	23.7

Table 6.—Growing-stock volume on commercial forest land by species group and county, 1969

County	All species	Softwood			Hardwood			
		Total	Pine	Other	Total	Oak	Gum	Other
----- Thousand cords -----								
Ashley	6,068	3,995	3,978	17	2,073	1,443	340	290
Bradley	5,459	2,837	2,716	121	2,622	1,479	707	436
Calhoun	4,702	2,401	1,979	422	2,301	1,288	598	415
Clark	7,017	3,579	3,546	33	3,438	2,227	539	672
Cleveland	4,741	1,932	1,929	3	2,809	1,524	854	431
Columbia	4,402	2,308	2,303	5	2,094	1,117	719	258
Dallas	5,389	3,013	3,008	5	2,376	1,330	642	404
Drew	4,601	2,068	1,941	127	2,533	1,606	560	367
Grant	6,077	2,384	2,357	27	3,693	2,073	1,124	496
Hempstead	4,385	2,155	2,151	4	2,230	1,032	503	695
Hot Spring	4,260	2,384	2,384		1,876	1,155	388	333
Howard	4,202	2,963	2,955	8	1,239	566	351	322
Lafayette	2,735	1,501	1,396	105	1,234	641	206	387
Little River	2,568	1,516	1,516		1,052	668	221	163
Miller	2,946	1,376	1,284	92	1,570	563	443	564
Nevada	4,141	1,929	1,901	28	2,212	1,048	919	245
Ouachita	6,276	2,464	2,457	7	3,812	1,789	1,466	557
Pike	4,838	3,328	3,328		1,510	1,070	249	191
Sevier	4,418	2,119	2,104	15	2,299	924	611	764
Union	8,406	4,248	4,211	37	4,158	2,152	1,296	710
All counties	97,631	50,500	49,444	1,056	47,131	25,695	12,736	8,700

Table 7.—Growing-stock volume on commercial forest land by species group and county, 1969

County	All species	Softwood			Hardwood			
		Total	Pine	Other	Total	Oak	Gum	Other
----- Million cubic feet -----								
Ashley	438.5	299.6	298.3	1.3	138.9	96.7	22.8	19.4
Bradley	388.5	212.8	203.7	9.1	175.7	99.1	47.4	29.2
Calhoun	334.3	180.1	148.5	31.6	154.2	86.3	40.1	27.8
Clark	498.7	268.4	265.9	2.5	230.3	149.2	36.1	45.0
Cleveland	333.1	144.9	144.7	.2	188.2	102.1	57.2	28.9
Columbia	313.4	173.1	172.7	.4	140.3	74.8	48.2	17.3
Dallas	385.2	226.0	225.6	.4	159.2	89.1	43.0	27.1
Drew	324.8	155.1	145.6	9.5	169.7	107.6	37.5	24.6
Grant	426.2	178.8	176.8	2.0	247.4	138.9	75.3	33.2
Hempstead	311.0	161.6	161.3	.3	149.4	69.1	33.7	46.6
Hot Spring	304.5	178.8	178.8	.	125.7	77.4	26.0	22.3
Howard	305.2	222.2	221.6	.6	83.0	37.9	23.5	21.6
Lafayette	195.3	112.6	104.7	7.9	82.7	43.0	13.8	25.9
Little River	184.2	113.7	113.7	..	70.5	44.8	14.8	10.9
Miller	208.4	103.2	96.3	6.9	105.2	37.7	29.7	37.8
Nevada	292.9	144.7	142.6	2.1	148.2	70.2	61.6	16.4
Ouachita	440.2	184.8	184.3	.5	255.4	119.9	98.2	37.3
Pike	350.8	249.6	249.6	..	101.2	71.7	16.7	12.8
Sevier	312.9	158.9	157.8	1.1	154.0	61.9	40.9	51.2
Union	597.2	318.6	315.8	2.8	278.6	144.2	86.8	47.6
All counties	6,945.3	3,787.5	3,708.3	79.2	3,157.8	1,721.6	853.3	582.9

Table 8.—Sawtimber volume on commercial forest land by species group and county, 1969

County	All species	Softwood			Hardwood			
		Total	Pine	Other	Total	Oak	Gum	Other
----- Million board feet -----								
Ashley	1,848.0	1,451.4	1,446.9	4.5	396.6	293.1	45.3	58.2
Bradley	1,494.5	952.3	905.9	46.4	542.2	328.3	125.2	88.7
Calhoun	1,238.5	794.6	627.2	167.4	443.9	250.3	114.4	79.2
Clark	1,722.3	1,159.5	1,147.2	12.3	562.8	374.1	76.3	112.4
Cleveland	1,188.3	612.5	612.5	..	575.8	344.5	156.7	74.6
Columbia	1,018.2	650.7	650.7	.	367.5	192.5	136.2	38.8
Dallas	1,397.4	1,059.8	1,058.3	1.5	337.6	185.8	84.5	67.3
Drew	1,103.0	680.8	640.5	40.3	422.2	286.6	80.6	55.0
Grant	1,459.0	809.1	797.7	11.4	649.9	376.7	195.6	77.6
Hempstead	974.4	587.7	586.7	1.0	386.7	189.0	68.4	129.3
Hot Spring	894.7	689.3	689.3	.	205.4	133.5	36.8	35.1
Howard	992.3	872.5	871.6	.9	119.8	54.4	27.2	38.2
Lafayette	621.2	420.5	378.3	42.2	200.7	108.4	42.8	49.5
Little River	579.9	455.8	455.8	..	124.1	91.3	8.7	24.1
Miller	668.7	381.1	352.0	29.1	287.6	89.0	99.7	98.9
Nevada	846.1	501.2	489.8	11.4	344.9	185.3	135.6	24.0
Ouachita	1,369.4	745.4	742.6	2.8	624.0	259.8	282.4	81.8
Pike	1,147.0	1,012.0	1,012.0	..	135.0	104.7	24.5	5.8
Sevier	1,101.6	750.1	747.8	2.3	351.5	144.2	92.3	115.0
Union	1,995.6	1,243.0	1,236.0	7.0	752.6	407.3	216.2	129.1
All counties	23,660.1	15,829.3	15,448.8	380.5	7,830.8	4,398.8	2,049.4	1,382.6

Table 9.—Sawtimber volume on commercial forest land by species group, diameter class and county, 1969

County	All species	Softwood			Hardwood		
		Total	9.0-14.9 inches	15.0 inches and up	Total	11.0-14.9 inches	15.0 inches and up
----- Million board feet -----							
Ashley	1,848.0	1,451.4	624.3	827.1	396.6	155.9	240.7
Bradley	1,494.5	952.3	446.0	506.3	542.2	229.5	312.7
Calhoun	1,238.5	794.6	249.4	545.2	443.9	175.6	268.3
Clark	1,722.3	1,159.5	636.5	523.0	552.8	283.9	278.9
Cleveland	1,188.3	612.5	317.5	295.0	575.8	182.2	393.6
Columbia	1,018.2	650.7	379.7	271.0	367.5	153.4	214.1
Dallas	1,397.4	1,059.8	525.9	533.9	337.6	172.7	164.9
Drew	1,103.0	680.8	251.1	429.7	422.2	218.3	203.9
Grant	1,459.0	809.1	447.8	361.3	649.9	282.8	367.1
Hempstead	974.4	587.7	376.5	211.2	386.7	171.4	215.3
Hot Spring	894.7	689.3	479.4	209.9	205.4	140.4	65.0
Howard	992.3	872.5	528.8	343.7	119.8	56.4	63.4
Lafayette	621.2	420.5	173.4	247.1	200.7	95.0	105.7
Little River	579.9	455.8	230.6	225.2	124.1	77.0	47.1
Miller	668.7	381.1	275.9	105.2	287.6	146.8	140.8
Nevada	846.1	501.2	316.9	184.3	344.9	169.9	175.0
Ouachita	1,369.4	745.4	346.6	398.8	624.0	344.2	279.8
Pike	1,147.0	1,012.0	685.4	326.6	135.0	95.2	39.8
Sevier	1,101.6	750.1	379.4	370.7	351.5	188.4	163.1
Union	1,995.6	1,243.0	742.5	500.5	752.6	333.1	419.5
All counties	23,660.1	15,829.3	8,413.6	7,415.7	7,830.8	3,672.1	4,158.7

Table 10.—Average volume per acre of growing stock and sawtimber on commercial forest land by species group and ownership class, 1969

Ownership class	Growing stock			Sawtimber		
	All species	Softwood	Hardwood	All species	Softwood	Hardwood
----- Cubic feet ----- ----- Board feet -----						
National forest	846	346	500	2,616	1,308	1,308
Other public	854	348	506	2,637	1,310	1,327
Forest industry	1,169	705	464	4,433	3,172	1,261
Farmer	886	404	482	2,573	1,504	1,069
Misc. private	984	499	485	3,030	1,902	1,128
All ownerships	1,045	570	475	3,560	2,382	1,178

Table 11.—Growing stock volume on commercial forest land by species and diameter classes, 1969

Species	Diameter class (inches at breast height)										
	All classes	5.0- 6.9	7.0- 8.9	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 28.9	29.0 and larger
----- Million cubic feet -----											
Softwood:											
Southern pines	3,708.3	305.1	427.7	571.2	641.8	553.6	460.4	311.9	202.1	215.8	8.7
Other softwoods	79.2	1.7	4.7	5.9	7.6	9.9	12.4	14.8	8.1	12.2	1.9
Total	<u>3,787.5</u>	<u>306.8</u>	<u>432.4</u>	<u>577.1</u>	<u>649.4</u>	<u>573.5</u>	<u>472.8</u>	<u>326.7</u>	<u>210.2</u>	<u>228.0</u>	<u>10.6</u>
Hardwood:											
Select white oaks ¹	334.1	38.0	45.8	59.1	48.1	49.9	39.3	21.0	15.7	15.2	2.0
Select red oaks ²	178.0	12.9	16.0	19.7	18.3	33.6	25.1	18.2	17.5	16.1	.6
Other white oaks	364.9	50.4	68.4	64.0	61.4	31.3	29.5	9.4	17.3	30.1	3.1
Other red oaks	844.6	81.1	128.1	133.1	116.0	120.6	98.2	60.8	45.0	53.3	8.4
Hickory	264.7	26.7	40.8	39.6	42.4	41.0	25.6	10.7	9.2	26.9	1.8
Sweetgum	733.9	92.5	119.7	123.9	124.2	107.8	74.0	49.7	26.2	15.9	...
Tupelo and blackgum	119.4	10.3	16.8	19.8	19.5	20.8	14.2	8.8	3.0	6.2	...
Maple	24.0	5.7	3.8	5.8	2.5	3.4	1.9	.9	...	...	...
Beech	34.0	1.1	1.6	3.1	6.2	5.0	3.9	2.7	4.3	5.5	.6
Ash	56.8	8.8	12.7	8.5	6.6	9.5	3.3	3.9	1.3	2.2	..
Other hardwoods	203.4	33.2	39.1	36.1	33.4	23.5	11.3	8.8	3.1	13.2	1.7
Total	<u>3,157.8</u>	<u>360.7</u>	<u>492.8</u>	<u>512.7</u>	<u>478.6</u>	<u>446.4</u>	<u>326.3</u>	<u>194.9</u>	<u>142.6</u>	<u>184.6</u>	<u>18.2</u>
All species	<u>6,945.3</u>	<u>667.5</u>	<u>925.2</u>	<u>1,089.8</u>	<u>1,128.0</u>	<u>1,019.9</u>	<u>799.1</u>	<u>521.6</u>	<u>352.8</u>	<u>412.6</u>	<u>28.8</u>

¹ Includes white, swamp chestnut, chinkapin, Durand, swamp white, and bur oaks.² Includes northern red, cherrybark, and Shumard oaks.

Table 12.—Sawtimber volume on commercial forest land by species and diameter classes, 1969

Species	Diameter class (inches at breast height)									
	All classes	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 28.9	29.0 and larger	
----- Million board feet -----										
Softwood:										
Southern pines	15,448.8	2,065.0	3,174.0	3,077.8	2,667.6	1,849.2	1,223.5	1,340.2	51.5	
Other softwoods	380.5	15.1	31.3	50.4	62.9	87.8	47.4	73.5	12.1	
Total	<u>15,829.3</u>	<u>2,080.1</u>	<u>3,205.3</u>	<u>3,128.2</u>	<u>2,730.5</u>	<u>1,937.0</u>	<u>1,270.9</u>	<u>1,413.7</u>	<u>63.6</u>	
Hardwood:										
Select white oaks ¹	850.2	...	179.6	218.2	183.0	102.4	75.5	80.3	11.2	
Select red oaks ²	570.2	...	63.5	143.6	110.1	85.2	86.2	78.4	3.2	
Other white oaks	802.2	...	230.6	136.4	140.2	42.7	83.5	153.1	15.7	
Other red oaks	2,176.2	...	411.8	499.9	445.8	290.3	219.3	267.5	41.6	
Hickory	691.4	...	155.5	182.7	117.9	49.8	44.8	133.9	6.8	
Sweetgum	1,746.9	...	448.6	490.0	353.9	240.1	131.4	82.9	...	
Tupelo and blackgum	302.5	...	63.3	84.5	65.8	41.8	15.0	32.1	...	
Maple	34.8	...	8.6	14.5	7.9	3.8	...	...	...
Beech	129.5	...	22.6	24.0	18.1	16.1	18.8	25.9	4.0	
Ash	116.0	...	26.1	41.5	14.7	16.0	6.5	11.2	..	
Other hardwoods	410.9	...	123.5	103.1	54.5	42.5	14.4	64.9	8.0	
Total	<u>7,830.8</u>	..	<u>1,733.7</u>	<u>1,938.4</u>	<u>1,511.9</u>	<u>930.7</u>	<u>695.4</u>	<u>930.2</u>	<u>90.5</u>	
All species	<u>23,660.1</u>	<u>2,080.1</u>	<u>4,939.0</u>	<u>5,066.6</u>	<u>4,242.4</u>	<u>2,867.7</u>	<u>1,966.3</u>	<u>2,343.9</u>	<u>154.1</u>	

¹ Includes white, swamp chestnut, chinkapin, Durand, swamp white, and bur oaks.² Includes northern red, cherrybark, and Shumard oaks.

FOREST RESOURCES OF MISSISSIPPI



U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE RESOURCE BULLETIN SO-17

1969

Acknowledgments

Generous assistance from public and private organizations made it possible to keep the field work for the latest forest inventory of Mississippi ahead of the schedule that could have been maintained with regularly allotted funds. The very material aid of the organizations listed below, and of the individuals in them, is gratefully acknowledged:

MISSISSIPPI FORESTRY COMMISSION

YAZOO-LITTLE TALLAHATCHIE FLOOD PREVENTION PROJECT

ANDERSON-TULLY COMPANY

E. L. BRUCE COMPANY

CHICAGO MILL AND LUMBER COMPANY

CROWN ZELLERBACH CORPORATION

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INTERNATIONAL PAPER COMPANY

JOHNS-MANVILLE PRODUCTS CORPORATION

MCGRAW-CURRAN LUMBER COMPANY

MASONITE CORPORATION

TENNESSEE RIVER PULP AND PAPER COMPANY

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WEYERHAEUSER COMPANY

Forest Resources of Mississippi

Charles C. Van Sickle

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FOREST SERVICE



SOUTHERN FOREST EXPERIMENT STATION
New Orleans, Louisiana

1969

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Highlights

This report presents the principal findings of a new forest survey of Mississippi.¹ Field work was completed in 1967, and that year is given for the date of inventory. Estimates of growth and cut, and of industrial output, were compiled for 1966. Comparison with the previous survey of 1957 helps to clarify timber trends.

Forest land in Mississippi declined 2 percent in the decade between the two surveys. Clearing of hardwood forests was extensive in the Delta region (fig. 1), in continuation of a long-term trend. Land reverting to forest in the uplands of central Mississippi partly offset the Delta loss. In other regions, changes were small.

Statewide, an increasing emphasis on forestry has helped to improve stocking. Fire protection, planting, seeding, and natural reproduction have reduced the acreage of non-stocked forest to less than 1 percent. And improvements in stand density were noted in all regions, most strikingly in the Southern and Central. A substantial rise in numbers of 2- and 4-inch diameter trees augurs well for the future, and increases in numbers of larger trees are reflected in sizable current volume gains.

Softwood growing stock volume, mostly pines, has increased 63 percent since 1957. Mississippi timber stands now contain 6.6 billion cubic feet of softwood growing stock. Three-fourths of this volume is in trees large enough to be classed as sawtimber; the rest is poletimber. Largest growing-stock gains were in trees from 7 to 15 inches in diameter. Volume increased everywhere except in the Delta, which experienced a small loss.

Despite land clearing in some areas, the hardwood resource has remained remarkably stable. The 6.5 billion cubic feet of growing

stock nearly equals the softwood volume. Throughout the range of tree sizes, volume changes were small. A slight decline in trees 19 inches and larger was more than compensated for by the buildup in smaller sizes. Although tree quality is highly dependent on size, it did not change measurably between surveys.

Timber harvested from Mississippi forests totaled more than 450 million cubic feet in 1966—the biggest harvest in a decade. In the interval between surveys, output of roundwood for pulpwood eclipsed saw logs as the leading product. Softwood species exceeded hardwoods, making up 53 percent of the harvest.

A canvass of Mississippi's primary wood-using plants revealed some 450 operations of various kinds. Mississippi timber was pulped, sawn into lumber, cut into veneer, treated with preservatives, sawn into furniture and handle squares, and burned for fuel.

Even with industrial activity at a recent high, timber growth greatly exceeded removals in 1966. The volume in trees retained for future harvest, 335 million cubic feet, was equal to almost two-thirds of the cut. One-fourth of the timber removed was unused. It consisted mainly of hardwood abandoned in logging and destroyed in land clearing.

Though growth currently exceeds cut, productivity of Mississippi forests is well below potential. It is estimated that the current annual yield of 50 cubic feet per acre could be almost doubled. Moreover, the quality and tree-size distribution of the existing inventory could be simultaneously improved. Thinning, removing cull trees, and regulating rotation age are some of the methods available to foresters.

It seems inevitable that Mississippi's timber resource will become increasingly important in meeting growing national demands. Recent industrial expansion, most notably in the pulp industry, is only a preview of the activity that will be stimulated by a wisely managed forest resource.

¹Data supplementary to the present report will be found in: Forest statistics for Mississippi counties. Arnold Hedlund and J. M. Earles. USDA Forest Serv. Resource Bull. SO-15, 24 pp. 1969. South. Forest Exp. Sta., New Orleans, La. Mississippi forest industry. Dwane D. Van Hooser. USDA Forest Serv. Resource Bull. SO-12, 25 pp. 1968. South. Forest Exp. Sta., New Orleans, La.

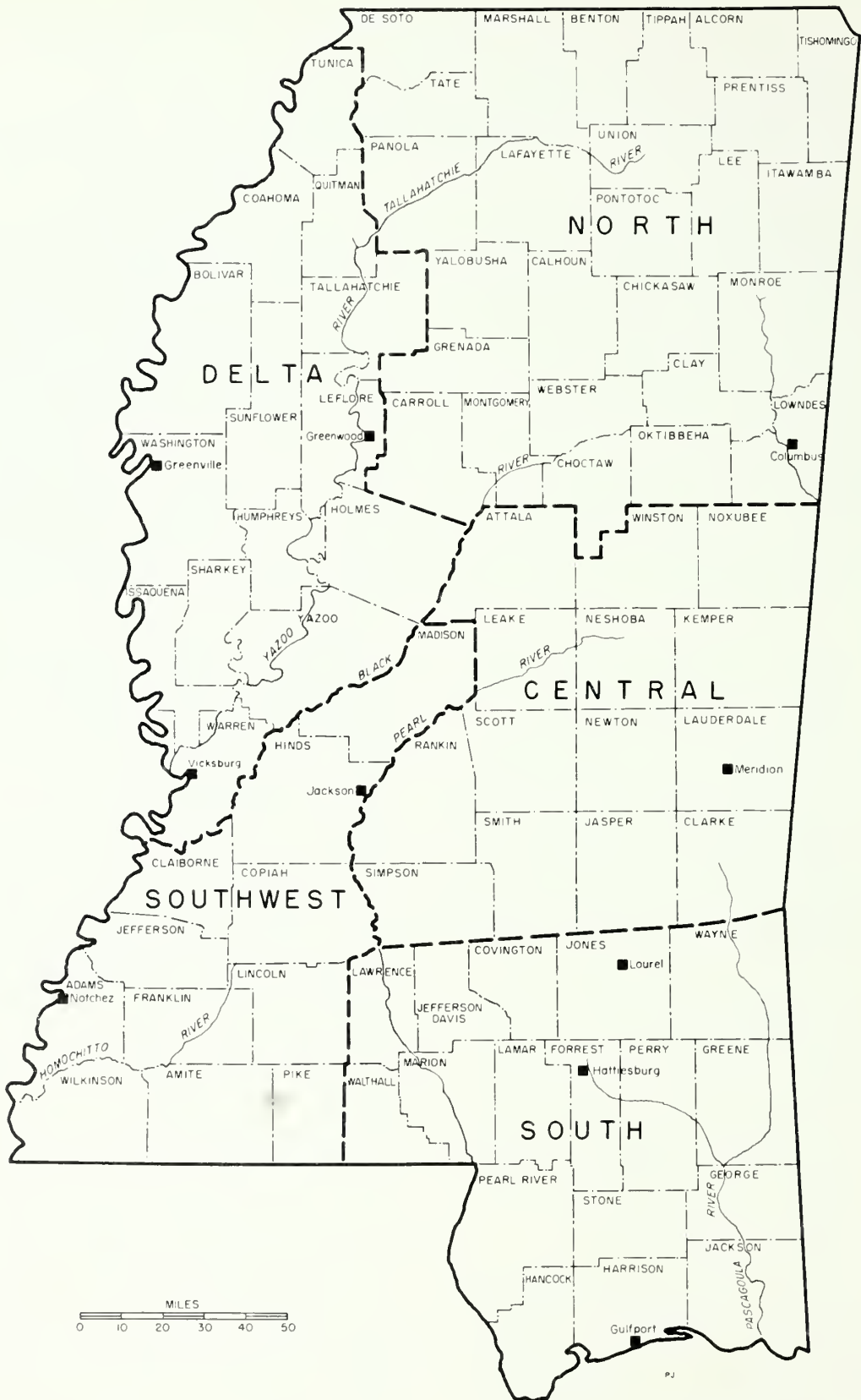


Figure 1. Forest Survey regions in Mississippi.

The Changing Resource

FOREST LAND

Forests continue to be the dominant land use in Mississippi. They occupy 56 percent of the total land area. In all, 16.9 million acres are under some kind of forest² cover. Of this, 21,000 acres in public holdings are withheld from timber harvesting. Most of the reserved land is on the Natchez Trace Parkway.

Forest Types

Mississippi forests may be classified into three groups—pines, upland hardwoods, and bottom-land hardwoods (fig. 2). The pine for-

ests are composed of three major types and contain virtually all of the pine volume. Long-leaf-slash pine and loblolly-shortleaf types are found on one-third of the State's forest land. Pine stocking also makes up 25 to 50 percent of the oak-pine type, thus accounting for another fifth of forest. The oak-pine association can usually be converted to pure pine with moderate treatment.

The uncultivated portions of the Mississippi River Delta and the river bottoms of lesser streams support stands of oak-gum-cypress and elm-ash-cottonwood. These bottom-land types comprise 22 percent of the State's forest area.

The bottom-land forests merge into oak-hickory uplands as sites become higher and dryer. Oak-pine stands also give way to oak-hickory in the northern part of the State, where cool winters limit the occurrence of loblolly pine.

Changes in Forest Area

Forest land area declined by 2 percent between surveys (table I). The small total change obscures shifts in land use within regions.

Table I.—Commercial forest land in 1967 and change since 1957

Survey region	Commercial forest	Proportion of land area forested	Change since last survey
	Thousand acres	Percent	Percent
Delta	1,493.8	27	- 22
North	4,194.8	50	(¹)
Central	3,959.5	67	+ 4
South	4,489.1	73	- 1
Southwest	2,754.7	63	(¹)
All regions	16,891.9	56	- 2

¹ Negligible.

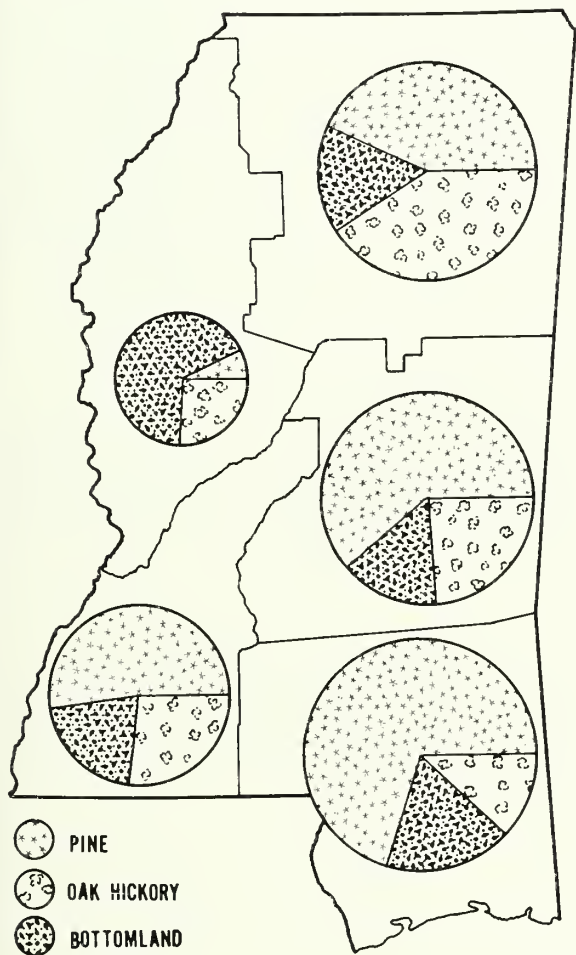


Figure 2. Major forest-type groups by Forest Survey regions.

² Technical terms are defined on pages 20-22.

Forests have been cleared in a large portion of the State's Delta region. There, a 22-percent loss of the commercial forest land occurred. This region, lying almost entirely within the

alluvial plain of the Mississippi River, contains some of the State's choice hardwood-producing land. Razing of the Delta forests is partly the result of worldwide demand for soybeans.³ This crop surpassed corn and cotton to become the Nation's number one agricultural cash crop in 1966. Much of the Delta clearing has taken place since 1960 and coincides closely with increases in the State's soybean acreage.

In the Central region, abandonment of farm land added 167,000 acres to the forest.

Comparison of shifts in acreage among forest types is made difficult by changes in specifications for the 1957 and 1967 surveys. Thus, differences in the area of pine types were not large enough to be clearly attributable to forest changes. But in the Delta much of the acreage loss was in desirable bottom-land hardwoods. The gain in the Central region was mostly in the less productive upland hardwood type.

While the changes in forest acreage were partly compensatory, timber growth nevertheless suffered. Land removed from forest usually contains immature trees representing years of growth. Land reverting naturally to forest is unproductive for some time if regeneration is delayed or inadequate.

Ownership

Ninety percent of Mississippi's commercial forest land is privately owned. The amount in public ownership, mostly National forest, did not change materially between surveys.

Changes among private, nonindustrial ownership classes largely reflect trends in rural population. Farmers now own 6.2 million acres of forest, 16 percent less than they did in 1957. Miscellaneous private landowners hold 6.4 million acres, 13 percent more than recorded previously. The most recent Census of Agriculture, in 1964, disclosed a 20-percent decline in the number of Mississippi farms in 5 years. The trend was found to some degree in every county in the State. As with farms, forest acreage is probably being consolidated and shifted to other ownerships.

Forest industry holdings—2.5 million acres—are nearly identical to the 1957 acreage. How-

ever, forest industry's stewardship is also extended to some 200,000 acres of land leased from farmers or other private owners. Additional lands are under long-term cutting contracts.

TIMBER VOLUME

Mississippi forests contained more than 15 billion cubic feet of wood in 1967, not including wood in stumps and branches. This total includes trees of all kinds and sizes including those currently considered too rough or rotten to be utilized for products. The concept of growing stock and sawtimber is used to aid in interpretation of the inventory. Growing stock trees have quality attributes that make them either presently or prospectively suitable for saw logs. Their volume is measured from a 1-foot stump to a 4-inch top. Sawtimber trees are growing stock trees larger than a specified diameter limit. In the interval between surveys, changes were made in the specifications for growing stock. Moreover, methods of computing tree volume also evolved. Thus, to permit comparisons with the 1957 inventory, the earlier volumes were adjusted to current specifications. All volume comparisons in this report use recomputed 1957 data.

Strong Gain in Pine Volume

Softwood volume, nearly all in southern pines, rose 63 percent during the last decade (table II). Most of the 6.6 billion cubic feet are in sound, well-formed trees (fig. 3). Vol-

Table II.—Growing stock volume in 1967 and change since 1957

Region	Softwood		Hardwood	
	Volume	Change	Volume	Change
	Million cu. ft.	Percent	Million cu. ft.	Percent
Delta	69.3	+ 1	1,148.5	- 8
North	878.0	+ 77	1,655.5	+ 3
Central	2,028.0	+ 71	1,520.2	+ 11
South	2,187.7	+ 61	1,073.1	+ 8
Southwest	1,391.8	+ 51	1,082.5	+ 2
All regions	6,554.8	+ 63	6,479.8	+ 3

³Beltz, R. C., and Christopher, J. F. Land clearing in the Delta region of Mississippi, 1957-1967. USDA Forest Serv. Res. Note SO-69, 3 pp. 1967. South. Forest Exp. Sta., New Orleans, La.

ume of softwood growing stock now exceeds that of hardwood.

The spectacular gain took place throughout the range of tree sizes. But the largest volume increases were in trees from 7 to 15 inches in diameter (fig. 4). Trees of these sizes are vital to the forthcoming expansion in Mississippi's forest industry.

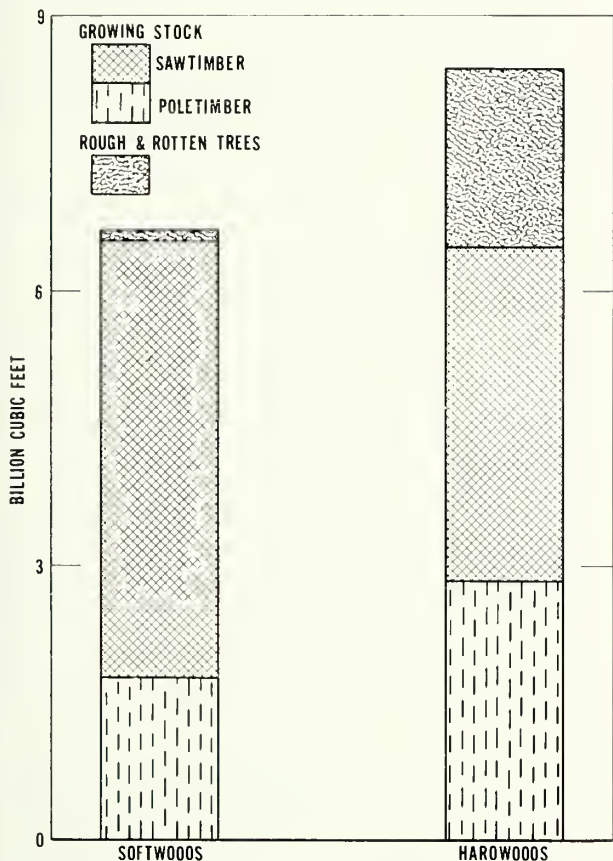


Figure 3. Volume of softwoods and hardwoods, by class of timber.

About three-fourths of the current softwood growing stock volume is classed as sawtimber-size trees—that is, at least 9 inches in diameter. The rest is classed as poletimber. Ninety percent of the 4.8 billion cubic feet in softwood sawtimber trees can be made into saw logs. This is equivalent to 25 billion board feet (table III). The remainder is in upper stems but is suitable for pulpwood or similar products. Changes in sawtimber volume also indicate the shift in tree size: pine saw log volume on the stump in Mississippi is nearly 70 percent greater than in 1957.

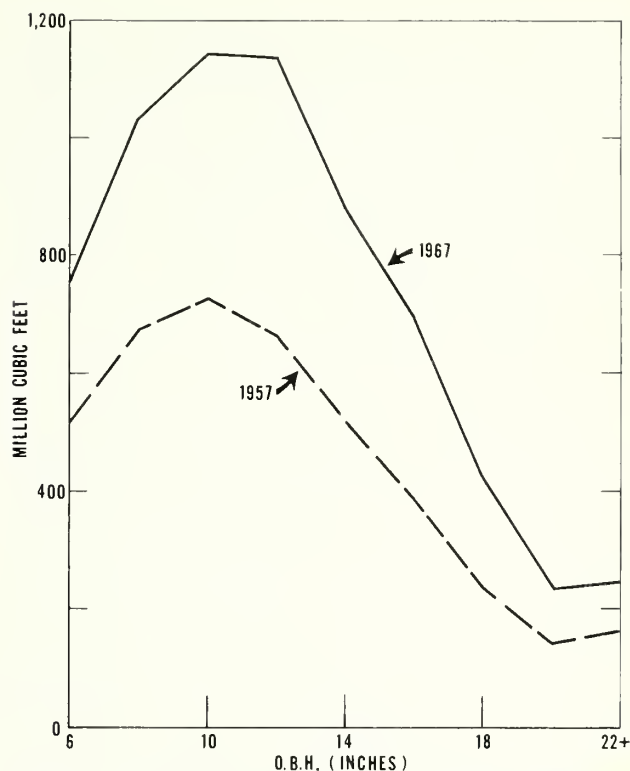


Figure 4. Softwood growing stock volume by tree diameter, 1957 and 1967.

Table III.—Sawtimber volume in 1967 and change since 1957

Region	Softwood		Hardwood	
	Volume	Change	Volume	Change
	Million bd. ft.	Percent	Million bd. ft.	Percent
Delta	267.1	- 9	3,804.0	- 16
North	2,576.9	+ 97	3,651.3	+ 5
Central	7,523.0	+ 81	3,474.6	+ 20
South	8,836.0	+ 71	2,850.0	+ 19
Southwest	6,233.9	+ 50	3,018.7	- 1
All regions	25,436.9	+ 69	16,798.6	+ 3

The increase in softwood sawtimber was accompanied by noticeable improvements in quality (fig. 5). Quality gains can be expected when tree size increases, as log grades are based partly on diameter specifications. Moreover, as trees increase in size the accompanying gains in stand density cause them to shed lower limbs more quickly and hence to have fewer surface defects.

The biggest improvement in pine volume occurred in the North and Central regions. The change is accounted for partly by the history

of forest industry in these portions of the State. Small sawmills, once numerous, have been declining in number for the last two decades and have not been immediately replaced with similar timber markets. The resulting pause in harvesting activities has done much to help build up the growing stock base.

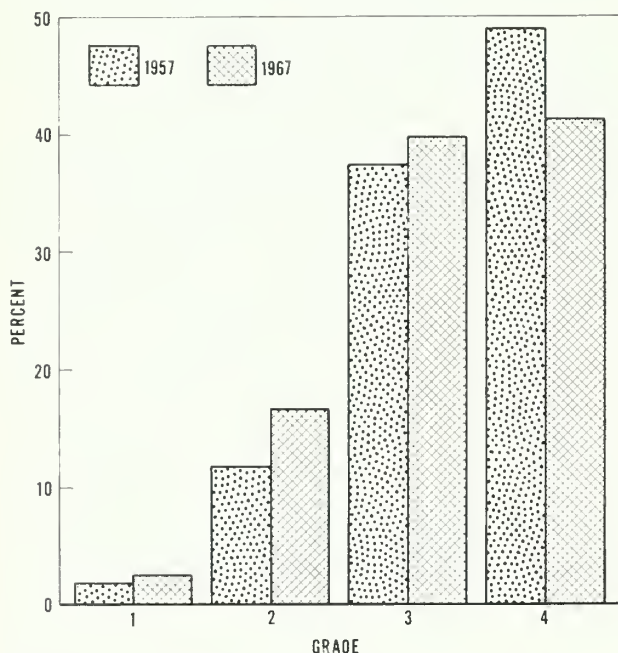


Figure 5. *Distribution of softwood sawtimber volume by log grade, 1957 and 1967.*

In the Northern region, pine volumes have also been increased by publicly sponsored efforts to establish cover on the highly erosive drainages of the Yazoo and Little Tallahatchie Rivers. The area is characterized by many small farms and low per-capita income. Landowners were often unaware of the need for soil stabilization, and, even when informed, were unable to make the required investments without public assistance. Extensive programs of tree planting and timber stand improvement were initiated shortly after the Second World War, and their benefits are now evident.

Mild Gain in Hardwood Volume

The 1967 inventory revealed an increase of 3 percent in the volume of hardwood growing stock—the total now is 6.5 billion cubic feet. There was a decline in the volume of large trees, and a gain in the smaller sizes (fig. 6). The previously mentioned clearing of fertile hardwood lands in the Delta reduced volume

there by 8 percent. Volume rose in the Central and Southern regions, accompanied by increases in the upland and bottom-land hardwood types.

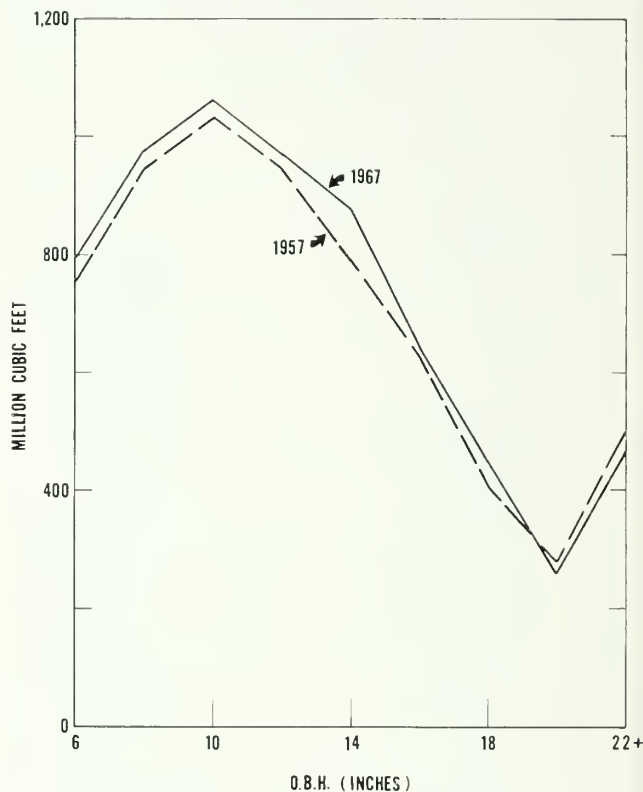


Figure 6. *Hardwood growing stock volume by tree diameter, 1957 and 1967.*

The overall species composition of Mississippi's hardwood forests is indicated by figure 7. Changes between surveys were minor. Gums declined from 28 percent to 25 percent of the growing stock volume, and red oaks increased from 22 percent to 26. Most other species were found in about the same proportions as observed by the previous survey. Gums, yellow-poplar, magnolia, and similar species have been in much demand for pulpwood and veneer. Recently, developing technology in the pulp industry has helped redistribute demand as more species are found acceptable. The proportion of oaks in Mississippi's harvest of hardwood pulp increased from less than 10 percent in 1959 to the current level of nearly 20.

Fifty-six percent of the hardwood growing stock volume is in sawtimber-size trees—at least 11 inches in diameter. Four-fifths of the 3.7 billion cubic feet in sawtimber trees will make saw logs. The volume of hardwood grow-

ing stock is nearly equal to that of pine; in sawtimber volumes, the advantage of pine is probably due as much to differing minimum-diameter specifications as to the distribution of tree sizes.

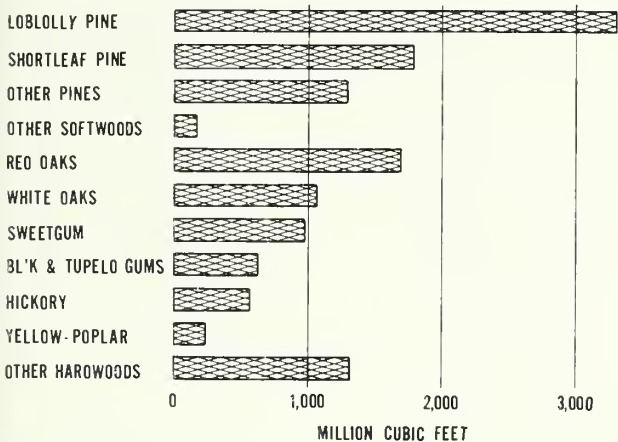


Figure 7. Growing stock by species.

Despite a slight decline in trees 20 inches and larger, hardwood quality does not appear to have been adversely affected. Fully 25 percent of the sawtimber volume is in logs of grades 1 and 2. Although absolute volumes are not directly comparable with those recorded in the earlier survey, this is about the same proportion as previously reported. Logs such as these are normally most in demand for factory lumber and other products requiring clear material. Fifty-four percent of the hardwood sawtimber is made up of grade 3, which is the lowest or marginal grade suitable for standard factory lumber. The remaining volume is in tie and timber logs that are presently suited only to low-value uses such as crating and crossties (table IV).

Table IV.—Sawtimber volume by log grade and tree diameter, Mississippi, 1967

Species group and d.b.h. class (inches)	All grades	Grade 1 ¹	Grade 2	Grade 3	Grade 4
----- Million board feet -----					
Softwood:					
10 to 12	10,474.1	12.9	273.8	6,000.9	4,186.5
14 to 18	11,892.5	53.6	3,192.0	3,531.6	5,115.3
20 and up	3,070.3	577.5	741.1	576.3	1,175.4
Total	25,436.9	644.0	4,206.9	10,108.8	10,477.2
Hardwood:					
12	3,774.4		206.0	2,720.5	847.9
14 to 18	9,222.3	376.4	1,890.8	4,867.1	2,088.0
20 and up	3,801.9	899.6	852.8	1,482.8	566.7
Total	16,798.6	1,276.0	2,949.6	9,070.4	3,502.6

¹ All cedar logs were graded as No. 1.

In addition to growing stock trees, Mississippi forests support 2 billion cubic feet of sound volume in rough and rotten trees. Such trees pose a dilemma for forest managers. They are generally unsuitable for sawn products, although many contain usable amounts of pulpwood. They take up growing space, yet often lose more volume than they gain. In short, these trees reduce the productivity of hardwood stands.

PRODUCTIVITY

As part of the Mississippi survey, forest land was rated by site class. The results are an indication of potential productivity.

Annual growth on growing stock trees averages 52 cubic feet per acre. This is well below the land's capabilities. The average acre could be made to yield about 90 cubic feet annually. Why, then, are the forests growing at less than capacity? A description of stocking gives some important clues.

Stocking

Stocking is an indication of the extent to which trees utilize the growth potential of the site. Basal area per acre was taken as a measure of stocking for stands with trees larger than 5 inches d.b.h., and numbers of trees was a criterion for stands with smaller trees. The standards were chosen so that 100-percent stocking represented the minimum required to make full use of the site.

Forty-two percent of the forest acres in Mississippi are fully stocked with growing stock trees. An additional 46 percent are at least medium stocked with such trees. Stands of both classes contain substantial numbers of trees that are too rough or too rotten to make saw logs. Such culls make up one-fifth of the basal area on the average acre. Growth on them is not added to the growing stock inventory, and they hamper the development of growing stock trees. The loss they cause is approximately in proportion to their basal area.

The stand structure of Mississippi's forests—that is the distribution of trees by size classes—offers another clue to present low volume yields. In figure 8, existing stand structure is compared with a hypothetical distribution de-

rived from normal yield tables. The chart is for Mississippi forests considered as a whole, not for particular stands. On this basis, it is clear that the acreage in small stands is greater than would be required over the long run (it is also possible that stocking in some of these small stands is excessive). And the acreage in large- and medium-size timber is too small. In fact, only 27 percent of the forest area is presently classed as supporting sawtimber stands, while half is covered by seedling and sapling stands. Biological productivity thus is higher than indicated by present volume growth. Even when all live trees are considered—that is, when culls are added to growing stock—stand structure limits volume output.

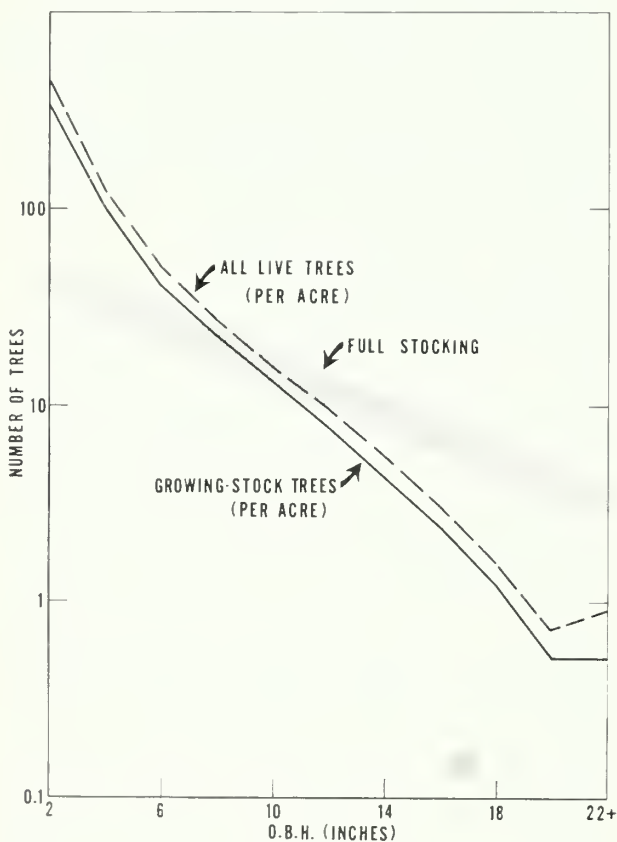


Figure 8. Comparison of present stand structure with that of hypothetical fully stocked stand.

On the average, Mississippi stands contain 73 square feet of basal area per acre in trees of all sizes. In 1957, the average stand density was about 60 square feet. Both fire protection and tree planting have contributed to the improvement. In the decade between 1957 and 1967, more than one million acres were plant-

ed, nearly all with pines. A peak of 170,000 acres was reached in 1960. Since then pine planting has declined, in part because of the withdrawal of Soil Bank assistance. It also seems likely that many areas badly in need of planting have received attention.

Until recently hardwood plantings were largely experimental, but the acreage of some cottonwood and sycamore plantations has now reached commercial proportions.

Given the overcutting of the forests in earlier decades, and given also the recent efforts to regenerate the stands, the shape of the curve depicted in figure 8 is almost inescapable. If future overcutting of medium and large trees is avoided, the present abundance of small trees will repair the deficit of large trees.

Growth and Removals

In 1966 the increase in Mississippi's growing stock inventory was 335 million cubic feet (table V). This is the amount that growth added to the inventory after deductions were made for mortality and removals.

Table V.—Summary of timber resource statistics, Mississippi, 1957-1967

Item	Growing stock		Sawtimber	
	Soft-wood	Hard-wood	Soft-wood	Hard-wood
	Million cubic feet		Million board feet	
Inventory, 1957 ¹	4,028.1	6,273.1	15,089.3	16,363.5
Timber removals, 1966	251.2	287.3	1,005.7	956.4
Mortality, 1966	21.5	50.6	66.4	138.5
Net growth, 1966	523.8	349.7	1,955.6	878.9
Net change, 1966	+ 272.6	+ 62.4	+ 949.9	- 77.5
Inventory, 1967	6,554.8	6,479.8	25,436.9	16,798.6

¹ Adjusted for 1967 measurement standards.

Softwood species demonstrated an overall growth rate of 9 percent in 1966. A small portion of this was nullified by fires, insects, disease, and other natural causes of mortality. Net growth was 524 million cubic feet (fig. 9). Timber removed for products offset 46 percent of the total growth, leaving about half to be reinvested as new growing stock.

The margin of hardwood growth over removals and mortality added 62 million cubic feet to the growing stock in 1966. Hardwood mortality was substantial, reducing gross growth by about one-eighth. Removals totaled

¹ USDA Forest Service. Annual summaries, published in *Tree Planters' Notes*, of Forest and windbarrier planting and seeding in the U. S. 1957-1967.

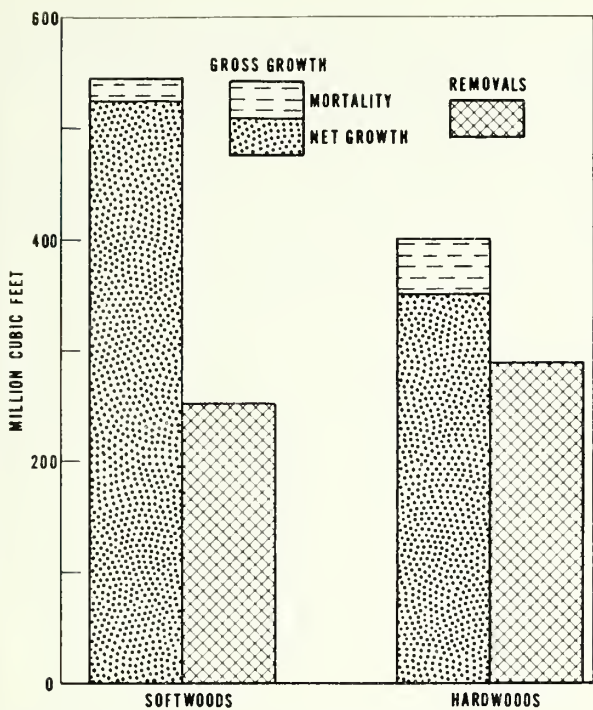


Figure 9. Growth, mortality, and removals of growing stock, 1966.

287 million cubic feet; of this two-thirds went into timber products and some 104 million cubic feet were removed in logging and land clearing but not used. When land is cleared, the timber is usually windrowed and burned. Recent changes in hardwood stand structure indicate that pole-size trees are increasing while saw logs are being removed faster than growth can replenish the supply. The net changes registered for hardwood in 1966 (table V) corroborate this trend.

REGIONAL CONTRASTS

The Forest Survey regions in Mississippi represent differing physiographic zones, though their boundaries follow county lines for convenience in compiling data. As figure 10 suggests, the forest situation differs considerably from one region to another.

Delta region.—Hardwoods make up 94 percent of the Delta growing stock volume. The minor softwood volume is mostly cypress with some pine. In this region land clearing for agriculture has been extensive. Much of the remaining forest is in the backwater basins of the Yazoo and Black Rivers. Tree size and

quality are well above the average for the State. Consequently, the continued clearing of the Delta's hardwood lands is causing concern among hardwood foresters.

Northern region.—Trees in the Northern region are predominantly small. Seedling and sapling stands comprise three-fifths of the forest. The latest survey found little change in forest area, but between 1948 and 1957 a gain of 13 percent was recorded. Trees established then are beginning to reach poletimber size.

Though this is a region of predominantly pine sites, two-thirds of the growing stock volume is in hardwoods. Partly because of low present volumes, and partly because of in-

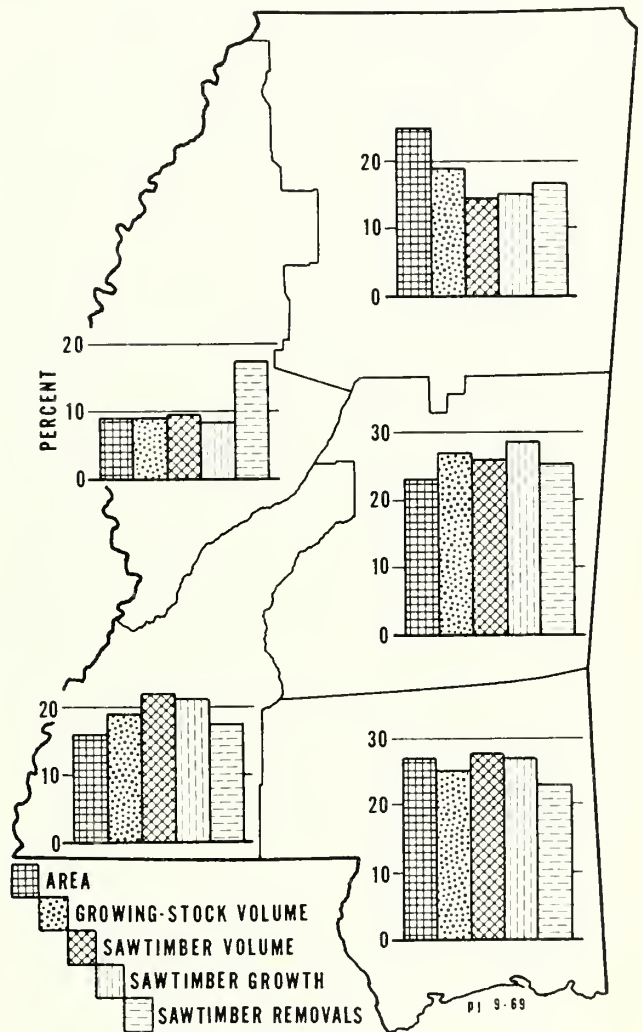


Figure 10. Relative importance of forest resources, by region.

growth from trees established a decade or two ago, growth rates are among the highest in the State. Pine sawtimber volume almost doubled between 1957 and 1967, and hardwoods made modest gains.

Central region.—The Central region contains the most growing stock volume. Three-fifths is softwoods, virtually all pine. Here, as in the North, pine growth rates are high, but more of the growth is taking place on sawtimber-size trees than in other regions. Average volume per acre is high and stands are well stocked.

This is the only region in which a gain in forest land area was observed.

Southern region.—Three acres out of every 4 in the Southern region are forested. Here too, the largest volume of pine timber is found—almost 9 billion board feet. Hardwoods add another 3 billion to the total.

More than a third of the forest land is in public or industrial holdings. These ownerships share a history of better than average forest management.

Longleaf-slash pine stands predominate. About 90 percent of the State's inventory of these species is found here. Even so, overall stand density is lower than it should be. Nearly one-fifth of the area is poorly stocked with growing stock.

Southwestern region.—This region is best described as having a balanced resource. The 2.8 million acres of forest land support 900 cubic feet of growing stock per acre, as compared with a Statewide average of 770. The ratio of sawtimber volume to growing stock volume is higher than average, and growth rates are good. The high productivity reflects very good sites.

Timber Harvest and Industry

HARVESTING

Mississippi's 1966 output of roundwood products was the largest harvest in a decade. It amounted to 456 million cubic feet of wood. Softwood species, nearly all pine, made up 53 percent. Hardwoods consisted chiefly of oaks, gums, hickories, and yellow-poplar (fig. 11).

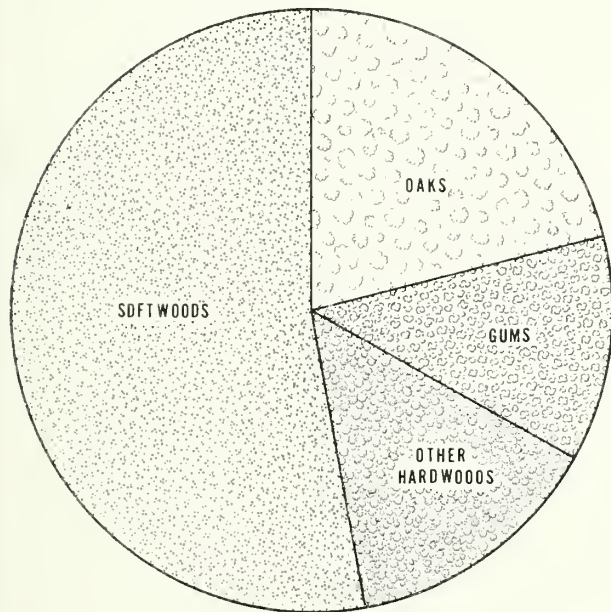


Figure 11. Distribution of roundwood output, by species groups.

Although roundwood output was almost the same as in 1956, important changes took place between surveys. Pulpwood and veneer logs increased while saw logs declined (fig. 12).

Pulpwood was the largest single product in 1966, comprising more than two-fifths of the roundwood output. The 2.5 million cords was a record high. With the exception of a few periods of slight decline, pulpwood production has trended upward since 1946. The saw log harvest was second to pulpwood by a small margin. One billion board feet of saw logs were cut, with pine and hardwoods in nearly equal proportions.

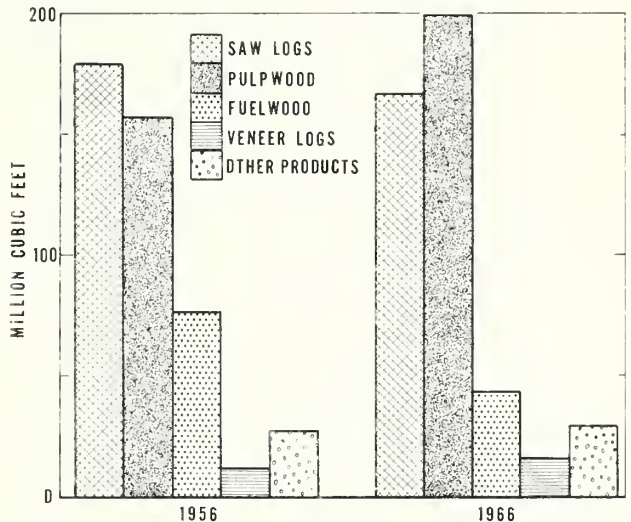


Figure 12. Output of roundwood by product, 1956 and 1966.

Fuelwood, veneer logs, poles, piling, posts, and miscellaneous products combined for one-fifth of the harvest. Of these, fuelwood made up the largest volume. In contrast to industrial products, much of the fuelwood is taken from culls and other nongrowing-stock sources.

Veneer logs produced in 1966 totaled 98 million board feet, about half pine. In 1956 the output was 90 million board feet, all hardwood. Production of hardwood veneer logs is declining.

Mississippi is a top-ranking supplier of poles and piling. In 1966, nearly 800,000 pines were cut for poles and some 4.9 million linear feet of piling were harvested. Other products such as posts, cooperage, handle stock, and miscellaneous dimension made up 4 percent of the output.

Mississippi was a net exporter of timber in 1966. Instate plants processed only three-fifths of the timber severed. Pulpwood accounted for most of the interstate movement: of the total 2.5 million cords, nearly 60 percent was shipped to out-of-State plants. Eighty-five percent of the pulpwood exports were pine.

Timber harvesting methods are rapidly changing. The effects of rising wages and developments in logging equipment are evident everywhere. The chain saw was a breakthrough in harvesting methods during the 1940's. More recent developments include tree-length logging, rubber-tired skidders, mechanical pulpwood loaders, weight-scaling, and mechanized woodyards. Roundwood chipping installations, located close to the wood supply, are a recent innovation in pulpwood marketing. Wood arrives at the installations in tree-length form to be debarked, chipped, and loaded onto railcars for shipment to a pulpmill. Although not necessarily in the above order, all of these techniques and devices have helped reduce the cost and increase the ease of getting timber to the market.

Logging residues are the unused portions of trees cut or killed by logging. The residues in 1966 were estimated to contain 55 million cubic feet of growing stock material, more than two-thirds hardwood. Most of the loss was a consequence of saw log operations.

INDUSTRY DEVELOPMENTS

Seven pulpmills were operating in Mississippi in 1966. Since then, mills at Monticello and Vicksburg have become operational. The 1966 capacity of 3,605 tons per day is thus expanded to 6,140 tons—an increase of 70 percent. Future pulpwood production in the State should be greatly stimulated by these developments.

Both number of sawmills and lumber production rose from 1962 to 1966, in reversal of a trend that was evident during the fifties. While lumber output is expected to continue upward in the immediate future, little change is anticipated in numbers of mills. There are now 108 sawmills with individual capacities in excess of 3 million board feet of lumber per year (fig. 13); smaller sawmills number 242. The large mills got about 80 percent of the logs in 1966.

Twenty-two plants were cutting veneers in 1966. Of these, 18 primarily manufactured hardwood veneers for containers, though some also cut southern pine. The other four plants cut pine for manufacture into plywood. Sixty percent of the veneers produced in 1966 were hardwood. Additional plywood facilities

planned for Mississippi will further increase the demand for southern pine veneer logs.

The wood-preserving industry in Mississippi consists of some 30 plants, about three-fifths of which use pressure systems. They treat most of the roundwood harvested in the State for poles, piling, and fence posts. They also process some lumber, railroad ties, crossarms, and other sawn products.

Other plants using Mississippi roundwood manufacture dimension stock, handle stock, shuttle blocks, charcoal, cooperage, and excelsior. Most numerous are those producing miscellaneous dimension stock.

Mississippi is entering a new era in forestry. Markets are improving for a variety of products from pulpwood to veneer. In most cases, these outlets are replacing the once-numerous small sawmill. The 242 small sawmills represent one-seventh of the number operating shortly after World War II. Such mills were profitable in the days when labor costs were low and the scattered nature of timber stands discouraged competition from large mills. Now stumpage owners find other producers bidding effectively for their timber.

WOOD RESIDUES AND BYPRODUCTS

Of every cubic foot of wood that goes to Mississippi mills, one-third remains after primary manufacture. Wood residues and byproducts in 1966 totaled 96 million cubic feet. Three-fifths of this volume was coarse material—slabs, edgings, miscuts, cull pieces, and other items of a size suitable for conversion into pulp chips. The rest was fine material, mainly sawdust and shavings.

For some years the manufacturing residues produced at Mississippi plants have remained a relatively constant proportion of raw material receipts. But during the last decade, the means of disposing of coarse residues has changed remarkably. In 1966, some 38 million cubic feet, mainly from sawmills, were chipped and sent to pulpmills. This volume represents a sixfold increase since 1956. The growing market for chips, together with the declining costs of alternative power sources, mainly electricity, have combined to cause a 73-percent decline in the volume of wood byproducts used for fuel.

In 1966, more than 85 sawmills and 17 veneer mills operated chipping equipment. Several pulpmills now have outdoor storage facilities capable of handling large quantities of chips. At large sawmills, producing pulp chips is commonly an integral part of the operation. Large mills without chipping equipment are generally those that still depend on wood for fuel.

Uses were found for more than half of the fine material produced in 1966. They include both industrial and domestic fuel, livestock bedding, and mulch. The pulp industry has begun using sawdust in some processes.

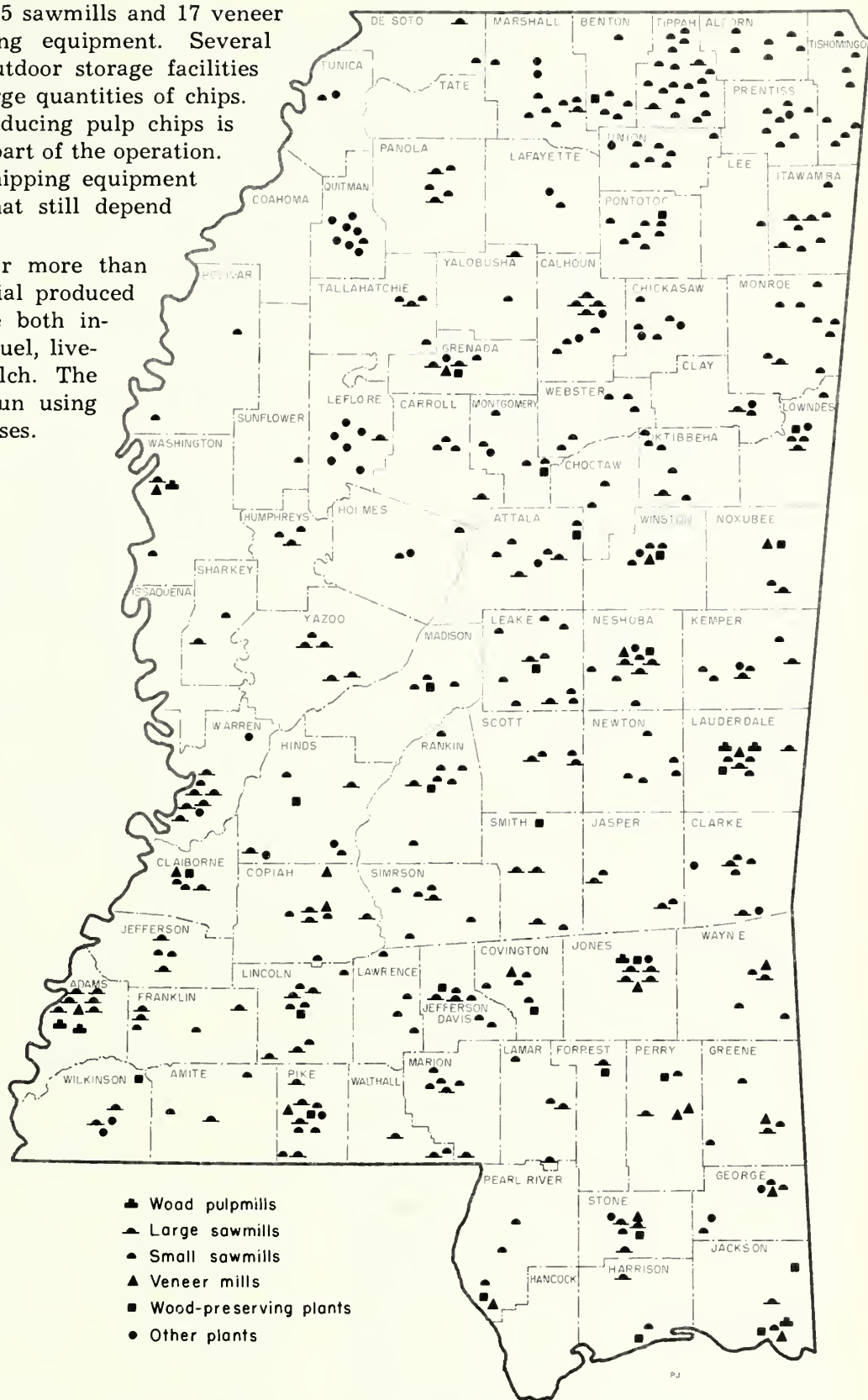


Figure 13. Location of primary wood-using plants.

Timber Supply Outlook

Mississippi's future supply of timber depends on many unforeseeable events. Demand is uncertain, largely because of the unknown effects of changing population, productivity, and technology. Nevertheless, timber demand will almost certainly rise. And since tree-growing requires time, preparation for eventual needs must begin today. Timber supply projections can be useful in this endeavor.

Two basic projections were made for Mississippi's timber supply. Each takes different assumptions as a starting point. One assumption is that current trends in forest management will continue, and the projection on this basis is shown here as prospective cut. However, present levels of management can be improved. Hence a second projection was made to represent more intensive management. The latter projection assumes that during the projection period the stands will be adjusted to provide a desirable distribution of tree size-classes. This projection is referred to as potential cut.

PROSPECTIVE CUT

The prospective-cut projection shows the volume of timber that will be available if growth and cut of growing stock are gradually brought into balance at the end of 30 years. It is also assumed that diameter growth, mortality rates, and distribution of cut by diameter classes will remain unchanged. The results of this projection in terms of future growth and cut are shown in figures 14 and 15.

In 1966, the margin of softwood growth over timber removals was quite favorable. This situation permits removals to increase greatly in the next 30 years. Current trends in Mississippi's wood-using industry suggest an early reduction of the margin of growth over cut. New plants, either announced or put into operation since 1966, have already reduced the growth-cut margin, and an effort was made to

partially anticipate the effect of these events. Still, the cut indicated for growing stock in 1996 is more than three times the 1966 harvest.

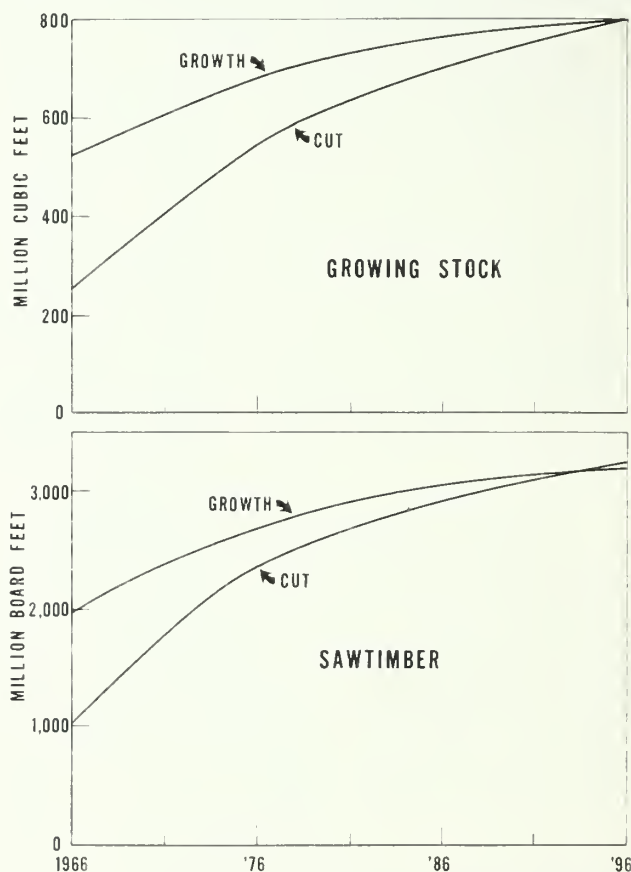


Figure 14. Prospective growth and cut of softwood, 1966-1996.

The trend for softwood sawtimber approximately parallels that for growing stock. As figure 16 indicates, however, the majority of the sawtimber (about 60 percent) will eventually come from trees less than 15 inches in diameter.

In 1966 hardwood growth was in excess of removals by 62 million cubic feet. The hardwood inventory gradually increases as the pro-

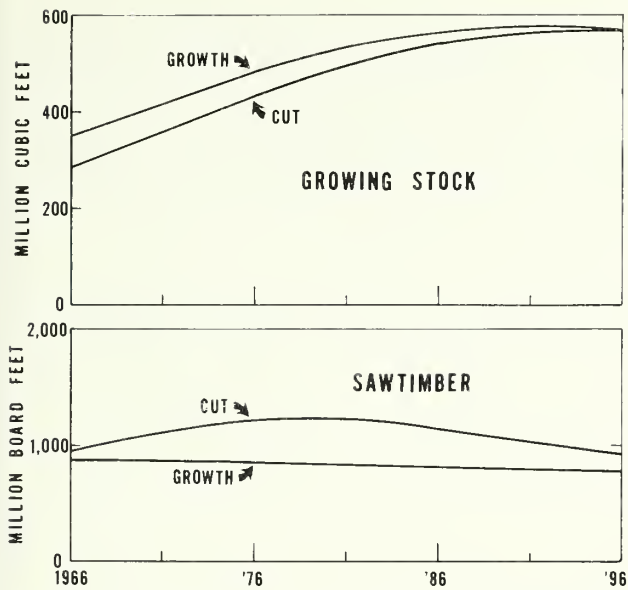


Figure 15. Prospective growth and cut of hardwood, 1966-1996.

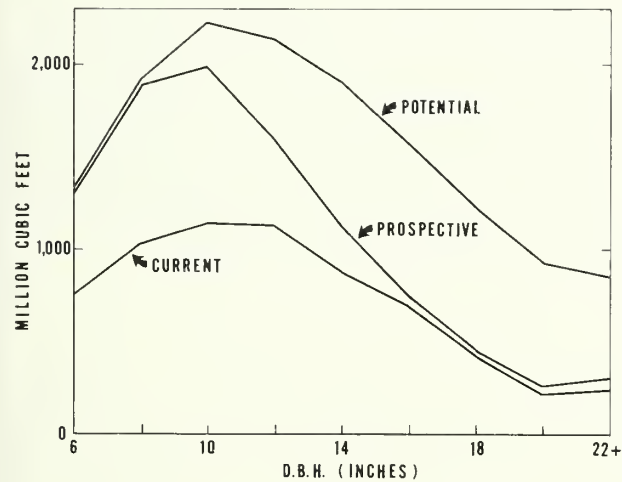


Figure 16. Comparison of 1967 softwood growing stock with prospective and potential inventories of 1997.

jection of prospective cut eliminates the difference between growth and cut. By the turn of the century, volume will be one-sixth greater than at present. Furthermore, cut can be maintained at 570 million cubic feet annually—almost double the present harvest. The distribution of the harvest is far from ideal, however. For years, hardwood cutting has been concentrated on the largest trees. Continuation of this trend will drastically reduce the quality of the hardwood inventory by restricting the number of large trees (fig. 17).

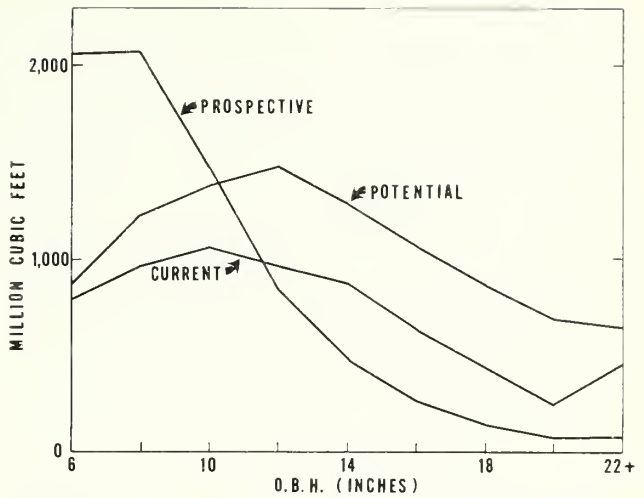


Figure 17. Comparison of 1967 hardwood growing stock with prospective and potential inventories of 1997.

POTENTIAL CUT

The projection called potential cut indicates the volume of timber that might be annually harvested 30 years hence if management is intensified. To make the potential cut a reality would require the development of well-stocked stands that contain a higher proportion of large trees than exist presently or that are in prospect under present trends. The inventories needed to support the potential cut are indicated in figures 16 and 17.

In this projection it was also assumed that the area of commercial forest will remain constant but that the acreage currently occupied by oak-pine types will eventually be converted to pure pine. This addition would bring the total pine acreage to 9 million.

A third important assumption is that more intensive management will reduce the proportion of rough and rotten trees in the stands, so as to create space for thrifty trees. Now, 30 percent of the hardwoods 5 inches in d.b.h. and larger are culls. For the calculations, the proportion of culls was reduced to 15 percent. Among softwoods, 98 percent of the trees now in the stands classify as growing stock; this proportion was assumed to rise to 99 percent.

If these three assumptions can be realized, growing stock trees in Mississippi's forests might be expected to sustain a harvest of 1.4 billion cubic feet annually. About 70 percent of the volume would be softwood. The total is only slightly greater than the volume that

would be available under the projection of prospective cut. The important difference is in the kinds of timber. A much larger harvest of sawtimber-size trees could be sustained with the intensified management envisaged under the potential-cut projection. The prospective cut of sawtimber is only 4.2 billion board feet while the potential is 5.8 billion board feet. The marked difference between the prospective and potential sawtimber cut is one indication of the opportunity for improving Mississippi's timber situation.

BASIS FOR PROJECTIONS

A number of conditions have already been defined as the starting point for the Mississippi projections. Some of these assumptions will be enlarged upon and others will be mentioned here.

It may be conservative to assume, in the potential-cut calculations, that in the future pines will occupy merely the areas now in pine and oak-pine types. An additional 3 million acres, mostly in the oak-hickory types, are classified as pine sites by the Forest Survey—that is, they are better adapted to growing pine than industrial hardwoods. Some oak-hickory stands already have a pine component.

For the prospective-cut projection, distribution of timber cut was determined on permanent survey sample plots that had been logged since the 1957 inventory. The magnitude of future cutting was assumed to vary in response to growth, but the plot data determined the proportion of total cut allotted to trees of each size class. For the potential-cut projection, cut was distributed differently. Management goals were established for the future stand, and cut was then allotted to each diameter class so as to accomplish these goals by the end of the projection period.

The management goals for the potential-cut projection are expressed in terms of basal area per acre and a stand-structure quotient. An analysis of the Mississippi inventory indicated that an average density of 90 square feet of basal area per acre is a realistic goal. The stand-structure quotient is the quotient of the number of trees in any 2-inch diameter class divided by the number in the next larger class. This value is useful in describing the diameter distribution of trees within the stand. Mississippi's potential stand was given a quotient of 1.7 for softwoods and 1.6 for hardwoods. The choice of these values was influenced by present stand conditions and considerations of future management possibilities.

Resource Improvement Possibilities

During the last 10 years the volume of standing timber in Mississippi rose 27 percent. The margin of growth over cut that produced this gain is still adding new volume to the resource. But Mississippi's industries, present and prospective, will be demanding increased amounts of raw material. To improve the future forest it is not enough simply to hold the cut to less than the growth. To do so might soon curtail industrial expansion. Instead, resource development will need to come from positive forestry investments.

Probably less than half of Mississippi's forest acres are currently under management. On the remaining acres, timber production is largely encouraged by fire protection alone. At present, untended acres represent a major opportunity for increasing productivity. In many cases only moderate efforts will be required to improve productivity greatly.

STAND TREATMENTS

"Variable" might be a good one-word description of Mississippi's forests. The combinations of type, stocking, size, ownership, and site are virtually unlimited. The range of management practices and objectives is wide. Still, the description of the resource suggests many ways to improve and redirect management efforts.

Fire protection and tree planting have achieved marked success. Virtually all of the forest land is now under organized fire protection. Some 1.8 million acres of plantations have been established. Today, little of Mississippi's forest land can be considered nonstocked. Seven-eighths of the forest is better than 60 percent stocked with growing stock trees. But resource development will require improvements in tree quality as well as stocking. Desirable trees, as defined in this report, represent the ideal that foresters strive to grow. This kind of tree is in notably short supply.

Data collected on several thousand sample plots were used to stratify timber stands into condition classes. The following description of stand conditions should help to define needed treatments.

Poorly Stocked Stands

Almost 2 million acres of forest are poorly stocked with growing stock trees. On pine sites, which comprise two-thirds of this area, seed sources are largely lacking. More than half of the poorly stocked acres are in the South and Southwest, where there are large areas of cut-over pine lands that have been neglected for years. Overall, cull trees make up one-third of the total stocking. Treatments to restore productivity will generally be site preparation to control undesirable vegetation, followed by seeding or planting. Such treatments necessarily constitute long-term investments.

Medium Stocked Stands

More than 7 million acres of forest are classed as medium to fully stocked with growing stock trees but poorly stocked with desirable trees. The proportion of culls is high.

This condition is most serious in the Delta, where 60 percent of the stands are medium stocked with growing stock. Elsewhere, such stands make up 45 percent of the area except in the Central region where conditions are slightly better than average.

Where the trees are small, stocking will slowly improve if measures are taken to eliminate culls. But thin stands of merchantable size should be harvested to make way for more uniformly stocked stands. On pines sites, one-third of the stands contain enough pines for adequate reseedling.

The understocked conditions derive from several causes. In some stands, particularly in the hardwood types, loggers have removed the

best trees and left the worst. In many others, stocking has been inadequate from the beginning, either because seed sources were lacking or because harvest of the previous stands was done in such a way that the site was in poor condition for regeneration by desirable species. Enlightened cutting practices in the future can greatly reduce the acreage in this class, and without adding to forestry costs.

Well Stocked—Good Condition

Five and one-half million acres are fully stocked with growing stock trees, although desirable trees are scarce. These acres are fully productive, especially for items such as pulpwood, in which tree quality is unimportant. Further, stocking is sufficient to permit foresters to make limited improvements in quality by removing the poorer trees; timber removed often defrays the cost of treatment.

Whereas stands described previously were more commonly associated with hardwood types, 60 percent of the stands in good condition are in pine and oak-pine types. Among stands in very good condition, to be described next, more than three-fourths of the acreage is in pine.

Well Stocked—Very Good Condition

Stands containing a relatively high proportion of desirable trees, and also containing enough other growing stock for full stocking, are found on about 2 million acres. Only moderate treatments will be required to eliminate the less desirable elements as the stand develops. Upgrading such stands offers one of the best forest investment opportunities, since returns may be realized in a relatively short time.

In the very best stands—140,000 acres—no treatment is currently recommended.

CONTINUING THE TREND

Forecasts of population growth and the demand for timber products make it clear that forestry opportunities in Mississippi will become increasingly numerous. As new markets develop, conservation of the resource through close utilization becomes increasingly feasible.

Already there are indications that rising demand and new technology have brought changes that are benefiting the resource. The rate at which these practices extend may be considered a barometer of resource development now and in the future.

Land leasing for forestry purposes is a relatively new practice, intended to stimulate production on private nonindustrial timberlands where other uses might normally prevail over timber production. The agreements allow forest industries to manage the land for timber production while the owner maintains most other rights. The 200,000 acres now under such agreements are supplemented by additional lands under long-term cutting contracts.

Owners of small tracts hold a large percentage of the aggregate forest acreage in Mississippi. The per-acre costs of managing individual small holdings are high, and usually the owners have incomplete knowledge of forestry practices and timber markets. There is evidence that cooperative programs designed for small tracts are now becoming operational.

Changes in harvesting, transport, and manufacture are helping to conserve the resource. Not long ago, almost all harvesting was for single products, a practice conducing to large logging residues. Today, more and more trees are being taken from the woods full length and hauled to a central yard where they are divided into the products for which they are best suited. The long-wood chipping installation is the newest manifestation of this trend. In the manufacturing plant, refinements like the chipping headrig are increasing the amount of products obtained from a given volume of logs. Developments such as these are a preview of still more intensive utilization as technology improves and stumpage values rise.

An additional conservation opportunity is in the utilization of bark. Although few profitable uses have been developed for this commodity, the vast quantities that are available, and the material's unique properties, offer incentive for research.

In sum, the growth of forest industry in Mississippi—and in surrounding States—has added greatly to the incentives for timber growing. The challenge is for forest improvement to keep pace with industrial development.

Appendix

SURVEY METHODS

The data on forest acreage and timber volume in this report were secured by a sampling method involving a forest-nonforest classification on aerial photographs and on-the-ground measurements of trees at sample locations. The sample locations were at the intersections of a grid of lines spaced 3 miles apart. In Mississippi, 142,844 photographic classifications were made and 5,494 ground sample locations were visited.

The initial estimates of forest area that were obtained with the aerial photographs were adjusted on the basis of the ground check.

After the sample location had been established, a cluster of 10 variable-radius plots was installed. Each selected sample tree represented 37.5 square feet of basal area per acre. Trees less than 5.0 inches were tallied on fixed-radius plots around the point centers. Sample trees selected in this manner provided most of the information for the new inventory. Timber volumes were calculated on the basis of tree measurements and regression equations.

A special study was made to determine primary output. It consisted of a canvass of all primary wood-using plants active in Mississippi during 1966. Out-of-State firms known to use Mississippi roundwood were also contacted. Additionally, fuelwood and other domestic uses were determined from an area sample.

RELIABILITY OF THE DATA

Reliability of the estimates may be affected by two types of errors. The first stems from the use of a sample to estimate the whole and from variability of the items being sampled. This type is termed sampling error; it is susceptible to a mathematical evaluation of the probability of error. The second type—often referred to as reporting or estimating error—

derives from mistakes in measurement, judgment, or recording, and from limitations of method or equipment. Its effects cannot be appraised mathematically, but the Forest Survey constantly attempts to hold it to a minimum by proper training and good supervision, and by emphasis on careful work.

Statistical analysis of the data indicates a sampling error of plus or minus 0.3 percent for the estimate of total commercial forest area, 1.6 percent for growing stock cubic-foot volume, and 2.3 percent for sawtimber board-foot volume. As these totals are broken down by forest type, species, tree diameter, and other subdivisions, the possibility of error increases and is greatest for the smallest items. The orders of this increase is suggested in the following tabulation, which shows the sampling error to which the estimates are liable, two chances out of three.

Commercial forest area	Sampling error ¹	Cubic volume	Sampling error ¹	Board-foot volume	Sampling error ¹
<i>Thousand acres</i>	<i>Percent</i>	<i>Million cubic feet</i>	<i>Percent</i>	<i>Million board feet</i>	<i>Percent</i>
16,891.9	0.3				
1,520.3	1.0	13,034.6	1.6		
380.1	2.0	8,342.1	2.0	42,235.5	2.3
168.9	3.0	3,707.6	3.0	24,825.1	3.0
95.0	4.0	2,085.5	4.0	13,964.1	4.0
60.8	5.0	1,334.7	5.0	8,937.0	5.0
15.2	10.0	333.7	10.0	2,234.0	10.0
6.8	15.0	148.3	15.0	993.0	15.0
3.8	20.0	83.4	20.0	558.6	20.0
2.4	25.0	53.4	25.0	357.5	25.0

¹ By random-sampling formula.

² Growing-stock volume on commercial forest land
Sawtimber volume on commercial forest land.

Estimates of timber growth and mortality are based on plot remeasurements. Timber removals are determined by plot remeasurements and by studies of product output conducted during the period of forest inventory. The sampling error to which the estimates are liable, on a probability of two chances out of three are:

Net annual growth				Annual removals			
Cubic volume	Sampling error ¹	Board-foot volume	Sampling error ¹	Cubic volume	Sampling error ¹	Board-foot volume	Sampling error ¹
Million cubic feet	Percent	Million board feet	Percent	Million cubic feet	Percent	Million board feet	Percent
873.5	1.6			538.5	1.9		
559.0	2.0	2,834.5	2.4	486.0	2.0		
248.5	3.0	1,814.1	3.0	216.0	3.0	1,962.1	3.2
139.8	4.0	1,020.4	4.0	121.5	4.0	1,225.7	4.0
89.4	5.0	653.1	5.0	77.8	5.0	803.7	5.0
22.4	10.0	163.3	10.0	19.4	10.0	200.9	10.0
9.9	15.0	72.6	15.0	8.6	15.0	89.3	15.0
5.6	20.0	40.8	20.0	4.9	20.0	50.2	20.0
3.6	25.0	26.1	25.0	3.1	25.0	32.1	25.0

¹ By random-sampling formula.

DEFINITIONS OF TERMS

Forest Land Class

Forest land.—Land at least 16.7 percent stocked by forest trees of any size, or formerly having such tree cover and not currently developed for nonforest use.

Commercial forest land.—Forest land that is producing or is capable of producing crops of industrial wood and not withdrawn from timber utilization.

Nonstocked land.—Commercial forest land less than 16.7 percent stocked with growing stock trees.

Productive-reserved forest land.—Productive public forest land withdrawn from timber utilization through statute or administrative regulation.

Unproductive forest land.—Forest land incapable of yielding crops of industrial wood because of adverse site conditions.

Tree Species

Commercial species.—Tree species presently or prospectively suitable for industrial wood products; excludes so-called weed species, such as blackjack oak and blue beech.

Hardwoods.—Dicotyledonous trees, usually broad-leaved and deciduous.

Softwoods.—Coniferous trees, usually evergreen, having needle or scale-like leaves.

Forest Type

Longleaf-slash pine.—Forests in which 50 percent or more of the stand is longleaf or slash pine, singly or in combination. Common associates include other southern pines, oak, and gum.

Loblolly-shortleaf pine.—Forests in which 50 percent or more of the stand is southern yellow pine, and loblolly or shortleaf pine, singly or in combination, predominates. Common associates include oak, hickory, and gum.

Oak-pine.—Forests in which 50 percent or more of the stand is hardwoods, usually upland oaks, but in which southern pines make up 25-49 percent of the stand. Common associates include gum, hickory, and yellow-poplar.

Oak-hickory.—Forests in which 50 percent or more of the stand is upland oaks or hickory, singly or in combination, except where pines comprise 25-49 percent, in which case the stand is classified oak-pine. Common associates include yellow-poplar, elm, maple, and black walnut.

Oak-gum-cypress.—Bottom-land forests in which 50 percent or more of the stand is tupelo, blackgum, sweetgum, oaks, or southern cypress, singly or in combination, except where pines comprise 25-49 percent, in which case the stand is classified oak-pine. Common associates include cottonwood, willow, ash, elm, hackberry, and maple.

Elm-ash-cottonwood.—Forests in which 50 percent or more of the stand is elm, ash, or cottonwood, singly or in combination. Common associates include willow, sycamore, beech, and maple.

Class of Timber

Growing stock trees.—Sawtimber trees, poletimber trees, saplings, and seedlings; that is, all live trees except rough and rotten trees.

Desirable trees.—Growing stock trees that have no serious defects to limit present or prospective use, are of relatively high vigor, and contain no pathogens that may result in death or serious deterioration before rotation age. They comprise the type of trees that forest managers aim to grow; that is, the trees favored in silvicultural operations.

Acceptable trees.—Trees meeting the specifications for growing stock but not qualifying as desirable trees.

Sawtimber trees.—Live trees of commercial species, 9.0 inches and larger in diameter at breast

height for softwoods and 11.0 inches and larger for hardwoods, and containing at least one 12-foot saw log.

Poletimber trees.—Live trees of commercial species, 5.0 to 9.0 inches in d.b.h. for softwoods and 5.0 to 11.0 inches for hardwoods, and of good form and vigor.

Saplings.—Live trees of commercial species, 1.0 inch to 5.0 inches in d.b.h. and of good form and vigor.

Rough and rotten trees.—Live trees that are unmerchantable for saw logs now or prospectively because of defect, rot, or species.

Salvable dead trees.—Standing or down dead trees that are considered currently or potentially merchantable.

Stand-Size Class

Sawtimber stands.—Stands at least 16.7 percent stocked with growing stock trees, with half or more of this stocking in sawtimber or poletimber trees, and with sawtimber stocking at least equal to poletimber stocking.

Poletimber stands.—Stands at least 16.7 percent stocked with growing stock trees, with half or more of this stocking in sawtimber or poletimber trees, and with poletimber stocking exceeding that of sawtimber stocking.

Sapling-seedling stands.—Stands at least 16.7 percent stocked with growing stock trees, with more than half of this stocking in saplings or seedlings.

Nonstocked areas.—Commercial forest lands less than 16.7 percent stocked with growing stock trees.

Stocking

Stocking is a measure of the extent to which the growth potential for the site is utilized by trees or preempted by other vegetative cover. Stocking is determined by comparing the stand density in terms of number of trees or basal area with a specified standard. Full stocking is assumed to range from 100 to 133 percent of the stocking standard.

The tabulation below shows the density standard in terms of trees per acre, by size class, required for full stocking:

D.b.h. (inches)	Number of trees	D.b.h. (inches)	Number of trees
Seedlings	600	16	72
2	560	18	60
4	460	20	51
6	340	22	42
8	240	24	36
10	155	26	31
12	115	28	27
14	90	30	24

Volume

Volume of sawtimber.—Net volume of the saw-log portion of live sawtimber trees, in board feet, International ¼-inch rule.

Volume of growing stock.—Volume of sound wood in the bole of sawtimber and poletimber trees from stump to a minimum 4.0-inch top outside bark or to the point where the central stem breaks into limbs.

Volume of timber.—The volume of sound wood in the bole of growing stock, rough, rotten, and salvable dead trees 5.0 inches and larger in d.b.h. from stump to a minimum 4.0-inch top outside bark or to the point where the central stem breaks into limbs.

Log Grades

Log grades are based on the standards presented by the USDA Forest Service in "Interim Log Grades for Southern Pines," issued by the Southern Forest Experiment Station in 1953, and "Hardwood Log Grades for Standard Lumber," issued by the Forest Products Laboratory under the designation D1737A in 1961.

Hardwood log grades include, in addition to the grades for standard lumber, a grade-4 tie and timber log. Specifications for tie and timber logs are based chiefly on knot size and log soundness; clear cuttings are not required.

Area Condition Class

A classification of commercial forest land based upon stocking by desirable trees and other conditions affecting current and prospective timber growth.

Class 10.—Areas 100 percent or more stocked with desirable trees and not overstocked.

Class 20.—Areas 100 percent or more stocked with desirable trees and overstocked with all live trees.

Class 30.—Areas 60 to 100 percent stocked with desirable trees and with less than 30 percent of the area controlled by other trees, inhibiting vegetation, slash, or nonstockable conditions.

Class 40.—Areas 60 to 100 percent stocked with desirable trees and with 30 percent or more of the area controlled by other trees, or by conditions that ordinarily prevent occupancy by desirable trees.

Class 50.—Areas less than 60 percent stocked with desirable trees, but with 100 percent or more stocking of growing stock trees.

Class 60.—Areas less than 60 percent stocked with desirable trees, but with 60 to 100 percent stocking of growing stock trees.

Class 70.—Areas less than 60 percent stocked with desirable trees and with less than 60 percent stocking of growing stock trees.

Miscellaneous Definitions

D.b.h. (diameter breast high).—Tree diameter in inches, outside bark, measured at 4½ feet above ground.

Diameter classes.—The 2-inch diameter classes extend from 1.0 inch below to 0.9 inch above the stated midpoint. Thus, the 12-inch class includes trees 11.0 inches through 12.9 inches d.b.h.

Site classes.—A classification of forest land in terms of inherent capacity to grow crops of industrial wood.

Gross growth.—Annual increase in net volume of trees in the absence of cutting and mortality.

Net annual growth.—The increase in volume of a specified size class for a given year.

Mortality.—Number or sound-wood volume of live trees dying from natural causes during a specified period.

Timber removals.—The net volume of growing stock trees removed from the inventory by harvesting, cultural operations such as timber-stand improvement, land clearing, or changes in land use.

Timber products.—Roundwood products and plant byproducts. Timber products output includes roundwood products cut from growing stock on commercial forest land; from other sources, such as cull trees, salvable dead trees, limbs, and saplings; from trees on noncommercial and nonforest lands; and from plant byproducts.

Roundwood products.—Logs, bolts, or other round sections cut from trees for industrial or consumer uses. Included are saw logs, veneer logs and bolts, cooperage logs and bolts, pulpwood, fuelwood, piling, poles and posts, hewn ties, mine timbers, and various other round, split, or hewn products.

Logging residues.—The unused portions of trees cut or killed by logging.

Plant byproducts.—Wood products, such as pulp chips, obtained incidentally to manufacture or other products.

Plant residues.—Wood materials not utilized for products. Included are slabs, edgings, trimmings, miscuts, sawdust, shavings, veneer cores and clippings, and pulp screenings.

STANDARD TABLES

Table 1. *Area by land classes, Mississippi, 1967*

Land class	Area
<i>Thousand acres</i>	
Forest:	
Commercial	16,891.9
Productive-reserved	21.3
Unproductive	..
Total forest	16,913.2
Nonforest:	
Cropland ¹	6,565.3
Pasture and range ¹	3,716.9
Other ²	3,095.4
Total nonforest	13,377.6
All land ²	30,290.8

¹ Source: 1964 Census of Agriculture.

² Includes swampland, industrial and urban areas, other nonforest land, and 97,700 acres, classed as water by Forest Survey standards, but defined by the Bureau of the Census as land.

³ Source: United States Bureau of the Census, Land and Water Area of the United States, 1960.

Table 2. *Area of commercial forest land by ownership classes, Mississippi, 1967*

Ownership class	Area
<i>Thousand acres</i>	
Public:	
National forest	1,118.8
Bureau of Land Management	1.1
Indian	13.4
Other federal	166.2
State	93.3
County and municipal	377.4
Total public	1,770.2
Private:	
Forest industry ¹	2,505.1
Farmer	6,204.6
Miscellaneous private	6,412.0
Total private	15,121.7
All ownerships	16,891.9

¹ Not including 204,500 acres of farmer-owned and miscellaneous private lands leased to forest industry.

Table 3. *Area of commercial forest land by stand-size and ownership classes, Mississippi, 1967*

Stand-size class	All ownerships	National forest	Other public	Forest industry	Farmer and misc. private
<i>Thousand acres</i>					
Sawtimber	4,557.9	528.0	258.6	839.6	2,931.7
Poletimber	3,772.2	149.9	139.2	506.6	2,976.5
Sapling and seedling	8,427.9	440.9	241.2	1,154.4	6,591.4
Nonstocked areas	133.9	..	12.4	4.5	117.0
All classes	16,891.9	1,118.8	651.4	2,505.1	12,616.6

Table 4. *Area of commercial forest land by stand-volume and ownership classes, Mississippi, 1967*

Stand volume per acre ¹	All ownerships	National forest	Other public	Forest industry	Farmer and misc. private
<i>Thousand acres</i>					
Less than 1,500 board feet	8,417.0	288.8	206.9	1,055.2	6,866.1
1,500 to 5,000 board feet	6,151.0	378.0	299.5	916.8	4,556.7
More than 5,000 board feet	2,323.9	452.0	145.0	533.1	1,193.8
All classes	16,891.9	1,118.8	651.4	2,505.1	12,616.6

¹ International ¼-inch rule.

Table 5. Area of commercial forest land by stocking classes based on selected stand components, Mississippi, 1967

Stocking percentage	Stocking classified in terms of					
	All trees	Growing-stock trees			Rough and rotten trees	Inhibiting vegetation
		Total	Desirable	Acceptable		
----- Thousand acres -----						
160 or more	..	..	..	..	..	..
150 to 160	172.0	17.5	5.7	..	..	..
140 to 150	976.3	153.4	..	16.4	..	..
130 to 140	2,785.0	676.0	6.0	26.4	..	..
120 to 130	3,533.8	1,506.3	21.3	88.0	..	..
110 to 120	3,164.4	2,287.6	43.6	294.9	..	..
100 to 110	2,468.9	2,482.3	66.3	576.7	..	..
90 to 100	1,519.1	2,575.2	148.8	1,070.6	22.9	..
80 to 90	756.5	2,126.3	288.2	1,838.7	42.2	..
70 to 80	587.7	1,836.0	540.0	2,468.1	93.7	..
60 to 70	358.7	1,237.7	965.5	2,470.6	316.4	6.0
50 to 60	170.1	740.1	1,293.3	2,294.9	696.6	..
40 to 50	141.2	555.3	1,761.9	2,086.7	1,069.2	6.0
30 to 40	126.8	323.4	2,630.5	1,572.5	1,980.8	8.5
20 to 30	80.5	214.2	2,766.5	990.4	3,311.6	71.5
10 to 20	38.9	115.0	3,336.7	704.8	4,132.2	306.7
Less than 10	12.0	45.6	3,017.6	392.2	5,226.3	16,493.2
All areas	16,891.9	16,891.9	16,891.9	16,891.9	16,891.9	16,891.9

Table 6. Area of commercial forest land by area-condition and ownership classes, Mississippi, 1967

Area-condition class	All ownerships	National forest	Other public	Forest industry	Farmer and misc. private
----- Thousand acres -----					
10	80.9	..	11.6	37.9	31.4
20	62.0	11.2	..	15.5	35.3
30	292.5	33.3	29.5	79.2	150.5
40	1,645.2	126.6	54.9	369.6	1,094.1
50	5,485.4	409.9	299.1	846.2	3,930.2
60	7,332.3	436.6	208.6	941.3	5,745.8
70	1,993.6	101.2	47.7	215.4	1,629.3
All classes	16,891.9	1,118.8	651.4	2,505.1	12,616.6

Table 7. Area of commercial forest land by site and ownership classes, Mississippi, 1967

Site class	All ownerships	National forest	Other public	Forest industry	Farmer and misc. private
----- Thousand acres -----					
165 cu. ft. or more	544.2	55.5	60.9	110.7	317.1
120 to 165 cu. ft.	1,466.3	154.2	63.9	297.3	950.9
85 to 120 cu. ft.	5,815.7	523.6	243.0	912.2	4,136.9
50 to 85 cu. ft.	7,877.8	365.4	254.6	1,039.1	6,218.7
Less than 50 cu. ft.	1,187.9	20.1	29.0	145.8	993.0
All classes	16,891.9	1,118.8	651.4	2,505.1	12,616.6

Table 8. Area of commercial forest land by forest types and ownership classes, Mississippi, 1967

Type	All ownerships	Public	Private
-- Thousand acres --			
Longleaf-slash pine	1,335.4	283.8	1,051.6
Loblolly-shortleaf pine	4,242.6	523.8	3,718.8
Oak-pine	3,372.0	402.2	2,969.8
Oak-hickory	4,306.3	242.8	4,063.5
Oak-gum-cypress	3,283.4	295.3	2,988.1
Elm-ash-cottonwood	352.2	22.3	329.9
All types	16,891.9	1,770.2	15,121.7

Table 9. Area of noncommercial forest land by forest types, Mississippi, 1967

Type	All areas	Productive-reserved areas	Un-productive areas
-- Thousand acres --			
Longleaf-slash pine	2.0	2.0	...
Loblolly-shortleaf pine	4.7	4.7	..
Oak-pine	9.7	9.7	.
Oak-hickory	4.6	4.6	.
Oak-gum-cypress	.3	.3	.
All types	21.3	21.3	...

Table 10. Number of growing-stock trees on commercial forest land by species and diameter classes, Mississippi, 1967

Species	Diameter class (inches at breast height)										
	All classes	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0 and larger
----- Thousand trees -----											
Softwood:											
Longleaf pine	64,743	18,485	16,248	13,879	9,788	3,815	1,751	565	138	74	..
Slash pine	64,189	31,521	15,204	7,782	5,312	2,626	1,208	375	97	64	..
Shortleaf pine	254,285	123,649	63,904	34,933	18,725	8,109	3,391	1,128	310	133	3
Loblolly pine	346,627	152,958	84,007	45,109	27,274	16,406	10,486	5,715	2,765	1,832	75
Spruce pine	8,967	2,571	1,905	1,245	1,314	713	698	290	151	80	..
Cypress	8,895	1,881	2,659	1,089	973	839	772	379	102	142	59
Redcedar	6,871	3,542	2,320	544	141	173	80	60	11	..	..
Total	754,577	334,607	186,247	104,581	63,527	32,681	18,386	8,512	3,574	2,325	137
Hardwood:											
Select white oaks ¹	57,389	21,910	11,442	9,576	5,687	4,190	2,253	1,316	572	389	54
Select red oaks ²	26,957	10,871	6,640	3,262	2,065	1,597	1,125	609	284	447	57
Other white oaks	75,792	33,310	19,088	10,806	5,826	3,244	1,672	862	372	547	65
Other red oaks	176,294	74,987	43,422	25,635	13,593	8,660	4,730	2,571	1,088	1,446	162
Pecan	13,345	5,970	2,303	1,864	1,223	556	446	447	212	274	50
Other hickories	46,208	17,175	9,403	9,313	4,036	3,236	1,417	852	403	359	14
Sweetgum	145,615	75,406	34,027	16,979	8,522	5,532	2,626	1,345	648	505	25
Tupelo and blackgum	76,425	28,740	20,029	12,492	6,726	4,304	2,350	1,095	447	238	4
Maple	15,416	7,586	3,888	1,932	817	654	364	112	45	14	4
Beech	4,333	814	713	887	533	408	451	196	130	189	12
Ash	24,210	11,335	5,889	3,155	1,764	984	481	349	110	132	11
Cottonwood	3,632	536	599	595	448	370	284	167	181	395	57
Basswood	965	425	232	27	84	74	41	55	12	15	..
Yellow-poplar	19,528	6,805	4,058	3,399	2,126	1,530	691	453	242	224	..
Black walnut	660	117	336	80	40	60	27	..	..	..	..
Black cherry	3,890	2,006	914	526	206	117	54	28	18	21	..
Willow	10,077	4,188	2,192	1,443	804	581	403	249	101	115	1
Magnolia	2,447	1,071	393	378	285	140	125	38	12	5	..
American elm	16,265	6,015	4,186	2,524	1,538	777	500	370	196	145	14
Other elms	19,320	8,523	5,394	2,616	1,455	768	263	137	39	125	..
Hackberry	18,851	7,384	4,988	2,707	1,633	1,033	572	337	151	92	4
Sycamore	6,442	2,159	1,290	1,297	526	531	332	110	66	115	16
Other hardwoods	48,513	27,603	10,070	5,335	2,650	1,344	1,009	285	87	126	4
Total	812,574	354,936	191,446	116,828	62,587	40,690	22,216	11,983	5,416	5,918	554
All species	1,567,151	689,543	377,693	221,409	126,114	73,371	40,602	20,495	8,990	8,243	691

¹ Includes white, swamp chestnut, chinkapin, Durand, and swamp white oaks.

² Includes cherrybark, Shumard, and northern red oaks.

Table 11. Volume of timber on commercial forest land by class of timber and by softwoods and hardwoods, Mississippi, 1967

Class of timber	All species	Softwood	Hardwood
	-- Million cubic feet --		
Sawtimber trees:			
Saw-log portion	7,156.7	4,278.0	2,878.7
Upper-stem portion	1,268.5	492.9	775.6
Total	8,425.2	4,770.9	3,654.3
Poletimber trees	4,609.4	1,783.9	2,825.5
All growing stock	13,034.6	6,554.8	6,479.8
Rough trees	1,441.2	50.5	1,390.7
Rotten trees	574.6	29.6	545.0
Salvable dead trees	4.8	3.4	1.4
All timber	15,055.2	6,638.3	8,416.9

Table 12. Volume of growing stock and sawtimber on commercial forest land by ownership classes and by softwoods and hardwoods, Mississippi, 1967

Ownership class	Growing stock			Sawtimber		
	All species	Softwood	Hardwood	All species	Softwood	Hardwood
- Million cubic feet -						
-- Million board feet --						
National forest	1,311.0	979.5	331.5	5,564.2	4,650.7	913.5
Other public	665.4	340.2	325.2	2,350.7	1,335.8	1,014.9
Forest industry	2,166.7	1,252.3	914.4	8,056.6	5,398.7	2,657.9
Farmer and misc.						
private	8,891.5	3,982.8	4,908.7	26,264.0	14,051.7	12,212.3
All ownerships	13,034.6	6,554.8	6,479.8	42,235.5	25,436.9	16,798.6

Table 13. Volume of growing stock on commercial forest land by species and diameter classes, Mississippi, 1967

Species	Diameter class (inches at breast height)										
	All classes	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0 and larger
----- Million cubic feet -----											
Softwood:											
Longleaf pine	678.7	44.5	106.1	162.2	179.0	94.1	56.9	23.0	6.8	6.1	...
Slash pine	487.5	67.4	88.6	89.3	99.0	72.2	43.7	17.2	5.4	4.7	...
Shortleaf pine	1,784.1	279.7	347.0	373.0	335.9	225.6	130.6	58.9	21.0	12.2	0.2
Loblolly pine	3,301.9	345.6	457.4	491.4	478.8	442.4	407.1	297.5	185.2	181.5	15.0
Spruce pine	132.7	6.4	11.7	13.1	24.2	19.8	27.5	13.0	9.8	7.2	...
Cypress	147.9	3.5	13.8	11.2	17.2	27.5	30.2	18.3	4.9	10.8	10.5
Redcedar	22.0	5.0	7.2	3.3	1.1	2.5	1.3	1.3	.3	.	..
Total	6,554.8	752.1	1,031.8	1,143.5	1,135.2	884.1	697.3	429.2	233.4	222.5	25.7
Hardwood:											
Select white oaks	549.7	51.0	60.3	85.9	90.7	92.6	66.7	47.5	26.0	23.5	5.5
Select red oaks	274.6	28.0	37.0	32.8	33.6	35.7	31.6	24.5	13.4	32.5	5.5
Other white oaks	516.8	71.8	91.8	86.6	82.2	58.6	41.4	28.4	15.1	35.0	5.9
Other red oaks	1,424.2	180.1	227.5	239.1	205.5	185.7	131.0	92.2	50.5	93.7	18.9
Pecan	132.7	12.6	10.6	17.9	18.1	12.3	11.8	16.4	10.0	18.5	4.5
Other hickories	430.8	38.5	51.1	85.1	64.9	70.9	42.2	33.0	20.2	22.9	2.0
Sweetgum	989.6	162.9	172.3	160.9	144.9	133.0	85.5	54.3	35.4	36.2	4.2
Tupelo and blackgum	601.6	59.9	95.9	111.9	104.7	90.9	66.3	38.7	19.5	13.5	.3
Maple	90.7	16.9	17.8	16.5	11.7	12.4	9.2	4.0	1.2	.7	.3
Beech	61.2	1.9	2.7	6.4	7.4	7.5	11.4	6.6	5.0	11.1	1.2
Ash	169.6	23.7	29.6	29.7	26.4	21.0	14.2	12.0	4.6	7.5	.9
Cottonwood	107.3	1.1	2.8	5.8	7.1	9.5	10.1	8.2	12.7	39.4	10.6
Basswood	11.1	1.2	1.1	.3	1.3	1.7	1.3	2.4	.8	1.0	..
Yellow-poplar	243.9	19.3	26.8	36.8	40.5	39.4	25.7	22.2	14.6	18.6	...
Black walnut	4.8	.2	1.5	.6	.7	1.1	.7	..	..	..	..
Black cherry	24.3	4.5	4.6	5.1	3.0	2.6	1.8	1.0	.7	1.0	..
Willow	98.7	9.1	12.4	12.9	12.4	13.1	12.9	12.0	5.1	8.6	.2
Magnolia	21.9	1.8	1.9	3.1	5.1	3.3	4.4	1.3	.5	.5	...
American elm	132.9	14.2	21.1	19.9	22.5	13.3	13.0	11.8	7.5	7.9	1.7
Other elms	121.6	16.4	26.1	21.9	21.5	14.1	7.2	5.1	2.0	7.3	...
Hackberry	129.3	14.9	20.9	19.7	19.1	18.1	14.9	10.5	6.3	4.4	.5
Sycamore	80.0	5.6	7.7	13.0	10.2	12.7	11.4	4.9	3.3	9.4	1.8
Other hardwoods	262.5	56.8	48.9	48.8	37.2	25.5	25.6	9.3	3.9	6.3	.2
Total	6,479.8	792.4	972.4	1,060.7	970.7	875.0	640.3	446.3	258.3	399.5	64.2
All species	13,034.6	1,544.5	2,004.2	2,204.2	2,105.9	1,759.1	1,337.6	875.5	491.7	622.0	89.9

Table 14. Volume of sawtimber on commercial forest land by species and diameter classes, Mississippi, 1967

Species	Diameter class (inches at breast height)								
	All classes	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 28.9	29.0 and larger
----- Million board feet -----									
Softwood:									
Longleaf pine	2,691.4	703.7	927.1	524.5	325.2	134.9	38.8	37.2	.
Slash pine	1,673.6	349.7	503.4	403.4	255.4	100.9	32.2	28.6	.
Shortleaf pine	5,897.3	1,516.6	1,741.5	1,282.1	783.7	365.9	131.8	74.5	1.2
Loblolly pine	13,747.2	1,959.2	2,473.7	2,526.7	2,482.2	1,859.2	1,179.0	1,174.9	92.3
Spruce pine	619.3	47.0	115.6	114.5	165.4	75.8	57.3	43.7	.
Cypress	766.2	37.5	86.2	159.9	185.1	121.1	32.9	76.9	66.6
Redcedar	41.9	8.7	4.2	12.8	6.5	7.3	2.4	..	.
Total	25,436.9	4,622.4	5,851.7	5,023.9	4,203.5	2,665.1	1,474.4	1,435.8	160.1
Hardwood:									
Select white oaks	1,596.9	..	354.0	412.7	310.6	232.6	129.8	127.1	30.1
Select red oaks	833.7	..	134.0	160.7	151.5	115.9	72.2	168.1	31.3
Other white oaks	1,212.1	..	320.5	258.7	196.0	144.2	78.1	183.9	30.7
Other red oaks	3,571.9	..	772.5	841.0	637.4	457.7	259.5	503.8	100.0
Pecan	459.2	..	74.3	57.1	59.0	84.1	51.2	108.3	25.2
Other hickories	1,160.2	..	251.4	318.7	198.7	160.8	100.0	120.2	10.4
Sweetgum	2,149.6	..	554.1	571.6	385.8	257.2	172.4	184.5	24.0
Tupelo and blackgum	1,521.9	..	408.4	420.3	332.2	187.2	101.6	70.5	1.7
Maple	165.7	..	41.2	52.4	41.9	18.7	5.6	4.3	1.6
Beech	241.1	..	31.6	34.7	54.1	32.1	27.0	53.6	8.0
Ash	403.4	..	104.9	98.6	73.9	59.7	22.1	39.8	4.4
Cottonwood	510.8	..	26.5	38.9	50.5	42.7	69.2	221.5	61.5
Basswood	37.9	..	6.1	7.3	5.9	9.8	3.5	5.3	..
Yellow-poplar	772.1	..	166.8	187.2	129.2	114.2	75.5	99.2	..
Black walnut	12.7	..	4.2	4.8	3.7	..	..	..	..
Black cherry	45.7	..	12.1	10.7	9.2	5.8	3.6	4.3	..
Willow	306.1	..	45.2	63.4	66.9	62.2	25.0	42.6	.8
Magnolia	65.2	..	20.1	14.4	20.2	6.0	1.6	2.9	..
American elm	380.9	..	96.0	61.4	68.7	62.6	40.9	42.3	9.0
Other elms	267.9	..	89.4	65.8	36.1	26.4	10.1	40.1	..
Hackberry	340.5	..	78.7	82.0	72.8	50.9	29.0	24.6	2.5
Sycamore	260.1	..	39.9	56.6	56.8	25.2	18.0	53.2	10.4
Other hardwoods	483.0	..	142.5	116.0	119.5	50.7	19.3	33.6	1.4
Total	16,798.6	..	3,774.4	3,935.0	3,080.6	2,206.7	1,315.2	2,133.7	353.0
All species	42,235.5	4,622.4	9,626.1	8,958.9	7,284.1	4,871.8	2,789.6	3,569.5	513.1

Table 15. Volume of sawtimber on commercial forest land by species and log grade, Mississippi, 1967

Species	All grades	Grade 1	Grade 2	Grade 3	Grade 4
----- Million board feet -----					
Softwood:					
Yellow pines	24,628.8	552.3	3,976.6	9,853.5	10,246.4
Cypress	766.2	49.8	230.3	255.3	230.8
Other eastern softwoods	41.9	41.9	...	...	...
Total	<u>25,436.9</u>	<u>644.0</u>	<u>4,206.9</u>	<u>10,108.8</u>	<u>10,477.2</u>
Hardwood:					
Select white and red oaks	2,430.6	214.1	447.2	1,273.2	496.1
Other white and red oaks	4,784.0	281.0	605.7	2,364.3	1,533.0
Hickory	1,619.4	152.3	307.5	933.3	226.3
Maple	165.7	1.8	20.6	120.4	22.9
Sweetgum	2,149.6	142.3	440.9	1,144.1	422.3
Ash, walnut, and black cherry	461.8	31.2	105.6	290.6	34.4
Yellow-poplar	772.1	41.4	116.7	392.7	221.3
Other hardwoods	4,415.4	411.9	905.4	2,551.8	546.3
Total	<u>16,798.6</u>	<u>1,276.0</u>	<u>2,949.6</u>	<u>9,070.4</u>	<u>3,502.6</u>
All species	<u>42,235.5</u>	<u>1,920.0</u>	<u>7,156.5</u>	<u>19,179.2</u>	<u>13,979.8</u>

Table 16. Annual growth and removals of growing stock on commercial forest land by species, Mississippi, 1966

Species	Net annual growth	Annual removals
Million cubic feet		
Softwood:		
Yellow pines	515.3	245.3
Cypress	6.1	4.2
Other eastern softwoods	2.4	1.7
Total	<u>523.8</u>	<u>251.2</u>
Hardwood:		
Select white and red oaks	42.4	28.3
Other white and red oaks	125.8	93.6
Hickory	22.2	22.4
Maple	5.8	2.1
Sweetgum	53.3	57.4
Tupelo and blackgum	16.9	22.5
Ash, walnut, and black cherry	13.0	7.0
Yellow-poplar	10.6	7.0
Other hardwoods	59.7	47.0
Total	<u>349.7</u>	<u>287.3</u>
All species	<u>873.5</u>	<u>538.5</u>

Table 17. Annual growth and removals of growing stock on commercial forest land by ownership classes and by softwoods and hardwoods, Mississippi, 1966

Ownership class	Net annual growth			Annual removals		
	All species	Soft-wood	Hard-wood	All species	Soft-wood	Hard-wood
----- Million cubic feet -----						
National forest	77.8	61.0	16.8	40.0	34.6	5.4
Other public	41.5	25.5	16.0	18.7	6.3	12.4
Forest industry	137.5	93.3	44.2	81.5	49.9	31.6
Farmer and misc. private	616.7	344.0	272.7	398.3	160.4	237.9
All ownerships	873.5	523.8	349.7	538.5	251.2	287.3

Table 18. Annual growth and removals of sawtimber on commercial forest land by species, Mississippi, 1966

Species	Net annual growth	Annual removals
----- Million board feet -----		
Softwood:		
Yellow pines	1,920.1	980.4
Cypress	32.0	18.2
Other eastern softwoods	3.5	7.1
Total	<u>1,955.6</u>	<u>1,005.7</u>
Hardwood:		
Select white and red oaks	125.8	110.1
Other white and red oaks	285.1	293.1
Hickory	78.4	80.3
Maple	10.9	4.5
Sweetgum	94.4	176.2
Tupelo and blackgum	37.3	71.6
Ash, walnut, and black cherry	28.7	21.3
Yellow-poplar	42.6	28.9
Other hardwoods	175.7	170.4
Total	<u>878.9</u>	<u>956.4</u>
All species	<u>2,834.5</u>	<u>1,962.1</u>

Table 19. Annual growth and removals of sawtimber on commercial forest land by ownership classes and by softwoods and hardwoods, Mississippi, 1966

Ownership class	Net annual growth			Annual removals		
	All species	Soft-wood	Hard-wood	All species	Soft-wood	Hard-wood
----- Million board feet -----						
National forest	354.2	311.2	43.0	176.6	157.2	19.4
Other public	133.2	88.9	44.3	65.4	25.2	40.2
Forest industry	531.1	389.3	141.8	332.8	229.6	103.2
Farmer and misc. private	1,816.0	1,166.2	649.8	1,387.3	593.7	793.6
All ownerships	2,834.5	1,955.6	878.9	1,962.1	1,005.7	956.4

Table 20. Mortality of growing stock and sawtimber on commercial forest land by species, Mississippi, 1966

Species	Growing stock	Sawtimber
	Million cubic feet	Million board feet
Softwood:		
Yellow pines	20.5	60.8
Cypress	.7	4.1
Other eastern softwoods	.3	1.5
Total	<u>21.5</u>	<u>66.4</u>
Hardwood:		
Select white and red oaks	2.5	7.6
Other white and red oaks	11.5	31.1
Hickory	4.9	19.1
Maple	1.5	3.2
Sweetgum	11.6	24.1
Tupelo and blackgum	3.4	8.2
Ash, walnut, and black cherry	1.4	2.6
Yellow-poplar	.6	1.9
Other hardwoods	13.2	40.7
Total	<u>50.6</u>	<u>138.5</u>
All species	<u>72.1</u>	<u>204.9</u>

Table 21. Mortality of growing stock and sawtimber on commercial forest land by ownership classes and by softwoods and hardwoods, Mississippi, 1966

Ownership class	Growing stock			Sawtimber		
	All species	Soft-wood	Hard-wood	All species	Soft-wood	Hard-wood
	- Million cubic feet -			- Million board feet -		
National forest	8.6	6.5	2.1	18.0	13.7	4.3
Other public	3.6	.5	3.1	11.7	2.5	9.2
Forest industry	12.7	4.3	8.4	42.4	15.8	26.6
Farmer and misc. private	<u>47.2</u>	<u>10.2</u>	<u>37.0</u>	<u>131.8</u>	<u>34.4</u>	<u>97.4</u>
All ownerships	<u>72.1</u>	<u>21.5</u>	<u>50.6</u>	<u>203.9</u>	<u>66.4</u>	<u>137.5</u>

Table 22. Mortality of growing stock and sawtimber on commercial forest land by causes and by softwoods and hardwoods, Mississippi, 1966

Cause of death	Growing stock			Sawtimber		
	All species	Soft-wood	Hard-wood	All species	Soft-wood	Hard-wood
	- Million cubic feet -			- Million board feet -		
Fire	0.6	0.3	0.3	2.2	1.3	0.9
Insects	.8	.7	.1	3.5	3.5	...
Disease	1.8	1.0	.8	6.3	3.8	2.5
Other	6.4	1.6	4.8	21.4	5.5	15.9
Unknown	<u>62.5</u>	<u>17.9</u>	<u>44.6</u>	<u>171.5</u>	<u>52.3</u>	<u>119.2</u>
All causes	<u>72.1</u>	<u>21.5</u>	<u>50.6</u>	<u>204.9</u>	<u>66.4</u>	<u>138.5</u>

Table 23. Total output of timber products by product, by type of material used, and by softwoods and hardwoods, Mississippi, 1966

Product and species group	Standard units	Total output		Roundwood products		Plant byproducts	
		Number of units	Thousand cu. ft.	Number of units	Thousand cu. ft.	Number of units	Thousand cu. ft.
Saw logs:							
Softwood	M bd. ft. ¹	531,494	87,431	531,494	87,431	...	...
Hardwood	M bd. ft. ¹	477,951	79,674	477,951	79,674	...	...
Total	M bd. ft. ¹	1,009,445	167,105	1,009,445	167,105	...	...
Veneer logs and bolts:							
Softwood	M bd. ft.	45,752	7,526	45,752	7,526	...	...
Hardwood	M bd. ft.	52,354	8,785	52,354	8,785	...	...
Total	M bd. ft.	98,106	16,311	98,106	16,311	...	...
Pulpwood:							
Softwood	Std. cords ²	1,913,603	155,001	1,560,287	126,383	353,316	28,618
Hardwood	Std. cords ²	1,035,884	82,871	915,000	73,200	120,884	9,671
Total	Std. cords ²	2,949,487	237,872	2,475,287	199,583	474,200	38,289
Cooperage:							
Softwood	M bd. ft.	...	...	...	...	...	...
Hardwood	M bd. ft.	6,546	931	6,546	931	...	...
Total	M bd. ft.	6,546	931	6,546	931	...	...
Piling:							
Softwood	M linear ft.	4,907	3,512	4,907	3,512	...	...
Hardwood	M linear ft.	...	...	...	...	...	...
Total	M linear ft.	4,907	3,512	4,907	3,512	...	...
Poles:							
Softwood	M pieces	793	9,235	793	9,235	...	...
Hardwood	M pieces	...	...	...	...	...	...
Total	M pieces	793	9,235	793	9,235	...	...
Mine timbers (round):							
Softwood	M cu. ft.	...	...	...	...	...	...
Hardwood	M cu. ft.	...	...	...	...	...	...
Total	M cu. ft.	...	...	...	...	...	...
Commercial posts (round and split):							
Softwood	M pieces	2,752	1,342	2,752	1,342	...	...
Hardwood	M pieces	...	...	...	...	...	...
Total	M pieces	2,752	1,342	2,752	1,342	...	...
Other:³							
Softwood	M cu. ft.	4,405	4,405	897	897	3,508	3,508
Hardwood	M cu. ft.	7,925	7,925	5,874	5,874	2,051	2,051
Total	M cu. ft.	12,330	12,330	6,771	6,771	5,559	5,559
Total industrial products:							
Softwood			268,452		236,326		32,126
Hardwood			180,186		168,464		11,722
Total			448,638		404,790		43,848
Noncommercial posts (round and split):							
Softwood	M pieces	2,111	1,351	2,111	1,351	...	...
Hardwood	M pieces	9,853	6,306	9,853	6,306	...	...
Total	M pieces	11,964	7,657	11,964	7,657	...	...
Fuelwood:							
Softwood	Std. cords	136,390	10,229	58,897	4,417	⁴ 77,493	⁴ 5,812
Hardwood	Std. cords	729,508	54,713	526,588	39,494	⁴ 202,920	⁴ 15,219
Total	Std. cords	865,898	64,942	585,485	43,911	⁴ 280,413	⁴ 21,031
All products:							
Softwood			280,032		242,094		37,938
Hardwood			241,205		214,264		26,941
Total			521,237		456,358		64,879

¹ International 1/4-inch rule.

² Rough wood basis (for example, chips converted to equivalent standard cords).

³ Includes chemical wood, handle stock, miscellaneous dimension, miscellaneous domestic use, and other minor industrial products. Additionally, byproducts include material used for livestock bedding, mulch, etc.

⁴ Includes plant byproducts used for industrial and domestic fuel.

Table 24. Output of roundwood products by source and by softwoods and hardwoods, Mississippi, 1966

Product and species group	All sources	Growing-stock trees ¹			Rough and rotten trees ¹	Salvable dead trees ¹	Other sources ²
		Total	Saw-timber	Pole-timber			
----- Thousand cubic feet -----							
Industrial products:							
Saw logs:							
Softwood	87,431	86,846	86,527	319	106		479
Hardwood	79,674	76,690	76,594	96	1,051	1,864	69
Total	167,105	163,536	163,121	415	1,157	1,864	548
Veneer logs and bolts:							
Softwood	7,526	7,476	7,448	28	9		41
Hardwood	8,785	8,633	8,633		115		37
Total	16,311	16,109	16,081	28	124		78
Pulpwood:							
Softwood	126,383	120,298	82,851	37,447	780		5,305
Hardwood	73,200	58,834	33,031	25,803	11,072	183	3,111
Total	199,583	179,132	115,882	63,250	11,852	183	8,416
Misc. industrial products:							
Cooperage:							
Softwood	..	..	..	..	..	..	..
Hardwood	931	930	930	..	..	..	1
Total	931	930	930	..	..	..	1
Piling:							
Softwood	3,512	3,498	3,498	..	..	..	14
Hardwood	..	..	..	..	..	..	..
Total	3,512	3,498	3,498	..	..	..	14
Poles:							
Softwood	9,235	9,167	8,108	1,059	..	..	68
Hardwood	..	..	..	..	..	..	..
Total	9,235	9,167	8,108	1,059	..	..	68
Mine timbers (round):							
Softwood	..	..	..	..	..	..	..
Hardwood	..	..	..	..	..	..	..
Total	..	..	..	..	..	..	..
Commercial posts (round and split):							
Softwood	1,342	1,224	..	1,224	..	..	118
Hardwood	..	..	..	..	..	..	..
Total	1,342	1,224	..	1,224	..	..	118
Other:							
Softwood	897	836	533	303	2	..	59
Hardwood	5,874	4,830	3,179	1,651	355	169	520
Total	6,771	5,666	3,712	1,954	357	169	579
All misc. industrial products:							
Softwood	14,986	14,725	12,139	2,586	2	..	259
Hardwood	6,805	5,760	4,109	1,651	355	169	521
Total	21,791	20,485	16,248	4,237	357	169	780
All industrial products:							
Softwood	236,326	229,345	188,965	40,380	897	..	6,084
Hardwood	168,464	149,917	122,367	27,550	12,593	2,216	3,738
Total	404,790	379,262	311,332	67,930	13,490	2,216	9,822
Noncommercial posts (round and split):							
Softwood	1,351	1,219	663	556	59	..	73
Hardwood	6,306	5,689	1,657	4,032	275	..	342
Total	7,657	6,908	2,320	4,588	334	..	415
Fuelwood:							
Softwood	4,417	3,121	559	2,562	206	306	784
Hardwood	39,494	27,909	5,003	22,906	1,843	2,738	7,004
Total	43,911	31,030	5,562	25,468	2,049	3,044	7,788
All products:							
Softwood	242,094	233,685	190,187	43,498	1,162	306	6,941
Hardwood	214,254	183,515	129,027	54,488	14,711	4,954	11,084
Total	456,358	417,200	319,214	97,986	15,873	5,260	18,025

¹ On commercial forest land.² Includes noncommercial forest land, nonforest land such as fence rows, trees less than 5.0 inches in diameter, and treetops and limbs.

Table 25. *Timber removals from growing stock on commercial forest land by items and by softwoods and hardwoods, Mississippi, 1966*

Item	All species	Soft-wood	Hard-wood
- Thousand cubic feet -			
Roundwood products:			
Saw logs	163,536	86,846	76,690
Veneer logs and bolts	16,109	7,476	8,633
Pulpwood	179,132	120,298	58,834
Cooperage logs and bolts	930		930
Piling	3,498	3,498	
Poles	9,167	9,167	
Posts	8,132	2,443	5,689
Other	5,666	836	4,830
Fuelwood	31,030	3,121	27,909
All products	417,200	233,685	183,515
Logging residues	55,251	17,528	37,723
Other removals	66,065		66,065
Total removals	538,516	251,213	287,303

Table 26. *Timber removals from live sawtimber on commercial forest land by items and by softwoods and hardwoods, Mississippi, 1966*

Item	All species	Soft-wood	Hard-wood
- Thousand board feet -			
Roundwood products:			
Saw logs	973,876	525,063	448,813
Veneer logs and bolts	95,988	45,197	50,791
Pulpwood	458,009	330,001	128,008
Cooperage logs and bolts	6,192		6,192
Piling	20,749	20,749	
Poles	49,215	49,215	
Posts	9,054	2,634	6,420
Other	17,451	550	16,901
Fuelwood	25,762	2,592	23,170
All products	1,656,296	976,001	680,295
Logging residues	113,268	29,741	83,527
Other removals	192,527		192,527
Total removals	1,962,091	1,005,742	956,349

Table 27. *Volume of plant residues by industrial source and type of residue and by softwoods and hardwoods, Mississippi, 1966*

Species group and type	All industries	Lumber	Veneer and plywood	Other
- - - - - Thousand cubic feet - - - - -				
Softwood:				
Coarse ¹	2,867	2,332	66	469
Fine ²	11,048	8,082	126	2,840
Total	13,915	10,414	192	3,309
Hardwood:				
Coarse	5,436	4,748	389	299
Fine	11,881	8,330	61	3,490
Total	17,317	13,078	450	3,789
All species:				
Coarse	8,303	7,080	455	768
Fine	22,929	16,412	187	6,330
All types	31,232	23,492	642	7,098

¹ Unused material suitable for chipping, such as slabs, edgings, and veneer cores.

² Unused material not suitable for chipping, such as sawdust and shavings.

Table 28. *Projections of net annual growth, available cut, and inventory of growing stock and sawtimber on commercial forest land, Mississippi, 1966-1996*¹

Species group	Growing stock				Sawtimber			
	1966	1976	1986	1996	1966	1976	1986	1996
	----- Thousand cubic feet -----				----- Thousand board feet -----			
Softwood:								
Cut	251,200	547,400	703,900	799,400	1,005,700	2,356,000	2,917,000	3,246,000
Growth	523,800	680,500	767,300	799,400	1,955,600	2,678,000	3,051,000	3,204,000
Inventory ²	6,554,800	8,489,100	9,408,000	9,693,500	25,436,900	31,269,000	33,288,000	33,709,000
Hardwood:								
Cut	287,300	432,800	540,700	570,600	956,400	1,216,000	1,141,000	920,000
Growth	349,700	482,300	568,000	570,600	878,900	849,000	803,000	780,000
Inventory ²	6,479,800	7,036,400	7,417,600	7,542,200	16,798,600	14,432,000	10,636,000	8,331,000
Total								
Cut	538,500	980,200	1,244,600	1,370,000	1,962,100	3,572,000	4,058,000	4,166,000
Growth	873,500	1,162,900	1,335,300	1,370,000	2,834,500	3,527,000	3,854,000	3,984,000
Inventory ²	13,034,600	15,525,500	16,825,600	17,235,700	42,235,500	45,701,000	43,924,000	42,040,000

¹ Based on the assumption that the cut of growing stock will be in balance with growth by the year 1996, and that forestry progress will continue at the rate indicated by recent trends.

² Inventory as of January 1 of the following year.

SOUTHERN PULPWOOD PRODUCTION, 1968

ROY C. BELTZ



Southern Forest Experiment Station
New Orleans, Louisiana
Forest Service, U.S. Department of Agriculture

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SOUTHERN PULPWOOD PRODUCTION, 1968

ROY C. BELTZ

SOUTHERN FOREST EXPERIMENT STATION

New Orleans, Louisiana

and

SOUTHEASTERN FOREST EXPERIMENT STATION

Asheville, North Carolina

of the

Forest Service, U. S. Department of Agriculture

in cooperation with

**SOUTHEASTERN AND SOUTHWESTERN TECHNICAL
DIVISIONS**

of the

AMERICAN PULPWOOD ASSOCIATION

1969

Table 1. *Pulpwood production in the South during 1968, and change since 1967*

State	Pulpwood	Change
	<i>Thousand cords</i>	<i>Percent</i>
Alabama	6,131.1	+ 9
Arkansas	2,297.7	+ 4
Florida	3,243.5	+11
Georgia	6,919.3	+ 9
Louisiana	3,011.5	+13
Mississippi	3,954.5	+35
North Carolina	3,156.2	(¹)
Oklahoma	155.3	+31
South Carolina	2,897.3	- 2
Tennessee	417.0	+ 6
Texas	2,520.0	+26
Virginia	2,372.0	+ 1
All States	37,075.4	+10

¹ Less than 0.1 percent decrease.

down 50,200 cords or 2 percent. The only other decrease, occurring in North Carolina, was negligible. Georgia retained the lead in total production with over 6.9 million cords.

Analysis of roundwood production by county reveals several newcomers to pulpwood production, but no change in leadership. The newcomers were largely counties in Texas, western Oklahoma, and southern Louisiana. The three Alabama counties that led southern roundwood output in 1967 retained their positions in 1968.

Output was higher in each. Baldwin County led with 228,617 cords. Second was Washington, producing 218,269 cords, and Choctaw County was third with 201,214 cords. The number of counties whose production was at least 100,000 cords climbed to 49 in 1968, as opposed to 41 in 1967. More than a third were Alabama counties.

As in the past 6 years, pines and other softwoods accounted for about three-fourths of the total roundwood produced (table 2). Of the

Table 2. *Roundwood production in the South, by State and species group, 1968*

State	All species	Softwoods	Hardwoods			
			Total	Oaks	Gums	Other hardwoods
<i>Thousand cords</i>						
Alabama	5,046.4	3,549.4	1,497.0	506.2	639.1	351.7
Arkansas	1,532.2	1,011.9	520.3	406.9	60.0	53.4
Florida	2,808.6	2,512.0	296.6	132.9	89.6	74.1
Georgia	5,792.2	5,108.7	683.5	254.8	307.8	120.9
Louisiana	2,274.7	1,659.1	615.6	185.8	249.5	180.3
Mississippi	3,197.9	2,263.8	934.1	228.6	417.9	287.6
North Carolina	2,490.3	1,730.8	759.5	341.5	187.5	230.5
Oklahoma	89.8	40.0	49.8	10.6	3.8	35.4
South Carolina	2,371.9	1,724.3	647.6	230.8	264.7	152.1
Tennessee	351.6	159.7	191.9	125.0	7.6	59.3
Texas	1,818.6	1,507.5	311.1	156.1	104.3	50.7
Virginia	1,726.5	1,055.0	671.5	400.9	86.4	184.2
All States	29,500.7	22,322.2	7,178.5	2,980.1	2,418.2	1,780.2

remainder, 41 percent was oak, 34 percent gums, and 25 percent other hardwoods. The proportion of oaks in 1968 was up more than 3 percent, largely at the expense of other hardwoods. Gum production changed little.

Increase in use of residues continues to be the most striking trend in pulpwood consumption. Southwide, pulping of plant residues expanded by more than a million cord-equivalents. Southern softwood residues received by pulpmills in 1968 were up more than 19 percent over 1967 receipts. Utilization of hardwood residues increased only 7 percent. Changes in residue production during 1968 had a pronounced effect on net change in pulp-

wood output. In North and South Carolina, for example, reduced pulpwood output was caused by losses in residues (fig. 3). On the other hand, increased residues offset a roundwood decrement in Virginia.

In 1968, all but two Southern States increased their pulping capacities. Seven new mills started up in six States. These mills, plus expanded existing mills, boosted southern pulping capacity to 77,140 tons per day. Georgia remained the leader, with a total capability of 13,366 tons per day (fig. 4). Capacity growth was greatest in Mississippi, where an increase of 1,705 tons per day boosted the 1967 total by more than a third. In the South, the center of pulping capacity is moving westward. The four States expanding their pulping capacity most were Mississippi, Alabama, Louisiana, and Arkansas.

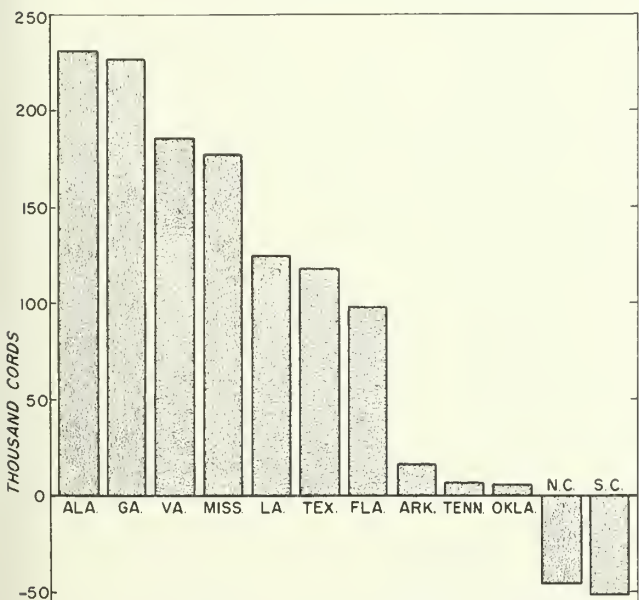


Figure 3. Change in residue production by State, 1967-1968.

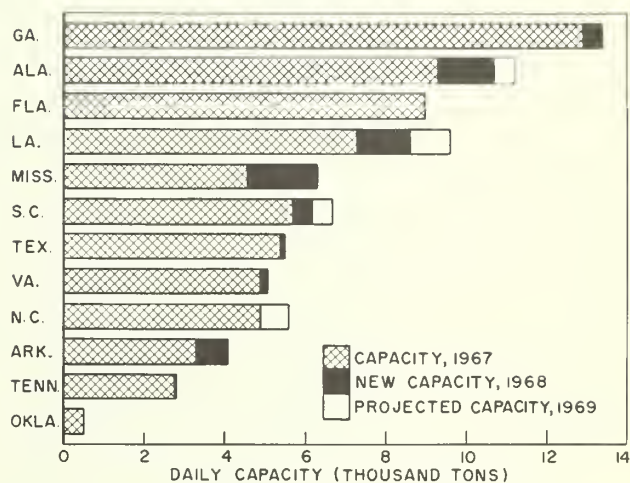


Figure 4. Pulping capacity by State, 1967, 1968, and projected 1969.

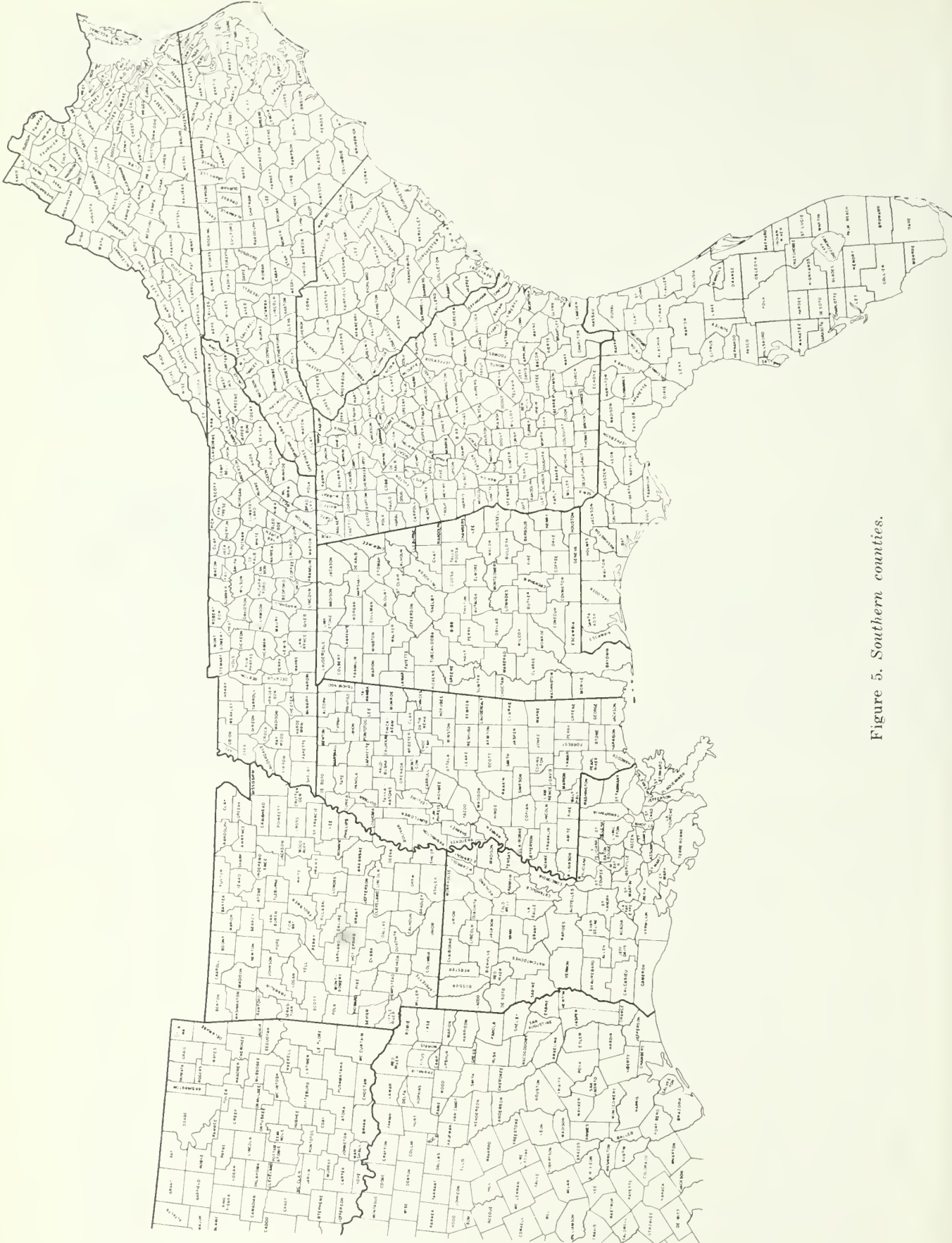


Figure 5. Southern counties.

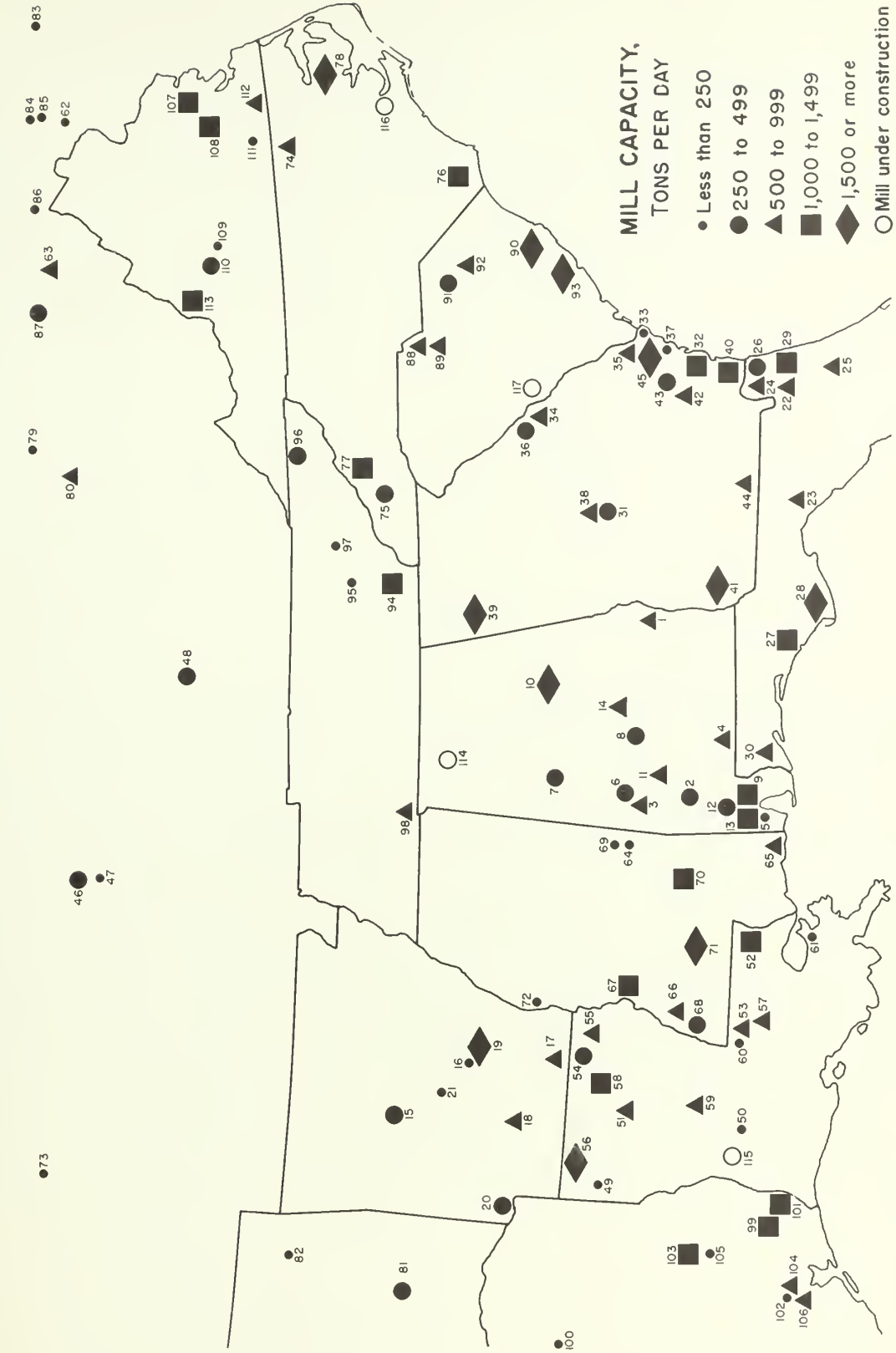


Figure 6. Mills using southern pulpwood in 1968, and those under construction. Numbers at mill locations correspond to numbers in tables 19 and 20.

DETAILED TABLES

Table 3. Roundwood production in the South, by State and species group, 1968 and 1967

State	Change from 1967	1968			1967		
		All species	Softwood	Hardwood	All species	Softwood	Hardwood
	<i>Percent</i>	<i>— Thousand cords —</i>					
Alabama	+ 6	5,046.4	3,549.4	1,497.0	4,781.3	3,626.0	1,155.3
Arkansas	+ 5	1,532.2	1,011.9	520.3	1,458.9	1,021.6	437.3
Florida	+ 8	2,808.6	2,512.0	296.6	2,588.7	2,352.3	236.4
Georgia	+ 7	5,792.2	5,108.7	683.5	5,425.8	4,840.4	585.4
Louisiana	+11	2,274.7	1,659.1	615.6	2,049.6	1,473.0	576.6
Mississippi	+36	3,197.9	2,263.8	934.1	2,346.0	1,460.4	885.6
North Carolina	+ 2	2,490.3	1,730.8	759.5	2,446.0	1,719.6	726.4
Oklahoma	+52	89.8	40.0	49.8	59.2	19.5	39.7
South Carolina	(¹)	2,371.9	1,724.3	647.6	2,371.3	1,776.0	595.3
Tennessee	+ 7	351.6	159.7	191.9	336.5	157.6	178.9
Texas	+29	1,818.6	1,507.5	311.1	1,409.9	1,087.3	322.6
Virginia	- 9	1,726.5	1,055.0	671.5	1,898.9	1,230.9	668.0
All States	+ 9	29,500.7	22,322.2	7,178.5	27,172.1	20,764.6	6,407.5

¹ Less than 0.1 percent increase.

Table 4. Southern output of wood residues chipped for pulp manufacture, by State and species group, 1968 and 1967

State	Change from 1967	1968			1967		
		All species	Softwood	Hardwood	All species	Softwood	Hardwood
	<i>Percent</i>	<i>— Thousand cords —</i>					
Alabama	+27	1,084.7	866.6	218.1	852.6	654.6	198.0
Arkansas	+ 2	765.5	659.3	106.2	749.5	679.6	69.9
Florida	+29	434.9	344.7	90.2	336.9	252.9	84.0
Georgia	+25	1,127.1	967.1	160.0	900.6	736.6	164.0
Louisiana	+20	736.8	623.7	113.1	612.3	545.2	67.1
Mississippi	+31	756.6	579.2	177.4	578.6	449.7	128.9
North Carolina	- 6	665.9	528.0	137.9	710.8	527.9	182.9
Oklahoma	+10	65.5	63.4	2.1	59.6	59.1	.5
South Carolina	- 9	525.4	393.3	132.1	576.2	428.8	147.4
Tennessee	+11	65.4	9.8	55.6	58.7	8.7	50.0
Texas	+20	701.4	668.2	33.2	583.2	538.1	45.1
Virginia	+40	645.5	438.3	207.2	460.0	264.5	195.5
All States	+17	7,574.7	6,141.6	1,433.1	6,479.0	5,145.7	1,333.3

Table 5. Southern output of wood residues chipped for pulp manufacture, by State and type of residue, 1968

State	All types	Chips			Other residues ¹		
		All species	Softwood	Hardwood	All species	Softwood	Hardwood
----- <i>Thousand cords</i> -----							
Alabama	1,084.7	999.8	787.1	212.7	84.9	79.5	5.4
Arkansas	765.5	743.1	637.0	106.1	22.4	22.3	.1
Florida	434.9	434.6	344.7	89.9	.3	...	.3
Georgia	1,127.1	1,123.9	967.0	156.9	3.2	.1	3.1
Louisiana	736.8	702.9	589.9	113.0	33.9	33.8	.1
Mississippi	756.6	689.3	513.8	175.5	67.3	65.4	1.9
North Carolina	665.9	639.9	512.2	127.7	26.0	15.8	10.2
Oklahoma	65.5	65.5	63.4	2.1	...	...	...
South Carolina	525.4	521.5	392.5	129.0	3.9	.8	3.1
Tennessee	65.4	65.4	9.8	55.6	...	...	...
Texas	701.4	597.7	564.5	33.2	103.7	103.7	...
Virginia	645.5	615.6	410.5	205.1	29.9	27.8	2.1
All States	7,574.7	7,199.2	5,792.4	1,406.8	375.5	349.2	26.3

¹ Veneer cores, pole and piling trim, cull crosssties, sawdust, secondary residues.

Table 6. Southern pulpwood production by Experiment Station territory, 1968

Station and source of wood	All species	Softwood	Hardwood
----- <i>Standard cords</i> -----			
Southeastern			
Roundwood	15,189,437	12,130,735	3,058,702
Residues	3,398,788	2,671,464	727,324
Total	<u>18,588,225</u>	<u>14,802,199</u>	<u>3,786,026</u>
Southern			
Roundwood	14,311,260	10,191,355	4,119,905
Residues	4,175,870	3,470,123	705,747
Total	<u>18,487,130</u>	<u>13,661,478</u>	<u>4,825,652</u>
All States			
Roundwood	29,500,697	22,322,090	7,178,607
Residues	7,574,658	6,141,587	1,433,071
Total	<u>37,075,355</u>	<u>28,463,677</u>	<u>8,611,678</u>

Table 7. Round pulpwood production in Alabama, 1968

County	All species	Softwood	Hardwood	County	All species	Softwood	Hardwood
— — — — Standard cords — — — —				— — — — Standard cords — — — —			
Autauga	45,474	31,200	14,274	Houston	32,430	20,886	11,544
Baldwin	228,617	156,630	71,987	Jackson	6,829	4,906	1,923
Barbour	114,419	88,439	25,980	Jefferson	47,524	46,186	1,338
Bibb	81,441	67,674	13,767	Lamar	38,486	38,050	436
Blount	32,352	31,801	551	Lauderdale	5,381	3,956	1,425
Bullock	56,460	45,072	11,388	Lawrence	3,567	3,567	...
Butler	169,549	94,720	74,829	Lee	100,640	89,789	10,851
Calhoun	52,393	45,711	6,682	Limestone	2,019	2,019	...
Chambers	73,498	51,778	21,720	Lowndes	63,578	35,998	27,580
Cherokee	33,188	24,311	8,877	Macon	63,035	50,213	12,822
Chilton	75,545	54,322	21,223	Madison	798	798	...
Choctaw	201,214	103,743	97,471	Marengo	135,996	61,512	74,484
Clarke	174,084	73,230	100,854	Marion	31,956	31,896	60
Clay	55,209	44,392	10,817	Marshall	19,247	19,180	67
Cleburne	55,726	48,673	7,053	Mobile	141,800	109,290	32,510
Coffee	48,432	28,090	20,342	Monroe	182,479	120,048	62,431
Colbert	2,613	2,578	35	Montgomery	64,925	34,083	30,842
Conecuh	130,224	86,495	43,729	Morgan	1,362	1,362	...
Coosa	110,430	82,767	27,663	Perry	64,700	40,343	24,357
Covington	93,609	54,549	39,060	Pickens	95,901	58,164	37,737
Crenshaw	87,689	56,634	31,055	Pike	79,344	54,900	24,444
Cullman	50,011	46,183	3,828	Randolph	83,968	77,239	6,729
Dale	61,937	35,160	26,777	Russell	83,101	77,406	5,695
Dallas	110,001	45,345	64,656	St. Clair	56,364	54,596	1,768
De Kalb	17,936	15,352	2,584	Shelby	94,365	75,905	18,460
Elmore	44,670	34,009	10,661	Sumter	138,345	73,130	65,215
Escambia	177,427	149,657	27,770	Talladega	55,180	49,254	5,926
Etowah	26,365	23,318	3,047	Tallapoosa	157,802	129,055	28,747
Fayette	36,478	34,635	1,843	Tuscaloosa	79,460	70,164	9,296
Franklin	20,875	20,127	748	Walker	67,476	64,151	3,325
Geneva	31,721	19,089	12,632	Washington	218,269	145,731	72,538
Greene	56,005	32,402	23,603	Wilcox	111,091	61,818	49,273
Hale	51,304	30,030	21,274	Winston	41,693	41,535	158
Henry	70,441	44,142	26,299	All counties	5,046,448	3,549,388	1,497,060

Table 8. Round pulpwood production in Arkansas, 1968

County	All species	Softwood	Hardwood	County	All species	Softwood	Hardwood
— — — — Standard cords — — — —				— — — — Standard cords — — — —			
Arkansas	...	...	...	Lincoln	12,743	2,257	10,486
Ashley	186,118	129,343	56,775	Little River	14,909	10,354	4,555
Baxter	...	...	...	Logan	14,107	12,704	1,403
Benton	...	...	...	Lonoke	1,615	20	1,595
Boone	...	...	...	Madison	...	...	...
Bradley	9,616	3,917	5,699	Marion	...	...	...
Calhoun	68,187	53,945	14,242	Miller	18,261	11,637	6,624
Carroll	...	...	...	Mississippi	372	...	372
Chicot	2,799	...	2,799	Monroe	88	88	...
Clark	48,354	35,654	12,700	Montgomery	34,468	24,829	9,639
Clay	...	...	...	Nevada	53,196	43,313	9,883
Cleburne	24,660	23,834	826	Newton	10	10	...
Cleveland	32,678	20,111	12,567	Ouachita	47,081	36,940	10,141
Columbia	69,827	44,531	25,296	Perry	17,412	13,694	3,718
Conway	17,462	13,430	4,032	Phillips	13,675	25	13,650
Craighead	...	...	...	Pike	48,780	42,688	6,092
Crawford	334	24	310	Poinsett	...	...	...
Crittenden	3,138	...	3,138	Polk	20,136	12,725	7,411
Cross	...	...	...	Pope	12,180	8,787	3,393
Dallas	73,797	55,433	18,364	Prairie	44	...	44
Desha	23,358	42	23,316	Pulaski	6,462	2,440	4,022
Drew	64,570	28,822	35,748	Randolph	...	...	...
Faulkner	61	14	47	St. Francis	...	...	...
Franklin	10,561	10,555	6	Saline	32,517	19,623	12,894
Fulton	...	...	...	Scott	6,058	3,555	2,503
Garland	15,281	10,533	4,748	Searcy	...	...	...
Grant	120,467	68,328	52,139	Sebastian	2,500	2,500	...
Greene	...	...	...	Sevier	36,254	22,456	13,798
Hempstead	39,264	29,284	9,980	Sharp	6	6	...
Hot Spring	42,110	29,563	12,547	Stone	1,158	1,000	158
Howard	23,899	19,459	4,440	Union	87,679	62,899	24,780
Independence	6,261	2,356	3,905	Van Buren	26,094	25,483	611
Izard	2,500	2,500	...	Washington	...	...	...
Jackson	874	6	868	White	11,203	2,258	8,945
Jefferson	51,226	26,844	24,382	Woodruff	3,930	...	3,930
Johnson	5,933	4,369	1,564	Yell	23,890	14,999	8,891
Lafayette	37,255	21,626	15,629	All counties	1,532,142	1,011,888	520,254
Lawrence	...	...	...	
Lee	4,724	75	4,649				

Table 9. Round pulpwood production in Florida, 1968

County	All species	Softwood	Hardwood	County	All species	Softwood	Hardwood
— — — — Standard cords — — — —				— — — — Standard cords — — — —			
Alachua	39,054	32,895	6,159	Lake	27,028	15,509	11,519
Baker	98,220	98,170	50	Lee	4,962	4,962	...
Bay	79,417	78,446	971	Leon	37,410	37,041	369
Bradford	78,269	70,249	8,020	Levy	59,156	49,040	10,116
Brevard	955	955	...	Liberty	72,828	63,056	9,772
Broward	...	...	...	Madison	68,740	64,029	4,711
Calhoun	75,252	72,602	2,650	Manatee	1,440	1,440	...
Charlotte	2,949	2,949	...	Marion	73,584	63,509	10,075
Citrus	8,079	7,374	705	Martin	2,780	2,780	...
Clay	82,864	80,913	1,951	Monroe	...	...	...
Collier	4,087	4,087	...	Nassau	145,654	118,856	26,798
Columbia	104,346	103,627	719	Okaloosa	51,789	37,603	14,186
Dade	2,274	2,274	...	Okeechobee	5,516	5,516	...
De Soto	7,354	7,354	...	Orange	6,770	6,711	59
Dixie	94,626	64,175	30,451	Osceola	12,308	12,308	...
Duval	63,313	57,521	5,792	Palm Beach	1,991	1,991	...
Escambia	70,504	58,159	12,345	Pasco	7,120	7,120	...
Flagler	40,467	36,958	3,509	Pinellas	491	491	...
Franklin	40,501	40,390	111	Polk	34,442	32,942	1,500
Gadsden	43,378	41,130	2,248	Putnam	76,487	67,754	8,733
Gilchrist	16,464	10,275	6,189	St. Johns	92,493	86,186	6,307
Glades	5,313	5,313	...	St. Lucie	3,644	3,644	...
Gulf	22,680	22,510	170	Santa Rosa	99,954	94,804	5,150
Hamilton	77,501	72,701	4,800	Sarasota	11,293	11,293	...
Hardee	9,150	9,150	...	Seminole	11,080	11,080	...
Hendry	10,139	10,139	...	Sumter	13,761	12,514	1,247
Hernando	15,200	11,743	3,457	Suwannee	24,488	22,190	2,298
Highlands	7,889	7,889	...	Taylor	116,543	112,336	4,207
Hillsborough	9,811	9,811	...	Union	31,660	27,788	3,872
Holmes	70,137	54,629	15,508	Volusia	61,794	60,912	882
Indian River	8,249	8,249	...	Wakulla	41,591	40,895	696
Jackson	96,538	65,534	31,004	Walton	67,865	53,686	14,179
Jefferson	51,527	45,320	6,207	Washington	68,103	54,226	13,877
Lafayette	137,334	134,256	3,078	All counties	2,808,606	2,511,959	296,647

Table 10. Round pulpwood production in Georgia, 1968

County	All species	Softwood	Hardwood	County	All species	Softwood	Hardwood
----- Standard cords -----				----- Standard cords -----			
Appling	137,322	133,576	3,746	Habersham	9,081	6,219	2,862
Atkinson	80,111	79,321	790	Hall	18,671	18,166	505
Bacon	67,786	66,705	1,081	Hancock	80,148	61,194	18,954
Baker	25,933	19,007	6,926	Haralson	23,855	21,099	2,756
Baldwin	33,341	27,917	5,424	Harris	60,772	57,899	2,873
Banks	19,834	18,745	1,089	Hart	4,104	4,054	50
Barrow	12,267	11,681	586	Heard	36,828	36,240	588
Bartow	21,551	20,662	889	Henry	27,973	24,044	3,929
Ben Hill	55,522	51,041	4,481	Houston	19,405	12,703	6,702
Berrien	82,651	68,556	14,095	Irwin	8,088	7,497	591
Bibb	21,953	15,890	6,063	Jackson	25,963	24,805	1,158
Bleckley	21,394	8,132	13,262	Jasper	26,508	24,093	2,415
Brantley	78,802	69,937	8,865	Jeff Davis	102,671	97,879	4,792
Brooks	27,346	22,171	5,175	Jefferson	22,637	18,076	4,561
Bryan	63,090	60,626	2,464	Jenkins	32,663	20,041	12,622
Bulloch	40,389	37,584	2,805	Jolinson	34,291	18,498	15,793
Burke	30,868	21,591	9,277	Jones	68,730	64,565	4,165
Butts	27,944	24,760	3,184	Lamar	16,754	15,312	1,442
Calhoun	24,596	22,048	2,548	Lanier	30,154	29,754	400
Camden	106,375	94,847	11,528	Laurens	50,892	32,345	18,547
Candler	19,641	16,716	2,925	Lee	6,604	6,185	419
Carroll	37,002	35,751	1,251	Liberty	92,427	69,838	22,589
Catoosa	4,614	3,842	772	Lincoln	24,346	23,020	1,326
Charlton	92,085	89,042	3,043	Long	52,355	50,537	1,818
Chatham	31,384	27,371	4,013	Lowndes	42,828	39,828	3,000
Chattahoochee	39,720	36,530	3,190	Lumpkin	5,184	5,112	72
Chattooga	19,007	15,905	3,102	McDuffie	8,594	7,385	1,209
Cherokee	39,497	37,998	1,499	McIntosh	72,831	69,044	3,787
Clarke	251	150	101	Macon	34,391	21,351	13,040
Clay	8,766	7,495	1,271	Madison	17,542	16,011	1,531
Clayton	3,364	2,990	374	Marion	18,497	17,099	1,398
Clinch	152,661	152,640	21	Meriwether	40,994	39,603	1,391
Cobb	16,678	16,248	430	Miller	11,978	8,790	3,188
Coffee	93,547	91,624	1,923	Mitchell	36,351	32,996	3,355
Colquitt	25,628	23,940	1,688	Monroe	60,300	52,394	7,906
Columbia	42,974	33,998	8,976	Montgomery	40,331	40,016	315
Cook	17,408	17,408	...	Morgan	18,016	13,610	4,406
Coweta	57,639	56,315	1,324	Murray	21,053	18,839	2,214
Crawford	40,560	33,612	6,948	Muscogee	15,759	15,032	727
Crisp	15,482	14,791	691	Newton	28,360	25,299	3,061
Dade	2,753	2,418	335	Oconee	21,382	18,342	3,040
Dawson	7,711	7,711	...	Oglethorpe	32,016	29,479	2,537
Decatur	51,005	42,175	8,830	Paulding	31,376	27,387	3,989
De Kalb	3,013	2,928	85	Peach	3,309	2,252	1,057
Dodge	69,881	50,928	18,953	Pickens	14,196	13,034	1,162
Dooly	21,279	13,270	8,009	Pierce	34,733	33,995	738
Dougherty	68,725	63,224	5,501	Pike	13,515	12,689	826
Douglas	24,234	23,214	1,020	Polk	26,873	23,430	3,443
Early	29,659	24,266	5,393	Pulaski	4,523	4,120	403
Echols	101,997	101,197	800	Putnam	52,957	46,098	6,859
Effingham	55,395	46,727	8,668	Quitman	25,704	20,016	5,688
Elbert	59,558	53,444	6,114	Rabun	5,462	...	5,462
Emanuel	77,276	71,786	5,490	Randolph	39,720	32,474	7,246
Evans	23,202	20,191	3,011	Richmond	11,245	9,054	2,191
Fannin	9,105	4,486	4,619	Rockdale	1,723	1,707	16
Fayette	11,291	10,951	340	Schley	11,140	6,666	4,474
Floyd	18,966	14,937	4,029	Screven	48,833	42,632	6,201
Forsyth	8,256	8,082	174	Seminole	8,527	5,134	3,393
Franklin	18,723	14,831	3,892	Spalding	15,290	14,331	959
Fulton	18,033	17,506	527	Stephens	10,345	7,200	3,145
Gilmer	8,864	7,889	975	Stewart	78,154	74,139	4,015
Glascock	2,773	1,978	795	Sumter	18,704	14,787	3,917
Glynn	63,955	46,341	17,614				
Gordon	16,831	15,347	1,484				
Grady	29,896	21,925	7,971				
Greene	63,092	54,045	9,047				
Gwinnett	25,350	24,786	564				

Table 10. Round pulpwood production in Georgia, 1968 (Continued)

County	All species	Softwood	Hardwood	County	All species	Softwood	Hardwood
----- Standard cords -----				----- Standard cords -----			
Talbot	61,623	55,113	6,510	Walker	12,796	10,436	2,360
Taliaferro	4,403	4,267	136	Walton	11,217	9,972	1,245
Tattnall	82,369	76,317	6,052	Ware	166,042	165,212	830
Taylor	14,898	13,782	1,116	Warren	24,044	21,416	2,628
Telfair	53,265	40,983	12,282	Washington	59,859	37,057	22,802
Terrell	15,033	14,387	646	Wayne	192,440	177,373	15,067
Thomas	58,044	34,621	23,423	Webster	24,181	21,388	2,793
Tift	15,510	13,332	2,178	Wheeler	45,941	40,743	5,198
Toombs	49,352	42,828	6,524	White	3,271	3,107	164
Towns	...	...	...	Whitfield	20,720	18,119	2,601
Treutlen	30,192	28,608	1,584	Wilcox	23,017	19,642	3,375
Troup	79,412	74,507	4,905	Wilkes	74,461	65,832	8,629
Turner	23,494	22,998	496	Wilkinson	62,439	50,841	11,598
Twiggs	24,832	17,722	7,110	Worth	36,319	32,787	3,532
Union	2,753	1,794	959				
Upson	33,756	32,288	1,468	All counties	5,792,145	5,108,656	683,489

Table 11. Round pulpwood production in Louisiana, 1968

Parish	All species	Softwood	Hardwood	Parish	All species	Softwood	Hardwood
----- Standard cords -----				----- Standard cords -----			
Acadia	8,744	8,502	242	Morehouse	56,722	26,944	29,778
Allen	46,558	42,842	3,716	Natchitoches	69,557	53,714	15,843
Ascension	6,046	30	6,016	Orleans	4	...	4
Assumption	...	...	...	Ouachita	42,393	31,366	11,027
Avoyelles	8,215	2,511	5,704	Plaquemines	...	...	...
Beauregard	84,263	81,707	2,556	Pointe Coupee	44,756	10	44,746
Bienville	124,772	100,334	24,438	Rapides	76,791	66,060	10,731
Bossier	73,333	40,685	32,648	Red River	26,769	18,959	7,810
Caddo	30,854	22,294	8,560	Richland	4,135	349	3,786
Calcasieu	29,675	28,230	1,445	Sabine	94,255	77,995	16,260
Caldwell	35,292	27,211	8,081	St. Bernard	...	...	...
Cameron	...	...	...	St. Charles	...	...	...
Catahoula	31,950	16,326	15,624	St. Helena	54,075	42,933	11,142
Claiborne	70,997	58,339	12,658	St. James	32	...	32
Concordia	37,626	4	37,622	St. John the Baptist	...	...	...
De Soto	73,686	63,075	10,611	St. Landry	25,682	5,185	20,497
East Baton Rouge	6,801	1,886	4,915	St. Martin	822	...	822
East Carroll	4,289	7	4,282	St. Mary	...	...	...
East Feliciana	30,594	23,713	6,881	St. Tammany	48,731	46,399	2,332
Evangeline	14,737	11,644	3,093	Tangipahoa	86,195	78,312	7,883
Franklin	5,677	195	5,482	Tensas	20,085	...	20,085
Grant	55,989	44,534	11,455	Terrebonne	...	...	...
Iberia	...	...	...	Union	145,579	99,443	46,136
Iberville	617	...	617	Vermilion	...	...	...
Jackson	80,543	69,934	10,609	Vernon	82,915	76,896	6,019
Jefferson	51	...	51	Washington	105,708	81,319	24,389
Jefferson Davis	2,129	2,014	115	Webster	56,046	36,513	19,533
Lafayette	...	...	...	West Baton Rouge	3,267	...	3,267
Lafourche	...	...	...	West Carroll	6	6	...
La Salle	46,355	35,799	10,556	West Feliciana	6,973	1,400	5,573
Lincoln	60,851	51,964	8,887	Winn	117,535	98,593	18,942
Livingston	112,184	82,859	29,325	All parishes	2,274,760	1,659,054	615,706
Madison	22,899	19	22,880				

Table 12. Round pulpwood production in Mississippi, 1968

County	All species	Softwood	Hardwood	County	All species	Softwood	Hardwood
----- Standard cords -----				----- Standard cords -----			
Adams	26,565	4,934	21,631	Lincoln	76,531	64,037	12,494
Alcorn	12,373	11,148	1,225	Lowndes	10,718	9,106	1,612
Amite	64,164	58,326	5,838	Madison	21,878	13,606	8,272
Attala	58,886	41,764	17,122	Marion	76,385	48,327	28,058
Benton	14,509	11,082	3,427	Marshall	12,072	8,054	4,018
Bolivar	25,915	3	25,912	Monroe	9,474	6,583	2,891
Calhoun	15,729	12,600	3,129	Montgomery	20,473	16,124	4,349
Carroll	9,923	6,286	3,637	Neshoba	32,370	21,721	10,649
Chickasaw	17,746	15,390	2,356	Newton	86,295	61,095	25,200
Choctaw	32,757	24,034	8,723	Noxubee	39,745	25,969	13,776
Claiborne	50,795	22,401	28,394	Oktibbeha	25,077	18,477	6,600
Clarke	173,751	125,022	48,729	Panola	20,422	1,037	19,385
Clay	11,711	9,058	2,653	Pearl River	75,440	52,048	23,392
Coahoma	...	...	...	Perry	82,567	67,005	15,562
Copiah	87,166	69,228	17,938	Pike	70,367	61,205	9,162
Covington	51,868	37,483	14,385	Pontotoc	7,376	5,803	1,573
De Soto	...	...	...	Prentiss	12,251	11,658	593
Forrest	45,164	34,186	10,978	Quitman	...	...	...
Franklin	39,007	27,235	11,772	Rankin	95,864	71,313	24,551
George	68,920	52,551	15,469	Scott	61,921	50,649	11,272
Greene	100,379	70,108	30,271	Sharkey	4,039	...	4,039
Grenada	3,904	2,963	941	Simpson	68,357	54,122	14,235
Hancock	39,009	35,042	3,967	Smith	40,520	30,449	10,071
Harrison	62,749	60,344	2,405	Stone	51,071	30,822	20,249
Hinds	29,854	13,883	15,971	Sunflower	9	3	6
Holmes	41,714	17,806	23,908	Tallahatchie	2,555	788	1,767
Humphreys	6,712	48	6,664	Tate	4,867	613	4,254
Issaquena	12,207	...	12,207	Tippah	18,884	18,459	425
Itawamba	20,627	19,367	1,260	Tishomingo	33,637	24,434	9,203
Jackson	92,794	75,913	16,881	Tunica	...	...	...
Jasper	113,959	91,508	22,451	Union	6,408	4,601	1,807
Jefferson	47,374	28,079	19,295	Walthall	31,354	26,680	4,674
Jefferson Davis	32,480	27,345	5,135	Warren	12,184	985	11,199
Jones	72,413	49,329	23,084	Washington	13,073	...	13,073
Kemper	73,241	45,428	27,813	Wayne	113,302	79,164	34,138
Lafayette	17,123	9,762	7,361	Webster	16,526	11,322	5,204
Lamar	38,221	25,693	12,528	Wilkinson	27,353	15,781	11,572
Lauderdale	104,544	70,756	33,788	Winston	35,697	25,564	10,133
Lawrence	52,365	47,898	4,467	Yalobusha	36,585	25,474	11,111
Leake	53,585	41,316	12,269	Yazoo	11,715	1,113	10,602
Lee	2,429	2,317	112	All counties	3,197,922	2,263,820	934,102
Leflore	8,828	1,993	6,835				

Table 13. Round pulpwood production in North Carolina, 1968

County	All species	Softwood	Hardwood	County	All species	Softwood	Hardwood
----- Standard cords -----				----- Standard cords -----			
Alamance	6,911	4,238	2,673	Lee	14,968	6,311	8,657
Alexander	5,342	4,961	381	Lenoir	8,477	8,242	235
Alleghany	...	...	...	Lincoln	9,428	5,294	4,134
Anson	56,209	30,713	25,496	McDowell	20,672	6,573	14,099
Ashe	...	...	...	Macon	18,523	3,602	14,921
Avery	638	...	638	Madison	6,613	3,295	3,318
Beaufort	107,667	90,825	16,842	Martin	44,668	38,228	6,440
Bertie	76,266	59,879	16,387	Mecklenburg	29,052	18,009	11,043
Bladen	79,978	53,848	26,130	Mitchell	267	8	259
Brunswick	76,882	61,916	14,966	Montgomery	15,668	7,766	7,902
Buncombe	31,999	14,662	17,337	Moore	31,057	21,840	9,217
Burke	28,309	18,286	10,023	Nash	26,410	11,376	15,034
Cabarrus	15,070	9,851	5,219	New Hanover	5,677	4,695	982
Caldwell	11,173	7,139	4,034	Northampton	18,077	12,637	5,440
Camden	5,026	4,219	807	Onslow	99,948	87,135	12,813
Carteret	17,194	16,481	713	Orange	14,635	9,892	4,743
Caswell	2,960	2,846	114	Pamlico	55,790	50,765	5,025
Catawba	6,329	4,591	1,738	Pasquotank	8,999	5,993	3,006
Chatham	41,434	24,565	16,869	Pender	62,571	42,525	20,046
Cherokee	26,874	16,914	9,960	Perquimans	15,978	7,487	8,491
Chowan	14,475	7,488	6,987	Person	2,993	2,895	98
Clay	156	...	156	Pitt	26,752	24,479	2,273
Cleveland	12,632	8,323	4,309	Polk	16,760	6,335	10,425
Columbus	92,820	67,013	25,807	Randolph	26,625	12,785	13,840
Craven	80,656	72,656	8,000	Richmond	21,168	14,497	6,671
Cumberland	35,081	23,902	11,179	Robeson	34,864	18,982	15,882
Currituck	3,631	2,368	1,263	Rockingham	27,880	24,190	3,690
Dare	34,251	33,159	1,092	Rowan	8,362	5,474	2,888
Davidson	10,855	6,607	4,248	Rutherford	34,039	22,631	11,408
Davie	13,144	6,079	7,065	Sampson	50,529	33,801	16,728
Duplin	45,466	29,975	15,491	Scotland	36,014	31,585	4,429
Durham	18,161	13,193	4,968	Stanly	13,424	8,506	4,918
Edgecombe	15,559	12,708	2,851	Stokes	5,671	5,068	603
Forsyth	8,743	6,882	1,861	Surry	20,114	18,213	1,901
Franklin	69,030	41,436	27,594	Swain	6,585	3,905	2,680
Gaston	8,904	4,860	4,044	Transylvania	12,901	2,048	10,853
Gates	26,577	14,948	11,629	Tyrrell	46,916	42,298	4,618
Graham	4,623	1,706	2,917	Union	36,153	19,987	16,166
Granville	19,147	14,245	4,902	Vance	6,683	5,538	1,145
Greene	4,563	3,929	634	Wake	46,504	32,497	14,007
Guilford	9,526	8,637	889	Warren	55,090	44,405	10,685
Halifax	53,118	39,230	13,888	Washington	13,691	9,549	4,142
Harnett	21,707	12,572	9,135	Watauga	...	...	...
Haywood	14,336	2,526	11,810	Wayne	15,527	11,906	3,621
Henderson	16,946	5,885	11,061	Wilkes	7,830	7,169	661
Hertford	21,897	9,615	12,282	Wilson	7,923	3,602	4,321
Hoke	18,490	15,687	2,803	Yadkin	4,789	4,195	594
Hyde	12,651	10,892	1,759	Yancey	367	...	367
Iredell	29,566	18,114	11,452	All counties	2,490,249	1,730,798	759,451
Jackson	33,414	2,926	30,488				
Johnston	17,550	9,153	8,397				
Jones	32,681	29,937	2,744				

Table 14. Round pulpwood production in Oklahoma, 1968

County ¹	All species	Softwood	Hardwood	County ¹	All species	Softwood	Hardwood
----- Standard cords -----				----- Standard cords -----			
Blaine	7,134		7,134	McIntosh	1,712		1,712
Caddo	1,526		1,526	Mayes	1,712		1,712
Canadian	896		896	Muskogee	700		700
Choctaw	1,410	317	1,093	Nowata	119		119
Cleveland	543		543	Okfuskee	69		69
Custer	1,337		1,337	Pontotoc	814		814
Grady	2,914		2,914	Pushmataha	5,755	4,215	1,540
Harper	1,922		1,922	Roger Mills	79		79
Haskell	1,712		1,712	Sequoyah	1,736		1,736
Jefferson	3,325		3,325	Tulsa	99		99
Kay	2,229		2,229	Wagoner	1,766		1,766
Latimer	3,908	3,863	45	Woodward	892		892
Le Flore	8,589	5,535	3,054	All counties	89,850	40,010	49,840
McCurtain	36,952	26,080	10,872				

¹ Counties with no pulpwood production are omitted.

Table 15. Round pulpwood production in South Carolina, 1968

County	All species	Softwood	Hardwood	County	All species	Softwood	Hardwood
----- Standard cords -----				----- Standard cords -----			
Abbeville	30,703	25,377	5,326	Horry	84,018	64,611	19,407
Aiken	51,922	39,529	12,393	Jasper	44,562	24,983	19,579
Allendale	19,990	13,617	6,373	Kershaw	90,268	66,195	24,073
Anderson	30,972	22,459	8,513	Lancaster	52,937	34,850	18,087
Bamberg	20,556	14,818	5,738	Laurens	41,587	31,268	10,319
Barnwell	13,245	12,734	511	Lee	12,765	7,612	5,153
Beaufort	22,751	20,137	2,614	Lexington	21,944	17,975	3,969
Berkeley	116,529	88,538	27,991	McCormick	53,155	48,701	4,454
Calhoun	11,600	9,983	1,617	Marion	51,781	28,651	23,130
Charleston	46,530	33,330	13,200	Marlboro	49,836	23,599	26,237
Cherokee	12,169	10,066	2,103	Newberry	100,369	86,525	13,844
Chester	75,478	53,773	21,705	Oconee	41,090	21,874	19,216
Chesterfield	44,897	27,036	17,861	Orangeburg	31,635	24,635	7,000
Clarendon	63,108	46,134	16,974	Pickens	18,250	13,184	5,066
Colleton	93,712	61,612	32,100	Richland	51,787	41,388	10,399
Darlington	26,476	15,262	11,214	Saluda	36,959	28,378	8,581
Dillon	11,544	8,356	3,188	Spartanburg	53,536	40,743	12,793
Dorchester	70,443	39,007	31,436	Sumter	28,949	19,887	9,962
Edgefield	62,810	51,598	11,212	Union	60,779	49,371	11,408
Fairfield	154,337	119,160	35,177	Williamsburg	93,494	70,171	23,323
Florence	41,423	25,403	16,020	York	63,423	44,643	18,780
Georgetown	125,948	88,564	37,384	All counties	2,371,915	1,724,356	647,559
Greenville	9,837	7,840	1,997				
Greenwood	58,262	46,747	11,515				
Hampton	73,549	54,032	19,517				

Table 16. Round pulpwood production in Tennessee, 1968

County	All species	Softwood	Hardwood	County	All species	Softwood	Hardwood
	----- Standard cords -----				----- Standard cords -----		
Anderson	6,015	3,924	2,091	Lauderdale	...	...	...
Bedford	...	...	...	Lawrence	434	434	...
Benton	792	776	16	Lewis	71	71	...
Bledsoe	3,695	3,375	320	Lincoln	...	...	...
Blount	11,893	7,379	4,514	Loudon	9,399	2,740	6,659
Bradley	14,920	10,766	4,154	McMinn	19,606	13,535	6,071
Campbell	6,623	4,166	2,457	McNairy	6,526	5,361	1,165
Cannon	...	...	...	Macon	...	...	...
Carroll	601	601	...	Madison	456	453	3
Carter	6,911	897	6,014	Marion	331	195	136
Cheatham	...	...	...	Marshall	...	...	...
Chester	1,095	1,083	12	Mauzy	766	...	766
Claiborne	220	...	220	Meigs	13,079	7,977	5,102
Clay	...	...	...	Monroe	20,613	11,399	9,214
Cocke	9,479	6,510	2,969	Montgomery	...	...	...
Coffee	1,093	1,093	...	Moore	...	...	...
Crockett	...	...	...	Morgan	21,050	4,816	16,234
Cumberland	23,827	3,471	20,356	Obion	...	...	...
Davidson	...	...	...	Overton	1,046	...	1,046
Decatur	1,405	1,341	64	Perry	422	293	129
De Kalb	...	...	...	Pickett	...	...	...
Dickson	199	...	199	Polk	14,206	9,093	5,113
Dyer	...	...	...	Putnam	9,715	2,854	6,861
Fayette	...	...	...	Rhea	15,978	4,270	11,708
Fentress	6,214	4,969	1,245	Roane	8,930	3,629	5,301
Franklin	...	...	...	Robertson	...	...	...
Gibson	...	...	...	Rutherford	...	...	...
Giles	...	...	...	Scott	12,563	4,608	7,955
Grainger	440	...	440	Sequatchie	2,016	895	1,121
Greene	1,281	58	1,223	Sevier	5,430	5,383	47
Grundy	1,718	1,718	...	Shelby	...	...	...
Hamblen	...	...	...	Smith	...	...	...
Hamilton	8,561	4,531	4,030	Stewart	...	...	...
Hancock	509	...	509	Sullivan	11,004	...	11,004
Hardeman	3,827	3,781	46	Sumner	...	...	...
Hardin	23,485	10,516	12,969	Tipton	4,936	...	4,936
Hawkins	4,011	59	3,952	Trousdale	...	...	...
Haywood	...	...	...	Unicoi	6,399	897	5,502
Henderson	1,832	1,822	10	Union	5,963	3,155	2,808
Henry	149	149	...	Van Buren	...	...	...
Hickman	7,191	5	7,186	Warren	...	...	...
Houston	...	...	...	Washington	4,172	1,930	2,242
Humphreys	...	...	...	Wayne	2,816	1,171	1,645
Jackson	...	...	...	Weakley	...	...	...
Jefferson	101	100	1	White	55	...	55
Johnson	2,038	...	2,038	Williamson	...	...	...
Knox	3,343	1,433	1,910	Wilson	...	...	...
Lake	86	...	86	All counties	351,536	159,682	191,854

Table 17. Round pulpwood production in Texas, 1968

County ¹	All species	Softwood	Hardwood
— — — — Standard cords — — — —			
Anderson	20,086	18,693	1,393
Angelina	77,812	73,694	4,118
Bowie	16,351	13,780	2,571
Camp	9,012	8,559	453
Cass	53,354	42,368	10,986
Chambers	4,213	4,181	32
Cherokee	44,499	36,771	7,728
Fort Bend	10	10	...
Franklin	4,166	2,979	1,187
Gregg	5,713	5,407	306
Grimes	8,306	8,117	189
Hardin	55,722	31,690	24,032
Harris	29,932	25,208	4,724
Harrison	42,671	39,405	3,266
Henderson	2	2	...
Hopkins	139	139	...
Houston	49,814	45,262	4,552
Jasper	147,747	116,714	31,033
Jefferson	6,897	5,486	1,411
Lamar	66	...	66
Leon	2,700	2,700	...
Liberty	73,982	50,657	23,325
Marion	29,506	24,421	5,085
Montgomery	103,726	85,389	18,337
Morris	9,007	6,449	2,558
Nacogdoches	98,458	91,402	7,056
Newton	102,675	67,250	35,425
Orange	23,416	21,254	2,162
Panola	69,259	64,755	4,504
Polk	125,286	113,735	11,551
Red River	488	...	488
Rusk	47,671	45,073	2,598
Sabine	37,902	27,609	10,293
San Augustine	71,873	61,304	10,569
San Jacinto	68,566	60,825	7,741
Shelby	97,071	79,811	17,260
Smith	7,775	7,767	8
Titus	6,512	5,863	649
Trinity	88,783	78,013	10,770
Tyler	76,572	51,941	24,631
Upshur	34,475	31,644	2,831
Walker	60,741	46,612	14,129
Waller	620	13	607
Wood	5,026	4,561	465
All counties	1,818,602	1,507,513	311,089

¹ Counties with no pulpwood production are omitted.

Table 18. Round pulpwood production in Virginia, 1968

County ¹	All species	Softwood	Hardwood	County ¹	All species	Softwood	Hardwood
— — — — Standard cords — — — —				— — — — Standard cords — — — —			
Accomack	16,401	15,850	551	Lancaster	6,089	6,089	...
Albemarle	35,013	19,419	15,594	Lee	4,493	...	4,493
Alleghany	45,248	6,198	39,050	Loudoun	502	502	...
Amelia	33,628	23,798	9,830	Louisa	28,008	19,620	8,388
Amherst	34,491	6,868	27,623	Lunenburg	31,593	27,778	3,815
Appomattox	61,607	30,347	31,260	Madison	736	491	245
Arlington	...	...	...	Mathews	3,941	3,725	216
Augusta	16,919	4,073	12,846	Mecklenburg	23,500	18,246	5,254
Bath	33,656	2,796	30,860	Middlesex	6,806	6,362	444
Bedford	43,559	13,748	29,811	Montgomery	1,036	35	1,001
Bland	348	18	330	Nansemond	16,787	10,123	6,664
Botetourt	27,589	8,417	19,172	Nelson	43,901	20,908	22,993
Brunswick	73,346	47,574	25,772	New Kent	29,283	26,391	2,892
Buchanan	17	2	15	Norfolk	2,675	2,340	335
Buckingham	99,854	35,874	63,980	Northampton	441	426	15
Campbell	54,604	30,895	23,709	Northumberland	1,786	1,786	...
Caroline	18,357	17,749	608	Nottoway	24,632	18,408	6,224
Carroll	1,328	1,198	130	Orange	5,439	4,853	586
Charles City	18,112	12,405	5,707	Page	1,001	899	102
Charlotte	23,212	19,004	4,208	Patrick	4,053	4,002	51
Chesterfield	23,753	21,598	2,155	Pittsylvania	40,926	32,084	8,842
Clarke	5,122	4,222	900	Powhatan	13,327	8,667	4,660
Craig	13,139	2,956	10,183	Prince Edward	41,043	21,863	19,180
Culpeper	6,482	6,476	6	Prince George	42,156	34,441	7,715
Cumberland	19,710	9,104	10,606	Prince William	10,123	9,886	237
Dickenson	...	...	...	Princess Anne	1,061	658	403
Dinwiddie	73,748	53,369	20,379	Pulaski	3	3	...
Elizabeth City	...	...	...	Rappahannock	2,354	2,329	25
Essex	20,770	20,138	632	Richmond	11,876	11,876	...
Fairfax	797	797	...	Roanoke	1,929	1,036	893
Fauquier	9,263	8,819	444	Rockbridge	26,644	7,652	18,992
Floyd	249	217	32	Rockingham	5,078	4,303	775
Fluvanna	22,179	9,694	12,485	Russell	204	...	204
Franklin	19,114	13,141	5,973	Scott	5,289	...	5,289
Frederick	6,793	3,732	3,061	Shenandoah	3,015	2,242	773
Giles	...	...	...	Smyth	5,926	...	5,926
Gloucester	9,978	9,460	518	Southampton	44,067	19,667	24,400
Goochland	30,931	24,756	6,175	Spotsylvania	13,521	10,332	3,189
Grayson	...	...	...	Stafford	1,397	1,247	150
Greene	401	225	176	Surry	26,777	16,423	10,354
Greensville	52,505	40,535	11,970	Sussex	68,604	35,762	32,842
Halifax	13,102	11,948	1,154	Tazewell	25	...	25
Hanover	17,567	13,946	3,621	Warren	2,110	1,811	299
Henrico	8,782	8,129	653	Warwick	733	659	74
Henry	14,503	14,360	143	Washington	4,093	1	4,092
Highland	6,350	1,407	4,943	Westmoreland	5,063	5,052	11
Isle of Wight	25,041	10,270	14,771	Wise	1,440	...	1,440
James City	8,725	8,357	368	Wythe	719	...	719
King and Queen	32,833	30,691	2,142	York	5,337	4,982	355
King George	907	876	31	All counties	1,726,522	1,054,966	671,556
King William	24,947	23,550	1,397				

¹ Includes independent cities.

Table 19. Mills using southern pulpwood in 1968, by process and capacity

Location	Map code ¹	Company	Pulping capacity, 24 hours ²				
			All processes	Sulfate	Groundwood and other mechanical	Semi-chemical	Soda and sulfite
----- Tons -----							
ALABAMA							
Mahrt	(1)	Alabama Kraft Co., Div. Ga. Kraft Co.	800	800	...	...	...
Jackson	(2)	Allied Paper Corp.	470	470	...	...	...
Naheola	(3)	American Can Co.	900	900	...	...	...
Brewton	(4)	Container Corp. of America	800	800	...	...	...
Mobile	(5)	General Aniline and Film Corp.	48	...	48	...	...
Demopolis	(6)	Gulf States Paper Corp.	400	400	...	...	...
Tuscaloosa	(7)	Gulf States Paper Corp.	450	450	...	...	...
Riverdale	(8)	Hammermill Paper Co., Riverdale Div.	400	400	...	...	...
Mobile	(9)	International Paper Co.	1,315	1,015	300	...	...
Coosa Pines	(10)	Kimberly-Clark Corp., Coosa River Newsprint Div.	1,590	650	940	...	...
Pine Hill	(11)	MacMillan Bloedel United, Inc.	925	925	...	...	...
Mobile	(12)	National Gypsum Co.	300	...	150	150	...
Mobile	(13)	Scott Paper Co.	1,400	1,400	...	...	...
Montgomery	(14)	Union Camp Corp.	870	870	...	...	...
Total			10,668	9,080	1,438	150	...
ARKANSAS							
Morrilton	(15)	Arkansas Kraft Corp.	350	350	...	...	...
Pine Bluff	(16)	Dierks Paper Co.	150	150	...	...	...
Crossett	(17)	Georgia-Pacific Corp., Crossett Division—Paper	835	835	...	...	...
Camden	(18)	International Paper Co.	688	688	...	...	...
Pine Bluff	(19)	International Paper Co.	1,615	1,215	400	...	...
Ashdown	(20)	Nekoosa-Edwards Paper Co.	400	400	...	...	...
Little Rock	(21)	Superwood Corp. of Arkansas	75	...	75	...	...
Total			4,113	3,638	475	...	...
FLORIDA							
Jacksonville	(22)	Alton Box Board Co.	625	625	...	...	...
Foley	(23)	The Buckeye Cellulose Corp.	923	923	...	...	...
Fernandina Beach	(24)	Container Corp. of America	800	800	...	...	...
Palatka	(25)	Hudson Pulp and Paper Corp.	925	925	...	...	...
Fernandina Beach	(26)	I.T.T. Rayonier Inc.	375	...	...	...	375
Panama City	(27)	International Paper Co.	1,375	1,375	...	...	...
Port St. Joe	(28)	St. Joe Paper Co.	1,700	1,700	...	...	...
Jacksonville	(29)	St. Regis Paper Co.	1,400	1,400	...	...	...
Pensacola	(30)	St. Regis Paper Co.	900	900	...	...	...
Total			9,023	8,648	...	...	375
GEORGIA							
Macon	(31)	Armstrong Cork Co.	400	...	400	...	...
Brunswick	(32)	Brunswick Pulp and Paper Co.	1,188	1,188	...	...	...
Savannah	(33)	Certain-teeed Products Corp.	65	...	...	65	...
Augusta	(34)	Continental Can Co., Inc.	700	700	...	...	...
Port Wentworth	(35)	Continental Can Co., Inc.	600	600	...	...	...
Augusta	(36)	Cox Newsprint, Inc.	375	...	375	...	...
Savannah	(37)	General Aniline and Film Corp.	48	...	48	...	...
Macon	(38)	Georgia Kraft Co., Mead Div.	850	850	...	...	...
Rome	(39)	Georgia Kraft Co., Krannert Div.	1,500	1,500	...	...	...
St. Marys	(40)	Gilman Paper Co., St. Marys Kraft Div.	1,000	1,000	...	...	...
Cedar Springs	(41)	Great Northern Paper Co., Southern Div.	1,700	1,700	...	...	...
Jesup	(42)	I.T.T. Rayonier Inc.	675	675	...	...	...
Riceboro	(43)	Interstate Paper Corp.	450	450	...	...	...
Valdosta	(44)	Owens-Illinois, Forest Products Div.	815	815	...	...	...
Savannah	(45)	Union Camp Corp.	3,000	2,600	...	400	...
Total			13,366	12,078	823	465	...
ILLINOIS							
Alton	(46)	Alton Box Board Co.	300	...	...	300	...
East St. Louis	(47)	Certain-teeed Products Corp.	85	...	85	...	...
Total			385	...	85	300	...
KENTUCKY							
Hawesville	(48)	Wescor Corp.	250	...	...	250	...
Total			250	...	...	250	...

Table 19. Mills using southern pulwood in 1968, by process and capacity (Continued)

Location	Map code ¹	Company	Pulping capacity, 24 hours ²				
			All processes	Sulfate	Groundwood and other mechanical	Semi-chemical	Soda and sulfite
----- Tons -----							
LOUISIANA							
Shreveport	(49)	Bird and Son, Inc.	60	...	...	60	...
Elizabeth	(50)	Calcasieu Paper Co., Inc.	240	240	...	...	...
Hodge	(51)	Continental Can Co., Inc.	750	550	...	...	200
Bogalusa	(52)	Crown Zellerbach Corp.	1,435	1,300	...	...	135
St. Francisville	(53)	Crown Zellerbach Corp.	500	500	...	...	...
Bastrop	(54)	International Paper Co. (Bastrop Mill)	485	...	...	...	485
Bastrop	(55)	International Paper Co. (Louisiana Mill)	950	950	...	...	...
Springhill	(56)	International Paper Co.	1,625	1,625	...	...	...
Port Hudson	(57)	Louisiana Forest Products Corp.	510	510	...	...	...
West Monroe	(58)	Olinkraft, Inc.	1,000	1,000	...	...	...
Pineville	(59)	Pineville Kraft Corp.	750	750	...	...	...
St. Francisville	(60)	St. Francisville Paper Co.	235	...	...	235	...
New Orleans	(61)	Southern Johns-Manville Products Corp.	60	...	...	60	...
		Total	8,600	7,425	295	880	...
MARYLAND							
Finksburg	(62)	Congoleum-Nairn Inc.	200	...	...	...	200
Luke	(63)	Westvaco	789	789	...	...	...
		Total	989	789	...	...	200
MISSISSIPPI							
Meridian	(64)	The Flintkote Co.	225	...	...	225	...
Moss Point	(65)	International Paper Co.	660	660	...	...	...
Natchez	(66)	International Paper Co.	950	950	...	...	...
Vicksburg	(67)	International Paper Co.	1,000	1,000	...	...	...
Natchez	(68)	Johns-Manville Products Corp.	350	...	...	230	120
Meridian	(69)	Kroehler Mfg. Co. of Miss., Inc.	80	...	...	80	...
Laurel	(70)	Masonite Corp.	1,200	...	...	1,200	...
Monticello	(71)	St. Regis Paper Co.	1,620	1,620	...	...	...
Greenville	(72)	United States Gypsum Co.	225	...	...	225	...
		Total	6,310	4,230	1,960	120	...
MISSOURI							
Kansas City	(73)	General Aniline and Film Corp.	100	...	...	100	...
		Total	100	...	...	100	...
NORTH CAROLINA							
Roanoke Rapids	(74)	Albemarle Paper Co.	890	890	...	...	...
Sylva	(75)	The Mead Corp.	290	...	...	...	290
Riegelwood	(76)	Riegel Paper Corp.	1,000	1,000	...	...	...
Canton	(77)	U.S. Plywood - Champion Papers Inc.	1,280	1,280	...	...	...
Plymouth	(78)	Weyerhaeuser Co., N.C. Div.	1,500	1,250	...	...	250
		Total	4,960	4,420	...	...	540
OHIO							
Sandusky	(79)	Cellulo Co., Inc.	4	...	...	4	...
Chillicothe	(80)	The Mead Corp.	600	600	...	...	...
		Total	604	600	...	4	...
OKLAHOMA							
Broken Bow	(81)	Dierks Forests, Inc.	420	...	...	420	...
Pryor	(82)	Georgia-Pacific, Bestwall Gypsum Div.	45	...	...	45	...
		Total	465	...	...	465	...
PENNSYLVANIA							
Philadelphia	(83)	The Celotex Corp.	160	...	...	...	160
Sunbury	(84)	The Celotex Corp.	150	...	...	...	150
York	(85)	Certain-teed Products Corp.	75	...	...	...	75
Roaring Spring	(86)	Combined Paper Mills, Inc.	180	180	...	...	...
Johnsonburg	(87)	New York and Pennsylvania Co., Inc.	270	160	...	...	110
		Total	835	340	...	...	385 110
SOUTH CAROLINA							
Catawba	(88)	Bowaters Carolina Corp.	700	600	100	...	...
Catawba	(89)	Catawba Newsprint Co.	500	...	500	...	...
Georgetown	(90)	International Paper Co.	2,130	1,650	...	...	480
Hartsville	(91)	Sonoco Products Co.	320	...	...	...	320
Florence	(92)	South Carolina Industries, Inc.	600	600	...	...	...
Charleston	(93)	Westvaco	1,950	1,950	...	...	...
		Total	6,200	4,800	600	800	...

Table 19. Mills using southern pulpwood in 1968, by process and capacity (Continued)

Location	Map code ¹	Company	Pulping capacity, 24 hours ²				
			All processes	Sulfate	Groundwood and other mechanical	Semi-chemical	Soda and sulfite
----- Tons -----							
TENNESSEE							
Calhoun	(94)	Bowaters Southern Paper Corp.	1,475	450	850	175	...
Harriman	(95)	The Mead Corp.	180	...	...	180	...
Kingsport	(96)	The Mead Corp.	300	...	...	...	300
Knoxville	(97)	Southern Extract Co.	150	...	...	150	...
Counce	(98)	Tennessee River Pulp and Paper Co.	700	700	...	...	...
		Total	2,805	1,150	850	505	300
TEXAS							
Evadale	(99)	EasTex, Inc.	1,200	1,200	...	...	...
Dallas	(100)	General Aniline and Film Corp.	40	...	40	...	...
Orange	(101)	Owens-Illinois, Forest Products Div.	1,000	1,000	...	...	...
Houston	(102)	Phillip Carey Corp.	25	...	25	...	...
Lufkin	(103)	Southland Paper Mills, Inc.	1,250	400	850	...	...
Sheldon	(104)	Southland Paper Mills, Inc.	860	500	360	...	...
Diboll	(105)	Temple Industries, Fiber Products Div.	195	...	...	195	...
Pasadena	(106)	U. S. Plywood—Champion Papers Inc.	930	850	80	...	...
		Total	5,500	3,950	1,355	195	...
VIRGINIA							
West Point	(107)	The Chesapeake Corp. of Virginia	1,050	1,050	...	...	...
Hopewell	(108)	Continental Can Co., Inc.	1,000	830	...	170	...
Lynchburg	(109)	The Mead Corp.	190	...	...	190	...
Big Island	(110)	Owens-Illinois, Forest Products Div.	450	...	...	450	...
Jarratt	(111)	Southern Johns-Manville Products Corp.	200	...	200	...	...
Franklin	(112)	Union Camp Corp.	900	900	...	...	...
Covington	(113)	Westvaco	1,340	1,060	...	280	...
		Total	5,130	3,840	200	1,090	...
		All States	80,303	64,988	8,650	5,880	785

¹ Corresponds to numbers at mill locations in figure 5.² **Southern Pulp and Paper Manufacturer**, vol. 31, No. 10 (Oct. 1, 1968); and other sources.

Table 20. Pulpmills under construction in the South

Location	Map code ¹	Company	Pulp capacity 24 hrs.
Tons			
ALABAMA			
Courtland	(114)	U.S. Plywood—Champion Papers Inc.	500
LOUISIANA			
DeRidder	(115)	Boise Southern Co.	1,000
NORTH CAROLINA			
New Bern	(116)	Weyerhaeuser Co.	600
SOUTH CAROLINA			
Beech Island	(117)	Kimberly-Clark Corp.	500

¹ Corresponds to numbers at mill locations in figure 6.

HARDWOOD DISTRIBUTION MAPS FOR THE SOUTH

Arnold Hedlund
and
Herbert A. Knight



SOUTHERN FOREST EXPERIMENT STATION
New Orleans, Louisiana
and
SOUTHEASTERN FOREST EXPERIMENT STATION
Asheville, North Carolina
of the
Forest Service, U. S. Department of Agriculture



Species Mapped

	<i>Page</i>
Sweetgum.....	2
Tupelo.....	3
Select white oaks.....	4
Select red oaks.....	5
Ash.....	6
Elm.....	7
Cottonwood.....	8
Sycamore.....	9
Soft maple.....	10
Magnolia.....	11
Yellow-poplar.....	12
Beech.....	13



Hardwood Distribution Maps For The South

Arnold Hedlund and Herbert A. Knight

The maps in this report describe the relative concentration as well as the approximate range of 12 hardwood species and groups of species in the Southern States from Virginia to Oklahoma and Texas. They represent an initial endeavor to show volumetric distribution of major hardwoods on a regional basis. Similar maps are available for softwoods.¹

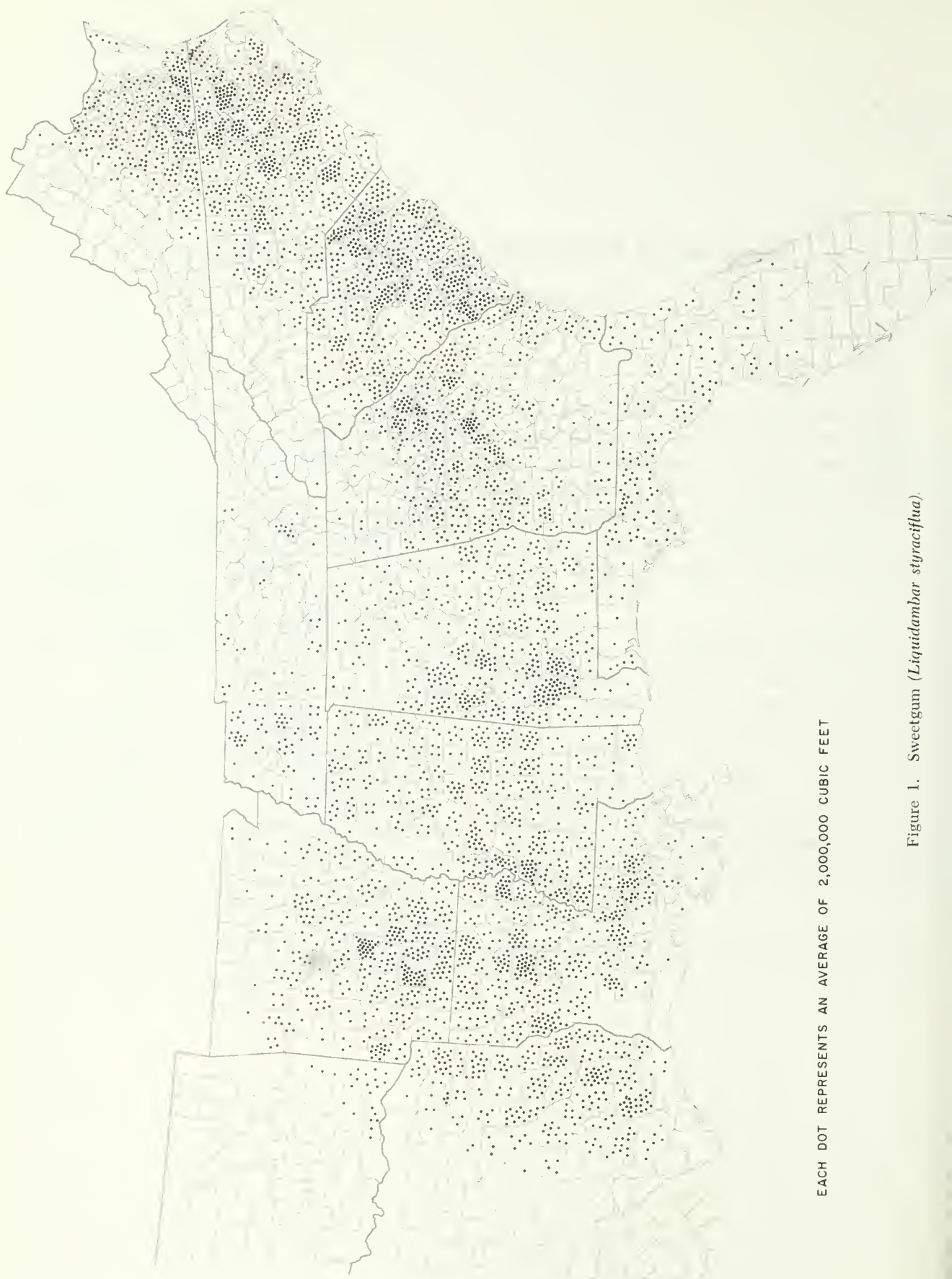
The data upon which the maps are based were gathered during 1959-1968 by the Forest Survey units of the Southern and Southeastern Forest Experiment Stations of the Forest Service, U. S. Department of Agriculture. During most of the period when the data were taken, the Survey computed volumes in terms of the species as they tend to move in commerce. Thus sycamore, sweetgum, yellow-poplar, and beech were treated individually, while many others were grouped. The group designated "select red oaks," for example, includes northern red, Shumard, and cherrybark

oaks. For States surveyed recently, county data on species comprising the groups may be ordered as a special compilation.

Each dot on the maps represents a stated volume of timber growing stock within a county, as determined from a systematic sample of plots averaging 2 to 4 miles apart. The growing stock is expressed in net cubic volume, inside bark, of trees from stump to a minimum 4.0-inch top diameter of central stem. Only sound, well-formed trees at least 5.0 inches in diameter at breast height are included.

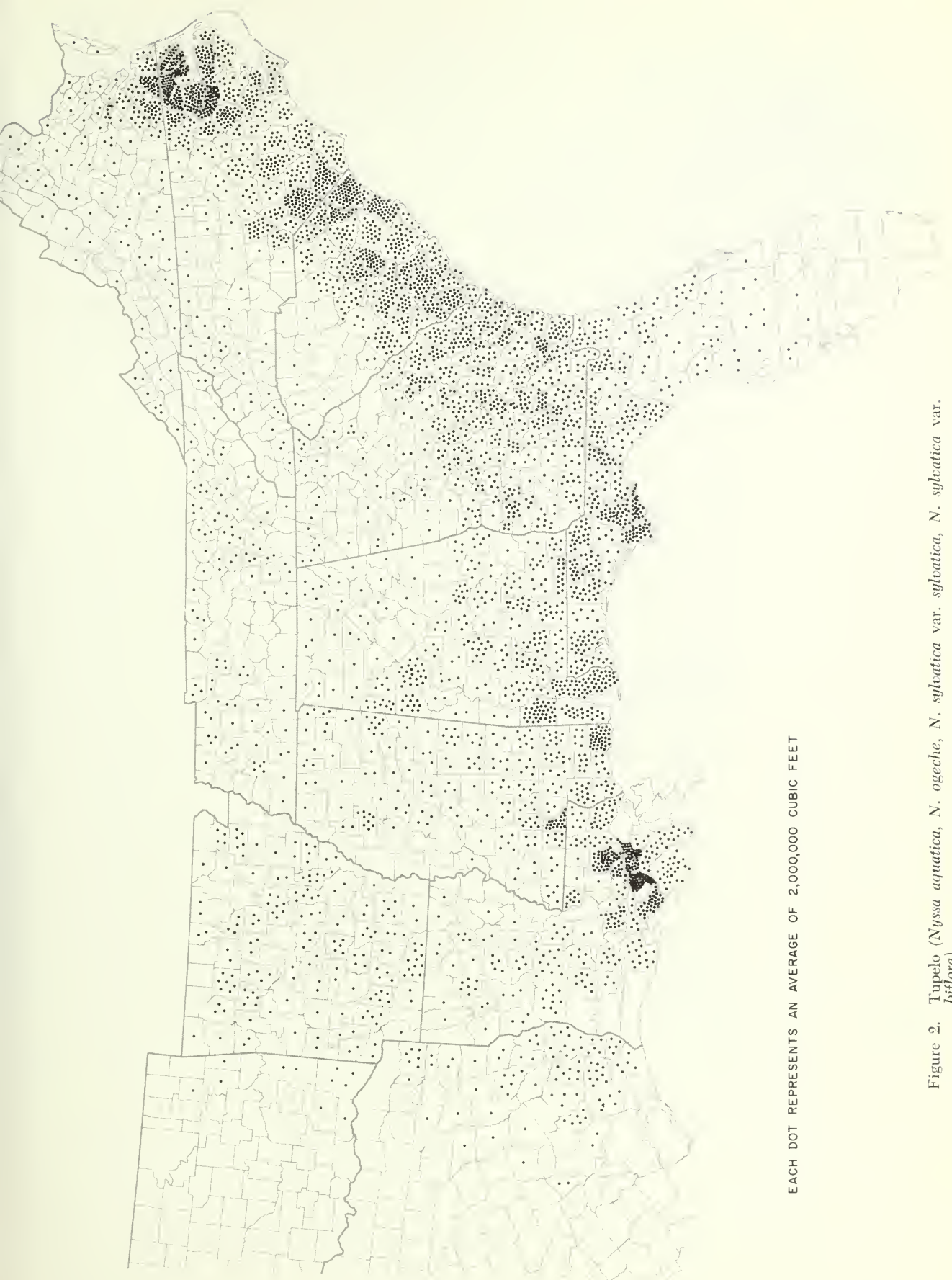
Within each county the dots have been placed so as to generalize local concentrations or absence of timber—conditions that the ground sampling was too light to measure closely. In counties with less than half the amount of timber indicated by a dot, no volume is shown. Conversely, counties overprinted in solid black have too much timber to be represented by individual dots. The 97th meridian in Texas and Oklahoma is often considered the approximate western limit of the commercial southern forest, and the maps end there.

¹ Janssen, P. L., and Weiland, M. R. *Softwood distribution maps for the South*. USDA Forest Serv. South. Forest Exp. Sta. Forest Survey Release, 83, 12 pp. 1960.



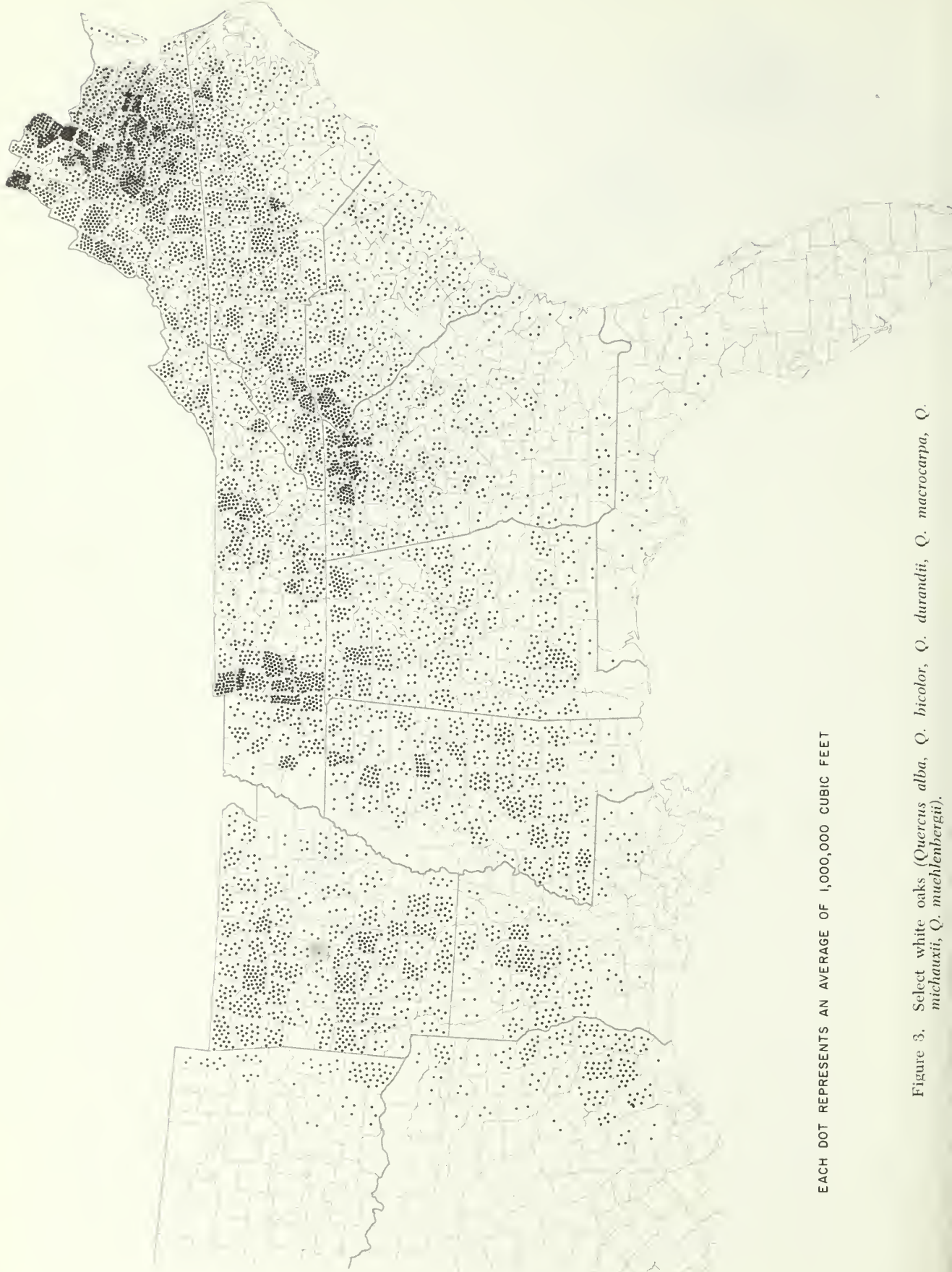
EACH DOT REPRESENTS AN AVERAGE OF 2,000,000 CUBIC FEET

Figure 1. Sweetgum (*Liquidambar styraciflua*).



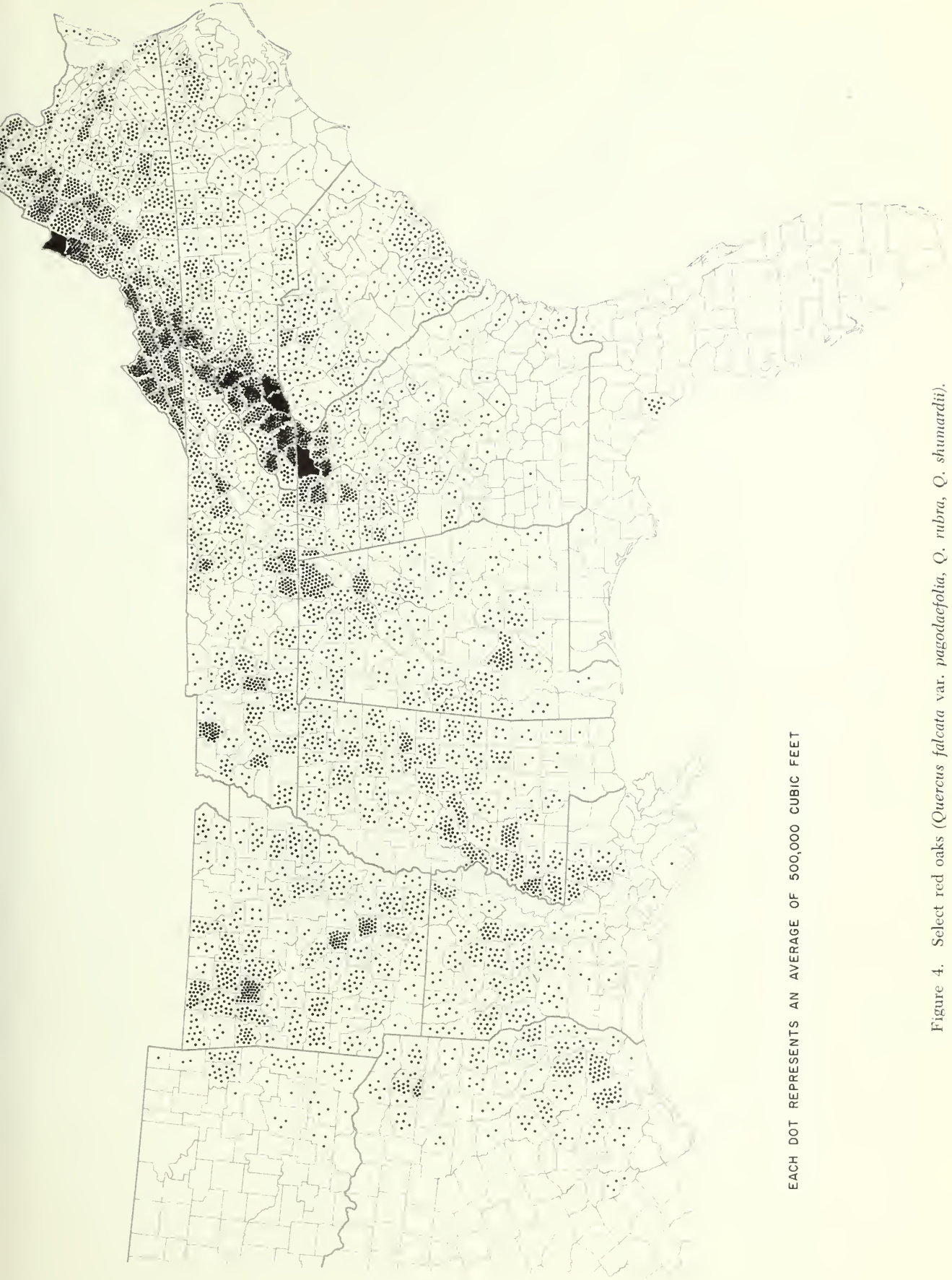
EACH DOT REPRESENTS AN AVERAGE OF 2,000,000 CUBIC FEET

Figure 2. Tupelo (*Nyssa aquatica*, *N. ogeche*, *N. sylvatica* var. *sylvatica*, *N. sylvatica* var. *biflora*).



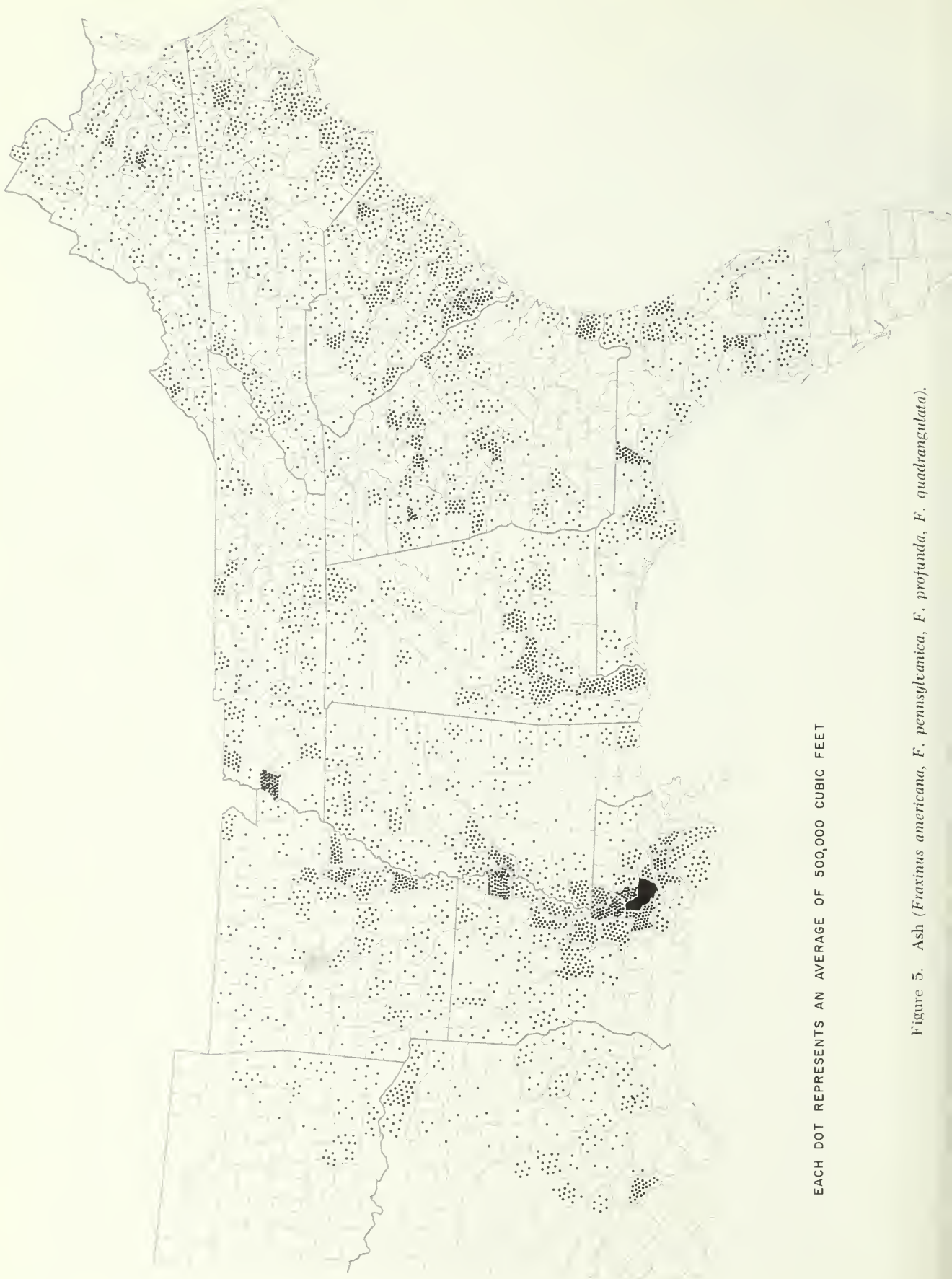
EACH DOT REPRESENTS AN AVERAGE OF 1,000,000 CUBIC FEET

Figure 3. Select white oaks (*Quercus alba*, *Q. bicolor*, *Q. durandii*, *Q. macrocarpa*, *Q. michauxii*, *Q. muehlenbergii*).



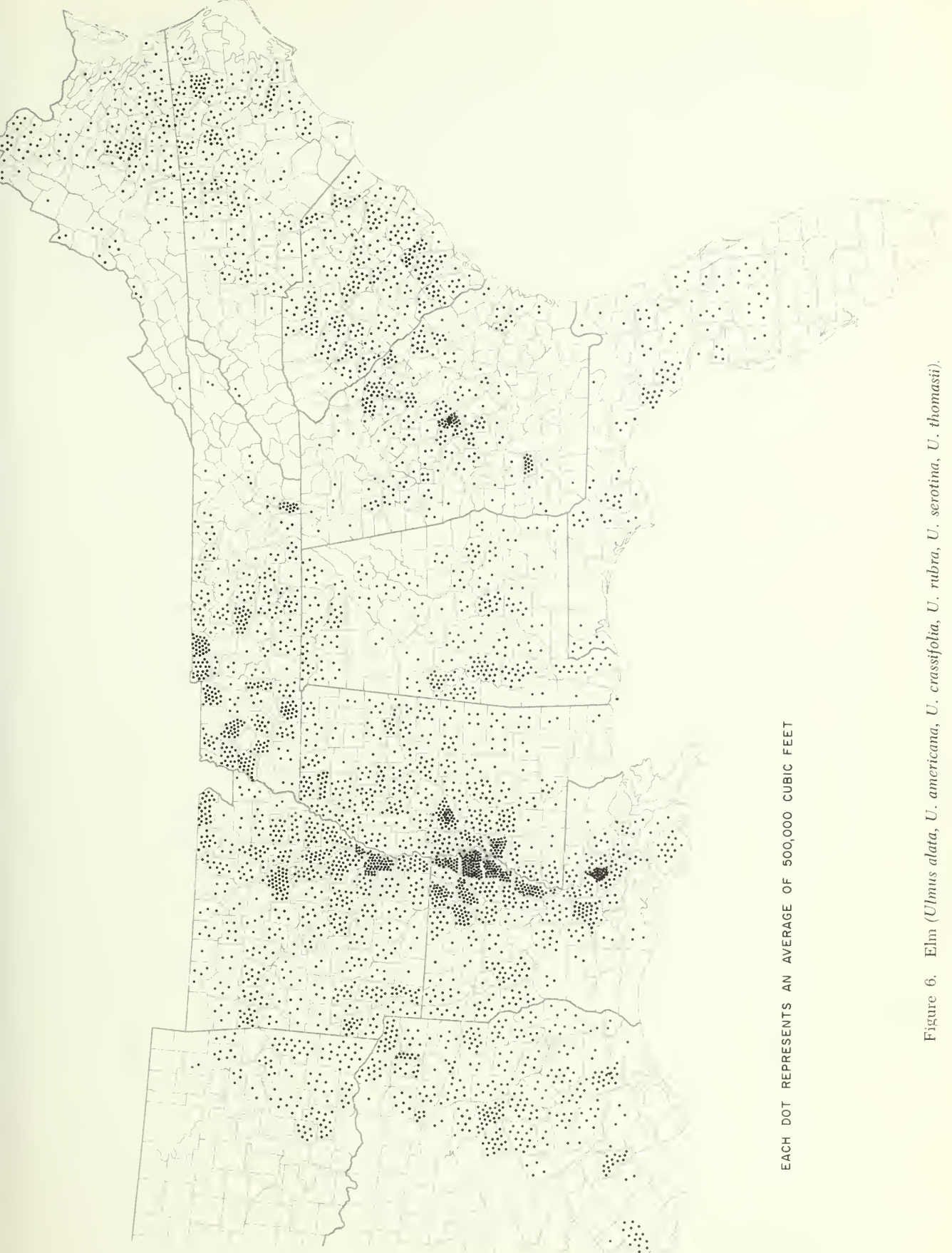
EACH DOT REPRESENTS AN AVERAGE OF 500,000 CUBIC FEET

Figure 4. Select red oaks (*Quercus falcata* var. *pagodaefolia*, *Q. rubra*, *Q. shumardii*).



EACH DOT REPRESENTS AN AVERAGE OF 500,000 CUBIC FEET

Figure 5. Ash (*Fraxinus americana*, *F. pennsylvanica*, *F. profunda*, *F. quadrangulata*).



EACH DOT REPRESENTS AN AVERAGE OF 500,000 CUBIC FEET

Figure 6. Elm (*Ulmus alata*, *U. americana*, *U. crassifolia*, *U. rubra*, *U. serotina*, *U. thomasii*).

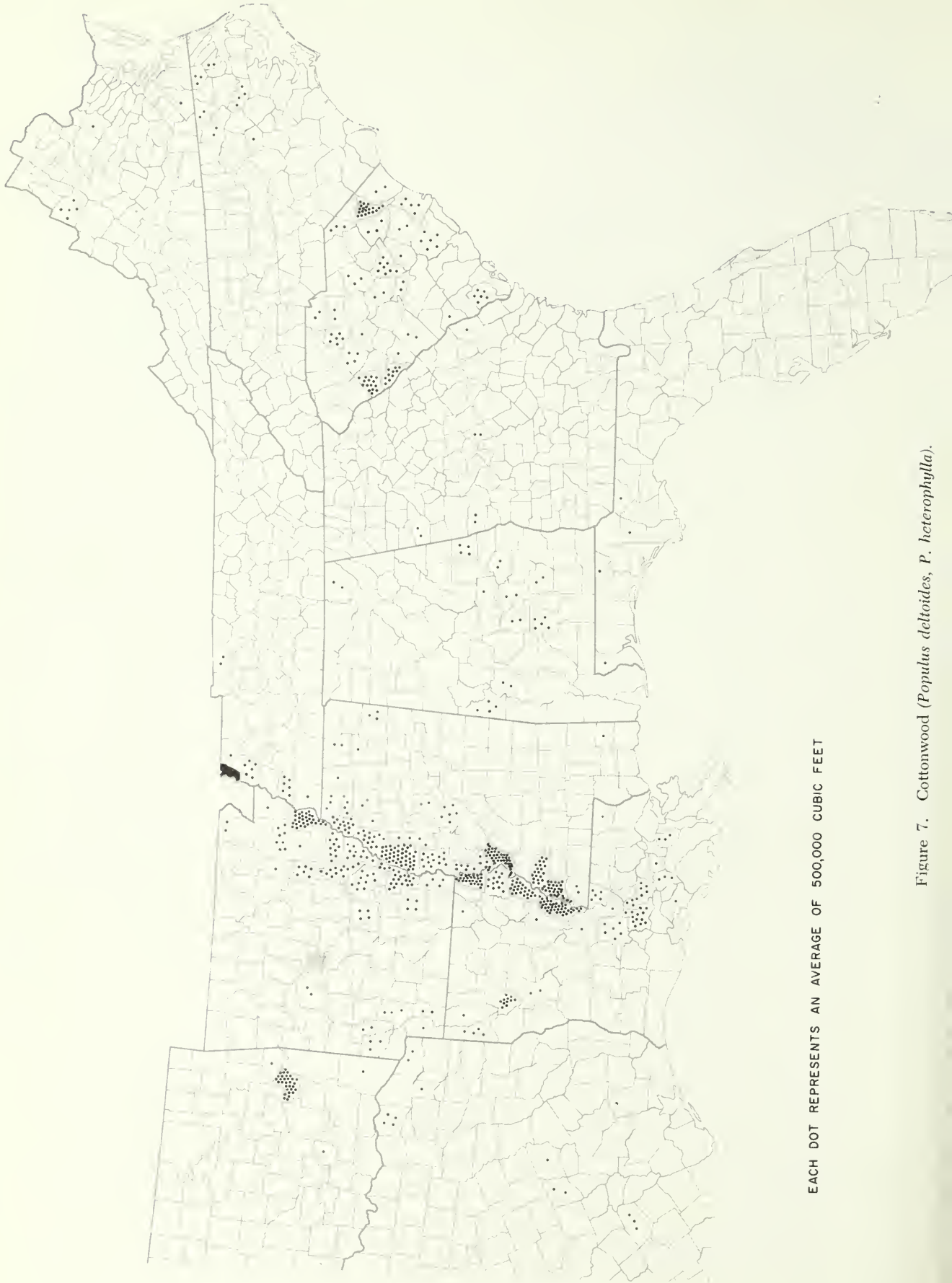
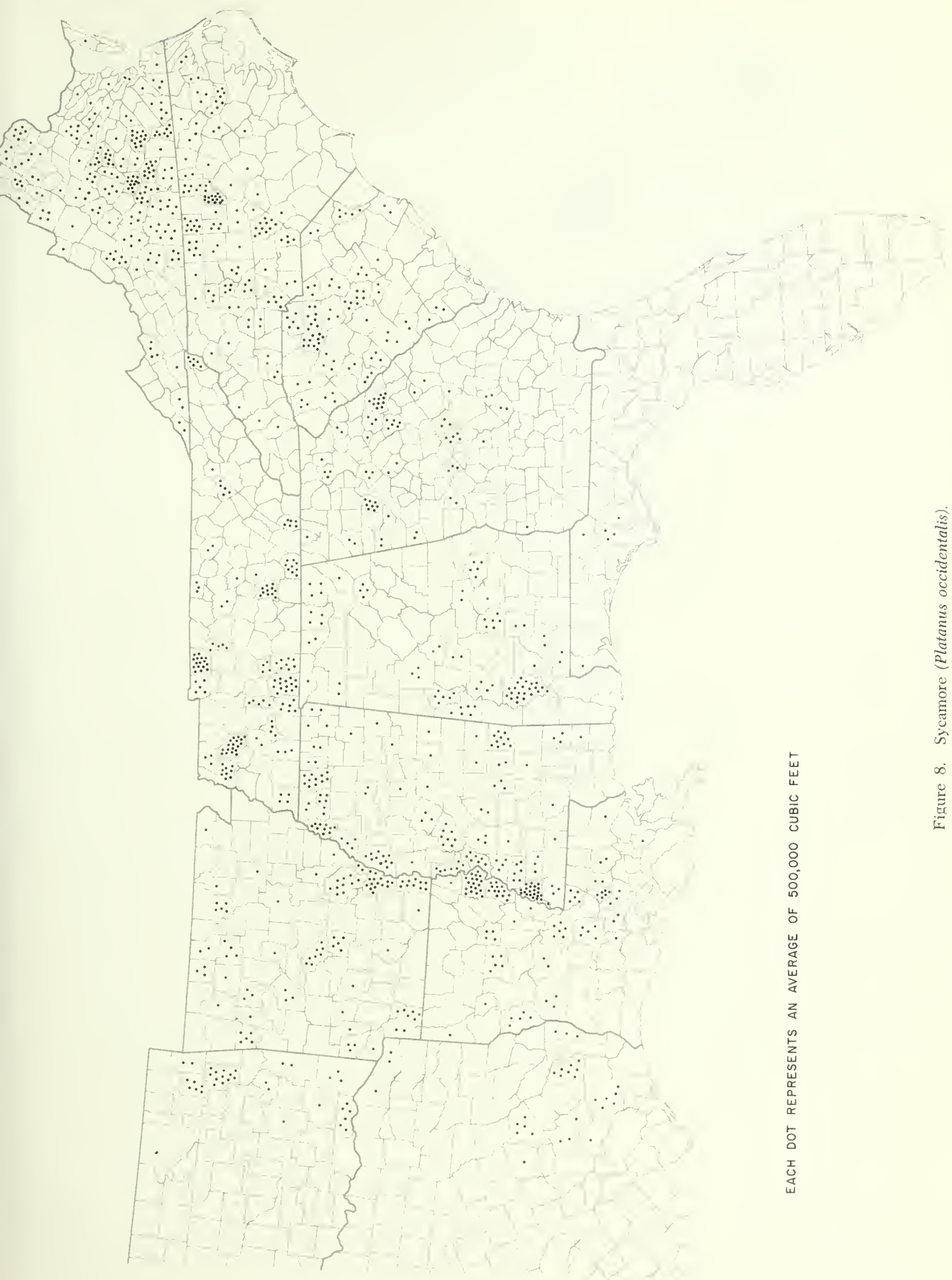


Figure 7. Cottonwood (*Populus deltoides*, *P. heterophylla*).



EACH DOT REPRESENTS AN AVERAGE OF 500,000 CUBIC FEET

Figure 8. Sycamore (*Platanus occidentalis*).

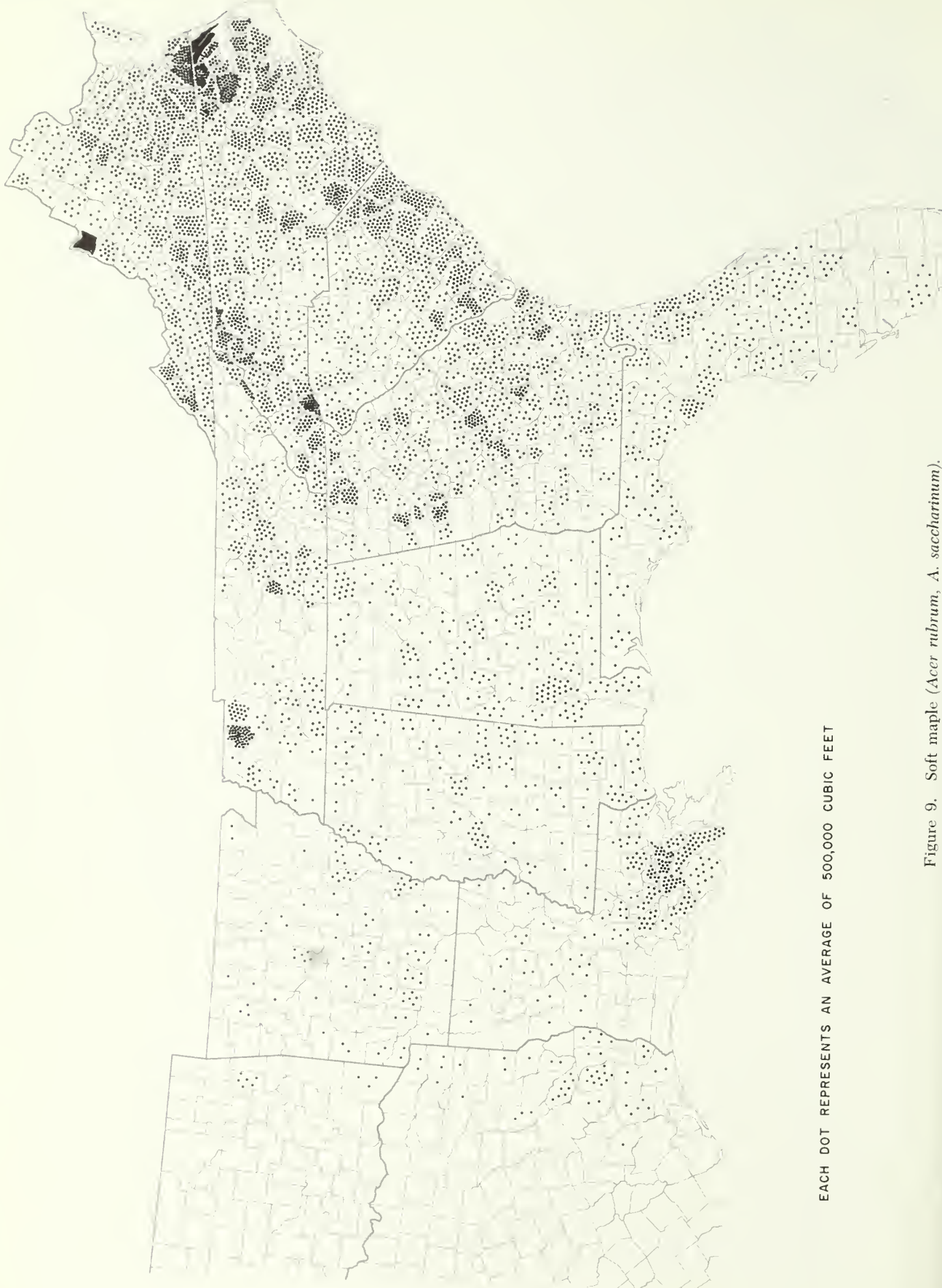
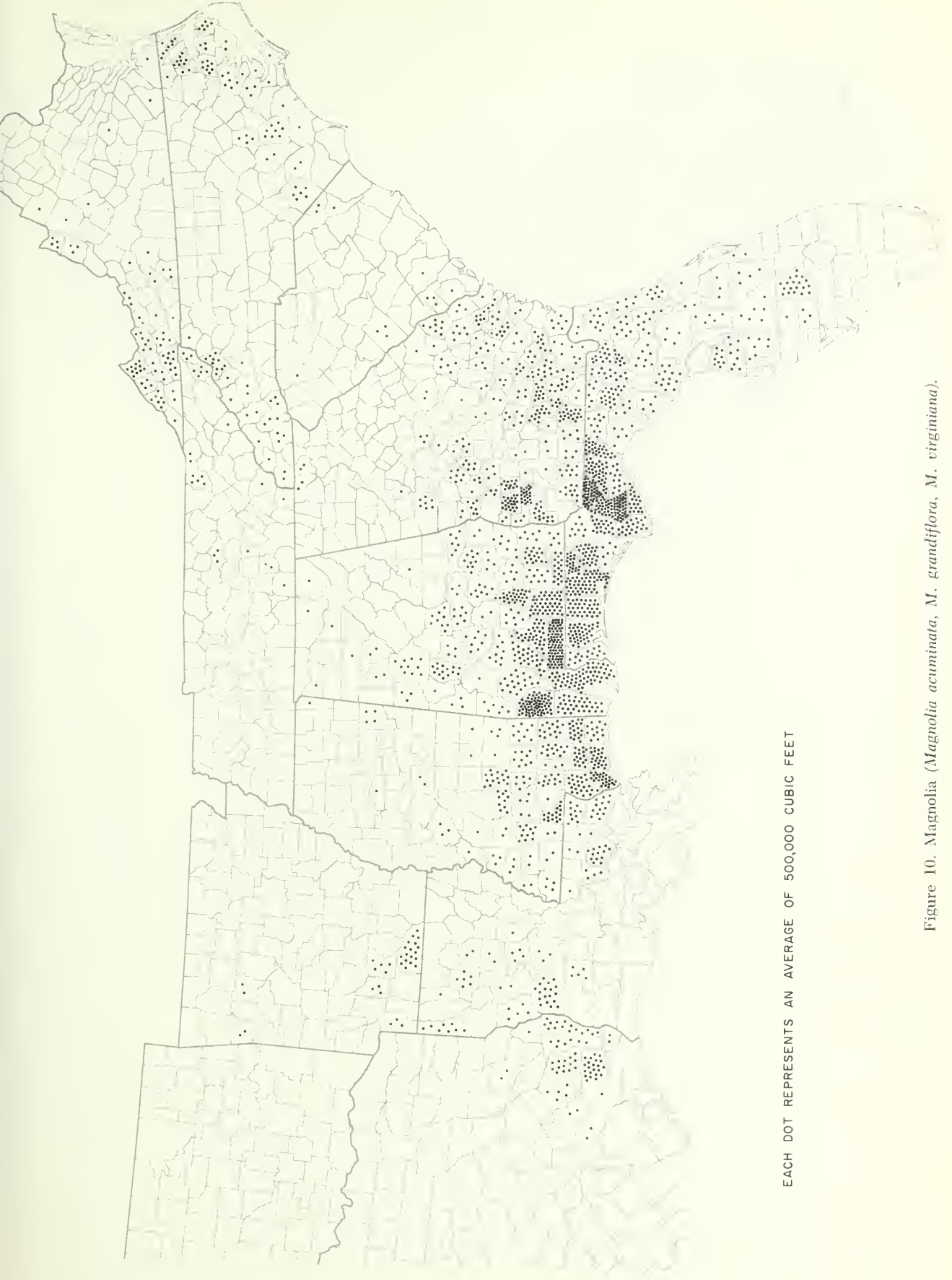
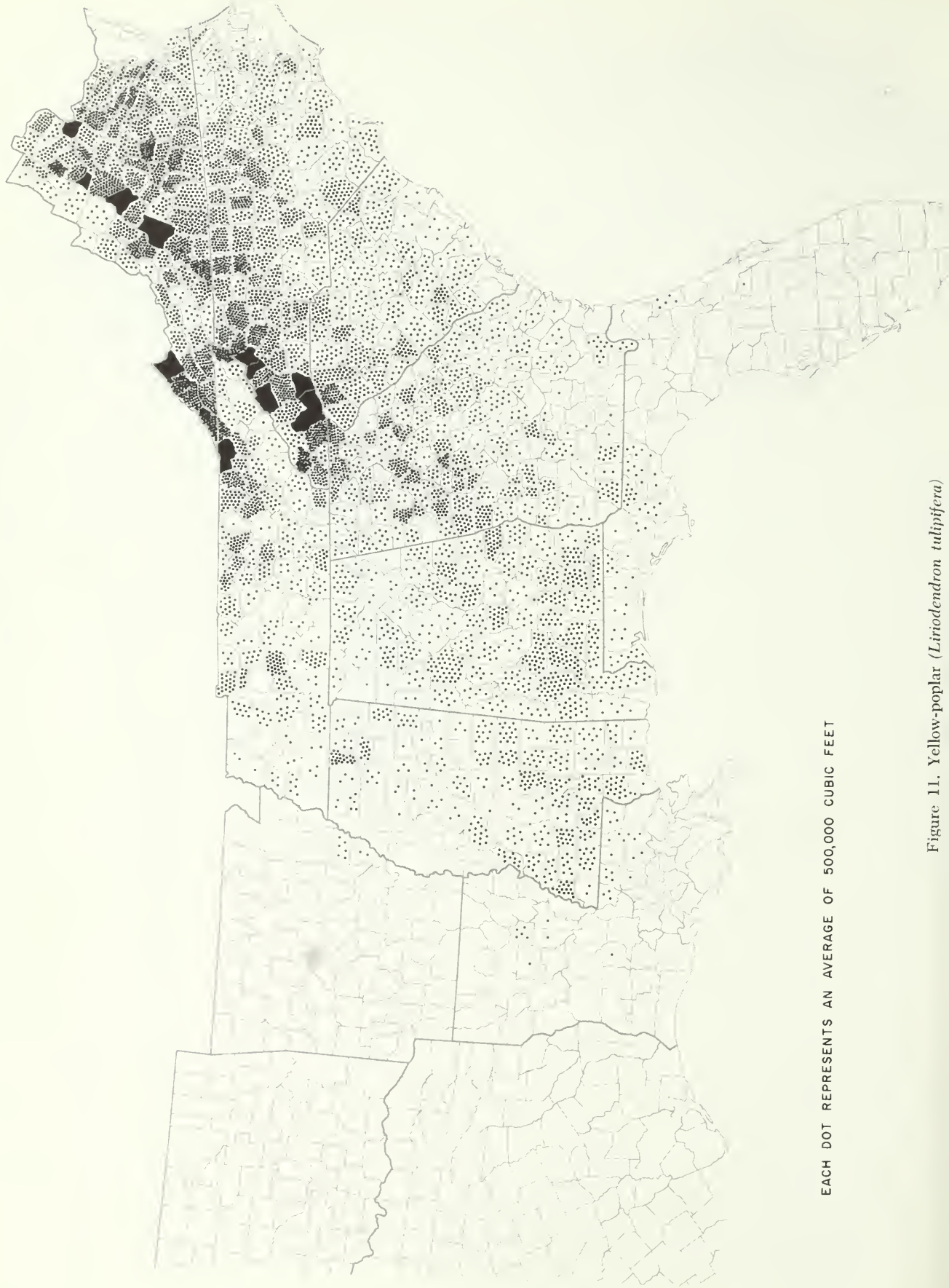


Figure 9. Soft maple (*Acer rubrum*, *A. saccharinum*).



EACH DOT REPRESENTS AN AVERAGE OF 500,000 CUBIC FEET

Figure 10. *Magnolia* (*Magnolia acuminata*, *M. grandiflora*, *M. virginiana*).



EACH DOT REPRESENTS AN AVERAGE OF 500,000 CUBIC FEET

Figure 11. Yellow-poplar (*Liriodendron tulipifera*)

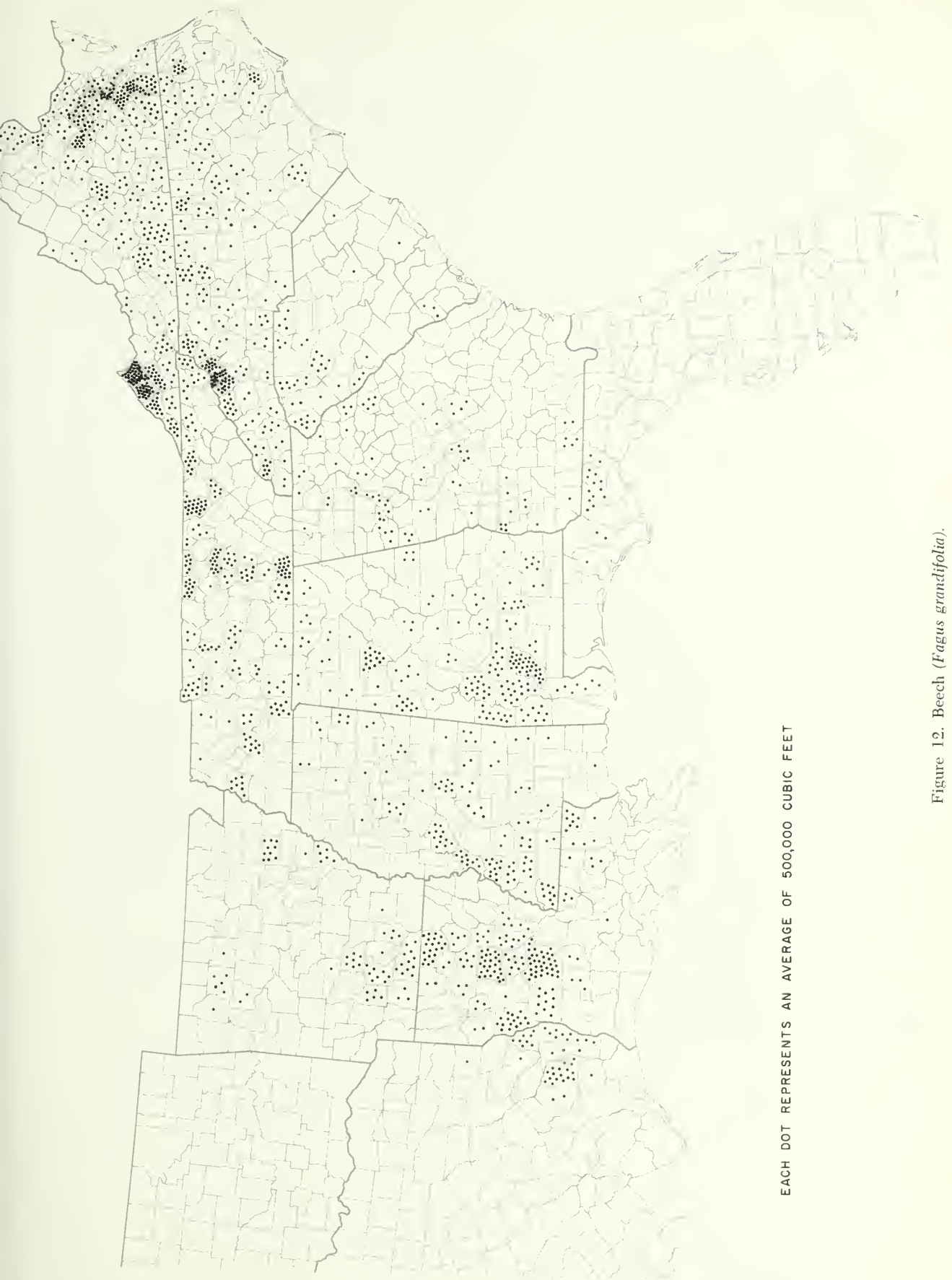


Figure 12. Beech (*Fagus grandifolia*).



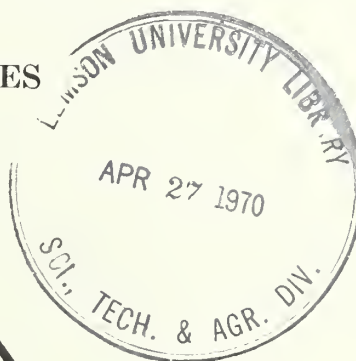
U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE RESOURCE BULLETIN SO-20

FOREST STATISTICS FOR THE DELTA AND OUACHITA REGIONS OF ARKANSAS

ARNOLD HEDLUND

and

J. M. EARLES



SOUTHERN FOREST EXPERIMENT STATION
New Orleans, Louisiana
Forest Service, U.S. Department of Agriculture

1969

Arkansas Forest Survey Regions

SOUTHWEST: Ashley, Bradley, Calhoun, Clark, Cleveland, Columbia, Dallas, Drew, Grant, Hempstead, Hot Spring, Howard, Lafayette, Little River, Miller, Nevada, Ouachita, Pike, Sevier, Union

OUACHITA: Garland, Logan, Montgomery, Perry, Polk, Pulaski, Saline, Scott, Sebastian, Yell

OZARK: Baxter, Benton, Boone, Carroll, Cleburne, Conway, Crawford, Faulkner, Franklin, Fulton, Independence, Izard, Johnson, Madison, Marion, Newton, Pope, Randolph, Searcy, Sharp, Stone, Van Buren, Washington, White

DELTA: Arkansas, Chicot, Clay, Craighead, Crittenden, Cross, Desha, Greene, Jackson, Jefferson, Lawrence, Lee, Lincoln, Lonoke, Mississippi, Monroe, Phillips, Poinsett, Prairie, St. Francis, Woodruff



Forest Statistics for the Delta and Ouachita Regions of Arkansas

Arnold Hedlund and J. M. Earles

This report tabulates information from a new forest survey of the Delta and Ouachita regions of Arkansas, completed in 1969 by the Southern Forest Experiment Station. The tables are intended for use as source data in compiling estimates for groups of counties. Because the Arkansas sampling procedure is intended primarily to furnish inventory data for the State as a whole, estimates for individual counties have limited and variable accuracy.

The data on forest acreage and timber volume were secured by a systematic sampling method involving a forest-nonforest classification on aerial photographs and on-the-ground measurements of trees at sample locations. The sample locations were at the intersections of a grid of lines spaced 3 miles apart. At each forested location, 10 small plots were uniformly distributed on an area of about 1 acre.

The sampling errors to which the county area and volume totals are liable (on a probability of two chances out of three) are shown in table 1.

Table 1. — *Sampling errors¹ for forest land and timber volume by county, 1969*

County	Commercial forest land	Growing stock	Sawtimber volume	County	Commercial forest land	Growing stock	Sawtimber volume
	— — — — Percent — — — —				— — — — Percent — — — —		
Arkansas	1.6	11.9	16.9	Mississippi	0.5	13.0	26.4
Chicot	1.6	17.5	20.3	Monroe	1.8	10.2	12.8
Clay	1.6	25.1	44.3	Montgomery	1.2	7.0	10.9
Craighead	1.5	16.7	25.5	Perry	1.9	7.5	11.8
Crittenden	.6	29.9	41.0	Phillips	1.1	13.0	18.8
Cross	1.2	24.6	28.0	Poinsett	1.2	16.2	25.4
Desha	1.6	14.9	16.9	Polk	1.9	8.6	12.4
Garland	1.5	7.3	9.1	Prairie	2.6	20.4	25.9
Greene	1.5	14.2	27.1	Pulaski	3.0	11.4	16.5
Jackson	1.2	23.6	38.7	St. Francis	1.2	20.3	23.5
Jefferson	1.8	11.7	16.6	Saline	2.1	7.9	9.4
Lawrence	2.6	17.5	34.5	Scott	1.2	6.3	8.7
Lee	1.1	15.6	18.4	Sebastian	2.6	20.4	24.3
Lincoln	2.3	10.4	15.8	Woodruff	2.1	17.7	25.6
Logan	2.5	11.3	16.0	Yell	2.0	6.3	9.3
Lonoke	1.5	15.3	20.5	All counties	.4	2.3	3.3

¹ By random-sampling formula.

When data for two or more counties are grouped the error decreases; the approximate error for the group may readily be computed by standard statistical procedures.¹

Conversely, as data for individual counties are broken down by various subdivisions, the possibility of error increases and is greatest for the smallest items. Sampling errors associated with the estimates of the principal timber species in this report are shown in table 2.

Because of differences in standards of tree measurement, meaningful comparisons cannot be made between the volume estimates in this report and those contained in earlier publications on Arkansas. A Statewide interpretive report will be issued when all counties have been inventoried; it will include an evaluation of timber trends since the previous survey of 1959.

¹Freese, F. *Elementary forest sampling*. USDA Agr. Handbook 232, 91 pp. 1962.

Table 2. — *Sampling errors¹ for growing-stock volume by species, 1969*

Species	Ouachita	Delta
— — Percent — —		
Softwood:		
Southern pines	4.1	21.6
Other softwoods	45.1	21.6
All softwoods	<u>4.1</u>	<u>15.4</u>
Hardwood:		
Select white oaks	7.6	14.4
Select red oaks	11.9	15.2
Other white oaks	7.1	8.7
Other red oaks	9.7	7.9
Hickory	8.2	8.2
Sweetgum	14.0	15.4
Tupelo and blackgum	12.9	40.6
Maple	28.9	23.8
Beech	...	(²)
Ash	21.9	16.3
Other hardwoods	14.5	9.2
All hardwoods	<u>3.6</u>	<u>3.3</u>
All species	2.7	4.1

¹ By random-sampling formula.

² Exceeds 50 percent.

DEFINITIONS OF TERMS

Acceptable trees. — Growing-stock trees of commercial species that meet specified standards of size and quality but do not qualify as desirable trees.

Commercial forest land. — Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization.

Desirable trees. — Growing-stock trees that are of commercial species, have no defects in quality for timber products, are of relatively high vigor, and contain no pathogens that may result in death or serious deterioration before rotation age.

Forest type. — A classification of forest land based upon the species forming a plurality of live-tree stocking.

Growing-stock trees. — Live trees that are of commercial species and qualify as desirable or acceptable trees.

Growing-stock volume. — Net volume in cubic feet of growing-stock trees 5.0 inches d.b.h. and over from a 1-foot stump to a minimum 4.0-inch top diameter outside bark of the central stem, or to the point where the central stem breaks into limbs.

Poletimber trees. — Growing-stock trees of commercial species at least 5.0 inches in diameter at breast height, but smaller than sawtimber size.

Sawtimber trees. — Live trees that are of commercial species, contain at least a 12-foot saw log, and meet regional specifications for freedom from defect. Softwoods must be at least 9.0 inches in diameter at breast height and hardwoods at least 11.0 inches.

Sawtimber volume. — Net volume of the saw-log portion of live sawtimber in board feet, International ¼-inch rule.

Stand-size class. — A classification of forest land based on the size class of growing-stock trees on the area; that is, sawtimber, poletimber, or seedling and saplings.

Table 3.—*Commercial forest land by ownership class and county, Ouachita region, 1969*

County	All ownerships	National forest	Other public	Forest industry	Farmer	Misc. private
----- <i>Thousand acres</i> -----						
Garland	335.5	99.4	17.9	121.4	10.6	86.2
Logan	254.2	86.6	9.1	5.9	59.5	93.1
Montgomery	410.4	290.3	10.9	54.7	10.9	43.6
Perry	273.6	94.3	1.9	65.6	60.2	51.6
Polk	435.0	178.0	1.5	100.2	33.4	121.9
Pulaski	252.0	...	28.1	21.5	43.0	159.4
Saline	372.6	51.5	1.6	171.0	15.5	133.0
Scott	448.2	349.9	(1)	25.9	46.6	25.8
Sebastian	134.4	9.5	37.1	...	43.0	44.8
Yell	403.2	210.8	18.0	48.4	86.0	40.0
All counties	3,319.1	1,370.3	126.1	614.6	408.7	799.4

¹ Negligible.

Table 4.—*Commercial forest land by ownership class and county, Delta region, 1969*

County	All ownerships	National forest	Other public	Forest industry	Farmer	Misc. private
----- <i>Thousand acres</i> -----						
Arkansas	207.2	...	72.1	11.8	57.7	65.6
Chicot	75.6	...	...	31.1	25.9	18.6
Clay	65.0	...	11.0	10.8	12.9	30.3
Craighead	45.5	...	...	...	17.4	28.1
Crittenden	32.0	...	7.8	5.3	12.7	6.2
Cross	49.5	...	...	...	43.9	5.6
Desha	143.0	...	20.2	96.9	25.9	...
Greene	53.3	...	.4	...	40.8	12.1
Jackson	65.0	...	...	...	32.4	32.6
Jefferson	193.5	...	18.6	38.0	50.9	86.0
Lawrence	108.8	...	8.5	...	57.4	42.9
Lee	87.4	9.4	...	4.9	42.6	30.5
Lincoln	142.8	...	.3	10.8	31.5	100.2
Lonoke	91.8	...	(1)	...	61.1	30.7
Mississippi	34.8	...	14.4	10.2	10.2	...
Monroe	150.4	...	22.1	48.6	75.2	4.5
Phillips	81.6	8.8	8.8	10.8	26.2	27.0
Poinsett	65.0	...	3.9	...	34.8	26.3
Prairie	140.4	...	13.7	16.5	56.2	54.0
St. Francis	65.0	...	9.6	4.2	29.9	21.3
Woodruff	77.4	...	(1)	...	42.8	34.6
All counties	1,975.0	18.2	211.4	299.9	788.4	657.1

¹ Negligible.

Table 5. — Commercial forest land by forest type and county, Ouachita region, 1969

County	All types	Loblolly-shortleaf pine	Oak-pine	Oak-hickory	Oak-gum-cypress	Elm-ash-cottonwood
----- <i>Thousand acres</i> -----						
Garland	335.5	115.5	115.5	104.5	...	...
Logan	254.2	80.6	49.6	111.6	12.4	...
Montgomery	410.4	165.3	114.0	131.1	...	...
Perry	273.6	102.6	119.7	45.6	5.7	...
Polk	435.0	104.4	168.2	162.4	...	...
Pulaski	252.0	22.4	50.4	117.6	56.0	5.6
Saline	372.6	81.0	91.8	167.4	27.0	5.4
Scott	448.2	226.8	75.6	140.4	5.4	...
Sebastian	134.4	6.4	6.4	96.0	19.2	6.4
Yell	403.2	145.6	100.8	95.2	61.6	...
All counties	3,319.1	1,050.6	892.0	1,171.8	187.3	17.4

Table 6. — Commercial forest land by forest type and county, Delta region, 1969

County	All types	Loblolly-shortleaf pine	Oak-pine	Oak-hickory	Oak-gum-cypress	Elm-ash-cottonwood
----- <i>Thousand acres</i> -----						
Arkansas	207.2	...	...	44.8	145.6	16.8
Chicot	75.6	...	...	4.2	50.4	21.0
Clay	65.0	...	...	19.5	45.5	...
Craighead	45.5	...	...	14.0	24.5	7.0
Crittenden	32.0	...	...	...	19.2	12.8
Cross	49.5	...	...	22.0	27.5	...
Desha	143.0	...	...	...	117.0	26.0
Greene	53.3	...	4.1	36.9	8.2	4.1
Jackson	65.0	...	...	39.0	26.0	...
Jefferson	193.5	31.5	31.5	49.5	72.0	9.0
Lawrence	108.8	...	...	64.0	44.8	...
Lee	87.4	...	...	9.2	55.2	23.0
Lincoln	142.8	20.4	15.3	61.2	35.7	10.2
Lonoke	91.8	...	...	32.4	59.4	...
Mississippi	34.8	...	...	...	17.4	17.4
Monroe	150.4	...	4.7	18.8	126.9	...
Phillips	81.6	...	...	15.3	61.2	5.1
Poinsett	65.0	...	...	20.0	20.0	25.0
Prairie	140.4	...	...	46.8	93.6	...
St. Francis	65.0	...	...	...	60.0	5.0
Woodruff	77.4	...	...	...	73.1	4.3
All counties	1,975.0	51.9	55.6	497.6	1,183.2	186.7

Table 7. — *Commercial forest land by stand-size class and county, Ouachita region, 1969*

County	All classes	Sawtimber	Poletimber	Sapling and seedling	Nonstocked areas
----- <i>Thousand acres</i> -----					
Garland	335.5	126.5	93.5	115.5	...
Logan	254.2	55.8	68.2	130.2	...
Montgomery	410.4	148.2	159.6	102.6	...
Perry	273.6	96.9	74.1	102.6	...
Polk	435.0	145.0	127.6	162.4	...
Pulaski	252.0	44.8	72.8	128.8	5.6
Saline	372.6	108.0	113.4	151.2	...
Scott	448.2	151.2	167.4	129.6	...
Sebastian	134.4	...	12.8	121.6	...
Yell	403.2	117.6	168.0	117.6	...
All counties	3,319.1	994.0	1,057.4	1,262.1	5.6

Table 8. — *Commercial forest land by stand-size class and county, Delta region, 1969*

County	All classes	Sawtimber	Poletimber	Sapling and seedling	Nonstocked areas
----- <i>Thousand acres</i> -----					
Arkansas	207.2	134.4	39.2	33.6	...
Chicot	75.6	37.8	21.0	8.4	8.4
Clay	65.0	19.5	19.5	26.0	...
Craighead	45.5	17.5	7.0	21.0	...
Crittenden	32.0	25.6	...	6.4	...
Cross	49.5	22.0	5.5	22.0	...
Desha	143.0	97.5	13.0	32.5	...
Greene	53.3	28.7	8.2	16.4	...
Jackson	65.0	6.5	19.5	39.0	...
Jefferson	193.5	81.0	49.5	63.0	...
Lawrence	108.8	12.8	44.8	51.2	...
Lee	87.4	59.8	23.0	4.6	...
Lincoln	142.8	51.0	45.9	45.9	...
Lonoke	91.8	37.8	16.2	37.8	...
Mississippi	34.8	17.4	11.6	5.8	...
Monroe	150.4	89.3	32.9	28.2	...
Phillips	81.6	35.7	25.5	20.4	...
Poinsett	65.0	30.0	25.0	10.0	...
Prairie	140.4	70.2	31.2	39.0	...
St. Francis	65.0	30.0	15.0	20.0	...
Woodruff	77.4	34.4	17.2	25.8	...
All counties	1,975.0	938.9	470.7	557.0	8.4

Table 9.—*Cordage of growing stock on commercial forest land by species group and county, Ouachita region, 1969*

County	All species	Softwood			Hardwood			
		Total	Pine	Other	Total	Oak	Gum	Other
<i>Thousand cords</i>								
Garland	4,846	3,155	3,155	...	1,691	1,164	259	268
Logan	2,239	1,311	1,296	15	928	625	96	207
Montgomery	6,463	4,608	4,608	...	1,855	1,337	160	358
Perry	3,560	2,681	2,681	...	879	587	176	116
Polk	4,655	3,080	3,068	12	1,575	1,042	233	300
Pulaski	2,278	979	839	140	1,299	767	275	257
Saline	4,828	2,371	2,370	1	2,457	1,327	573	557
Scott	5,744	4,153	4,134	19	1,591	1,081	213	297
Sebastian	409	119	112	7	290	214	...	76
Yell	5,206	3,190	3,160	30	2,016	1,016	491	509
All counties	40,228	25,647	25,423	224	14,581	9,160	2,476	2,945

Table 10.—*Cordage of growing stock on commercial forest land by species group and county, Delta region, 1969*

County	All species	Softwood			Hardwood			
		Total	Pine	Other	Total	Oak	Gum	Other
<i>Thousand cords</i>								
Arkansas	3,732	265	...	265	3,467	1,204	339	1,924
Chicot	1,087	...	...	...	1,087	349	75	663
Clay	927	...	...	...	927	439	60	428
Craighead	352	51	...	51	301	131	33	137
Crittenden	627	...	...	...	627	...	3	624
Cross	461	4	4	...	457	234	31	192
Desha	2,627	211	...	211	2,416	233	200	1,983
Greene	596	57	48	9	539	297	87	155
Jackson	391	...	...	...	391	251	15	125
Jefferson	2,341	704	596	108	1,637	886	154	597
Lawrence	667	7	...	7	660	494	73	93
Lee	2,133	29	...	29	2,104	543	153	1,408
Lincoln	1,752	382	320	62	1,370	799	170	401
Lonoke	1,104	25	...	25	1,079	633	210	236
Mississippi	572	65	...	65	507	19	...	488
Monroe	2,710	259	48	211	2,451	966	270	1,215
Phillips	1,425	4	...	4	1,421	630	139	652
Poinsett	776	19	...	19	757	387	19	351
Prairie	2,462	77	...	77	2,385	984	513	888
St. Francis	820	41	...	41	779	404	136	239
Woodruff	1,165	69	...	69	1,096	421	136	539
All counties	28,727	2,269	1,016	1,253	26,458	10,304	2,816	13,338

Table 11.— *Growing-stock volume on commercial forest land by species group and county, Ouachita region, 1969*

County	All species	Softwood			Hardwood			
		Total	Pine	Other	Total	Oak	Gum	Other
<i>Million cubic feet</i>								
Garland	349.9	236.6	236.6	...	113.3	78.0	17.4	17.9
Logan	160.5	98.3	97.2	1.1	62.2	41.9	6.4	13.9
Montgomery	469.9	345.6	345.6	...	124.3	89.6	10.7	24.0
Perry	260.0	201.1	201.1	...	58.9	39.3	11.8	7.8
Polk	336.5	231.0	230.1	.9	105.5	69.8	15.6	20.1
Pulaski	160.4	73.4	62.9	10.5	87.0	51.4	18.4	17.2
Saline	342.4	177.8	177.7	.1	164.6	88.9	38.4	37.3
Scott	418.1	311.5	310.1	1.4	106.6	72.4	14.3	19.9
Sebastian	28.3	8.9	8.4	.5	19.4	14.3	...	5.1
Yell	374.4	239.3	237.0	2.3	135.1	68.1	32.9	34.1
All counties	2,900.4	1,923.5	1,906.7	16.8	976.9	613.7	165.9	197.3

Table 12.— *Growing-stock volume on commercial forest land by species group and county, Delta region, 1969*

County	All species	Softwood			Hardwood			
		Total	Pine	Other	Total	Oak	Gum	Other
<i>Million cubic feet</i>								
Arkansas	252.2	19.9	...	19.9	232.3	80.7	22.7	128.9
Chicot	72.8	...	...	...	72.8	23.4	5.0	44.4
Clay	62.1	...	...	...	62.1	29.4	4.0	28.7
Craighead	24.0	3.8	...	3.8	20.2	8.8	2.2	9.2
Crittenden	42.0	...	...	...	42.0	...	.2	41.8
Cross	30.9	.3	0.3	...	30.6	15.7	2.1	12.8
Desha	177.7	15.8	...	15.8	161.9	15.6	13.4	132.9
Greene	40.4	4.3	3.6	.7	36.1	19.9	5.8	10.4
Jackson	26.2	...	...	...	26.2	16.8	1.0	8.4
Jefferson	162.5	52.8	44.7	8.1	109.7	59.4	10.3	40.0
Lawrence	44.7	.5	...	.5	44.2	33.1	4.9	6.2
Lee	143.2	2.2	...	2.2	141.0	36.4	10.3	94.3
Lincoln	120.4	28.6	24.0	4.6	91.8	53.5	11.4	26.9
Lonoke	74.2	1.9	...	1.9	72.3	42.4	14.1	15.8
Mississippi	38.9	4.9	...	4.9	34.0	1.3	...	32.7
Monroe	183.6	19.4	3.6	15.8	164.2	64.7	18.1	81.4
Phillips	95.5	.3	...	.3	95.2	42.2	9.3	43.7
Poinsett	52.1	1.4	...	1.4	50.7	25.9	1.3	23.5
Prairie	165.6	5.8	...	5.8	159.8	65.9	34.4	59.5
St. Francis	55.3	3.1	...	3.1	52.2	27.1	9.1	16.0
Woodruff	78.6	5.2	...	5.2	73.4	28.2	9.1	36.1
All counties	1,942.9	170.2	76.2	94.0	1,772.7	690.4	188.7	893.6

Table 13. — *Sawtimber volume on commercial forest land by species group and county, Ouachita region, 1969*

County	All species	Softwood			Hardwood			
		Total	Pine	Other	Total	Oak	Gum	Other
<i>Million board feet</i>								
Garland	1,073.3	864.9	864.9	...	208.4	144.9	44.9	18.6
Logan	458.5	330.4	330.1	0.3	128.1	94.5	12.1	21.5
Montgomery	1,429.2	1,204.6	1,204.6	...	224.6	185.1	10.7	28.8
Perry	817.5	724.3	724.3	...	93.2	46.8	38.5	7.9
Polk	1,014.8	830.4	830.0	.4	184.4	119.7	34.9	29.8
Pulaski	366.0	218.5	189.8	28.7	147.5	83.8	35.1	28.6
Saline	904.9	566.0	566.0	...	338.9	198.7	78.4	61.8
Scott	1,142.4	970.3	968.6	1.7	172.1	123.1	32.5	16.5
Sebastian	54.9	21.6	19.9	1.7	33.3	26.7	...	6.6
Yell	1,081.9	802.1	799.1	3.0	279.8	149.0	89.3	41.5
All counties	8,343.4	6,533.1	6,497.3	35.8	1,810.3	1,172.3	376.4	261.6

Table 14. — *Sawtimber volume on commercial forest land by species group and county, Delta region, 1969*

County	All species	Softwood			Hardwood			
		Total	Pine	Other	Total	Oak	Gum	Other
<i>Million board feet</i>								
Arkansas	929.0	113.0	...	113.0	816.0	280.6	101.0	434.4
Chicot	280.8	...	...	...	280.8	92.9	19.5	168.4
Clay	160.1	...	...	...	160.1	79.6	9.1	71.4
Craighead	67.5	17.5	...	17.5	50.0	16.3	5.7	28.0
Crittenden	135.4	...	...	...	135.4	...	...	135.4
Cross	91.7	...	...	...	91.7	48.9	3.0	39.8
Desha	706.6	94.3	...	94.3	612.3	58.2	67.5	486.6
Greene	111.9	17.5	14.9	2.6	94.4	56.2	19.5	18.7
Jackson	69.6	...	...	...	69.6	37.6	3.2	28.8
Jefferson	473.4	208.4	170.5	37.9	265.0	133.6	27.9	103.5
Lawrence	96.2	...	...	...	96.2	82.8	8.4	5.0
Lee	523.0	11.6	...	11.6	511.4	140.5	34.7	336.2
Lincoln	354.8	90.5	72.0	18.5	264.3	170.2	29.9	64.2
Lonoke	212.0	11.6	...	11.6	200.4	129.6	32.1	38.7
Mississippi	99.5	27.4	...	27.4	72.1	4.9	...	67.2
Monroe	623.2	103.6	14.5	89.1	519.6	226.0	40.1	253.5
Phillips	251.9	2.0	...	2.0	249.9	111.4	20.4	118.1
Poinsett	153.5	7.5	...	7.5	146.0	78.9	...	67.1
Prairie	583.3	29.6	...	29.6	553.7	213.7	143.7	196.3
St. Francis	174.0	18.2	...	18.2	155.8	90.2	30.1	35.5
Woodruff	230.0	22.1	...	22.1	207.9	93.7	25.1	89.1
All counties	6,327.4	774.8	271.9	502.9	5,552.6	2,145.8	620.9	2,785.9

Table 15. — *Sawtimber volume on commercial forest land by species group, diameter class, and county, Ouachita region, 1969*

County	All species	Softwood			Hardwood		
		Total	9.0-14.9 inches	15.0 inches and up	Total	11.0-14.9 inches	15.0 inches and up
----- Million board feet -----							
Garland	1,073.3	864.9	630.6	234.3	208.4	128.9	79.5
Logan	458.5	330.4	244.6	85.8	128.1	63.5	64.6
Montgomery	1,429.2	1,204.6	902.5	302.1	224.6	129.7	94.9
Perry	817.5	724.3	523.3	201.0	93.2	60.7	32.5
Polk	1,014.8	830.4	683.8	146.6	184.4	113.4	71.0
Pulaski	366.0	218.5	178.9	39.6	147.5	73.7	73.8
Saline	904.9	566.0	423.3	142.7	338.9	204.4	134.5
Scott	1,142.4	970.3	790.8	179.5	172.1	113.4	58.7
Sebastian	54.9	21.6	19.3	2.3	33.3	18.3	15.0
Yell	1,081.9	802.1	617.1	185.0	279.8	155.8	124.0
All counties	8,343.4	6,533.1	5,014.2	1,518.9	1,810.3	1,061.8	748.5

Table 16. — *Sawtimber volume on commercial forest land by species group, diameter class, and county, Delta region, 1969*

County	All species	Softwood			Hardwood		
		Total	9.0-14.9 inches	15.0 inches and up	Total	11.0-14.9 inches	15.0 inches and up
----- Million board feet -----							
Arkansas	929.0	113.0	...	113.0	816.0	235.9	580.1
Chicot	280.8	...	...	...	280.8	45.5	235.3
Clay	160.1	...	...	...	160.1	41.2	118.9
Craighead	67.5	17.5	6.4	11.1	50.0	14.0	36.0
Crittenden	135.4	...	...	...	135.4	28.1	107.3
Cross	91.7	...	...	...	91.7	34.8	56.9
Desha	706.6	94.3	.4	93.9	612.3	124.8	487.5
Greene	111.9	17.5	11.8	5.7	94.4	38.4	56.0
Jackson	69.6	...	...	...	69.6	31.5	38.1
Jefferson	473.4	208.4	90.1	118.3	265.0	125.1	139.9
Lawrence	96.2	...	...	...	96.2	41.4	54.8
Lee	523.0	11.6	...	11.6	511.4	158.5	352.9
Lincoln	354.8	90.5	48.7	41.8	264.3	100.8	163.5
Lonoke	212.0	11.6	...	11.6	200.4	100.5	99.9
Mississippi	99.5	27.4	...	27.4	72.1	22.9	49.2
Monroe	623.2	103.6	9.5	94.1	519.6	147.0	372.6
Phillips	251.9	2.0	...	2.0	249.9	61.5	188.4
Poinsett	153.5	7.5	2.5	5.0	146.0	58.3	87.7
Prairie	583.3	29.6	1.1	28.5	553.7	207.4	346.3
St. Francis	174.0	18.2	.3	17.9	155.8	54.6	101.2
Woodruff	230.0	22.1	5.9	16.2	207.9	62.4	145.5
All counties	6,327.4	774.8	176.7	598.1	5,552.6	1,734.6	3,818.0

Table 17. — *Growing-stock volume on commercial forest land by species and diameter classes, Ouachita region, 1969*

Species	Diameter class (inches at breast height)										
	All classes	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0 and larger
----- Million cubic feet -----											
Softwood:											
Southern pines	1,906.7	213.6	346.5	467.8	377.7	240.8	144.7	70.8	28.4	16.4	...
Other softwoods	16.8	2.9	4.2	4.0	1.8	.8	.3	.2	.7	1.9	...
Total	1,923.5	216.5	350.7	471.8	379.5	241.6	145.0	71.0	29.1	18.3	...
Hardwood:											
Select white oaks ¹	217.9	54.3	43.7	33.2	31.0	21.6	15.2	11.1	4.8	3.0	...
Select red oaks ²	67.7	8.3	12.8	13.0	10.1	9.6	7.0	3.6	.8	2.0	0.5
Other white oaks ¹	193.7	41.1	38.3	30.4	26.5	26.3	14.7	6.2	7.7	2.5	...
Other red oaks	134.4	21.3	20.4	20.7	20.3	17.1	14.5	10.2	4.8	4.6	.5
Hickory	110.1	26.8	28.9	20.0	13.1	10.5	5.7	2.2	2.3	.6	...
Sweetgum	122.8	13.5	18.8	25.9	31.8	19.2	6.0	4.6	1.0	2.0	...
Tupelo and blackgum	43.1	5.1	5.2	4.4	8.7	6.4	7.9	2.0	3.0	.4	...
Maple	5.7	2.4	.7	1.0	.5	.8	...	.3	...	...	...
Beech	...	...	...	...	...	...	...	...	...	...	...
Ash	16.0	3.1	3.9	3.5	3.1	.9	1.0	.5	...	...	...
Other hardwoods	65.5	17.2	13.9	15.0	6.9	4.2	2.5	2.1	1.1	2.6	...
Total	976.9	193.1	186.6	167.1	152.0	116.6	74.5	42.8	25.5	17.7	1.0
All species	2,900.4	409.6	537.3	638.9	531.5	358.2	219.5	113.8	54.6	36.0	1.0

¹ Includes white, swamp chestnut, chinkapin, Durand, swamp white, and bur oaks.² Includes northern red, cherrybark, and Shumard oaks.Table 18. — *Growing-stock volume on commercial forest land by species and diameter classes, Delta region, 1969*

Species	Diameter class (inches at breast height)										
	All classes	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0 and larger
----- Million cubic feet -----											
Softwood:											
Southern pines	76.2	11.7	9.6	14.2	9.7	8.6	6.4	5.9	5.1	5.0	...
Other softwoods	94.0	1.3	2.4	2.9	2.5	4.4	3.5	4.8	5.5	16.3	50.4
Total	170.2	13.0	12.0	17.1	12.2	13.0	9.9	10.7	10.6	21.3	50.4
Hardwood:											
Select white oaks ¹	84.8	4.7	12.0	14.3	14.1	12.1	9.5	5.5	3.9	7.1	1.6
Select red oaks ²	68.6	2.9	3.9	5.1	13.8	8.7	8.9	7.9	5.3	10.7	1.4
Other white oaks	232.2	15.4	20.9	25.9	30.0	28.7	25.7	24.8	21.1	33.1	6.6
Other red oaks	304.8	24.7	29.0	37.7	38.2	38.2	31.8	26.5	19.7	42.8	16.2
Hickory	214.5	17.6	20.0	29.5	22.6	24.4	24.8	16.3	12.1	39.5	7.7
Sweetgum	139.0	11.7	15.3	17.0	19.3	18.2	14.3	10.2	4.6	18.1	10.3
Tupelo and blackgum	49.7	1.9	2.4	2.8	2.7	3.4	3.8	5.1	6.4	17.2	4.0
Maple	19.2	1.2	2.1	1.1	3.5	1.0	2.6	2.4	1.5	3.4	.4
Beech	8.1	...	.2	.3	.4	.4	1.7	.4	1.4	3.3	...
Ash	95.5	10.1	11.5	13.0	9.0	11.2	7.7	9.5	8.0	13.7	1.8
Other hardwoods	556.3	48.0	51.6	60.7	64.3	84.4	78.5	53.3	44.2	62.9	8.4
Total	1,772.7	138.2	168.9	207.4	217.9	230.7	209.3	161.9	128.2	251.8	58.4
All species	1,942.9	151.2	180.9	224.5	230.1	243.7	219.2	172.6	138.8	273.1	108.8

¹ Includes white, swamp chestnut, chinkapin, Durand, swamp white, and bur oaks.² Includes northern red, cherrybark, and Shumard oaks.

Table 19.—*Sawtimber volume on commercial forest land by species and diameter classes, Ouachita region, 1969*

Species	Diameter class (inches at breast height)								
	All classes	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0 and larger
<i>Million board feet</i>									
Softwood:									
Southern pines	6,497.3	1,829.6	1,864.9	1,301.9	818.5	416.7	166.0	99.7	...
Other softwoods	35.8	8.5	5.9	3.4	1.6	1.2	4.0	11.2	...
Total	6,533.1	1,838.1	1,870.8	1,305.3	820.1	417.9	170.0	110.9	...
Hardwood:									
Select white oaks ¹	374.8	...	123.1	92.2	67.8	51.3	24.4	16.0	...
Select red oaks ²	141.3	...	36.4	40.1	31.2	15.8	4.6	11.2	2.0
Other white oaks	356.8	...	98.8	113.1	68.0	30.0	36.7	10.2	...
Other red oaks	299.4	...	72.8	70.9	66.7	46.3	21.2	19.6	1.9
Hickory	149.3	...	49.9	46.8	26.9	11.0	13.4	1.3	...
Sweetgum	257.0	...	111.4	82.9	27.1	21.5	5.2	8.9	...
Tupelo and blackgum	119.4	...	30.2	27.1	35.4	11.0	12.8	2.9	...
Maple	6.5	...	2.0	3.1	...	1.4	...	...	...
Beech	...	...	...	...	...	...	...	...	...
Ash	23.8	...	11.3	4.5	5.2	2.8	...	...	...
Other Hardwoods	82.0	...	25.1	20.1	10.5	8.7	5.3	12.3	...
Total	1,810.3	...	561.0	500.8	338.8	199.8	123.6	82.4	3.9
All species	8,343.4	1,838.1	2,431.8	1,806.1	1,158.9	617.7	293.6	193.3	3.9

¹ Includes white, swamp chestnut, chinkapin, Durand, swamp white, and bur oaks.² Includes northern red, cherrybark, and Shumard oaks.Table 20.—*Sawtimber volume on commercial forest land by species and diameter classes, Delta region, 1969*

Species	Diameter class (inches at breast height)								
	All classes	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0 and larger
<i>Million board feet</i>									
Softwood:									
Southern pines	271.9	47.1	45.6	45.8	34.7	36.2	30.5	32.0	...
Other softwoods	502.9	8.7	8.7	20.8	20.5	25.3	30.1	93.6	295.2
Total	774.8	55.8	54.3	66.6	55.2	61.5	60.6	125.6	295.2
Hardwood:									
Select white oaks ¹	225.6	...	54.1	49.6	42.0	24.8	17.0	29.0	9.1
Select red oaks ²	244.7	...	44.4	37.7	41.8	34.5	25.7	53.4	7.2
Other white oaks	744.3	...	104.8	117.5	114.8	112.1	100.0	163.7	31.4
Other red oaks	931.2	...	136.6	158.1	139.4	119.7	88.4	207.7	81.3
Hickory	676.5	...	82.9	101.6	110.1	75.1	60.7	204.6	41.5
Sweetgum	444.0	...	70.6	79.6	66.8	50.8	23.7	102.8	49.7
Tupelo and blackgum	176.9	...	7.5	14.1	17.2	21.7	26.0	73.3	17.1
Maple	65.0	...	12.1	3.9	11.6	10.6	8.1	16.9	1.8
Beech	35.8	...	1.5	1.6	7.6	1.8	7.7	15.6	...
Ash	265.0	...	29.2	45.3	36.1	42.0	38.0	67.8	6.6
Other hardwoods	1,743.6	...	224.2	357.7	349.1	256.5	210.7	306.2	39.2
Total	5,552.6	...	767.9	966.7	936.5	749.6	606.0	1,241.0	284.9
All species	6,327.4	55.8	822.2	1,033.3	991.7	811.1	666.6	1,366.6	580.1

¹ Includes white, swamp chestnut, chinkapin, Durand, swamp white, and bur oaks.² Includes northern red, cherrybark, and Shumard oaks.

Table 21.— *Average volume per acre of growing stock and sawtimber on commercial forest land by species group and ownership class, Ouachita region, 1969*

Ownership class	Growing stock			Sawtimber		
	All species	Softwood	Hardwood	All species	Softwood	Hardwood
	— — — — Cubic feet — — — —			— — — — Board feet — — — —		
National forest	995	753	242	3,023	2,593	430
Other public	434	68	366	999	173	826
Forest industry	1,051	798	253	3,388	2,972	416
Farmer	628	256	372	1,434	712	722
Misc. private	726	361	365	1,760	1,051	709
All ownerships	874	580	294	2,513	1,968	545

Table 22.— *Average volume per acre of growing stock and sawtimber on commercial forest land by species group and ownership class, Delta region, 1969*

Ownership class	Growing stock			Sawtimber		
	All species	Softwood	Hardwood	All species	Softwood	Hardwood
	— — — — Cubic feet — — — —			— — — — Board feet — — — —		
National forest	1,346	38	1,308	4,115	225	3,890
Other public	1,460	196	1,264	5,576	984	4,592
Forest industry	1,274	81	1,193	4,756	480	4,276
Farmer	849	63	786	2,571	270	2,301
Misc. private	849	82	767	2,466	314	2,152
All ownerships	984	86	898	3,203	392	2,811



Arkansas Forest Industries

Roy C. Beltz



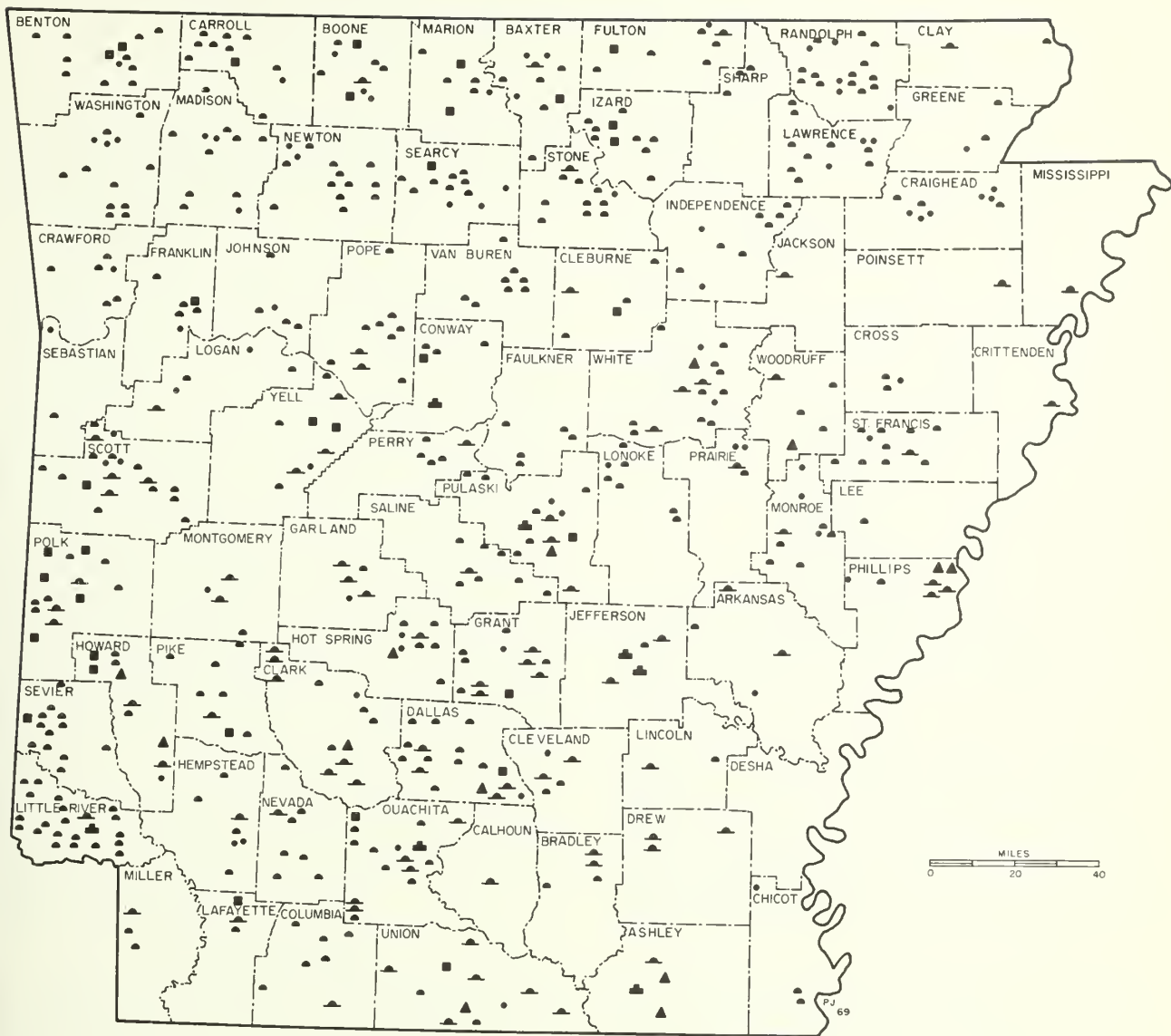
Southern Forest Experiment Station
Forest Service
U.S. Department of Agriculture



Arkansas Forest Industries

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New Orleans, Louisiana
Forest Service, U.S. Department of Agriculture
in cooperation with
ARKANSAS STATE FORESTRY COMMISSION
and
UNIVERSITY OF ARKANSAS AGRICULTURAL EXTENSION SERVICE
1970



- | | |
|------------------|---------------------------------|
| ▲ Wood pulpmills | ▲ Veneer mills |
| ▲ Large sawmills | ■ Post, pole, and piling plants |
| ● Small sawmills | ● Other plants |

Figure 1. Primary wood-using plants in Arkansas, 1968.

Forest industries used 390 million cubic feet of roundwood from Arkansas forests during 1968. Softwoods, mainly pine, made up two-thirds of the total.

Saw logs were the leading product and pulpwood ranked second in terms of volume of wood processed. Veneer logs, mainly softwood, ranked third and constituted nearly 10 percent of the harvest. Miscellaneous products such as poles, piling, posts, and cooperage accounted for about 6 percent of the total. These are some of the major findings of a 1968 canvass of all the primary forest industries in Arkansas. Similar surveys were made in 1948 and 1958.

Although the number of primary wood-using plants in Arkansas declined from about 1,100 to less than 600 between 1958 and 1968, overall production increased. Processing plants are still widely distributed in the State; practically every county has a roundwood-using industry (fig. 1). Plants producing specialty items such as bed slats, net hoops, cedar lumber, and golf club heads abound in the State. The Southwest and Ouachita regions, where the pine forests are concentrated, are dominated by large sawmills, some of the largest in the South.

SAW LOGS

More than half the roundwood output from Arkansas was saw logs. Softwoods made up two-thirds of the saw log volume of 1.2 billion board feet. Though some cypress and cedar logs were produced, pine made up nearly all of the softwood volume. Over 90 percent of the softwood saw logs came from the Southwest and Ouachita regions (fig. 2). The hardwood output was roughly four-fifths hardwoods, chiefly oaks. The remainder was soft hardwoods, mostly gum. Hardwood production was heaviest in the Southwest unit.

The number of sawmills has been declining since World War II. In 1946, there were 1,736 active sawmills in Arkansas. The number dwindled to 974 in 1958, and by 1968, only

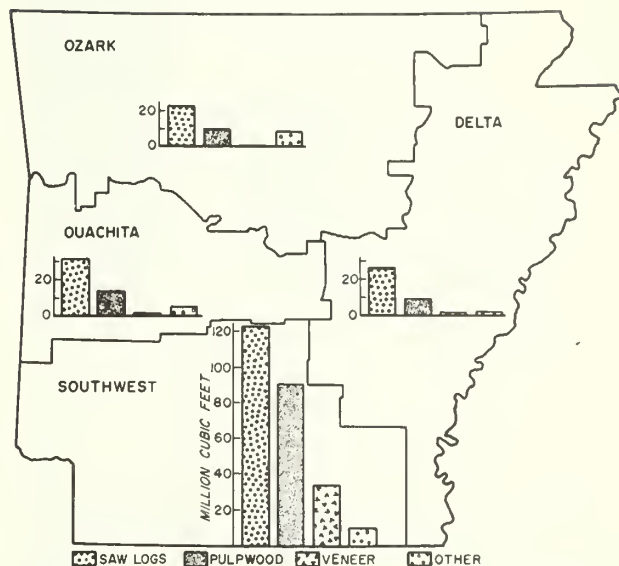


Figure 2. Output of industrial roundwood, by region and product, 1968.

448 mills were operating. This most recent reduction was in mills cutting less than 3 million board feet annually. There were 550 less small sawmills in 1968 than in 1958. Many of the remaining small sawmills are operated intermittently, when supplies and demands are favorable.

Saw-log production trends since 1946 do not match those for numbers of sawmills. Production dropped between 1948 and 1958 along with the number of sawmills, but during the last decade it increased while sawmill numbers decreased. The number of large mills—those using at least 3 million board feet of saw logs annually—increased from 67 to 93 since 1958. Receipts at large sawmills exceeded 90 percent of the State's saw-log production. The output of the average sawmill during survey years indicates the trend toward large sawmills (fig. 3). This hypothetical mill produced slightly over 800,000 board feet in 1948. By 1958, output was over 1 million board feet, and in 1968 it was 2.8 million board feet.

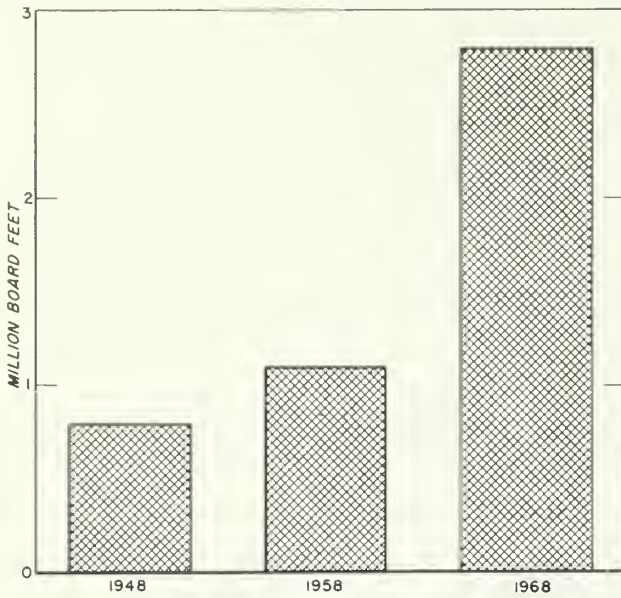


Figure 3. Average output per sawmill in Arkansas.

PULPWOOD

Round pulpwood production in 1968 totaled in excess of 1.5 million cords, increasing 47 percent since 1958. Hardwoods accounted for most of this change. Over the 10-year period, pine production was remarkably stable at approximately 1 million cords annually (fig. 4).

Roughly 87 million cubic feet of coarse residues were generated in 1968 during the conversion of roundwood into products in Arkansas. In addition, about 47 million cubic feet of fine residues were produced at primary manufacturing plants, excluding pulpmills.

Forest industries in Arkansas excelled in converting these residues into salable by-products. The South's first commercial facilities for converting sawmill waste into pulp chips were installed in Bradley County, Arkansas, in 1952. Pulp-chip production from sawmill waste has now spread throughout the South. Sales of southern pulp chips netted about \$125 million in 1968. The additional revenue from sales of pulp chips in Arkansas is about \$12 million.

Residues comprised one-fifth of the total southern pulpwood production in 1968. Arkansas' pulpwood production was one-fifth residues back in 1958; it is now about one-third of the total produced. The heavy use of residues for pulp in the State is at least partially explained by the high proportion of saw and veneer logs processed by large plants. The combined receipts of large sawmills and pine plywood plants in the State exceeded 55 percent of the total roundwood output. Nearly all of these large firms make some use of their coarse residues.

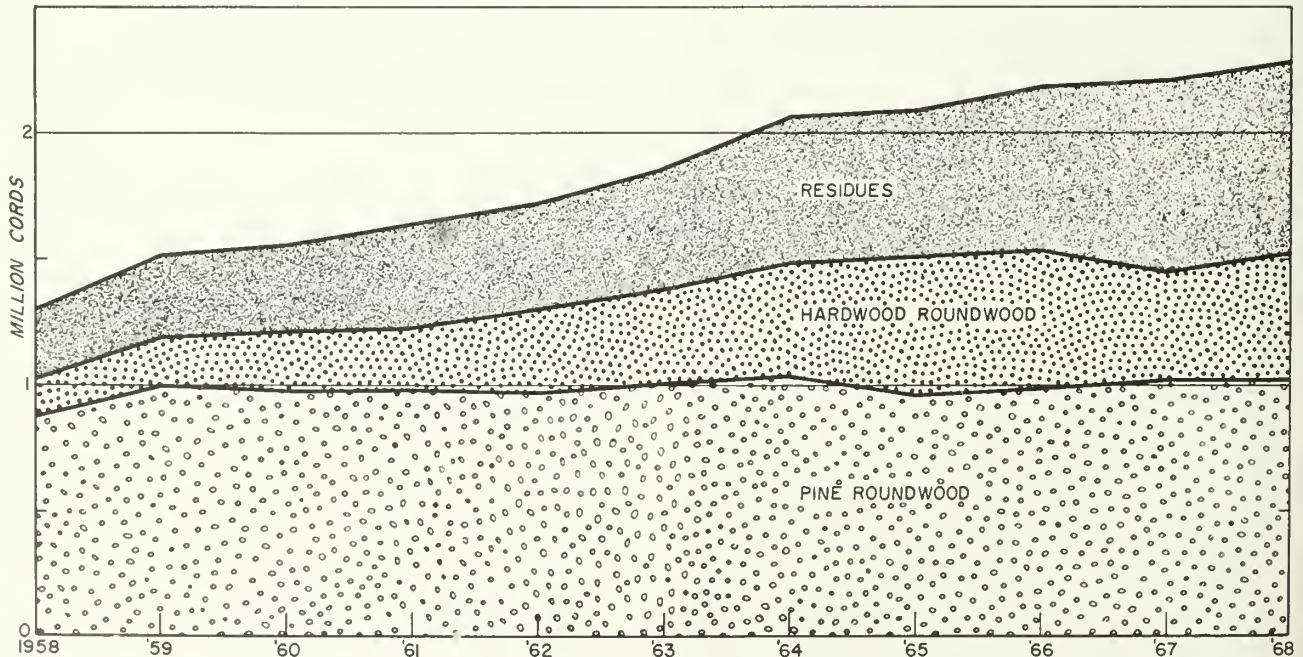


Figure 4. Pulpwood production trends in Arkansas.

Much of the volume of fine residues is not utilized. Sawdust, the major fine residue, is widely used for livestock bedding and mulch, but sawdust piles are a disposal problem at many mills. There is, however, promise of industrial markets. Some sawdust is being sold for pulping, in addition to that which is burned for industrial fuel.

Arkansas' pulping capacity has practically doubled. In 1958, the State's four mills had a capacity of 2,115 tons per day. By the end of 1968, seven mills with a combined capacity of 4,113 tons per day were operating.

VENEER

Ten years ago all the veneer produced in Arkansas was hardwood. In 1968, more than 90 percent of it was softwood (fig. 5). This

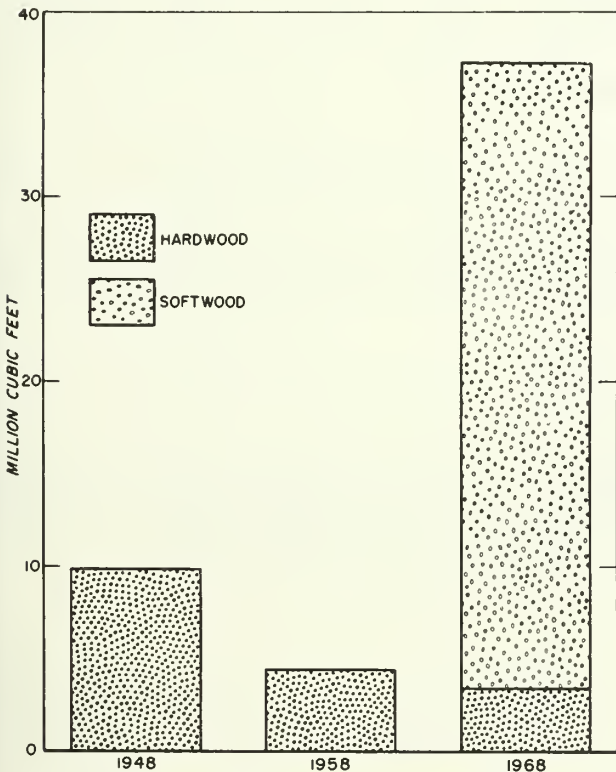


Figure 5. Softwood and hardwood veneer-log production in Arkansas.

reversal was caused by the southern pine plywood industry. Since its inception in Arkansas in 1963, the production of southern pine plywood has grown into an industry consuming 13 percent of the softwood cut. Four southern pine plywood plants are operating in the State, and another is expected to open in 1970. The combined annual capacity of these five mills will be about 580 million square feet, 3/8-inch basis. All are located in the southern part of the State. Several other veneer plants are using southern pine along with hardwoods. Hardwood veneer-log production has declined since 1948 and now accounts for less than 1 percent of the roundwood output.

MISCELLANEOUS PRODUCTS

Between 1958 and 1968 output of miscellaneous products rose about 10 percent. About 45 percent of the miscellaneous volume went into poles, piling, and posts. Pole and piling output rose about 10 percent since 1958, but post production declined slightly.

The rest of the miscellaneous output, mostly hardwood, included such products as chemical wood, cooperage, handlestock, and excelsior. Excelsior was the primary softwood product in the class. Chemical wood, cooperage, and handlestock accounted for 80 percent of the hardwoods.

MOVEMENT

In 1968, the volume of wood processed by Arkansas' forest industries exceeded the volume removed from the State's forests. About 38 million cubic feet of roundwood were logged and shipped out of State, but 47 million cubic feet were imported. Pulpwood seemed to be the most mobile product; almost one-fourth of the State's production went to out-of-State mills. An amount approximately equal to 19 percent of the State's production was imported. Thus, the Arkansas pulp industry apparently processed 94 percent as much round pulpwood as was harvested in the State.

Table 1.—Volume of industrial roundwood

Product	Volume in standard units				Roundwood volume		
	Standard units	All species	Softwoods	Hardwoods	All species	Softwoods	Hardwoods
					----- M cu. ft. -----		
Saw logs	M bd. ft. ¹	1,238,476	789,599	448,877	204,717	129,889	74,828
Veneer logs	M bd. ft. ¹	226,412	206,196	20,216	37,312	33,920	3,392
Pulpwood	Std. cords	1,532,142	1,011,888	520,254	123,583	81,963	41,620
Piling	M linear ft.	2,410	2,410	...	1,804	1,804	...
Poles	M pieces	548	548	...	5,778	5,778	...
Posts	M pieces	6,742	6,741	1	3,784	3,783	1
Misc. products ²	M cu. ft.	13,475	1,644	11,831	13,475	1,644	11,831
Total					390,453	258,781	131,672

¹International ¼ inch rule.²Includes chemical wood, cooperage, handstock, miscellaneous dimension, excelsior, and shuttleblocks.

Table 2.—Industrial roundwood, by species

Species group	Saw logs	Veneer logs	Pulpwood	Piling	Poles	Posts	Miscellaneous products
	----- M bd. ft. ¹ -----		Std. cords	M linear ft.	-- M pieces --		M cu. ft.
Softwood:							
Pines	783,348	206,196	1,011,888	2,410	548	6,556	1,644
Cypress	5,028	...	...	...	...	...	...
Other softwoods	1,223	...	...	...	...	185	...
Total	789,599	206,196	1,011,888	2,410	548	6,741	1,644
Hardwood:							
Black and tupelo gums	19,370	3,277	² 60,021	...	...	...	307
Sweetgum	66,551	7,643	...	...	...	...	513
Red oaks	180,271	816	³ 406,872	...	...	1	1,975
White oaks	76,179	38	...	...	...	...	4,873
Other hardwoods	106,506	8,442	53,361	...	...	...	4,163
Total	448,877	20,216	520,254	...	...	1	11,831
All species	1,238,476	226,412	1,532,142	2,410	548	6,742	13,475

¹International ¼ inch rule.²Black and tupelo combined with sweetgum.³Red and white oaks combined.

Table 3.—Residues produced by primary wood-using plants

Type of industry ¹	All species			Softwoods			Hardwoods		
	Total	Fine ²	Coarse ³	Total	Fine ²	Coarse ³	Total	Fine ²	Coarse ³
	----- M cu. ft. -----								
Lumber	106,289	41,959	64,330	73,462	26,381	47,081	32,827	15,578	17,249
Veneer	19,267	300	18,967	17,883	244	17,639	1,384	56	1,328
Piling, poles, and posts	2,424	1,481	943	2,424	1,481	943	...	...	...
Miscellaneous products	5,818	3,075	2,743	772	463	309	5,046	2,612	2,434
All products	133,798	46,815	86,983	94,541	28,569	65,972	39,257	18,246	21,011

¹Excludes woodpulp industry.²Fine residues include sawdust, screenings, and other material generally too small for chipping.³Coarse residues include slabs, edgings, trimmings, and other material generally suitable for chipping.

Table 4.—Volume of primary plant residues used

Source industry ¹	Type of use	All species	Softwoods	Hardwoods
----- M cu. ft. -----				
Lumber	Fuel ²	13,661	10,246	3,415
	Fiber ³	48,070	40,232	7,838
	Other ⁴	7,202	6,518	684
	Total	68,933	56,996	11,937
Veneer	Fuel	344	1	343
	Fiber	13,339	12,679	660
	Other	3,262	3,260	2
	Total	16,945	15,940	1,005
Piling, poles, and posts	Fuel	660	660	...
	Fiber	493	493	...
	Other	15	15	...
	Total	1,168	1,168	...
Miscellaneous industries	Fuel	415	30	385
	Fiber	...	...	...
	Other	161	...	161
	Total	576	30	546
All industries	Fuel	15,080	10,937	4,143
	Fiber	61,902	53,404	8,498
	Other	10,640	9,793	847
	Total	87,622	74,134	13,488

¹Excludes woodpulp industry.²Includes all residues used as fuel by industrial plants and domestic fuel either sold or given away.³Includes all residues used in manufacture of fiber products, such as pulp or hardboard.⁴Includes residues used as livestock bedding, mulch, floor sweepings, and specialty items.

Table 5.—Movement of industrial roundwood, by product

Product	Unit	Out of State receipts	Logged and remained in State	Logged and shipped out of State	Total receipts	Total production
----- Standard units -----						
Saw logs	M bd. ft. ¹	99,017	1,210,520	27,956	1,309,537	1,238,476
Veneer	M bd. ft. ¹	33,833	221,752	4,660	255,585	226,412
Pulpwood	Std. cords	288,255	1,154,872	377,270	1,443,127	1,532,142
Piling	M linear ft.	236	2,406	4	2,642	2,410
Poles	M pieces	26	527	21	553	548
Posts	M pieces	2,086	5,823	919	7,909	6,742
Misc. products	M cu. ft.	547	11,911	1,564	12,458	13,475

¹International 1/4-inch rule.

Table 6.—Saw-log production, by county

County	All species	Softwoods	Hardwoods	County	All species	Softwoods	Hardwoods
	— — —	<i>M bd. ft.</i> ¹	— — —		— — —	<i>M bd. ft.</i> ¹	— — —
Arkansas	18,323	103	18,220	Lincoln	16,052	3,972	12,080
Ashley	3,013	1,204	1,809	Little River	19,541	14,469	5,072
Baxter	5,686	3,504	2,182	Logan	8,150	6,785	1,365
Benton	2,714	...	2,714	Lonoke	3,027	...	3,027
Boone	1,934	44	1,890	Madison	7,827	327	7,500
Bradley	80,597	42,653	37,944	Marion	2,133	154	1,979
Calhoun	72,101	53,898	18,203	Miller	5,594	3,950	1,644
Carroll	3,308	747	2,561	Mississippi	515	52	463
Chicot	2,331	...	2,331	Monroe	24,366	344	24,022
Clark	58,837	44,848	13,989	Montgomery	12,100	11,933	167
Clay	3,519	6	3,513	Nevada	33,666	26,692	6,974
Cleburne	5,633	3,437	2,196	Newton	4,343	1,326	3,017
Cleveland	39,446	20,535	18,911	Ouachita	48,609	31,237	17,372
Columbia	12,892	8,790	4,102	Perry	17,093	16,582	511
Conway	4,916	3,132	1,784	Phillips	11,501	789	10,712
Craighead	3,030	629	2,401	Pike	45,889	42,845	3,044
Crawford	1,419	244	1,175	Poinsett	5,007	15	4,992
Crittenden	1,853	68	1,785	Polk	11,864	10,527	1,337
Cross	2,713	56	2,657	Pope	17,253	14,003	3,250
Dallas	60,414	47,054	13,360	Prairie	4,143	...	4,143
Desha	12,230	515	11,715	Pulaski	10,932	6,694	4,238
Drew	12,974	5,036	7,938	Randolph	3,444	95	3,349
Faulkner	1,845	35	1,810	St. Francis	9,572	569	9,003
Franklin	2,560	1,299	1,261	Saline	37,385	33,156	4,229
Fulton	4,571	110	4,461	Scott	27,148	22,126	5,022
Garland	29,733	29,724	9	Searcy	4,318	995	3,323
Grant	78,578	58,969	19,609	Sebastian	1,637	728	909
Greene	1,140	225	915	Sevier	22,621	17,412	5,209
Hempstead	9,564	7,247	2,317	Sharp	3,323	70	3,253
Hot Spring	28,993	26,569	2,424	Stone	9,225	726	8,499
Howard	36,995	36,134	861	Union	56,426	46,970	9,456
Independence	3,308	770	2,538	Van Buren	5,143	2,102	3,041
Izard	6,291	2,030	4,261	Washington	6,816	...	6,816
Jackson	2,906	131	2,775	White	25,154	582	24,572
Jefferson	21,272	14,553	6,719	Woodruff	5,209	200	5,009
Johnson	3,590	3,158	432	Yell	36,916	33,690	3,226
Lafayette	21,056	19,460	1,596	Total	1,238,476	789,599	448,877
Lawrence	4,096	168	3,928				
Lee	8,153	397	7,756				

¹International ¼-inch rule.

Table 7.—Saw-log movement

County ¹	Logged and remained in county	Outgoing shipments	Incoming shipments	Total log receipts	County ¹	Logged and remained in county	Outgoing shipments	Incoming shipments	Total log receipts
----- <i>M bd. ft.</i> ² -----					----- <i>M bd. ft.</i> ² -----				
Arkansas	8,650	9,673	4,523	13,173	Madison	4,175	3,652	1,286	5,461
Baxter	4,384	1,302	482	4,866	Marion	2,133	...	211	2,344
Benton	1,532	1,182	207	1,739	Miller	5,594	...	6,334	11,928
Boone	1,794	140	2,836	4,630	Monroe	11,233	13,133	2,812	14,045
Bradley	43,646	36,951	56,638	100,284	Montgomery	7,872	4,228	9,995	17,867
Carroll	2,720	588	1,756	4,476	Nevada	16,356	17,310	28,634	44,990
Clark	37,900	20,937	24,422	62,322	Newton	2,132	2,211	845	2,977
Cleburne	5,528	105	444	5,972	Ouachita	27,423	21,186	36,419	63,842
Cleveland	6,758	32,688	43,613	50,371	Perry	3,110	13,983	2,524	5,634
Columbia	4,867	8,025	11,419	16,286	Phillips	10,366	1,135	16,428	26,794
Conway	995	3,921	...	995	Pike	17,960	27,929	6,304	24,264
Craighead	2,756	274	784	3,540	Polk	9,970	1,894	7,597	17,567
Crawford	855	564	...	855	Pope	16,433	820	16,349	32,782
Dallas	22,811	37,603	17,116	39,927	Pulaski	4,797	6,135	19,090	23,887
Drew	10,760	2,214	8,275	19,035	Randolph	3,340	104	2,246	5,586
Faulkner	319	1,526	628	947	St. Francis	5,333	4,239	4,668	10,001
Franklin	155	2,405	43	198	Saline	15,872	21,513	290	16,162
Fulton	4,496	75	...	4,496	Scott	20,773	6,375	5,124	25,897
Garland	24,311	5,422	59,052	83,363	Searcy	3,519	799	1,873	5,392
Grant	60,068	18,510	35,933	96,001	Sevier	4,849	17,772	2,493	7,342
Hempstead	2,934	6,630	9,434	12,368	Sharp	2,123	1,200	...	2,123
Hot Spring	7,131	21,862	5,078	12,209	Stone	8,396	829	762	9,158
Howard	33,881	3,114	27,392	61,273	Union	53,248	3,178	102,330	155,578
Independence	2,645	663	...	2,645	Van Buren	5,059	84	1,690	6,749
Izard	5,953	338	35	5,988	Washington	6,797	19	2,918	9,715
Jefferson	9,780	11,492	12,578	22,358	White	21,521	3,633	1,885	23,406
Johnson	1,525	2,065	579	2,104	Woodruff	2,729	2,480	1,674	4,403
Lawrence	3,930	166	1,571	5,501	Yell	8,687	28,229	7,689	16,376
Little River	10,759	8,782	253	11,012	All other counties	38,356	120,013	25,234	63,590
Logan	967	7,183	2,185	3,152	Total	665,932	572,544	643,605	1,309,537
Lonoke	966	2,061	625	1,591					

¹Counties with less than three plants are omitted.²International ¼-inch rule.

Table 8.—Veneer-log production, by county

County ¹	All species <i>M bd. ft.</i> ²	County ¹	All species <i>M bd. ft.</i> ²
Arkansas	587	Lafayette	1,189
Ashley	85,556	Lee	1,218
Benton	45	Lincoln	128
Boone	36	Lonoke	772
Calhoun	22,295	Madison	36
Carroll	21,645	Nevada	1,851
Chicot	670	Newton	61
Clark	7,404	Ouachita	3,702
Cleveland	128	Perry	344
Columbia	1,165	Phillips	2,203
Cross	82	Pike	5,635
Dallas	23,662	Poinsett	14
Desha	1,456	Polk	1,850
Drew	15,098	Pulaski	583
Faulkner	296	St. Francis	124
Garland	92	Saline	4,639
Grant	11,543	Union	1,391
Hempstead	1,934	Washington	36
Hot Spring	1,990	White	1,022
Howard	2,594	Woodruff	128
Jefferson	1,208	Total	226,412

¹Counties with negligible output are omitted.
²International 1/8-inch rule.

Table 9.—Piling production, by county

County ¹	All species softwoods <i>M linear feet</i>
Bradley	22
Calhoun	148
Cleveland	44
Dallas	351
Grant	175
Howard	600
Jefferson	44
Lafayette	4
Little River	168
Ouachita	132
Pike	126
Polk	140
Sevier	363
Union	93
Total	2,410

¹Counties with negligible output are omitted.

Table 10.—Pole production, by county

County ¹	All species softwoods <i>M pieces</i>	County ¹	All species softwoods <i>M pieces</i>
Ashley	5	Lafayette	7
Benton	11	Little River	20
Boone	2	Ouachita	9
Bradley	1	Pike	44
Calhoun	14	Polk	126
Cleveland	11	Scott	11
Dallas	25	Sevier	45
Grant	33	Union	3
Hot Spring	40	Van Buren	5
Howard	78	Yell	47
Jefferson	1	Total	548
Johnson	10		

¹Counties with negligible output are omitted.

Table 11.—Commercial post production, by county

County ¹	All species	County ¹	All species
	<i>M pieces</i>		<i>M pieces</i>
Baxter	22	Miller	131
Boone	78	Montgomery	39
Carroll	12	Nevada	19
Cleburne	350	Newton	45
Conway	2	Pike	236
Franklin	12	Polk	1,252
Fulton	81	Pope	20
Howard	1,375	Scott	729
Izard	274	Searcy	18
Johnson	360	Sebastian	14
Little River	334	Sevier	740
Madison	2	Stone	2
Marion	110	Van Buren	301
		Yell	184
		Total	6,742

¹Counties with negligible output are omitted.

Table 12.—Output of miscellaneous products, by county

County ¹	All species	Softwoods	Hardwoods	County ¹	All species	Softwoods	Hardwoods
	<i>M cu. ft.</i>				<i>M cu. ft.</i>		
Arkansas	34	...	34	Drew	47	...	47
Baxter	248	...	248	Faulkner	26	...	26
Benton	360	...	360	Franklin	714	...	714
Boone	725	...	725	Fulton	24	...	24
Bradley	100	...	100	Garland	141	5	136
Calhoun	140	...	140	Grant	173	18	155
Carroll	1,139	...	1,139	Greene	67	...	67
Chicot	77	...	77	Hot Spring	110	82	28
Clark	1,318	1,316	2	Howard	38	38	...
Clay	17	...	17	Independence	8	...	8
Cleveland	146	...	146	Jackson	1	...	1
Columbia	12	...	12	Jefferson	28	...	28
Conway	26	...	26	Johnson	278	...	278
Craighead	137	...	137	Lawrence	34	...	34
Crawford	27	...	27	Lee	6	...	6
Crittenden	130	...	130	Lincoln	11	...	11
Cross	35	...	35				
Dallas	167	18	149				
Desha	44	...	44				

¹Counties with negligible output are omitted.

Table 12.—Output of miscellaneous products, by county (continued)

County ¹	All species	Softwoods	Hardwoods	County ¹	All species	Softwoods	Hardwoods
— — — — M cu. ft. — — — —				— — — — M cu. ft. — — — —			
Logan	574	4	570	Randolph	734	...	734
Lonoke	57	...	57	St. Francis	28	...	28
Madison	429	...	429	Saline	53	...	53
Marion	40	...	40	Scott	468	4	464
Miller	138	...	138	Searcy	167	...	167
Mississippi	7	...	7	Sebastian	66	4	62
Monroe	302	...	302	Sharp	23	...	23
Montgomery	37	...	37	Stone	106	...	106
Newton	998	...	998	Union	190	...	190
Ouachita	102	...	102	Van Buren	25	...	25
Perry	17	...	17	Washington	327	...	327
Phillips	408	...	408	White	276	...	276
Pike	163	...	163	Woodruff	30	...	30
Poinsett	103	...	103	Yell	44	...	44
Polk	30	...	30	Total	13,475	1,644	11,831
Pope	26	...	26				
Prairie	577	...	577				
Pulaski	342	155	187				

Table 13.—Industrial roundwood production, by county

County	All species	Softwoods	Hardwoods	County	All species	Softwoods	Hardwoods
— — — — M cu. ft. — — — —				— — — — M cu. ft. — — — —			
Arkansas	3,186	17	3,169	Dallas	20,514	16,636	3,878
Ashley	29,645	24,801	4,844	Desha	4,194	88	4,106
Baxter	1,200	589	611	Drew	9,878	5,647	4,231
Benton	940	120	820	Faulkner	388	8	380
Boone	1,115	68	1,047	Franklin	2,000	1,076	924
Bradley	14,238	7,357	6,881	Fulton	831	63	768
Calhoun	21,478	17,049	4,429	Garland	6,280	5,748	532
Carroll	5,257	3,684	1,573	Grant	25,229	17,560	7,669
Chicot	802	...	802	Greene	256	37	219
Clark	16,150	12,800	3,350	Hempstead	5,072	3,598	1,474
Clay	603	1	602	Hot Spring	9,030	7,573	1,457
Cleburne	3,125	2,693	432	Howard	10,533	9,740	793
Cleveland	9,485	5,159	4,326	Independence	1,061	317	744
Columbia	7,964	5,245	2,719	Izard	1,401	691	710
Conway	2,250	1,604	646	Jackson	555	22	533
Craighead	640	103	537	Jefferson	7,917	4,619	3,298
Crawford	290	42	248				
Crittenden	689	11	678				
Cross	501	9	492				

Table 13.—Industrial roundwood production, by county (continued)

County	All species	Softwoods	Hardwoods	County	All species	Softwoods	Hardwoods
----- M cu. ft. -----				----- M cu. ft. -----			
Johnson	1,651	1,176	475	Polk	6,046	5,201	845
Lafayette	6,741	5,225	1,516	Pope	3,865	3,026	839
Lawrence	716	27	689	Prairie	1,272	...	1,272
Lee	1,947	71	1,876	Pulaski	2,767	1,456	1,311
Lincoln	3,721	836	2,885	Randolph	1,309	16	1,293
Little River	4,957	3,747	1,210	St. Francis	1,644	94	1,550
Logan	3,059	2,149	910	Saline	9,600	7,656	1,944
Lonoke	820	4	816	Scott	5,960	4,459	1,501
Madison	1,740	55	1,685	Searcy	894	173	721
Marion	457	87	370	Sebastian	549	335	214
Miller	2,608	1,666	942	Sevier	7,820	5,848	1,972
Mississippi	123	8	115	Sharp	577	12	565
Monroe	4,371	64	4,307	Stone	1,737	202	1,535
Montgomery	4,832	3,996	836	Union	16,906	12,923	3,983
Nevada	10,168	8,214	1,954	Van Buren	3,211	2,630	581
Newton	1,756	244	1,512	Washington	1,469	...	1,469
Ouachita	12,744	8,935	3,809	White	5,537	278	5,259
Perry	4,294	3,838	456	Woodruff	1,233	33	1,200
Phillips	3,787	132	3,655	Yell	8,643	7,350	1,293
Pike	13,285	11,838	1,447	Total	390,453	258,781	131,672
Poinsett	940	2	938				

Table 14.—Plant residues used, by county

County ¹	All species		Softwoods		Hardwoods	
	Fine	Coarse	Fine	Coarse	Fine	Coarse
----- M cu. ft. -----						
Arkansas	...	441	...	...	...	441
Baxter	61	36	...	...	61	36
Benton	1	2	...	...	1	2
Boone	25	5	...	...	25	5
Bradley	1,051	1,099	...	...	1,051	1,099
Carroll	16	4	1	1	15	3
Clark	768	3,482	725	2,802	43	680
Cleburne	7	193	7	118	...	75
Cleveland	...	1,234	...	...	...	1,234
Columbia	448	819	448	819	...	...
Conway	9	8	7	...	2	8
Craighead	23	30	...	...	23	30
Crawford	2	2	...	...	2	2

Table 14.—*Plant residues used, by county* (continued)

County ¹	All species		Softwoods		Hardwoods	
	Fine	Coarse	Fine	Coarse	Fine	Coarse
	----- <i>M cu. ft.</i> -----					
Dallas	922	6,364	833	6,326	89	38
Drew	123	287	...	22	123	265
Franklin	3	5	3	4	...	1
Garland	2,425	4,765	2,425	4,765	...	...
Grant	2,187	4,729	2,098	4,377	89	352
Hempstead	128	406	...	405	128	1
Hot Spring	346	656	346	649	...	7
Howard	1,864	3,923	1,864	3,590	...	333
Independence	5	...	...	...	5	...
Izard	...	4	...	...	...	4
Jefferson	283	1,193	283	1,059	...	134
Johnson	29	4	29	4	...	...
Lawrence	8	16	...	1	8	15
Little River	...	302	...	302	...	...
Logan	...	174	...	174	...	...
Madison	5	6	...	...	5	6
Marion	...	95	...	16	...	79
Miller	66	492	66	492	...	...
Monroe	...	321	...	...	...	321
Montgomery	214	1,000	214	1,000	...	...
Nevada	1,253	2,348	1,253	2,348	...	...
Newton	7	9	1	1	6	8
Ouachita	1,112	2,748	1,112	2,058	...	690
Perry	...	264	...	264	...	...
Phillips	631	1,132	9	...	622	1,132
Pike	...	1,160	...	1,160	...	...
Polk	393	944	379	944	14	...
Pope	538	1,005	538	1,005	...	...
Pulaski	19	812	...	264	19	548
Randolph	44	32	...	...	44	32
St. Francis	13	220	...	...	13	220
Saline	427	800	427	800	...	...
Scott	1	903	1	890	...	13
Sevier	665	464	665	464	...	...
Stone	...	27	...	...	...	27
Union	4,390	7,276	3,717	6,550	673	726

Table 14.—*Plant residues used, by county* (continued)

County ¹	All species		Softwoods		Hardwoods	
	Fine	Coarse	Fine	Coarse	Fine	Coarse
----- <i>M cu. ft.</i> -----						
Van Buren	...	82	...	62	...	20
Washington	131	58	...	...	131	58
White	3	161	...	...	3	161
Woodruff	16	76	...	...	16	76
Yell	395	810	394	755	1	55
All other counties	820	12,317	367	11,431	453	886
Total	21,877	65,745	18,212	55,922	3,665	9,823

¹Omitted counties have either negligible volume or less than three plantsTable 15.—*Unused plant residues, by county*

County ¹	All species		Softwoods		Hardwoods	
	Fine	Coarse	Fine	Coarse	Fine	Coarse
----- <i>M cu. ft.</i> -----						
Arkansas	452	42	3	5	449	37
Baxter	186	242	118	165	68	77
Benton	131	214	20	12	111	202
Boone	656	630	59	32	597	598
Bradley	2,130	3,064	2,035	2,946	95	118
Carroll	344	328	28	39	316	289
Clark	1,677	2,275	947	2,126	730	149
Cleburne	205	92	130	87	75	5
Cleveland	1,663	689	437	633	1,226	56
Columbia	56	89	28	53	28	36
Conway	24	35	9	23	15	12
Craighead	144	156	28	39	116	117
Crawford	30	38	7	10	23	28
Dallas	615	887	56	156	559	731
Drew	487	490	336	469	151	21
Faulkner	31	39	1	2	30	37
Franklin	202	138	2	2	200	136
Fulton	153	166	4	4	149	162
Garland	128	9	120	1	8	8
Grant	953	518	412	201	541	317
Hempstead	424	346	360	209	64	137
Hot Spring	72	74	42	28	30	46
Howard	54	29	29	16	25	13
Independence	84	115	25	35	59	80
Izard	215	261	85	101	130	160

Table 15.—Unused plant residues, by county (continued)

County ¹	All species		Softwoods		Hardwoods	
	Fine	Coarse	Fine	Coarse	Fine	Coarse
	----- <i>M cu. ft.</i> -----					
Jefferson	414	4	282	...	132	4
Johnson	84	182	36	89	48	93
Lawrence	201	233	5	7	196	226
Little River	350	237	176	19	174	218
Logan	257	112	95	3	162	109
Lonoke	55	68	...	...	55	68
Madison	293	299	4	6	289	293
Marion	85	14	16	4	69	10
Miller	307	138	199	2	108	136
Monroe	487	219	11	16	476	203
Montgomery	338	28	328	11	10	17
Nevada	133	178	67	95	66	83
Newton	233	212	9	13	224	199
Ouachita	1,030	426	196	213	834	213
Perry	175	46	164	32	11	14
Phillips	403	344	44	78	359	266
Pike	793	196	690	66	103	130
Polk	404	185	361	116	43	69
Pope	494	629	270	387	224	242
Pulaski	937	528	242	48	695	480
Randolph	216	274	4	5	212	269
St. Francis	326	147	...	...	326	147
Saline	72	93	15	21	57	72
Scott	925	502	665	270	260	232
Searcy	242	340	42	50	200	290
Sevier	236	312	53	81	183	231
Sharp	70	88	2	3	68	85
Stone	318	357	25	36	293	321
Union	504	1,072	227	628	277	444
Van Buren	223	224	80	64	143	160
Washington	243	440	...	...	243	440
White	855	846	3	5	852	841
Woodruff	140	129	6	9	134	120
Yell	210	189	183	187	27	2
All other counties	1,769	981	536	92	1,233	889
Total	24,938	21,238	10,357	10,050	14,581	11,188

¹Omitted counties have either negligible volume or less than three plants.

Table 16.—Large sawmills¹

County	Firm	Plant	
		Location	Address ²
Arkansas	C. P. Chaney Sawmill, Inc. ³	De Witt	Box 271
	Townsend Lumber Co., Inc. ³	Stuttgart	Box 149, Hwy. 79
Ashley	P. E. Barnes Lumber Co. ³	Hamburg	
Baxter	Pleasant Lumber Co.	Mountain Home	
Boone	Sutton Products, Inc.	Harrison	Rt. 7, Box 191
Bradley	Potlatch Forests, Inc. ³	Warren	
	Potlatch Forests, Inc. ³	Warren	
Calhoun	Hampton Lumber Co. ³	Hampton	
Clark	J. A. Baringer and Sons ³	Whelen Springs	Box 56, Gurdon
	M. M. Barksdale Lumber Co. ³	Amity	
	Johnnie Bean Lumber Co. ³	Amity	
	Milus Bean Lumber Co., Inc. ³	Amity	
	Gurdon Lumber Co. ³	Beirne	Box 8, Gurdon
	Gurdon Lumber Co. ³	Gurdon	
Clay	J. W. Black Lumber Co. ³	Corning	Box 107
Cleburne	Olivette Supply Co. ³	Higden	Rt. 1, Box 42
Cleveland	Kingsland Lumber Co. ³	Kingsland	Box 6
	Saline Hardwood Co. ³	Rison	Box 372
Columbia	Arkansas-Louisiana Lumber Co., Inc. ³	Emerson	Box 286
Crittenden	Dacus Lumber Co.	West Memphis	Box 490
Dallas	D. J. Barnes Lumber Co., Inc. ³	Fordyce	Rt. 1
	E. L. Bruce Co., Inc.	Fordyce	Box 397, Memphis, Tenn.
	Garland Gaston Mill	Gastontown	Sparkman
	Sparkman Lumber Co. ³	Sparkman	
Drew	J. P. Price Lumber Co. ³	Monticello	Box 536
	Selma Timber Co. ³	Selma	
	Herman Wilson Lumber Co. ³	Monticello	Box 577
Fulton	Hayes Flooring Mill	Mammoth Spring	Calico Rock
Garland	Bates Lumber Co., Inc. ³	Hot Springs	Box 1265
	Dierks Forests, Inc. ³	Mountain Pine	810 Whittington Ave., Hot Springs
	B. G. Wilson Lumber Co. ³	Hot Springs	Rt. 2, Box 294
Grant	John O. Brown Sawmill & Logging ³	Sheridan	Rt. 2, Box 176
	W. S. Fox and Sons ³	Sheridan	Box 7207, Pine Bluff
	H. G. Toler and Son, Inc. ³	Leola	Box 125
	J. L. Williams and Son ³	Sheridan	Box 68
	Herman Wilson Lumber Co. ³	Leola	Box 95
Hempstead	Hempstead Manufacturing Co., Inc. ³	Hope	Box 63
Hot Spring	Hot Spring County Lumber Co. ³	Malvern	Box 158
Howard	Dierks Forests, Inc. ³	Dierks	810 Whittington Ave., Hot Springs
	J. D. Scott Lumber Co. ³	Nashville	Box 98
Jackson	Curtner Lumber Co.	Newport Air Base	Box 617, Newport

Table 16.—Large sawmills¹ (continued)

County	Firm	Plant	
		Location	Address ²
Jefferson	Delta Hardwood, Inc. ³	Altheimer	Box 38
	W. S. Fox and Sons ³	Pine Bluff	Box 7207
Lafayette	Fuller Lumber Co. ³	Lewisville	Box 488
Lincoln	Floyd's Sawmill, Inc.	Star City	
Little River	Gunter Bros. Lumber Co. ³	Wilton	
Logan	Simmons Lumber, Inc. ³	Booneville	Box 398
Miller	Junkin Lumber Co. ³	Texarkana	Box 59
Mississippi	Uhlhorn Lumber Co.	Bassett	Box 111
Monroe	Potlatch Forests, Inc. ³	Clarendon	Warren
Montgomery	Rodgers-Killian Lumber Co., Inc. ³	Norman	Box 98
	Scott Lumber Co. ³	Mount Ida	Box 225
Nevada	Potlatch Forests, Inc. ³	Prescott	Warren
Ouachita	Bearden Lumber Co. ³	Bearden	
	Billy Pierce Sawmill ³	Stephens	
	Reynolds-White Lumber Co. ³	Camden	Box 366
	Rogers Lumber Co. ³	Camden	Rt. 3, Box 23
	Yellow Pine Lumber Co., Inc. ³	Stephens	Box 486
Perry	Pierce and Porter Lumber Co. ³	Perry	
Phillips	Chicago Mill and Lumber Co. ³	West Helena	Box 2517
	Faust Band Saw Mill, Inc. ³	West Helena	Box T
	Mosby Lumber Manufacturing Co. ³	Helena	Box 406
Pike	Murfreesboro Lumber Co. ³	Murfreesboro	
Poinsett	Dickey Lumber Co.	Marked Tree	
Polk	Dale Rodgers Lumber Co. ³	Mena	Box 232
	Hatton Lumber Co. ³	Hatton	
	Lewis Lumber Co.	Cove	Box 95
Pope	Bibler Bros. Lumber & Supply Co., Inc. ³	Russellville	Hwy. 7 S.
	Ward Furniture Manufacturing Co.	Russellville	Box 307
Prairie	Miller-Patterson Lumber & Timber Co, Inc. ³	Des Arc	Box 310
Pulaski	Floyd Brown Lumber Co. ³	Hensley	Rt. 1, Box 38
	E. L. Bruce Co., Inc.	Little Rock	Box 989
	J. H. Hamlen and Son, Inc.	Little Rock	Box 327
St. Francis	Griffith Lumber Co. ³	Madison	Box 151
Saline	Holicer-Jones Lumber Co. ³	Benton	Box 208
Scott	Didier Lumber Co. ³	Mansfield	
	Scott County Lumber Co. ³	Waldron	
	Smith Lumber Co.	Waldron	Box 611
	Waldron Lumber Co. ³	Waldron	Box 130
Stone	Edwin Cartwright	Fiftysix	
Union	Anthony Forest Products Co. ³	Urbana	Box 86
	Calion Lumber Co., Inc. ³	Calion	
	Olinkraft, Inc. ³	Huttig	
	Reynolds and Draper Lumber Co., Inc. ³	El Dorado	Box 1511

Table 16.—*Large sawmills*¹ (continued)

County	Firm	Plant	
		Location	Address ²
Union	C. W. Templeton Lumber Co. ³	Junction City	Box 370
	Watson Bros. Lumber Co. ³	Mount Holly	
White	Fred Beaman Lumber Co.	Kensett	Box 21, Searcy
	W. C. Owens	Beebe	
	Elmo Usery	Higginson	Searcy
Woodruff	Dacus-Augusta Lumber Co.	Augusta	
Yell	Nebo Lumber Co. ³	Dardanelle	Box 308
	Plainview Lumber Co., Inc. ³	Plainview	Box 87
	Wilson Wood Lumber Co., Inc. ³	Ola	Box 194

¹Output of 3 million board feet or more.²Specified only if different from plant location.³Produced chips for sale to pulpmills.Table 17.—*Small sawmills*¹

County	Firm	Plant	
		Location	Address ²
Arkansas	A. G. Yarbrough Sawmill	Humphrey	
Baxter	Daniel and Schuh Sawmill	Norfolk	
	Jones and McClanahan	Big Flat	
	Alfred Lawson	Mountain Home	Rt. 2
	Don Wallace Cedar Mill	Midway	Rt. 1, Mountain Home
	Edgar L. Koster Sawmill	Mountain Home	Maynard
Benton	De Groff Sawmill	Bestwater	Rt. 4, Rogers
	Eversole and Means	Rogers	Box 183
	J. C. Forriester	Rogers	Rt. 5
	Hummell Sawmill	Lowell	Rt. 2, Rogers
	Moore Sawmill	Benton County	Springdale
	Scott Sawmill	Highfill	Rt. 1, Gentry
	Sims Sawmill	Garfield	Rt. 2
	Sullivan Sawmill	Highfill	Rt. 1, Siloam
	Todd Sawmill	Hiwassee	Rt. 1, Gravette
Ira Webb Sawmill	Gravette	Rt. 1	
Boone	Candwell Sawmill	Alpena	
	Estes Sawmill	Omaha	
	Greenhaw Sawmill	Harrison	Rt. 2
	Martin Sawmill	Harrison	610 West Rush
Bradley	Barham-Sevier Co.	Banks	Box 471, Fordyce
	Barham-Sevier Co.	Warren	Box 471, Fordyce
Carroll	Banks Sawmill	Carroll County	Box 2, Harrison
	Dale Buele Lumber Co.	Green Forest	Box 194
	Hawkins Sawmill	Eureka Springs	Rt. 3
	Hayes Industries	Clifty	Van Buren St., Eureka Springs
	B. C. Hull	Eureka Springs	Star Route
	Johnson Sawmill	Eureka Springs	Rt. 1
	Morrell Sawmill	Eureka Springs	
	Parker Sawmill	Grandview	Rt. 5, Berryville
	Price Sawmill	Eureka Springs	Rt. 2, Berryville

Table 17.—*Small sawmills*¹ (continued)

County	Firm	Plant	
		Location	Address ²
Chicot	Felton H. Johnson Sawmill	Eudora	Rt. 1, Box 312
	Breece White Manufacturing Co.	Eudora	Box X
Clark	Daily Lumber Co.	Arkadelphia	Box 111
	Frizzell Bros. Lumber Co.	Gurdon	Box 207
	W. T. Hill	Alpine	Star Route
	Billy McKa Hardwood Mill	Arkadelphia	Box 91
Clay	Robert Gates	St. Francis	
Cleburne	Cleburne County Post Co.	Heber Springs	Rt. 3, Box 53
	Martin Lumber Co.	Concord	
	Lisle Turney	Quitman	Rt. 3
Cleveland	Barham-Sevier Co.	Woodlawn	Box 471, Fordyce
	Troy Miller Tie Co.	Kingsland	Rt. 1, Box 199
Columbia	W. M. Higdon Lumber Co.	McNeil	
	Magnolia Lumber Co., Inc. ³	Magnolia	
	C. L. Roden	Magnolia	Rt. 5, Box 293
	S. L. Smith Sawmill	Waldo	
	H. G. Wilbanks Lumber Co.	McNeil	
	Frank Williams	Taylor	
Conway	Leo Adams	Jerusalem	
	Willie T. Howard	Jerusalem	
	Roy Wooten	Center Ridge	
Craighead	Ferrell Lumber Co.	Lake City	Rt. 2
	R. A. Slaven Sawmill	Bono	Rt. 2
	Tinsley's Sawmill	Jonesboro	Box 1166
Crawford	Brewer's Sawmill	Mulberry	
	M. C. Hopkins	Natural Dam	
	Glen Kimes	Mountainburg	
	Shipp's Sawmill	Mulberry	
	J. W. Vaught	Mountainburg	
Cross	Roy Richardson and Son	Wynne	Rt. 2, Box 124
	J. H. Sherman	Wynne	Rt. 1
Dallas	Barham-Sevier Co.	Farindale	Box 471, Fordyce
	Homer Brazeale	Sparkman	Rt. 1, Box 8
	Cartwright Mill	Holly Springs	
	Henry Draper	Willow	Rt. 2, Box 240, Malvern
	Dale Givens	Sparkman	Rt. 1, Box 68
	M. F. Hankwitz Mill	Princeton	Holly Springs
	Henry Jackson	Round Hill	Rt. 1, Box 466, Donaldson
	Walper Langley	Tulip	Rt. 1, Box 160, Leola
	Aaron Posey	Sparkman	Rt. 2
	Sevier and Hankwitz Mill	Princeton	Box 471, Fordyce
Faulkner	Bill Gibbs Sawmill	Vilonia	Rt. 3
	B. B. Heffington	Vilonia	Rt. 3
	H. McCord	Conway	
	Troy Rogers	Mayflower	
	Cecil Turner	Mayflower	Rt. 2

Table 17.—*Small sawmills*¹ (continued)

County	Firm	Plant	
		Location	Address ²
Franklin	Herman Conley	Ozark	Rt. 2
	Gavin Patterson Saw Mill	Mulberry	Rt. 2, Box 241
	Floyd Statton Sawmill	Ozark	
	O. B. Sturdivant Sawmill	Ozark	Star Route
Fulton	George Armistead Sawmill	Saddle	Mammoth Spring
	D. W. Collins Sawmill	Mammoth Spring	
	Owen Langston Mill	Salem	
	Bill McCradie Sawmill	Mammoth Spring	
	K. C. Richardson Sawmill	Elizabeth	
Garland	Ray Johnson	Hot Springs	Rt. 1, Box 648
Grant	Donald Davis Mill	Poyen	Box 5
	English Lumber Co.	Sheridan	
	L. C. Hope	Leola	Rt. 1, Prattsville
	S. F. Lewis Mill	Belfast	306 West 7th, Sheridan
	Walker Bros. Tie and Lumber	Poyen	Rt. 1, Box 46B, Malvern
Greene	Raymond Cox Sawmill	Paragould	Rt. 7
	Cupples Sawmill	Marmaduke	
Hempstead	Edward Adams	Guernsey	
	Bud Canada	McCaskill	
	Joe Fincher	Washington	Rt. 1
	Verdo Hollis	Patmos	
Hot Spring	H. A. Chandler Sawmill	Malvern	
	D. A. Efird Sawmill	Glen Rose	Malvern
	Joe R. Robbins	Malvern	Rt. 2, Box 49
	L. D. Tuggle Sawmill	Glen Rose	Malvern
	A. J. Williams Mill	Center Community	Rt. 1, Box 22, Leola
Howard	C. D. Davis Sawmill	Umpire	
	Russell Jackson	Umpire	
	Poag Lumber Co.	Dierks	
Independence	Porter L. Bowman Sawmill	Salada	
	Emmitt Brown Sawmill	Floral	
	Crabtree Sawmill	Newark	Saffell
	Estell Crabtree Sawmill	Cord	
	Harley Saffel	Cord	
	H. B. Martin Sawmill	Dowdy	
	F. V. Parr Sawmill	Cord	
Izard	Aromatic Cedar	Melbourne	Gainsville, Mo.
	Band Mill Gin Co.	Melbourne	
	Dockins Sawmill	Brockwell	
	Gamellial Jones Sawmill	Wideman	
	Moss-American	Melbourne	
	Eugene Owens Sawmill	Calico Rock	
	Smith-Hugh Sawmill	Gid	Oil Trough
	Woodrow-Cook	Calico Rock	Melbourne
Jefferson	K. M. Watson	Sulphur Springs	Rt. 1, Box 312, Pine Bluff
Johnson	Willis Grace Sawmill	Lamar	Rt. 1
	Bill James Sawmill	Salus	

Table 17.—*Small sawmills*¹ (continued)

County	Firm	Plant	
		Location	Address ²
Johnson	Ozark Box and Crating Co.	Clarksville	Box 321
	Vaughn Selby Sawmill	Lamar	Rt. 1
Lafayette	D. G. Turner	Lewisville	
Lawrence	Broadway Sawmill	Smithville	Rt. 1, Imboden
	Maynard Casper	Lynn	
	Lee Edwards and Son Sawmill	Hoxie	
	Gatewood Sawmill	Hoxie	Box 58
	Hays Bros. Lumber Co.	Strawberry	
	Moss-American	Strawberry	
	Murphy Sawmill	Ravenden	
	Lowell Junior Richey	Powhatan	
	Swartzlander Sawmill	Ravenden	Rt. 1
Lee	Dale Bennett Sawmill	Aubrey	Rt. 1, Marianna
Lincoln	Allen's Sawmill	Gould	Box 322
Little River	Earl Altenbaumer	Allene	Box 45
	Julius R. Bowman Sawmill	Wilton	Box 472, Ashdown
	Henry Brown Sawmill	Arden	Rt. 3, Ashdown
	Bush Lumber Co.	Winthrop	
	Eb Garmen Sawmill	Jewel	Star Route, Winthrop
	George Garrett Sawmill	Arden	
	Junior Kelly Green	Arkinda	Box 292
	W. H. Gregory Sawmill	Ashdown	
	Hess Bros. Sawmill	Winthrop	Star Route
	Hinton Tie Co.	Ashdown	Box 143
	Kenneth Klitz Sawmill	Cross Roads	
	M. F. Lisenby and Son	Wilton	Box 126
	E. F. Scarborough	Allene	Box 34
	Jack Scott Sawmill	Arden	Rt. 3, Ashdown
	Babe Smith Sawmill	Cross Roads	
	C. C. Smith	Winthrop	
Tackett Sawmill	Wallace	Rt. 3, Ashdown	
Clifford Tanks Sawmill	Cross Roads		
Floyd Ward Sawmill	Ogden		
Wright Lumber Co., Inc.	Ashdown		
Logan	Friga Bros. Sawmill	New Blaine	
	George Schonweiler Sawmill	Paris	Rt. 3
Lonoke	Floyd Davis Sawmill	Ward	Box 3
	Charles T. Dyson Sawmill	Austin	
	W. T. McCallie Lumber Co.	Carlisle	
	Cecil McMurtry	Cabot	
	Wilbert Moss	Carlisle	
	W. E. White	Cabot	
Madison	Clark Mill	Forum	Rt. 3, Huntsville
	Gilmir Sawmill	Clifty	Rt. 3, Huntsville
	Hayes Industries	Combs	Van Buren St., Eureka Springs
	Ozark Forest Products	Kingston	
	Richland Handle Co.	Wesley	

Table 17.--*Small sawmills*¹ (continued)

County	Firm	Plant	
		Location	Address ²
Madison	Alfred Thompson Sawmill	Huntsville	Rt. 4
	Watts Sawmill	Combs	
	White Sawmill	Forum	Rt. 3, Huntsville
	Willhite Sawmill	Boston	
Marion	Burleson Cedar Mill	Monark	Rt. 1, Yellville
	Humphrey Sawmill	Flippin	
	H. C. Ormand Supply Co.	Summit	Harrison
	A. L. Pilgrim Cedar Mill	Fairview	Flippin
Miller	Bryant and Horn Sawmill	Texarkana	
	Frizzell Jones Lumber Co.	Texarkana	Box 954
Monroe	Ferrell-Cooper Lumber Co.	Brinkley	
	O. R. Glover	Holly Grove	
	Ray Moore Tie Mill	Roe	
	Pearson Lumber Co.	Clarendon	
	Roy and Octie Pledger Tie Mill	Monroe	
Montgomery	Glenwood Lumber Co.	Tabor Settlement	Glenwood
Nevada	Acorn Lumber Co.	Rosston	Box 341, Camden
	John B. Gulley	Prescott	
	Ozark Forest Products	Sutton	
	Bill Purifoy Tie Mill	Anthony Switch	Camden
	J. D. Walker Tie Mill	Waterloo	Camden
	D. A. Wicker Mill	Prescott	Rt. 4
	G. W. Young Sawmill	Bodcaw	Camden
Newton	Bowling Sawmill	Fallsville	Salus
	Brisco Sawmill	Osage	Compton
	A. L. Casey Lumber Co.	Boxley	Ponca
	Lloyd Cunningham	Jasper	
	T. J. Fiveash	Hasty	
	Harold Greenhaw	Vendor	
	Hudson Sawmill	Jasper	
	Turnie Hughes	Jasper	
	Jerry Martin	Parthenon	Jasper
	Jerry Martin	Deer	Jasper
	Price Lumber Co.	Jasper	
Harold Day Sawmill	Vendor	Jasper	
Ouachita	F. V. Belt Tie Mill	Calhoun	Rt. 3, Box 235, Camden
	Tom Belt Tie Mill	Amy	Eagle Mills
	Chidester Lumber Co.	Chidester	Box 8
	Doyle Harvey Mill	Chidester	Rt. 2, Box 103
	J. D. Henson Tie Mill	Camden	
	Frank and James Landers	Stephens	Rt. 3, Box 176
	P. W. Strickland Tie Mill	Camden	
	Fred Wood and Son Sawmill	Chidester	Rt. 1
Perry	W. Richard Johnson	Perryville	Rt. 2, Box 19
	R. B. Long	Perry	
	Pennington & Williams Sawmill	Perryville	Rt. 2
	B. H. Satterfield	Perryville	Box 245
Phillips	Gulledge Lumber Co.	Marvell	Box 132

Table 17.—*Small sawmills*¹ (continued)

County	Firm	Plant	
		Location	Address ²
Pike	G. D. Brewer	Murfreesboro	De Queen
	Charlie Couch Mill	Antoine	
	Elbert Davis Lumber Co.	Murfreesboro	Box 201
	E. V. Hill Sawmill	Delight	Rt. 1
	Inell Jones Sawmill	Langley	Glenwood
	Pinkerton Lumber Co.	Glenwood	Box 205
Polk	Roy Ferguson	Board Camp	Rt. 1, Box 235, Mena
	C. E. Martin	Hatfield	Rt. 1
	Reese Tie Co.	Cove	Box 467, Stilwell, Okla.
	Reese Tie Co.	Cove	Box 467, Stilwell, Okla.
	Gaylord Rosson	Ink	Oden Star Route, Mena
	Sanderson's Lumber Co.	Mena	Rt. 2, Box 216
Pope	Opal Bartlett	Appleton	
	Duval's Sawmill	Russellville	Rt. 4, Box 150
	Troy Ennis	Atkins	Rt. 3
	Leon Garrison	Hector	Ben Hur
	Robert L. Johnson	Ben Hur	
	Loyon Langford	Dover	
	Willie Parrish	Appleton	
	Bud Treadwell	Scottsville	Hector
Prairie	Jimmie Don Green Tie Mill	Des Arc	
Pulaski	O. F. Alexander	Little Rock	Rt. 6, Box 163
	Eschbach Bros.	Wye Community	Rt. 1, Bigelow
	Troyce Halpain	Alexander	Rt. 1, Box 173B
	George P. Leatherman	North Little Rock	2000 Osage
	Lacy McEntyre ³	Monnie Springs	Box 38, Roland
	J. Roland Williams Lumber Co. ³	Jacksonville	Box 476
Randolph	W. R. Agnew	Ravenden Springs	Rt. 1
	J. H. Allison Sawmill	Pocahontas	Rt. 5
	Blevins Sawmill	Middlebrook	Rt. 3, Pocahontas
	Butler's Mill	Pocahontas	Reyno
	Cagle Mill	Pocahontas	
	Clay Sawmill	Pocahontas	Rt. 2
	Koons Sawmill	Pocahontas	Rt. 4, Box 155
	Billie Lynxwiler Sawmill	Warm Springs	
	McReynolds Sawmill	Ravenden Springs	Rt. 1
	Rapert Sawmill	Maynard	Rt. 1
	Duane Teel	Pocahontas	
	Kennoth Vandergriff	Ravenden Springs	Rt. 1
	N. J. Wilkerson	Ravenden Springs	
St. Francis	A. P. Demange Lumber Co., Inc.	Madison	Box 171
	Jim Ellis	Colt	
	Doyme Emmerson	Colt	
	J. A. Hardin	Colt	
	D. R. Jones Sawmill	Pinetree	Palestine
	Bill Smith Tie Mill	Palestine	
	John Smith	Forrest City	Rt. 2, Box 213A
	True Temper Corp.	Wheatley	Box 95
Young's Sawmill	Summersweet	Box 222, Palestine	

Table 17.—*Small sawmills*¹ (continued)

County	Firm	Plant	
		Location	Address ²
Saline	D. B. Beck	Bland	Box 21, Benton
	James A. Kindy Lumber Co.	Benton	Rt. 2, Box 582
	Nelson E. Kling	Mablevale	9800 Kling Rd.
	Arthur Lindsey	Avilla	Rt. 1, Box 137, Alexander
	J. W. Mashburn	2 miles West Hensley	Rt. 1, Hensley
	William Price	Mulberry Community	Rt. 2, Box 323, Benton
	Jewell Robinson	Bauxite	Malvern
Scott	Terry Edwards Sawmill	Weeks	Rt. 1, Heavener, Okla.
	Goddard Bros. Sawmill	Waldron	Rt. 3
	Jerome Hall Sawmill	Y City	
	Ted Metcalf	Abbott	Rt. 2, Booneville
	Roy Nichols	Parks	
	Sanders Bros. Sawmill	Bates	
	Waldron Stave Co.	Waldron	Box 172
	Charles Wallace Sawmill	Nella	
	Waltreak Tie Co.	Parks	
	Jesse Williams	Abbott	Rt. 2, Booneville
Rufus Williams	Abbott	Rt. 2, Booneville	
Searcy	Branscum & Harness	Marshall	
	Bratton Sawmill	Snowball	Marshall
	Campbell Bros. Sawmill	Mount Judea	
	Paul Jones	Marshall	Box 41
	Loftins and Chadwick	Marshall	
	Still's Sawmill	Morning Star	Rt. 4, Box 47, Marshall
	Treadwell Lumber Co.	Morning Star	Marshall
	Treat Bros. Sawmill	Marshall	Box 217
Sebastian	Chester Johnson Lumber Co.	Midland	
Sevier	G. J. Brewer Sawmill	De Queen	Box 414, Horatio
	John Brewer	Horatio	Box 261
	M. L. Brewer	De Queen	1022 North 16th St.
	Joe Chandler	De Queen	
	Horatio Lumber Co.	Horatio	Box 155
	Lowell Morphey	Gillham	
	Buddy Munn	Horatio	
	Poag Lumber Co.	De Queen	704 Gilson Ave.
	Poag Lumber Co.	Horatio	704 Gilson Ave., De Queen
	Poag Lumber Co.	Lockesburg	704 Gilson Ave., De Queen
Poag Lumber Co.	De Queen	704 Gilson Ave., De Queen	
Wilson and Hooker	De Queen		
Sharp	Bailey's Sawmill	Ash Flat	
	Edward Baldrige Sawmill	Hardy	
	Ross-Fortuna	Hardy	
Stone	Forrest Brannon	Fiftysix	
	Branscum and Bagby Sawmill	Mountain View	
	George Cartwright	Fiftysix	
	Herman Chitwood	Mountain View	
	Olis G. Gammill	Timbo	
	Claude McCarty	Mountain View	
George F. Monahan	Mountain View		

Table 17.—*Small sawmills*¹ (continued)

County	Firm	Plant	
		Location	Address ²
Stone	Doyle Morrison Scudder Price Sawmill	Fox Mountain View	
Union	C. H. Nolen Lumber Co. Jack Wilson	Three Creeks Junction City	606 North Jackson St., El Dorado
Van Buren	Arkwood, Inc. Martin Bramlett C. L. Downey Sawmill T. L. French Jerl Hefner Roy Keeling Kincannon and Williams Benton Thomas	Clinton Clinton Dennard Clinton Clinton Clinton Scotland Scotland	Rt. 4 Rt. 5, Leslie Rt. 4 Rt. 3 Rt. 4 Box 6, Jerusalem
Washington	Dixon Sawmill Donaghey Sawmill Drummond Sawmill Alvis Hampton Hayes Industries Hollingsworth Sawmill Oren Luper Nation's Hardwood Co. Ozark Forest Products Preston Sawmill	Lincoln Springdale Brentwood Winslow Winslow Durham Winslow Prairie Grove Fayetteville Winslow	Rt. 1 Rt. 5 Winslow Van Buren St., Eureka Springs Rt. 1, Fayetteville Rt. 2
White	Wallace Bell Henry Bench W. W. Chrisp Lolon Crisler Calvin Davis Ralph Davis Nelson Mitchell Jack Moore T. L. Porter Roy Rettig	Searcy Floyd Beebe Pangburn Judsonia Judsonia Bald Knob Griffithville Griffithville Beebe	Rt. 3 Rt. 2 Rt. 1 Higginson
Woodruff	T. C. Riding Robinson Sawmill Clarence C. Shue	Hunter Wiville Morton	Rt. 4, McCrory
Yell	George Eddy W. E. Housley Sawmill J. D. Winters Sawmill	Danville Onyx Yell County	Rt. 1, Belleville Star Route, Steve 814 East "J" St., Russellville

¹Output of less than 3 million board feet.²Specified only if different from plant location.³Produced chips for sale to pulpmills.

Table 18.—*Wood pulpmills*

County	Firm	Location
Ashley	Georgia-Pacific Corp., Crossett Division-Paper	Crossett
Conway	Arkansas Kraft Corp.	Morrilton
Jefferson	Dierks Paper Co. International Paper Co.	Pine Bluff Pine Bluff
Little River	Nekoosa-Edwards Paper Co.	Ashdown
Ouachita	International Paper Co.	Camden
Pulaski	Superwood Corp. of Arkansas	Little Rock

Table 19.—*Post, pole, and piling plants*

County	Firm	Location	Address ¹	Type ²
Baxter	Gene Horn Sawmill	Old Joe		O
Benton	Eversole and Son Stave Co.	Rogers	Box 183	N
	Timber Treated Products, Inc.	Rogers	Box 147	P
Boone	Arkwood, Inc.	Omaha	Box 10, Harrison	P
	G. H. Widner	Harrison	Rt. 5	O
Carroll	Earl Clifton Post Plant	Berryville	Rt. 4	O
Cleburne	Cleburne County Post Co.	Heber Springs	Rt. 3, Box 53	O
Conway	Don Reid	Jerusalem		O
Dallas	Elrod Co.	Fordyce	Box 346, Rison	O
Franklin	J. G. Littlepage	Ozark	Rt. 2	O
Fulton	North Arkansas Penta Products	Viola	Rt. 2	N
Grant	International Paper Co., Wood Preserving Division	Leola	Box 121	O
Howard	M. Doren Davis Wood Products	Umpire		O
	Russell Jackson	Umpire		O
Izard	Lindsey Post Co.	Calico Rock		N
	Sentinel Wood Treating Post Yard	Calico Rock		N
Lafayette	Eason Wood Products	Lewisville		O
Marion	Lindon's Cedar Mill	Summit	Box 72	O
	Roark Posts	Monark	Yellville	O
Ouachita	Ouachita-Nevada Treating Co.	Reader		N
Pike	International Paper Co., Wood Preserving Division	Delight	Box 116	O
Polk	Cimmaron Lumber Co.	Hatfield	Box 18	N
	International Paper Co., Wood Preserving Division	Mena	Box 125	O
	Midwest Creosoted Products Co.	Mena	Box 504	O
	Reese Tie Co. Post Plant	Cove	Box 467, Stillwell, Okla.	O
	Three States Lumber Co.	Mena	Box 70	P
Pulaski	Koppers Co., Inc.	North Little Rock	Box 3185	P
Scott	Waldron Stave Co.	Waldron	Box 172	O

Table 19.—*Post, pole, and piling plants* (continued)

County	Firm	Location	Address ¹	Type ²
Searcy	White Wood Treating Co.	St. Joe	Rt. 1	P
Sevier	Dierks Forest, Inc., Treating Division	De Queen		P
Union	El Dorado Pole and Piling Co., Inc.	El Dorado	Box 7	P
Yell	Midwestern Creosoted Products, Inc. Wood Treating Plant	Ola Ola	Omaha, Nebr. Box 206	O P

¹Specified only if different from plant location.²P = pressure treating.

N = nonpressure treating.

O = nontreating plants.

Table 20.—*Veneer plants*

County	Firm	Location	Address ¹	Type ²
Ashley	Georgia-Pacific Corp. ³ Georgia-Pacific Corp. ³	Crossett Crossett		O O
Clark	Arkla Chemical Corp. ³	Gurdon	Box 43	O
Dallas	Georgia-Pacific Corp. ³	Fordyce		O
Hot Spring	Van Veneer Co.	Malvern	Box 61	C
Howard	Nashville Basket Co. ³ Ouachita Veneer Co.	Nashville Umpire		C O
Phillips	Beisel Veneer Hoop Co. ³ McKnight Veneer and Plywood, Inc. ³	West Helena West Helena	Box 2338 Drawer M	O O
Pulaski	Little Rock Crate and Basket Co. ³	Little Rock	1623 East 14th	C
Union	Junction City Veneer Corp. ³	Junction City	Box J	O
White	Enterprise Veneer Co.	Judsonia		O
Woodruff	Delta Plywood	Cotton Plant	Marianna	O

¹Specified only if different from plant location.²C = plants producing chiefly container veneer.

O = plants producing chiefly commercial and other veneers.

³Produced chips for sale to pulp industry.Table 21.—*Miscellaneous plants*

County	Firm	Plant	
		Location	Address ¹
Arkansas	Guy Young Stave Mill ³	Jasper	Hwy. 152 & Bayou Meto
Baxter	Martins Charcoal Co. ²	Mountain Home	Rt. 2
	Promised Land Charcoal Co. ²	Mountain Home	Rt. 1
	Glen Vass ²	Midway	
Benton	Eversole and Son Stave Co. ³	Rogers	Box 183
Boone	Flexsteel Industries, Inc. ⁶	Harrison	Box 722
	Independent Stave Co. ³	Harrison	
	Keeter Charcoal Co. ²	Omaha	Box 653, Branson, Mo.
Carroll	Keeter Charcoal Co. ²	Green Forest	
Chicot	W. C. Nisler Dimension Co. ⁶	Dermott	Box 178
Clark	National Gypsum Co. ⁴	Arkadelphia	

Table 21.—*Miscellaneous plants* (continued)

County	Firm	Plant	
		Location	Address ¹
Cleveland	Woodrow Phillips ⁶	Rison	Pine Bluff
Craighead	B & T Dimension Mill ⁶	Jonesboro	Rt. 5
	Clem's Sawmill ⁶	Jonesboro	109 South Main St.
	M. N. Hill ⁶	Lake City	
	B. M. LeWallen ⁶	Lake City	
	H. J. McMurray ⁶	Lake City	
	Smith Sawmill ⁶	Phillips	Box 68
Crawford	Nolen Handle Co. ⁵	Mountainburg	
Cross	Roy Richardson and Son ³	Wynne	Rt. 2, Box 124
Dallas	L. W. Clark, Inc. ³	Fordyce	
Franklin	Ozark Charcoal Co. ²	Ozark	Rt. 2
Fulton	Berry Manufacturing Co. ⁵	Mammoth Spring	Rt. 4
Garland	W. O. Bates and Son ⁶	Hot Springs	608 McClendon Rd.
Grant	LaPierre-Sawyer Handle Co. ⁵	Sheridan	Box 32
Greene	Paragould Wood Products Co., Inc. ⁶	Paragould	817 S. 5th St., Box 31
Hempstead	Bruner Ivory Handle Co. ⁵	Hope	Box 647
	Split Hickory Co., Inc. ⁶	Hope	Box 25
Hot Spring	Bray Lumber Co. ⁶	Malvern	531 Sunset Dr.
	Kidder Lumber Co. ⁶	Malvern	Box 115
Howard	Advance Excelsior Co. ⁴	Mineral Springs	Rt. 1, Box 42
Independence	Bowman Handle Mill ⁵	Batesville	Hwy. 167 S.
	Freeman Rice Sawmill ⁶	Pleasant Plains	
Johnson	Clarksville Wood Products, Inc. ³	Clarksville	Box 529
Lawrence	Edward Downum ⁶	Lauratown	
	Billy Joe & Gene Gentry ⁶	Walnut Ridge	
	V & B Manufacturing Co. ⁶	Walnut Ridge	
Logan	Arkansas Charcoal Co. ²	Paris	
	Scranton Charcoal Co. ²	Scranton	
Lonoke	Lewis Elmore Cabot Net Hoop Co. ⁶	Cabot	Box 91
Madison	Keeter Charcoal Co. ²	Huntsville	Rt. 5
	Willhite Sawmill ⁵	Boston	
	Wood Shavings Coop., Inc. ⁶	Huntsville	Rt. 5
Marion	Humphrey Sawmill ³	Flippin	
Monroe	Alderson Lumber Co. ⁶	Fargo	Box 898, Forrest City
	H. L. Patrick ⁵	Brinkley	
	Jose Luis Pineda ⁶	Monroe	
Montgomery	Mount Ida Stave Co. ³	Mount Ida	
Newton	George Charcoal Co. ²	George	Star Route, Osage
	Walter Fowler Sawmill ^{5,6}	Ponca	
Ouachita	Monarch Wedge Co. ⁶	Camden	Box 2155, Cullendale Sta.
Phillips	Lynn Brooks ⁵	Holly Grove	Rt. 2
Prairie	Treat Bros. and Clark Stave Co. ³	Des Arc	

Table 21.—*Miscellaneous plants* (continued)

County	Firm	Plant	
		Location	Address ¹
Prairie	White River Square Co. ⁶	Des Arc	
Pulaski	AMXCO., Inc. ⁴	North Little Rock	Box 5168
	L. D. Johnson Stave Mill, Inc. ³	Little Rock	11420 Southridge Dr.
Randolph	J. G. Flagg Stave Manufacturers ³	Pocahontas	Box 66
	Griffin Mill ⁶	Warm Springs	Ravenden
	Kifer Mill ⁶	O'Kean	
	Mitchell Block Mill ^{5,6}	Pocahontas	Rt. 2
	Morris ⁶	Dalton	
St. Francis	Overtus Brinker Furniture Square Mill ^{5,6}	Caldwell	Box 39
Scott	Waldron Charcoal Co., Inc. ²	Waldron	Box 303
	Waldron Stave Co. ³	Waldron	Box 172
	Williams and Son Moulding Co. ⁶	Abbott	
Searcy	Loftins and Chadwick ³	Leslie	
	C. D. Sutterfield ⁵	Landis	Rt. 7, Box 704
	Treat Bros. Stave Co., Inc. ³	Marshall	
Sebastian	Sutton Products, Inc. ⁵	Fort Smith	Box 191
Stone	Burton Trotter ³	Mountain View	
Union	L. W. Clark ³	Strong	Box 267
Washington	Acme Handle Co. ⁵	Fayetteville	Box 208
	Budd Post and Hardwood ⁶	Fayetteville	Box 640
	Ozark Forest Products, Inc. ³	Fayetteville	Box 1054
White	A. O. Patterson ⁶	Searcy	Box 425
	James Washburn ⁶	Bald Knob	
Yell	Plainview Wood Products, Inc. ³	Plainview	

¹Specified only if different from plant location.²Charcoal.³Cooperage.⁴Icebor.⁵Handlestock.⁶Miscellaneous dimension mill.





FOREST STATISTICS FOR ARKANSAS COUNTIES

Arnold Hedlund

and

J. M. Earles



SOUTHERN FOREST EXPERIMENT STATION
New Orleans, Louisiana
Forest Service, U. S. Department of Agriculture



Forest Survey regions in Arkansas

FOREST STATISTICS FOR ARKANSAS COUNTIES

Arnold Hedlund and J. M. Earles

This report tabulates information from a new forest survey of Arkansas, completed in 1970 by the Southern Forest Experiment Station. The tables are intended for use as source data in compiling estimates for groups of counties. Because the sampling procedure was intended primarily to furnish inventory data for the State as a whole, estimates for individual counties have limited and variable accuracy.

The data on forest acreage and timber volume were secured by a method of systematic sampling that involved a forest-nonforest classification on aerial photographs and on-the-ground measurements of trees at sample locations. The sample locations were at the intersections of a grid of lines spaced 3 miles apart. At each forested location, 10 small plots were uniformly located on an area of about 1 acre.

The sampling errors to which the State area and volume totals are liable (on a probability of two chances out of three) are shown in table 1.

Table 1.—Sampling errors for forest land and volume estimates

Item	Sampling error
	Percent
Commercial forest land	0.3
Growing-stock volume	1.3
Sawtimber volume ¹	1.9
Growth on growing stock	1.8
Growth on sawtimber ¹	2.2
Removals from growing stock	2.8
Removals from sawtimber ¹	2.7

¹ International ¼-inch rule.

Detailed sampling errors are shown in tables 22-30. An approximation of sampling errors for groups of counties may be obtained by using the following formula:

$$e = \frac{(SE) \sqrt{(\text{Specified volume or area})}}{\sqrt{(\text{Volume or area total in question})}}$$

Where: e = Estimated sampling error of the volume or area total in question

SE = Specified sampling error for the State.

When data for two or more counties are grouped the error decreases. Conversely, as data for individual counties are broken down by various subdivisions, the possibility of error increases and is greatest for the smallest items.

Because of differences in standards of tree measurement, direct comparisons cannot be made between the volume estimates in this report and those from a prior inventory in 1959. In table 2, changes between the two surveys are summarized in terms of 1969 measurement standards. A State-wide interpretive report, now in preparation, will include an evaluation of timber trends since the 1959 survey.

Table 2.—Commercial forest area, growing stock, and sawtimber volume in International ¼-inch rule, 1969, and change since 1959

Survey region	Commercial forest		Growing stock				Sawtimber			
			Softwood		Hardwood		Softwood		Hardwood	
	Area	Change	Volume	Change ¹	Volume	Change ¹	Volume	Change ¹	Volume	Change ¹
	Thousand acres	Percent	Million cu. ft.	Percent	Million cu. ft.	Percent	Million bd. ft.	Percent	Million bd. ft.	Percent
Southwest	6,645.1	— 5	3,787.5	+16	3,157.8	(²)	15,829.3	+16	7,830.8	— 5
Ouachita	3,319.1	— 7	1,923.5	+13	976.9	+ 6	6,533.1	+20	1,810.3	+ 2
Ozark	6,267.5	—10	541.2	+43	2,898.8	+ 1	1,676.9	+52	6,181.2	— 2
Delta	1,975.0	—39	170.2	— 1	1,772.7	—30	774.8	+ 5	5,552.6	—28
All regions	18,206.7	—12	6,422.4	+16	8,806.2	— 7	24,814.1	+18	21,374.9	—11

¹ Based on 1969 measurement standards.

² Negligible.

DEFINITIONS OF TERMS

Acceptable trees.—Growing-stock trees of commercial species that meet specified standards of size and quality but do not qualify as desirable trees.

Commercial forest land.—Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization.

Desirable trees.—Growing-stock trees that are of commercial species, have no defects in quality for timber products, are of relatively high vigor, and contain no pathogens that may result in death or serious deterioration before rotation age.

Forest type.—A classification of forest land based upon the species forming a plurality of live-tree stocking.

Growing-stock trees.—Live trees that are of commercial species and qualify as desirable or acceptable trees.

Growing-stock volume.—Net volume in cubic feet of growing-stock trees at least 5.0 inches in diameter at breast height, from a 1-foot stump to a minimum 4.0-inch top diameter outside bark of the central stem, or to the point where the central stem breaks into limbs.

Net annual growth.—The increase in volume of a specified size class for a specific year.

Poletimber trees.—Growing-stock trees of commercial species at least 5.0 inches in diameter at breast height, but smaller than sawtimber size.

Sawtimber trees.—Live trees that are of commercial species, contain at least a 12-foot saw log, and meet regional specifications for freedom from defect. Softwoods must be at least 9.0 inches in diameter at breast height and hardwoods at least 11.0 inches.

Sawtimber volume.—Net volume of the saw-log portion of live sawtimber in board feet.

Stand-size class.—A classification of forest land based on the size class of growing-stock trees on the area; that is, sawtimber, poletimber, or seedling and saplings.

Timber removals.—The net volume of growing-stock trees removed from the inventory by harvesting; cultural operations, such as timber-stand improvement; land clearing; or changes in land use.

Table 3.—Commercial forest land by ownership class and county, 1969

County	All ownerships	National forest	Other public	Forest industry	Farmer	Misc. private
	— — — — — — — —					
	Thousand acres					
Arkansas	207.2	—	72.1	11.8	57.7	65.6
Ashley	410.4	—	3.5	268.1	51.3	87.5
Baxter	254.8	60.4	21.5	—	30.0	142.9
Benton	219.6	6.4	3.6	—	87.2	122.4
Boone	195.5	—	5.4	—	82.2	107.9
Bradley	354.0	—	—	194.9	76.8	82.3
Calhoun	348.0	—	(¹)	232.2	5.8	110.0
Carroll	239.4	—	3.0	—	116.4	120.0
Chicot	75.6	—	—	31.1	25.9	18.6
Clark	423.4	—	10.3	151.0	98.7	163.4
Clay	65.0	—	11.0	10.8	12.9	30.3
Cleburne	240.7	—	3.1	25.4	84.7	127.5
Cleveland	319.0	—	—	145.2	75.5	98.3
Columbia	379.5	—	.2	82.9	89.7	206.7
Conway	137.5	6.9	3.2	—	38.3	89.1
Craighead	45.5	—	—	—	17.4	28.1
Crawford	208.0	81.9	.1	—	53.6	72.4
Crittenden	32.0	—	7.8	5.3	12.7	6.2
Cross	49.5	—	—	—	43.9	5.6
Dallas	372.6	—	(¹)	237.9	70.3	64.4
Desha	143.0	—	20.2	96.9	25.9	—
Drew	387.6	—	9.3	137.8	81.6	158.9
Faulkner	156.8	—	11.5	—	57.2	88.1
Franklin	211.2	100.3	4.3	—	42.3	64.3
Fulton	247.0	—	1.5	—	159.2	86.3
Garland	335.5	99.4	17.9	121.4	10.6	86.2
Grant	346.8	—	—	240.0	56.2	50.6
Greene	53.3	—	.4	—	40.8	12.1
Hempstead	286.7	—	7.2	79.4	97.7	102.4
Hot Spring	294.8	.4	6.2	154.3	53.7	80.2
Howard	254.8	1.2	9.0	165.6	63.8	15.2
Independence	244.8	—	1.2	—	73.5	170.1
Izard	240.0	—	(¹)	—	98.0	142.0
Jackson	65.0	—	—	—	32.4	32.6
Jefferson	193.5	—	18.6	38.0	50.9	86.0
Johnson	298.1	173.5	.1	—	52.6	71.9
Lafayette	212.8	—	(¹)	61.7	56.1	95.0
Lawrence	108.8	—	8.5	—	57.4	42.9

Table 3.—Commercial forest land by ownership class and county, 1969 (continued)

County	All ownerships	National forest	Other public	Forest industry	Farmer	Misc. private
— — — — — — — —						
Thousand acres						
Lee	87.4	9.4	—	4.9	42.6	30.5
Lincoln	142.8	—	.3	10.8	31.5	100.2
Little River	192.5	—	4.7	71.6	49.6	66.6
Logan	254.2	86.6	9.1	5.9	59.5	93.1
Lonoke	91.8	—	(¹)	—	61.1	30.7
Madison	356.4	45.3	8.9	—	176.3	125.9
Marion	282.0	1.7	20.6	—	57.6	202.1
Miller	217.0	—	8.9	21.0	77.1	110.0
Mississippi	34.8	—	14.4	10.2	10.2	—
Monroe	150.4	—	22.1	48.6	75.2	4.5
Montgomery	410.4	290.3	10.9	54.7	10.9	43.6
Nevada	300.0	—	7.2	90.1	90.1	112.6
Newton	478.0	193.2	9.2	—	139.2	136.4
Ouachita	384.3	—	9.9	103.8	85.5	185.1
Perry	273.6	94.3	1.9	65.6	60.2	51.6
Phillips	81.6	8.8	8.8	10.8	26.2	27.0
Pike	319.0	2.2	6.8	220.6	81.3	8.1
Poinsett	65.0	—	3.9	—	34.8	26.3
Polk	435.0	178.0	1.5	100.2	33.4	121.9
Pope	338.4	181.3	4.1	—	80.8	72.2
Prairie	140.4	—	13.7	16.5	56.2	54.0
Pulaski	252.0	—	28.1	21.5	43.0	159.4
Randolph	186.2	—	6.6	—	95.0	84.6
St. Francis	65.0	—	9.6	4.2	29.9	21.3
Saline	372.6	51.5	1.6	171.0	15.5	133.0
Scott	448.2	349.9	(¹)	25.9	46.6	25.8
Searcy	310.6	29.5	1.7	—	76.0	203.4
Sebastian	134.4	9.5	37.1	—	43.0	44.8
Sevier	269.5	—	9.3	137.3	68.7	54.2
Sharp	255.3	—	—	—	181.2	74.1
Stone	322.0	57.8	.8	—	122.1	141.3
Union	572.4	—	.9	194.6	54.0	322.9
Van Buren	303.8	30.5	2.1	10.0	80.0	181.2
Washington	318.8	17.2	1.8	—	138.6	161.2
White	222.6	—	15.1	10.8	97.4	99.3
Woodruff	77.4	—	(¹)	—	42.8	34.6
Yell	403.2	210.8	18.0	48.4	86.0	40.0
All counties	18,206.7	2,378.2	560.3	3,950.7	4,800.0	6,517.5

¹ Negligible.

Table 4.—Commercial forest land by forest type and county, 1969

County	All types	Loblolly-shortleaf pine	Oak-pine	Oak-hickory	Oak-gum-cypress	Elm-ash-cotton-wood	Thousand acres						
							—	—	—	—	—	—	—
Arkansas	207.2	—	—	44.8	145.6	16.8							
Ashley	410.4	205.2	79.8	57.0	68.4	—							
Baxter	254.8	—	9.8	245.0	—	—							
Benton	219.6	—	—	219.6	—	—							
Boone	195.5	—	—	195.5	—	—							
Bradley	354.0	123.9	76.7	76.7	76.7	—							
Calhoun	348.0	133.4	69.6	63.8	81.2	—							
Carroll	239.4	11.4	22.8	205.2	—	—							
Chicot	75.6	—	—	4.2	50.4	21.0							
Clark	423.4	116.0	127.6	110.2	69.6	—							
Clay	65.0	—	—	19.5	45.5	—							
Cleburne	240.7	33.2	58.1	141.1	8.3	—							
Cleveland	319.0	110.2	58.0	75.4	69.6	5.8							
Columbia	379.5	144.9	96.6	55.2	82.8	—							
Conway	137.5	12.5	25.0	87.5	12.5	—							
Craighead	45.5	—	—	14.0	24.5	7.0							
Crawford	208.0	29.2	8.2	170.6	—	—							
Crittenden	32.0	—	—	—	19.2	12.8							
Cross	49.5	—	—	22.0	27.5	—							
Dallas	372.6	118.8	102.6	70.2	81.0	—							
Desha	143.0	—	—	—	117.0	26.0							
Drew	387.6	91.8	81.6	112.2	96.9	5.1							
Faulkner	156.8	—	—	156.8	—	—							
Franklin	211.2	22.2	30.6	158.4	—	—							
Fulton	247.0	26.0	—	221.0	—	—							
Garland	335.5	115.5	115.5	104.5	—	—							
Grant	346.8	76.5	96.9	81.6	91.8	—							
Greene	53.3	—	4.1	36.9	8.2	4.1							
Hempstead	286.7	109.8	79.3	42.7	54.9	—							
Hot Spring	294.8	80.4	87.1	107.2	20.1	—							
Howard	254.8	93.1	88.2	49.0	19.6	4.9							
Independence	244.8	14.4	14.4	216.0	—	—							
Izard	240.0	19.2	19.2	192.0	9.6	—							
Jackson	65.0	—	—	39.0	26.0	—							
Jefferson	193.5	31.5	31.5	49.5	72.0	9.0							
Johnson	298.1	36.6	31.8	222.0	7.7	—							
Lafayette	212.8	78.4	56.0	22.4	44.8	11.2							
Lawrence	108.8	—	—	64.0	44.8	—							

Table 4.—Commercial forest land by forest type and county, 1969 (continued)

County	All types	Loblolly-shortleaf pine	Oak-pine	Oak-hickory	Oak-gum-cypress	Elm-ash-cottonwood
Thousand acres						
Lee	87.4	—	—	9.2	55.2	23.0
Lincoln	142.8	20.4	15.3	61.2	35.7	10.2
Little River	192.5	38.5	77.0	33.0	38.5	5.5
Logan	254.2	80.6	49.6	111.6	12.4	—
Lonoke	91.8	—	—	32.4	59.4	—
Madison	356.4	—	10.8	345.6	—	—
Marion	282.0	14.1	—	267.9	—	—
Miller	217.0	56.0	56.0	21.0	63.0	21.0
Mississippi	34.8	—	—	—	17.4	17.4
Monroe	150.4	—	4.7	18.8	126.9	—
Montgomery	410.4	165.3	114.0	131.1	—	—
Nevada	300.0	102.0	54.0	90.0	54.0	—
Newton	478.0	32.4	32.4	413.2	—	—
Ouachita	384.3	85.4	109.8	85.4	103.7	—
Perry	273.6	102.6	119.7	45.6	5.7	—
Phillips	81.6	—	—	15.3	61.2	5.1
Pike	319.0	139.2	110.2	63.8	—	5.8
Poinsett	65.0	—	—	20.0	20.0	25.0
Polk	435.0	104.4	168.2	162.4	—	—
Pope	338.4	54.7	44.6	239.1	—	—
Prairie	140.4	—	—	46.8	93.6	—
Pulaski	252.0	22.4	50.4	117.6	56.0	5.6
Randolph	186.2	—	—	172.9	13.3	—
St. Francis	65.0	—	—	—	60.0	5.0
Saline	372.6	81.0	91.8	167.4	27.0	5.4
Scott	448.2	226.8	75.6	140.4	5.4	—
Searcy	310.6	—	14.9	295.7	—	—
Sebastian	134.4	6.4	6.4	96.0	19.2	6.4
Sevier	269.5	78.4	39.2	78.4	58.8	14.7
Sharp	255.3	11.1	11.1	233.1	—	—
Stone	322.0	27.6	27.6	266.8	—	—
Union	572.4	199.8	118.8	118.8	135.0	—
Van Buren	303.8	39.2	34.3	230.3	—	—
Washington	318.8	—	10.2	308.6	—	—
White	222.6	—	21.2	159.0	42.4	—
Woodruff	77.4	—	—	—	73.1	4.3
Yell	403.2	145.6	100.8	95.2	61.6	—
All counties	18,206.7	3,668.0	3,039.6	8,446.3	2,774.7	278.1

Table 5.—Commercial forest land by stand-size class and county, 1969

County	All classes	Sawtimber	Poletimber	Sapling and seedling	Nonstocked areas
— — — — — Thousand acres — — — — —					
Arkansas	207.2	134.4	39.2	33.6	—
Ashley	410.4	188.1	51.3	171.0	—
Baxter	254.8	29.4	68.6	156.8	—
Benton	219.6	36.6	48.8	134.2	—
Boone	195.5	46.0	34.5	103.5	11.5
Bradley	354.0	171.1	53.1	123.9	5.9
Calhoun	348.0	116.0	63.8	168.2	—
Carroll	239.4	57.0	57.0	125.4	—
Chicot	75.6	37.8	21.0	8.4	8.4
Clark	423.4	226.2	87.0	104.4	5.8
Clay	65.0	19.5	19.5	26.0	—
Cleburne	240.7	16.6	66.4	157.7	—
Cleveland	319.0	150.8	75.4	92.8	—
Columbia	379.5	103.5	75.9	193.2	6.9
Conway	137.5	25.0	25.0	87.5	—
Craighead	45.5	17.5	7.0	21.0	—
Crawford	208.0	56.1	37.4	114.5	—
Crittenden	32.0	25.6	—	6.4	—
Cross	49.5	22.0	5.5	22.0	—
Dallas	372.6	156.6	91.8	124.2	—
Desha	143.0	97.5	13.0	32.5	—
Drew	387.6	163.2	76.5	142.8	5.1
Faulkner	156.8	—	11.2	134.4	11.2
Franklin	211.2	47.4	69.6	94.2	—
Fulton	247.0	13.0	52.0	182.0	—
Garland	335.5	126.5	93.5	115.5	—
Grant	346.8	137.7	86.7	122.4	—
Greene	53.3	28.7	8.2	16.4	—
Hempstead	286.7	103.7	85.4	97.6	—
Hot Spring	294.8	80.4	120.6	93.8	—
Howard	254.8	98.0	83.3	73.5	—
Independence	244.8	14.4	43.2	187.2	—
Izard	240.0	48.0	28.8	163.2	—
Jackson	65.0	6.5	19.5	39.0	—
Jefferson	193.5	81.0	49.5	63.0	—
Johnson	298.1	66.0	80.9	151.2	—
Lafayette	212.8	72.8	56.0	84.0	—
Lawrence	108.8	12.8	44.8	51.2	—

Table 5.—Commercial forest land by stand-size class and county, 1969 (continued)

County	All classes	Sawtimber	Poletimber	Sapling and seedling	Nonstocked areas
— — — — — Thousand acres — — — — —					
Lee	87.4	59.8	23.0	4.6	—
Lincoln	142.8	51.0	45.9	45.9	—
Little River	192.5	55.0	60.5	77.0	—
Logan	254.2	55.8	68.2	130.2	—
Lonoke	91.8	37.8	16.2	37.8	—
Madison	356.4	37.8	102.6	216.0	—
Marion	282.0	28.2	84.6	169.2	—
Miller	217.0	84.0	49.0	84.0	—
Mississippi	34.8	17.4	11.6	5.8	—
Monroe	150.4	89.3	32.9	28.2	—
Montgomery	410.4	148.2	159.6	102.6	—
Nevada	300.0	102.0	108.0	90.0	—
Newton	478.0	58.0	187.4	232.6	—
Ouachita	384.3	146.4	152.5	85.4	—
Perry	273.6	96.9	74.1	102.6	—
Phillips	81.6	35.7	25.5	20.4	—
Pike	319.0	92.8	121.8	104.4	—
Poinsett	65.0	30.0	25.0	10.0	—
Polk	435.0	145.0	127.6	162.4	—
Pope	338.4	64.8	109.6	164.0	—
Prairie	140.4	70.2	31.2	39.0	—
Pulaski	252.0	44.8	72.8	128.8	5.6
Randolph	186.2	13.3	66.5	106.4	—
St. Francis	65.0	30.0	15.0	20.0	—
Saline	372.6	108.0	113.4	151.2	—
Scott	448.2	151.2	167.4	129.6	—
Searcy	310.6	50.2	55.7	204.7	—
Sebastian	134.4	—	12.8	121.6	—
Sevier	269.5	107.8	63.7	98.0	—
Sharp	255.3	22.2	66.6	155.4	11.1
Stone	322.0	36.8	73.6	211.6	—
Union	572.4	280.8	91.8	199.8	—
Van Buren	303.8	19.6	83.3	200.9	—
Washington	318.8	23.6	81.6	203.4	10.2
White	222.6	63.6	42.4	116.6	—
Woodruff	77.4	34.4	17.2	25.8	—
Yell	403.2	117.6	168.0	117.6	—
All counties	18,206.7	5,443.4	4,759.5	7,922.1	81.7

Table 6.—Cordage of growing stock on commercial forest land by species group and county, 1969

County	All species	Softwood	Hardwood			
			Total	Oak	Gum	Other
			Thousand cords			
Arkansas	3,732	265	3,467	1,204	339	1,924
Ashley	6,068	3,995	2,073	1,443	340	290
Baxter	1,726	169	1,557	1,251	63	243
Benton	2,027	7	2,020	1,718	61	241
Boone	1,665	11	1,654	1,218	6	430
Bradley	5,459	2,837	2,622	1,479	707	436
Calhoun	4,702	2,401	2,301	1,288	598	415
Carroll	2,170	528	1,642	1,294	39	309
Chicot	1,087	—	1,087	349	75	663
Clark	7,017	3,579	3,438	2,227	539	672
Clay	927	—	927	439	60	428
Cleburne	1,849	604	1,245	626	234	385
Cleveland	4,741	1,932	2,809	1,524	854	431
Columbia	4,402	2,308	2,094	1,117	719	258
Conway	970	277	693	248	210	235
Craighead	352	51	301	131	33	137
Crawford	1,910	286	1,624	1,009	307	308
Crittenden	627	—	627	—	3	624
Cross	461	4	457	234	31	192
Dallas	5,389	3,013	2,376	1,330	642	404
Desha	2,627	211	2,416	233	200	1,983
Drew	4,601	2,068	2,533	1,606	560	367
Faulkner	680	23	657	389	90	178
Franklin	2,137	301	1,836	1,021	270	545
Fulton	974	223	751	634	42	75
Garland	4,846	3,155	1,691	1,164	259	268
Grant	6,077	2,384	3,693	2,073	1,124	496
Greene	596	57	539	297	87	155
Hempstead	4,385	2,155	2,230	1,032	503	695
Hot Spring	4,260	2,384	1,876	1,155	388	333
Howard	4,202	2,963	1,239	566	351	322
Independence	1,764	191	1,573	1,154	43	376
Izard	1,143	179	964	640	61	263
Jackson	391	—	391	251	15	125
Jefferson	2,341	704	1,637	886	154	597
Johnson	3,431	809	2,622	1,646	450	526
Lafayette	2,735	1,501	1,234	641	206	387
Lawrence	667	7	660	494	73	93

Table 6.—Cordage of growing stock on commercial forest land by species group and county, 1969 (continued)

County	All species	Softwood	Hardwood			
			Total	Oak	Gum	Other
Thousand cords						
Lee	2,133	29	2,104	543	153	1,408
Lincoln	1,752	382	1,370	799	170	401
Little River	2,568	1,516	1,052	668	221	163
Logan	2,239	1,311	928	625	96	207
Lonoke	1,104	25	1,079	633	210	236
Madison	3,140	103	3,037	1,967	193	877
Marion	2,186	83	2,103	1,697	91	315
Milier	2,946	1,376	1,570	563	443	564
Mississippi	572	65	507	19	—	488
Monroe	2,710	259	2,451	966	270	1,215
Montgomery	6,463	4,608	1,855	1,337	160	358
Nevada	4,141	1,929	2,212	1,048	919	245
Newton	4,604	504	4,100	2,614	301	1,185
Ouachita	6,276	2,464	3,812	1,789	1,466	557
Perry	3,560	2,681	879	587	176	116
Phillips	1,425	4	1,421	630	139	652
Pike	4,838	3,328	1,510	1,070	249	191
Poinsett	776	19	757	387	19	351
Polk	4,655	3,080	1,575	1,042	233	300
Pope	4,026	1,174	2,852	1,918	462	472
Prairie	2,462	77	2,385	984	513	888
Pulaski	2,278	979	1,299	767	275	257
Randolph	1,666	12	1,654	1,240	18	396
St. Francis	820	41	779	404	136	239
Saline	4,828	2,371	2,457	1,327	573	557
Scott	5,744	4,153	1,591	1,081	213	297
Searcy	2,394	287	2,107	1,344	67	696
Sebastian	409	119	290	214	—	76
Sevier	4,418	2,119	2,299	924	611	764
Sharp	1,266	172	1,094	833	19	242
Stone	2,561	497	2,064	1,401	172	491
Union	8,406	4,248	4,158	2,152	1,296	710
Van Buren	2,328	588	1,740	1,229	130	381
Washington	1,793	109	1,684	1,166	36	482
White	2,072	79	1,993	1,076	334	583
Woodruff	1,165	69	1,096	421	136	539
Yell	5,206	3,190	2,016	1,016	491	509
All counties	217,068	85,632	131,436	74,492	21,727	35,217

Table 7.—Growing stock volume on commercial forest land by species group and county, 1969 ¹

County	All species	Softwood	Hardwood			
			Total	Oak	Gum	Other
			Million cubic feet			
Arkansas	252.2	19.9	232.3	80.7	22.7	128.9
Ashley	438.5	299.6	138.9	96.7	22.8	19.4
Baxter	117.0	12.7	104.3	83.8	4.2	16.3
Benton	135.9	.5	135.4	115.1	4.1	16.2
Boone	111.6	.8	110.8	81.6	.4	28.8
Bradley	388.5	212.8	175.7	99.1	47.4	29.2
Calhoun	334.3	180.1	154.2	86.3	40.1	27.8
Carroll	149.6	39.6	110.0	86.7	2.6	20.7
Chicot	72.8	—	72.8	23.4	5.0	44.4
Clark	498.7	268.4	230.3	149.2	36.1	45.0
Clay	62.1	—	62.1	29.4	4.0	28.7
Cleburne	128.7	45.3	83.4	41.9	15.7	25.8
Cleveland	333.1	144.9	188.2	102.1	57.2	28.9
Columbia	313.4	173.1	140.3	74.8	48.2	17.3
Conway	67.2	20.8	46.4	16.6	14.1	15.7
Craighead	24.0	3.8	20.2	8.8	2.2	9.2
Crawford	130.3	21.5	108.8	67.6	20.6	20.6
Crittenden	42.0	—	42.0	—	.2	41.8
Cross	30.9	.3	30.6	15.7	2.1	12.8
Dallas	385.2	226.0	159.2	89.1	43.0	27.1
Desha	177.7	15.8	161.9	15.6	13.4	132.9
Drew	324.8	155.1	169.7	107.6	37.5	24.6
Faulkner	45.7	1.7	44.0	26.1	6.0	11.9
Franklin	145.6	22.6	123.0	68.4	18.1	36.5
Fulton	67.0	16.7	50.3	42.5	2.8	5.0
Garland	349.9	236.6	113.3	78.0	17.4	17.9
Grant	426.2	178.8	247.4	138.9	75.3	33.2
Greene	40.4	4.3	36.1	19.9	5.8	10.4
Hempstead	311.0	161.6	149.4	69.1	33.7	46.6
Hot Spring	304.5	178.8	125.7	77.4	26.0	22.3
Howard	305.2	222.2	83.0	37.9	23.5	21.6
Independence	119.7	14.3	105.4	77.3	2.9	25.2
Izard	78.0	13.4	64.6	42.9	4.1	17.6
Jackson	26.2	—	26.2	16.8	1.0	8.4
Jefferson	162.5	52.8	109.7	59.4	10.3	40.0
Johnson	236.4	60.7	175.7	110.3	30.1	35.3
Lafayette	195.3	112.6	82.7	43.0	13.8	25.9
Lawrence	44.7	.5	44.2	33.1	4.9	6.2

Table 7.—Growing stock volume on commercial forest land by species group and county, 1969¹ (continued)

County	All species	Softwood	Hardwood			
			Total	Oak	Gum	Other
— — — — — Million cubic feet — — — — —						
Lee	143.2	2.2	141.0	36.4	10.3	94.3
Lincoln	120.4	28.6	91.8	53.5	11.4	26.9
Little River	184.2	113.7	70.5	44.8	14.8	10.9
Logan	160.5	98.3	62.2	41.9	6.4	13.9
Lonoke	74.2	1.9	72.3	42.4	14.1	15.8
Madison	211.2	7.7	203.5	131.8	12.9	58.8
Marion	147.1	6.2	140.9	113.6	6.1	21.2
Miller	208.4	103.2	105.2	37.7	29.7	37.8
Mississippi	38.9	4.9	34.0	1.3	—	32.7
Monroe	183.6	19.4	164.2	64.7	18.1	81.4
Montgomery	469.9	345.6	124.3	89.6	10.7	24.0
Nevada	292.9	144.7	148.2	70.2	61.6	16.4
Newton	312.5	37.8	274.7	175.1	20.2	79.4
Ouachita	440.2	184.8	255.4	119.9	98.2	37.3
Perry	260.0	201.1	58.9	39.3	11.8	7.8
Phillips	95.5	.3	95.2	42.2	9.3	43.7
Pike	350.8	249.6	101.2	71.7	16.7	12.8
Poinsett	52.1	1.4	50.7	25.9	1.3	23.5
Polk	336.5	231.0	105.5	69.8	15.6	20.1
Pope	279.2	88.1	191.1	128.5	30.9	31.7
Prairie	165.6	5.8	159.8	65.9	34.4	59.5
Pulaski	160.4	73.4	87.0	51.4	18.4	17.2
Randolph	111.7	.9	110.8	83.1	1.2	26.5
St. Francis	55.3	3.1	52.2	27.1	9.1	16.0
Saline	342.4	177.8	164.6	88.9	38.4	37.3
Scott	418.1	311.5	106.6	72.4	14.3	19.9
Searcy	162.7	21.5	141.2	90.1	4.5	46.6
Sebastian	28.3	8.9	19.4	14.3	—	5.1
Sevier	312.9	158.9	154.0	61.9	40.9	51.2
Sharp	86.2	12.9	73.3	55.8	1.3	16.2
Stone	175.6	37.3	138.3	93.9	11.5	32.9
Union	597.2	318.6	278.6	144.2	86.8	47.6
Van Buren	160.7	44.1	116.6	82.4	8.7	25.5
Washington	121.0	8.2	112.8	78.1	2.4	32.3
White	139.4	5.9	133.5	72.1	22.4	39.0
Woodruff	78.6	5.2	73.4	28.2	9.1	36.1
Yell	374.4	239.3	135.1	68.1	32.9	34.1
All counties	15,228.6	6,422.4	8,806.2	4,991.0	1,455.7	2,359.5

¹ Detailed county statistics by species and diameter class are available upon request.

Table 8.—Sawtimber volume in International ¼-inch rule on commercial forest land by species group and county, 1969¹

County	All species	Softwood	Hardwood			
			Total	Oak	Gum	Other
			Million board feet			
Arkansas	929.0	113.0	816.0	280.6	101.0	434.4
Ashley	1,848.0	1,451.4	396.6	293.1	45.3	58.2
Baxter	284.8	33.1	251.7	219.9	8.7	23.1
Benton	333.0	—	333.0	299.9	15.6	17.5
Boone	263.2	—	263.2	209.5	—	53.7
Bradley	1,494.5	952.3	542.2	328.3	125.2	88.7
Calhoun	1,238.5	794.6	443.9	250.3	114.4	79.2
Carroll	423.3	149.7	273.6	213.3	7.9	52.4
Chicot	280.8	—	280.8	92.9	19.5	168.4
Clark	1,722.3	1,159.5	562.8	374.1	76.3	112.4
Clay	160.1	—	160.1	79.6	9.1	71.4
Cleburne	252.2	99.0	153.2	65.0	65.7	22.5
Cleveland	1,188.3	612.5	575.8	344.5	156.7	74.6
Columbia	1,018.2	650.7	367.5	192.5	136.2	38.8
Conway	152.4	54.0	98.4	32.8	41.2	24.4
Craighead	67.5	17.5	50.0	16.3	5.7	28.0
Crawford	353.9	88.8	265.1	147.3	55.5	62.3
Crittenden	135.4	—	135.4	—	—	135.4
Cross	91.7	—	91.7	48.9	3.0	39.8
Dallas	1,397.4	1,059.8	337.6	185.8	84.5	67.3
Desha	706.6	94.3	612.3	58.2	67.5	486.6
Drew	1,103.0	680.8	422.2	286.6	80.6	55.0
Faulkner	100.1	6.5	93.6	59.8	21.7	12.1
Franklin	395.0	98.7	296.3	157.9	58.0	80.4
Fulton	106.8	2.8	104.0	82.7	12.7	8.6
Garland	1,073.3	864.9	208.4	144.9	44.9	18.6
Grant	1,459.0	809.1	649.9	376.7	195.6	77.6
Greene	111.9	17.5	94.4	56.2	19.5	18.7
Hempstead	974.4	587.7	386.7	189.0	68.4	129.3
Hot Spring	894.7	689.3	205.4	133.5	36.8	35.1
Howard	992.3	872.5	119.8	54.4	27.2	38.2
Independence	280.5	33.8	246.7	204.7	4.4	37.6
Izard	165.8	21.8	144.0	98.7	12.1	33.2
Jackson	69.6	—	69.6	37.6	3.2	28.8
Jefferson	473.4	208.4	265.0	133.6	27.9	103.5
Johnson	683.1	253.1	430.0	255.7	83.6	90.7
Lafayette	621.2	420.5	200.7	108.4	42.8	49.5
Lawrence	96.2	—	96.2	82.8	8.4	5.0

Table 8.—Sawtimber volume in International ¼-inch rule on commercial forest land by species group and county, 1969¹ (continued)

County	All species	Softwood	Hardwood			
			Total	Oak	Gum	Other
Million board feet						
Lee	523.0	11.6	511.4	140.5	34.7	336.2
Lincoln	354.8	90.5	264.3	170.2	29.9	64.2
Little River	579.9	455.8	124.1	91.3	8.7	24.1
Logan	458.5	330.4	128.1	94.5	12.1	21.5
Lonoke	212.0	11.6	200.4	129.6	32.1	38.7
Madison	398.2	10.2	388.0	230.7	33.9	123.4
Marion	303.1	7.3	295.8	248.7	16.2	30.9
Miller	668.7	381.1	287.6	89.0	99.7	98.9
Mississippi	99.5	27.4	72.1	4.9	—	67.2
Monroe	623.2	103.6	519.6	226.0	40.1	253.5
Montgomery	1,429.2	1,204.6	224.6	185.1	10.7	28.8
Nevada	846.1	501.2	344.9	185.3	135.6	24.0
Newton	664.3	112.4	551.9	330.1	71.4	150.4
Ouachita	1,369.4	745.4	624.0	259.8	282.4	81.8
Perry	817.5	724.3	93.2	46.8	38.5	7.9
Phillips	251.9	2.0	249.9	111.4	20.4	118.1
Pike	1,147.0	1,012.0	135.0	104.7	24.5	5.8
Poinsett	153.5	7.5	146.0	78.9	—	67.1
Polk	1,014.8	830.4	184.4	119.7	34.9	29.8
Pope	700.8	296.9	403.9	252.3	101.0	50.6
Prairie	583.3	29.6	553.7	213.7	143.7	196.3
Pulaski	366.0	218.5	147.5	83.8	35.1	28.6
Randolph	218.8	3.3	215.5	182.4	4.5	28.6
St. Francis	174.0	18.2	155.8	90.2	30.1	35.5
Saline	904.9	566.0	338.9	198.7	78.4	61.8
Scott	1,142.4	970.3	172.1	123.1	32.5	16.5
Searcy	343.5	82.4	261.1	181.2	17.9	62.0
Sebastian	54.9	21.6	33.3	26.7	—	6.6
Sevier	1,101.6	750.1	351.5	144.2	92.3	115.0
Sharp	133.5	24.8	108.7	87.5	—	21.2
Stone	442.1	149.2	292.9	184.2	34.6	74.1
Union	1,995.6	1,243.0	752.6	407.3	216.2	129.1
Van Buren	283.9	113.1	170.8	125.3	23.0	22.5
Washington	189.1	19.5	169.6	118.1	10.3	41.2
White	386.7	16.5	370.2	182.0	70.0	118.2
Woodruff	230.0	22.1	207.9	93.7	25.1	89.1
Yell	1,081.9	802.1	279.8	149.0	89.3	41.5
All counties	46,189.0	24,814.1	21,374.9	11,886.6	3,816.6	5,671.7

¹ Detailed county statistics by species and diameter class are available upon request.

Table 9.—Sawtimber volume in International ¼-inch rule on commercial forest land by species group, diameter class, and county, 1969

County	All species	Softwood			Hardwood		
		Total	9.0-14.9 inches	15.0 inches and up	Total	11.0-14.9 inches	15.0 inches and up
— — — — — Million board feet — — — — —							
Arkansas	929.0	113.0	—	113.0	816.0	235.9	580.1
Ashley	1,848.0	1,451.4	624.3	827.1	396.6	155.9	240.7
Baxter	284.8	33.1	24.3	8.8	251.7	149.1	102.6
Benton	333.0	—	—	—	333.0	150.9	182.1
Boone	263.2	—	—	—	263.2	138.7	124.5
Bradley	1,494.5	952.3	446.0	506.3	542.2	229.5	312.7
Calhoun	1,238.5	794.6	249.4	545.2	443.9	175.6	268.3
Carroll	423.3	149.7	127.3	22.4	273.6	151.9	121.7
Chicot	280.8	—	—	—	280.8	45.5	235.3
Clark	1,722.3	1,159.5	636.5	523.0	562.8	283.9	278.9
Clay	160.1	—	—	—	160.1	41.2	118.9
Cleburne	252.2	99.0	94.5	4.5	153.2	83.6	69.6
Cleveland	1,188.3	612.5	317.5	295.0	575.8	182.2	393.6
Columbia	1,018.2	650.7	379.7	271.0	367.5	153.4	214.1
Conway	152.4	54.0	47.0	7.0	98.4	37.1	61.3
Craighead	67.5	17.5	6.4	11.1	50.0	14.0	36.0
Crawford	353.9	88.8	64.5	24.3	265.1	134.5	130.6
Crittenden	135.4	—	—	—	135.4	28.1	107.3
Cross	91.7	—	—	—	91.7	34.8	56.9
Dallas	1,397.4	1,059.8	525.9	533.9	337.6	172.7	164.9
Desha	706.6	94.3	.4	93.9	612.3	124.8	487.5
Drew	1,103.0	680.8	251.1	429.7	422.2	218.3	203.9
Faulkner	100.1	6.5	1.2	5.3	93.6	53.1	40.5
Franklin	395.0	98.7	55.2	43.5	296.3	152.0	144.3
Fulton	106.8	2.8	2.8	—	104.0	63.8	40.2
Garland	1,073.3	864.9	630.6	234.3	208.4	128.9	79.5
Grant	1,459.0	809.1	447.8	361.3	649.9	282.8	367.1
Greene	111.9	17.5	11.8	5.7	94.4	38.4	56.0
Hempstead	974.4	587.7	376.5	211.2	386.7	171.4	215.3
Hot Spring	894.7	689.3	479.4	209.9	205.4	140.4	65.0
Howard	992.3	872.5	528.8	343.7	119.8	56.4	63.4
Independence	280.5	33.8	33.8	—	246.7	111.1	135.6
Izard	165.8	21.8	21.8	—	144.0	85.5	58.5
Jackson	69.6	—	—	—	69.6	31.5	38.1
Jefferson	473.4	208.4	90.1	118.3	265.0	125.1	139.9
Johnson	683.1	253.1	170.8	82.3	430.0	163.2	266.8
Lafayette	621.2	420.5	173.4	247.1	200.7	95.0	105.7
Lawrence	96.2	—	—	—	96.2	41.4	54.8

Table 9.—Sawtimber volume in International ¼-inch rule on commercial forest land by species group, diameter class, and county, 1969 (continued)

County	All species	Softwood			Hardwood		
		Total	9.0-14.9 inches	15.0 inches and up	Total	11.0-14.9 inches	15.0 inches and up
Million board feet							
Lee	523.0	11.6	—	11.6	511.4	158.5	352.9
Lincoln	354.8	90.5	48.7	41.8	264.3	100.8	163.5
Little River	579.9	455.8	230.6	225.2	124.1	77.0	47.1
Logan	458.5	330.4	244.6	85.8	128.1	63.5	64.6
Lonoke	212.0	11.6	—	11.6	200.4	100.5	99.9
Madison	398.2	10.2	10.2	—	388.0	232.5	155.5
Marion	303.1	7.3	1.1	6.2	295.8	164.6	131.2
Miller	668.7	381.1	275.9	105.2	287.6	146.8	140.8
Mississippi	99.5	27.4	—	27.4	72.1	22.9	49.2
Monroe	623.2	103.6	9.5	94.1	519.6	147.0	372.6
Montgomery	1,429.2	1,204.6	902.5	302.1	224.6	129.7	94.9
Nevada	846.1	501.2	316.9	184.3	344.9	169.9	175.0
Newton	664.3	112.4	77.4	35.0	551.9	259.5	292.4
Ouachita	1,369.4	745.4	346.6	398.8	624.0	344.2	279.8
Perry	817.5	724.3	523.3	201.0	93.2	60.7	32.5
Phillips	251.9	2.0	—	2.0	249.9	61.5	188.4
Pike	1,147.0	1,012.0	685.4	326.6	135.0	95.2	39.8
Poinsett	153.5	7.5	2.5	5.0	146.0	58.3	87.7
Polk	1,014.8	830.4	683.8	146.6	184.4	113.4	71.0
Pope	700.8	296.9	208.6	88.3	403.9	185.9	218.0
Prairie	583.3	29.6	1.1	28.5	553.7	207.4	346.3
Pulaski	366.0	218.5	178.9	39.6	147.5	73.7	73.8
Randolph	218.8	3.3	3.3	—	215.5	114.0	101.5
St. Francis	174.0	18.2	.3	17.9	155.8	54.6	101.2
Saline	904.9	566.0	423.3	142.7	338.9	204.4	134.5
Scott	1,142.4	970.3	790.8	179.5	172.1	113.4	58.7
Searcy	343.5	82.4	54.5	27.9	261.1	139.9	121.2
Sebastian	54.9	21.6	19.3	2.3	33.3	18.3	15.0
Sevier	1,101.6	750.1	379.4	370.7	351.5	188.4	163.1
Sharp	133.5	24.8	24.8	—	108.7	61.5	47.2
Stone	442.1	149.2	115.6	33.6	292.9	182.8	110.1
Union	1,995.6	1,243.0	742.5	500.5	752.6	333.1	419.5
Van Buren	283.9	113.1	91.0	22.1	170.8	103.7	67.1
Washington	189.1	19.5	19.5	—	169.6	76.6	93.0
White	386.7	16.5	16.5	—	370.2	147.7	222.5
Woodruff	230.0	22.1	5.9	16.2	207.9	62.4	145.5
Yell	1,081.9	802.1	617.1	185.0	279.8	155.8	124.0
All counties	46,189.0	24,814.1	14,870.2	9,943.9	21,374.9	9,611.7	11,763.2

Table 10.—Sawtimber volume in Doyle rule on commercial forest land by species group and county, 1969

County	All species	Softwood	Hardwood			
			Total	Oak	Gum	Other
Million board feet						
Arkansas	651.9	72.1	579.8	194.8	79.3	305.7
Ashley	1,184.6	914.3	270.3	202.5	27.9	39.9
Baxter	182.3	19.4	162.9	143.0	5.6	14.3
Benton	215.2	—	215.2	195.7	10.9	8.6
Boone	168.8	—	168.8	133.2	—	35.6
Bradley	975.2	599.3	375.9	227.5	86.4	62.0
Calhoun	805.8	507.1	298.7	169.1	75.8	53.8
Carroll	253.2	75.8	177.4	135.8	5.9	35.7
Chicot	205.2	—	205.2	67.6	14.1	123.5
Clark	1,063.4	704.8	358.6	241.9	47.5	69.2
Clay	112.5	—	112.5	56.1	6.1	50.3
Cleburne	154.3	58.7	95.6	39.5	46.0	10.1
Cleveland	764.8	359.3	405.5	245.4	106.9	53.2
Columbia	623.1	374.6	248.5	128.5	92.9	27.1
Conway	91.9	28.8	63.1	20.3	26.7	16.1
Craighead	42.4	9.3	33.1	10.0	3.6	19.5
Crawford	210.3	47.4	162.9	87.6	36.1	39.2
Crittenden	95.1	—	95.1	—	—	95.1
Cross	57.4	—	57.4	29.1	2.2	26.1
Dallas	878.3	658.2	220.1	118.3	54.9	46.9
Desha	512.4	63.0	449.4	40.2	54.0	355.2
Drew	702.5	430.6	271.9	182.7	53.5	35.7
Faulkner	66.5	4.0	62.5	40.7	15.2	6.6
Franklin	257.4	56.8	200.6	102.7	40.4	57.5
Fulton	66.7	1.8	64.9	50.8	8.9	5.2
Garland	599.1	470.6	128.5	90.4	27.3	10.8
Grant	928.7	490.1	438.6	257.0	131.5	50.1
Greene	73.4	10.0	63.4	37.5	14.5	11.4
Hempstead	595.7	338.7	257.0	121.8	39.9	95.3
Hot Spring	521.0	397.8	123.2	81.7	21.9	19.6
Howard	591.2	516.7	74.5	34.5	14.8	25.2
Independence	166.1	16.5	149.6	126.1	2.8	20.7
Izard	97.5	13.0	84.5	59.4	8.3	16.8
Jackson	42.6	—	42.6	21.7	2.1	18.8
Jefferson	298.8	128.7	170.1	85.9	16.0	68.2
Johnson	448.3	142.4	305.9	183.2	58.6	64.1
Lafayette	392.1	261.8	130.3	70.5	28.2	31.6
Lawrence	61.0	—	61.0	52.5	5.8	2.7

Table 10.—Sawtimber volume in Doyle rule on commercial forest land by species group and county, 1969 (continued)

County	All species	Softwood	Hardwood			
			Total	Oak	Gum	Other
			Million board feet			
Lee	374.1	7.3	366.8	104.5	25.4	236.9
Lincoln	229.3	54.4	174.9	114.3	21.3	39.3
Little River	360.0	283.3	76.7	55.1	5.2	16.4
Logan	252.0	174.0	78.0	56.1	7.6	14.3
Lonoke	131.9	7.8	124.1	82.3	18.5	23.3
Madison	255.0	6.6	248.4	144.2	21.9	82.3
Marion	191.5	4.5	187.0	158.0	9.1	19.9
Miller	401.6	212.1	189.5	59.5	64.7	65.3
Mississippi	64.7	16.3	48.4	3.4	—	45.0
Monroe	417.2	65.3	351.9	154.5	27.7	169.7
Montgomery	820.6	675.3	145.3	119.1	6.7	19.5
Nevada	524.5	298.4	226.1	122.6	88.0	15.5
Newton	437.4	60.8	376.6	225.0	50.4	101.2
Ouachita	875.3	470.4	404.9	164.3	185.5	55.1
Perry	449.4	393.6	55.8	28.2	22.9	4.7
Phillips	177.3	1.3	176.0	77.6	11.2	87.2
Pike	646.0	562.4	83.6	64.8	15.3	3.5
Poinsett	102.7	4.4	98.3	54.4	—	43.9
Polk	561.2	452.5	108.7	72.1	20.1	16.5
Pope	442.3	167.2	275.1	174.8	68.5	31.8
Prairie	390.6	17.0	373.6	139.0	93.4	141.2
Pulaski	213.2	121.9	91.3	52.3	19.5	19.5
Randolph	135.9	2.2	133.7	113.9	3.0	16.8
St. Francis	117.1	11.1	106.0	63.2	18.8	24.0
Saline	524.9	315.4	209.5	126.3	45.8	37.4
Scott	623.9	521.9	102.0	75.1	17.6	9.3
Searcy	208.3	41.9	166.4	116.2	11.9	38.3
Sebastian	31.5	11.5	20.0	15.9	—	4.1
Sevier	686.5	453.5	233.0	93.9	59.7	79.4
Sharp	82.5	15.5	67.0	54.4	—	12.6
Stone	271.0	83.4	187.6	119.0	21.7	46.9
Union	1,229.1	734.3	494.8	269.6	139.5	85.7
Van Buren	171.4	65.6	105.8	78.3	14.0	13.5
Washington	119.1	11.5	107.6	75.0	7.6	25.0
White	255.7	8.5	247.2	117.8	45.4	84.0
Woodruff	155.8	13.3	142.5	64.1	17.5	60.9
Yell	619.2	446.7	172.5	93.1	54.5	24.9
All counties	28,706.4	14,564.7	14,141.7	7,787.1	2,512.4	3,842.2

Table 11.—Sawtimber volume in Doyle rule on commercial forest land by species group, diameter class, and county, 1969

County	All species	Softwood			Hardwood		
		Total	9.0-14.9 inches	15.0 inches and up	Total	11.0-14.9 inches	15.0 inches and up
— — — — — Million board feet — — — — —							
Arkansas	651.9	72.1	—	72.1	579.8	133.6	446.2
Ashley	1,184.6	914.3	353.8	560.5	270.3	92.2	178.1
Baxter	182.3	19.4	13.8	5.6	162.9	86.1	76.8
Benton	215.2	—	—	—	215.2	85.4	129.8
Boone	168.8	—	—	—	168.8	78.6	90.2
Bradley	975.2	599.3	253.7	345.6	375.9	139.6	236.3
Calhoun	805.8	507.1	137.6	369.5	298.7	98.8	199.9
Carroll	253.2	75.8	62.3	13.5	177.4	87.0	90.4
Chicot	205.2	—	—	—	205.2	25.1	180.1
Clark	1,063.4	704.8	350.0	354.8	358.6	156.5	202.1
Clay	112.5	—	—	—	112.5	23.9	88.6
Cleburne	154.3	58.7	55.9	2.8	95.6	43.2	52.4
Cleveland	764.8	359.3	161.6	197.7	405.5	105.9	299.6
Columbia	623.1	374.6	201.5	173.1	248.5	89.8	158.7
Conway	91.9	28.8	24.8	4.0	63.1	19.6	43.5
Craighead	42.4	9.3	2.7	6.6	33.1	6.6	26.5
Crawford	210.3	47.4	32.9	14.5	162.9	70.0	92.9
Crittenden	95.1	—	—	—	95.1	14.7	80.4
Cross	57.4	—	—	—	57.4	19.1	38.3
Dallas	878.3	658.2	301.6	356.6	220.1	96.3	123.8
Desha	512.4	63.0	.3	62.7	449.4	70.4	379.0
Drew	702.5	430.6	138.1	292.5	271.9	124.8	147.1
Faulkner	66.5	4.0	.9	3.1	62.5	30.9	31.6
Franklin	257.4	56.8	31.0	25.8	200.6	89.7	110.9
Fulton	66.7	1.8	1.8	—	64.9	35.2	29.7
Garland	599.1	470.6	324.8	145.8	128.5	70.6	57.9
Grant	928.7	490.1	247.6	242.5	438.6	164.1	274.5
Greene	73.4	10.0	6.2	3.8	63.4	21.3	42.1
Hempstead	595.7	338.7	203.5	135.2	257.0	94.5	162.5
Hot Spring	521.0	397.8	260.5	137.3	123.2	76.3	46.9
Howard	591.2	516.7	283.6	233.1	74.5	28.6	45.9
Independence	166.1	16.5	16.5	—	149.6	54.2	95.4
Izard	97.5	13.0	13.0	—	84.5	42.0	42.5
Jackson	42.6	—	—	—	42.6	15.4	27.2
Jefferson	298.8	128.7	50.8	77.9	170.1	66.3	103.8
Johnson	448.3	142.4	91.4	51.0	305.9	99.1	206.8
Lafayette	392.1	261.8	96.9	164.9	130.3	53.2	77.1
Lawrence	61.0	—	—	—	61.0	21.1	39.9

Table 11.—Sawtimber volume in Doyle rule on commercial forest land by species group, diameter class, and county, 1969 (continued)

County	All species	Softwood			Hardwood		
		Total	9.0-14.9 inches	15.0 inches and up	Total	11.0-14.9 inches	15.0 inches and up
— — — — — Million board feet — — — — —							
Lee	374.1	7.3	—	7.3	366.8	98.0	268.8
Lincoln	229.3	54.4	26.7	27.7	174.9	56.0	118.9
Little River	360.0	283.3	126.7	156.6	76.7	44.0	32.7
Logan	252.0	174.0	124.1	49.9	78.0	32.6	45.4
Lonoke	131.9	7.8	—	7.8	124.1	54.1	70.0
Madison	255.0	6.6	6.6	—	248.4	130.9	117.5
Marion	191.5	4.5	1.1	3.4	187.0	92.4	94.6
Miller	401.6	212.1	147.6	64.5	189.5	84.6	104.9
Mississippi	64.7	16.3	—	16.3	48.4	11.0	37.4
Monroe	417.2	65.3	5.1	60.2	351.9	79.5	272.4
Montgomery	820.6	675.3	485.6	189.7	145.3	74.0	71.3
Nevada	524.5	298.4	173.8	124.6	226.1	96.8	129.3
Newton	437.4	60.8	39.3	21.5	376.6	153.6	223.0
Ouachita	875.3	470.4	200.3	270.1	404.9	199.1	205.8
Perry	449.4	393.6	268.9	124.7	55.8	33.2	22.6
Phillips	177.3	1.3	—	1.3	176.0	32.0	144.0
Pike	646.0	562.4	356.9	205.5	83.6	53.7	29.9
Poinsett	102.7	4.4	1.0	3.4	98.3	32.6	65.7
Polk	561.2	452.5	363.3	89.2	108.7	59.0	49.7
Pope	442.3	167.2	112.0	55.2	275.1	109.8	165.3
Prairie	390.6	17.0	.4	16.6	373.6	122.5	251.1
Pulaski	213.2	121.9	96.9	25.0	91.3	38.6	52.7
Randolph	135.9	2.2	2.2	—	133.7	58.2	75.5
St. Francis	117.1	11.1	.3	10.8	106.0	29.9	76.1
Saline	524.9	315.4	222.8	92.6	209.5	115.6	93.9
Scott	623.9	521.9	410.1	111.8	102.0	59.4	42.6
Searcy	208.3	41.9	24.2	17.7	166.4	77.2	89.2
Sebastian	31.5	11.5	10.2	1.3	20.0	9.4	10.6
Sevier	686.5	453.5	203.9	249.6	233.0	109.0	124.0
Sharp	82.5	15.5	15.5	—	67.0	32.5	34.5
Stone	271.0	83.4	61.6	21.8	187.6	104.4	83.2
Union	1,229.1	734.3	400.6	333.7	494.8	186.3	308.5
Van Buren	171.4	65.6	53.0	12.6	105.8	55.8	50.0
Washington	119.1	11.5	11.5	—	107.6	39.9	67.7
White	255.7	8.5	8.5	—	247.2	79.4	167.8
Woodruff	155.8	13.3	3.7	9.6	142.5	33.7	108.8
Yell	619.2	446.7	330.3	116.4	172.5	82.1	90.4
All counties	28,706.4	14,564.7	8,013.8	6,550.9	14,141.7	5,390.5	8,751.2

Table 12.—Sawtimber volume in Scribner rule on commercial forest land by species group and county, 1969

County	All species	Softwood	Hardwood			
			Total	Oak	Gum	Other
Million board feet						
Arkansas	829.1	98.7	730.4	250.0	92.5	387.9
Ashley	1,580.0	1,227.4	352.6	262.2	38.7	51.7
Baxter	248.7	27.0	221.7	193.9	7.6	20.2
Benton	292.8	—	292.8	264.3	14.0	14.5
Boone	231.8	—	231.8	184.2	—	47.6
Bradley	1,279.2	796.3	482.9	293.0	110.8	79.1
Calhoun	1,064.2	670.9	393.3	222.0	101.1	70.2
Carroll	362.1	121.3	240.8	187.1	7.2	46.5
Chicot	253.7	—	253.7	84.1	17.6	152.0
Clark	1,462.8	969.9	492.9	328.9	66.4	97.6
Clay	143.2	—	143.2	71.5	8.0	63.7
Cleburne	205.7	72.1	133.6	56.4	58.7	18.5
Cleveland	1,018.6	503.8	514.8	309.9	137.8	67.1
Columbia	850.7	524.7	326.0	170.5	120.7	34.8
Conway	123.0	37.5	85.5	28.4	35.6	21.5
Craighead	58.6	14.4	44.2	14.2	4.9	25.1
Crawford	301.1	71.5	229.6	127.2	48.2	54.2
Crittenden	121.3	—	121.3	—	—	121.3
Cross	79.8	—	79.8	42.0	2.7	35.1
Dallas	1,196.5	899.9	296.6	162.3	72.9	61.4
Desha	637.6	83.7	553.9	51.6	62.3	440.0
Drew	939.3	568.6	370.7	251.4	70.9	48.4
Faulkner	87.8	5.1	82.7	53.0	19.5	10.2
Franklin	344.7	81.5	263.2	139.1	51.2	72.9
Fulton	93.2	2.2	91.0	72.0	11.5	7.5
Garland	879.8	698.1	181.7	126.9	38.8	16.0
Grant	1,254.4	677.7	576.7	335.0	173.2	68.5
Greene	97.0	13.4	83.6	49.8	17.5	16.3
Hempstead	813.8	471.9	341.9	166.2	58.3	117.4
Hot Spring	742.6	565.0	177.6	116.3	31.5	29.8
Howard	829.8	725.5	104.3	47.8	22.7	33.8
Independence	236.2	23.3	212.9	177.3	3.9	31.7
Izard	137.9	13.6	124.3	85.5	10.8	28.0
Jackson	60.8	—	60.8	32.4	2.8	25.6
Jefferson	405.5	173.7	231.8	116.6	23.7	91.5
Johnson	595.7	209.3	386.4	230.2	74.6	81.6
Lafayette	523.8	347.1	176.7	95.9	37.6	43.2
Lawrence	84.6	—	84.6	72.7	7.5	4.4

Table 12.—Sawtimber volume in Scribner rule on commercial forest land by species group and county, 1969 (continued)

County	All species	Softwood	Hardwood			
			Total	Oak	Gum	Other
Million board feet						
Lee	470.6	10.1	460.5	127.4	31.1	302.0
Lincoln	307.4	73.4	234.0	151.2	26.7	56.1
Little River	487.3	379.0	108.3	79.4	7.4	21.5
Logan	370.0	259.3	110.7	81.2	10.5	19.0
Lonoke	185.5	10.3	175.2	114.0	27.6	33.6
Madison	348.0	6.6	341.4	202.4	29.8	109.2
Marion	265.3	5.7	259.6	218.6	13.7	27.3
Miller	561.1	307.8	253.3	79.0	87.1	87.2
Mississippi	87.2	23.6	63.6	4.4	—	59.2
Monroe	547.2	87.9	459.3	200.5	35.5	223.3
Montgomery	1,183.0	985.5	197.5	162.5	9.4	25.6
Nevada	704.7	401.5	303.2	163.6	118.6	21.0
Newton	580.9	89.7	491.2	293.7	63.7	133.8
Ouachita	1,160.4	612.5	547.9	227.3	247.8	72.8
Perry	669.0	588.0	81.0	40.9	33.3	6.8
Phillips	225.3	1.8	223.5	99.3	17.0	107.2
Pike	952.4	835.1	117.3	90.9	21.3	5.1
Poinsett	136.2	6.4	129.8	70.3	—	59.5
Polk	820.3	661.8	158.5	103.3	30.1	25.1
Pope	599.2	239.0	360.2	225.7	89.8	44.7
Prairie	514.1	25.1	489.0	189.0	123.1	176.9
Pulaski	296.8	167.7	129.1	73.4	30.1	25.6
Randolph	190.1	2.3	187.8	158.9	4.0	24.9
St. Francis	152.9	15.6	137.3	80.2	26.1	31.0
Saline	749.3	454.5	294.8	174.7	66.5	53.6
Scott	918.3	770.2	148.1	106.9	27.1	14.1
Searcy	294.7	65.5	229.2	159.1	15.7	54.4
Sebastian	44.4	15.7	28.7	22.9	—	5.8
Sevier	943.8	632.8	311.0	127.8	80.9	102.3
Sharp	111.5	16.6	94.9	76.5	—	18.4
Stone	379.6	121.8	257.8	162.4	30.4	65.0
Union	1,678.7	1,015.5	663.2	360.2	188.9	114.1
Van Buren	232.5	84.0	148.5	109.5	19.8	19.2
Washington	162.1	13.5	148.6	103.6	9.3	35.7
White	339.6	11.7	327.9	160.2	61.4	106.3
Woodruff	202.5	18.0	184.5	83.1	22.2	79.2
Yell	886.8	645.1	241.7	129.4	76.5	35.8
All counties	39,226.1	20,355.7	18,870.4	10,485.2	3,346.1	5,039.1

Table 13.—Sawtimber volume in Scribner rule on commercial forest land by species group, diameter class, and county, 1969

County	All species	Softwood			Hardwood		
		Total	9.0-14.9 inches	15.0 inches and up	Total	11.0-14.9 inches	15.0 inches and up
— — — — — Million board feet — — — — —							
Arkansas	829.1	98.7	—	98.7	730.4	200.2	530.2
Ashley	1,580.0	1,227.4	496.9	730.5	352.6	134.0	218.6
Baxter	248.7	27.0	19.3	7.7	221.7	128.5	93.2
Benton	292.8	—	—	—	292.8	128.6	164.2
Boone	231.8	—	—	—	231.8	119.4	112.4
Bradley	1,279.2	796.3	348.3	448.0	482.9	198.5	284.4
Calhoun	1,064.2	670.9	189.7	481.2	393.3	149.5	243.8
Carroll	362.1	121.3	101.9	19.4	240.8	130.2	110.6
Chicot	253.7	—	—	—	253.7	38.8	214.9
Clark	1,462.8	969.9	507.4	462.5	492.9	241.2	251.7
Clay	143.2	—	—	—	143.2	35.4	107.8
Cleburne	205.7	72.1	68.2	3.9	133.6	70.3	63.3
Cleveland	1,018.6	503.8	243.5	260.3	514.8	155.7	359.1
Columbia	850.7	524.7	289.3	235.4	326.0	132.1	193.9
Conway	123.0	37.5	31.6	5.9	85.5	30.4	55.1
Craighead	58.6	14.4	4.8	9.6	44.2	11.4	32.8
Crawford	301.1	71.5	50.7	20.8	229.6	112.0	117.6
Crittenden	121.3	—	—	—	121.3	23.7	97.6
Cross	79.8	—	—	—	79.8	29.5	50.3
Dallas	1,196.5	899.9	430.3	469.6	296.6	146.8	149.8
Desha	637.6	83.7	.2	83.5	553.9	106.3	447.6
Drew	939.3	568.6	188.9	379.7	370.7	186.6	184.1
Faulkner	87.8	5.1	.6	4.5	82.7	45.5	37.2
Franklin	344.7	81.5	44.2	37.3	263.2	131.0	132.2
Fulton	93.2	2.2	2.2	—	91.0	54.4	36.6
Garland	879.8	698.1	494.0	204.1	181.7	109.9	71.8
Grant	1,254.4	677.7	358.9	318.8	576.7	242.7	334.0
Greene	97.0	13.4	8.4	5.0	83.6	32.8	50.8
Hempstead	813.8	471.9	288.3	183.6	341.9	145.1	196.8
Hot Spring	742.6	565.0	380.4	184.6	177.6	118.8	58.8
Howard	829.8	725.5	419.5	306.0	104.3	47.0	57.3
Independence	236.2	23.3	23.3	—	212.9	90.7	122.2
Izard	137.9	13.6	13.6	—	124.3	71.3	53.0
Jackson	60.8	—	—	—	60.8	26.4	34.4
Jefferson	405.5	173.7	70.0	103.7	231.8	104.8	127.0
Johnson	595.7	209.3	137.7	71.6	386.4	141.4	245.0
Lafayette	523.8	347.1	129.1	218.0	176.7	80.9	95.8
Lawrence	84.6	—	—	—	84.6	35.0	49.6

Table 13.—Sawtimber volume in Scribner rule on commercial forest land by species group, diameter class, and county, 1969 (continued)

County	All species	Softwood			Hardwood		
		Total	9.0-14.9 inches	15.0 inches and up	Total	11.0-14.9 inches	15.0 inches and up
— — — — — Million board feet — — — — —							
Lee	470.6	10.1	—	10.1	460.5	138.2	322.3
Lincoln	307.4	73.4	36.3	37.1	234.0	86.1	147.9
Little River	487.3	379.0	179.4	199.6	108.3	66.3	42.0
Logan	370.0	259.3	186.0	73.3	110.7	52.2	58.5
Lonoke	185.5	10.3	—	10.3	175.2	85.3	89.9
Madison	348.0	6.6	6.6	—	341.4	198.9	142.5
Marion	265.3	5.7	.5	5.2	259.6	140.8	118.8
Miller	561.1	307.8	217.3	90.5	253.3	125.6	127.7
Mississippi	87.2	23.6	—	23.6	63.6	18.7	44.9
Monroe	547.2	87.9	6.0	81.9	459.3	122.8	336.5
Montgomery	1,183.0	985.5	721.8	263.7	197.5	111.4	86.1
Nevada	704.7	401.5	239.2	162.3	303.2	144.6	158.6
Newton	580.9	89.7	59.4	30.3	491.2	223.9	267.3
Ouachita	1,160.4	612.5	261.0	351.5	547.9	294.8	253.1
Perry	669.0	588.0	413.6	174.4	81.0	52.0	29.0
Phillips	225.3	1.8	—	1.8	223.5	51.0	172.5
Pike	952.4	835.1	551.0	284.1	117.3	81.4	35.9
Poinsett	136.2	6.4	1.9	4.5	129.8	49.9	79.9
Polk	820.3	661.8	534.6	127.2	158.5	94.7	63.8
Pope	599.2	239.0	161.8	77.2	360.2	161.0	199.2
Prairie	514.1	25.1	.8	24.3	489.0	178.9	310.1
Pulaski	296.8	167.7	132.9	34.8	129.1	62.3	66.8
Randolph	190.1	2.3	2.3	—	187.8	95.5	92.3
St. Francis	152.9	15.6	.1	15.5	137.3	45.4	91.9
Saline	749.3	454.5	329.0	125.5	294.8	174.1	120.7
Scott	918.3	770.2	613.4	156.8	148.1	95.2	52.9
Searcy	294.7	65.5	41.0	24.5	229.2	119.6	109.6
Sebastian	44.4	15.7	13.8	1.9	28.7	15.1	13.6
Sevier	943.8	632.8	305.1	327.7	311.0	162.4	148.6
Sharp	111.5	16.6	16.6	—	94.9	51.9	43.0
Stone	379.6	121.8	92.1	29.7	257.8	157.0	100.8
Union	1,678.7	1,015.5	574.9	440.6	663.2	283.4	379.8
Van Buren	232.5	84.0	65.1	18.9	148.5	87.6	60.9
Washington	162.1	13.5	13.5	—	148.6	64.4	84.2
White	339.6	11.7	11.7	—	327.9	125.1	202.8
Woodruff	202.5	18.0	4.1	13.9	184.5	52.3	132.2
Yell	886.8	645.1	483.6	161.5	241.7	129.9	111.8
All counties	39,226.1	20,355.7	11,617.6	8,738.1	18,870.4	8,186.5	10,683.9

Table 14.—Net annual growth of growing stock on commercial forest land by species group and county, 1968

County	All species	Softwood	Hardwood			
			Total	Oak	Gum	Other
Million cubic feet						
Arkansas	10.0	0.2	9.8	3.6	0.5	5.7
Ashley	23.9	17.1	6.8	4.8	1.2	.8
Baxter	2.5	.7	1.8	1.3	.1	.4
Benton	4.2	(¹)	4.2	3.6	.1	.5
Boone	3.3	.1	3.2	1.2	(¹)	2.0
Bradley	23.3	15.1	8.2	5.8	1.4	1.0
Calhoun	21.4	13.7	7.7	5.0	1.4	1.3
Carroll	4.2	1.8	2.4	1.3	.1	1.0
Chicot	2.8	(¹)	2.8	.9	.2	1.7
Clark	28.3	16.8	11.5	8.2	1.3	2.0
Clay	3.2	(¹)	3.2	1.7	.2	1.3
Cleburne	5.1	3.2	1.9	.8	.3	.8
Cleveland	19.3	11.1	8.2	4.9	2.2	1.1
Columbia	21.0	14.4	6.6	4.4	1.6	.6
Conway	3.9	1.9	2.0	.8	.6	.6
Craighead	1.4	.2	1.2	.7	.1	.4
Crawford	4.1	1.2	2.9	1.4	.4	1.1
Crittenden	1.6	(¹)	1.6	—	(¹)	1.6
Cross	1.2	(¹)	1.2	.6	.1	.5
Dallas	22.2	13.8	8.4	5.1	1.9	1.4
Desha	6.6	.1	6.5	.9	.4	5.2
Drew	17.6	10.7	6.9	4.5	1.4	1.0
Faulkner	1.6	.1	1.5	.8	.1	.6
Franklin	5.1	.9	4.2	1.7	.6	1.9
Fulton	4.7	3.8	.9	.8	(¹)	.1
Garland	15.0	10.0	5.0	4.0	.5	.5
Grant	25.2	12.2	13.0	8.6	3.2	1.2
Greene	1.7	.3	1.4	.7	.3	.4
Hempstead	21.0	14.3	6.7	3.3	1.4	2.0
Hot Spring	18.5	11.4	7.1	4.5	1.1	1.5
Howard	15.8	12.3	3.5	2.0	.7	.8
Independence	4.4	.9	3.5	2.3	.1	1.1
Izard	2.9	.9	2.0	1.0	.4	.6
Jackson	2.0	(¹)	2.0	1.7	(¹)	.3
Jefferson	11.2	3.7	7.5	4.1	.8	2.6
Johnson	7.9	2.8	5.1	3.1	.9	1.1
Lafayette	14.3	10.2	4.1	2.4	.4	1.3
Lawrence	3.0	.1	2.9	2.0	.6	.3

Table 14.—Net annual growth of growing stock on commercial forest land by species group and county, 1968 (continued)

County	All species	Softwood	Hardwood			
			Total	Oak	Gum	Other
			Million cubic feet			
Lee	5.9	.1	5.8	1.6	.5	3.7
Lincoln	7.2	2.3	4.9	2.7	1.0	1.2
Little River	12.9	8.4	4.5	3.1	1.0	.4
Logan	7.4	4.6	2.8	1.6	.2	1.0
Lonoke	3.7	(¹)	3.7	2.2	.9	.6
Madison	6.3	.6	5.7	3.5	.2	2.0
Marion	3.0	.5	2.5	1.8	.1	.6
Miller	11.3	6.5	4.8	2.3	1.3	1.2
Mississippi	2.0	.1	1.9	.1	—	1.8
Monroe	8.6	.7	7.9	2.9	1.5	3.5
Montgomery	21.3	14.8	6.5	5.1	.6	.8
Nevada	20.1	12.2	7.9	4.3	2.4	1.2
Newton	9.4	2.4	7.0	3.8	.3	2.9
Ouachita	25.5	12.2	13.3	8.2	3.5	1.6
Perry	12.9	8.4	4.5	3.6	.7	.2
Phillips	5.9	(¹)	5.9	2.6	.6	2.7
Pike	21.5	15.6	5.9	4.2	.6	1.1
Poinsett	2.5	.1	2.4	1.2	.1	1.1
Polk	15.9	10.5	5.4	4.3	.6	.5
Pope	10.1	5.0	5.1	2.8	1.1	1.2
Prairie	6.2	.1	6.1	2.9	1.1	2.1
Pulaski	8.6	4.7	3.9	2.5	.6	.8
Randolph	3.5	.1	3.4	2.1	(¹)	1.3
St. Francis	3.3	.1	3.2	1.5	.5	1.2
Saline	16.4	9.2	7.2	4.6	1.1	1.5
Scott	19.3	14.9	4.4	3.4	.4	.6
Searcy	4.6	.9	3.7	2.3	.1	1.3
Sebastian	1.6	.5	1.1	.6	—	.5
Sevier	15.5	8.0	7.5	3.3	1.2	3.0
Sharp	2.4	.8	1.6	1.0	(¹)	.6
Stone	5.2	1.9	3.3	2.2	.2	.9
Union	36.2	23.0	13.2	7.8	3.5	1.9
Van Buren	6.5	2.7	3.8	2.3	.2	1.3
Washington	4.1	.4	3.7	2.4	.1	1.2
White	4.3	.3	4.0	1.7	.6	1.7
Woodruff	4.2	.3	3.9	1.4	.5	2.0
Yell	17.9	11.6	6.3	3.9	1.0	1.4
All counties	758.6	390.5	368.1	212.3	54.9	100.9

¹ Negligible.

Table 15.—Net annual growth of sawtimber in International ¼-inch rule on commercial forest land by species group and county, 1968

County	All species	Softwood	Hardwood			
			Total	Oak	Gum	Other
— — — — — Million board feet — — — — —						
Arkansas	33.4	1.3	32.1	12.1	1.9	18.1
Ashley	99.9	85.2	14.7	11.8	1.2	1.7
Baxter	5.5	2.0	3.5	2.9	.2	.4
Benton	7.9	(¹)	7.9	3.7	.2	4.0
Boone	8.1	(¹)	8.1	2.8	—	5.3
Bradley	95.4	63.9	31.5	17.2	7.6	6.7
Calhoun	66.3	44.8	21.5	13.1	5.1	3.3
Carroll	15.4	6.3	9.1	5.1	.1	3.9
Chicot	7.8	(¹)	7.8	2.7	.8	4.3
Clark	105.9	77.1	28.8	23.1	2.4	3.3
Clay	10.1	—	10.1	5.8	.5	3.8
Cleburne	13.7	11.1	2.6	.9	1.1	.6
Cleveland	59.5	38.4	21.1	12.9	6.3	1.9
Columbia	72.7	57.3	15.4	9.6	4.8	1.0
Conway	4.6	2.8	1.8	.5	.8	.5
Craighead	4.0	1.1	2.9	1.6	.3	1.0
Crawford	14.1	3.5	10.6	4.1	.8	5.7
Crittenden	5.2	—	5.2	—	—	5.2
Cross	3.5	—	3.5	2.2	.2	1.1
Dallas	83.9	64.6	19.3	12.1	3.7	3.5
Desha	22.9	.8	22.1	2.7	1.6	17.8
Drew	59.6	42.0	17.6	14.3	1.8	1.5
Faulkner	1.6	.3	1.3	.7	.3	.3
Franklin	13.6	4.1	9.5	5.1	2.9	1.5
Fulton	4.3	2.8	1.5	1.1	.2	.2
Garland	65.1	54.2	10.9	9.6	1.0	.3
Grant	89.6	53.4	36.2	24.9	6.6	4.7
Greene	7.7	1.8	5.9	3.8	.7	1.4
Hempstead	58.0	41.4	16.6	11.0	1.6	4.0
Hot Spring	70.6	53.6	17.0	11.4	.8	4.8
Howard	61.1	52.6	8.5	3.0	2.8	2.7
Independence	8.2	2.2	6.0	2.4	.1	3.5
Izard	4.4	1.9	2.5	1.5	.2	.8
Jackson	6.0	—	6.0	4.7	.2	1.1
Jefferson	34.9	14.9	20.0	14.1	2.3	3.6
Johnson	18.6	11.1	7.5	3.7	2.1	1.7
Lafayette	35.5	28.0	7.5	4.0	2.0	1.5
Lawrence	4.2	—	4.2	3.5	.4	.3

Table 15.—Net annual growth of sawtimber in International ¼-inch rule on commercial forest land by species group and county, 1968 (continued)

County	All species	Softwood	Hardwood			
			Total	Oak	Gum	Other
Million board feet						
Lee	22.8	.4	22.4	6.7	1.2	14.5
Lincoln	20.7	7.6	13.1	6.8	1.3	5.0
Little River	37.5	29.7	7.8	5.5	.2	2.1
Logan	25.5	20.2	5.3	4.8	.2	.3
Lonoke	10.8	.2	10.6	5.3	4.2	1.1
Madison	15.7	.9	14.8	8.4	.5	5.9
Marion	4.2	.2	4.0	3.2	.3	.5
Miller	30.5	21.3	9.2	3.6	2.8	2.8
Mississippi	3.5	.7	2.8	.2	—	2.6
Monroe	30.9	2.8	28.1	13.4	3.9	10.8
Montgomery	71.3	64.2	7.1	6.4	.2	.5
Nevada	57.6	41.0	16.6	9.0	5.8	1.8
Newton	21.4	4.9	16.5	6.1	1.0	9.4
Ouachita	85.2	47.1	38.1	19.3	10.8	8.0
Perry	41.2	38.8	2.4	1.1	1.1	.2
Phillips	13.6	.1	13.5	7.6	1.2	4.7
Pike	87.6	78.9	8.7	6.7	1.8	.2
Poinsett	6.7	.3	6.4	3.7	(¹)	2.7
Polk	57.8	51.6	6.2	3.6	.6	2.0
Pope	23.0	15.9	7.1	4.5	1.6	1.0
Prairie	31.4	.6	30.8	12.8	6.1	11.9
Pulaski	19.2	13.0	6.2	4.4	1.1	.7
Randolph	5.3	.2	5.1	4.2	.1	.8
St. Francis	11.0	.4	10.6	6.5	2.6	1.5
Saline	51.3	38.3	13.0	7.2	3.0	2.8
Scott	71.0	62.9	8.1	7.0	.8	.3
Searcy	11.0	4.0	7.0	5.3	.3	1.4
Sebastian	2.2	.8	1.4	.7	—	.7
Sevier	63.4	46.4	17.0	10.7	2.0	4.3
Sharp	2.9	1.2	1.7	1.2	—	.5
Stone	18.5	6.6	11.9	7.2	.6	4.1
Union	125.9	92.5	33.4	22.0	6.9	4.5
Van Buren	15.7	7.4	8.3	6.8	.4	1.1
Washington	3.8	1.1	2.7	1.6	.2	.9
White	12.1	.9	11.2	2.1	6.6	2.5
Woodruff	9.9	1.0	8.9	4.4	1.1	3.4
Yell	58.4	41.4	17.0	7.8	5.4	3.8
All counties	2,463.3	1,570.0	893.3	503.5	141.5	248.3

¹ Negligible.

Table 16.—Timber removals from growing stock on commercial forest land by species group and county, 1968

County	All species	Softwood	Hardwood			
			Total	Oak	Gum	Other
Million cubic feet						
Arkansas	7.9	(¹)	7.9	3.5	.9	3.5
Ashley	34.1	26.4	7.7	5.3	1.3	1.1
Baxter	4.3	.7	3.6	3.4	.1	.1
Benton	2.2	.1	2.1	2.1	—	—
Boone	2.9	.1	2.8	2.1	.2	.5
Bradley	18.6	8.2	10.4	6.4	2.3	1.7
Calhoun	26.8	18.4	8.4	5.7	2.1	.6
Carroll	2.3	.2	2.1	1.7	—	.4
Chicot	1.3	(¹)	1.3	.4	.2	.7
Clark	18.2	13.7	4.5	2.7	1.2	.6
Clay	1.3	(¹)	1.3	.6	(¹)	.7
Cleburne	3.5	2.7	.8	.5	.1	.2
Cleveland	15.8	9.5	6.3	4.1	1.1	1.1
Columbia	8.4	5.4	3.0	1.8	1.0	.2
Conway	9.8	1.7	8.1	3.4	1.1	3.6
Craighead	1.5	.1	1.4	.7	.4	.3
Crawford	.8	.1	.7	.5	.1	.1
Crittenden	1.5	(¹)	1.5	—	.1	1.4
Cross	1.2	(¹)	1.2	.5	.2	.5
Dallas	23.2	18.0	5.2	3.8	.7	.7
Desha	10.1	.1	10.0	3.4	.2	6.4
Drew	12.7	6.0	6.7	4.6	1.2	.9
Faulkner	1.9	(¹)	1.9	—	—	1.9
Franklin	2.9	1.1	1.8	.6	.3	.9
Fulton	1.3	.1	1.2	.9	—	.3
Garland	12.9	6.5	6.4	4.6	1.1	.7
Grant	28.8	19.0	9.8	6.3	2.4	1.1
Greene	.7	(¹)	.7	.4	.1	.2
Hempstead	6.9	3.7	3.2	1.8	.7	.7
Hot Spring	10.7	8.3	2.4	1.0	1.0	.4
Howard	14.0	10.6	3.4	1.6	.8	1.0
Independence	1.6	.3	1.3	.5	.1	.7
Izard	7.3	.7	6.6	5.3	—	1.3
Jackson	1.1	(¹)	1.1	.5	(¹)	.6
Jefferson	13.2	4.9	8.3	4.7	.9	2.7
Johnson	3.0	1.2	1.8	1.6	—	.2
Lafayette	7.5	5.6	1.9	1.1	.1	.7
Lawrence	1.4	.1	1.3	.8	.1	.4

Table 16.—Timber removals from growing stock on commercial forest land by species group and county, 1968 (continued)

County	All species	Softwood	Hardwood			
			Total	Oak	Gum	Other
Million cubic feet						
Lee	2.8	.1	2.7	.9	.9	.9
Lincoln	6.1	.9	5.2	2.4	1.8	1.0
Little River	10.3	4.4	5.9	3.9	.4	1.6
Logan	3.4	2.3	1.1	.8	—	.3
Lonoke	4.1	(¹)	4.1	2.0	1.4	.7
Madison	2.3	.1	2.2	1.1	.2	.9
Marion	.8	.1	.7	.6	—	.1
Miller	3.2	1.7	1.5	.5	.3	.7
Mississippi	1.2	(¹)	1.2	—	—	1.2
Monroe	13.5	.1	13.4	4.8	1.9	6.7
Montgomery	6.0	4.2	1.8	1.0	.4	.4
Nevada	11.5	8.7	2.8	2.0	.7	.1
Newton	3.8	.2	3.6	3.2	.1	.3
Ouachita	15.0	9.6	5.4	3.1	1.8	.5
Perry	5.4	4.1	1.3	1.0	.1	.2
Phillips	15.2	.1	15.1	3.0	2.4	9.7
Pike	15.1	12.8	2.3	1.2	.4	.7
Poinsett	1.8	(¹)	1.8	.8	.2	.8
Polk	8.2	6.9	1.3	.8	.3	.2
Pope	5.2	3.3	1.9	.9	.6	.4
Prairie	5.7	(¹)	5.7	2.6	.6	2.5
Pulaski	4.4	1.6	2.8	1.2	.9	.7
Randolph	8.7	(¹)	8.7	1.4	1.1	6.2
St. Francis	2.7	.1	2.6	1.8	.2	.6
Saline	11.5	8.6	2.9	2.0	.3	.6
Scott	7.3	4.9	2.4	2.0	.2	.2
Searcy	1.6	.2	1.4	.9	.2	.3
Sebastian	1.8	.4	1.4	.8	—	.6
Sevier	8.8	6.2	2.6	1.3	.8	.5
Sharp	1.3	(¹)	1.3	.8	—	.5
Stone	7.2	.3	6.9	5.2	.3	1.4
Union	19.2	13.7	5.5	3.2	1.6	.7
Van Buren	4.9	3.5	1.4	.7	.2	.5
Washington	3.0	(¹)	3.0	3.0	—	—
White	11.1	.3	10.8	2.0	4.8	4.0
Woodruff	1.9	.1	1.8	.6	.3	.9
Yell	11.0	8.3	2.7	2.1	.4	.2
All counties	570.6	281.3	289.3	154.5	47.9	86.9

¹ Negligible.

Table 17.—Timber removals from sawtimber in International ¼-inch rule on commercial forest land by species group and county, 1968

County	All species	Softwood	Hardwood			
			Total	Oak	Gum	Other
— — — — — Million board feet — — — — —						
Arkansas	31.5	0.1	31.4	15.4	4.3	11.7
Ashley	133.8	117.0	16.8	13.0	2.4	1.4
Baxter	15.3	3.6	11.7	10.8	.4	.5
Benton	7.3	.7	6.6	6.6	—	—
Boone	7.2	.2	7.0	7.0	—	—
Bradley	90.3	44.8	45.5	28.5	9.4	7.6
Calhoun	118.0	90.5	27.5	16.0	8.7	2.8
Carroll	6.4	.8	5.6	4.5	—	1.1
Chicot	4.3	(¹)	4.3	1.0	.6	2.7
Clark	80.9	63.3	17.6	11.9	3.6	2.1
Clay	4.0	(¹)	4.0	1.9	.2	1.9
Cleburne	11.2	8.6	2.6	1.9	.7	—
Cleveland	72.9	48.5	24.4	16.8	3.7	3.9
Columbia	28.0	19.7	8.3	5.8	2.0	.5
Conway	24.3	6.1	18.2	6.6	4.3	7.3
Craighead	4.0	.6	3.4	1.6	1.3	.5
Crawford	1.9	.3	1.6	1.0	.3	.3
Crittenden	3.2	.1	3.1	—	—	3.1
Cross	3.4	.1	3.3	1.7	.7	.9
Dallas	106.6	87.4	19.2	14.5	2.6	2.1
Desha	42.2	.6	41.6	13.0	1.2	27.4
Drew	44.9	26.8	18.1	11.7	3.8	2.6
Faulkner	2.7	.1	2.6	2.6	—	—
Franklin	6.8	3.6	3.2	.4	1.3	1.5
Fulton	5.2	.1	5.1	4.7	—	.4
Garland	60.2	32.8	27.4	19.7	6.3	1.4
Grant	121.8	89.4	32.4	19.9	8.5	4.0
Greene	1.8	.2	1.6	1.2	.2	.2
Hempstead	23.0	13.9	9.1	6.0	1.9	1.2
Hot Spring	45.9	38.2	7.7	4.4	1.6	1.7
Howard	61.0	49.4	11.6	6.6	1.8	3.2
Independence	4.8	1.3	3.5	1.3	.2	2.0
Izard	13.4	2.6	10.8	8.1	—	2.7
Jackson	3.3	.1	3.2	1.6	—	1.6
Jefferson	48.9	21.0	27.9	14.7	4.8	8.4
Johnson	8.7	4.7	4.0	4.0	—	—
Lafayette	31.1	26.3	4.8	3.3	.2	1.3
Lawrence	4.7	.2	4.5	3.1	.3	1.1

Table 17.—Timber removals from sawtimber in International ¼-inch rule on commercial forest land by species group and county, 1968 (continued)

County	All species	Softwood	Hardwood			
			Total	Oak	Gum	Other
			Million board feet			
Lee	10.8	.4	10.4	3.9	3.1	3.4
Lincoln	24.1	4.6	19.5	10.2	5.7	3.6
Little River	37.8	20.4	17.4	12.6	.3	4.5
Logan	11.8	9.7	2.1	2.1	—	—
Lonoke	11.6	(¹)	11.6	6.7	4.3	.6
Madison	9.0	.4	8.6	4.0	1.1	3.5
Marion	2.5	.2	2.3	2.0	—	.3
Miller	10.5	6.5	4.0	1.4	1.0	1.6
Mississippi	.9	.1	.8	—	—	.8
Monroe	54.5	.4	54.1	18.0	8.4	27.7
Montgomery	21.7	17.6	4.1	2.6	.8	.7
Nevada	47.9	38.6	9.3	5.7	3.2	.4
Newton	10.6	1.4	9.2	8.1	.3	.8
Ouachita	66.0	45.0	21.0	12.0	7.5	1.5
Perry	22.2	20.0	2.2	2.2	—	—
Phillips	65.2	.8	64.4	11.1	10.7	42.6
Pike	67.7	60.2	7.5	5.2	1.8	.5
Poinsett	5.8	(¹)	5.8	2.6	.7	2.5
Polk	30.5	27.6	2.9	1.7	1.2	—
Pope	20.6	16.3	4.3	2.2	2.1	—
Prairie	18.4	(¹)	18.4	9.0	2.0	7.4
Pulaski	14.3	7.8	6.5	2.8	2.0	1.7
Randolph	9.7	.1	9.6	.6	—	9.0
St. Francis	10.7	.6	10.1	7.2	.5	2.4
Saline	51.1	42.9	8.2	5.6	.7	1.9
Scott	31.2	24.1	7.1	5.8	1.0	.3
Searcy	6.3	1.0	5.3	3.3	.8	1.2
Sebastian	2.8	1.3	1.5	.9	—	.6
Sevier	35.2	26.9	8.3	5.0	1.9	1.4
Sharp	3.8	.1	3.7	2.2	—	1.5
Stone	28.6	1.0	27.6	22.6	2.0	3.0
Union	79.2	62.3	16.9	9.0	6.0	1.9
Van Buren	12.8	9.1	3.7	1.7	2.0	—
Washington	10.6	(¹)	10.6	10.6	—	—
White	40.8	1.1	39.7	8.6	16.0	15.1
Woodruff	6.6	.2	6.4	2.0	1.0	3.4
Yell	48.9	40.5	8.4	6.9	1.5	—
All counties	2,227.6	1,292.9	934.7	510.9	166.9	256.9

¹ Negligible.

Table 18.—Net annual change in growing stock and sawtimber in International ¼-inch rule on commercial forest land by species group and county, 1968

County	Growing stock			Sawtimber		
	Total	Softwood	Hardwood	Total	Softwood	Hardwood
	— — — Million cubic feet — — —			— — — Million board feet — — —		
Arkansas	+ 2.1	+ 0.2	+ 1.9	+ 1.9	+ 1.2	+ 0.7
Ashley	— 10.2	— 9.3	— .9	— 33.9	— 31.8	— 2.1
Baxter	— 1.8	(¹)	— 1.8	— 9.8	— 1.6	— 8.2
Benton	+ 2.0	— .1	+ 2.1	+ .6	— .7	+ 1.3
Boone	+ .4	(¹)	+ .4	+ .9	— .2	+ 1.1
Bradley	+ 4.7	+ 6.9	— 2.2	+ 5.1	+ 19.1	— 14.0
Calhoun	— 5.4	— 4.7	— .7	— 51.7	— 45.7	— 6.0
Carroll	+ 1.9	+ 1.6	+ .3	+ 9.0	+ 5.5	+ 3.5
Chicot	+ 1.5	(¹)	+ 1.5	+ 3.5	(¹)	+ 3.5
Clark	+ 10.1	+ 3.1	+ 7.0	+ 25.0	+ 13.8	+ 11.2
Clay	+ 1.9	(¹)	+ 1.9	+ 6.1	(¹)	+ 6.1
Cleburne	+ 1.6	+ .5	+ 1.1	+ 2.5	+ 2.5	—
Cleveland	+ 3.5	+ 1.6	+ 1.9	— 13.4	— 10.1	— 3.3
Columbia	+ 12.6	+ 9.0	+ 3.6	+ 44.7	+ 37.6	+ 7.1
Conway	— 5.9	+ .2	— 6.1	— 19.7	— 3.3	— 16.4
Craighead	— .1	+ .1	— .2	(¹)	+ .5	— .5
Crawford	+ 3.3	+ 1.1	+ 2.2	+ 12.2	+ 3.2	+ 9.0
Crittenden	+ .1	(¹)	+ .1	+ 2.0	— .1	+ 2.1
Cross	(¹)	(¹)	(¹)	+ .1	— .1	+ .2
Dallas	— 1.0	— 4.2	+ 3.2	— 22.7	— 22.8	+ .1
Desha	— 3.5	(¹)	— 3.5	— 19.3	+ .2	— 19.5
Drew	+ 4.9	+ 4.7	+ .2	+ 14.7	+ 15.2	— .5
Faulkner	— .3	+ .1	— .4	— 1.1	+ .2	— 1.3
Franklin	+ 2.2	— .2	+ 2.4	+ 6.8	+ .5	+ 6.3
Fulton	+ 3.4	+ 3.7	— .3	— .9	+ 2.7	— 3.6
Garland	+ 2.1	+ 3.5	— 1.4	+ 4.9	+ 21.4	— 16.5
Grant	— 3.6	— 6.8	+ 3.2	— 32.2	— 36.0	+ 3.8
Greene	+ 1.0	+ .3	+ .7	+ 5.9	+ 1.6	+ 4.3
Hempstead	+ 14.1	+ 10.6	+ 3.5	+ 35.0	+ 27.5	+ 7.5
Hot Spring	+ 7.8	+ 3.1	+ 4.7	+ 24.7	+ 15.4	+ 9.3
Howard	+ 1.8	+ 1.7	+ .1	+ .1	+ 3.2	— 3.1
Independence	+ 2.8	+ .6	+ 2.2	+ 3.4	+ .9	+ 2.5
Izard	— 4.4	+ .2	— 4.6	— 9.0	— .7	— 8.3
Jackson	+ .9	(¹)	+ .9	+ 2.7	— .1	+ 2.8
Jefferson	— 2.0	— 1.2	— .8	— 14.0	— 6.1	— 7.9
Johnson	+ 4.9	+ 1.6	+ 3.3	+ 9.9	+ 6.4	+ 3.5
Lafayette	+ 6.8	+ 4.6	+ 2.2	+ 4.4	+ 1.7	+ 2.7
Lawrence	+ 1.6	(¹)	+ 1.6	— .5	— .2	— .3

Table 18.—Net annual change in growing stock and sawtimber in International ¼-inch rule on commercial forest land by species group and county, 1968 (continued)

County	Growing stock			Sawtimber		
	Total	Softwood	Hardwood	Total	Softwood	Hardwood
	— — — Million cubic feet — — —			— — — Million board feet — — —		
Lee	+ 3.1	(¹)	+ 3.1	+ 12.0	(¹)	+ 12.0
Lincoln	+ 1.1	+ 1.4	— .3	— 3.4	+ 3.0	— 6.4
Little River	+ 2.6	+ 4.0	— 1.4	— .3	+ 9.3	— 9.6
Logan	+ 4.0	+ 2.3	+ 1.7	+ 13.7	+ 10.5	+ 3.2
Lonoke	— .4	(¹)	— .4	— .8	+ .2	— 1.0
Madison	+ 4.0	+ .5	+ 3.5	+ 6.7	+ .5	+ 6.2
Marion	+ 2.2	+ .4	+ 1.8	+ 1.7	(¹)	+ 1.7
Miller	+ 8.1	+ 4.8	+ 3.3	+ 20.0	+ 14.8	+ 5.2
Mississippi	+ .8	+ .1	+ .7	+ 2.6	+ .6	+ 2.0
Monroe	— 4.9	+ .6	— 5.5	— 23.6	+ 2.4	— 26.0
Montgomery	+ 15.3	+ 10.6	+ 4.7	+ 49.6	+ 46.6	+ 3.0
Nevada	+ 8.6	+ 3.5	+ 5.1	+ 9.7	+ 2.4	+ 7.3
Newton	+ 5.6	+ 2.2	+ 3.4	+ 10.8	+ 3.5	+ 7.3
Ouachita	+ 10.5	+ 2.6	+ 7.9	+ 19.2	+ 2.1	+ 17.1
Perry	+ 7.5	+ 4.3	+ 3.2	+ 19.0	+ 18.8	+ .2
Phillips	— 9.3	— .1	— 9.2	— 51.6	— .7	— 50.9
Pike	+ 6.4	+ 2.8	+ 3.6	+ 19.9	+ 18.7	+ 1.2
Poinsett	+ .7	+ .1	+ .6	+ .9	+ .3	+ .6
Polk	+ 7.7	+ 3.6	+ 4.1	+ 27.3	+ 24.0	+ 3.3
Pope	+ 4.9	+ 1.7	+ 3.2	+ 2.4	— .4	+ 2.8
Prairie	+ .5	+ .1	+ .4	+ 13.0	+ .6	+ 12.4
Pulaski	+ 4.2	+ 3.1	+ 1.1	+ 4.9	+ 5.2	— .3
Randolph	— 5.2	+ .1	— 5.3	— 4.4	+ .1	— 4.5
St. Francis	+ .6	(¹)	+ .6	+ .3	— .2	+ .5
Saline	+ 4.9	+ .6	+ 4.3	+ .2	— 4.6	+ 4.8
Scott	+ 12.0	+ 10.0	+ 2.0	+ 39.8	+ 38.8	+ 1.0
Searcy	+ 3.0	+ .7	+ 2.3	+ 4.7	+ 3.0	+ 1.7
Sebastian	— .2	+ .1	— .3	— .6	— .5	— .1
Sevier	+ 6.7	+ 1.8	+ 4.9	+ 28.2	+ 19.5	+ 8.7
Sharp	+ 1.1	+ .8	+ .3	— .9	+ 1.1	— 2.0
Stone	— 2.0	+ 1.6	— 3.6	— 10.1	+ 5.6	— 15.7
Union	+ 17.0	+ 9.3	+ 7.7	+ 46.7	+ 30.2	+ 16.5
Van Buren	+ 1.6	— .8	+ 2.4	+ 2.9	— 1.7	+ 4.6
Washington	+ 1.1	+ .4	+ .7	— 6.8	+ 1.1	— 7.9
White	— 6.8	(¹)	— 6.8	— 28.7	— .2	— 28.5
Woodruff	+ 2.3	+ .2	+ 2.1	+ 3.3	+ .8	+ 2.5
Yell	+ 6.9	+ 3.3	+ 3.6	+ 9.5	+ .9	+ 8.6
All counties	+188.0	+109.2	+ 78.8	+235.7	+277.1	— 41.4

¹ Negligible.

Table 19.—Average volume per acre of growing stock and sawtimber in International ¼-inch rule on commercial forest land by species group, ownership class, and Survey region, 1969

Ownership class	Growing stock			Sawtimber		
	All species	Softwood	Hardwood	All species	Softwood	Hardwood
— — Cubic feet — — — — Board feet — —						
STATE OF ARKANSAS						
National forest	959	507	452	2,822	1,809	1,013
Other public	950	159	791	3,238	656	2,582
Forest industry	1,150	668	482	4,252	2,907	1,345
Farmer	658	171	487	1,707	583	1,124
Misc. private	723	256	467	1,944	899	1,045
All Ownerships	837	353	484	2,537	1,363	1,174
SOUTHWEST						
National forest	846	346	500	2,616	1,308	1,308
Other public	854	348	506	2,637	1,310	1,327
Forest industry	1,169	705	464	4,433	3,172	1,261
Farmer	886	404	482	2,573	1,504	1,069
Misc. private	984	499	485	3,030	1,902	1,128
All ownerships	1,045	570	475	3,560	2,382	1,178
OUACHITA						
National forest	995	753	242	3,023	2,593	430
Other public	434	68	366	999	173	826
Forest industry	1,051	798	253	3,388	2,972	416
Farmer	628	256	372	1,434	712	722
Misc. private	726	361	365	1,760	1,051	709
All ownerships	874	580	294	2,513	1,968	545
OZARK						
National forest	903	175	728	2,523	752	1,771
Other public	689	51	638	2,036	119	1,917
Forest industry	370	273	97	664	556	108
Farmer	453	49	404	910	97	813
Misc. private	498	83	415	1,058	235	823
All ownerships	549	86	463	1,254	268	986
DELTA						
National forest	1,346	38	1,308	4,115	225	3,890
Other public	1,460	196	1,264	5,576	984	4,592
Forest industry	1,274	81	1,193	4,756	480	4,276
Farmer	849	63	786	2,571	270	2,301
Misc. private	849	82	767	2,466	314	2,152
All ownerships	984	86	898	3,203	392	2,811

Table 20.—Growing-stock volume on commercial forest land by Survey region and species, 1969

Species	State	Southwest	Ouachita	Ozark	Delta
— — — — Million cubic feet — — — —					
Softwood:					
Shortleaf pine	3,588.4	1,230.9	1,837.1	492.3	28.1
Loblolly pine	2,603.8	2,477.4	69.6	8.7	48.1
Cypress	182.0	77.6	10.2	.9	93.3
Redcedar	48.2	1.6	6.6	39.3	.7
All softwoods	6,422.4	3,787.5	1,923.5	541.2	170.2
Hardwood:					
Select white oaks ¹	1,212.6	334.1	217.9	575.8	84.8
Select red oaks ²	625.4	178.0	67.7	311.1	68.6
Other white oaks	1,191.5	364.9	193.7	400.7	232.2
Other red oaks	1,961.5	844.6	134.4	677.7	304.8
Pecan	193.0	52.9	2.4	7.3	130.4
Other hickories	812.0	211.8	107.7	408.4	84.1
Sweetgum	1,139.4	733.9	122.8	143.7	139.0
Tupelo and blackgum	316.3	119.4	43.1	104.1	49.7
Hard maple	23.9	.3	.8	20.1	2.7
Soft maple	58.6	23.7	4.9	13.5	16.5
Beech	52.6	34.0	—	10.5	8.1
Ash	221.1	56.8	16.0	52.8	95.5
Cottonwood	84.1	10.1	2.1	2.1	69.8
Basswood	14.2	2.3	1.2	8.0	2.7
Black walnut	29.5	1.6	.4	27.5	—
Black cherry	21.5	5.0	5.2	10.0	1.3
Willow	129.0	21.1	6.8	—	101.1
American elm	127.4	23.8	8.8	26.4	68.4
Other elms	163.0	49.5	25.6	41.9	46.0
Hackberry	188.7	19.9	5.1	8.1	155.6
Sycamore	72.1	14.5	2.6	18.5	36.5
Other hardwoods	168.8	55.6	7.7	30.6	74.9
All hardwoods	8,806.2	3,157.8	976.9	2,898.8	1,772.7
All species	15,228.6	6,945.3	2,900.4	3,440.0	1,942.9

¹ Includes white, swamp chestnut, chinkapin, Durand, swamp white, and bur oaks.

² Includes northern red, cherrybark, and Shumard oaks.

Table 21.—Sawtimber volume in International ¼-inch rule on commercial forest land by Survey region and species, 1969

Species	State	Southwest	Ouachita	Ozark	Delta
— — — — Million board feet — — — —					
Softwood:					
Shortleaf pine	13,204.5	5,187.4	6,287.0	1,620.5	109.6
Loblolly pine	10,645.4	10,261.4	210.3	11.4	162.3
Cypress	912.0	378.8	27.0	3.3	502.9
Redcedar	52.2	1.7	8.8	41.7	—
All softwoods	24,814.1	15,829.3	6,533.1	1,676.9	774.8
Hardwood:					
Select white oaks ¹	2,458.3	850.2	374.8	1,007.7	225.6
Select red oaks ²	1,742.1	570.2	141.3	785.9	244.7
Other white oaks	2,653.7	802.2	356.8	750.4	744.3
Other red oaks	5,032.5	2,176.2	299.4	1,625.7	931.2
Pecan	692.8	172.8	9.1	27.7	483.2
Other hickories	1,537.7	518.6	140.2	685.6	193.3
Sweetgum	2,886.6	1,746.9	257.0	438.7	444.0
Tupelo and blackgum	930.0	302.5	119.4	331.2	176.9
Hard maple	40.9	1.6	—	28.8	10.5
Soft maple	103.2	33.2	6.5	9.0	54.5
Beech	201.6	129.5	—	36.3	35.8
Ash	535.6	116.0	23.8	130.8	265.0
Cottonwood	336.4	30.0	7.5	8.7	290.2
Basswood	46.2	10.4	2.2	24.0	9.6
Black walnut	56.8	3.2	1.8	51.8	—
Black cherry	37.2	8.9	4.9	19.7	3.7
Willow	433.3	70.4	14.2	—	348.7
American elm	339.6	51.6	16.2	65.9	205.9
Other elms	247.1	63.1	11.2	47.0	125.8
Hackberry	531.3	49.7	6.8	11.7	463.1
Sycamore	268.6	48.2	10.3	54.4	155.7
Other hardwoods	263.4	75.4	6.9	40.2	140.9
All hardwoods	21,374.9	7,830.8	1,810.3	6,181.2	5,552.6
All species	46,189.0	23,660.1	8,343.4	7,858.1	6,327.4

¹ Includes white, swamp chestnut, chinkapin, Durand, swamp white, and bur oaks.

² Includes northern red, cherrybark, and Shumard oaks.

Table 22.—Sampling errors¹ for commercial forest land by county, 1969

County	Percent	County	Percent	County	Percent
Arkansas	2	Garland	2	Newton	2
Ashley	4	Grant	1	Ouachita	2
Baxter	3	Greene	2	Perry	2
Benton	3	Hempstead	3	Phillips	1
Boone	3	Hot Spring	3	Pike	1
Bradley	2	Howard	2	Poinsett	1
Calhoun	2	Independence	2	Polk	2
Carroll	3	Izard	2	Pope	1
Chicot	2	Jackson	1	Prairie	3
Clark	4	Jefferson	2	Pulaski	3
Clay	2	Johnson	2	Randolph	3
Cleburne	4	Lafayette	4	St. Francis	1
Cleveland	1	Lawrence	3	Saline	2
Columbia	2	Lee	1	Scott	1
Conway	3	Lincoln	2	Searcy	2
Craighead	2	Little River	3	Sebastian	3
Crawford	3	Logan	2	Sevier	2
Crittenden	1	Lonoke	2	Sharp	3
Cross	1	Madison	2	Stone	2
Dallas	1	Marion	2	Union	2
Desha	2	Miller	4	Van Buren	3
Drew	2	Mississippi	1	Washington	2
Faulkner	4	Monroe	2	White	3
Franklin	3	Montgomery	1	Woodruff	2
Fulton	3	Nevada	2	Yell	2
				All counties	0.3

¹ By random-sampling formula.

Table 23.—Sampling errors for growing-stock volume on commercial forest land by species group and county, 1969

County	All species	Softwood	Hardwood			
			Total	Oak	Gum	Other
Percent						
Arkansas	12	(¹)	12	15	(¹)	17
Ashley	7	10	14	16	23	27
Baxter	16	46	18	21	(¹)	24
Benton	12	(¹)	13	11	42	39
Boone	22	(¹)	22	25	(¹)	40
Bradley	8	11	15	19	25	24
Calhoun	11	18	14	18	18	24
Carroll	21	(¹)	20	22	(¹)	36
Chicot	18	—	18	32	(¹)	25
Clark	7	11	10	12	23	22
Clay	25	—	25	29	45	30
Cleburne	10	24	14	17	(¹)	34
Cleveland	8	13	13	15	22	21
Columbia	11	16	16	16	27	27
Conway	18	45	25	20	43	46
Craighead	17	44	18	40	(¹)	33
Crawford	17	(¹)	17	17	46	24
Crittenden	30	—	30	—	(¹)	30
Cross	25	(¹)	24	31	48	23
Dallas	7	12	11	12	20	25
Desha	15	49	16	48	47	19
Drew	9	15	12	14	30	22
Faulkner	24	(¹)	25	31	(¹)	(¹)
Franklin	17	(¹)	20	19	(¹)	32
Fulton	26	(¹)	32	33	(¹)	(¹)
Garland	7	11	13	14	29	18
Grant	9	17	13	13	23	23
Greene	14	45	15	21	(¹)	29
Hempstead	10	16	18	21	29	40
Hot Spring	10	15	13	15	23	19
Howard	10	12	16	19	31	21
Independence	17	43	22	27	(¹)	31
Izard	16	35	19	22	(¹)	37
Jackson	24	—	24	22	(¹)	39
Jefferson	12	23	14	17	45	20
Johnson	10	30	12	13	29	24
Lafayette	11	16	17	22	42	29
Lawrence	18	(¹)	18	22	(¹)	37

Table 23.—Sampling errors for growing-stock volume on commercial forest land by species group and county, 1969 (continued)

County	All species	Softwood	Hardwood			
			Total	Oak	Gum	Other
Percent						
Lee	16	(¹)	16	22	36	27
Lincoln	10	32	15	19	32	30
Little River	13	20	15	18	34	25
Logan	11	19	17	16	47	28
Lonoke	15	(¹)	16	23	36	33
Madison	9	47	9	11	27	16
Marion	17	38	18	22	(¹)	21
Miller	13	24	16	22	28	34
Mississippi	13	(¹)	20	(¹)	—	21
Monroe	10	39	11	16	(¹)	15
Montgomery	7	10	11	12	24	18
Nevada	8	14	13	18	16	23
Newton	8	42	9	10	34	20
Ouachita	7	12	11	12	19	20
Perry	8	10	16	13	48	29
Phillips	13	(¹)	13	18	38	21
Pike	8	11	12	15	25	24
Poinsett	16	(¹)	16	29	(¹)	30
Polk	9	12	10	12	21	16
Pope	9	24	9	11	27	16
Prairie	20	(¹)	21	19	(¹)	40
Pulaski	11	21	17	21	29	32
Randolph	20	(¹)	20	23	(¹)	25
St. Francis	20	(¹)	22	32	42	27
Saline	8	13	13	12	30	21
Scott	6	9	11	11	32	17
Searcy	12	(¹)	12	14	45	29
Sebastian	20	(¹)	23	28	—	38
Sevier	11	21	11	14	18	21
Sharp	19	(¹)	22	23	(¹)	32
Stone	13	30	15	17	32	24
Union	6	11	10	12	16	20
Van Buren	8	25	9	11	24	16
Washington	16	(¹)	15	19	50	24
White	20	(¹)	21	19	43	44
Woodruff	18	42	19	23	37	21
Yell	6	11	13	15	24	25
All counties	1.3	2.4	1.8	2.1	4.4	3.4

¹ Exceeds 50 percent.

Table 24.—Sampling errors for sawtimber volume, International ¼-inch rule, on commercial forest land by species group and county, 1969

County	All species	Softwood	Hardwood			
			Total	Oak	Gum	Other
— — — — — Percent — — — — —						
Arkansas	17	(¹)	17	16	(¹)	23
Ashley	9	12	16	18	31	31
Baxter	22	(¹)	24	25	(¹)	46
Benton	20	—	20	20	(¹)	(¹)
Boone	29	—	29	33	—	(¹)
Bradley	10	13	19	24	33	28
Calhoun	16	22	17	25	22	26
Carroll	29	(¹)	24	29	(¹)	38
Chicot	20	—	20	36	(¹)	29
Clark	9	13	15	17	36	29
Clay	44	—	44	44	(¹)	49
Cleburne	21	27	28	31	(¹)	(¹)
Cleveland	10	14	18	20	29	22
Columbia	15	20	23	20	37	36
Conway	25	47	30	34	49	(¹)
Craighead	26	49	23	38	(¹)	43
Crawford	26	(¹)	22	19	(¹)	31
Crittenden	41	—	41	—	—	41
Cross	28	—	28	32	(¹)	32
Dallas	11	14	18	16	32	39
Desha	17	49	19	(¹)	(¹)	21
Drew	13	18	14	16	38	33
Faulkner	35	(¹)	38	50	(¹)	(¹)
Franklin	24	(¹)	30	27	(¹)	45
Fulton	32	(¹)	33	36	(¹)	(¹)
Garland	9	11	15	16	32	30
Grant	12	19	18	20	29	26
Greene	27	49	30	35	(¹)	24
Hempstead	15	22	24	25	35	(¹)
Hot Spring	15	18	16	20	40	32
Howard	14	15	24	31	38	28
Independence	28	(¹)	34	38	(¹)	41
Izard	22	43	24	27	(¹)	50
Jackson	39	—	39	36	(¹)	45
Jefferson	17	29	19	25	(¹)	21
Johnson	16	32	21	22	33	33
Lafayette	16	22	25	27	(¹)	40
Lawrence	35	—	35	37	(¹)	(¹)

Table 24.—Sampling errors for sawtimber volume, International ¼-inch rule, on commercial forest land by species group and county, 1969 (continued)

County	All species	Softwood	Hardwood			
			Total	Oak	Gum	Other
Percent						
Lee	18	(¹)	19	23	35	31
Lincoln	16	39	20	25	37	38
Little River	19	25	21	19	(¹)	41
Logan	16	23	21	20	48	42
Lonoke	21	(¹)	21	28	40	41
Madison	13	(¹)	14	15	35	26
Marion	20	(¹)	20	23	(¹)	39
Miller	18	32	24	32	35	(¹)
Mississippi	26	(¹)	38	(¹)	—	41
Monroe	13	43	12	18	(¹)	17
Montgomery	11	13	20	21	45	38
Nevada	13	18	20	22	28	28
Newton	14	44	16	18	44	31
Ouachita	11	14	16	16	27	23
Perry	12	13	29	27	48	(¹)
Phillips	19	(¹)	19	24	44	31
Pike	13	13	20	24	35	(¹)
Poinsett	25	(¹)	25	41	—	41
Polk	12	15	13	15	28	26
Pope	14	29	15	18	27	23
Prairie	26	(¹)	27	23	(¹)	(¹)
Pulaski	17	22	34	43	38	(¹)
Randolph	36	(¹)	37	39	(¹)	41
St. Francis	24	(¹)	27	38	(¹)	40
Saline	9	13	16	16	31	33
Scott	9	11	18	18	35	42
Searcy	19	(¹)	16	21	(¹)	29
Sebastian	24	(¹)	28	31	—	(¹)
Sevier	16	23	17	22	26	29
Sharp	28	(¹)	32	31	—	(¹)
Stone	21	37	20	24	43	32
Union	9	13	14	16	22	27
Van Buren	14	26	18	20	35	41
Washington	26	(¹)	23	30	(¹)	40
White	33	(¹)	35	29	47	(¹)
Woodruff	26	43	29	29	42	35
Yell	9	13	18	23	31	32
All counties	1.9	2.9	2.7	3.0	6.0	5.3

¹ Exceeds 50 percent.

Table 25.—Sampling errors for growth on growing stock on commercial forest land by species group and county, 1968

County	All species	Softwood	Hardwood			
			Total	Oak	Gum	Other
			Percent			
Arkansas	9	(¹)	9	16	42	14
Ashley	7	10	15	17	26	27
Baxter	14	40	16	19	(¹)	21
Benton	29	(¹)	29	34	45	37
Boone	26	(¹)	27	23	(¹)	39
Bradley	7	12	15	17	25	24
Calhoun	10	15	16	19	22	28
Carroll	31	(¹)	33	22	(¹)	(¹)
Chicot	16	—	16	36	(¹)	21
Clark	6	11	10	13	20	26
Clay	21	—	21	25	45	27
Cleburne	14	24	15	17	47	32
Cleveland	8	15	11	13	21	34
Columbia	10	14	17	18	26	27
Conway	33	(¹)	30	(¹)	(¹)	(¹)
Craighead	18	45	23	45	48	28
Crawford	27	(¹)	22	25	41	48
Crittenden	25	—	25	—	(¹)	26
Cross	20	(¹)	20	27	(¹)	23
Dallas	7	12	11	13	23	27
Desha	15	42	16	43	38	20
Drew	9	15	11	13	25	23
Faulkner	38	(¹)	39	44	(¹)	47
Franklin	20	(¹)	23	25	(¹)	48
Fulton	(¹)	(¹)	33	32	(¹)	(¹)
Garland	10	13	19	22	33	18
Grant	7	16	11	12	21	23
Greene	12	43	16	18	(¹)	(¹)
Hempstead	11	17	16	22	29	30
Hot Spring	9	13	15	19	32	31
Howard	8	11	15	20	29	21
Independence	23	38	31	42	(¹)	44
Izard	22	34	27	30	(¹)	36
Jackson	41	—	41	49	(¹)	40
Jefferson	11	23	12	18	33	24
Johnson	10	28	13	18	39	29
Lafayette	9	14	20	29	40	42
Lawrence	19	(¹)	20	18	(¹)	42

Table 25.—Sampling errors for growth on growing stock on commercial forest land by species group and county, 1968 (continued)

County	All species	Softwood	Hardwood			
			Total	Oak	Gum	Other
			Percent			
Lee	13	48	13	23	47	23
Lincoln	11	34	14	19	36	31
Little River	14	21	18	22	36	22
Logan	13	20	23	25	(¹)	35
Lonoke	12	(¹)	13	21	33	27
Madison	11	42	12	16	27	16
Marion	16	45	19	25	(¹)	19
Miller	11	19	17	23	38	28
Mississippi	17	(¹)	21	(¹)	—	22
Monroe	13	32	14	18	(¹)	13
Montgomery	7	10	14	13	42	39
Nevada	8	14	16	20	22	33
Newton	13	47	11	16	34	22
Ouachita	7	12	10	13	16	30
Perry	11	11	22	26	45	32
Phillips	14	(¹)	14	22	41	23
Pike	11	14	16	20	30	42
Poinsett	14	(¹)	15	26	(¹)	29
Polk	9	11	14	17	36	18
Pope	13	23	12	14	38	21
Prairie	15	(¹)	16	17	48	34
Pulaski	18	33	19	20	31	40
Randolph	23	(¹)	23	30	(¹)	28
St. Francis	20	(¹)	21	31	40	23
Saline	10	16	14	16	30	24
Scott	8	11	14	16	33	16
Searcy	18	(¹)	18	25	48	33
Sebastian	22	(¹)	23	23	—	39
Sevier	9	18	12	14	17	21
Sharp	23	(¹)	22	25	(¹)	29
Stone	12	25	16	23	30	20
Union	6	11	9	12	15	20
Van Buren	14	24	12	15	25	26
Washington	18	(¹)	18	26	(¹)	24
White	16	(¹)	17	29	48	31
Woodruff	14	40	15	22	35	17
Yell	8	12	14	16	25	32
All counties	1.8	2.7	2.6	3.1	6.0	5.4

¹ Exceeds 50 percent.

Table 26.—Sampling errors for growth on sawtimber, International ¼-inch rule, on commercial forest land by species group and county, 1968

County	All species	Softwood	Hardwood			
			Total	Oak	Gum	Other
Percent						
Arkansas	13	(¹)	14	16	(¹)	22
Ashley	9	11	17	19	32	34
Baxter	25	(¹)	25	27	(¹)	49
Benton	(¹)	—	(¹)	20	(¹)	(¹)
Boone	(¹)	—	(¹)	32	—	(¹)
Bradley	11	15	23	26	(¹)	(¹)
Calhoun	15	22	20	22	(¹)	36
Carroll	41	(¹)	47	(¹)	(¹)	(¹)
Chicot	20	—	20	36	(¹)	26
Clark	9	13	19	22	36	31
Clay	31	—	31	36	(¹)	45
Cleburne	28	34	29	31	(¹)	(¹)
Cleveland	10	14	20	19	41	22
Columbia	15	19	24	23	43	37
Conway	34	(¹)	32	35	48	(¹)
Craighead	23	46	26	49	(¹)	42
Crawford	37	(¹)	41	(¹)	49	(¹)
Crittenden	40	—	40	—	—	40
Cross	25	—	25	31	(¹)	25
Dallas	10	14	19	21	48	(¹)
Desha	21	44	22	(¹)	49	26
Drew	12	17	18	22	39	32
Faulkner	31	(¹)	38	(¹)	(¹)	(¹)
Franklin	32	(¹)	39	(¹)	(¹)	43
Fulton	(¹)	(¹)	36	40	(¹)	(¹)
Garland	13	15	32	35	30	30
Grant	12	20	18	19	32	42
Greene	31	(¹)	28	39	(¹)	(¹)
Hempstead	15	21	22	28	36	48
Hot Spring	16	17	31	39	38	(¹)
Howard	13	15	36	39	(¹)	(¹)
Independence	40	(¹)	45	34	(¹)	(¹)
Izard	22	39	26	28	(¹)	(¹)
Jackson	(¹)	—	(¹)	(¹)	(¹)	47
Jefferson	17	33	21	26	(¹)	21
Johnson	20	33	21	26	49	31
Lafayette	16	21	23	27	(¹)	39
Lawrence	23	—	23	25	(¹)	(¹)

Table 26.—Sampling errors for growth on sawtimber, International ¼-inch rule, on commercial forest land by species group and county, 1968 (continued)

County	All species	Softwood	Hardwood			
			Total	Oak	Gum	Other
Percent						
Lee	19	(¹)	19	24	36	33
Lincoln	23	(¹)	25	23	37	(¹)
Little River	17	22	29	28	(¹)	(¹)
Logan	24	29	37	42	(¹)	43
Lonoke	26	(¹)	27	27	(¹)	39
Madison	22	(¹)	22	32	34	34
Marion	20	(¹)	21	25	(¹)	37
Miller	19	28	22	31	35	49
Mississippi	24	(¹)	35	(¹)	—	38
Monroe	15	31	15	25	(¹)	18
Montgomery	13	15	25	28	45	36
Nevada	14	17	29	33	38	(¹)
Newton	21	42	25	35	45	39
Ouachita	10	13	17	22	27	46
Perry	23	24	35	26	(¹)	(¹)
Phillips	23	(¹)	23	33	48	26
Pike	13	14	33	39	(¹)	(¹)
Poinsett	23	(¹)	24	40	—	41
Polk	17	19	30	29	28	(¹)
Pope	20	30	23	33	31	23
Prairie	24	(¹)	25	35	45	50
Pulaski	19	23	42	(¹)	41	(¹)
Randolph	41	(¹)	43	49	(¹)	44
St. Francis	34	(¹)	36	46	(¹)	41
Saline	17	21	23	26	36	(¹)
Scott	13	14	38	41	36	41
Searcy	41	(¹)	48	(¹)	(¹)	30
Sebastian	31	(¹)	43	33	—	(¹)
Sevier	16	23	20	29	26	32
Sharp	38	(¹)	32	31	—	49
Stone	27	33	37	50	44	(¹)
Union	10	14	16	20	29	29
Van Buren	19	27	30	36	35	(¹)
Washington	38	(¹)	22	28	(¹)	44
White	50	(¹)	(¹)	26	(¹)	(¹)
Woodruff	22	42	25	26	41	32
Yell	13	17	30	34	37	(¹)
All counties	2.2	3.1	3.4	4.1	8.5	6.9

¹ Exceeds 50 percent.

Table 27.—Sampling errors for timber removals from growing stock on commercial forest land by species group and county, 1968

County	All species	Softwood	Hardwood			
			Total	Oak	Gum	Other
			Percent			
Arkansas	31	(¹)	31	47	(¹)	46
Ashley	6	6	20	24	49	(¹)
Baxter	45	34	(¹)	(¹)	(¹)	(¹)
Benton	45	(¹)	48	48	—	—
Boone	42	(¹)	43	49	(¹)	(¹)
Bradley	11	10	18	23	38	43
Calhoun	8	7	19	23	38	(¹)
Carroll	(¹)	(¹)	46	(¹)	—	(¹)
Chicot	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Clark	9	8	28	36	(¹)	(¹)
Clay	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Cleburne	22	17	(¹)	(¹)	(¹)	(¹)
Cleveland	10	9	22	28	(¹)	(¹)
Columbia	14	12	34	44	(¹)	(¹)
Conway	37	21	44	(¹)	(¹)	(¹)
Craighead	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Crawford	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Crittenden	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Cross	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Dallas	8	7	25	29	(¹)	(¹)
Desha	40	(¹)	40	(¹)	(¹)	(¹)
Drew	12	12	21	25	49	(¹)
Faulkner	50	(¹)	(¹)	—	—	(¹)
Franklin	30	26	45	(¹)	(¹)	(¹)
Fulton	(¹)	(¹)	(¹)	(¹)	—	(¹)
Garland	10	13	40	48	(¹)	(¹)
Grant	8	7	18	22	36	(¹)
Greene	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Hempstead	16	15	30	40	(¹)	(¹)
Hot Spring	11	10	36	(¹)	(¹)	(¹)
Howard	15	9	(¹)	(¹)	(¹)	(¹)
Independence	50	47	(¹)	(¹)	(¹)	(¹)
Izard	(¹)	32	(¹)	(¹)	—	(¹)
Jackson	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Jefferson	14	14	20	27	(¹)	35
Johnson	29	25	46	48	—	(¹)
Lafayette	14	12	40	(¹)	(¹)	(¹)
Lawrence	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)

Table 27.—Sampling errors for timber removals from growing stock on commercial forest land by species group and county, 1968 (continued)

County	All species	Softwood	Hardwood			
			Total	Oak	Gum	Other
Percent						
Lee	38	(¹)	39	(¹)	(¹)	(¹)
Lincoln	27	33	32	47	(¹)	(¹)
Little River	42	15	(¹)	(¹)	(¹)	(¹)
Logan	28	22	(¹)	(¹)	(¹)	(¹)
Lonoke	25	(¹)	25	36	43	(¹)
Madison	44	(¹)	(¹)	(¹)	(¹)	(¹)
Marion	(¹)	(¹)	(¹)	(¹)	—	(¹)
Miller	25	22	49	(¹)	(¹)	(¹)
Mississippi	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Monroe	19	(¹)	19	32	50	27
Montgomery	18	17	45	(¹)	(¹)	(¹)
Nevada	11	10	34	40	(¹)	(¹)
Newton	33	(¹)	35	37	(¹)	(¹)
Ouachita	11	9	25	33	43	(¹)
Perry	17	17	49	(¹)	(¹)	(¹)
Phillips	16	(¹)	16	36	41	20
Pike	9	8	36	50	(¹)	(¹)
Poinsett	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Polk	18	18	(¹)	(¹)	(¹)	(¹)
Pope	19	15	45	(¹)	(¹)	(¹)
Prairie	22	(¹)	22	32	(¹)	32
Pulaski	29	27	42	(¹)	(¹)	(¹)
Randolph	49	(¹)	49	(¹)	(¹)	(¹)
St. Francis	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Saline	14	12	42	(¹)	(¹)	(¹)
Scott	21	15	44	48	(¹)	(¹)
Searcy	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Sebastian	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Sevier	13	12	36	(¹)	(¹)	(¹)
Sharp	(¹)	(¹)	(¹)	(¹)	—	(¹)
Stone	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Union	9	8	25	33	45	(¹)
Van Buren	25	27	50	(¹)	(¹)	(¹)
Washington	40	(¹)	40	40	—	—
White	27	50	28	(¹)	42	46
Woodruff	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Yell	14	12	45	(¹)	(¹)	(¹)
All counties	2.8	1.8	5.2	7.1	12.8	9.5

¹ Exceeds 50 percent.

Table 28.—Sampling errors for timber removals from sawtimber, International ¼-inch rule, on commercial forest land by species group and county, 1968

County	All species	Softwood	Hardwood			
			Total	Oak	Gum	Other
			Percent			
Arkansas	25	(¹)	25	35	(¹)	41
Ashley	9	9	25	29	(¹)	(¹)
Baxter	45	(¹)	(¹)	(¹)	(¹)	(¹)
Benton	34	(¹)	34	34	—	—
Boone	33	(¹)	33	33	—	—
Bradley	11	15	16	20	34	38
Calhoun	9	11	19	25	34	(¹)
Carroll	36	(¹)	37	37	—	(¹)
Chicot	46	(¹)	46	(¹)	(¹)	(¹)
Clark	11	13	25	27	(¹)	(¹)
Clay	46	(¹)	46	(¹)	(¹)	(¹)
Cleburne	35	42	(¹)	(¹)	(¹)	(¹)
Cleveland	12	14	21	23	(¹)	(¹)
Columbia	19	23	37	44	(¹)	(¹)
Conway	41	(¹)	(¹)	(¹)	(¹)	(¹)
Craighead	45	(¹)	(¹)	(¹)	(¹)	(¹)
Crawford	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Crittenden	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Cross	50	(¹)	(¹)	(¹)	(¹)	(¹)
Dallas	10	11	24	28	(¹)	(¹)
Desha	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Drew	15	19	24	30	(¹)	(¹)
Faulkner	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Franklin	43	(¹)	(¹)	(¹)	(¹)	(¹)
Fulton	39	(¹)	39	40	—	(¹)
Garland	29	17	(¹)	(¹)	(¹)	(¹)
Grant	9	11	18	24	36	(¹)
Greene	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Hempstead	20	27	31	38	(¹)	(¹)
Hot Spring	15	16	44	(¹)	(¹)	(¹)
Howard	16	14	54	(¹)	(¹)	(¹)
Independence	44	(¹)	45	(¹)	(¹)	(¹)
Izard	(¹)	(¹)	(¹)	(¹)	—	(¹)
Jackson	50	(¹)	(¹)	(¹)	(¹)	(¹)
Jefferson	16	24	20	28	50	37
Johnson	37	(¹)	43	43	—	—
Lafayette	18	20	46	(¹)	(¹)	(¹)
Lawrence	42	(¹)	43	(¹)	(¹)	(¹)

Table 28.—Sampling errors for timber removals from sawtimber, International ¼-inch rule, on commercial forest land by species group and county, 1968 (continued)

County	All species	Softwood	Hardwood			
			Total	Oak	Gum	Other
			Percent			
Lee	30	(¹)	30	49	(¹)	(¹)
Lincoln	23	(¹)	26	36	48	(¹)
Little River	32	22	(¹)	(¹)	(¹)	(¹)
Logan	28	30	(¹)	(¹)	—	—
Lonoke	26	(¹)	26	34	42	(¹)
Madison	30	(¹)	30	43	(¹)	46
Marion	(¹)	(¹)	(¹)	(¹)	—	(¹)
Miller	32	39	(¹)	(¹)	(¹)	(¹)
Mississippi	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Monroe	18	(¹)	18	31	45	25
Montgomery	20	23	42	(¹)	(¹)	(¹)
Nevada	15	16	35	45	(¹)	(¹)
Newton	29	(¹)	29	31	(¹)	(¹)
Ouachita	13	15	23	31	39	(¹)
Perry	20	21	(¹)	(¹)	—	—
Phillips	16	(¹)	16	38	39	19
Pike	12	13	39	47	(¹)	(¹)
Poinsett	38	(¹)	38	(¹)	(¹)	(¹)
Polk	21	23	(¹)	(¹)	(¹)	—
Pope	26	31	42	(¹)	(¹)	—
Prairie	20	(¹)	20	29	(¹)	32
Pulaski	26	34	41	(¹)	(¹)	(¹)
Randolph	28	(¹)	28	(¹)	—	29
St. Francis	28	(¹)	29	34	(¹)	(¹)
Saline	13	14	36	44	(¹)	(¹)
Scott	17	19	39	43	(¹)	(¹)
Searcy	38	(¹)	38	48	(¹)	(¹)
Sebastian	(¹)	(¹)	(¹)	(¹)	—	(¹)
Sevier	18	20	37	47	(¹)	(¹)
Sharp	45	(¹)	45	(¹)	—	(¹)
Stone	42	(¹)	43	48	(¹)	(¹)
Union	11	13	26	35	43	(¹)
Van Buren	28	40	46	(¹)	(¹)	—
Washington	27	(¹)	27	27	—	—
White	15	(¹)	15	32	23	24
Woodruff	36	(¹)	36	(¹)	(¹)	49
Yell	15	15	47	(¹)	(¹)	—
All counties	2.7	2.8	5.1	6.9	12.1	9.7

¹ Exceeds 50 percent.

Table 29.—Sampling errors for growing-stock volume on commercial forest land by Survey region and species, 1969

Species	State	Southwest	Ouachita	Ozark	Delta
— — — — — Percent — — — — —					
Softwood:					
Shortleaf pine	3	6	4	12	36
Loblolly pine	4	4	22	(¹)	27
Cypress	19	40	(¹)	(¹)	22
Redcedar	36	36	(¹)	16	(¹)
All softwoods	<u>2.4</u>	<u>3.2</u>	<u>4.1</u>	<u>10.8</u>	<u>15.4</u>
Hardwood:					
Select white oaks	4	6	8	7	14
Select red oaks	6	9	12	9	15
Other white oaks	4	6	7	8	9
Other red oaks	3	5	10	6	8
Pecan	12	20	(¹)	(¹)	10
Other hickories	6	7	8	8	13
Sweetgum	5	6	14	14	15
Tupelo and blackgum	9	10	13	17	41
Hard maple	34	44	(¹)	36	(¹)
Soft maple	22	16	31	44	26
Beech	23	22	—	(¹)	(¹)
Ash	11	15	22	22	16
Cottonwood	18	(¹)	(¹)	(¹)	26
Basswood	44	46	(¹)	(¹)	(¹)
Black walnut	30	(¹)	(¹)	31	—
Black cherry	36	30	(¹)	(¹)	(¹)
Willow	14	(¹)	45	—	22
American elm	15	19	40	32	26
Other elms	13	11	23	25	32
Hackberry	12	24	(¹)	(¹)	17
Sycamore	20	24	(¹)	38	36
Other hardwoods	13	17	42	29	25
All hardwoods	<u>1.8</u>	<u>3.1</u>	<u>3.6</u>	<u>3.3</u>	<u>3.3</u>
All species	1.3	1.9	2.7	3.0	4.1

¹ Exceeds 50 percent.

Table 30.—Sampling errors for sawtimber volume, International ¼-inch rule, on commercial forest land by Survey region and species, 1969

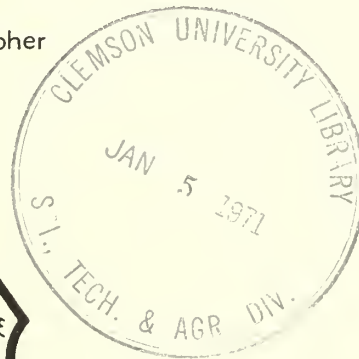
Species	State	Southwest	Ouachita	Ozark	Delta
— — — — — Percent — — — — —					
Softwood:					
Shortleaf pine	4	7	5	14	40
Loblolly pine	4	5	26	(¹)	33
Cypress	21	44	(¹)	(¹)	19
Redcedar	(¹)	(¹)	(¹)	30	—
All softwoods	2.9	3.8	4.7	13.4	15.1
Hardwood:					
Select white oaks	7	8	13	11	28
Select red oaks	8	11	20	13	27
Other white oaks	6	9	13	13	16
Other red oaks	5	6	14	9	14
Pecan	15	27	(¹)	(¹)	19
Other hickories	10	15	19	14	30
Sweetgum	7	9	16	17	20
Tupelo and blackgum	12	13	23	19	32
Hard maple	(¹)	(¹)	—	(¹)	(¹)
Soft maple	39	27	(¹)	(¹)	(¹)
Beech	28	23	—	(¹)	(¹)
Ash	17	21	46	32	26
Cottonwood	22	(¹)	(¹)	(¹)	25
Basswood	(¹)	(¹)	(¹)	(¹)	(¹)
Black walnut	(¹)	(¹)	(¹)	(¹)	—
Black cherry	(¹)	(¹)	(¹)	(¹)	(¹)
Willow	19	39	(¹)	—	23
American elm	22	46	(¹)	45	30
Other elms	25	42	(¹)	(¹)	38
Hackberry	17	47	(¹)	(¹)	20
Sycamore	24	48	(¹)	50	34
Other hardwoods	25	38	(¹)	(¹)	36
All hardwoods	2.7	4.4	6.5	5.1	5.7
All species	1.9	2.7	3.7	4.7	5.3

¹ Exceeds 50 percent.



COMPUTER PROGRAM FOR UPDATING
TIMBER RESOURCE STATISTICS BY COUNTY,
WITH TABLES FOR MISSISSIPPI

Roy C. Beltz
and
Joe F. Christopher



SOUTHERN FOREST EXPERIMENT STATION
New Orleans, Louisiana
Forest Service, U. S. Department of Agriculture



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SOUTHERN FOREST EXPERIMENT STATION
New Orleans, Louisiana
Forest Service, U. S. Department of Agriculture

1970

The program described in this bulletin is available from the senior author, Southern Forest Experiment Station, Rm. T-10210, 701 Loyola Avenue, New Orleans, Louisiana 70113.

Computer Program for Updating Timber Resource Statistics by County, With Tables for Mississippi

Roy C. Beltz and Joe F. Christopher

A computer program is available for updating Forest Survey estimates of timber growth, cut, and inventory volume by species group, for sawtimber and growing stock. Changes in rate of product removal are estimated from changes in State severance tax data. Updated tables are given for Mississippi.

Accurate inventories of county timber volume, growth, and cut are made in Southern States at approximately 10-year intervals. While these data meet most requirements at the time of measurement, rapid changes in southern forests make updating of resource statistics necessary. Foresters and others need frequent and accurate estimates of change to formulate forestry programs and to evaluate production trends. Accurate estimates for individual counties are particularly important where industrial expansion is being considered.

A variety of systems are now used to update county totals. Some systems assume that the growth and cut data recorded in the survey year apply to all years since the survey. Others, done for specific purposes, depend upon data for growth, cut, or inventory gathered at considerable expense for private use. Seldom do studies for different localities involve the same procedures. Hence, the results cannot be compared or compiled to estimate overall trends.

In this bulletin we describe a method that makes use of publicly available information, the volumes on which severance taxes are paid in individual counties. The system was designed for States that levy severance taxes rather than ad valorem taxes on forest acreage. In the Midsouth, this practice is followed in Alabama, Arkansas, Mississippi, and Lou-

isiana. Other States or companies with large procurement areas may have reliable indicators of changes in timber cutting other than severance taxes. In Texas, for example, a census of lumber production is taken annually. These data can be entered in the program described in the place of severance tax data.

Estimates can be made for each county and species group by sawtimber and growing stock. Since estimates for every county are developed in exactly the same manner, county totals can be compared and compiled.

INPUT DATA

Data from Mississippi provide examples throughout this bulletin. The latest survey of the forest resources of Mississippi was completed in 1967. Estimates of growth, cut, and industrial output for sawtimber and growing stock by county and species group were for 1966. These data are reliable within the limits given in the survey report.¹ Mississippi State Severance Tax law requires the reporting, by county, of all timber severed. The tax is levied on a variety of products, and the Severance Tax Division of the State supplied estimates of county output, by product, for each year since 1965 based upon the tax records. Products tallied included pine and hardwood logs, lumber, and pulpwood, an aggregate volume of poles, posts, and piling, and charcoal wood. Estimates of growth rates for sawtimber and growing stock by county and species group were provided in the State survey report.¹

PROCEDURE

Since both the purposes and definitions applied for tax computation differ from those applied by Forest Survey, county taxable totals for products often differ considerably from sur-

¹ Van Sickle, C. C., and Van Hooser, D. D. Forest resources of Mississippi. USDA Forest Serv. Resour. Bull. SO-17, 34 p. S. Forest Exp. Sta., New Orleans, La. 1969.

vey totals. It is reasonable to assume, however, that within individual counties the relation between the taxable volume cut and the survey volume cut is fairly constant. Put another way, the ratio of change in severance tax data should equal approximately the rate of change in survey product output. The method described here depends upon that assumption. Severance tax data for the survey year are compared with tax data for each successive year, and the ratios of change are applied to estimate survey output by product, county, and species group.

First, differences in product breakdown and definition should be minimized by constructing product classes that can be applied to both sets of data. In Mississippi, the classes chosen were saw logs; piling, poles, and posts; pulpwood; and other (fig. 1).

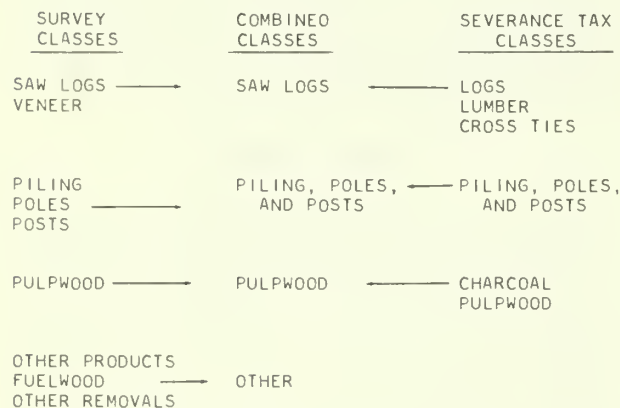


Figure 1.—Product classes applicable to both tax and survey data in Mississippi.

Taxable totals for pulpwood closely approximated the annual survey estimates of pulpwood cut. Since severance tax totals are generally available before annual survey estimates, tax data were used directly as pulpwood volumes cut. Since no tax information was available for the "other" class, it was assumed that volumes cut for these miscellaneous products remained constant since the survey.

County data are primarily intended for local use, and local judgment about removals not included in the classification is often desirable.

² Van Hooser, D. D., and Hedlund, Arnold. *Timber damaged by Hurricane Camille in Mississippi*. USDA Forest Serv. Res. Note SO-96, 5 p. S. Forest Exp. Sta., New Orleans, La. 1969.

Provision is made in the program for modification of total "other" removals. In some Mississippi counties, for example, it was obviously necessary to take losses to Hurricane Camille in late 1969 into account in estimating the 1970 inventory. At the time the forest survey of the State was conducted, other removals, largely hardwoods, comprised some 12 percent of the total removals. Hurricane Camille damaged 290 million cubic feet of growing stock, mainly pine.² This volume is roughly equivalent to half the entire industrial cut in 1966. Some volume was no doubt salvaged by the year's end, and was reflected in the severance tax. The great bulk of this volume, however, did not show up in product output by the end of calendar year 1969, even though lost from the inventory. Information from the Hurricane Camille study made by the Forest Survey² was incorporated into other removals in the affected counties.

Inputs for updating in Mississippi were product output for the base year, growth rates by county and species group, base-year inventory, total residual cut from nonindustrial and land-clearing operations, and annual severance tax data. With these, nine tables were produced for each year in the updating period.

The following formulas describe the computation of total growth, growth on cut, net growth, and new inventory:

$$TG = I \times GR$$

$$GC = (GR \times CUT) \div 2$$

$$NG = TG - GC$$

$$NI = I + NG - CUT$$

where: TG = Total growth

I = Inventory

GR = Growth rates

GC = Growth on cut

CUT = Timber cut

NG = Net growth

NI = New inventory

These computations must be made for each county, species group, and year for sawtimber and growing stock. In addition, growth/cut ratios, change in inventory, and ratio of pulpwood cut to total industrial cut are computed for each county and species group for sawtimber and growing stock.

A procedure so detailed and repetitive lends itself to computer processing. A program has been written in FORTRAN and tested on an IBM 7094 with the Mississippi data. Copies of the program are available on request from the senior author.

STANDARD TABLES

Each of the tables resulting from the updating process results from a series of computations and assumptions. Some of the terms should be defined, and some explanation of table contents is in order.

Table 1 contains updated output in thousands of cubic feet. The information in this table is applied to derive the other tables. Values are equal to those in the survey year times the updating ratio—severance tax in year x_1 /severance tax in survey year.

Updating was done for three classes of products: saw logs, pulpwood, and an aggregate of poles, piling, and posts. Saw logs and pulpwood are separated by species whereas poles, piling, and posts are handled according to the proportions of each in the survey base data.

Special procedures were needed where the numerator or denominator of the updating ratio was zero. When the base year tax was zero, the taxable volume was assumed to equal true output. When the new tax was zero, output was set at zero. When survey output was zero, taxable output was again assumed to be accurate. As the updating ratio approaches one, the estimate becomes more precise. Conversely, the likelihood of error is large when the ratio is much greater than one. Because of errors and direct conversions in special cases, the updating equation applied to a State total will yield a different value than is arrived at by summing updated county totals. Since State totals are more likely to be accurate, they were used as a control; the county results were adjusted proportionately. County totals can also be adjusted to conform to State totals produced by other projection techniques, such as TRAS.³ In the Appendix, table 1 is presented for each of the 3 years since the survey. By comparing values in the 3 years, trends in product output can be determined.

³ Larson, R. W., and Goforth, M. H. A computer program for the projection of timber volume. USDA Agr. Handb. 377, 24 p. 1970.

Table 2 gives growing stock and sawtimber volumes on commercial forest land. Values show the effects of growth and cutting upon the old inventory. They have been rounded for printing, but the precise values are used for subsequent estimates. Appendix tables present data for 1968, 1969, and 1970.

Table 3 contains total growth of growing stock and sawtimber on commercial forest land. County growth rates by species group for sawtimber and growing stock were applied to the current inventory to obtain total growth. To eliminate repetition of extremely high in-growth increment, growth rates were not permitted to exceed 12 percent. This table is given only for 1969 in the Appendix.

Table 4 shows net growth of growing stock and sawtimber on commercial forest land. Net growth is equivalent to total growth as shown in table 3 minus the growth on cut. Growth on cut is the volume which would have accrued upon the timber removed during the year. Since growth on cut is deducted from the total growth, net growth represents the change in inventory due to growth. Data for 1967, 1968, and 1969 are given in the Appendix.

Table 5 gives total cut of growing stock and sawtimber on commercial forest land. Total cut is the total volume of removals for the year. It includes updated volumes of saw logs, pulpwood, poles, piling, and posts shown in table 1. In addition, the residual cut due to other products and land clearing is included in total cut. The table may also include an added volume of other removals at the discretion of the user. Appendix tables show figures for 1967, 1968, and 1969.

Table 6 contains growth/cut ratios. Numbers greater than one indicate that growth exceeds cut. Conversely, a value less than one indicates that cut has exceeded growth. Large values generally indicate a small volume of cut rather than very rapid growth. Zero values were assigned where either growth or cut was zero. Thus, a value for all species may differ from that for pine, for instance, even when the hardwood ratio is zero. An Appendix table gives data for 1969.

Table 7 shows the ratio of inventory volume in year of updating to inventory volume the preceding year. If x is the value in the table:

the inventory is increasing when $x > 1$,
the inventory is decreasing when $x < 1$,
no change is indicated when $x = 1$.

To avoid division by zero, the program assigns the value zero when the denominator of the fraction is zero. This precaution was unnecessary through 1969, but may prove necessary for some counties in the Mississippi Delta. A table for 1970 is in the Appendix.

Table 8 gives the ratio of pulpwood cut to total industrial cut. The growing importance of wood for pulping prompted this table. A value of 0.509, for example, indicates that 50.9 percent of the industrial cut for the particular cell in the table was in the form of pulpwood. Zero values generally indicate a lack of pulpwood production, though the usual precautions were taken to avoid having either a zero numerator or denominator. Industrial cut is that for saw logs, pulpwood, and other industrial products. It excludes fuelwood and miscellaneous domestic products, and other removals such as those for land clearing and timber stand improvement. Values for 1969 are given in the Appendix.

Table 9 shows the ratio of inventory volume in the year of updating to inventory volume in 1967. Values indicate the change in inventory volume since the base year. As in table 7 values greater than one indicate an increase in the inventory, and less than one, a decrease. A value of one indicates no change has taken

place. Zero values occur occasionally and indicate no inventory present for the species and county in question. Generally, zeros are for Delta counties that have no pine forests. The Appendix contains table 9 for 1970.

Results with the program in Mississippi are encouraging. All the tables are given for 1969, the last year for which tax information was available when this bulletin was written. As severance tax data become available, tables for subsequent years can easily be prepared. The base information will require revision only when a new forest survey is made in the State. Computer time required for processing is minimal. Updating through 3 years required less than 5 minutes on an IBM 7094, and about 9 minutes on a 7044 IBSYS system.

Anyone using numbers produced by an updating process should understand the limitations inherent in the technique. Obviously, the estimates are no more accurate than the input data. The estimate of growing-stock cubic-foot volume for the State of Mississippi has associated with it a sampling error of ± 1.6 percent; that for sawtimber board-foot volume is ± 2.3 percent.¹ As the State totals are broken down by county, the possibility of error increases, and is greatest for smallest items. No estimate of error can be made for severance tax data. Even with these limitations, the estimates are probably the best that can be made for small areas without on-the-ground investigations.

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TABLE 1 (1967).—UPDATED PRODUCT OUTPUT IN MISSISSIPPI COUNTIES (M CUBIC FEET)

COUNTY	SAWLOGS		POST, PILES +PILING	OTHER		PULPWOOD		ALL SPECIES TOTAL
	SOFTWOOD	HARDWOOD		SOFTWOOD	HARDWOOD	SOFTWOOD	HARDWOOD	
1 ADOAMS	1407.7	3414.6	0.3	0.0	1.0	279.1	1229.5	6332.2
3 ALCORN	37.4	410.1	0.0	0.0	25.0	839.8	92.4	1404.7
5 AMITE	3745.4	839.1	610.1	0.0	1.0	4016.0	685.9	9897.5
7 ATALA	883.5	1127.1	52.7	0.0	113.0	996.5	1914.8	5087.6
9 BENTON	266.0	2934.0	9.5	0.0	44.0	644.8	299.9	4198.2
11 BOLIVAR	95.7	736.8	12.0	0.0	0.0	0.0	3216.4	4060.9
13 CALHOUN	770.3	2970.4	0.1	0.0	626.0	1009.6	237.4	5613.8
15 CARROLL	1051.9	917.8	22.1	0.0	31.0	286.2	740.6	3049.6
17 CHICKASAW	684.3	432.4	0.0	0.0	179.0	1012.8	189.2	2497.7
19 CHOCTAW	239.4	140.4	1.0	0.0	13.0	990.7	492.3	1876.8
21 CLAIBORNE	305.0	2413.5	13.8	0.0	0.0	432.5	2180.9	5345.7
23 CLARKE	3328.6	894.5	19.5	0.0	4.0	6536.5	3011.7	13794.8
25 CLAY	91.8	2736.1	0.0	0.0	210.0	949.1	304.6	4291.6
27 COAHOMA	1.2	366.2	0.0	0.0	32.0	0.0	426.0	825.4
29 COPIAH	1027.4	1155.3	214.0	110.0	0.0	3746.3	1407.8	7660.8
31 COVINGTON	1672.7	502.5	39.3	0.0	0.0	765.0	1029.2	4008.7
33 DE SOTO	23.5	1863.5	0.0	0.0	78.0	0.0	27.8	1992.8
35 FORREST	1814.0	334.0	1642.4	0.0	6.0	2648.8	1010.2	7455.4
37 FRANKLIN	3791.1	1860.4	204.0	0.0	1.0	1724.9	1329.2	8510.6
39 GEORGE	262.8	139.4	323.6	0.0	12.0	2919.2	1312.2	4969.2
41 GREENE	3548.0	359.1	301.2	0.0	3.0	5337.0	1656.4	11204.7
43 GRENADE	406.6	1128.6	53.9	0.0	223.0	346.9	168.9	2327.5
45 HANCOCK	42.4	89.9	469.5	0.0	0.0	2429.0	241.1	3271.9
47 HARRISON	1333.3	204.2	732.1	0.0	0.0	2695.2	140.9	5105.7
49 HINDS	304.5	1647.6	18.6	258.0	0.0	1367.9	2103.4	5700.0
51 HOLMES	258.7	2713.9	0.4	0.0	26.0	796.0	2514.2	6309.2
53 HUMPHREYS	8.7	1885.5	0.0	0.0	4.0	0.0	806.0	2704.2
55 ISSAQUENA	175.0	1581.3	0.0	0.0	41.0	0.0	605.1	2402.4
57 ITAWAMBA	890.5	1363.2	0.0	0.0	1.0	1763.1	108.5	4126.3
59 JACKSON	528.3	490.2	449.8	0.0	5.0	3919.7	369.6	6162.6
61 JASPER	3747.6	707.3	187.9	0.0	17.0	4325.7	1222.2	10207.7
63 JEFFERSON	1990.9	1703.9	35.0	0.0	0.0	2372.1	1977.6	8079.5
65 JEFF DAVIS	1196.0	439.2	211.5	0.0	0.0	548.9	625.1	3020.7
67 JONES	3322.1	798.0	296.0	0.0	19.0	1645.8	1759.9	7839.8
69 KEMPER	6695.8	1472.1	98.4	0.0	15.0	2874.1	1628.9	12784.3
71 LA FAYETTE	509.8	441.2	53.0	0.0	56.0	1235.7	791.0	3086.7
73 LAFAYETTE	1492.4	449.4	2059.9	0.0	0.0	1366.7	799.8	6168.2
75 LAUDERDALE	4138.9	658.7	58.5	0.0	110.0	4865.7	2121.7	11953.5
77 LAWRENCE	1189.6	1067.1	39.2	0.0	0.0	1035.8	559.0	3890.7
79 LEAKE	2020.9	744.6	200.3	0.0	30.0	933.4	1255.4	5184.6
81 LEE	25.4	81.2	0.0	0.0	0.0	110.5	22.5	239.6
83 LEFLORE	146.5	658.8	0.0	0.0	203.0	74.8	907.1	1590.2
85 LINCOLN	2248.1	1065.1	113.2	0.0	0.0	2061.7	1007.8	6495.9
87 LOWNDES	720.3	1129.8	0.9	0.0	14.0	362.9	193.5	2421.4
89 MADISON	129.6	227.7	0.0	0.0	30.0	473.4	449.9	1310.6
91 MARION	909.6	640.9	69.0	0.0	0.0	2390.3	2281.9	6281.7
93 MARSHALL	424.5	940.7	0.7	0.0	152.0	630.9	207.4	2356.2
95 MONROE	1588.4	1690.5	1.7	0.0	6.0	215.5	101.8	3603.9
97 MONTGOMERY	258.2	665.7	26.1	0.0	73.0	680.1	455.5	2158.6
99 NESPEHA	1298.9	171.7	66.6	0.0	54.0	1150.5	897.6	3629.3
101 NEWTON	2664.5	271.5	31.2	0.0	18.0	3466.2	1485.9	7537.3
103 NOXUBEE	2623.7	475.5	55.3	0.0	41.0	2325.3	729.4	6450.2
105 OKTIBBEHA	406.1	934.6	7.1	0.0	58.0	706.6	185.8	2298.2
107 PANOLA	1.6	1071.4	0.0	0.0	40.0	64.8	1490.7	2668.5
109 PEARL RIVER	3441.1	3489.5	926.5	0.0	0.0	2360.3	1056.9	11274.3
111 PERRY	2082.3	237.2	1177.0	0.0	3.0	3414.3	1135.6	8049.4
113 PIKE	1062.0	223.7	318.3	0.0	1.0	2511.3	797.9	4914.2
115 PONTOTOC	134.8	536.9	0.0	0.0	104.0	353.8	182.5	1312.0
117 PRENTISS	177.4	555.4	0.0	0.0	42.0	1060.0	78.2	1913.0
119 QUITMAN	0.0	250.5	0.0	0.0	214.0	0.0	25.7	490.2
121 RANKIN	2293.9	522.0	141.2	0.0	88.0	2865.1	1302.2	7212.4
123 SCOTT	4526.8	434.9	43.1	0.0	105.0	2475.4	1010.6	8595.8
125 SHARKEY	136.7	1121.2	0.0	0.0	0.0	35.9	87.0	1380.8
127 SIMPSON	1689.4	954.4	95.2	0.0	0.0	2768.5	1276.4	6783.9
129 SMITH	5482.2	509.2	11.9	0.0	17.0	1386.9	989.8	8397.0
131 STONE	4086.3	189.2	1088.0	0.0	12.0	1581.3	840.9	7757.7
133 SUNFLOWER	18.1	203.1	0.0	0.0	0.0	0.0	0.0	221.2
135 TALLAHATCHIE	59.5	1058.0	0.0	0.0	215.0	6.2	102.4	1441.1
137 TATE	5.6	269.0	0.0	0.0	13.0	112.9	322.2	722.7
139 TIPPAH	62.6	960.2	8.7	0.0	24.0	1067.5	36.8	2159.8
141 TISHOMINGO	189.9	857.0	0.0	0.0	39.0	1737.2	651.4	3474.5
143 TUNICA	4.7	1449.4	0.0	0.0	201.0	22.3	68.2	1745.6
145 UNION	302.5	336.5	4.2	0.0	31.0	425.0	312.5	1411.7
147 WALTHALL	285.3	226.9	213.4	0.0	1.0	1372.9	626.4	2725.9
149 WARREN	43.0	2969.5	0.0	0.0	290.0	14.6	1259.6	4616.7
151 WASHINGTON	24.9	749.2	0.0	0.0	23.0	0.0	978.1	1775.2
153 WAYNE	3770.0	901.7	56.9	0.0	12.0	6742.4	2832.2	14315.2
155 WEBSTER	624.6	108.2	3.8	0.0	70.0	685.2	842.7	2334.5
157 WILKINSON	2099.2	3546.7	149.1	0.0	142.0	589.0	663.5	7189.5
159 WINSTON	2438.8	764.3	45.0	0.0	165.0	1745.2	1014.4	6172.7
161 YALOBUSHA	237.1	660.7	0.0	0.0	33.0	1211.2	1000.7	3002.7
163 YAZOO	159.0	3486.9	0.0	0.0	10.0	45.8	1085.8	4787.5
STATE TOTAL	104782.8	83729.6	13083.7	368.0	4469.0	120950.2	73600.1	401003.3

TABLE 1 (1968).—UPDATED PRODUCT OUTPUT IN MISSISSIPPI COUNTIES (M CUBIC FEET)

COUNTY	SAWLOGS		POST. PCLES +PILING	OTHER		PULPWOOD		ALL SPECIES TOTAL
	SOFTWOOD	HARDWOOD		SOFTWOOD	HARDWOOD	SOFTWOOD	HARDWOOD	
1 ADAMS	504.8	2621.8	12.9	0.0	1.0	385.7	1800.8	5727.0
3 ALCORN	47.7	402.4	0.4	0.0	25.0	1346.9	94.2	1916.6
5 AMITE	4511.3	1055.7	144.3	0.0	1.0	4976.5	576.6	11265.4
7 ATTALA	1641.7	1162.8	0.5	0.0	113.0	3134.9	1367.7	7420.6
9 BENTON	523.2	3613.8	5.7	0.0	44.0	943.1	305.8	5435.6
11 BOLIVAR	105.6	891.1	12.4	0.0	0.0	0.2	2365.7	3375.0
13 CALHOUN	600.8	2000.5	0.0	0.0	626.0	1006.6	229.2	4463.1
15 CARROLL	1646.2	1146.1	3.9	0.0	31.0	512.2	283.7	3623.1
17 CHICKASAW	192.3	456.9	0.0	0.0	179.0	1236.0	210.2	2274.4
19 CHOCTAW	214.6	159.8	2.1	0.0	13.0	1886.9	675.8	2952.2
21 CLAIBORNE	342.4	2962.3	13.9	0.0	0.0	1782.9	2233.4	7334.9
23 CLARKE	5038.8	1052.6	8.8	0.0	4.0	8704.0	4144.5	18552.7
25 CLAY	132.7	1967.1	0.0	0.0	210.0	760.9	223.8	3254.5
27 COAHOMA	67.9	335.2	0.0	0.0	32.0	0.0	0.0	435.1
29 COPIAH	1794.3	850.6	455.8	110.0	0.0	5172.1	1386.4	9769.2
31 COVINGTON	1550.4	567.2	36.2	0.0	0.0	2686.3	1363.1	6203.2
33 DE SOTO	60.9	965.7	0.0	0.0	78.0	0.0	0.0	1104.6
35 FORREST	2496.7	440.4	518.9	0.0	6.0	2520.3	933.2	6915.5
37 FRANKLIN	4352.3	1799.3	208.0	0.0	1.0	2218.3	1047.1	9626.0
39 GEORGE	1215.6	234.5	276.9	0.0	12.0	4136.3	1542.6	7417.9
41 GREENE	3014.4	365.1	104.8	0.0	3.0	6265.6	2705.4	12458.3
43 GRENADA	173.7	1061.4	9.1	0.0	223.0	249.3	77.0	1793.5
45 HANCOCK	8.2	25.9	1159.0	0.0	0.0	2660.4	325.4	4178.9
47 HARRISON	1765.2	121.8	1427.9	0.0	0.0	4730.6	184.1	8229.6
49 HINDS	230.4	1210.9	7.8	258.0	0.0	1157.1	1365.2	4229.4
51 HOLMES	153.9	2421.5	0.0	0.0	26.0	1399.6	1847.4	5848.4
53 HUMPHREYS	98.3	1593.7	0.0	0.0	4.0	3.9	557.8	2257.7
55 ISSAQUENA	1464.7	844.4	0.0	0.0	41.0	0.0	1091.0	3441.1
57 ITAWAMBA	620.7	1374.1	0.0	0.0	1.0	1519.0	92.6	3607.4
59 JACKSON	1889.5	337.5	329.9	0.0	5.0	5758.4	1288.6	9608.9
61 JASPER	4607.2	1091.2	18.2	0.0	17.0	6266.4	2660.2	14660.2
63 JEFFERSON	1360.3	977.3	10.9	0.0	0.0	2249.9	1555.0	6153.4
65 JEFF DAVIS	3088.2	347.7	266.3	0.0	0.0	1855.2	457.0	6014.4
67 JONES	4964.3	1513.3	231.4	0.0	18.0	4128.4	2031.6	12887.0
69 KEMPER	9913.6	1935.7	492.5	0.0	15.0	3114.7	942.8	16414.3
71 LAFAYETTE	519.3	369.9	210.5	0.0	56.0	794.4	585.2	2535.3
73 LAMAR	2065.0	475.0	2036.8	0.0	0.0	2181.3	1143.4	7501.5
75 LAUDERDALE	3905.4	427.6	11.0	0.0	110.0	5023.7	2454.7	11932.4
77 LAWRENCE	696.7	907.9	24.4	0.0	0.0	3227.7	489.7	5346.4
79 LEAKE	3163.6	223.6	107.8	0.0	30.0	3163.0	1076.9	7764.5
81 LEE	9.9	162.6	2.0	0.0	0.0	194.8	9.2	278.5
83 LEFLORE	49.1	366.5	0.0	0.0	203.0	163.5	576.0	1358.1
85 LINCOLN	3514.9	931.1	49.1	0.0	0.0	4963.4	1053.3	10511.8
87 LOWNOES	527.5	853.0	0.0	0.0	14.0	673.7	125.8	2194.0
89 MADISON	288.8	173.7	0.4	0.0	30.0	1066.9	405.8	1565.6
91 MARION	996.3	431.1	69.4	0.0	0.0	3693.6	2387.7	7578.1
93 MARSHALL	714.8	625.0	3.6	0.0	152.0	655.2	336.4	2487.0
95 MONROE	1400.7	1330.4	0.0	0.0	6.0	519.2	205.1	3461.4
97 MONTGOMERY	225.5	668.6	153.6	0.0	73.0	1210.5	345.6	2676.6
99 NESHOSBA	1019.5	156.9	27.4	0.0	54.0	1664.9	825.9	3748.6
101 NEWTON	2908.7	295.5	11.5	0.0	18.0	4615.8	2450.3	10299.8
103 NOXUBEE	2441.6	429.4	3.3	0.0	41.0	2084.3	1158.5	6158.1
105 OKTIBBEHA	286.8	500.5	5.5	0.0	58.0	1465.3	525.0	2841.1
107 PANOLA	15.6	1519.7	0.0	0.0	40.0	87.8	1606.5	3269.6
109 PEARL RIVER	2760.2	866.4	792.7	0.0	0.0	3783.8	1934.3	10137.4
111 PERRY	3108.3	230.0	688.0	0.0	3.0	5080.6	1907.4	11017.3
113 PIKE	260.2	421.4	249.0	0.0	1.0	4777.8	768.5	6477.5
115 PONTOTOC	108.6	254.9	0.0	0.0	104.0	462.6	160.9	1091.0
117 PRENTISS	199.8	370.6	2.9	0.0	42.0	976.2	41.4	1632.9
119 QUITMAN	47.3	142.7	0.0	0.0	214.0	3.6	1.4	409.0
121 RANKIN	2562.6	325.8	167.8	0.0	89.0	5416.8	1876.2	10437.2
123 SCOTT	3999.0	285.6	30.9	0.0	105.0	3966.0	905.9	9292.4
125 SHARKEY	54.0	1262.4	0.0	0.0	0.0	0.0	321.5	1637.9
127 SIMPSON	2184.7	898.5	140.1	0.0	0.0	4194.7	1243.8	8661.8
129 SMITH	5639.7	401.4	3.7	0.0	17.0	2286.8	1107.6	9456.2
131 STONE	2645.6	201.7	1186.5	0.0	12.0	2267.0	1612.9	7525.7
133 SUNFLOWER	6.7	195.9	0.0	0.0	0.0	0.2	0.5	203.3
135 TALLAHATCHIE	186.8	1700.7	0.0	0.0	215.0	64.7	157.1	2324.3
137 TATE	209.9	185.3	0.0	0.0	13.0	38.6	333.7	780.5
139 TIPPAAH	173.0	665.0	4.9	0.0	24.0	1488.4	39.7	2395.0
141 TISHOMINGO	335.4	721.5	0.9	0.0	39.0	1872.3	677.1	3646.2
143 TUNICA	60.2	500.7	2.1	0.0	201.0	0.0	0.0	764.0
145 UNION	274.4	267.6	0.0	0.0	31.0	341.7	135.6	1050.3
147 WALTHALL	791.8	220.0	60.3	0.0	1.0	2001.7	340.2	3415.0
149 WARREN	124.3	2575.6	0.0	0.0	290.0	78.9	1088.8	4157.6
151 WASHINGTON	35.6	415.7	0.0	0.0	23.0	0.0	1208.0	1682.3
153 WAYNE	2286.2	890.7	70.4	0.0	12.0	6247.7	2969.3	12476.3
155 WEBSTER	470.5	185.4	16.0	0.0	70.0	876.3	427.1	2045.3
157 WILKINSON	4462.4	3123.1	62.4	0.0	142.0	1626.2	886.3	10302.4
159 WINSTON	3179.4	1249.0	15.1	0.0	165.0	2054.0	826.2	7488.7
161 YALOBUSHA	56.4	653.5	0.0	0.0	33.0	2055.5	947.7	3748.1
163 YAZOO	82.5	4161.6	0.0	0.0	10.0	75.7	792.5	5122.3
STATE TOTAL	121850.0	74128.0	11968.5	368.0	4469.0	174255.4	78437.5	465476.3

TABLE 1 (1969) —UPDATED PRODUCT OUTPUT IN MISSISSIPPI COUNTIES (M CUBIC FEET)

COUNTY	SAWLOGS		POST, PILES +PILING	OTHER		PULPWOOD		ALL SPECIES TOTAL
	SOFTWOOD	HARDWOOD		SCFTWOOD	HARDWOOD	SCFTWOOD	HARDWOOD	
1 ADAMS	2655.6	2596.6	24.2	0.0	1.0	534.3	2264.6	8076.3
3 ALCOURN	10.2	457.9	0.6	0.0	25.0	1345.0	64.2	1902.9
5 AMITE	2591.9	1628.2	76.9	0.0	1.0	5104.0	1066.3	10408.3
7 ATTALA	2658.7	1924.7	15.2	0.0	113.0	5271.1	1762.7	11745.4
9 BENTON	816.4	799.7	2.3	0.0	44.0	1012.3	311.8	2986.5
11 BOLIVAR	13.6	640.0	0.0	0.0	0.0	0.9	1707.0	2361.5
13 CALHOUN	1445.4	2696.3	0.0	0.0	626.0	953.6	346.4	6069.7
15 CARROLL	1431.0	1632.8	0.0	0.0	31.0	399.8	335.8	3830.4
17 CHICKASAW	485.5	361.4	0.0	0.0	179.0	1185.4	168.6	2379.9
19 CHOCTAW	187.4	504.5	1.2	0.0	13.0	2856.9	1000.9	4563.9
21 CLAIBORNE	647.7	4171.9	6.2	0.0	0.0	1817.2	2871.0	9514.0
23 CLARKE	5156.5	960.3	10.6	0.0	4.0	12522.2	4452.6	23106.2
25 CLAY	187.5	2160.6	0.2	0.0	210.0	755.6	110.3	3424.2
27 COAHOMA	19.6	431.4	0.0	0.0	32.0	0.0	1267.8	1750.8
29 COPIAH	4060.9	1820.9	865.1	110.0	0.0	5658.8	3023.7	15539.4
31 COVINGTON	1894.0	612.9	23.1	0.0	0.0	5198.5	1297.0	9025.5
33 DE SOTO	1.7	2778.8	0.0	0.0	78.0	0.0	0.2	2858.7
35 FORREST	2050.1	420.3	1365.4	0.0	6.0	4193.5	755.8	8791.1
37 FRANKLIN	4936.5	1457.2	186.8	0.0	1.0	2514.3	1661.3	10757.1
39 GEORGE	1166.0	205.3	233.3	0.0	12.0	4259.5	929.1	6805.2
41 GREENE	5256.4	331.8	396.4	0.0	3.0	7515.3	2901.0	16403.9
43 GRENADA	193.0	1079.4	0.0	0.0	223.0	162.5	83.9	1741.8
45 HANCOCK	492.2	95.1	683.8	0.0	0.0	5319.4	297.6	6888.1
47 HARRISON	2372.6	96.2	1230.4	0.0	0.0	8526.7	409.4	12635.3
49 HINDS	257.4	1171.0	2.6	258.0	0.0	1336.0	1427.6	4452.6
51 HOLMES	100.9	3073.1	0.0	0.0	26.0	2318.5	2291.4	7809.9
53 HUMPHREYS	8.7	1143.4	0.0	0.0	4.0	0.0	703.4	1859.5
55 ISSAQUENA	85.1	1470.0	0.0	0.0	41.0	0.0	637.9	2234.0
57 ITAWAMBA	1004.9	1426.1	0.0	0.0	1.0	2069.6	66.7	4568.3
59 JACKSON	2504.5	326.5	318.9	0.0	5.0	7389.1	1043.9	11587.9
61 JASPER	5969.3	1109.9	28.6	0.0	17.0	8016.3	2736.3	17877.4
63 JEFFERSON	2374.2	1237.7	19.2	0.0	0.0	2964.0	2465.1	9060.2
65 JEFF DAVIS	2815.8	255.7	139.6	0.0	0.0	4928.4	433.1	8572.6
67 JONES	3652.8	1284.9	59.1	0.0	18.0	5257.0	2541.4	12813.2
69 KEMPER	10610.2	1465.2	266.3	0.0	15.0	3602.2	3872.6	15831.5
71 LAFAYETTE	897.5	876.1	395.8	0.0	56.0	1185.3	554.6	3955.3
73 LAMAR	6030.3	370.3	1380.3	0.0	0.0	3191.3	764.6	11736.8
75 LAUDERDALE	4452.7	467.3	8.6	0.0	110.0	5743.9	3123.3	13905.8
77 LAWRENCE	1592.5	908.6	25.6	0.0	0.0	6107.3	322.0	8556.0
79 LEAKE	2827.9	639.4	93.0	0.0	30.0	5090.4	1119.3	9800.0
81 LEE	14.6	172.1	0.0	0.0	0.0	245.2	11.6	443.5
83 LEFLURE	96.8	353.4	0.0	0.0	203.0	110.6	355.3	1119.1
85 LINCOLN	3258.7	1070.5	67.8	0.0	0.0	5293.0	1447.5	11137.5
87 LOWNDES	454.5	1287.4	0.4	0.0	14.0	1003.8	110.6	2870.7
89 MADISON	242.5	336.1	0.0	0.0	30.0	1641.8	1148.9	3399.3
91 MARION	2319.8	605.9	55.1	0.0	0.0	6172.5	1702.6	10855.9
93 MARSHALL	643.4	711.0	3.3	0.0	152.0	610.7	198.4	2318.8
95 MONROE	1395.3	1347.5	0.4	0.0	6.0	816.7	251.7	3817.6
97 MONTGOMERY	237.1	608.6	601.1	0.0	73.0	1985.1	477.9	3932.8
99 NESHOBA	1229.4	134.9	12.0	0.0	54.0	3031.5	998.5	5460.3
101 NEWTON	2320.5	489.3	11.5	0.0	18.0	6525.2	2479.8	11844.3
103 NOXUBEE	2135.4	1025.0	3.0	0.0	41.0	2614.6	1277.8	7096.8
105 OKTIBBEHA	427.4	497.1	4.6	0.0	58.0	1867.5	559.0	3413.6
107 PANOLA	0.0	860.9	0.0	0.0	40.0	145.5	1242.2	2288.6
109 PEARL RIVER	5703.7	1252.4	487.1	0.0	0.0	7905.2	1942.2	17290.6
111 PERRY	4124.5	328.2	709.8	0.0	3.0	7093.5	2035.8	14294.8
113 PIKE	1209.6	263.9	341.4	0.0	1.0	4016.7	1002.0	6834.6
115 PONTOTOC	800.2	1812.6	0.4	0.0	104.0	675.8	109.2	3502.2
117 PRENTISS	364.9	395.5	0.0	0.0	42.0	863.6	36.6	1702.6
119 QUITMAN	0.0	27.6	0.0	0.0	214.0	0.2	0.0	241.8
121 RANKIN	3165.9	901.0	134.1	0.0	88.0	5906.6	2741.5	12937.1
123 SCOTT	3582.1	663.7	3.8	0.0	105.0	4818.9	1275.9	10449.4
125 SHARKEY	83.7	1655.7	0.0	0.0	0.0	79.5	649.5	2468.4
127 SIMPSON	3219.3	827.9	45.5	0.0	0.0	4744.1	1216.2	10053.0
129 SMITH	5271.9	368.2	6.3	0.0	17.0	2349.2	1419.2	9431.8
131 STONE	3469.1	178.9	1496.5	0.0	12.0	5995.8	719.4	11871.7
133 SUNFLOWER	5.8	31.9	0.0	0.0	0.0	44.0	67.0	148.7
135 TALLAHATCHIE	207.1	1175.7	0.0	0.0	215.0	59.9	135.3	1793.0
137 TATE	35.2	145.3	0.0	0.0	13.0	117.6	225.1	536.2
139 TIPPDAH	300.1	704.6	0.0	0.0	24.0	1409.6	12.9	2451.2
141 TISHOMINGO	594.9	888.1	0.0	0.0	39.0	1939.3	765.4	4226.7
143 TUNICA	0.0	1145.6	0.0	0.0	201.0	0.0	211.1	1557.7
145 UNION	250.8	474.9	0.0	0.0	31.0	609.0	133.8	1499.5
147 WALTHALL	1007.0	113.9	39.2	0.0	1.0	2985.8	453.4	4600.3
149 WARREN	376.1	3487.9	0.0	0.0	290.0	45.8	787.8	4987.6
151 WASHINGTON	128.9	398.1	22.1	0.0	23.0	23.1	729.7	1324.9
153 WAYNE	3982.4	638.4	13.4	0.0	12.0	7549.4	3345.7	15541.3
155 WEBSTER	283.8	86.7	0.0	0.0	70.0	1958.4	300.2	2699.1
157 WILKINSON	5880.8	2812.2	71.1	0.0	142.0	2442.7	2025.7	13374.5
159 WINSTON	2924.8	1386.0	5.6	0.0	165.0	3528.4	854.4	8864.2
161 YALOBUSHA	399.4	1339.8	0.0	0.0	33.0	2511.7	868.1	5152.0
163 YAZOO	18.9	4302.7	0.0	0.0	10.0	81.6	1602.8	6016.0
STATE TOTAL	149011.4	84396.5	11994.8	368.0	4469.0	238125.1	91071.9	578436.6

TABLE 2 (1968).—GROWING STOCK AND SAWTIMBER VOLUME ON COMMERCIAL FOREST LAND

COUNTY	GROWING STOCK			SAWTIMBER		
	TOTAL	PINE	HARDWOOD	TOTAL	PINE	HARDWOOD
	--- MILLION CUBIC FEET ---			--- MILLION BOARD FEET ---		
1 ADAMS	151.5	45.8	105.7	558.8	234.1	324.7
3 ALCORN	68.3	18.7	49.6	146.9	43.5	103.4
5 AMITE	317.9	222.7	95.2	1080.4	840.4	240.0
7 ATTALA	225.2	107.3	117.9	554.0	324.0	230.0
9 BENTON	150.7	43.0	107.7	399.2	140.6	258.6
11 BOLIVAR	102.2	3.3	98.9	355.6	23.1	332.5
13 CALHOUN	149.5	105.9	43.6	386.6	322.3	64.3
15 CARROLL	109.3	22.1	87.2	291.7	36.3	255.4
17 CHICKASAW	85.9	27.2	58.7	210.9	86.3	124.6
19 CHOCTAW	125.2	71.4	53.8	323.6	241.7	81.9
21 CLATBORNE	194.5	44.3	150.2	589.2	161.1	428.1
23 CLARKE	322.7	196.1	126.6	949.9	734.4	255.5
25 CLAY	83.7	9.0	74.7	253.9	38.1	215.8
27 COAHOMA	56.7	5.1	51.6	196.2	27.4	168.8
29 COPIAH	333.8	186.1	147.7	1173.5	769.5	404.0
31 COWINGTON	139.7	62.6	77.1	476.5	270.3	206.2
33 DE SOTO	63.5	2.6	60.9	165.3	13.3	152.0
35 FURREST	141.8	122.7	19.1	496.9	444.0	52.9
37 FRANKLIN	397.3	316.3	81.0	1800.2	1581.8	218.4
39 GEORGE	156.4	103.1	53.3	555.4	405.5	149.9
41 GREENE	239.6	158.3	81.3	828.6	632.0	196.6
43 GRENADA	94.4	24.4	70.0	244.9	58.1	186.8
45 HANCOCK	143.1	106.2	36.9	498.6	401.3	97.3
47 HARRISON	256.5	211.8	44.7	848.0	744.6	103.4
49 HINDS	119.6	40.9	78.7	297.7	142.2	155.5
51 HOLMES	82.8	24.4	58.4	187.9	73.8	114.1
53 HUMPHREYS	43.2	....	43.2	147.3	....	147.3
55 ISSAQUENA	129.7	2.6	127.1	528.2	19.9	508.3
57 ITAWAMBA	141.4	50.9	90.5	299.2	103.3	195.9
59 JACKSON	320.1	180.2	139.9	1034.1	655.8	378.3
61 JASPER	296.7	193.0	103.7	979.8	770.5	209.3
63 JEFFERSON	225.2	134.2	91.0	958.4	720.5	237.9
65 JEFF DAVIS	104.6	67.5	37.1	344.8	263.9	80.9
67 JONES	282.8	211.5	71.3	1226.2	1016.6	209.6
69 KEMPER	302.0	169.3	132.7	789.8	559.3	230.5
71 LAFAYETTE	146.1	61.1	85.0	463.2	261.5	201.7
73 LAMAR	133.7	97.1	36.6	527.9	412.3	115.6
75 LAUDERDALE	364.3	221.2	143.1	1106.2	817.8	288.4
77 LAWRENCE	161.3	104.6	56.7	562.5	403.7	158.8
79 LEAKE	241.6	132.9	108.7	738.5	444.3	294.2
81 LEE	24.1	4.5	19.6	43.6	11.0	32.6
83 LEFLORE	51.9	....	51.9	99.9	....	99.9
85 LINCOLN	213.4	131.3	82.1	698.9	453.2	245.7
87 LOWNDES	73.1	20.1	53.0	145.8	75.2	70.6
89 MADISON	123.6	46.1	77.5	330.8	160.5	170.3
91 MARION	146.6	78.7	67.9	550.7	354.9	195.8
93 MARSHALL	107.8	28.3	79.5	229.9	74.5	155.4
95 MONROE	169.1	52.3	116.8	334.0	140.4	193.6
97 MONTGOMERY	115.3	54.4	60.9	323.9	150.3	173.6
99 NESHABA	214.7	116.3	98.4	704.2	476.7	227.5
101 NEWTON	215.5	108.1	107.4	662.6	355.9	306.7
103 NOXUBEE	198.0	91.2	106.8	637.1	411.1	226.0
105 OKTIBBEHA	104.4	39.8	64.6	304.3	132.9	171.4
107 PANOLA	69.7	3.3	66.4	115.3	3.0	112.3
109 PEARL RIVER	206.7	133.7	73.0	680.4	512.9	167.5
111 PERRY	261.1	195.7	65.4	1003.3	849.2	154.1
113 PIKE	101.8	50.1	51.7	347.6	189.7	157.9
115 PONTOTOC	86.3	37.9	48.4	204.2	126.2	78.0
117 PRENTISS	76.8	28.9	47.9	159.4	59.9	99.5
119 QUITMAN	23.9	0.5	23.4	38.0	1.4	36.6
121 RANKIN	343.2	187.9	155.3	1047.5	650.1	397.4
123 SCOTT	239.8	152.1	87.7	794.7	546.5	248.2
125 SHARKEY	81.8	0.3	81.5	378.0	3.1	374.9
127 SIMPSON	178.7	100.5	78.2	492.0	322.5	169.5
129 SMITH	330.2	222.9	107.3	1177.9	961.7	216.2
131 STONE	188.3	145.9	42.4	683.2	576.3	106.9
133 SUNFLOWER	33.5	10.1	23.4	128.4	63.9	64.5
135 TALLAHATCHIE	109.7	17.5	92.2	234.9	24.4	210.5
137 TATE	61.8	0.1	61.7	106.2	0.9	105.3
139 TIPPAH	91.3	28.0	63.3	170.4	54.1	116.3
141 TISHOMINGO	123.1	59.7	63.4	284.8	168.5	116.3
143 TUNICA	46.4	0.7	45.7	189.7	4.8	184.9
145 UNION	62.0	16.7	45.3	108.2	28.7	79.5
147 WALTHALL	108.6	46.7	61.9	407.5	192.7	214.8
149 WARREN	193.5	3.9	189.6	721.2	24.4	696.8
151 WASHINGTON	36.7	....	36.7	114.8	....	114.8
153 WAYNE	340.5	224.2	116.3	1240.3	965.7	274.6
155 WEBSTER	130.4	67.9	62.5	336.0	179.5	156.5
157 WILKINSON	365.6	237.0	128.6	1645.9	1221.6	424.3
159 WINSTON	199.4	112.1	87.3	607.1	381.0	226.1
161 YALOBUSHA	99.1	47.1	52.0	251.7	120.2	131.5
163 YAZOO	201.6	2.5	199.1	638.5	....	638.5
STATE TOTAL	13353.5	6812.4	6541.1	42989.3	26268.6	16720.7

TABLE 2 (1969).—GROWING STOCK AND SAWTIMBER VOLUME ON COMMERCIAL FOREST LAND

COUNTY	GROWING STOCK			SAWTIMBER		
	TOTAL	PINE	HARDWOOD	TOTAL	PINE	HARDWOOD
	--- MILLION CUBIC FEET ---			--- MILLION BOARD FEET ---		
1 ADAMS	151.9	46.6	105.3	560.0	240.0	320.0
3 ALCORN	70.5	18.8	51.7	153.5	44.2	109.3
5 AMITE	330.4	232.9	97.5	1104.4	864.2	240.2
7 ATTALA	235.0	112.7	122.3	568.1	332.1	236.0
9 BENTON	153.3	45.7	107.6	389.9	144.1	245.8
11 BOLIVAR	103.3	3.1	100.2	362.4	22.8	339.6
13 CALHOUN	153.5	111.9	41.6	393.1	341.1	52.0
15 CARROLL	108.1	22.2	85.9	277.1	28.1	244.0
17 CHICKASAW	89.6	28.5	61.1	213.2	87.9	125.3
19 CHOCTAW	131.7	75.4	56.3	338.3	254.2	84.1
21 CLAIBORNE	197.2	46.2	151.0	585.3	166.3	419.0
23 CLARKE	324.9	198.1	126.8	940.3	729.4	250.9
25 CLAY	83.9	8.7	75.2	250.1	38.4	211.7
27 COAHOMA	57.2	5.1	52.1	199.9	27.5	172.4
29 COPIAH	343.3	191.7	151.6	1205.6	793.3	412.3
31 COVINGTON	140.8	62.7	78.1	479.4	271.9	207.5
33 DE SOTO	64.7	2.6	62.1	164.1	13.4	150.7
35 FORREST	144.2	126.1	18.1	510.1	460.5	49.6
37 FRANKLIN	413.2	331.0	82.2	1867.6	1656.6	211.0
39 GEORGE	158.7	105.2	53.5	568.4	416.7	151.7
41 GREENE	242.5	160.1	82.4	829.8	631.6	198.2
43 GRENADA	98.2	26.2	72.0	245.6	60.5	185.1
45 HANCOCK	147.8	109.6	38.2	514.4	415.6	98.8
47 HARRISON	264.3	218.4	45.9	880.6	772.1	108.5
49 HINDS	123.0	43.1	79.9	311.8	149.4	162.4
51 HULMES	80.4	25.0	55.4	165.7	75.7	90.0
53 HUMPHREYS	40.6	....	40.6	133.9	....	133.9
55 ISSAQUEENA	123.0	0.9	122.1	501.5	10.9	490.6
57 ITAWAMBA	146.9	54.3	92.6	304.4	107.2	197.2
59 JACKSON	327.6	185.2	142.4	1054.8	672.4	382.4
61 JASPER	301.1	196.6	104.5	992.9	784.9	208.0
63 JEFFERSON	230.6	138.0	92.6	983.2	744.2	239.0
65 JEFF DAVIS	105.2	67.3	37.9	335.5	253.8	81.7
67 JONES	285.1	215.2	69.9	1242.1	1036.1	206.0
69 KEMPER	303.6	167.6	136.0	756.7	529.0	227.7
71 LAFAYETTE	151.4	63.2	88.2	485.0	273.6	211.4
73 LAMAR	131.9	96.1	35.8	535.4	419.3	116.1
75 LAUDERDALE	377.0	229.0	148.0	1140.6	844.8	295.8
77 LAWRENCE	166.3	109.0	57.3	580.2	419.3	160.9
79 LEAKE	249.8	137.2	112.6	757.8	456.0	301.8
81 LEE	25.2	4.7	20.5	43.5	11.5	32.0
83 LEFLORE	54.5	....	54.5	102.5	....	102.5
85 LINCOLN	218.1	134.6	83.5	702.1	451.6	250.5
87 LOWNDES	75.3	20.2	55.1	145.4	74.3	71.1
89 MADISON	130.2	49.4	80.8	345.8	169.2	176.6
91 MARION	146.9	78.9	68.0	557.5	360.4	197.1
93 MARSHALL	111.0	29.0	82.0	232.3	74.3	158.0
95 MONROE	175.3	55.0	120.3	347.1	146.5	200.6
97 MONTGOMERY	119.3	57.6	61.7	334.6	155.6	179.0
99 NESHOBBA	225.9	123.0	102.9	730.2	502.1	228.1
101 NEWTON	218.9	110.0	108.9	668.1	357.5	310.6
103 NUXOMIN	202.3	92.9	109.4	649.4	421.9	227.5
105 OKTIBBEHA	106.7	41.7	65.0	312.3	137.7	174.6
107 PANOLA	69.4	3.5	65.9	107.0	2.7	104.3
109 PEARL RIVER	207.9	135.5	72.4	679.5	516.2	163.3
111 PERRY	264.1	198.3	65.8	1028.2	875.2	153.0
113 PIKE	101.4	49.2	52.2	349.5	192.2	157.3
115 PONTOTOC	90.7	40.2	50.5	218.2	136.4	81.8
117 PRENTISS	80.0	31.0	49.0	162.4	61.3	101.1
119 QUITMAN	19.5	0.3	19.2	12.7	1.1	11.6
121 RANKIN	358.6	197.9	160.7	1078.0	670.2	407.8
123 SCOTT	247.8	157.3	90.5	829.9	569.7	260.2
125 SHARKEY	82.3	0.2	82.1	302.9	2.8	300.1
127 SIMPSON	182.7	103.7	79.0	494.8	323.9	170.9
129 SMITH	342.9	231.6	111.3	1226.2	1004.1	222.1
131 STONE	190.8	148.5	42.3	699.9	587.9	112.0
133 SUNFLOWER	35.4	10.3	25.1	131.2	65.8	65.4
135 TALLAHATCHIE	109.3	18.4	90.9	227.8	24.5	203.3
137 TATE	65.7	....	65.7	108.7	0.2	108.5
139 TIPPAH	95.3	29.0	66.3	178.8	55.3	123.5
141 TISHOMINGO	128.7	63.1	65.6	287.2	173.3	113.9
143 TUNICA	46.0	0.6	45.4	136.2	4.5	181.7
145 UNION	65.3	17.9	47.4	112.4	29.0	83.4
147 WALTHALL	109.5	46.9	62.6	412.7	196.2	216.5
149 WARREN	194.8	3.7	191.1	738.4	24.3	714.1
151 WASHINGTON	32.6	....	32.6	103.3	....	103.3
153 WAYNE	347.6	230.5	117.1	1284.8	1004.8	280.0
155 WEBSTER	136.9	72.4	64.5	350.7	190.8	159.9
157 WILKINSON	368.6	244.8	123.8	1705.4	1284.2	421.2
159 WINSTON	204.9	117.0	87.9	610.0	385.5	224.5
161 YALOBUSHA	102.2	49.6	52.6	252.9	120.8	132.1
163 YAZOO	190.7	2.4	188.3	601.9	....	601.9
STATE TOTAL	13632.9	7018.0	6614.9	43650.1	26954.6	16695.5

TABLE 2 (1970).—GROWING STOCK AND SAWTIMBER VOLUME ON COMMERCIAL FOREST LAND

COUNTY	GROWING STOCK			SAWTIMBER		
	TOTAL	PINE	HARDWOOD	TOTAL	PINE	HARDWOOD
	--- MILLION CUBIC FEET ---			--- MILLION BOARD FEET ---		
1 ADAMS	150.0	45.4	104.6	548.9	234.7	314.2
3 ALCORN	72.9	19.1	53.8	160.7	45.2	115.5
5 AMITE	345.0	246.3	98.7	1138.5	902.8	235.7
7 ATTALA	240.9	115.2	125.7	565.1	328.4	236.7
9 BENTON	159.5	48.2	111.3	396.4	145.7	250.7
11 BOLIVAR	105.6	3.1	102.5	373.1	23.1	350.0
13 CALHOUN	155.8	117.5	38.3	390.1	356.0	34.1
15 CARROLL	106.6	22.7	83.9	249.6	20.6	229.0
17 CHICKASAW	93.5	29.7	63.8	214.4	87.7	126.7
19 CHOCTAW	137.0	78.8	58.2	348.7	265.2	83.5
21 CLAIBORNE	197.4	47.9	149.5	570.3	169.9	400.4
23 CLARKE	323.2	196.3	126.9	958.8	712.8	246.0
25 CLAY	83.7	8.3	75.4	244.6	38.4	206.2
27 COAHOMA	56.5	5.1	51.4	201.1	28.0	173.1
29 COPIAH	347.1	194.2	152.9	1211.8	800.3	411.5
31 COWINGTON	132.9	55.6	77.3	442.8	244.9	197.9
33 DE SOTO	63.5	2.6	60.9	151.6	14.0	137.6
35 FORREST	131.5	115.9	15.6	455.1	417.2	37.9
37 FRANKLIN	429.2	345.9	83.3	1936.5	1732.2	204.3
39 GEORGE	160.2	105.9	54.3	577.1	422.2	154.9
41 GREENE	241.4	157.9	83.5	811.4	611.8	199.6
43 GRENAOA	102.2	28.2	74.0	246.2	63.1	183.1
45 HANCOCK	99.2	75.1	24.1	315.8	274.9	40.9
47 HARRISON	216.7	177.3	39.4	701.3	616.2	85.1
49 HINDS	126.6	45.4	81.2	326.8	156.6	170.2
51 HOLMES	75.6	24.8	50.8	135.2	75.6	59.6
53 HUMPHREYS	38.4	....	38.4	122.6	....	122.6
55 ISSAQUENA	117.2	0.8	116.4	479.4	10.5	468.9
57 ITAWAMBA	151.9	57.1	94.8	305.8	107.6	198.2
59 JACKSON	309.6	176.9	132.7	962.8	634.0	328.8
61 JASPER	302.4	197.1	105.3	993.1	786.7	206.4
63 JEFFERSON	233.3	140.2	93.1	997.5	760.7	236.8
65 JEFF DAVIS	95.7	60.0	35.7	304.9	228.6	76.3
67 JONES	288.0	219.7	68.3	1265.8	1063.2	202.6
69 KEMPER	302.2	164.6	137.6	712.8	490.5	222.3
71 LAFAYETTE	155.4	64.3	91.1	501.4	282.9	218.5
73 LAMAR	88.7	66.4	22.3	382.1	300.7	81.4
75 LAUDERDALE	388.4	235.9	152.5	1170.4	868.4	302.0
77 LAWRENCE	166.9	109.8	57.1	585.7	422.3	163.4
79 LEAKE	256.5	140.3	116.2	772.8	465.8	307.0
81 LEE	26.4	5.0	21.4	43.4	12.0	31.4
83 LEFLORE	57.6	....	57.6	175.7	....	105.7
85 LINCOLN	222.5	138.0	84.5	704.3	450.5	253.8
87 LOWNOES	76.7	20.0	56.7	141.8	73.0	68.8
89 MADISON	136.0	52.6	83.4	358.2	177.4	180.8
91 MARION	140.0	73.4	66.6	526.8	338.2	188.6
93 MARSHALL	114.4	29.9	84.5	235.0	74.5	160.5
95 MONROE	181.6	57.7	123.9	360.4	152.5	207.9
97 MONTGOMERY	122.4	59.9	62.5	343.9	159.0	184.9
99 NESHOBBA	236.2	128.6	107.6	752.8	524.4	228.4
101 NEWTON	221.0	110.9	110.1	671.0	357.8	313.2
103 NOXUBEE	205.7	94.4	111.3	658.9	434.0	224.9
105 OKTIBBEHA	108.6	43.3	65.3	318.6	140.8	177.8
107 PANOLA	70.4	3.7	66.7	133.0	2.2	100.8
109 PEARL RIVER	145.9	90.4	55.5	412.3	315.5	96.8
111 PERRY	263.6	197.6	66.0	1034.3	883.3	151.0
113 PIKE	100.3	47.7	52.6	347.7	190.4	157.3
115 POINTOTUC	92.3	41.7	50.6	218.0	142.4	75.6
117 PRENTISS	83.4	33.1	50.3	164.7	62.1	102.6
119 QUITMAN	15.2	0.3	14.9	3.9	1.1	2.8
121 RANKIN	372.6	207.8	164.8	1100.0	686.7	413.3
123 SCOTT	255.3	162.5	92.8	865.6	595.8	269.8
125 SHARKEY	82.0	....	82.0	384.5	2.1	382.4
127 SIMPSON	185.4	105.4	80.0	490.8	317.8	173.0
129 SMITH	356.7	241.3	115.4	1280.4	1052.5	227.9
131 STONE	176.7	134.6	42.1	635.2	515.9	119.3
133 SUNFLOWER	37.5	10.4	27.1	134.8	67.5	67.3
135 TALLAHATCHIE	109.7	19.4	90.3	223.6	24.5	199.1
137 TATF	70.2	....	70.2	112.3	....	112.3
139 TIPPAH	99.4	29.9	69.5	187.3	55.9	131.4
142 TISHUMINGO	134.2	66.6	67.6	286.9	176.6	110.3
143 TUNICA	44.7	0.6	44.1	178.3	4.5	173.8
145 UNION	68.3	18.9	49.4	115.1	28.9	86.2
147 WALTHALL	109.2	45.9	63.3	414.7	156.0	218.7
149 WARREN	195.0	3.3	191.7	749.9	22.6	727.3
151 WASHINGTON	28.6	....	28.6	92.2	....	92.2
153 WAYNE	352.1	234.1	118.0	1319.4	1032.6	286.8
155 WEBSTER	143.2	76.5	66.7	365.9	201.5	164.4
157 WILKINSON	368.6	250.5	118.1	1758.2	1340.3	417.9
159 WINSTON	209.6	121.3	88.3	609.7	387.9	221.8
161 YALOBUSHA	103.8	51.4	52.4	246.5	118.0	128.5
163 YAZOO	178.4	2.4	176.0	560.5	....	560.5
STATE TOTAL	13549.7	6956.5	6593.2	42845.5	26528.1	16317.4

TABLE 3 (1969).—TOTAL GROWTH OF GROWING STOCK AND SAWTIMBER ON COMMERCIAL FOREST LAND

COUNTY	GROWING STOCK			SAWTIMBER		
	TOTAL	PINE	HARDWOOD	TOTAL	PINE	HARDWOOD
	--- MILLION CUBIC FEET ---			--- MILLION BOARD FEET ---		
1 ADAMS	7.8	2.4	5.4	30.5	13.2	17.3
3 ALCORN	5.0	1.7	3.3	14.7	4.9	9.8
5 AMITE	27.0	21.9	5.1	78.9	70.0	8.9
7 ATTALA	19.3	11.2	8.1	46.1	26.2	17.9
9 BENTON	10.0	4.6	5.4	21.0	9.7	11.3
11 BOLIVAR	5.7	0.1	5.6	19.2	0.5	18.7
13 CALHOUN	10.3	8.3	2.0	30.5	26.9	3.6
15 CARROLL	7.0	2.7	4.3	12.0	3.2	8.8
17 CHICKASAW	7.1	3.0	4.1	12.2	6.3	5.9
19 CHOCTAW	10.3	6.6	3.7	25.1	20.1	5.0
21 CLAIBORNE	11.2	4.3	6.9	27.0	12.8	14.2
23 CLARKE	23.5	17.0	6.5	62.9	51.1	11.8
25 CLAY	4.7	0.6	4.1	14.3	3.3	11.0
27 COAHOMA	3.0	0.1	2.9	8.9	0.6	8.3
29 COPIAH	21.2	14.2	7.0	72.0	54.7	17.3
31 COVINGTON	8.2	4.8	3.4	27.2	19.3	7.9
33 DE SOTO	3.5	0.1	3.4	6.8	0.6	6.2
35 FURREST	10.5	9.8	0.7	45.7	44.2	1.5
37 FRANKLIN	28.6	23.5	5.1	122.5	116.0	6.5
39 GEORGE	10.3	8.2	2.1	39.4	32.9	6.5
41 GREENE	16.3	12.0	4.3	45.9	36.6	9.3
43 GRENADA	6.7	2.5	4.2	11.6	4.4	7.2
45 HANCOCK	9.6	7.8	1.8	32.4	29.9	2.5
47 HARRISON	17.9	15.7	2.2	69.6	62.5	7.1
49 HINDS	9.5	4.4	5.1	32.8	13.3	19.5
51 HOLMES	7.1	2.3	4.8	11.9	7.0	4.9
53 HUMPHREYS	2.6	....	2.6	5.1	....	5.1
55 ISSAQUEENA	5.6	....	5.6	21.3	0.2	21.1
57 ITAWAMBA	11.2	6.2	5.0	34.5	12.9	11.6
59 JACKSON	18.5	13.9	4.6	56.9	47.7	9.2
61 JASPER	20.9	15.7	5.2	74.2	62.8	11.4
63 JEFFERSON	13.2	8.0	5.2	51.0	40.2	10.8
65 JEFF DAVIS	8.0	5.7	2.3	19.3	15.0	4.3
67 JONES	17.4	14.2	3.2	76.8	65.3	11.5
69 KEMPER	21.4	13.4	8.0	52.5	40.2	12.3
71 LAFAYETTE	9.0	3.9	5.1	34.0	18.6	15.4
73 LAMAR	7.8	6.0	1.8	45.0	38.6	6.4
75 LAUDERDALE	26.7	18.1	8.6	85.0	68.4	16.6
77 LAWRENCE	11.5	8.9	2.6	39.5	30.2	9.3
79 LEAKE	18.0	11.8	6.2	55.3	42.9	12.4
81 LEE	2.4	0.6	1.8	2.4	1.4	1.0
83 LEFLORE	4.9	....	4.9	8.5	....	8.5
85 LINCOLN	17.1	12.9	4.2	48.7	35.2	13.5
87 LOWNDES	5.5	1.4	4.1	11.6	4.4	7.2
89 MADISON	10.0	5.2	4.8	23.8	14.4	9.4
91 MARION	8.6	5.3	3.3	31.8	22.7	9.1
93 MARSHALL	7.2	2.4	4.8	15.7	6.2	9.5
95 MONROE	11.9	5.2	6.7	35.3	17.6	17.7
97 MONTGOMERY	8.3	5.2	3.1	22.0	10.4	11.6
99 NESHOMA	16.5	10.2	6.3	46.7	38.7	8.0
101 NEWTON	15.1	10.3	4.8	45.4	33.6	11.8
103 NOXUBEE	11.8	6.8	5.0	40.6	33.3	7.3
105 OKTIBBEHA	7.1	4.0	3.1	19.9	11.2	8.7
107 PANOLA	4.1	0.4	3.7	5.5	0.1	5.4
109 PEARL RIVER	12.4	9.9	2.5	41.3	36.1	5.2
111 PERRY	14.9	12.3	2.6	69.7	65.6	4.1
113 PIKE	6.7	4.5	2.2	23.8	19.2	4.6
115 PONTOTOC	6.4	3.1	3.3	20.1	13.2	6.9
117 PRENTISS	6.5	3.5	3.0	12.9	5.6	7.3
119 QUITMAN	1.8	....	1.8	1.0	0.1	0.9
121 RANKIN	29.5	20.0	9.5	72.7	54.3	18.4
123 SCOTT	19.6	14.5	5.1	80.4	63.2	17.2
125 SHARKEY	2.9	....	2.9	14.5	0.1	14.4
127 SIMPSON	15.1	10.6	4.5	40.5	28.2	12.3
129 SMITH	25.0	18.3	6.7	101.4	89.4	12.0
131 STONE	11.5	9.5	2.0	51.8	41.7	10.1
133 SUNFLOWER	3.3	0.3	3.0	5.0	2.0	3.0
135 TALLAHATCHIE	7.2	1.3	5.9	18.1	1.6	16.5
137 TATE	5.3	....	5.3	5.6	....	5.6
139 TIPPAH	7.4	2.8	4.6	19.7	6.6	13.1
141 TISHOMINGO	10.6	6.2	4.4	16.9	12.5	4.4
143 TUNICA	2.2	....	2.2	7.4	0.1	7.3
145 UNION	5.3	2.1	3.2	10.0	3.2	6.8
147 WALTHALL	4.9	3.3	1.6	18.8	14.7	4.1
149 WARREN	9.5	0.1	9.4	54.5	0.9	53.6
151 WASHINGTON	1.9	....	1.9	5.1	....	5.1
153 WAYNE	20.8	15.9	4.9	92.0	74.4	17.6
155 WEBSTER	9.5	6.4	3.1	24.3	17.9	6.4
157 WILKINSON	21.1	15.2	5.9	125.9	101.5	24.4
159 WINSTON	15.7	11.4	4.3	42.0	31.2	10.8
161 YALOBUSHA	8.6	4.9	3.7	15.6	6.6	9.0
163 YAZOO	9.8	0.2	9.6	39.1	....	39.1
STATE TOTAL	919.0	561.8	357.2	2949.5	2074.3	875.2

TABLE 4 (1967).—NET GROWTH OF GROWING STOCK AND SAWTIMBER ON COMMERCIAL FOREST LAND

COUNTY	GROWING STOCK			SAWTIMBER		
	TOTAL	PINE	HARDWOOD	TOTAL	PINE	HARDWOOD
	--- MILLION CUBIC FEET ---			--- MILLION BOARD FEET ---		
1 ADAMS	7.6	2.3	5.3	29.8	12.5	17.3
3 ALCORN	4.6	1.6	3.0	13.2	4.5	8.7
5 AMITE	24.3	19.5	4.8	73.1	64.4	8.7
7 ATTALA	17.2	9.8	7.4	42.4	25.7	16.7
9 BENTON	9.2	4.0	5.2	20.7	8.9	11.8
11 BOLIVAR	5.5	0.1	5.4	18.1	0.5	17.6
13 CALHOUN	9.6	7.4	2.2	28.8	23.9	4.9
15 CARROLL	6.8	2.5	4.3	13.3	4.1	9.2
17 CHICKASAW	6.4	2.7	3.7	11.7	6.0	5.7
19 CHOCTAW	9.2	5.8	3.4	22.4	17.8	4.6
21 CLAIBORNE	10.5	3.8	6.7	26.0	11.6	14.4
23 CLARKE	22.2	15.9	6.3	61.1	49.3	11.8
25 CLAY	4.6	0.7	3.9	14.4	3.2	11.2
27 COAHOMA	2.9	0.1	2.8	8.5	0.6	7.9
29 COPIAH	19.6	13.0	6.6	66.8	50.3	16.5
31 COVINGTON	7.8	4.5	3.3	25.9	18.3	7.6
33 DE SOTO	3.3	0.1	3.2	6.8	0.6	6.2
35 FORREST	9.9	9.1	0.8	41.8	40.1	1.7
37 FRANKLIN	26.1	21.2	4.9	111.3	104.5	6.8
39 GEORGE	9.7	7.6	2.1	36.4	30.1	6.3
41 GREENE	15.4	11.4	4.1	44.7	35.7	9.0
43 GRENADE	6.2	2.2	4.0	11.3	4.1	7.2
45 HANCOCK	8.8	7.1	1.7	29.7	27.3	2.4
47 HARRISON	16.5	14.4	2.1	62.9	56.5	6.4
49 HINDS	8.8	3.9	4.9	29.4	11.9	17.5
51 HOLMES	7.1	2.1	5.0	13.1	6.4	6.7
53 HUMPHREYS	2.8	....	2.8	5.8	....	5.8
55 ISSAQUENA	5.8	....	5.8	22.1	0.3	21.8
57 ITAWAMBA	10.0	5.3	4.7	22.8	11.6	11.2
59 JACKSON	17.2	12.8	4.4	53.0	44.1	8.9
61 JASPER	19.6	14.6	5.0	69.5	58.4	11.1
63 JEFFERSON	12.5	7.5	5.0	48.0	37.4	10.6
65 JEFF DAVIS	7.4	5.3	2.1	19.2	15.0	4.2
67 JONES	16.5	13.3	3.2	72.4	61.0	11.4
69 KEMPER	20.4	12.9	7.5	53.4	41.3	12.1
71 LAFAYETTE	8.3	3.6	4.7	30.8	16.9	13.9
73 LAMAR	7.6	5.8	1.8	41.9	35.7	6.2
75 LAUDERDALE	24.4	16.5	7.9	78.2	62.7	15.5
77 LAWRENCE	10.5	8.0	2.5	36.4	27.5	8.9
79 LEAKE	16.4	10.7	5.7	50.6	38.9	11.7
81 LEE	2.1	0.5	1.6	2.2	1.2	1.0
83 LEFLORE	4.4	....	4.4	8.0	....	8.0
85 LINCOLN	15.7	11.7	4.0	46.3	33.5	12.8
87 LOWNOES	5.1	1.4	3.7	11.2	4.3	6.9
89 MAISON	8.8	4.4	4.4	21.3	12.7	8.6
91 MARION	8.3	5.0	3.3	30.2	21.4	8.8
93 MARSHALL	6.7	2.2	4.5	14.9	5.9	9.0
95 MONROE	10.9	4.6	6.3	31.7	15.6	16.1
97 MONTGOMERY	7.5	4.5	3.0	20.3	9.5	10.8
99 NESHIBA	14.7	9.0	5.7	42.3	34.5	7.8
101 NEWTON	14.2	9.6	4.6	43.0	31.7	11.3
103 NOXUBEE	11.1	6.4	4.7	38.1	31.0	7.1
105 OKTIBBEHA	6.5	3.5	3.0	18.4	10.1	8.3
107 PANOLA	4.0	0.4	3.6	5.9	0.1	5.8
109 PEARL RIVER	11.9	9.3	2.6	40.2	34.6	5.6
111 PERRY	14.1	11.6	2.5	64.3	60.2	4.1
113 PIKE	6.6	4.4	2.2	22.4	17.9	4.5
115 PONTOTOC	5.8	2.8	3.0	17.4	11.2	6.2
117 PRENTISS	5.9	3.0	2.9	12.1	5.2	6.9
119 QUITMAN	2.3	....	2.3	3.6	0.1	3.5
121 RANKIN	26.2	17.5	8.7	66.9	49.6	17.3
123 SCOTT	17.8	13.1	4.7	71.8	56.3	15.5
125 SHARKEY	2.8	....	2.8	14.0	0.1	13.9
127 SIMPSON	13.8	9.5	4.3	38.3	26.6	11.7
129 SMITH	22.7	16.6	6.1	91.3	80.1	11.2
131 STONE	11.0	9.0	2.0	48.4	39.4	9.0
133 SUNFLOWER	2.9	0.3	2.6	4.8	1.9	2.9
135 TALLAHATCHIE	7.0	1.2	5.8	18.0	1.5	16.5
137 TATE	4.7	....	4.7	5.3	....	5.3
139 TIPPAAH	6.7	2.6	4.1	17.5	6.0	11.5
141 TISHOMINGO	9.4	5.4	4.0	16.0	11.5	4.5
143 TUNICA	2.2	....	2.2	7.5	0.1	7.4
145 UNION	4.7	1.8	2.9	9.2	3.0	6.2
147 WALTHALL	4.7	3.1	1.6	17.7	13.7	4.0
149 WARREN	9.2	0.1	9.1	50.8	0.9	49.9
151 WASHINGTON	2.2	....	2.2	5.8	....	5.8
153 WAYNE	19.6	14.8	4.8	84.6	68.0	16.6
155 WEBSTER	8.5	5.6	2.9	21.8	15.7	6.1
157 WILKINSON	20.0	13.9	6.1	114.1	90.0	24.1
159 WINSTON	14.3	10.1	4.2	39.9	29.3	10.6
161 YALOBUSHA	7.8	4.3	3.5	15.0	6.4	8.6
163 YAZOO	10.3	0.2	10.1	41.2	....	41.2
STATE TOTAL	854.4	512.5	341.9	2761.4	1910.4	851.0

TABLE 4 (1968).—NET GROWTH OF GROWING STOCK AND SAWTIMBER ON COMMERCIAL FOREST LAND

COUNTY	GROWING STOCK			SAWTIMBER		
	TOTAL	PINE	HARWOOD	TOTAL	PINE	HARWOOD
	--- MILLION CUBIC FEET ---			--- MILLION BOARD FEET ---		
1 ADAMS	7.5	2.3	5.2	29.6	12.7	16.9
3 ALCORN	4.7	1.6	3.1	13.8	4.6	9.2
5 AMITE	25.3	20.4	4.9	75.1	66.4	8.7
7 ATTALA	18.1	10.4	7.7	43.8	26.7	17.1
9 BENTON	9.5	4.2	5.3	20.5	9.2	11.3
11 BOLIVAR	5.5	0.1	5.4	18.5	0.5	18.0
13 CALHOUN	9.6	7.8	2.0	29.1	25.2	3.9
15 CARROLL	6.7	2.5	4.2	12.3	3.5	8.8
17 CHICKASAW	6.7	2.8	3.9	11.8	6.1	5.7
19 CHOCTAW	9.6	6.1	3.5	23.6	18.8	4.8
21 CLATBORNE	10.9	4.1	6.8	26.3	12.1	14.2
23 CLARKE	22.6	16.3	6.3	61.1	49.5	11.6
25 CLAY	4.5	0.6	3.9	14.0	3.2	10.8
27 COAHOMA	2.9	0.1	2.8	8.6	0.6	8.0
29 COPIAH	20.2	13.5	6.7	68.9	52.1	16.8
31 COVINGTON	7.9	4.6	3.3	26.3	18.6	7.7
33 DE SOTO	3.3	0.1	3.2	6.7	0.6	6.1
35 FORREST	10.0	9.3	0.7	43.0	41.4	1.6
37 FRANKLIN	27.1	22.2	4.9	116.1	109.5	6.6
39 GEORGE	9.9	7.8	2.1	37.5	31.2	6.3
41 GREENE	15.6	11.5	4.1	44.7	35.6	9.1
43 GRENADE	6.4	2.3	4.1	11.3	4.2	7.1
45 HANCOCK	9.1	7.4	1.7	30.8	28.4	2.4
47 HARRISON	17.0	14.9	2.1	65.7	59.0	6.7
49 HINOS	9.0	4.1	4.9	30.4	12.4	18.0
51 HOLMES	6.9	2.2	4.7	12.0	6.6	5.4
53 HUMPHREYS	2.6	....	2.6	5.2	....	5.2
55 ISSAQUEENA	5.6	....	5.6	21.2	0.2	21.0
57 ITAWAMBA	10.5	5.7	4.8	23.2	11.9	11.3
59 JACKSON	17.6	13.2	4.4	54.5	45.5	9.0
61 JASPER	20.1	15.0	5.1	71.0	59.8	11.2
63 JEFFERSON	12.7	7.7	5.0	49.0	38.5	10.5
65 JEFF DAVIS	7.6	5.4	2.2	19.0	14.8	4.2
67 JONES	16.8	13.6	3.2	74.0	62.7	11.3
69 KEMPER	20.7	13.0	7.7	51.8	39.8	12.0
71 LAFAYETTE	8.6	3.7	4.9	32.1	17.6	14.5
73 LAMAR	7.5	5.8	1.7	42.8	36.6	6.2
75 LAUDERDALE	25.3	17.1	8.2	80.6	64.7	15.9
77 LAWRENCE	11.0	8.4	2.6	37.6	28.6	9.0
79 LEAKE	17.0	11.1	5.9	52.4	40.4	12.0
81 LEE	2.2	0.5	1.7	2.2	1.2	1.0
83 LEFLORE	4.6	....	4.6	8.1	....	8.1
85 LINCOLN	16.2	12.2	4.0	47.0	34.0	13.0
87 LOWNOES	5.3	1.4	3.9	11.1	4.3	6.8
89 MAOISON	9.3	4.8	4.5	22.4	13.4	9.0
91 MARION	8.4	5.1	3.3	30.6	21.8	8.8
93 MARSHALL	6.8	2.2	4.6	15.1	6.0	9.1
95 MONROE	11.4	4.9	6.5	32.8	16.2	16.6
97 MONTGOMERY	7.8	4.8	3.0	21.0	9.9	11.1
99 NESHOBBA	15.5	9.5	6.0	44.1	36.3	7.8
101 NEWTON	14.5	9.8	4.7	43.5	32.0	11.5
103 NOXUBEE	11.4	6.5	4.9	38.8	31.7	7.1
105 OKTIBBEHA	6.7	3.7	3.0	18.9	10.5	8.4
107 PANOLA	4.0	0.4	3.6	5.6	0.1	5.5
109 PEARL RIVER	12.0	9.5	2.5	40.0	34.8	5.2
111 PERRY	14.4	11.8	2.6	66.4	62.3	4.1
113 PIKE	6.6	4.4	2.2	22.7	18.2	4.5
115 PONTOTOC	6.1	2.9	3.2	18.5	12.1	6.4
117 PRENTISS	6.1	3.2	2.9	12.3	5.3	7.0
119 QUITMAN	1.9	....	1.9	1.8	0.1	1.7
121 RANKIN	27.6	18.5	9.1	69.1	51.4	17.7
123 SCOTT	18.5	13.6	4.9	74.9	58.7	16.2
125 SHARKEY	2.8	....	2.8	14.2	0.1	14.1
127 SIMPSON	14.3	9.9	4.4	38.7	26.9	11.8
129 SMITH	23.7	17.3	6.4	95.2	83.7	11.5
131 STONE	11.1	9.1	2.0	49.3	39.9	9.4
133 SUNFLOWER	3.0	0.3	2.7	4.9	2.0	2.9
135 TALLAHATCHIE	7.1	1.3	5.8	17.6	1.5	16.1
137 TATE	5.0	....	5.0	5.4	....	5.4
139 TIPP AH	7.0	2.7	4.3	18.3	6.2	12.1
141 TISHOMINGO	9.9	5.7	4.2	16.3	11.9	4.4
143 TUNICA	2.2	....	2.2	7.3	0.1	7.2
145 UNION	4.9	1.9	3.0	9.4	3.0	6.4
147 WALTHALL	4.8	3.2	1.6	18.2	14.1	4.1
149 WARREN	9.2	0.1	9.1	51.9	0.9	51.0
151 WASHINGTON	2.0	....	2.0	5.2	....	5.2
153 WAYNE	20.0	15.2	4.8	87.2	70.3	16.9
155 WEBSTER	9.0	6.0	3.0	22.8	16.6	6.2
157 WILKINSON	20.4	14.5	5.9	119.0	95.2	23.8
159 WINSTON	14.8	10.6	4.2	40.4	29.8	10.6
161 YALOBUSHA	8.1	4.6	3.5	15.1	6.4	8.7
163 YAZOO	9.8	0.2	9.6	39.0	....	39.0
STATE TOTAL	876.7	531.2	345.5	2818.2	1968.7	849.5

TABLE 4 (1969).—NET GROWTH OF GROWING STOCK AND SAWTIMBER ON COMMERCIAL FOREST LAND

COUNTY	GROWING STOCK			SAWTIMBER		
	TOTAL	PINE	HARDWOOD	TOTAL	PINE	HARDWOOD
	--- MILLION CUBIC FEET ---			--- MILLION BOARD FEET ---		
1 ADAMS	7.5	2.3	5.2	29.4	12.7	16.7
3 ALCORN	4.8	1.6	3.2	14.4	4.7	9.7
5 AMITE	26.5	21.5	5.0	77.4	68.8	8.6
7 ATTALA	18.6	10.7	7.9	44.2	26.9	17.3
9 BENTON	9.8	4.5	5.3	20.6	9.4	11.2
11 BOLIVAR	5.6	0.1	5.5	19.0	0.5	18.5
13 CALHOUN	10.1	8.2	1.9	29.4	26.5	2.9
15 CARROLL	6.6	2.5	4.1	11.0	2.6	8.4
17 CHICKASAW	6.9	2.9	4.0	11.9	6.1	5.8
19 CHOCTAW	10.1	6.4	3.7	24.5	19.7	4.8
21 CLAIBORNE	11.0	4.2	6.8	26.2	12.5	13.7
23 CLARKE	22.6	16.3	6.3	60.2	48.8	11.4
25 CLAY	4.6	0.6	4.0	13.8	3.2	10.6
27 COAHOMA	2.9	0.1	2.8	8.7	0.6	8.1
29 COPIAH	20.6	13.8	6.8	70.0	53.1	16.9
31 COVINGTON	7.6	4.3	3.3	25.3	17.7	7.6
33 DE SOTO	3.3	0.1	3.2	6.4	0.6	5.8
35 FORREST	9.8	9.1	0.7	41.5	40.2	1.3
37 FRANKLIN	28.2	23.2	5.0	120.9	114.6	6.3
39 GEORGE	10.0	7.9	2.1	38.4	31.9	6.5
41 GREENE	15.7	11.5	4.2	44.1	35.0	9.1
43 GRENADA	6.7	2.5	4.2	11.4	4.4	7.0
45 HANCOCK	7.7	6.3	1.4	25.7	24.0	1.7
47 HARRISON	15.7	13.7	2.0	60.1	54.0	6.1
49 HINDS	9.3	4.3	5.0	31.8	13.0	18.8
51 HOLMES	6.6	2.2	4.4	10.6	6.7	3.9
53 HUMPHREYS	2.5	....	2.5	4.8	....	4.8
55 ISSAQUENA	5.4	....	5.4	20.3	0.1	20.2
57 ITAWAMBA	10.9	6.0	4.9	23.5	12.2	11.3
59 JACKSON	17.4	13.1	4.3	53.2	44.8	8.4
61 JASPER	20.2	15.1	5.1	71.5	60.4	11.1
63 JEFFERSON	12.9	7.8	5.1	50.1	39.6	10.5
65 JEFF DAVIS	7.2	5.1	2.1	17.9	13.8	4.1
67 JONES	17.0	13.9	3.1	75.2	64.1	11.1
69 KEMPER	20.6	12.8	7.8	49.1	37.3	11.8
71 LAFAYETTE	8.9	3.8	5.1	33.4	18.3	15.1
73 LAMAR	6.3	4.9	1.4	37.0	31.7	5.3
75 LAUDEKDALE	26.2	17.7	8.5	83.0	66.7	16.3
77 LAWRENCE	11.2	8.6	2.6	38.3	29.2	9.1
79 LEAKE	17.5	11.4	6.1	53.6	41.4	12.2
81 LEE	2.2	0.5	1.7	2.3	1.3	1.0
83 LEFLORE	4.8	....	4.8	8.3	....	8.3
85 LINCOLN	16.6	12.5	4.1	47.2	33.9	13.3
87 LOWNDES	5.4	1.4	4.0	10.9	4.2	6.7
89 MADISON	9.8	5.1	4.7	23.3	14.1	9.2
91 MARION	8.1	4.9	3.2	30.0	21.3	8.7
93 MARSHALL	7.1	2.3	4.8	15.3	6.0	9.3
95 MONROE	11.8	5.1	6.7	34.1	16.9	17.2
97 MONTGOMERY	8.2	5.1	3.1	21.7	10.2	11.5
99 NESHUBA	16.2	10.0	6.2	46.0	38.1	7.9
101 NEWTON	14.6	9.9	4.7	43.7	32.1	11.6
103 NOXUBEE	11.6	6.6	5.0	39.6	32.5	7.1
105 OKTIBBEHA	7.0	3.9	3.1	19.4	10.8	8.6
107 PANOLA	4.0	0.4	3.6	5.3	0.1	5.2
109 PEARL RIVER	10.2	8.0	2.2	32.2	28.1	4.1
111 PERRY	14.5	11.9	2.6	67.6	63.6	4.0
113 PIKE	6.5	4.3	2.2	22.7	18.2	4.5
115 PONTOTOC	6.3	3.1	3.2	19.2	12.9	6.3
117 PRENTISS	6.5	3.5	3.0	12.5	5.4	7.1
119 QUITMAN	1.5	....	1.5	0.6	0.1	0.5
121 RANKIN	28.8	19.5	9.3	70.9	52.8	18.1
123 SCOTT	19.1	14.1	5.0	78.2	61.3	16.9
125 SHARKEY	2.8	....	2.8	14.3	0.1	14.2
127 SIMPSON	14.5	10.1	4.4	38.8	26.8	12.0
129 SMITH	24.6	18.0	6.6	99.4	87.6	11.8
131 STONE	10.8	8.8	2.0	47.8	37.8	10.0
133 SUNFLOWER	3.3	0.3	3.0	5.0	2.0	3.0
135 TALLAHATCHIE	7.0	1.3	5.7	17.2	1.5	15.7
137 TATE	5.3	....	5.3	5.6	....	5.6
139 TIPPAH	7.3	2.8	4.5	19.1	6.3	12.8
141 TISHOMINGO	10.4	6.1	4.3	16.5	12.2	4.3
143 TUNICA	2.1	....	2.1	7.1	0.1	7.0
145 UNION	5.1	2.0	3.1	9.7	3.0	6.7
147 WALTHALL	4.7	3.1	1.6	18.3	14.2	4.1
149 WARREN	9.3	0.1	9.2	53.0	0.9	52.1
151 WASHINGTON	1.8	....	1.8	4.7	....	4.7
153 WAYNE	20.3	15.5	4.8	90.0	72.7	17.3
155 WEBSTER	9.4	6.3	3.1	24.0	17.6	6.4
157 WILKINSON	20.6	14.9	5.7	123.3	99.7	23.6
159 WINSTON	15.2	11.0	4.2	40.6	30.1	10.5
161 YALOBUSHA	8.4	4.8	3.6	15.0	6.4	8.6
163 YAZOO	9.3	0.2	9.1	36.6	....	36.6
STATE TOTAL	886.0	538.4	347.6	2824.8	1980.7	844.1

TABLE 5 (1967).—TOTAL CUT OF GROWING STOCK AND SAWTIMBER ON COMMERCIAL FOREST LAND

COUNTY	GROWING STOCK			SAWTIMBER		
	TOTAL	PINE	HARDWOOD	TOTAL	PINE	HARDWOOD
	--- MILLION CUBIC FEET ---			--- MILLION BOARD FEET ---		
1 ADAMS	8.1	1.9	6.2	35.4	9.6	25.8
3 ALCORN	1.9	0.9	1.0	5.8	2.5	3.3
5 AMITE	11.4	9.0	2.4	45.1	37.8	7.3
7 ATTALA	5.7	2.1	3.6	20.3	8.5	11.8
9 BENTON	5.4	1.0	4.4	23.3	3.4	19.9
11 BULIVAR	4.8	0.2	4.6	12.1	0.7	11.4
13 CALHOUN	7.3	1.9	5.4	29.9	7.5	22.4
15 CARROLL	7.1	1.5	5.6	27.0	7.4	19.6
17 CHICKASAW	3.3	1.8	1.5	11.9	7.0	4.9
19 CHOCTAW	2.2	1.3	0.9	6.2	4.1	2.1
21 CLATBORNE	6.1	0.8	5.3	22.8	3.1	19.7
23 CLARKE	15.1	10.2	4.9	51.4	38.2	13.2
25 CLAY	5.7	1.1	4.6	23.2	3.1	20.1
27 COAHOMA	2.8	0.1	2.7	5.5	0.1	5.4
29 COPIAH	8.6	5.3	3.3	28.8	18.3	10.5
31 COVINGTON	4.7	2.7	2.0	18.1	12.7	5.4
33 DE SOTO	3.3	0.1	3.2	13.3	0.2	13.1
35 FORREST	8.2	6.5	1.7	31.0	26.7	4.3
37 FRANKLIN	10.4	6.3	4.1	44.8	29.9	14.9
39 GEORGE	5.2	3.6	1.6	14.6	11.1	3.5
41 GREENE	11.7	9.6	2.1	43.4	37.9	5.5
43 GRENADA	3.2	0.9	2.3	13.0	3.5	9.5
45 HANCOCK	3.5	3.0	0.5	10.7	9.5	1.2
47 HARRISON	6.0	5.0	1.0	21.7	19.6	2.1
49 HINDS	7.0	2.1	4.9	21.5	6.2	15.3
51 HOLMES	9.8	1.1	8.7	36.3	3.8	32.5
53 HUMPHREYS	5.8	....	5.8	21.1	0.1	21.0
55 ISSAQUENA	11.4	0.2	11.2	43.7	1.1	42.6
57 ITAWAMBA	5.5	2.8	2.7	20.2	10.3	9.9
59 JACKSON	6.8	5.4	1.4	22.9	18.7	4.2
61 JASPER	11.2	8.7	2.5	43.2	35.9	7.3
63 JEFFERSON	9.4	4.7	4.7	34.0	19.2	14.8
65 JEFF DAVIS	3.7	2.1	1.6	13.8	9.5	4.3
67 JONES	9.1	5.7	3.4	36.6	26.7	9.9
69 KEMPER	14.8	10.5	4.3	62.6	49.5	13.1
71 LAFAYETTE	3.8	1.9	1.9	12.2	6.5	5.7
73 LAMAR	7.6	5.4	2.2	28.9	24.0	4.9
75 LAUDERDALE	12.8	9.5	3.3	48.4	39.0	9.4
77 LAWRENCE	4.6	2.4	2.2	18.5	10.4	8.1
79 LEAKE	6.3	3.5	2.8	24.1	16.1	8.0
81 LEE	0.9	0.2	0.7	1.5	0.5	1.0
83 LEFLORE	2.9	0.3	2.6	9.2	1.2	8.0
85 LINCOLN	7.5	4.8	2.7	29.4	20.3	9.1
87 LOWNDES	3.4	1.2	2.2	13.7	5.5	8.2
89 MADISON	2.1	0.7	1.4	5.3	2.2	3.1
91 MARION	6.8	3.5	3.3	21.0	12.3	8.7
93 MARSHALL	3.7	1.2	2.5	12.7	4.4	8.3
95 MONROE	5.4	2.1	3.3	22.4	10.6	11.8
97 MONTGOMERY	3.4	1.0	2.4	9.4	3.5	5.9
99 NESHOMA	4.2	2.7	1.5	18.7	11.2	7.5
101 NEWTON	8.9	6.5	2.4	31.6	25.9	5.7
103 NOXUBEE	7.5	5.6	1.9	29.3	24.1	5.2
105 OKTIBBEHA	4.1	1.2	2.9	11.9	4.5	7.4
107 PANDLA	3.6	0.2	3.4	10.8	0.3	10.5
109 PEARL RIVER	13.1	7.2	5.9	57.3	32.7	24.6
111 PERRY	8.5	7.0	1.5	31.9	28.1	3.8
113 PIKE	5.6	4.1	1.5	19.0	15.1	3.9
115 PONTOTOC	2.1	0.6	1.5	6.3	1.8	4.5
117 PRENTISS	3.3	1.3	2.0	10.6	4.0	6.6
119 QUITMAN	6.2	....	6.2	27.5	....	27.5
121 RANKIN	9.2	5.7	3.5	30.3	22.8	7.5
123 SCOTT	9.9	7.6	2.3	40.3	34.9	5.4
125 SHARKEY	2.0	0.2	1.8	8.5	1.0	7.5
127 SIMPSON	8.4	4.8	3.6	29.2	18.4	10.8
129 SMITH	10.0	7.6	2.4	44.1	38.0	6.1
131 STONE	8.8	7.4	1.4	37.9	35.0	2.9
133 SUNFLOWER	1.2	0.1	1.1	2.2	0.2	2.0
135 TALLAHATCHIE	6.2	0.1	6.1	19.5	0.5	19.0
137 TATE	1.2	0.2	1.0	3.2	0.4	2.8
139 TIPPAH	2.9	1.2	1.7	10.0	3.3	6.7
141 TISHOMINGO	4.1	2.0	2.1	13.3	5.8	7.5
143 TUNICA	3.9	0.1	3.8	16.6	0.1	16.5
145 UNION	1.9	0.8	1.1	6.4	3.1	3.3
147 WALTHALL	3.1	1.9	1.2	9.2	6.3	2.9
149 WARREN	8.4	0.1	8.3	37.0	0.4	36.6
151 WASHINGTON	6.5	0.1	6.4	18.7	0.2	18.5
153 WAYNE	14.8	10.9	3.9	53.0	41.7	11.3
155 WEBSTER	2.7	1.4	1.3	8.9	5.8	3.1
157 WILKINSON	14.2	3.1	11.1	44.8	15.6	29.2
159 WINSTON	7.6	4.5	3.1	29.5	20.1	9.4
161 YALOBUSHA	4.5	1.5	3.0	13.0	4.7	8.3
163 YAZOO	20.1	0.3	19.8	73.0	1.2	71.8
STATE TOTAL	536.1	255.8	280.3	1975.4	1047.1	928.3

TABLE 5 (1968).—TOTAL CUT OF GROWING STOCK AND SAWTIMBER ON COMMERCIAL FOREST LAND

COUNTY	GROWING STOCK			SAWTIMBER		
	TOTAL	PINE	HARDWOOD	TOTAL	PINE	HARDWOOD
	--- MILLION CUBIC FEET ---			--- MILLION BOARD FEET ---		
1 AOAMS	7.0	1.4	5.6	28.4	6.7	21.7
3 ALCORN	2.4	1.4	1.0	7.1	3.9	3.2
5 AMITE	12.8	10.2	2.6	51.1	42.6	8.5
7 ATTALA	8.2	5.0	3.2	29.6	18.6	11.0
9 BENTON	6.8	1.5	5.3	30.0	5.8	24.2
11 BOLIVAR	4.3	0.2	4.1	11.7	0.8	10.9
13 CALHOUN	5.8	1.7	4.1	22.7	6.5	16.2
15 CARROLL	7.9	2.4	5.5	31.9	11.7	20.2
17 CHICKASAW	3.0	1.5	1.5	9.6	4.5	5.1
19 CHOCTAW	3.1	2.1	1.0	9.0	6.4	2.6
21 CLAIBORNE	8.3	2.2	6.1	30.2	6.9	23.3
23 CLARKE	20.3	14.2	6.1	70.8	54.5	16.3
25 CLAY	4.4	0.9	3.5	17.9	2.9	15.0
27 COAHOMA	2.4	0.1	2.3	4.9	0.5	4.4
29 CUIPIAH	10.6	7.8	2.8	36.8	28.3	8.5
31 COVINGTON	6.8	4.5	2.3	23.3	16.9	6.4
33 DE SOTO	2.1	0.1	2.0	7.8	0.5	7.3
35 FORREST	7.6	5.9	1.7	29.7	24.9	4.8
37 FRANKLIN	11.2	7.4	3.8	48.7	34.7	14.0
39 GEORGE	7.7	5.8	1.9	24.6	20.0	4.6
41 GREENE	12.7	9.7	3.0	43.5	36.0	7.5
43 GRENAOA	2.6	0.5	2.1	10.7	1.8	8.9
45 HANCOCK	4.4	3.9	0.5	14.9	14.0	0.9
47 HARRISON	9.2	8.3	0.9	33.2	31.6	1.6
49 HINDS	5.5	1.8	3.7	16.3	5.2	11.1
51 HOLMES	9.4	1.6	7.8	34.1	4.7	29.4
53 HUMPHREYS	5.4	0.2	5.2	19.4	0.7	18.7
55 ISSAQUEUNA	12.3	1.7	10.6	47.9	9.2	38.7
57 ITAKAMBA	4.9	2.2	2.7	17.9	7.9	10.0
59 JACKSON	10.2	8.2	2.0	33.8	28.9	4.9
61 JASPER	15.6	11.4	4.2	57.9	45.5	12.4
63 JEFFERSON	7.2	3.8	3.4	24.2	14.8	9.4
65 JEFF DAVIS	6.9	5.6	1.3	28.3	24.9	3.4
67 JONES	14.5	9.9	4.6	58.1	43.1	15.0
69 KEMPER	19.1	14.7	4.4	85.0	70.2	14.8
71 LAFAYETTE	3.2	1.6	1.6	10.4	5.5	4.9
73 LAMAR	9.3	6.8	2.5	35.3	29.6	5.7
75 LAUDERDALE	12.7	9.4	3.3	46.4	37.8	8.6
77 LAWRENCE	6.0	4.0	2.0	19.9	13.0	6.9
79 LEAKE	8.8	6.8	2.0	33.1	28.7	4.4
81 LEE	1.1	0.3	0.8	2.1	0.6	1.5
83 LEFLORE	2.3	0.3	2.0	6.3	0.8	5.5
85 LINCOLN	11.6	9.0	2.6	43.9	35.6	8.3
87 LOWNOES	3.1	1.3	1.8	11.5	5.2	6.3
89 MADISON	2.7	1.5	1.2	7.3	4.7	2.6
91 MARION	8.0	4.9	3.1	23.8	16.3	7.5
93 MARSHALL	3.7	1.5	2.2	12.8	6.3	6.5
95 MONROE	5.0	2.1	2.9	19.9	10.2	9.7
97 MONTGOMERY	3.9	1.6	2.3	10.3	4.6	5.7
99 NESHOBBA	4.3	2.9	1.4	18.1	10.8	7.3
101 NEWTON	11.0	7.8	3.2	38.1	30.4	7.7
103 NOXUBEE	7.1	4.9	2.2	26.6	20.9	5.7
105 OKTIBBEHA	4.5	1.8	2.7	11.1	5.8	5.3
107 PANOLA	4.3	0.2	4.1	14.0	0.4	13.6
109 PEARL RIVER	10.8	7.7	3.1	40.9	31.5	9.4
111 PERRY	11.4	9.3	2.1	41.6	36.4	5.2
113 PIKE	7.1	5.3	1.8	20.7	15.6	5.1
115 PONTOTOC	1.7	0.6	1.1	4.7	2.0	2.7
117 PRENTISS	2.9	1.2	1.7	9.3	3.9	5.4
119 QUITMAN	6.2	0.1	6.1	27.0	0.3	26.7
121 RANKIN	12.2	8.5	3.7	38.6	31.3	7.3
123 SCOTT	10.4	8.4	2.0	39.7	35.5	4.2
125 SHARKEY	2.3	0.1	2.2	9.3	0.4	8.9
127 SIMPSON	10.3	6.8	3.5	35.9	25.5	10.4
129 SMITH	10.9	8.6	2.3	47.0	41.3	5.7
131 STONE	8.6	6.5	2.1	32.7	28.3	4.4
133 SUNFLOWER	1.2	0.1	1.1	2.1	0.1	2.0
135 TALLAHATCHIE	7.3	0.3	7.0	24.6	1.4	23.2
137 TATE	1.0	0.1	0.9	2.9	0.7	2.2
139 TIPPAAH	3.0	1.7	1.3	9.9	5.1	4.8
141 TISHOMINGO	4.2	2.2	2.0	13.8	7.1	6.7
143 TUNICA	2.5	0.1	2.4	10.7	0.4	10.3
145 UNION	1.6	0.7	0.9	5.2	2.7	2.5
147 WALTHALL	3.9	3.0	0.9	12.9	10.5	2.4
149 WARREN	7.9	0.3	7.6	34.8	1.1	33.7
151 WASHINGTON	6.2	0.1	6.1	17.1	0.3	16.8
153 WAYNE	12.8	8.8	4.0	42.7	31.2	11.5
155 WEBSTER	2.4	1.4	1.0	8.1	5.3	2.8
157 WILKINSON	17.5	6.7	10.8	59.5	32.6	26.9
159 WINSTON	9.2	5.6	3.6	37.6	25.4	12.2
161 YALOBUSHA	5.0	2.1	2.9	13.8	5.8	8.0
163 YAZOO	20.6	0.2	20.4	76.4	0.8	75.6
STATE TOTAL	596.3	325.0	271.3	2161.4	1285.8	875.6

TABLE 5 (1969).—TOTAL CUT OF GROWING STOCK AND SAWTIMBER ON COMMERCIAL FOREST LAND

COUNTY	GROWING STOCK			SAWTIMBER		
	TOTAL	PINE	HAROWOOD	TOTAL	PINE	HARWOOD
	--- MILLION CUBIC FEET ---			--- MILLION BOARD FEET ---		
1 ADAMS	9.5	3.5	6.0	40.5	18.1	22.4
3 ALCORN	2.4	1.4	1.0	7.2	3.7	3.5
5 AMITE	11.9	8.1	3.8	43.3	30.2	13.1
7 ATTALA	12.8	8.2	4.6	47.2	30.6	16.6
9 BENTON	3.5	1.9	1.6	14.0	7.8	6.2
11 BOLIVAR	3.3	0.1	3.2	8.2	0.2	8.0
13 CALHOUN	7.7	2.6	5.1	32.4	11.6	20.8
15 CARROLL	8.2	2.0	6.2	33.5	10.1	23.4
17 CHICKASAW	3.1	1.8	1.3	10.6	6.2	4.4
19 CHOCTAW	4.8	3.0	1.8	14.1	8.7	5.4
21 CLAIBORNE	10.7	2.5	8.2	41.1	8.9	32.2
23 CLARKE	24.3	18.1	6.2	81.5	65.3	16.2
25 CLAY	4.7	1.0	3.7	19.2	3.2	16.0
27 COAHOMA	3.6	0.1	3.5	7.6	0.2	7.4
29 COPIAH	16.8	11.3	5.5	63.9	46.2	17.7
31 COVINGTON	15.6	11.5	4.1	61.9	44.8	17.1
33 DE SOTO	4.5	0.1	4.4	19.0	0.1	18.9
35 FORREST	22.5	19.3	3.2	96.5	83.4	13.1
37 FRANKLIN	12.2	8.3	3.9	52.1	39.1	13.0
39 GEORGE	8.5	7.2	1.3	29.6	26.4	3.2
41 GREENE	16.8	13.7	3.1	62.6	54.9	7.7
43 GRINDA	2.5	0.4	2.1	10.7	1.7	9.0
45 HANCOCK	56.3	40.8	15.5	224.3	164.7	59.6
47 HARRISON	63.5	54.9	8.6	239.4	209.9	29.5
49 HINDS	5.7	2.0	3.7	16.9	5.9	11.0
51 HOLMES	11.5	2.5	9.0	41.2	6.8	34.4
53 HUMPHREYS	4.7	....	4.7	16.1	0.1	16.0
55 ISSAQUEENA	11.2	0.1	11.1	42.5	0.6	41.9
57 ITAWAMBA	6.0	3.2	2.8	22.0	11.8	10.2
59 JACKSON	35.5	21.5	14.0	145.2	83.2	62.0
61 JASPER	18.9	14.6	4.3	71.3	58.6	12.7
63 JEFFERSON	10.2	5.7	4.5	35.8	23.1	12.7
65 JEFF DAVIS	16.9	12.5	4.4	48.5	39.0	9.5
67 JONES	14.1	9.4	4.7	51.5	37.1	14.4
69 KEMPER	21.9	15.7	6.2	93.0	75.8	17.2
71 LAFAYETTE	4.8	2.6	2.2	17.0	9.0	8.0
73 LAMAR	49.5	34.6	14.9	190.1	150.2	39.9
75 LAUDERDALE	14.6	10.7	3.9	53.1	43.1	10.0
77 LAWRENCE	10.5	7.8	2.7	32.8	26.2	6.6
79 LEAKE	10.9	8.3	2.6	38.7	31.6	7.1
81 LEE	1.1	0.3	0.8	2.4	0.8	1.6
83 LEFLORE	2.0	0.3	1.7	6.0	1.0	5.0
85 LINCOLN	12.1	9.0	3.1	44.8	34.9	9.9
87 LOWDES	4.0	1.6	2.4	14.7	5.6	9.1
89 MADISON	4.1	2.0	2.1	11.0	5.9	5.1
91 MARION	15.2	10.5	4.7	60.8	43.6	17.2
93 MARSHALL	3.6	1.4	2.2	12.5	5.7	6.8
95 MONROE	5.4	2.4	3.0	20.8	10.9	9.9
97 MONTGOMERY	5.1	2.8	2.3	12.3	6.8	5.5
99 NESHORA	5.9	4.4	1.5	23.2	15.7	7.5
101 NEWTON	12.6	9.1	3.5	40.8	31.8	9.0
103 NOXUBEE	8.1	5.0	3.1	30.0	20.3	9.7
105 OKTIBBEHA	5.1	2.4	2.7	13.0	7.7	5.3
107 PANOLA	3.1	0.2	2.9	9.2	0.5	8.7
109 PEARL RIVER	72.1	53.0	19.1	299.3	228.8	70.5
111 PERRY	15.0	12.6	2.4	61.5	55.4	6.1
113 PIKE	7.4	5.7	1.7	24.6	20.1	4.5
115 PONTOTOC	4.7	1.6	3.1	19.3	6.8	12.5
117 PRENTISS	3.1	1.3	1.8	10.1	4.6	5.5
119 QUITMAN	5.9	....	5.9	9.3	....	9.3
121 RANKIN	14.8	9.6	5.2	48.9	36.3	12.6
123 SCOTT	11.6	8.8	2.8	42.4	35.1	7.3
125 SHARKEY	3.2	0.2	3.0	12.8	0.8	12.0
127 SIMPSON	11.8	8.4	3.4	42.8	32.9	9.9
129 SMITH	10.8	8.3	2.5	45.2	39.2	6.0
131 STONE	24.8	22.7	2.1	112.4	109.8	2.6
133 SUNFLOWER	1.2	0.2	1.0	1.3	0.3	1.0
135 TALLAHATCHIE	6.7	0.4	6.3	21.3	1.5	19.8
137 TATE	0.8	....	0.8	1.9	0.1	1.8
139 TIPPACH	3.1	1.8	1.3	10.6	5.6	5.0
141 TISHOMINGO	4.9	2.6	2.3	16.9	8.9	8.0
143 TUNICA	3.5	....	3.5	14.9	....	14.9
145 UNION	2.0	0.9	1.1	7.1	3.2	3.9
147 WALTHALL	5.0	4.1	0.9	16.3	14.4	1.9
149 WARREN	9.1	0.5	8.6	41.4	2.5	38.9
151 WASHINGTON	5.9	0.2	5.7	16.7	0.9	15.8
153 WAYNE	15.9	11.9	4.0	55.5	44.9	10.6
155 WEBSTER	3.1	2.3	0.8	8.9	7.0	1.9
157 WILKINSON	20.4	9.1	11.3	70.6	43.6	27.0
159 WINSTON	10.6	6.8	3.8	40.8	27.7	13.1
161 YALOBUSHA	6.7	2.9	3.8	21.5	9.2	12.3
163 YAZOO	21.5	0.2	21.3	78.4	0.4	78.0
STATE TOTAL	969.6	600.5	369.1	3630.3	2409.3	1221.0

TABLE 6 (1969)—GROWTH/CUT RATIOS

COUNTY	GROWING STOCK			SAWTIMBER		
	TOTAL	PINE	HARDWOOD	TOTAL	PINE	HARDWOOD
1 ADAMS	0.788	0.645	0.873	0.726	0.704	0.743
3 ALCORN	2.003	1.179	3.086	2.003	1.287	2.745
5 AMITE	2.233	2.666	1.310	1.790	2.280	0.661
7 ATTALA	1.460	1.309	1.732	0.936	0.879	1.042
9 BENTON	2.760	2.311	3.297	1.465	1.204	1.791
11 BOLIVAR	1.662	0.695	1.700	2.298	2.462	2.294
13 CALHOUN	1.302	3.142	0.371	0.907	2.283	0.140
15 CARROLL	0.814	1.248	0.671	0.328	0.261	0.357
17 CHICKASAW	2.254	1.672	3.014	1.119	0.981	1.316
19 CHOCTAW	2.100	2.115	2.074	1.737	2.258	0.892
21 CLAIBORNE	1.023	1.658	0.825	0.636	1.400	0.425
23 CLARKE	0.928	0.898	1.017	0.738	0.746	0.703
25 CLAY	0.978	0.610	1.077	0.717	0.995	0.661
27 COAHOMA	0.811	1.206	0.802	1.151	3.372	1.097
29 COPIAH	1.226	1.217	1.243	1.097	1.151	0.956
31 COVINGTON	0.491	0.377	0.807	0.408	0.396	0.442
33 OE SOTO	0.741	1.275	0.732	0.338	6.626	0.307
35 FORREST	0.434	0.471	0.209	0.431	0.482	0.102
37 FRANKLIN	2.310	2.780	1.291	2.324	2.934	0.488
39 GEORGE	1.181	1.104	1.599	1.293	1.207	1.991
41 GREENE	0.933	0.837	1.356	0.707	0.639	1.192
43 GRENAOA	2.623	5.998	1.970	1.068	2.589	0.784
45 HANCOCK	0.138	0.155	0.092	0.115	0.146	0.029
47 HARRISON	0.248	0.251	0.234	0.251	0.257	0.207
49 HINDS	1.625	2.134	1.349	1.892	2.222	1.716
51 HOLMES	0.581	0.908	0.492	0.259	0.984	0.114
53 HUMPHREYS	0.526	0.000	0.531	0.297	0.000	0.298
55 ISSAQUEENA	0.479	-0.000	0.484	0.479	0.268	0.482
57 ITAWAMBA	1.835	1.880	1.784	1.067	1.033	1.106
59 JACKSON	0.492	0.610	0.310	0.367	0.539	0.136
61 JASPER	1.069	1.035	1.186	1.003	1.031	0.874
63 JEFFERSON	1.262	1.381	1.114	1.397	1.715	0.822
65 JEFF DAVIS	0.432	0.411	0.489	0.369	0.354	0.427
67 JONES	1.206	1.479	0.660	1.461	1.730	0.771
69 KEMPER	0.940	0.813	1.259	0.528	0.492	0.687
71 LAFAYETTE	1.832	1.460	2.263	1.963	2.034	1.882
73 LAMAR	0.127	0.141	0.093	0.194	0.211	0.132
75 LAUDERDALE	1.788	1.654	2.152	1.562	1.549	1.621
77 LAWRENCE	1.059	1.100	0.940	1.168	1.116	1.375
79 LEAKE	1.613	1.375	2.379	1.385	1.309	1.724
81 LEF	2.052	1.680	2.206	0.947	1.607	0.610
83 LEFLORE	2.375	0.000	2.762	1.380	0.000	1.643
85 LINCOLN	1.369	1.384	1.326	1.050	0.969	1.336
87 LOWNDES	1.361	0.870	1.684	0.748	0.759	0.741
89 MADISON	2.431	2.616	2.258	2.122	2.375	1.825
91 MARION	0.538	0.472	0.687	0.494	0.490	0.505
93 MARSHALL	1.982	1.656	2.190	1.218	1.049	1.359
95 MONROE	2.165	2.103	2.216	1.640	1.546	1.743
97 MONTGOMERY	1.600	1.800	1.353	1.768	1.508	2.089
99 NESHUBA	2.731	2.271	4.047	1.978	2.418	1.051
101 NEWTON	1.167	1.095	1.355	1.074	1.010	1.259
103 NOXUBEE	1.418	1.311	1.590	1.319	1.599	0.733
105 OKTIBBEHA	1.374	1.641	1.138	1.493	1.410	1.615
107 PANOLA	1.283	1.772	1.244	0.575	0.151	0.599
109 PEARL RIVER	0.141	0.150	0.115	0.108	0.123	0.058
111 PERRY	0.968	0.944	1.090	1.099	1.146	0.668
113 PIKE	0.863	0.741	1.265	0.924	0.908	0.995
115 PONTOTOC	1.330	1.902	1.034	0.993	1.883	0.506
117 PRENTISS	2.113	2.662	1.706	1.235	1.179	1.282
119 QUITMAN	0.260	-0.000	0.262	0.064	1.862	0.056
121 RANKIN	1.947	2.022	1.806	1.449	1.456	1.432
123 SCOTT	1.647	1.599	1.796	1.841	1.743	2.306
125 SHARKEY	0.900	-0.000	0.947	1.119	0.080	1.185
127 SIMPSON	1.233	1.212	1.285	0.904	0.812	1.212
129 SMITH	2.275	2.174	2.606	2.199	2.235	1.962
131 STONE	0.433	0.386	0.940	0.425	0.345	0.809
133 SUNFLOWER	2.928	2.016	3.071	3.859	8.100	2.844
135 TALLAHATCHIE	1.053	3.770	0.902	0.805	1.003	0.789
137 TATE	6.433	-0.000	6.600	2.895	-0.000	3.127
139 TIPPAAH	2.370	1.564	3.449	1.796	1.115	2.563
141 TISHOMINGO	2.122	2.327	1.889	0.978	1.372	0.539
143 TUNICA	0.608	-0.000	0.616	0.474	2.452	0.469
145 UNION	2.484	2.172	2.734	1.371	0.945	1.726
147 WALTHALL	0.943	0.757	1.810	1.123	0.986	2.175
149 WARREN	1.016	0.174	1.067	1.277	0.345	1.338
151 WASHINGTON	0.294	0.000	0.306	0.280	0.000	0.296
153 WAYNE	1.277	1.300	1.207	1.622	1.619	1.638
155 WEBSTER	3.074	2.790	3.990	2.693	2.522	3.318
157 WILKINSON	1.007	1.635	0.501	1.747	2.285	0.876
159 WINSTON	1.436	1.624	1.101	0.995	1.089	0.797
161 YALOBUSHA	1.242	1.617	0.947	0.698	0.697	0.699
163 YAZOO	0.430	1.018	0.425	0.467	0.000	0.469
STATE TOTAL	0.914	0.897	0.942	0.778	0.822	0.691

TABLE 7 (1970).— INVENTORY VOLUME IN YEAR OF UPDATING INVENTORY VOLUME PRECEDING YEAR

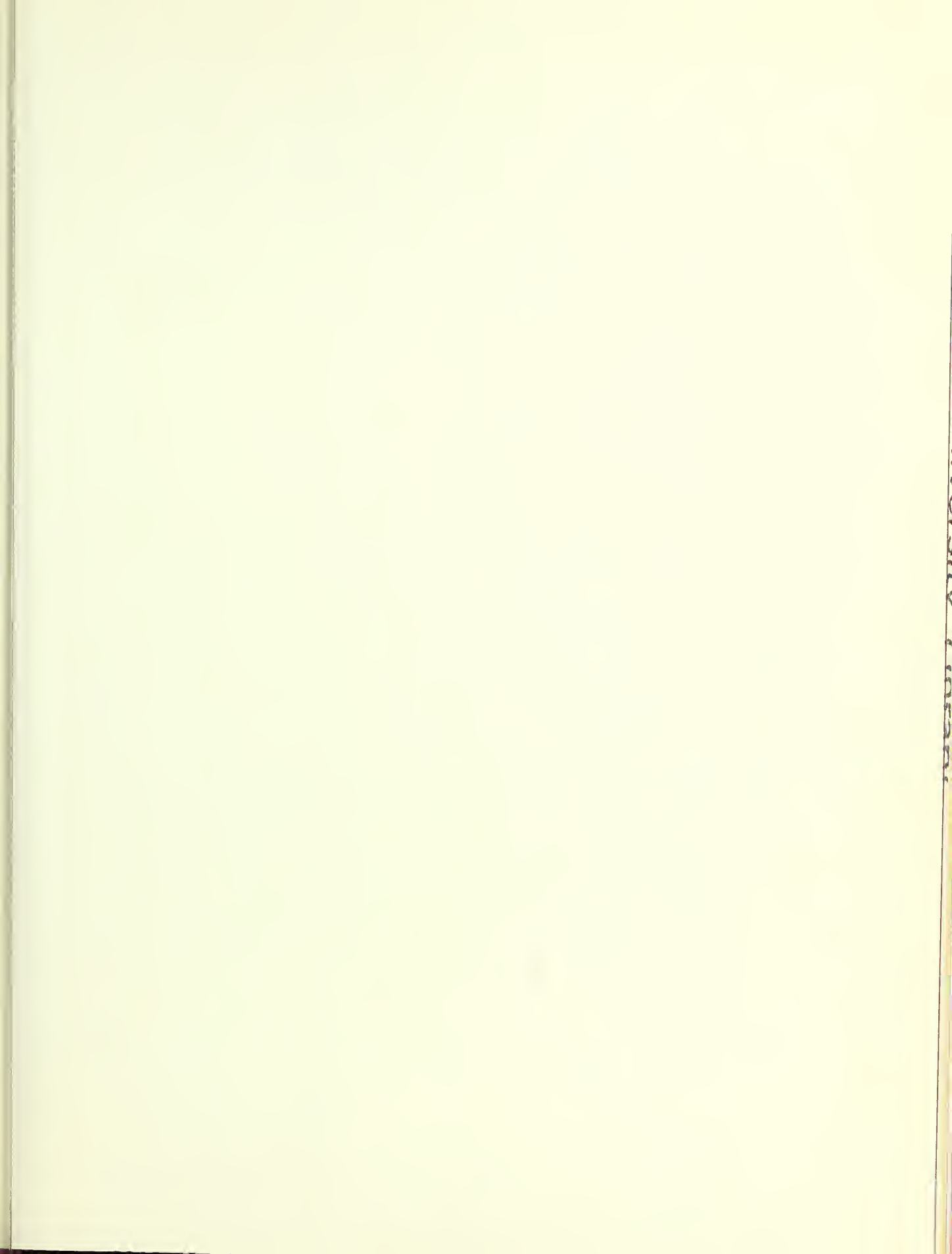
COUNTY	GROWING STOCK			SAW TIMBER		
	TOTAL	PINE	HARDWOOD	TOTAL	PINE	HARDWOOD
1 ADAMS	0.987	0.973	0.993	0.980	0.978	0.982
3 ALCURN	1.034	1.013	1.042	1.047	1.024	1.056
5 AMITE	1.044	1.058	1.012	1.031	1.045	0.982
7 ATTALA	1.025	1.022	1.027	0.995	0.989	1.003
9 BENTON	1.041	1.056	1.035	1.017	1.011	1.020
11 BULLIAP	1.022	0.938	1.023	1.030	1.012	1.031
13 CALHOUN	1.015	1.050	0.922	0.992	1.044	0.656
15 CARROLL	0.986	1.023	0.976	0.917	0.735	0.938
17 CHICKASAW	1.043	1.041	1.044	1.006	0.999	1.011
19 CHOCTAW	1.040	1.045	1.034	1.031	1.043	0.993
21 CLAIBORNE	1.001	1.036	0.991	0.974	1.021	0.956
23 CLARKE	0.995	0.991	1.001	0.978	0.977	0.981
25 CLAY	0.999	0.955	1.004	0.978	1.000	0.974
27 COAHOMA	0.988	1.003	0.987	1.006	1.015	1.004
29 COPIAH	1.011	1.013	1.009	1.005	1.009	0.998
31 COVINGTON	0.944	0.886	0.990	0.924	0.901	0.954
33 CE SOTO	0.982	1.008	0.981	0.923	1.040	0.913
35 FORREST	0.912	0.919	0.862	0.892	0.906	0.764
37 FRANKLIN	1.039	1.045	1.014	1.037	1.046	0.969
39 GEORGE	1.010	1.007	1.015	1.015	1.013	1.021
41 GREENE	0.995	0.986	1.013	0.978	0.969	1.007
43 GRENADA	1.042	1.079	1.029	1.003	1.044	0.990
45 HANCOCK	0.672	0.685	0.632	0.614	0.661	0.414
47 HARRISON	0.820	0.812	0.857	0.796	0.798	0.785
49 HINDS	1.029	1.053	1.016	1.048	1.048	1.048
51 HOLMES	0.940	0.991	0.917	0.816	0.999	0.662
53 HUMPHREYS	0.586	0.000	0.946	0.585	0.000	0.916
55 ISSAQUENA	0.953	0.881	0.953	0.956	0.963	0.956
57 ITAWAMBA	1.034	1.052	1.023	1.005	1.004	1.005
59 JACKSON	0.945	0.955	0.932	0.913	0.943	0.860
61 JASPER	1.004	1.003	1.008	1.000	1.002	0.992
63 JEFFERSON	1.012	1.016	1.006	1.014	1.022	0.991
65 JEFF DAVIS	0.909	0.891	0.941	0.909	0.901	0.933
67 JONES	1.010	1.021	0.977	1.019	1.026	0.964
69 KEMPER	0.996	0.982	1.012	0.942	0.927	0.976
71 LAFAYETTE	1.026	1.019	1.032	1.034	1.034	1.034
73 LAMAR	0.673	0.691	0.623	0.714	0.717	0.702
75 LAUDERDALE	1.031	1.030	1.031	1.026	1.028	1.021
77 LAWRENCE	1.004	1.007	0.997	1.010	1.007	1.016
79 LEAKE	1.027	1.023	1.032	1.020	1.021	1.017
81 LEE	1.046	1.047	1.046	0.997	1.043	0.981
83 LEFLORE	0.972	0.000	1.056	0.927	0.000	1.032
85 LINCOLN	1.021	1.026	1.012	1.003	0.998	1.013
87 LOWNDES	1.019	0.990	1.029	0.975	0.982	0.967
89 MADISON	1.044	1.064	1.032	1.036	1.048	1.024
91 MARION	0.952	0.930	0.978	0.945	0.938	0.957
93 MARSHALL	1.032	1.031	1.032	1.012	1.004	1.016
95 MONROE	1.036	1.049	1.030	1.038	1.041	1.037
97 MONTGOMERY	1.026	1.039	1.013	1.028	1.022	1.033
99 NESHOBAY	1.046	1.046	1.046	1.031	1.044	1.002
101 NEWTON	1.010	1.008	1.011	1.004	1.001	1.009
103 NOXUBEE	1.017	1.017	1.017	1.015	1.029	0.989
105 OKTIBBEHA	1.018	1.036	1.006	1.021	1.023	1.019
107 PANOLA	1.013	1.051	1.011	0.964	0.842	0.967
109 PEARL RIVER	0.702	0.667	0.767	0.607	0.611	0.593
111 PERRY	0.998	0.996	1.003	1.006	1.009	0.987
113 PIKE	0.990	0.970	1.009	0.995	0.990	1.000
115 PONTOTOC	1.017	1.036	1.002	0.999	1.044	0.924
117 PRENTISS	1.042	1.070	1.025	1.015	1.013	1.015
119 QUITMAN	0.775	0.865	0.773	0.313	1.035	0.244
121 RANKIN	1.039	1.050	1.026	1.020	1.025	1.013
123 SCOTT	1.030	1.034	1.024	1.043	1.046	1.037
125 SHARKEY	0.996	0.200	0.998	1.004	0.752	1.006
127 SIMPSON	1.015	1.017	1.012	0.992	0.981	1.012
129 SMITH	1.040	1.042	1.037	1.044	1.048	1.026
131 STONE	0.926	0.906	0.997	0.908	0.878	1.066
133 SUNFLOWER	1.061	1.015	1.079	1.028	1.027	1.030
135 TALLAHATCHIE	1.003	1.053	0.993	0.982	1.000	0.979
137 TATE	1.068	0.200	1.068	1.034	0.200	1.035
139 TIPPAH	1.044	1.034	1.049	1.047	1.012	1.063
141 TISHOMINGO	1.043	1.055	1.031	0.999	1.019	0.968
143 TUNICA	0.970	0.932	0.971	0.958	1.012	0.957
145 UNION	1.047	1.060	1.042	1.023	0.994	1.034
147 WALTHALL	0.997	0.978	1.012	1.005	0.999	1.010
149 WARREN	1.001	0.885	1.003	1.016	0.932	1.018
151 WASHINGTON	0.788	0.000	0.878	0.723	0.000	0.892
153 WAYNE	1.013	1.016	1.007	1.027	1.028	1.024
155 WEBSTER	1.046	1.056	1.035	1.043	1.056	1.028
157 WILKINSON	1.000	1.024	0.954	1.031	1.044	0.992
159 WINSTON	1.023	1.036	1.004	1.000	1.006	0.988
161 YALDBUSHA	1.016	1.037	0.996	0.974	0.977	0.972
163 YAZOO	0.936	1.001	0.935	0.776	0.000	0.931
STATE TOTAL	0.994	0.991	0.997	0.982	0.984	0.977

TABLE 8 (1969).—RATIO OF PULPWOOD CUT/TOTAL INDUSTRIAL CUT

COUNTY	GROWING STOCK			SAWTIMBER		
	TOTAL	PINE	HARDWOOD	TOTAL	PINE	HARDWOOD
1 ADAMS	0.275	0.150	0.357	0.144	0.078	0.201
3 ALCORN	0.671	0.991	0.075	0.534	0.982	0.036
5 AMITE	0.534	0.625	0.394	0.363	0.448	0.159
7 ATTALA	0.545	0.633	0.368	0.372	0.455	0.209
9 BENTON	0.377	0.520	0.185	0.235	0.344	0.095
11 BOLIVAR	0.625	0.054	0.629	0.430	0.027	0.435
13 CALHOUN	0.177	0.366	0.067	0.100	0.218	0.032
15 CARROLL	0.150	0.197	0.113	0.079	0.106	0.055
17 CHICKASAW	0.480	0.681	0.141	0.335	0.508	0.076
19 CHOCTAW	0.800	0.930	0.546	0.675	0.866	0.356
21 CLAIBORNE	0.402	0.709	0.305	0.247	0.541	0.166
23 CLARKE	0.694	0.680	0.747	0.518	0.506	0.572
25 CLAY	0.192	0.779	0.027	0.116	0.630	0.013
27 COAHOMA	0.630	-0.000	0.633	0.439	-0.000	0.450
29 COPIAH	0.500	0.494	0.514	0.324	0.324	0.324
31 COVINGTON	0.677	0.704	0.574	0.504	0.535	0.379
33 DE SOTO	0.000	-0.000	0.000	0.000	-0.000	0.000
35 FORREST	0.518	0.516	0.531	0.357	0.359	0.341
37 FRANKLIN	0.332	0.296	0.420	0.189	0.170	0.247
39 GEORGE	0.727	0.726	0.733	0.568	0.568	0.566
41 GREENE	0.591	0.537	0.846	0.404	0.361	0.716
43 GREENADA	0.103	0.424	0.036	0.056	0.262	0.018
45 HANCOCK	0.793	0.800	0.666	0.652	0.662	0.474
47 HARRISON	0.676	0.673	0.730	0.510	0.509	0.551
49 HINDS	0.541	0.694	0.436	0.389	0.617	0.260
51 HOLMES	0.498	0.953	0.319	0.335	0.907	0.175
53 HUMPHREYS	0.279	-0.000	0.280	0.149	-0.000	0.150
55 ISSAQUENA	0.203	-0.000	0.211	0.103	-0.000	0.108
57 ITAWAMBA	0.409	0.643	0.029	0.266	0.465	0.013
59 JACKSON	0.693	0.696	0.667	0.523	0.528	0.460
61 JASPER	0.553	0.539	0.604	0.369	0.361	0.410
63 JEFFERSON	0.533	0.515	0.559	0.349	0.340	0.365
65 JEFF DAVIS	0.588	0.594	0.519	0.413	0.420	0.328
67 JONES	0.553	0.553	0.551	0.371	0.375	0.359
69 KEMPER	0.325	0.225	0.623	0.180	0.125	0.429
71 LAFAYETTE	0.380	0.458	0.268	0.259	0.350	0.144
73 LAMAR	0.300	0.273	0.568	0.172	0.157	0.373
75 LAUDERDALE	0.585	0.530	0.754	0.397	0.352	0.597
77 LAWRENCE	0.675	0.768	0.184	0.513	0.615	0.093
79 LEAKE	0.587	0.604	0.510	0.408	0.426	0.323
81 LEF	0.506	0.936	0.041	0.359	0.876	0.019
83 LEFLORE	0.296	0.500	0.258	0.174	0.325	0.144
85 LINCOLN	0.553	0.579	0.462	0.375	0.400	0.280
87 LOWNOES	0.324	0.659	0.051	0.202	0.483	0.024
89 MADISON	0.769	0.856	0.658	0.623	0.741	0.470
91 MARION	0.684	0.695	0.641	0.511	0.525	0.448
93 MARSHALL	0.276	0.454	0.115	0.167	0.286	0.059
95 MONROE	0.231	0.339	0.105	0.131	0.198	0.051
97 MONTGOMERY	0.567	0.701	0.279	0.503	0.780	0.150
99 NE SHOBA	0.695	0.682	0.746	0.432	0.510	0.259
101 NEWTON	0.720	0.710	0.753	0.550	0.542	0.582
103 NOXUBEE	0.486	0.517	0.426	0.314	0.341	0.255
105 OKTIBBEHA	0.645	0.791	0.375	0.484	0.647	0.219
107 PANOLA	0.498	1.000	0.466	0.315	1.000	0.283
109 PEARL RIVER	0.522	0.528	0.497	0.346	0.353	0.309
111 PERRY	0.596	0.562	0.795	0.416	0.389	0.639
113 PIKE	0.696	0.694	0.707	0.517	0.530	0.456
115 PONTOTOC	0.180	0.425	0.035	0.105	0.263	0.017
117 PRENTISS	0.460	0.674	0.047	0.270	0.500	0.016
119 QUITMAN	0.000	1.000	-0.000	0.000	1.000	-0.000
121 RANKIN	0.611	0.606	0.625	0.431	0.431	0.433
123 SCOTT	0.532	0.541	0.494	0.361	0.362	0.357
125 SHARKEY	0.215	0.454	0.200	0.112	0.286	0.102
127 SIMPSON	0.544	0.560	0.483	0.365	0.381	0.297
129 SMITH	0.352	0.280	0.693	0.199	0.158	0.511
131 STONE	0.528	0.514	0.708	0.362	0.353	0.537
133 SUNFLOWER	0.667	0.869	0.566	0.496	0.762	0.374
135 TALLAHATCHIE	0.074	0.202	0.056	0.038	0.109	0.027
137 TATE	0.544	0.745	0.467	0.368	0.585	0.289
139 TIPPAH	0.513	0.804	0.011	0.362	0.665	0.005
141 TISHOMINGO	0.569	0.740	0.338	0.402	0.579	0.190
143 TUNICA	0.088	0.000	0.088	0.043	0.000	0.043
145 UNION	0.419	0.680	0.138	0.274	0.506	0.069
147 WALTHALL	0.715	0.715	0.716	0.548	0.550	0.534
149 WARREN	0.115	0.096	0.116	0.056	0.049	0.056
151 WASHINGTON	0.475	0.136	0.523	0.285	0.070	0.331
153 WAYNE	0.657	0.623	0.766	0.473	0.444	0.600
155 WEBSTER	0.791	0.858	0.495	0.664	0.744	0.331
157 WILKINSON	0.277	0.264	0.297	0.153	0.148	0.163
159 WINSTON	0.433	0.513	0.247	0.276	0.337	0.134
161 YALOBUSHA	0.585	0.846	0.286	0.421	0.726	0.154
163 YAZOO	0.200	0.791	0.191	0.103	0.646	0.097
STATE TOTAL	0.509	0.565	0.391	0.338	0.390	0.226

TABLE 9 (1970).—INVENTORY VOLUME IN YEAR OF UPDATING /INVENTORY VOLUME IN SURVEY YEAR (1967)

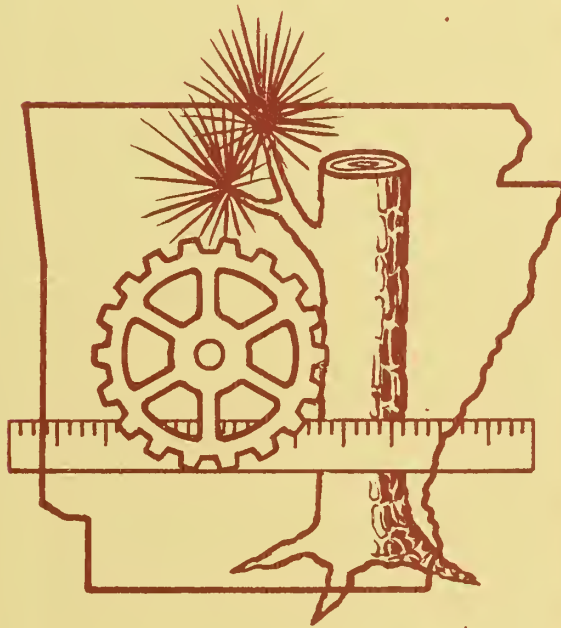
COUNTY	GROWING STOCK			SAWTIMBER		
	TOTAL	PINE	HAROWOOD	TOTAL	PINE	HAROWOOD
1 ADAMS	0.986	0.999	0.981	0.973	1.015	0.943
3 ALCORN	1.112	1.060	1.131	1.152	1.090	1.178
5 AMITE	1.131	1.161	1.062	1.082	1.109	0.988
7 ATTALA	1.127	1.157	1.101	1.063	1.071	1.052
9 BENTON	1.086	1.205	1.041	0.986	1.078	0.940
11 BOLIVAR	1.039	0.911	1.044	1.067	0.990	1.073
13 CALHOUN	1.058	1.170	0.817	1.006	1.163	0.418
15 CARROLL	0.972	1.073	0.948	0.817	0.521	0.862
17 CHICKASAW	1.130	1.129	1.130	1.016	1.005	1.023
19 CHOCTAW	1.159	1.178	1.134	1.134	1.163	1.052
21 CLAIBORNE	1.038	1.160	1.005	0.973	1.113	0.924
23 CLARKE	1.024	1.031	1.014	0.978	0.985	0.958
25 CLAY	0.987	0.882	1.001	0.931	1.009	0.918
27 COAHOMA	0.998	1.004	0.998	1.040	1.040	1.040
29 COPIAH	1.075	1.088	1.059	1.067	1.085	1.034
31 COVINGTON	0.973	0.914	1.020	0.945	0.925	0.970
33 DE SOTO	1.000	0.990	1.000	0.883	1.082	0.867
35 FORREST	0.939	0.965	0.781	0.936	0.969	0.683
37 FRANKLIN	1.124	1.148	1.037	1.117	1.149	0.902
39 GEORGE	1.055	1.069	1.029	1.081	1.092	1.052
41 GREENE	1.024	1.009	1.054	0.981	0.965	1.033
43 GRENADA	1.119	1.222	1.084	0.999	1.098	0.969
45 HANCOCK	0.720	0.737	0.674	0.658	0.717	0.425
47 HARRISON	0.881	0.876	0.903	0.869	0.871	0.859
49 HINDS	1.075	1.161	1.032	1.127	1.146	1.111
51 HOLMES	0.884	1.059	0.818	0.641	1.062	0.426
53 HUMPHREYS	0.834	0.000	0.834	0.755	0.000	0.755
55 ISSAQUENA	0.866	0.293	0.878	0.872	0.507	0.886
57 ITAWAMBA	1.110	1.183	1.071	1.032	1.056	1.019
59 JACKSON	0.999	1.023	0.969	0.959	1.006	0.880
61 JASPER	1.049	1.054	1.041	1.042	1.052	1.004
63 JEFFERSON	1.050	1.067	1.025	1.056	1.083	0.978
65 JEFF DAVIS	0.949	0.932	0.978	0.898	0.884	0.942
67 JONES	1.045	1.077	0.955	1.063	1.082	0.974
69 KEMPER	1.020	0.987	1.063	0.892	0.864	0.960
71 LAEAYETTE	1.098	1.083	1.109	1.127	1.126	1.129
73 LAMAR	0.663	0.687	0.602	0.742	0.751	0.712
75 LAUDERDALE	1.101	1.101	1.101	1.087	1.094	1.070
77 LAWRENCE	1.074	1.109	1.013	1.075	1.092	1.034
79 LEAKE	1.108	1.116	1.098	1.085	1.105	1.057
81 LEE	1.152	1.179	1.146	1.013	1.169	0.964
83 LEFLORE	1.149	0.000	1.149	1.057	0.000	1.057
85 LINCOLN	1.085	1.110	1.046	1.033	1.024	1.049
87 LOWNOES	1.072	0.998	1.100	0.955	0.956	0.955
89 MADISON	1.164	1.243	1.120	1.138	1.183	1.097
91 MARION	0.965	0.952	0.979	0.973	0.978	0.964
93 MARSHALL	1.092	1.096	1.091	1.032	1.021	1.000
95 MONROE	1.111	1.160	1.089	1.110	1.126	1.098
97 MONTGOMERY	1.100	1.176	1.036	1.099	1.103	1.096
99 NESHOBIA	1.157	1.169	1.143	1.106	1.157	1.005
101 NEWTON	1.051	1.056	1.047	1.030	1.022	1.040
103 NOXUBEE	1.058	1.044	1.070	1.049	1.074	1.003
105 OKTIBBEHA	1.065	1.154	1.013	1.070	1.106	1.043
107 PANOLA	1.015	1.188	1.007	0.857	0.698	0.861
109 PEARL RIVER	0.702	0.687	0.727	0.591	0.617	0.519
111 PERRY	1.032	1.034	1.026	1.065	1.081	0.982
113 PIKE	0.994	0.957	1.030	1.010	1.019	1.000
115 PONTOTOC	1.117	1.167	1.079	1.129	1.219	0.991
117 PRENTISS	1.124	1.217	1.070	1.044	1.060	1.035
119 QUITMAN	0.546	0.605	0.545	0.064	0.873	0.047
121 RANKIN	1.143	1.180	1.099	1.088	1.102	1.066
123 SCOTT	1.102	1.109	1.089	1.134	1.135	1.133
125 SHARKEY	1.012	0.078	1.018	1.032	0.530	1.037
127 SIMPSON	1.070	1.101	1.032	1.016	1.011	1.027
129 SMITH	1.124	1.128	1.115	1.132	1.145	1.079
131 STONE	0.949	0.933	1.008	0.944	0.902	1.182
133 SUNFLOWER	1.175	1.052	1.230	1.072	1.086	1.059
135 TALLAHATCHIE	1.007	1.181	0.976	0.946	1.049	0.935
137 TATE	1.203	0.017	1.209	1.079	0.028	1.092
139 TIPPAAH	1.138	1.126	1.143	1.150	1.088	1.178
141 TISHOMINGO	1.140	1.185	1.100	1.017	1.085	0.924
143 TUNICA	0.930	0.724	0.934	0.897	0.940	0.896
145 UNION	1.154	1.206	1.135	1.092	1.005	1.124
147 WALTHALL	1.020	1.008	1.029	1.039	1.057	1.024
149 WARREN	1.011	0.844	1.015	1.060	0.947	1.064
151 WASHINGTON	0.699	0.000	0.699	0.723	0.000	0.723
153 WAYNE	1.048	1.063	1.021	1.092	1.099	1.065
155 WEBSTER	1.150	1.201	1.096	1.132	1.188	1.071
157 WILKINSON	1.025	1.108	0.884	1.115	1.168	0.973
159 WINSTON	1.087	1.139	1.023	1.022	1.043	0.986
161 YALOBUSHA	1.084	1.160	1.018	0.987	0.996	0.980
163 YAZOO	0.844	0.936	0.843	0.838	0.000	0.838
STATE TOTAL	1.040	1.061	1.018	1.015	1.044	0.971





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Forest Service, U.S. Department of Agriculture

RESOURCE BULLETIN SO-24

1970

Acknowledgments

Generous assistance from public and private organizations made it possible to keep the field work for the latest forest inventory of Arkansas ahead of the schedule that could have been maintained with regularly allotted funds. The very material aid of the organizations listed below, and of the individuals in them, is gratefully acknowledged:

ARKANSAS STATE FORESTRY COMMISSION

ARKANSAS KRAFT CO.

DELTIC FARM & TIMBER CO., INC.

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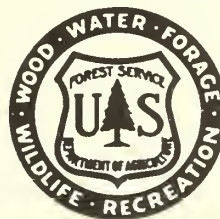
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ARKANSAS FOREST RESOURCE PATTERNS

Charles C. Van Sickle

U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE



SOUTHERN FOREST EXPERIMENT STATION
New Orleans, Louisiana

1970

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The Resource in Perspective

A new forest survey of Arkansas reveals that forests cover 55 percent of the land in the State. In all, 18.2 million acres are available for and capable of growing industrial timber.

Substantial change has occurred in the timber resource. In the 10 years preceding the new survey, forest area declined by one-eighth. Clearing for cropland and pasture claimed more than 2 million acres. Another one-half million acres were yielded to urban and other uses.

The impact of clearing was heaviest on the hardwood resource, and especially on forests in the highly productive bottom lands of the Mississippi Delta. Clearing there reached a peak in the mid-1960's as soybeans were planted on more and more acres. A considerable area was also cleared for pasture on the Ozark Plateau.

Despite the loss of forest acreage, the total volume of timber increased slightly. Softwood growing stock volume rose 16 percent while hardwood fell 7 percent. There are now 6.4 billion cubic feet of softwood and 8.8 billion cubic feet of hardwood growing stock. In both species groups, the stand structure shifted to smaller trees, but the change was most noticeable for hardwoods. Hardwood harvesting is concentrated on large trees.

Forest industries in Arkansas used 42 percent more roundwood in 1968 than they did a decade ago. Saw logs and pulpwood were the leading commodities with veneer logs third. Miscellaneous items such as poles, posts, piling, and cooperage made up 6 percent. Softwood, mainly pine, accounted for two-thirds of the harvest.

Total removals of growing stock—including trees cut for nonindustrial purposes such as fuelwood together with unsalvaged growing stock removed in land clearing—were slightly higher for hardwoods than for softwoods. In the 10-year span, more hardwood timber was burned or otherwise disposed of than was used for products.

Nevertheless, in 1968 growth exceeded removals for both hardwoods and softwoods. It now appears that both species groups are making moderate gains. Stocking has improved considerably. Statewide, growing stock now averages 840 cubic feet per acre, as compared to 720 cubic feet in 1959. Moreover, only about 10 percent of the forest land can be considered seriously understocked.

There still are numerous opportunities for future improvement. At present, oak-pine and oak-hickory types occupy 8 million acres of land better suited to growing pines than hardwoods. Conversion to pure pine would considerably increase the productivity of these acres. Another ever-present problem is the high proportion of cull trees, mainly hardwoods.

These are, in brief, the findings of the new survey. The following pages analyze current resource patterns and trends indicated by earlier surveys. Those who wish to study the resource in detail will find help in the references cited. Work on the new survey began late in 1967, and the last sample plot was measured in April 1970. In this report, 1969 is taken as the nominal date of the resource information. Estimates of growth, cut, and industrial output are from 1968.

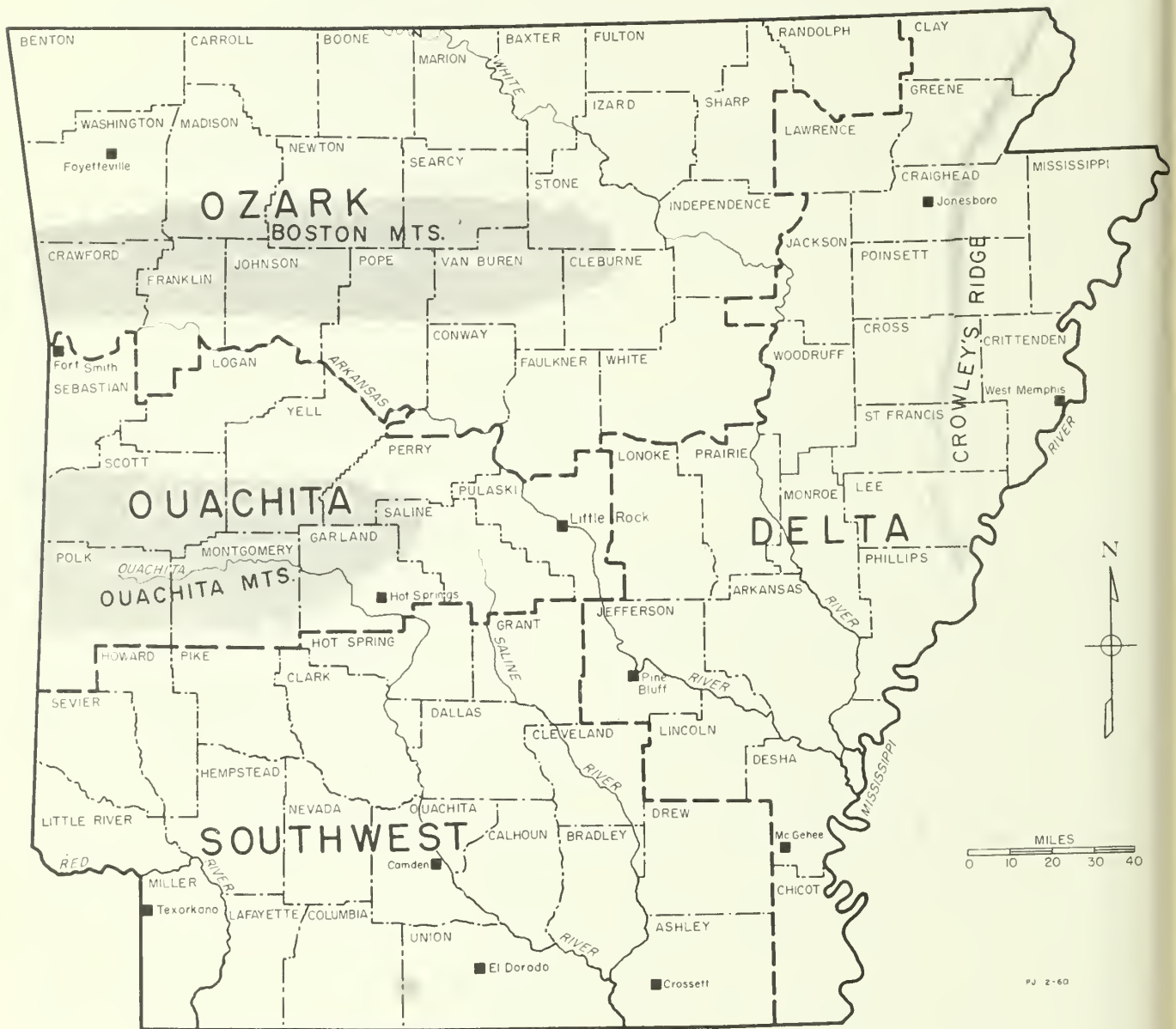


Figure 1. Forest Survey regions in Arkansas.

Changing Resource Patterns

Forests occupy 18.3 million acres or 55 percent of the land in Arkansas. This is 12 percent less than was reported by the previous survey 10 years earlier (Sternitzke 1960). The reduction was widespread. Only six of Arkansas' 75 counties have more forest today than they did in 1959.

Almost all of the forest land is classed as commercial—both available for, and capable of, growing crops of industrial wood. About 71,000 acres are not, mainly because they are in public holdings withheld from timber harvesting.

Agriculture is continually vying with forest use for occupancy of the land. At the time of the 1959 survey, forest area had been gaining, a trend that probably began in the 1930's. This time, losses were recorded in each of the State's survey regions (table I). The decline in the Delta was no surprise, since farms had been displacing prime hardwood lands there for decades. In the past, reversions in the western part of the State had partly offset the loss, but in the early 1960's Delta clearing accelerated as soybeans were planted on more and more acres (Sternitzke and Christopher 1970). Large acreages were also cleared in the uplands of both mountain regions and the southwestern Coastal Plain, primarily for pasture.

Table I.—Commercial forest land in 1969 and change since 1959

Survey region	Commercial forest	Change since last survey	Proportion of region forested ¹
	Thousand acres	Percent	Percent
Delta	1,975.0	- 39	21
Southwest	6,645.1	- 5	75
Ouachita	3,319.1	- 7	70
Ozark	6,267.5	- 10	60
All regions	18,206.7	- 12	55

¹Total forest including noncommercial as a proportion of total area in the region.

There was also a discernible shift to nonagricultural uses. The change was concentrated in the counties surrounding Little Rock and Hot Springs and obviously represents urban expan-

sion. Elsewhere, clearing was undertaken for projects such as pipelines, highways, reservoirs, and mines.

The impact of clearing is more pronounced than might be implied by the net change shown in table I. Most of the cleared acres had manageable stands of young growing stock. Reversion acres, unless planted promptly, may remain idle for years. Moreover, the land chosen for farming is usually better suited to tree-growing than are the reverted lands.

Hardwood Lands Suffer Heavy Losses

Forest lands in Arkansas may be separated into essentially three site classes—pine, upland hardwood, and bottom-land hardwood. These site classes indicate the suitability of the land for growing each kind of forest. They do not necessarily describe the forest types actually present. As figure 2 shows, hardwood types occupy a considerable proportion of pine sites.

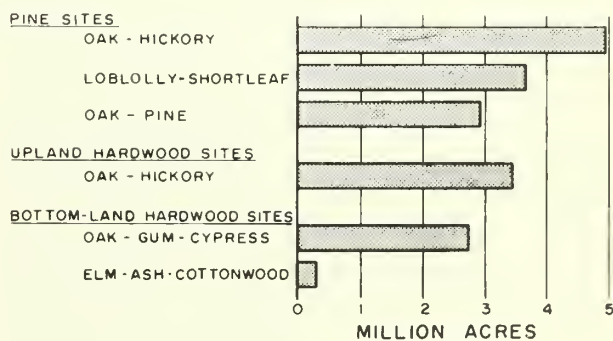


Figure 2. Area by forest types and sites.

The distribution of pine and hardwoods is often a product of circumstance rather than site, and thus oak-hickory and oak-pine types are constantly in flux. Disturbances such as cutting, timber stand improvement, or fire may change species composition. Analysis of changes in forest type between surveys is complicated by changes in the classification standards. Since basic site suitabilities are not affected by stand disturbances or type definitions they provide a better basis for analyzing shifts in forest land (fig. 3).

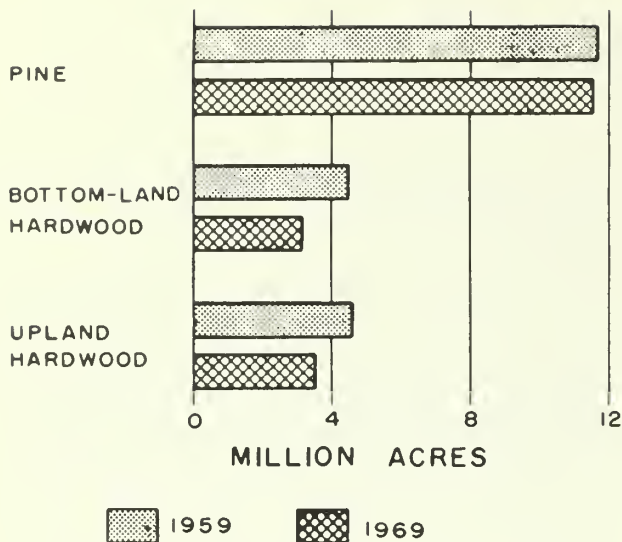


Figure 3. Forest area by sites, 1959 and 1969.

There are now about 3 million acres in bottom-land forests, almost equally divided between the Delta and the Coastal Plain. The 1.4 million acres in the Delta are all that remain of more than 4 million acres of forest growing there at the time of the first survey in 1935 (Sternitzke 1956). The drainages of the Arkansas, White, Ouachita, and Red Rivers contain most of the other 1.6 million acres. In 1959, three-fifths of the State's bottom-land forest was in the Delta.

One consequence of land clearing in the Mississippi River bottoms is that the remaining bottom-land timber is scattered and fragmented—hence more difficult to market than are contiguous stands.

Upland hardwood sites total 3.5 million acres. All but one-tenth are on the Ozark Plateau. The remainder are on Crowley's Ridge in the Delta. The loss of upland hardwood sites during the intersurvey period was 1.1 million acres, or slightly less than the 1.3 million acres lost in the bottoms. Combined, hardwood sites have declined by one-fourth since 1959.

Almost 12 million acres are classified as pine sites. They are defined as upland areas either presently or formerly demonstrating the capability for growing pines. In Arkansas, virtually all of the forested uplands from the Coastal Plain up to and including the Boston Mountains are considered pine sites. Forest losses in the Ouachitas and the Southwest were essentially on such lands. Statewide, the area of pine sites remained about the same. Small gains in the Ozarks partly compensated for losses elsewhere.

Arkansas Forests Contain 18 Billion Cubic Feet of Wood

The 1969 inventory included only trees on commercial forest land. Otherwise, trees of all species and sizes were counted, even those considered too rough or rotten to be utilized (fig. 4). Trees whose quality made them suitable for saw logs, either presently or prospectively, were designated as growing stock. Their reported volume is measured from a 1-foot stump to a 4-inch top. Sawtimber volume was also inventoried. The volume of growing stock trees larger than a specified diameter limit was reported in board feet (Hedlund and Earles 1970).

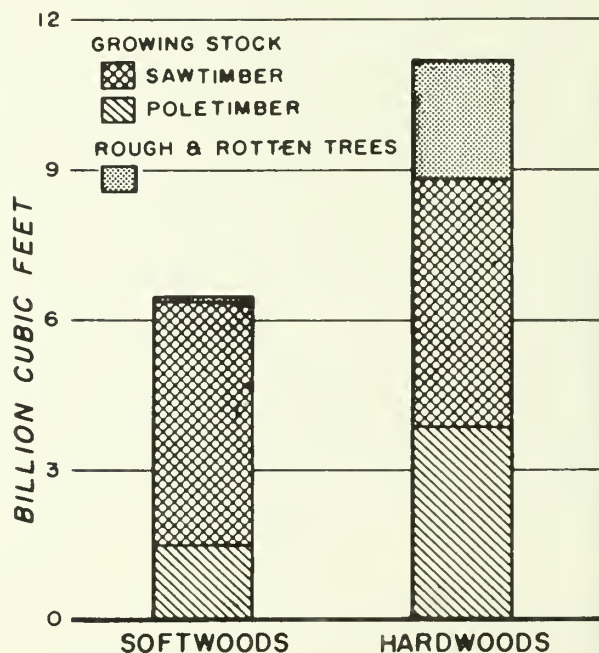


Figure 4. Volume of softwoods and hardwoods by class of timber.

Because of changes in volume specifications, data for the 1969 inventory cannot be compared directly with those derived from earlier surveys. For this report, however, earlier estimates have been revised to comply with the new standards.

Pine Volume Is Increasing

Volume of softwood growing stock in Arkansas rose 16 percent in the decade between surveys (table II). Most of the 6.4 billion cubic feet are loblolly and shortleaf pine. Four percent is in eastern redcedar and cypress, largely the latter (fig. 5).

Table II.—Growing stock volume in 1969 and change since 1959

Survey region	Softwood		Hardwood	
	Volume	Change	Volume	Change
	<i>Million cu. ft.</i>	<i>Percent</i>	<i>Million cu. ft.</i>	<i>Percent</i>
Delta	170.2	- 1	1,772.7	- 30
Southwest	3,787.5	+ 16	3,157.8	(¹)
Ouachita	1,923.5	+ 13	976.9	+ 6
Ozark	541.2	+ 43	2,898.8	+ 1
All regions	6,422.4	+ 16	8,806.2	- 7

¹ Negligible.

Table III.—Sawtimber volume in 1969 and change since 1959

Region	Softwood		Hardwood	
	Volume	Change	Volume	Change
	<i>Million bd. ft.</i>	<i>Percent</i>	<i>Million bd. ft.</i>	<i>Percent</i>
Delta	774.8	+ 5	5,552.6	- 28
Southwest	15,829.3	+ 16	7,830.8	- 5
Ouachita	6,533.1	+ 20	1,810.3	+ 2
Ozark	1,676.9	+ 52	6,181.2	- 2
All regions	24,814.1	+ 18	21,374.9	- 11

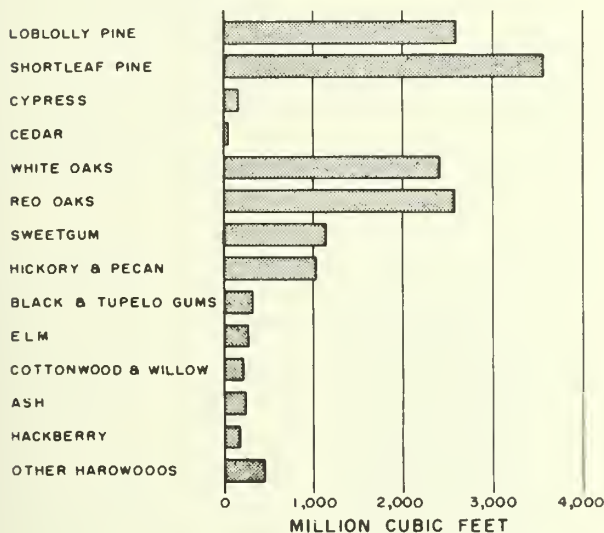


Figure 5. Growing stock by species.

Because of their inherently good form and low incidence of decay, virtually all of the pines are considered growing stock. The exceptions are mainly open-grown and limby trees, or those deformed by insects and disease. Three-fourths of the softwood growing stock is of sawtimber size, the rest is poletimber. About 90 percent of the volume in sawtimber trees is considered suitable for making saw logs—a volume equivalent to 25 billion board feet (table III). The remainder is in upper stems and may be used for pulpwood or products with similar wood requirements.

As figure 6 shows, the gains in softwood volume were not uniformly distributed throughout the range of diameter classes. Most of the volume accrued in small sawtimber trees, 9 to 15 inches in diameter. Not shown in the figure is a sizable gain in the number of sapling-size trees, 2 to 4 inches in diameter. These young pines can

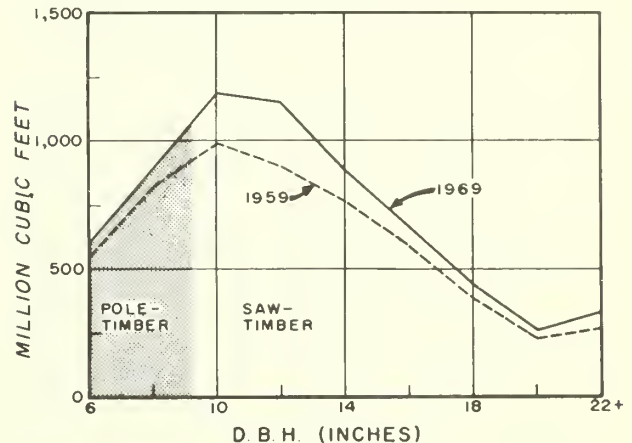


Figure 6. Softwood growing stock volume by tree diameter, 1959 and 1969.

be counted on to increase the future growing stock, as they will soon attain pole size.

The State's pine resource contains somewhat more shortleaf than loblolly pine. Shortleaf predominates in the Ouachita and Ozark Mountains, which are well within its natural range. Loblolly is seldom found north of the Coastal Plain, for cold winters damage the young trees. On the Coastal Plain, however, it grows faster than shortleaf and is superior in form.

Forest industries own more pine sawtimber than landowners of any other class (fig. 7). Industrial ownership is concentrated in the Southwest and Ouachita units, and during the last two decades these lands have, on the whole, received a much higher level of management than the lands of other private owners. Though volume on industrial ownerships diminished slightly over the decade, it still averages 1,100 cubic feet of growing stock per acre, or 4,300 board feet in sawtimber equivalents. Stocking on lands of private nonindustrial owners improved, rising from 600 to 700 cubic feet per acre.

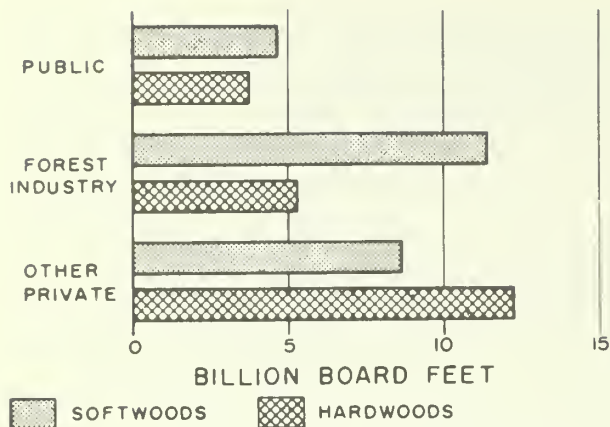


Figure 7. Sawtimber volume by class of ownership.

Hardwood Volume Is Declining

Acreage losses such as those sustained in Arkansas can have but one consequence. Timber volume will eventually suffer. It is remarkable that the decline was small. Measured in terms of present Forest Survey standards, hardwood volume was reduced by 7 percent during the decade and probably is at a historic low. Even so, hardwood growing stock exceeds pine by a ratio or four to three.

There are about 11 billion cubic feet of hardwood in Arkansas' forests. Of this, 8.8 billion are in trees good enough to be classed as growing stock. The rest, one-fifth of the total volume, is in rough and rotten culls.

The value of the hardwood resource is closely related to tree quality. Prices for logs may range widely depending on species, size, and proportion of clear material recoverable. And logs make up three-fifths of the industrial products.

For decades Arkansas' hardwood forests have been high-graded for specialized products. The Ozark region, for example, continues to be an important supplier of white oak cooperage. In the Delta, sweet and tupelo gums have been in high demand for veneer and saw logs to be made into containers, panels, and factory lumber. Various cutting practices, together with land-use shifts and hardwood control on pine sites, have changed the species composition. The gums, cottonwood, willow, elm, ash, and hackberry have all declined, so that the soft-textured species now make up a smaller portion of the inventory than heretofore. Oaks and hickories have gained. The differences in most species were small and only serve to express long-term

trends. Black walnut is probably the exception. Log buyers have been searching the mountain regions for walnut logs, and the supply has suffered. This valuable species makes up less than one-half percent of the total hardwood volume, and some of the harvest undoubtedly includes trees from fence rows and other sources not even included in the inventory.

Shifts in hardwood stand structure, as shown in figure 8, are also indicative of a reduction in resource quality. Tree size is the dominant factor in assessing quality. Clear cuttings are especially important in lumber used to make products such as furniture parts, and defects tend to be more widely spaced in large than in small logs. Logs 18 inches and larger are the mainstay of the hardwood industry, and they are becoming scarce. Moreover, the reduction in inventories between surveys indicates that smaller trees necessary to replenish the supply are not forthcoming.

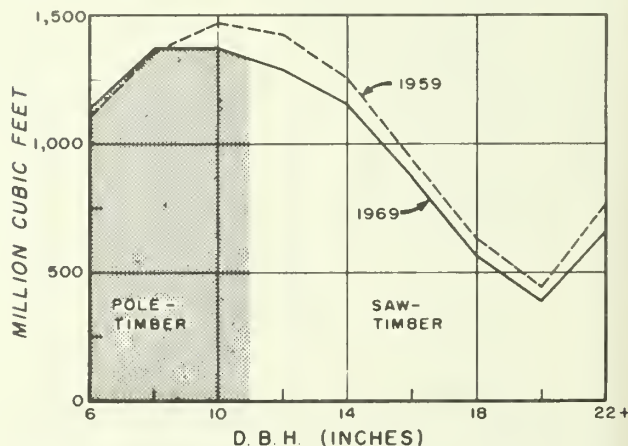


Figure 8. Hardwood growing stock volume by tree diameter, 1959 and 1969.

Of the substantial volume in hardwood culls, two-thirds is in sound trees that are more or less uniformly represented in all diameter classes. The proportion of rotten culls increases in the large diameter classes. While valueless for saw logs, culls contain considerable boltwood.

North, South, East, and West

Arkansas' forest resource is far from uniformly distributed. Several contrasts between the State's major geographic regions have already been drawn. With the help of figure 9, the unique features of each region will be enlarged upon.

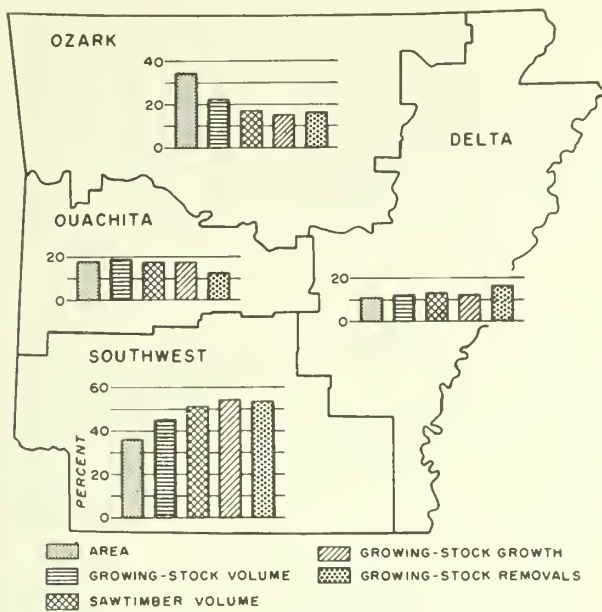


Figure 9. *Relative importance of forest resources, by region.*

In the north, the Ozark highlands contain 6 million acres of forest—one-third of the State's total. Timber-growing capacity of these hardwood sites is limited, but the Ozarks have fine potential for recreation. Five streams in the area have been nominated for preservation, and wealth of canoeing, fishing, camping, and natural beauty is available regionwide (Arkansas Planning Commission 1969). Development of these opportunities will in many cases be compatible with some degree of timber production.

The Southwest region contains one-third of the State's forest area and almost half of the total timber volume. The proportion of land lost to other uses in the past decade was 5 percent, less than in any other region. Forest industries own 45 percent of the timberland. Nonindustrial ownerships sustained most of the acreage loss

but made some gains in pine stocking. The seven counties east of the Ouachita River have long been considered a forestry showcase for their well-developed sawtimber stands and conservative cutting practices (Southern Forest Experiment Station 1953). Since 1959 timber volumes there have declined slightly. A rapid influx of wood-processing facilities has intensified harvesting. The reduction in inventory may signify a trend toward shorter rotations and smaller crop trees. In the 13 counties comprising the western portion of the region, timber volume is increasing. Pine gained almost one-third, much of it in trees of large diameter. The 13 counties are now as well stocked as the seven-county area.

The Arkansas Delta is now only one-fifth forested. Alterations in the slope and drainage of agricultural lands, and protection from the rising waters of the Mississippi, have made much of the Delta far too valuable to grow trees on. Two million acres remain, but the forest on many areas is too scattered to sustain good markets. As always, it pays to move the best logs. Between surveys, however, more than half of the timber removed from the Delta was wasted in land-clearing operations rather than being sold for products.

In the Ouachita Mountains, almost half of the forest is in public ownership, mainly the Ouachita National Forest. As in the Ozarks, the rugged topography results in sizable areas of refractory sites. Shortleaf pine is the best species on much of the area. It makes up 63 percent of the entire growing stock volume, three-fourths of the sawtimber. The Ouachitas also have excellent recreation potential. Although the Forest Survey does not classify recreational quality of forest land, a sizable proportion of the region probably rates as high for that purpose as it does for timber production.

Timber Marketing and Manufacturing

Arkansas' forests supplied 430 million cubic feet of products in 1968. One-tenth was used for domestic purposes, chiefly fuel; the rest went to the State's rapidly expanding forest industry. Saw logs and pulpwood were the mainstay of the timber economy. Together, they made up three-fourths of the roundwood output. Since the previous industrial survey in 1958, sawmills have become larger but less numerous. The pulp industry has doubled its capacity. And Arkansas has pioneered in southern pine plywood production, now using almost one-tenth of its timber output for veneer.

About half of Arkansas' 1968 timber harvest was made into saw logs, as is shown by figure 10. Two-thirds of the 1.2 billion board feet of logs were softwood species, nearly all pine. Other softwoods, redcedar and cypress, accounted for less than 1 percent. Oaks supplied 57 percent of the hardwoods used; sweetgum, blackgum, and tupelo, most of the remainder.

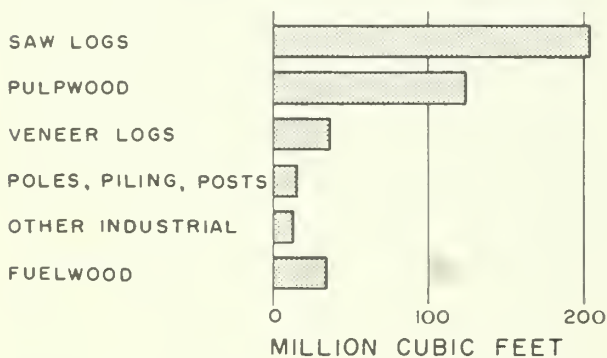


Figure 10. *Output of Arkansas roundwood by product, 1968.*

Ten years ago logs harvested for veneer were almost entirely hardwood, but now 90 percent are pine. Veneer logs must be of somewhat better quality than saw logs and must be slightly longer. Otherwise, they are generally indistinguishable from saw logs. Measured in saw-log equivalents, veneer logs totaled 226 million board feet.

More than 1.5 million cords of pulpwood were harvested in Arkansas during 1968. Pulpwood production has been increasing in the years since the previous survey. Although the cut of pine roundwood remained remarkably stable at about 1 million cords per year, the hardwood output rose from 148,000 to more than 500,000 cords annually.

Poles, posts, and piling, together with other products, made up 6 percent of the industrial output. By comparison with the 1958 survey, the output of most of these items has remained relatively constant. Arkansas is a major producer of both cooperage and handle stock. Very little slack cooperage is being made nowadays. Tight cooperage is almost entirely white oak for bourbon barrels. Handle stock is mainly hickory for striking tools. Ash and even oak are used for other kinds of handles.

Fuelwood consumed by rural dwellers amounts to 8 percent of the total harvest. It is virtually all hardwood. In contrast to industrial products, much of the fuelwood is taken from culls and other nongrowing stock sources. Wood used for fuel has declined by half during the last 10 years, and the trend promises to continue as the population shifts to cities. Nevertheless, the volume is still significant.

Arkansas was a net importer of timber in 1968, although the margin was small. Pulpwood was the most mobile product. One-fourth of the State's production went to out-of-State plants. Meanwhile, a slightly smaller amount was shipped to Arkansas from surrounding States. Mill locations account for much of the movement, since procurement strategies generally ignore State lines. In fact, the construction of two new pulpmills announced recently, one in Texas and one in Oklahoma, should substantially benefit Arkansas' pulpwood markets. Of the saw-log volume, more than half is processed by plants in the county where the timber is grown (Beltz 1970). While saw logs move mostly by truck, a sizable volume of pulpwood is transported by rail.

Sixty-two percent of the State's timber harvest came from the Southwest region (fig. 11). Combined, the Southwest and Ouachita regions account for virtually all of the softwood production. As might be expected, harvesting of hardwoods is distributed somewhat more uniformly. Again the Southwest is foremost, but the Delta and Ozark regions are also important.

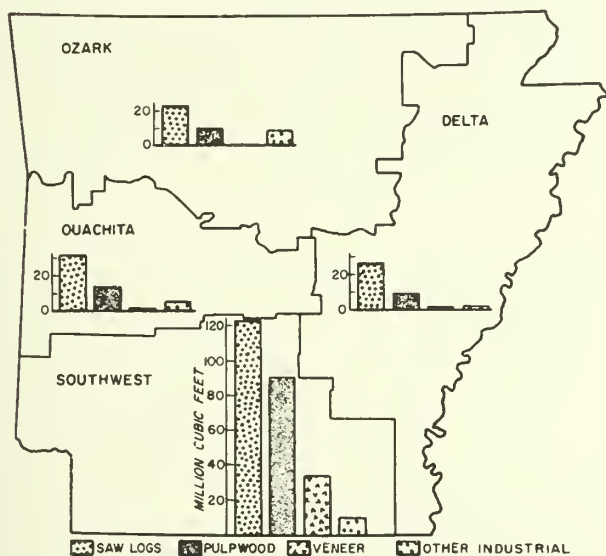


Figure 11. *Relative importance of forest products, by region.*

In general, hardwood harvesting is both more specialized and less mechanized than for pines. Buyers of hardwood saw logs, pulpwood, and veneer logs usually have species preferences. Plants classified as "miscellaneous industrial" require hardwood to be delivered in a wide variety of forms such as white oak cooperage bolts of specified size and quality, or dogwood shuttle block bolts.

Forest Industry

Arkansas timber supplied the raw material for some 600 manufacturing plants within the State and was shipped to about 40 plants in adjoining States during 1968 (Beltz 1970). Almost every Arkansas county had some kind of primary wood-using industry (fig. 12). Sawmills were by far the most numerous, and took half of the timber harvested.

The number of sawmills in Arkansas has been trending downward since the peak years of the Second World War. A census of sawmills re-

vealed 1,736 active in 1946. By 1968 the number had dwindled to about 450, but average mill size had trebled. The increase in average size accounts for a slightly rising lumber output at the same time that mills were going out of business.

The sawmills range in size from multimillion dollar manufacturing plants to small portable mills, but the bulk of the lumber is sawn at large mills (i.e., those cutting more than 3 million board feet annually). Thus, 10 mills saw 40 percent of the lumber, and one-fifth of the sawmills get 90 percent of the saw-log production. This situation is the result of many years of gradual change.

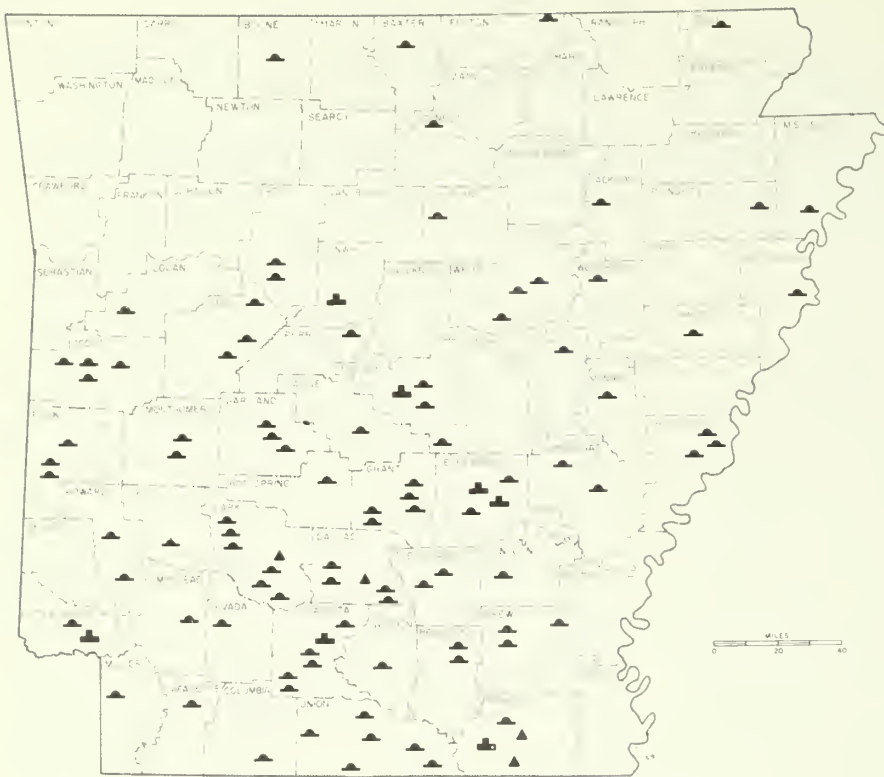
Industrial change has favored large sawmills in a number of ways. Increasing mechanization amplified the advantages of scale at large plants. One example may be found in the development of chippers for salvage of coarse residues. Initially these machines were large and expensive, and were installed only at the largest mills. More recently, development of compact chipping equipment permitted utilization of smaller concentrations of residues.

The advantages of scale also tended to benefit pine manufacturers more than hardwood producers, since a large proportion of the hardwood lumber is made at small mills. In addition, pine logs are, in effect, a more uniform raw material. Species separation is unnecessary, and lumber seasoning and grading are less critical than for hardwoods.

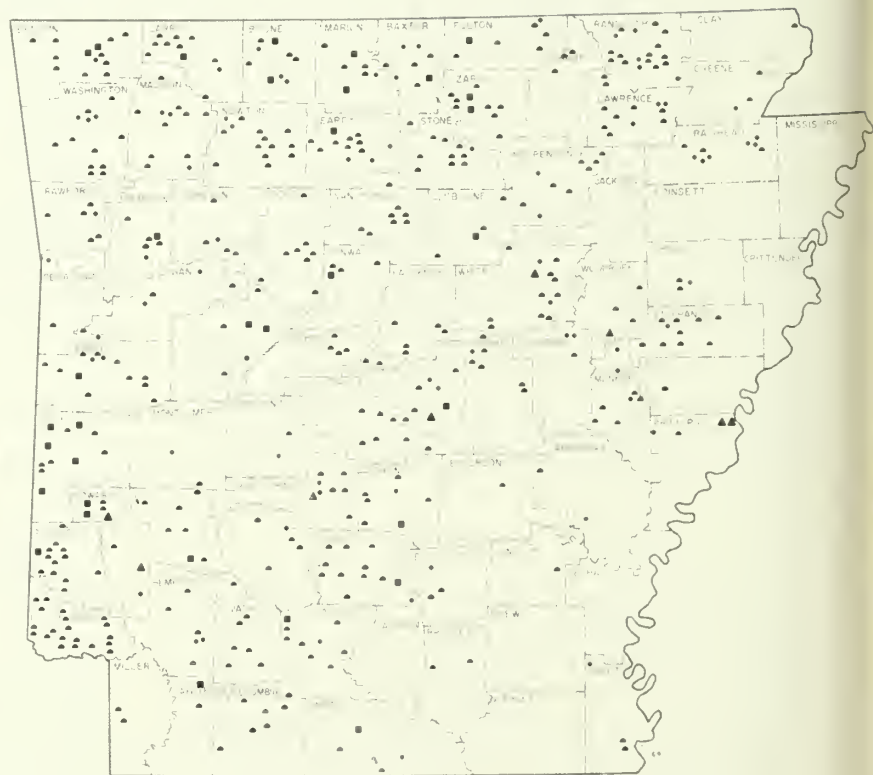
Pulpwood consumption by Arkansas mills almost doubled between 1958 and 1968. Increased hardwood use was partly responsible. More important, however, was the steadily rising supply of chips and other byproducts from primary wood-using industries. Arkansas' total pulpwood production was 2.3 million cords in 1968. One-third was supplied from wood residues. This proportion is well above the South-wide average of one-fifth, a fact that attests to the State's well-developed chip marketing system.

While pulpmills are few in number (seven in 1968) when compared with sawmills, they collect roundwood at more than 50 permanently established woodyards plus many lesser shipping points. A typical woodyard may add as much to the local economy as the average sawmill. Fifty-seven of Arkansas' 75 counties shipped pulpwood in 1968 (Beltz 1969).

Arkansas' veneer industry numbers 13 plants. The four pine plywood plants rival the largest



Wood pulp mills
 Large sawmills
 Pine veneer mills



Small sawmills
 Hardwood veneer mills
 Other plants
 Past, pole, and piling plants

Figure 12. Primary wood-using plants in Arkansas, 1968.

sawmills in size. The hardwood plants are much smaller. They are about equally divided between mills making container veneers for baskets and crates, and those making other kinds of veneers.

In addition to the manufacturing facilities already described, Arkansas has approximately 100 other primary wood-using plants. About 18 make cooperage, 14 produce handle stock, 14 are wood-preserving plants, 13 make veneers, 11 operate charcoal kilns, and about 30 make miscellaneous industrial products. The majority of these plants are small, but they contribute to the diversity of Arkansas' forest industry and indirectly to the efficient utilization of the resource.

The remanufacture of plant residues is a strong and relatively recent trend. In 1968, primary manufacture created approximately 3 million tons of residues. Three-fifths was wood

material, both coarse and fine; the rest was bark. Coarse wood residues are those suitable for chipping, such as veneer cores, cut-off pieces from poles, or slabs and edgings at sawmills. A high proportion of the coarse material is made into byproducts. Most of the material is used in pulping, but veneer cores are commonly ripped into 2-by-4 studs. Barbeque chips are typical of minor byproducts.

Although three-fourths of the coarse residues are ultimately converted, only about half of the fines are used. Boiler fuel is the largest single outlet for fines, followed by fiber products and then animal bedding. Small amounts of sawdust are sold for meat packing.

More than half of the 1.2 million tons of bark received by Arkansas plants in 1968 were burned for fuel, but only pulpmills and some of the larger sawmills utilize bark in this way. At most other plants it is disposed of as waste.

Elements of Change

The inventory trends discussed thus far are the result of many interacting factors. Shifts in land use and the vagaries of timber markets are largely uncontrollable. On the other hand, trends may be altered by measures which regulate stocking, growth, mortality, and species composition.

Growth, Mortality, and Removals

As an index of future trends, the relationship between current net annual growth and removals may be better than indicators based on longer trends. Softwoods are currently growing at a rate of 6 percent, hardwoods at 4 percent. In 1968, growth exceeded removals for both softwoods and hardwoods (fig. 13). The rate of land clearing appears to have slowed. Thus, it seems that the decline observed between surveys has been arrested and the total resource is now gaining slightly.

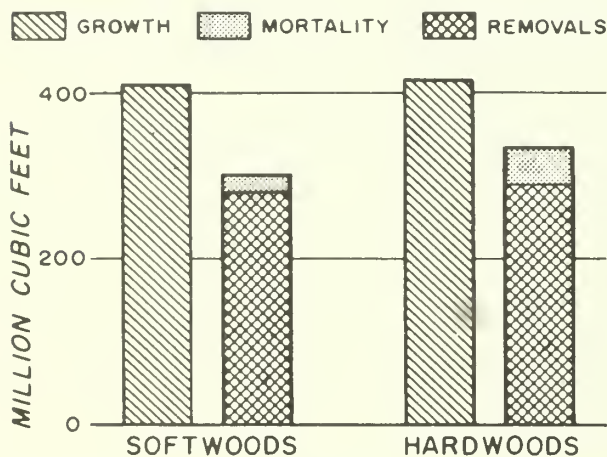


Figure 13. Growth, mortality, and removals of growing stock, 1968.

Timber removals include both harvesting and other man-caused losses. That is, growing stock may be destroyed or removed in land clearing, logging, timber stand improvement, and thinning. For softwoods the volume of noncommercial removals was small. For hardwoods it was not.

The downward trend in the hardwood resource was associated with the peak years of land clearing in the middle of the decade, when less than half of the volume removed went into products. While some of the timber was too small to be of value to the traditional hardwood industries, stands were usually windrowed and burned without concern for merchantability. Most landowners were solely interested in getting rid of the forest in time to plant agricultural crops.

The causes of mortality are not easy to identify. Forest Survey cruisers were asked to specify the reasons for mortality, but in most cases death derived from a combination of causes or was unknown. Fire was the most common specific agent.

The excess of growth over removals reported in 1968 is hardly a surplus. Statewide, stocking of both pines and hardwoods should be improved. It will be essential now and in the future to continue to set aside a portion of the annual growth for increasing the growing stock base. Furthermore, the distribution of cutting throughout the range of tree sizes is rarely matched by growth. The cushion of extra growth is in small trees and only partially offsets the heavy cutting in larger diameter classes, especially for hardwoods.

Productivity

How good is Arkansas forest land and how much timber could it grow? Since the answer to these questions depends on variables of climate, soil, aspect, and species composition, a measure of productivity by the Forest Survey must necessarily be a compromise. With this qualification, the average productivity at the culmination of mean annual increment is estimated to be 70 cubic feet per acre—about 1,300 million cubic feet annually for the entire State. Sites average 50 cubic feet per acre in the Ozarks and 60 in the Ouachitas. In the Delta and Coastal Plain the average acre can grow about 90 cubic feet annually.

Growing stock in Arkansas forests is currently averaging only 45 cubic feet of growth. The State total is 827 million cubic feet or about 470 million cubic feet less than the potential. Essentially four factors reduce growth below potential. In brief, they are a high proportion of culls, inadequate stocking, an unfavorable stand structure, and a large acreage needing conversion to fast-growing species.

It has been mentioned that rough and rotten trees comprise 14 percent of the total timber volume. This condition has long been considered a major cause of yield loss, and it is estimated that almost 120 million cubic feet of growth per year are wasted on these trees. This leaves more than 350 million cubic feet of difference unexplained.

The desirable degree of stocking is difficult to define, since it partially depends on management objectives. Nevertheless, the Forest Survey estimates that at least one-tenth of Arkansas' forest land is seriously understocked with growing stock trees. Some of this land is occupied by culls. However, empty space probably limits growth by an amount similar to that lost on culls.

Stand structure affects volume growth. In the Ozarks 60 percent of the forest is in stands of seedlings and saplings. Although these trees are biologically productive, the volume they add is not recorded in Forest Survey inventories. Gross annual growth in the Ozarks is currently 40 percent of the estimated potential. In the Southwest, where the proportion of sawtimber is high, gross growth averages 75 percent of potential.

Finally, many acres are growing trees that are inappropriate to maximum industrial timber production. The foremost instance is the 8 million acres in oak-pine and oak-hickory types that occupy pine sites. Stand conversion offers a major opportunity for improvement.

Lesser influences also curtail output. Fire, disease, insects, and other natural hazards combine for significant losses that can be reduced somewhat but not eliminated. Current fire protection is highly effective.

Statements identifying sources of productivity loss do not necessarily constitute a recommendation that corrective measures be taken. On the contrary, under good management many of the poorer sites may never be tended. It is often better to concentrate on lands of high potential rather than dissipate efforts.

Specific opportunities for forest investment depend on available timber markets and on the objectives of the landowner. There is little doubt, however, that Arkansas has numerous unexploited chances for forest development. In the Southwest and Ouachita regions, where strong pine markets exist, 1.5 million acres of good pine sites are occupied mainly by hardwoods. These are prime sites capable of growing more than 1 cord of pine pulpwood per acre per year. Hardwoods invariably reduce the productivity of these lands. Current pine stumpage prices for both saw logs and pulpwood are double those of hardwoods.

Although the overall productivity of the Ozark region is low, the protected mountain slopes and benches have good hardwood growing potential. Individually the workable stands are often small, but together they aggregate more than 2 million acres. While poorly developed markets in this area make improvement cuts unprofitable, some long-range forestry programs might be undertaken in conjunction with efforts to develop recreational opportunities and improve wildlife habitat. Improvement in the timber resource may eventually improve markets.

Bottom-land forests that are protected from flooding will probably continue to suffer from agricultural encroachment. This is all the more reason to start managing the rest of the stands. At least half of the 3 million acres of remaining bottom-land hardwood sites are in backwater and batture areas that represent a high risk for farming. These lands can be expected to remain in forest. Their management is complex and not completely understood. However, the best growth potential in the State is in the bottoms, and forest landowners can scarcely afford to let these areas languish.

Resource Outlook

It has become almost axiomatic that national demand for timber will greatly increase in the years ahead. If prices remain at recent levels, demand is roughly expected to double for saw logs, triple for veneer logs, and quadruple for pulpwood by the end of the century (Hair and Ulrich 1970). The South is expected to supply a greater proportion of these needs than it now does. How much of the future market Arkansas is able to capture depends on her ability to sustain a flow of timber products at favorable prices. Since timber growing requires time, preparations for the future must begin now.

One way to evaluate the prospects for Arkansas is through projections of current resource trends. Projections are not predictions, since the assumptions upon which they are based only partially duplicate anticipated conditions. Nevertheless, projections can help in formulating the predictions necessary for planning.

Prospective Timber Supplies

A projection for examining the long-term impact of current trends is presented here as prospective cut. Its starting point is the 1968 growing season. At that time, growth of both hardwoods and softwoods exceeded cut. From then on, the projected cut is gradually increased until it is equal with growth—an assumption that is consistent with sustained-yield objectives (fig. 14). It is also assumed that the present mixture of forest products will be maintained as long as the resource can supply the requisite kinds of timber.

Thus, an extension of recent trends to the end of the century will double the softwood cut and raise hardwood cut to half again its present level (figs. 14 and 15). As the cut is gradually increased the inventory continues to gain volume, and hence growth of all species is boosted by one-third. In addition to increases in inventory volume, shifts in the stand structure are simultaneously occurring.

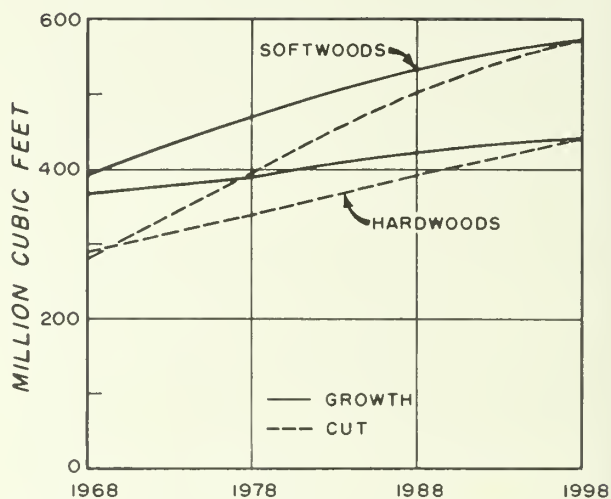


Figure 14. Prospective growth and cut of growing stock, 1968-1998.

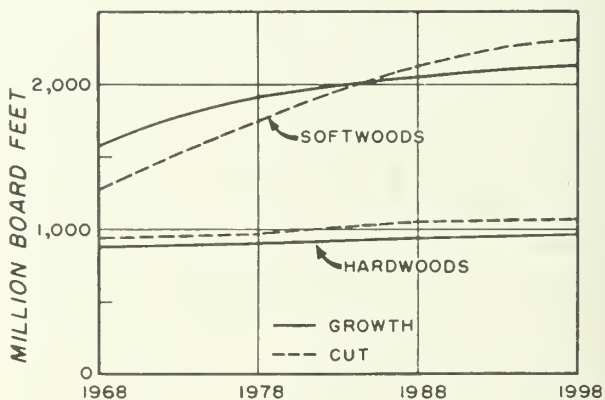


Figure 15. Prospective growth and cut of sawtimber, 1968-1998.

The future inventory might look something like that shown in figures 16 and 17. The situation is favorable for softwoods. Present cutting is fairly well distributed between logs and bolts. Even so, the volume in large trees will be partly curtailed in the future. The outlook for hardwoods is not encouraging. Most hardwood products require logs yielding high proportions of clear wood, and thus the harvest of large trees is out of all proportion to their

occurrence. If this trend continues to the end of the century, over-cutting will reduce the inventory of all hardwood size classes larger than 14 inches. The consequences are also illustrated by figure 15. Hardwood sawtimber is already being harvested faster than it is growing. For softwoods, the sawtimber break-even point is about 15 years hence.

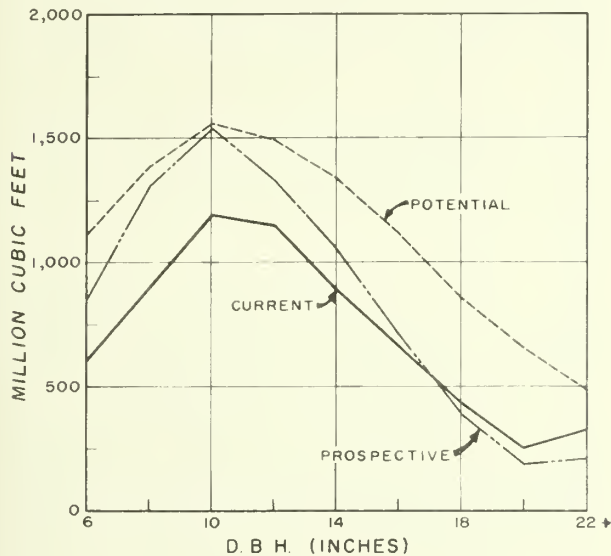


Figure 16. Comparison of 1969 softwood growing stock with prospective and potential inventories of 1999.

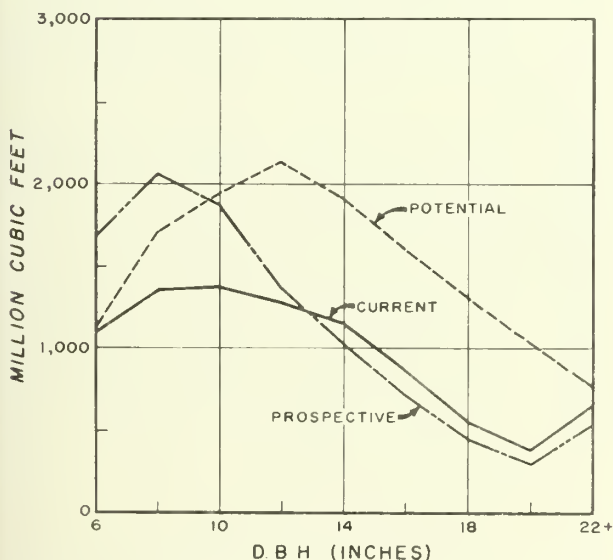


Figure 17. Comparison of 1969 hardwood growing stock with prospective and potential inventories of 1999.

Meeting Future Demands

The future for Arkansas' forest resource as portrayed by the prospective cut is neither

inevitable nor even likely if forest management is accelerated. Arkansas currently has some 4 million acres that are either bare or support unproductive trees. If we suppose, therefore, that a concerted effort will be devoted to alleviating this condition, the outcome might be different.

The projection of potential cut—as distinguished from prospective cut—incorporates the assumptions that the areas in oak-pine forest will eventually be converted to pure pine, and that by improving the stocking on sparsely stocked acres an average of 90 square feet of basal area can be maintained. It is also presumed that cutting will eventually be adjusted so as to maintain an advantageous balance of tree sizes in the inventory. The inventory of both pines and hardwoods needed to accomplish these goals is shown in figures 16 and 17.

A contrast is immediately apparent between levels of growing stock needed to support the potential cut and levels projected for prospective cut. Hardwood volume would need to improve by 35 percent, and pine volume by 20 percent. These levels of growing stock would not significantly change the cubic volume grown by the forest each year. But, as would be expected, there is a big gain in sawtimber growth. The annual output of pine sawtimber could be sustained at 20 percent more than its prospective level, and hardwoods would benefit from a 60-percent advantage.

Resource improvements such as those indicated by the potential-cut projection cannot be obtained without some sacrifice. A more rapid rate of industrial development is indicated for the earlier years of the prospective-cut projection; for the potential-cut projection industrial growth would have to be deferred to permit the needed inventory improvements. However, a balanced output of products appears to be the best way to get the most from the resource. By developing the inventory as shown, it would be possible to maintain the growth of all segments of forest industry. A given volume of sawtimber stumpage currently sells for considerably more than an equal volume of pulpwood-size trees. Since future prices probably will continue to favor logs over bolts, the value of the potential output would greatly exceed that of the prospective.

It is possible to make any number of additional projections. For example, one might wish to speculate about the outcome of converting to pure pine all of Arkansas' potential pine acres

rather than only the area now in oak-pine types. Or it might be argued that genetically improved pine growing stock will soon be available in quantity and that its impact should be accounted for. The projections presented here are intended mainly to contrast two approaches to planning Arkansas' forest resource development.

More Resource Improvement Possibilities

Several suggestions for improving the forest resource have already been made. Foremost was the conversion of several million acres of hardwood types to pine production. Perhaps equally significant is the need to upgrade the quality of growing stock on acres that are adequately stocked otherwise.

Desirable trees, those suited to the sites upon which they occur and of good form and surface quality, now stock only one-fourth of the forest acreage. On pine sites, this condition largely results from the hardwood component. Figure 18 shows the proportion of desirable trees in each forest type. In loblolly-shortleaf, oak-pine, and oak-hickory types the desirable-tree component consists mainly of pines. Rough and rotten culls are almost exclusively hardwoods. Hardwood control on pine sites is a continuing need and is in many instances indistinguishable from type conversion.

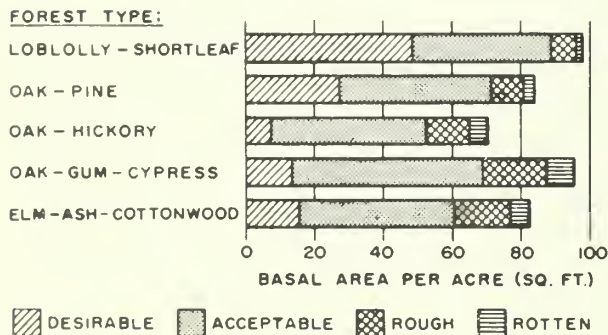


Figure 18. Stand components by tree class and forest type.

Whether the desirable-tree component on hardwood sites can be improved depends on a number of conditions. Forest industry and public ownership of hardwood timber is small in

comparison to pine holdings. In forest area these ownerships aggregate only about one-fourth of the hardwood sites. The private nonindustrial landowners who control the other three-fourths are not likely to make forestry investments until they are attracted by stumpage prices or are provided with other incentives, possibly public assistance. Hunting clubs and other users provide small revenues, but only when stumpage prices reflect the costs of management will these lands achieve equal status with pinelands. Until then, hardwood industries may have to be content to salvage the better hardwood logs as they occur in unmanaged stands.

A leading opportunity for conserving the resource is through closer utilization of timber removals. Most of the hardwood timber removed in land clearing was in poor market areas and was not utilized. Expected increases in demand may help expand markets for limited sizes and species of hardwoods. But a more positive source of improvement must be sought through research in marketing and manufacturing techniques. The same applies to 63 million cubic feet of logging residues that, by definition, are within the drawing territories of some manufacturing facility. Cutting practices associated with single-product harvesting leave large amounts of logging residues, usually low-grade material but still suitable for some purposes. For pines, multiproduct processing has reduced this loss. Diversification of manufacturing may apply equally for hardwoods, but the problems are much more complex.

Another possibility is in integrated marketing systems. One such system, called the Timber Development Organization, is being tried in several States. The objective is to reduce costs by combining management, marketing, and manufacturing functions. Presumably the savings would be shared by both timber grower and buyer. Systems involving forestry consultants may also prove workable. They all have two things in common: growing good timber, and obtaining fair prices for it.

For the most part, Arkansas' present forests reflect the economic and social values that prevailed during the 1960's. Land use is intensifying, both for agriculture and for forestry. Many forest practices that have previously been marginal are now fully justified. The problem lies in the considerable time lag in benefits from these measures. It will be essential in the years ahead to anticipate forest resource needs so that necessary investments can be made in advance.

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Appendix

SURVEY METHODS

The data on forest acreage and timber volume in this report were secured by a sampling method involving a forest-nonforest classification on aerial photographs and on-the-ground measurements of trees at sample locations. The sample locations were at the intersections of a grid of lines spaced 3 miles apart. In Arkansas, 155,487 photographic classifications were made and 6,787 ground sample locations were visited.

The initial estimates of forest area that were obtained with the aerial photographs were adjusted on the basis of the ground check.

A cluster of 10 variable-radius plots were installed at each ground sample location. Each sample tree on the variable-radius plots represented 3.75 square feet of basal area per acre. Trees less than 5.0 inches in diameter were tallied on fixed-radius plots around the plot centers. Together, these samples provided most of the information for the new inventory. A subsample of trees on the plots was measured in detail to obtain data for calculating timber volumes.

The plots established by the prior survey were remeasured to determine the elements of change and were the basis for estimating growth, mortality, removals, and changes in land use.

With the assistance of the Arkansas Forestry Commission, a special study was made to determine product output. It consisted of a canvass of all primary wood-using plants active in Arkansas during 1968. Out-of-State firms known to use Arkansas roundwood were also contacted. Additionally, fuelwood and other domestic uses were determined from an area sample.

Reliability of the Data

Reliability of the estimates may be affected by two types of errors. The first stems from the use of a sample to estimate the whole and from variability of the items being sampled. This type is termed sampling error; it is susceptible to a mathematical evaluation of the probability of

error. The second type—often referred to as reporting or estimating error—derives from mistakes in measurement, judgment, or recording, and from limitations of method or equipment. Its effects cannot be appraised mathematically, but the Forest Survey constantly attempts to hold it to a minimum by proper training and good supervision, and by emphasis on careful work.

Statistical analysis of the data indicates a sampling error of plus or minus 0.3 percent for the estimate of total commercial forest area, 1.3 percent for total cubic volume, and 1.9 percent for total board-foot volume. As these totals are broken down by forest type, species, tree diameter, and other subdivisions, the possibility of error increases and is greatest for the smallest items. The order of this increase is suggested in the following tabulation, which shows the sampling error to which the timber volume and area estimates are liable, two chances out of three.

Commercial forest area	Sampling error ¹	Cubic volume ²	Sampling error ¹	Board-foot volume ³	Sampling error ¹
<i>Thousand acres</i>	<i>Percent</i>	<i>Million cubic feet</i>	<i>Percent</i>	<i>Million board feet</i>	<i>Percent</i>
18,206.7	0.3				
1,638.6	1.0	15,228.6	1.3	46,189.0	1.9
409.6	2.0	6,434.1	2.0	41,685.6	2.0
182.1	3.0	2,859.6	3.0	18,526.9	3.0
102.4	4.0	1,608.5	4.0	10,421.4	4.0
65.5	5.0	1,029.5	5.0	6,669.7	5.0
16.4	10.0	257.4	10.0	1,667.4	10.0
7.3	15.0	114.4	15.0	741.1	15.0
4.1	20.0	64.3	20.0	416.9	20.0
2.6	25.0	41.2	25.0	266.8	25.0

¹By random-sampling formula.

²Growing-stock volume on commercial forest land.

³Sawtimber volume on commercial forest land.

The sampling error to which the estimates of growth, mortality, and removals are liable, on a probability of two chances out of three, are:

Net annual growth				Annual removals			
Cubic volume	Sampling error ¹	Board-foot volume	Sampling error ¹	Cubic volume	Sampling error ¹	Board-foot volume	Sampling error ¹
<i>Million cubic feet</i>	<i>Percent</i>	<i>Million board feet</i>	<i>Percent</i>	<i>Million cubic feet</i>	<i>Percent</i>	<i>Million board feet</i>	<i>Percent</i>
758.6	1.8						
614.5	2.0	2,463.3	2.2	570.6	2.8	2,227.6	2.7
273.1	3.0	1,324.7	3.0	497.1	3.0	1,804.4	3.0
153.6	4.0	745.1	4.0	279.6	4.0	1,015.0	4.0
98.3	5.0	476.9	5.0	178.9	5.0	649.6	5.0
24.6	10.0	119.2	10.0	44.7	10.0	162.4	10.0
10.9	15.0	53.0	15.0	19.9	15.0	72.2	15.0
6.1	20.0	29.8	20.0	11.2	20.0	40.6	20.0
3.9	25.0	19.1	25.0	7.2	25.0	26.0	25.0

¹ By random-sampling formula.

DEFINITIONS OF TERMS

Forest Land Class

Forest land.—Land at least 16.7 percent stocked by forest trees of any size, or formerly having such tree cover and not currently developed for nonforest use.

Commercial forest land.—Forest land that is producing or is capable of producing crops of industrial wood and not withdrawn from timber utilization.

Nonstocked land.—Commercial forest land less than 16.7 percent stocked with growing-stock trees.

Productive-reserved forest land.—Productive public forest land withdrawn from timber utilization through statute or administrative regulation.

Unproductive forest land.—Forest land incapable of yielding crops of industrial wood because of adverse site conditions.

Tree Species

Commercial species.—Tree species presently or prospectively suitable for industrial wood products; excludes so-called weed species, such as blackjack oak and blue beech.

Hardwoods.—Dicotyledonous trees, usually broad-leaved and deciduous.

Softwoods.—Coniferous trees, usually evergreen, having needle or scale-like leaves.

Forest Type

Loblolly-shortleaf pine.—Forests in which southern pine and eastern red cedar, except longleaf or slash pine, comprise a plurality of the stocking. Common associates include oak, hickory, and gum.

Oak-pine.—Forests in which hardwoods (usually upland oaks) comprise a plurality of the stocking but in which softwoods, except cypress, comprise 25-50 percent of the stocking. Common associates include gum, hickory, and yellow-poplar.

Oak-hickory.—Forests in which upland oaks or hickory, singly or in combination, comprise a plurality of the stocking except where pines comprise 25-50 percent, in which case the stand is classified oak-pine. Common associates include elm, maple, and black walnut.

Oak-gum-cypress.—Bottom-land forests in which tupelo, blackgum, sweetgum, oaks, or southern cypress, singly or in combination, comprise a plurality of stocking except where pines comprise 25-50 percent, in which case the stand is classified oak-pine. Common associates include cottonwood, willow, ash, elm, hackberry, and maple.

Elm-ash-cottonwood.—Forests in which elm, ash, or cottonwood, singly or in combination, comprise a plurality of the stocking. Common associates include willow, sycamore, beech, and maple.

Class of Timber

Growing stock trees.—Sawtimber trees, poletimber trees, saplings, and seedlings; that is, all live trees except rough and rotten trees.

Desirable trees.—Growing-stock trees that have no serious defects to limit present or prospective use, are of relatively high vigor, and contain no pathogens that may result in death or serious deterioration before rotation age. They comprise the type of trees that forest managers aim to grow; that is, the trees favored in silvicultural operations.

Acceptable trees.—Trees meeting the specifications for growing stock but not qualifying as desirable trees.

Sawtimber trees.—Live trees of commercial species, 9.0 inches and larger in diameter at breast height for softwoods and 11.0 inches and larger for hardwoods, and containing at least one 12-foot saw log.

Poletimber trees.—Live trees of commercial species, 5.0 to 9.0 inches in d.b.h. for softwoods and 5.0 to 11.0 inches for hardwoods, and of good form and vigor.

Saplings.—Live trees of commercial species, 1.0 inch to 5.0 inches in d.b.h. and of good form and vigor.

Rough and rotten trees.—Live trees that are unmerchantable for saw logs now or prospectively because of defect, rot, or species.

Salvable dead trees.—Standing or down dead trees that are considered currently or potentially merchantable.

Stand-Size Class

Sawtimber stands.—Stands at least 16.7 percent stocked with growing-stock trees, with half or more of this stocking in sawtimber or poletimber trees, and with sawtimber stocking at least equal to poletimber stocking.

Poletimber stands.—Stands at least 16.7 percent stocked with growing-stock trees, with half or more of this stocking in sawtimber or poletimber trees, and with poletimber stocking exceeding that of sawtimber stocking.

Sapling-seedling stands.—Stands at least 16.7 percent stocked with growing-stock trees, with more than half of this stocking in saplings or seedlings.

Nonstocked areas.—Commercial forest lands less than 16.7 percent stocked with growing-stock trees.

Stocking

Stocking is a measure of the extent to which the growth potential for the site is utilized by trees or preempted by vegetative cover. Stocking is determined by comparing the stand density in terms of number of trees or basal area with a specified standard. Full stocking is assumed to range from 100 to 133 percent of the stocking standard.

The tabulation below shows the density standard in terms of trees per acre, by size class, required for full stocking:

D.b.h. (inches)	Number of trees	D.b.h. (inches)	Number of trees
Seedlings	600	16	72
2	560	18	60
4	460	20	51
6	340	22	42
8	240	24	36
10	155	26	31
12	115	28	27
14	90	30	24

Volume

Volume of sawtimber.—Net volume of the saw-log portion of live sawtimber trees, in board feet of the International rule, 1/4-inch kerf.

Volume of growing stock.—Volume of sound wood in the bole of sawtimber and poletimber trees from stump to a minimum 4.0-inch top outside bark or to the point where the central stem breaks into limbs.

Volume of timber.—The volume of sound wood in the bole of growing stock, rough, rotten, and salvable dead trees 5.0 inches and larger in d.b.h. from stump to a minimum 4.0-inch top outside bark or to the point where the central stem breaks into limbs.

Log Grades

Log grades are based on the standards presented by the USDA Forest Service in Res. Pap. SE-39, "Southern Pine Log Grades for Yard and Structural Lumber," issued by the Southeastern Forest Experiment Station in 1968, and "Hardwood Log Grades for Standard Lumber," issued by the Forest Products Laboratory under the designation D1737A in 1961.

Hardwood log grades include, in addition to the grades for standard lumber, a grade-4 tie and timber log. Specifications for tie and timber logs are based chiefly on knot size and log soundness; clear cuttings are not required.

Area Condition Class

A classification of commercial forest land based upon stocking by desirable trees and other conditions affecting current and prospective timber growth.

Class 10.—Areas 100 percent or more stocked with desirable trees and not overstocked.

Class 20.—Areas 100 percent or more stocked with desirable trees and overstocked with all live trees.

Class 30.—Areas 60 to 100 percent stocked with desirable trees and with less than 30 percent of the area controlled by other trees, inhibiting vegetation, slash, or nonstockable conditions.

Class 40.—Areas 60 to 100 percent stocked with desirable trees and with 30 percent or more of the area controlled by other trees, or conditions that ordinarily prevent occupancy by desirable trees.

Class 50.—Areas less than 60 percent stocked with desirable trees, but with 100 percent or more stocking with growing-stock trees.

Class 60.—Areas less than 60 percent stocked with desirable trees, but with 60 to 100 percent stocking with growing-stock trees.

Class 70.—Areas less than 60 percent stocked with desirable trees and with less than 60 percent stocking with growing-stock trees.

Miscellaneous Definitions

Basal area.—The area in square feet of the cross section at breast height of a single tree or of all the trees in a stand, usually expressed as square feet per acre.

D.b.h. (Diameter breast high).—Tree diameter in inches, outside bark, measured at 4½ feet above ground.

Diameter classes.—The 2-inch diameter classes extend from 1.0 inch below to 0.9 inch above the stated midpoint. Thus, the 12-inch class includes trees 11.0 inches through 12.9 inches d.b.h.

Site classes.—A classification of forest land in terms of inherent capacity to grow crops of industrial wood.

Gross growth.—Annual increase in net volume of trees in the absence of cutting and mortality.

Net annual growth.—The increase in volume of a specified size class for a specific year. Components of net annual growth include the increment in net volume of trees at the beginning of the specific year surviving to its end plus volume of trees reaching the size class during the year minus the volume of trees that died during the year minus the net volume of trees that become rough or rotten during the year.

Mortality.—Number or sound-wood volume of live trees dying from natural causes during a specified period.

Timber removals.—The net volume of growing-stock trees removed from the inventory by harvesting, cultural operations such as timber-stand improvement, land clearing, or changes in land use.

Timber products.—Roundwood products and plant byproducts. Timber products output includes roundwood products cut from growing stock on commercial forest land; from other sources, such as cull trees, salvable dead trees, limbs, and saplings; from trees on noncommercial and nonforest lands, and from plant byproducts.

Roundwood products.—Logs, bolts, or other round sections cut from trees for industrial or consumer uses. Included are saw logs, veneer logs and bolts, cooperage logs and bolts, pulpwood, fuelwood, piling, poles and posts, hewn ties, mine timbers, and various other round, split, or hewn products.

Logging residues.—The unused portions of trees cut or killed by logging.

Plant byproducts.—Wood products, such as pulp chips, obtained incidental to manufacture of other products.

Plant residues.—Wood materials from manufacturing plants not utilized for some product. Included are slabs, edgings, trimmings, miscuts, sawdust, shavings, veneer cores and clippings, and pulp screenings.

STANDARD TABLES

NOTE: Regional tables, identical in format to standard State tables 1-22, are available for each of the four Forest Survey regions in Arkansas. They are free on request to the Southern Forest Experiment Station.

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Table 1. Area by land classes, Arkansas, 1969

Land class	Area
	<i>Thousand acres</i>
Forest:	
Commercial	18,206.7
Productive-reserved	41.3
Unproductive	29.9
Total forest	<u>18,277.9</u>
Nonforest:	
Cropland ¹	8,525.2
Pasture and range ¹	2,373.0
Other ²	4,148.1
Total nonforest	<u>15,046.3</u>
All land ³	<u>33,324.2</u>

¹ Source: 1964 Census of Agriculture.

² Includes swampland, industrial and urban areas, other nonforest land, and 100,300 acres, classed as water by Forest Survey standards, but defined by the Bureau of the Census as land.

³ Source: United States Bureau of the Census, Land and Water Area of the United States, 1960.

Table 2. Area of commercial forest land by ownership classes, Arkansas, 1969

Ownership class	Area
	<i>Thousand acres</i>
Public:	
National forest	2,378.2
Bureau of Land Management	1.1
Indian	...
Other federal	302.8
State	236.9
County and municipal	19.5
Total public	<u>2,938.5</u>
Private:	
Forest industry ¹	3,950.7
Farmer	4,800.0
Miscellaneous private:	
Individual	5,759.4
Corporate	758.1
Total private	<u>15,268.2</u>
All ownerships	<u>18,206.7</u>

¹ Not including 10,700 acres of farmer-owned and miscellaneous private lands leased to forest industry.

Table 3. Area of commercial forest land by stand-size and ownership classes, Arkansas, 1969

Stand-size class	All ownerships	National forest	Other public	Forest industry	Farmer and misc. private
	<i>Thousand acres</i>				
Sawtimber	5,443.4	732.6	220.7	1,863.8	2,626.3
Poletimber	4,759.5	863.0	119.1	745.2	3,032.2
Sapling and seedling	7,922.1	782.6	214.9	1,322.4	5,602.2
Nonstocked areas	81.7	...	5.6	19.3	56.8
All classes	<u>18,206.7</u>	<u>2,378.2</u>	<u>560.3</u>	<u>3,950.7</u>	<u>11,317.5</u>

Table 4. Area of commercial forest land by stand-volume and ownership classes, Arkansas, 1969

Stand-volume per acre ¹	All ownerships	National forest	Other public	Forest industry	Farmer and misc. private
	<i>Thousand acres</i>				
Less than 1,500 board feet	8,760.9	815.7	234.0	959.4	6,751.8
1,500 to 5,000 board feet	6,577.7	1,195.3	193.9	1,657.2	3,531.3
More than 5,000 board feet	2,868.1	367.2	132.4	1,334.1	1,034.4
All classes	<u>18,206.7</u>	<u>2,378.2</u>	<u>560.3</u>	<u>3,950.7</u>	<u>11,317.5</u>

¹ International 1/4-inch rule.

Table 5. Area of commercial forest land by stocking classes based on selected stand components, Arkansas, 1969

Stocking percentage	Stocking classified in terms of					
	All trees	Growing-stock trees			Rough and rotten trees	Inhibiting vegetation
		Total	Desirable	Acceptable		
----- Thousand acres -----						
160 or more	...	...	...	...	...	...
150 to 160	483.4	104.4	13.4	...	...	...
140 to 150	1,677.7	368.2	5.8	5.1	...	...
130 to 140	3,422.1	958.2	23.7	52.4	...	...
120 to 130	4,086.9	1,739.5	35.4	216.0	...	...
110 to 120	3,441.6	2,518.3	87.2	458.6	...	...
100 to 110	2,381.0	2,620.3	121.9	862.5	53.5	...
90 to 100	1,434.0	2,670.9	246.9	1,523.0	27.3	...
80 to 90	690.8	2,380.0	411.9	2,054.8	134.7	...
70 to 80	344.8	1,979.8	620.0	2,895.2	239.1	...
60 to 70	159.4	1,210.6	962.2	2,703.6	308.7	...
50 to 60	49.0	741.1	1,218.0	2,609.8	880.1	...
40 to 50	21.1	450.1	1,512.2	2,003.5	1,385.5	...
30 to 40	5.6	216.0	2,164.2	1,352.9	2,422.6	4.5
20 to 30	...	139.2	2,834.5	915.3	3,948.6	8.5
10 to 20	5.1	84.7	3,103.0	409.7	4,578.6	53.3
Less than 10	4.2	25.4	4,846.4	144.3	4,228.0	18,140.4
All areas	18,206.7	18,206.7	18,206.7	18,206.7	18,206.7	18,206.7

Table 6. Area of commercial forest land by area-condition and ownership classes, Arkansas, 1969

Area-condition class	All owner-ships	National forest	Other public	Forest industry	Farmer and misc. private
----- Thousand acres -----					
10	201.7	32.8	5.4	62.7	100.8
20	85.7	17.7	...	50.5	17.5
30	136.1	34.8	...	37.5	63.8
40	2,104.9	520.9	16.2	827.3	740.5
50	6,051.6	891.3	202.5	1,320.0	3,637.8
60	7,970.2	789.9	292.4	1,423.0	5,464.9
70	1,656.5	90.8	43.8	229.7	1,292.2
All classes	18,206.7	2,378.2	560.3	3,950.7	11,317.5

Table 7. Area of commercial forest land by site and ownership classes, Arkansas, 1969

Site class	All owner-ships	National forest	Other public	Forest industry	Farmer and misc. private
----- Thousand acres -----					
165 cu. ft. or more	214.5	...	6.4	67.1	141.0
120 to 165 cu. ft.	909.8	2.6	76.9	420.0	410.3
85 to 120 cu. ft.	3,650.0	111.9	112.4	1,469.3	1,956.4
50 to 85 cu. ft.	8,303.4	1,299.2	227.5	1,733.5	5,043.2
Less than 50 cu. ft.	5,129.0	964.5	137.1	260.8	3,766.6
All classes	18,206.7	2,378.2	560.3	3,950.7	11,317.5

Table 8. Area of commercial forest land by forest types and ownership classes, Arkansas, 1969

Type	All ownerships	Public	Private
--- Thousand acres ---			
Loblolly-shortleaf pine	3,668.0	685.5	2,982.5
Oak-pine	3,039.6	573.0	2,466.6
Oak-hickory	8,446.3	1,373.2	7,073.1
Oak-gum-cypress	2,774.7	278.4	2,496.3
Elm-ash-cottonwood	278.1	28.4	249.7
All types	18,206.7	2,938.5	15,268.2

Table 9. Area of noncommercial forest land by forest types, Arkansas, 1969

Type	All areas	Productive-reserved areas	Un-productive areas
--- Thousand acres ---			
Loblolly-shortleaf pine	14.7	14.7	...
Oak-pine	7.7	7.7	...
Oak-hickory	48.5	18.6	29.9
Oak-gum-cypress	.3	.3	...
All types	71.2	41.3	29.9

Table 10. Number of growing-stock trees on commercial forest land by species and diameter classes, Arkansas, 1969

Species	Diameter class (inches at breast height)										
	All classes	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0 and larger
--- Thousand trees ---											
Softwood:											
Shortleaf pine	417,244	158,151	108,499	75,201	42,430	18,785	9,127	3,543	1,044	464	...
Loblolly pine	282,314	129,939	59,338	35,809	23,712	14,634	8,707	5,162	2,793	2,168	52
Cypress	8,465	1,321	2,006	1,616	945	702	552	425	260	409	229
Redcedar	22,074	15,898	3,731	1,277	943	198	...	13	14	...	...
Total	730,097	305,309	173,574	113,903	68,030	34,319	18,386	9,143	4,111	3,041	281
Hardwood:											
Select white oaks ¹	189,385	96,913	43,770	22,438	12,322	7,184	3,883	1,504	775	568	28
Select red oaks ²	65,505	23,283	16,942	10,319	5,660	4,099	2,440	1,239	870	626	27
Other white oaks	193,576	94,516	46,911	24,230	12,133	6,938	4,000	2,102	1,388	1,286	72
Other red oaks	227,988	94,467	53,336	34,089	18,760	12,032	7,475	3,841	1,772	2,029	187
Pecan	14,396	6,080	2,466	2,048	984	997	638	409	227	480	67
Other hickories	149,990	78,253	38,284	17,232	8,841	4,268	1,791	644	335	334	8
Sweetgum	141,161	65,884	32,899	18,592	10,930	6,803	3,075	1,700	741	510	27
Tupelo and blackgum	37,206	17,009	7,331	4,514	2,708	2,362	1,417	668	465	662	70
Hard maple	4,677	2,972	928	345	183	105	100	34	10	...	...
Soft maple	10,269	4,967	2,671	1,542	506	260	134	111	27	46	5
Beech	3,206	778	418	635	430	277	277	113	136	136	6
Ash	28,328	12,554	7,253	3,823	1,794	1,205	626	436	303	318	16
Cottonwood	4,132	1,354	413	412	422	574	455	215	163	106	18
Basswood	1,496	460	594	190	99	45	28	38	...	42	...
Yellow-poplar	144	...	44	...	25	56	...	12	7	...	...
Black walnut	4,055	1,436	1,140	678	552	87	115	47	...	...	...
Black cherry	3,799	2,001	809	566	277	61	58	18	9	...	...
Willow	11,090	4,864	1,684	1,327	956	897	597	328	210	227	...
Magnolia	96	...	...	43	...	...	38	15	...	...	...
American elm	17,921	8,842	4,047	2,394	932	765	332	277	86	202	44
Other elms	36,290	22,023	7,492	4,198	1,379	653	238	139	82	83	3
Hackberry	20,772	8,095	4,519	3,377	1,486	1,312	951	471	272	289	...
Sycamore	4,492	1,214	572	861	687	307	331	211	152	149	8
Other hardwoods	33,601	19,405	8,000	3,235	1,695	782	194	83	82	125	...
Total	1,203,575	567,370	282,523	157,088	83,761	52,069	29,193	14,655	8,112	8,218	586
All species	1,933,672	872,679	456,097	270,991	151,791	86,388	47,579	23,798	12,223	11,259	867

¹ Includes white, swamp chestnut, chinkapin, Durand, swamp white, and bur oaks.

² Includes cherry bark, Shumard, and northern red oaks.

Table 11. Volume of timber on commercial forest land by class of timber and by softwoods and hardwoods, Arkansas, 1969

Class of timber	All species	Soft-wood	Hard-wood
	— Million cubic feet —		
Sawtimber trees:			
Saw-log portion	8,067.1	4,432.5	3,634.6
Upper-stem portion	1,767.5	477.1	1,290.4
Total	9,834.6	4,909.6	4,925.0
Poletimber trees	5,394.0	1,512.8	3,881.2
All growing stock	15,228.6	6,422.4	8,806.2
Rough trees	1,597.5	53.3	1,544.2
Rotten trees	848.4	24.8	823.6
Salvable dead trees	29.5	11.9	17.6
All timber	17,704.0	6,512.4	11,191.6

Table 12. Volume of growing stock and sawtimber on commercial forest land by ownership classes and by softwoods and hardwoods, Arkansas, 1969

Ownership class	Growing stock			Sawtimber		
	All species	Soft-wood	Hard-wood	All species	Soft-wood	Hard-wood
— Million cubic feet —				— Million board feet —		
National forest	2,280.1	1,205.7	1,074.4	6,711.3	4,302.3	2,409.0
Other public	532.2	89.1	443.1	1,814.4	367.6	1,446.8
Forest industry	4,542.9	2,637.1	1,905.8	16,798.8	11,484.1	5,314.7
Farmer and misc. private	7,873.4	2,490.5	5,382.9	20,864.5	8,660.1	12,204.4
All ownerships	15,228.6	6,422.4	8,806.2	46,189.0	24,814.1	21,374.9

Table 13. Volume of growing stock on commercial forest land by species and diameter classes, Arkansas, 1969

Species	Diameter class (inches at breast height)										
	All classes	5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0 and larger
----- Million cubic feet -----											
Softwood:											
Shortleaf pine	3,588.4	342.3	594.1	807.9	733.6	496.3	338.8	168.7	65.7	41.0	...
Loblolly pine	2,603.8	250.2	283.5	357.9	398.5	374.1	313.9	246.8	173.5	196.7	8.7
Cypress	182.0	2.0	9.7	12.3	10.9	14.3	16.2	19.6	14.3	30.4	52.3
Redcedar	48.2	20.2	10.8	6.5	7.9	2.0	...	.2	.6	...	...
Total	6,422.4	614.7	898.1	1,184.6	1,150.9	886.7	668.9	435.3	254.1	268.1	61.0
Hardwood:											
Select white oaks	1,212.6	214.0	218.7	199.8	184.1	153.6	112.7	55.4	36.7	33.4	4.2
Select red oaks	625.4	54.0	85.4	92.3	85.1	92.9	72.4	51.7	44.0	44.1	3.5
Other white oaks	1,191.5	180.2	209.3	190.9	166.8	126.4	103.2	68.0	58.2	78.8	9.7
Other red oaks	1,961.5	195.2	276.8	314.1	287.7	269.6	218.0	144.7	87.9	141.4	26.1
Pecan	193.0	13.3	12.2	18.7	15.8	23.6	21.7	17.2	13.2	47.8	9.5
Other hickories	812.0	141.5	168.7	143.9	138.7	93.4	53.6	27.6	18.2	25.2	1.2
Sweetgum	1,139.4	128.4	168.6	186.3	196.9	175.7	110.2	75.9	41.4	45.7	10.3
Tupelo and blackgum	316.3	28.7	35.0	38.6	41.0	52.2	41.1	23.5	20.0	32.2	4.0
Hard maple	23.9	7.0	4.5	2.6	3.3	2.6	2.1	1.5	.3	...	...
Soft maple	58.6	10.3	11.2	12.1	7.5	5.4	3.7	3.4	1.2	3.4	.4
Beech	52.6	1.8	2.2	4.7	7.0	5.9	9.0	4.2	7.1	10.1	.6
Ash	221.1	28.8	35.5	33.1	28.2	27.0	18.6	16.0	12.9	19.2	1.8
Cottonwood	84.1	2.8	2.4	4.6	7.9	16.3	17.8	10.1	10.0	8.5	3.7
Basswood	14.2	1.1	2.0	2.0	1.5	.9	1.3	2.0	...	3.4	...
Yellow-poplar	2.9	...	.4	...	.5	1.1	...	.5	.4	...	...
Black walnut	29.5	3.4	5.5	5.4	7.7	2.2	3.3	2.0	...	...	...
Black cherry	21.5	4.3	3.8	4.6	4.8	1.3	1.8	.5	.4	...	...
Willow	129.0	10.9	7.6	12.6	15.8	24.0	18.8	13.1	10.0	16.2	...
Magnolia	2.8	...	...	.5	...	...	1.5	.8	...	...	...
American elm	127.4	15.7	17.1	19.0	14.8	15.6	9.1	10.6	4.4	14.7	6.4
Other elms	163.0	39.8	33.3	33.8	19.3	13.5	6.4	7.2	3.3	5.9	.5
Hackberry	188.7	16.8	20.6	25.7	20.8	29.1	27.0	17.1	12.6	19.0	...
Sycamore	72.1	3.4	2.9	7.7	11.6	6.1	10.7	8.8	8.4	11.7	.8
Other hardwoods	163.1	40.0	37.0	26.1	24.9	15.9	5.8	2.3	3.2	7.9	...
Total	8,806.2	1,141.4	1,360.7	1,379.1	1,291.7	1,154.3	869.8	564.1	393.8	568.6	82.7
All species	15,228.6	1,756.1	2,258.8	2,563.7	2,442.6	2,041.0	1,538.7	999.4	647.9	836.7	143.7

Table 14. Volume of sawtimber on commercial forest land by species and diameter classes, Arkansas, 1969

Species	Diameter class (inches at breast height)								
	All classes	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 28.9	29.0 and larger
----- Million board feet -----									
Softwood:									
Shortleaf pine	13,204.5	3,229.0	3,683.3	2,719.2	1,948.8	987.9	386.9	249.4	...
Loblolly pine	10,645.4	1,134.6	1,897.0	2,012.9	1,806.4	1,465.2	1,052.6	1,225.2	51.5
Cypress	912.0	32.5	43.1	71.2	85.0	113.1	81.5	178.3	307.3
Redcedar	52.2	12.4	27.2	7.8	...	1.2	3.6	...	...
Total	24,814.1	4,408.5	5,650.6	4,811.1	3,840.2	2,567.4	1,524.6	1,652.9	358.8
Hardwood:									
Select white oaks	2,458.3	...	678.4	633.9	520.5	261.5	174.8	165.8	23.4
Select red oaks	1,742.1	...	315.4	404.1	325.4	242.8	219.2	217.6	17.6
Other white oaks	2,653.7	...	613.9	538.4	468.8	314.8	278.2	392.5	47.1
Other red oaks	5,032.5	...	1,020.0	1,120.9	975.2	681.6	415.4	691.3	128.1
Pecan	692.8	...	60.0	103.8	93.3	79.3	68.3	239.8	48.3
Other hickories	1,537.7	...	527.6	407.1	248.7	128.6	90.0	129.1	6.6
Sweetgum	2,886.6	...	704.0	785.9	522.9	367.5	207.9	248.7	49.7
Tupelo and blackgum	930.0	...	135.0	224.7	193.7	112.8	93.1	153.6	17.1
Hard maple	40.9	...	12.4	11.5	8.1	7.2	1.7	...	...
Soft maple	103.2	...	25.8	21.8	15.8	14.7	6.4	16.9	1.8
Beech	201.6	...	25.9	27.1	41.6	21.4	33.3	48.3	4.0
Ash	535.6	...	100.0	113.2	91.0	68.2	62.1	94.5	6.6
Cottonwood	336.4	...	26.2	69.6	80.8	49.1	48.6	42.0	20.1
Basswood	46.2	...	6.6	3.2	7.7	11.3	...	17.4	...
Yellow-poplar	10.7	...	1.9	4.1	...	2.4	2.3	...	...
Black walnut	56.8	...	25.2	8.8	13.1	9.7	...	...	...
Black cherry	37.2	...	18.2	6.8	8.8	2.2	1.2	...	...
Willow	433.3	...	56.4	104.0	88.0	60.6	47.9	76.4	...
Magnolia	10.8	...	...	...	6.6	4.2	...	...	...
American elm	339.6	...	57.4	67.8	43.1	50.4	21.3	74.6	25.0
Other elms	247.1	...	73.7	57.3	28.9	35.4	16.9	32.4	2.5
Hackberry	531.3	...	72.5	122.6	112.3	81.4	55.7	86.8	...
Sycamore	268.6	...	41.0	25.0	50.1	45.0	41.8	61.9	3.8
Other hardwoods	241.9	...	87.7	64.9	25.1	11.2	15.2	37.8	...
Total	21,374.9	...	4,685.2	4,926.5	3,969.5	2,663.3	1,901.3	2,827.4	401.7
All species	46,189.0	4,408.5	10,335.8	9,737.6	7,809.7	5,230.7	3,425.9	4,480.3	760.5

Table 15. *Volume of sawtimber on commercial forest land by species and log grade, Arkansas, 1969*

Species	All grades	Grade 1	Grade 2	Grade 3	Grade 4
----- Million board feet -----					
Softwood:					
Yellow pines	23,849.9	1,363.5	6,097.6	9,327.7	7,061.1
Cypress	912.0	128.0	214.6	369.3	200.1
Other softwoods	52.2	52.2	...	...	...
Total	<u>24,814.1</u>	<u>1,543.7</u>	<u>6,312.2</u>	<u>9,697.0</u>	<u>7,261.2</u>
Hardwood:					
Select white and red oaks	4,200.4	517.4	876.2	2,160.4	646.4
Other white and red oaks	7,686.2	898.6	1,492.1	3,759.8	1,535.7
Hickory	2,230.5	335.8	378.7	1,111.9	404.1
Hard maple	40.9	3.5	4.4	25.1	7.9
Sweetgum	2,886.6	340.2	597.0	1,438.3	511.1
Ash, walnut, and black cherry	629.6	141.4	138.7	292.8	56.7
Yellow-poplar	10.7	1.2	1.9	6.3	1.3
Other hardwoods	3,690.0	653.6	796.3	1,671.1	569.0
Total	<u>21,374.9</u>	<u>2,891.7</u>	<u>4,285.3</u>	<u>10,465.7</u>	<u>3,732.2</u>
All species	<u>46,189.0</u>	<u>4,435.4</u>	<u>10,597.5</u>	<u>20,162.7</u>	<u>10,993.4</u>

Table 16. *Annual growth and removals of growing stock on commercial forest land by species, Arkansas, 1968*

Species	Net annual growth	Annual removals
----- Million cubic feet -----		
Softwood:		
Yellow pines	378.2	278.9
Cypress	7.0	1.7
Other softwoods	5.3	.7
Total	<u>390.5</u>	<u>281.3</u>
Hardwood:		
Select white and red oaks	72.2	37.3
Other white and red oaks	140.3	117.2
Hickory	48.1	26.0
Hard maple	1.5	.4
Sweetgum	40.6	35.4
Tupelo and blackgum	14.2	12.5
Ash, walnut, and black cherry	15.9	10.8
Yellow-poplar	.1	(¹)
Other hardwoods	35.2	49.7
Total	<u>368.1</u>	<u>289.3</u>
All species	<u>758.6</u>	<u>570.6</u>

¹ Negligible.

Table 17. Annual growth and removals of growing stock on commercial forest land by ownership classes and by softwoods and hardwoods, Arkansas, 1969

Ownership class	Net annual growth			Annual removals		
	All species	Soft-wood	Hard-wood	All species	Soft-wood	Hard-wood
----- Million cubic feet -----						
National forest	90.5	52.7	37.8	44.7	27.5	17.2
Other public	21.9	4.4	17.5	13.8	5.3	8.5
Forest industry	239.0	150.9	88.1	203.8	149.7	54.1
Farmer and misc. private	407.2	182.5	224.7	308.3	98.8	209.5
All ownerships	758.6	390.5	368.1	570.6	281.3	289.3

Table 18. Annual growth and removals of sawtimber on commercial forest land by species, Arkansas, 1968

Species	Net annual growth	Annual removals
----- Million board feet -----		
Softwood:		
Yellow pines	1,533.7	1,282.1
Cypress	32.5	9.3
Other softwoods	3.8	1.5
Total	<u>1,570.0</u>	<u>1,292.9</u>
Hardwood:		
Select white and red oaks	172.1	155.7
Other white and red oaks	331.4	355.2
Hickory	92.0	68.8
Hard maple	2.2	.6
Sweetgum	116.6	115.9
Tupelo and blackgum	24.8	51.0
Ash, walnut, and black cherry	26.1	31.3
Yellow-poplar	.3	(¹)
Other hardwoods	127.8	155.7
Total	<u>893.3</u>	<u>934.7</u>
All species	<u>2,463.3</u>	<u>2,227.6</u>

¹ Negligible.

Table 19. Annual growth and removals of sawtimber on commercial forest land by ownership classes and by softwoods and hardwoods, Arkansas, 1968

Ownership class	Net annual growth			Annual removals		
	All species	Soft-wood	Hard-wood	All species	Soft-wood	Hard-wood
----- Million board feet -----						
National forest	301.6	235.5	66.1	190.9	138.5	52.4
Other public	73.7	17.6	56.1	57.6	23.0	34.6
Forest industry	947.2	721.1	226.1	961.1	760.2	200.9
Farmer and misc. private	1,140.8	595.8	545.0	1,018.0	371.2	646.8
All ownerships	2,463.3	1,570.0	893.3	2,227.6	1,292.9	934.7

Table 20. Mortality of growing stock and sawtimber on commercial forest land by species, Arkansas, 1968

Species	Growing stock	Sawtimber
	Million cubic feet	Million board feet
Softwood:		
Yellow pines	18.3	46.2
Cypress	1.4	7.9
Other softwoods	(¹)	(¹)
Total	<u>19.7</u>	<u>54.1</u>
Hardwood:		
Select white and red oaks	4.4	11.4
Other white and red oaks	10.9	29.1
Hickory	4.1	11.2
Hard maple	1.0	1.2
Sweetgum	6.4	17.3
Tupelo and blackgum	3.4	10.8
Ash, walnut, and black cherry	2.4	5.5
Yellow-poplar	(¹)	(¹)
Other hardwoods	16.0	45.9
Total	<u>48.6</u>	<u>132.4</u>
All species	68.3	186.5

¹ Negligible.

Table 21. Mortality of growing stock and sawtimber on commercial forest land by ownership classes and by softwoods and hardwoods, Arkansas, 1968

Ownership class	Growing stock			Sawtimber		
	All species	Soft-wood	Hard-wood	All species	Soft-wood	Hard-wood
	—Million cubic feet—			—Million board feet—		
National forest	8.4	3.3	5.1	21.2	8.2	13.0
Other public	4.0	.2	3.8	15.4	...	15.4
Forest industry	21.8	8.9	12.9	65.3	29.7	35.6
Farmer and misc. private	34.1	7.3	26.8	84.6	16.2	68.4
All ownerships	68.3	19.7	48.6	186.5	54.1	132.4

Table 22. Mortality of growing stock and sawtimber on commercial forest land by causes and by softwoods and hardwoods, Arkansas, 1968

Cause of death	Growing stock			Sawtimber		
	All species	Soft-wood	Hard-wood	All species	Soft-wood	Hard-wood
	—Million cubic feet—			—Million board feet—		
Fire	6.2	1.7	4.5	17.8	6.7	11.1
Insects	.7	.6	.1	2.6	2.6	...
Disease	.4	.2	.2	1.0	.6	.4
Other	9.0	2.7	6.3	29.2	7.2	22.0
Unknown	52.0	14.5	37.5	135.9	37.0	98.9
All causes	68.3	19.7	48.6	186.5	54.1	132.4

Table 23. Total output of timber products by product, by type of material used, and by softwoods and hardwoods, Arkansas, 1968

Product and species group	Standard units	Total output		Roundwood products		Plant byproducts	
		Number	M cu. ft.	Number	M cu. ft.	Number	M cu. ft.
Saw logs:							
Softwood	M bd. ft. ¹	789,599	129,889	789,599	129,889	...	...
Hardwood	M bd. ft. ¹	448,877	74,828	448,877	74,828	...	...
Total	M bd. ft. ¹	1,238,476	204,717	1,238,476	204,717	...	...
Veneer logs and bolts:							
Softwood	M bd. ft.	206,196	33,920	206,196	33,920	...	...
Hardwood	M bd. ft.	20,216	3,392	20,216	3,392	...	...
Total	M bd. ft.	226,412	37,312	226,412	37,312	...	...
Pulpwood:							
Softwood	Std. cords ²	1,671,191	135,367	1,011,888	81,963	659,303	53,404
Hardwood	Std. cords ²	626,479	50,118	520,254	41,620	106,225	8,498
Total	Std. cords ²	2,297,670	185,485	1,532,142	123,583	765,528	61,902
Cooperage:							
Softwood	M bd. ft.	...	...	...	...	...	...
Hardwood	M bd. ft.	22,459	3,232	22,459	3,232	...	...
Total	M bd. ft.	22,459	3,232	22,459	3,232	...	...
Piling:							
Softwood	M linear ft.	2,410	1,804	2,410	1,804	...	...
Hardwood	M linear ft.	...	...	...	...	...	...
Total	M linear ft.	2,410	1,804	2,410	1,804	...	...
Poles:							
Softwood	M pieces	548	5,778	548	5,778	...	...
Hardwood	M pieces	...	...	...	...	...	...
Total	M pieces	548	5,778	548	5,778	...	...
Commercial posts (round and split):							
Softwood	M pieces	6,741	3,783	6,741	3,783	...	...
Hardwood	M pieces	1	1	1	1	...	...
Total	M pieces	6,742	3,784	6,742	3,784	...	...
Other: ³							
Softwood	M cu. ft.	11,437	11,437	1,644	1,644	9,793	9,793
Hardwood	M cu. ft.	9,446	9,446	8,599	8,599	847	847
Total	M cu. ft.	20,883	20,883	10,243	10,243	10,640	10,640
Total industrial products:							
Softwood	...	...	...	...	258,781	...	63,197
Hardwood	...	...	...	...	131,672	...	9,345
Total	...	...	...	...	390,453	...	72,542
Noncommercial posts (round and split):							
Softwood	M pieces	637	408	637	408	...	...
Hardwood	M pieces	3,807	2,436	3,807	2,436	...	...
Total	M pieces	4,444	2,844	4,444	2,844	...	...
Fuelwood:							
Softwood	Std. cords	200,709	15,373	1,586	119	⁴ 199,123	⁴ 15,254
Hardwood	Std. cords	521,073	39,153	451,245	33,843	⁴ 69,828	⁴ 5,310
Total	Std. cords	721,782	54,526	452,831	33,962	⁴ 268,951	⁴ 20,564
All products:							
Softwood	...	...	...	...	259,308	...	78,451
Hardwood	...	...	...	...	167,951	...	14,655
Total	...	...	...	...	427,259	...	93,106

¹ International 1/4-inch rule.² Rough wood basis (for example, chips converted to equivalent standard cords).³ Includes chemical wood, handle stock, miscellaneous dimension and other minor industrial products. Additionally, byproducts include material used for livestock bedding, mulch, etc.⁴ Includes plant byproducts used for industrial and domestic fuel.

Table 24. Output of roundwood products by source and by softwoods and hardwoods, Arkansas, 1968

Product and species group	All sources	Growing-stock trees ¹			Rough and rotten trees ¹	Salvable dead trees ¹	Other sources ²
		Total	Saw-timber	Pole-timber			
----- <i>Thousand cubic feet</i> -----							
Industrial products:							
Saw logs:							
Softwood	129,889	129,021	128,547	474	158	...	710
Hardwood	74,828	72,045	71,955	90	988	1,750	45
Total	204,717	201,066	200,502	564	1,146	1,750	755
Veneer logs and bolts:							
Softwood	33,920	33,693	33,569	124	41	...	186
Hardwood	3,392	3,334	3,334	...	44	...	14
Total	37,312	37,027	36,903	124	85	...	200
Pulpwood:							
Softwood	81,963	78,050	53,809	24,241	543	...	3,370
Hardwood	41,620	33,435	18,777	14,658	6,312	107	1,766
Total	123,583	111,485	72,586	38,899	6,855	107	5,136
Misc. industrial products:							
Cooperage:							
Softwood	...	...	...	...	...	...	...
Hardwood	3,232	3,189	3,188	1	21	...	22
Total	3,232	3,189	3,188	1	21	...	22
Piling:							
Softwood	1,804	1,797	1,797	...	...	...	7
Hardwood	...	...	...	...	...	...	...
Total	1,804	1,797	1,797	...	...	...	7
Poles:							
Softwood	5,778	5,735	5,072	663	...	...	43
Hardwood	...	...	...	...	...	...	...
Total	5,778	5,735	5,072	663	...	...	43
Commercial posts (round and split):							
Softwood	3,783	3,448	...	3,448	...	...	335
Hardwood	1	1	...	1	...	...	...
Total	3,784	3,449	...	3,449	...	...	335
Other:							
Softwood	1,644	1,521	614	907	...	...	123
Hardwood	8,599	7,216	4,903	2,313	547	268	568
Total	10,243	8,737	5,517	3,220	547	268	691
All misc. industrial products:							
Softwood	13,009	12,501	7,483	5,018	...	...	508
Hardwood	11,832	10,406	8,091	2,315	568	268	590
Total	24,841	22,907	15,574	7,333	568	268	1,098
All industrial products:							
Softwood	258,781	253,265	223,408	29,857	742	...	4,774
Hardwood	131,672	119,220	102,157	17,063	7,912	2,125	2,415
Total	390,453	372,485	325,565	46,920	8,654	2,125	7,189
Noncommercial posts (round and split):							
Softwood	408	368	200	168	18	...	22
Hardwood	2,436	2,198	640	1,558	106	...	132
Total	2,844	2,566	840	1,726	124	...	154
Fuelwood:							
Softwood	119	88	2	86	6	5	20
Hardwood	33,843	24,909	10,153	14,756	1,759	1,310	5,865
Total	33,962	24,997	10,155	14,842	1,765	1,315	5,885
All products:							
Softwood	259,308	253,721	223,610	30,111	766	5	4,816
Hardwood	167,951	146,327	112,950	33,377	9,777	3,435	8,412
Total	427,259	400,048	336,560	63,488	10,543	3,440	13,228

¹On commercial forest land.²Includes noncommercial forest land, nonforest land such as fence rows, trees less than 5.0 inches in diameter, and treetops and limbs.

Table 25. *Timber removals from growing stock on commercial forest land by items and by softwoods and hardwoods, Arkansas, 1968*

Item	All species	Soft-wood	Hard-wood
— Thousand cubic feet —			
Roundwood products:			
Saw logs	201,066	129,021	72,045
Veneer logs and bolts	37,027	33,693	3,334
Pulpwood	111,485	78,050	33,435
Cooperage logs and bolts	3,189	...	3,189
Piling	1,797	1,797	...
Poles	5,735	5,735	...
Posts	6,015	3,816	2,199
Other	8,737	1,521	7,216
Fuelwood	24,997	88	24,909
All products	400,048	253,721	146,327
Logging residues	63,278	24,384	38,894
Other removals	107,253	3,186	104,067
Total removals	570,579	281,291	289,288

Table 26. *Timber removals from live sawtimber on commercial forest lands by items and by softwoods and hardwoods, Arkansas, 1968*

Item	All species	Soft-wood	Hard-wood
— Thousand board feet —			
Roundwood products:			
Saw logs	1,201,675	780,045	421,630
Veneer logs and bolts	223,315	203,701	19,614
Pulpwood	286,684	213,929	72,755
Cooperage logs and bolts	21,458	...	21,458
Piling	10,656	10,656	...
Poles	29,313	29,313	...
Posts	3,276	795	2,481
Other	28,170	2,813	25,357
Fuelwood	4,702	9	4,693
All products	1,809,249	1,241,261	567,988
Logging residues	130,469	43,978	86,491
Other removals	287,978	7,711	280,267
Total removals	2,227,696	1,292,950	934,746

Table 27. *Volume of plant residues by industrial source and type of residue and by softwoods and hardwoods, Arkansas, 1968*

Species group and type	All industries	Lumber	Veneer and plywood	Other
— — — — — Thousand cubic feet — — — — —				
Softwood:				
Coarse ¹	10,050	7,482	1,839	729
Fine ²	10,357	8,984	104	1,269
Total	20,407	16,466	1,943	1,998
Hardwood:				
Coarse	11,188	8,607	346	2,235
Fine	14,581	12,283	33	2,265
Total	25,769	20,890	379	4,500
All species:				
Coarse	21,238	16,089	2,185	2,964
Fine	24,938	21,267	137	3,534
All types	46,176	37,356	2,322	6,498

¹Unused material suitable for chipping, such as slabs, edgings, and veneer cores.

²Unused material not suitable for chipping, such as sawdust and shavings.

Table 28. *Projections of net annual growth, available cut, and inventory of growing stock and sawtimber on commercial forest land, Arkansas, 1968-1998*¹

Species group	Growing stock				Sawtimber			
	1968	1978	1988	1998	1968	1978	1988	1998
	----- Thousand cubic feet -----				----- Thousand board feet -----			
Softwood:								
Cut	281,300	395,900	502,600	575,700	1,292,900	1,751,000	2,126,000	2,310,000
Growth	390,500	466,900	536,200	575,700	1,570,000	1,906,000	2,059,000	2,140,000
Inventory ²	6,422,400	7,302,500	7,806,400	7,938,200	24,814,100	27,904,000	28,105,000	26,806,000
Hardwood:								
Cut	289,300	339,200	392,100	440,600	934,700	978,000	1,054,000	1,092,000
Growth	368,100	394,200	423,700	440,600	893,300	904,000	945,000	977,000
Inventory ²	8,806,200	9,451,500	9,874,800	10,052,300	21,374,900	21,019,000	20,050,000	18,920,000
Total								
Cut	570,600	735,100	894,700	1,016,300	2,227,600	2,729,000	3,180,000	3,402,000
Growth	758,600	861,100	959,900	1,016,300	2,463,300	2,810,000	3,004,000	3,117,000
Inventory ²	15,228,600	16,754,000	17,681,200	17,990,500	46,189,000	48,923,000	48,155,000	45,726,000

¹Based on the assumption that the cut of growing stock will be in balance with growth by the year 1998, and that forestry progress will continue at the rate indicated by recent trends.

²Inventory as of January 1 of the following year.



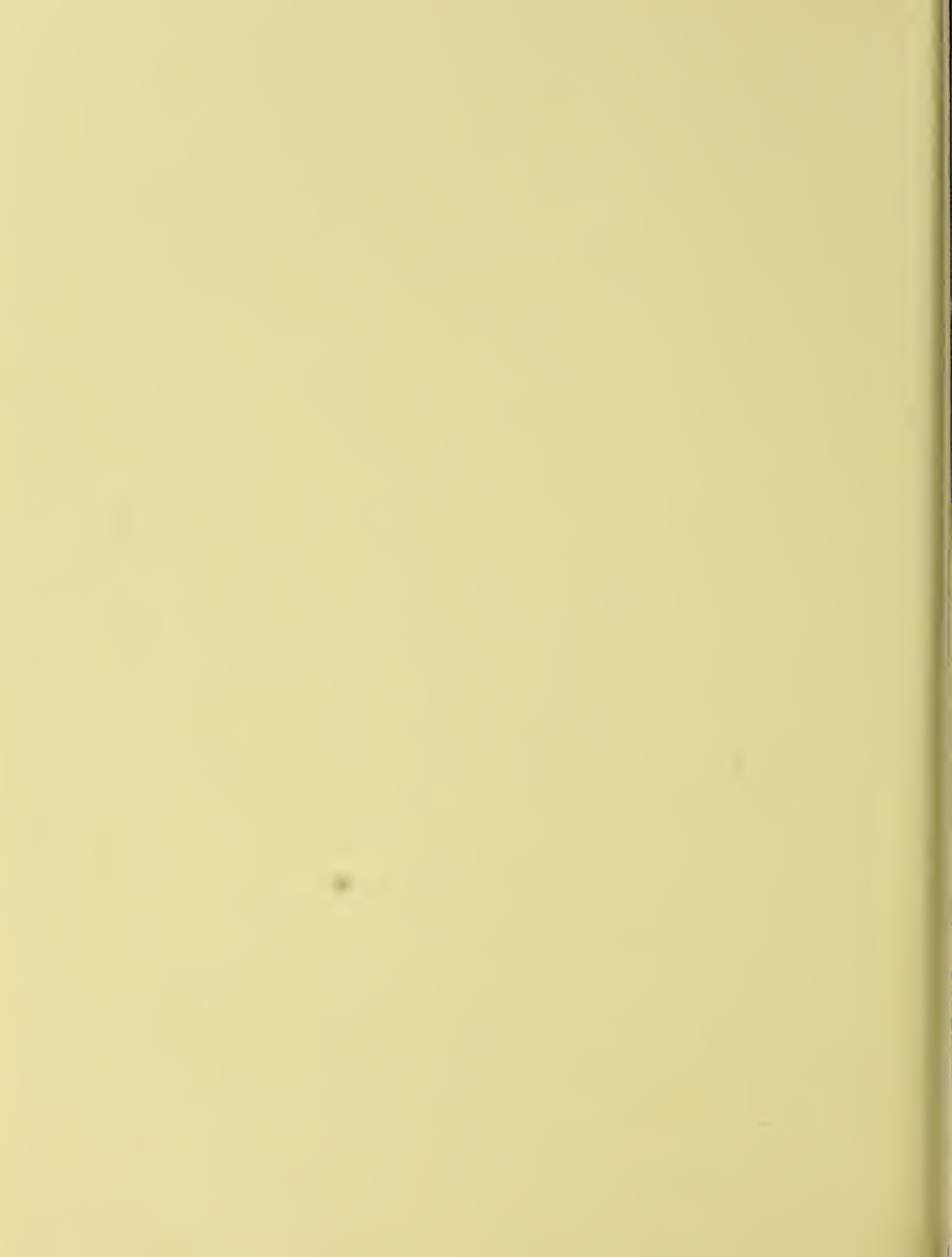




Midsouth Veneer Log Production

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Midsouth Veneer Log Production

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Veneer manufacturing is an important segment of the forest industries and is increasing in importance every year. Veneer logs are high-valued in comparison with other kinds of logs and bolts, and considerable employment is generated and much value added in their manufacture.

More than half of the veneer logs made in the Eastern United States are presently cut in the Midsouth—Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, Tennessee, and Texas. In 1969 the Midsouth's softwood veneer log output totaled 1,123 million board feet (International ¼-inch rule). Hardwood production was 217 million.

During the past decade annual veneer log output in the Midsouth shifted from nearly all hardwood to chiefly pine. This change resulted

from the initiation of large-scale manufacture of southern pine plywood in the early 1960's. The first southern pine plywood mill became operational in December 1963. Others soon followed (fig. 1). The growth potential of this fledgling industry points to continued gains in regional veneer log output.

The data in this report are the result of a study of 1969 veneer log production and receipts in Midsouth States. Comparison with an earlier study of 1963 output provides the basis for assessing trends in production and use.¹ The tables showing names and locations of veneer plants are from a 100-percent canvass of mills active or under construction at the time of the study.

¹ Christopher, J. F., and Sternitzke, H. S. Midsouth veneer industry. USDA Forest Serv. Resour. Bull. SO-5, 12 p. S. Forest Exp. Sta., New Orleans, La. 1964.

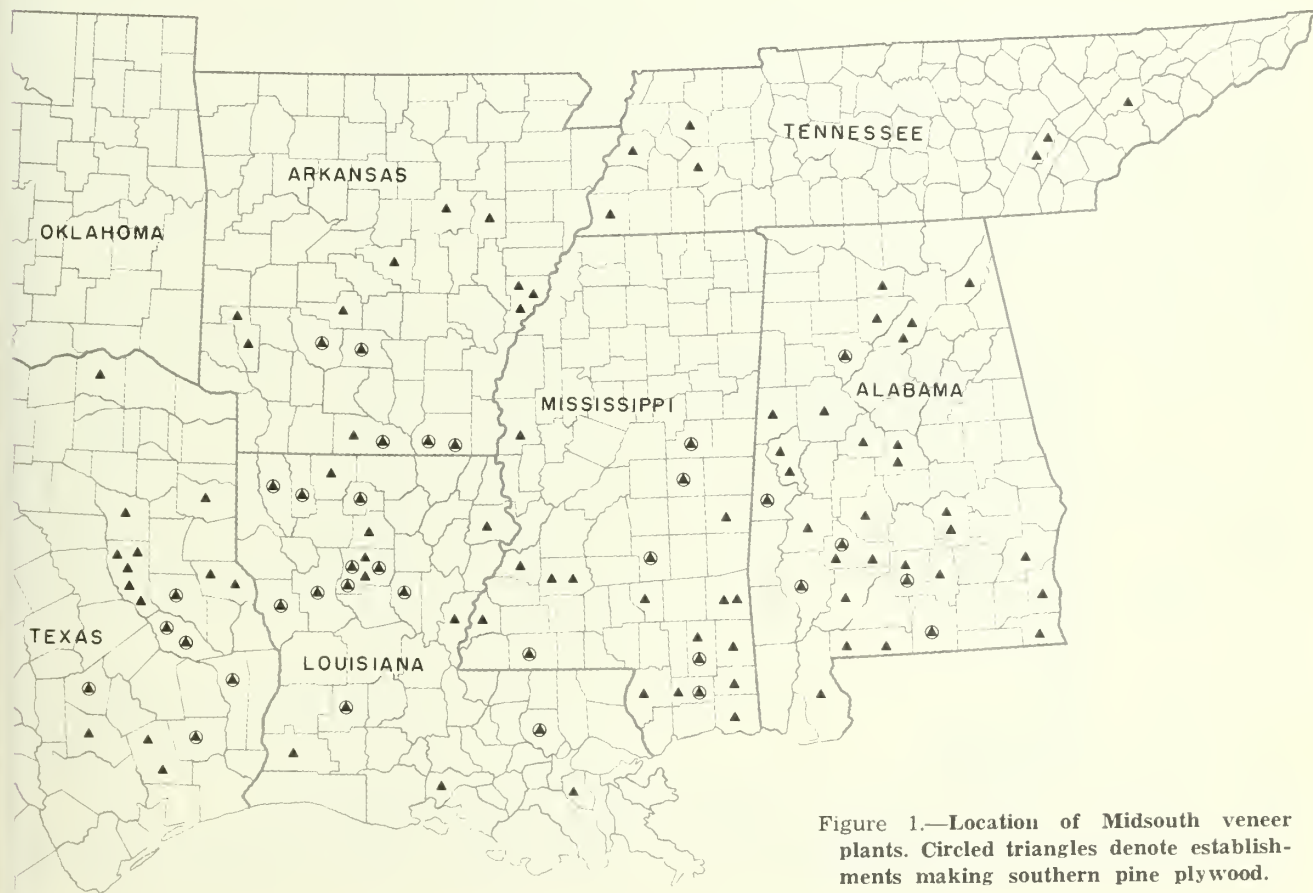


Figure 1.—Location of Midsouth veneer plants. Circled triangles denote establishments making southern pine plywood.

HARDWOOD TRENDS

Midsouth forests still provide about one-quarter of the hardwood veneer logs cut in the United States, but output dropped 13 percent between 1963 and 1969, to 217 million board feet. During the same period, the number of hardwood veneer plants in the Midsouth declined a fifth.

Both container and standard veneer plants are fewer today. The latter, which make hardwood veneer for manufacture of plywood, furniture, doors, and woodenware, were formerly the region's major consumer of veneer logs. Today container plants process most of the hardwood logs peeled in the Midsouth. These mills are able to use logs of smaller diameter and poorer quality than standard veneer manufacturers.

The distribution of veneer-log output among timber species is also changing. Manufacturers have long favored soft-textured species such as sweetgum, tupelo, cottonwood, and yellow-poplar. In 1963, such species made up some 85 percent of the hardwood veneer-log output; oak and other firm-textured species made up the rest. In 1969 the cut of soft-textured logs was about 70 percent of the total hardwood output. Production of sweetgum and tupelo dropped 33 and 47 percent, respectively. The reduction is due to shortages of timber rather than a shift in the species preference of manufacturers.

Among firm-textured species, pecan and oak have risen in importance. This change is largely a response to wider consumer acceptance of these woods in furniture (fig. 2).

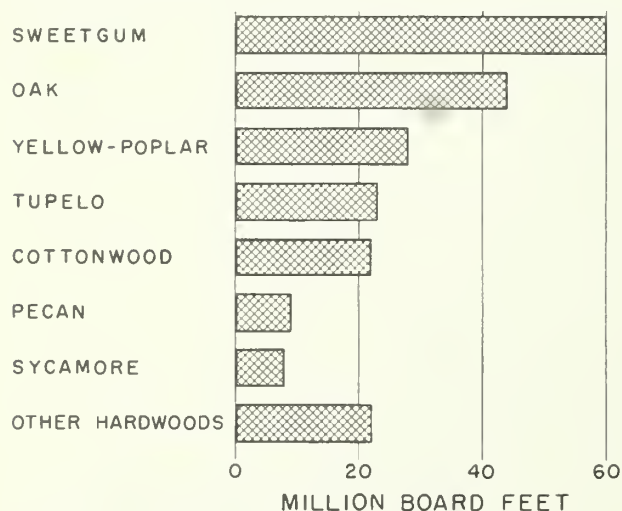


Figure 2.—Hardwood veneer log output by species.

As in 1963, most of the hardwood veneer logs cut within the Midsouth were milled locally; the small quantity exported went mainly to the Southeast and Midwest.

Short-term prospects for maintaining recent levels of hardwood output are dim. In terms of meeting immediate demands, the timber suited to veneer production is the standing volume in hardwoods 18 inches and larger in diameter. Regionally, the timber inventory failed to accrue any volume in such trees during the past decade. Moreover, much of the existing volume in these sizes occurs either in single trees and small groups that are not economically harvestable or in species that are in little demand for veneer. In the Lower Mississippi Valley, the tight supply situation has been accentuated by widespread clearing of prime hardwood land for the production of soybeans. Meanwhile, reservoir construction has inundated choice hardwood acreage in secondary river bottoms.

SOFTWOOD TRENDS

As late as 1963, southern pine made up a scant 2 percent of the Midsouth's annual output of veneer logs. In 1969, more than 80 percent of the region's output was pine. Virtually all of this volume was processed into certified softwood plywood—that is, plywood meeting designated nationwide commercial standards. A small amount was made into container veneer for the fabrication of boxes, baskets, and hampers.

Until 1963, production of softwood veneer and plywood in the United States was centered in the coastal Douglas-fir region. Of the locational factors that contributed to the development of the southern pine plywood industry, timber availability was decisive. In 1964, its first full year of operation, the industry produced 80 million square feet ($\frac{3}{8}$ -inch basis) of certified plywood. By the end of 1969, annual output had zoomed to 2.8 billion square feet or 20 percent of the total United States softwood plywood output.

Of the 34 southern pine plywood plants active in 1969, 24 were in the Midsouth. Seventeen were in the West Gulf Coastal Plain, where there is a sizable acreage of industrially and publicly owned forest land.

Production of pine veneer logs in the Midsouth was 4 million board feet in 1963. By

1969, it reached a new high of 1,123 million board feet.

All but 2 percent of the softwood residue generated at veneer plants is salvaged for other uses. About two-thirds of the total is converted to fiber products, and many of the cores are sawn into studs.

The pine outlook is bright. Growth of southern pine timber in the 1960's was high enough to support industry's need for timber and simultaneously build up the regional inventory. Gains were realized in all diameter classes customarily harvested. Pine quality—largely a function of tree diameter—has also been improving. These trends do much to explain the

emergence of the pine plywood industry. Furthermore, within the range of species and tree sizes that it uses, the pine plywood industry is fully competitive with other major forest products manufacturers.

At the beginning of 1970, the reported annual capacity of the Midsouth pine plywood industry totaled more than 2 billion square feet ($\frac{3}{8}$ -inch basis). Expansion of existing facilities, new plants under construction, and those still in the planning stage will boost the industry's capability to some 4 billion square feet by the mid-1970's. By then, the Midsouth alone should be producing at least a fourth of the Nation's projected cut of softwood veneer logs.

Table 1.—Veneer log production by State and species, 1969

Species	All States							
	Alabama	Arkansas	Louisiana	Mississippi	Oklahoma	Tennessee	Texas	
Thousand board feet¹								
Softwood:								
Southern pine	1,123,544	137,065	234,685	425,380	174,870	—	—	151,544
Cypress	7	—	4	—	3	—	—	—
Total	1,123,551	137,065	234,689	425,380	174,873	—	—	151,544
Hardwood:								
Sweetgum	60,098	26,340	6,419	8,071	9,416	—	795	9,057
Red oak	35,935	10,162	2,210	9,256	2,937	—	306	11,064
Yellow-poplar	27,831	15,344	—	304	7,575	—	4,608	—
Tupelo	23,007	11,095	1,214	4,185	3,848	—	458	2,207
Cottonwood	22,500	363	5,834	2,072	11,658	1,132	421	1,020
Pecan	9,207	—	1,905	537	873	2,300	681	2,911
White oak	7,829	2,268	434	1,581	564	—	340	2,642
Sycamore	7,826	2,857	2,068	310	1,873	—	459	259
Elm	4,319	1,651	444	460	453	128	105	1,078
Sweetbay	3,640	1,185	57	221	2,042	—	17	118
Hickory	2,256	1,107	31	276	186	—	312	344
Hackberry	2,202	879	594	130	157	64	15	363
Magnolia	2,120	1,526	—	48	432	—	—	114
Maple	2,059	1,378	233	45	197	—	114	92
Ash	1,592	882	66	140	218	—	—	286
Beech	1,569	461	4	365	278	—	—	461
Basswood	1,144	919	3	24	173	—	12	13
Willow	663	98	385	103	—	—	26	51
River birch	531	404	36	4	32	—	8	47
Walnut	217	—	77	—	—	—	127	13
Boxelder	64	—	64	—	—	—	—	—
Persimmon	64	—	—	—	—	—	64	—
Locust	6	—	—	—	—	—	—	6
Cherry	6	—	—	—	—	—	—	6
Total	216,685	78,919	22,078	28,132	42,912	3,624	8,868	32,152
All species	1,340,236	215,984	256,767	453,512	217,785	3,624	8,868	183,696

¹ International $\frac{1}{4}$ -inch rule.

Table 2.—Veneer log receipts by State and species, 1969

Species	All States							
	Alabama	Arkansas	Louisiana	Mississippi	Oklahoma	Tennessee	Texas	
	Thousand board feet ¹							
Softwood:								
Southern pine	1,122,023	149,977	261,317	402,987	179,673	—	—	128,069
Cypress	7	—	4	—	3	—	—	—
Total	1,122,030	149,977	261,321	402,987	179,676	—	—	128,069
Hardwood:								
Sweetgum	62,959	28,827	6,643	6,726	10,000	—	1,763	9,000
Red oak	36,205	10,228	2,484	4,805	5,614	—	319	12,755
Yellow-poplar	26,117	16,115	—	15	7,917	—	2,070	—
Tupelo	25,229	13,196	1,642	4,246	3,542	—	602	2,001
Cottonwood	22,762	365	7,122	4,857	7,551	—	570	2,297
Sycamore	7,957	2,916	2,415	43	1,704	—	613	266
White oak	7,639	2,330	392	682	959	—	87	3,189
Elm	4,508	1,808	465	236	635	—	133	1,231
Sweetbay	3,901	1,419	76	116	2,149	—	23	118
Magnolia	2,477	1,883	—	33	447	—	—	114
Pecan	2,379	—	900	272	—	—	281	926
Maple	2,253	1,569	234	36	195	—	125	94
Hackberry	2,222	894	594	128	165	—	15	426
Hickory	2,123	888	18	224	409	—	187	397
Ash	1,687	973	64	37	291	—	—	322
Beech	1,580	467	—	313	289	—	—	511
Basswood	1,147	918	3	—	198	—	15	13
Willow	671	99	384	103	—	—	34	51
Cherry	645	—	—	—	—	—	639	6
River birch	554	427	36	—	32	—	8	51
Boxelder	64	—	64	—	—	—	—	—
Persimmon	64	—	—	—	—	—	64	—
Walnut	13	—	—	—	—	—	—	13
Locust	6	—	—	—	—	—	—	6
Catwo	11,960	4,043	—	—	7,917	—	—	—
Virola	1,383	1,383	—	—	—	—	—	—
Khaya	852	—	—	—	—	—	852	—
Total	229,357	90,748	23,536	22,872	50,014	—	8,400	33,787
All species	1,351,387	240,725	284,857	425,859	229,690	—	8,400	161,856

¹ International ¼-inch rule.

Table 3.—Veneer log movement by State, 1969

State	Logged			
	and used in State	Outgoing shipments	Incoming receipts	Total log receipts
	Thousand board feet ¹			
Alabama	212,303	3,681	28,422	240,725
Arkansas	250,541	6,226	34,316	284,857
Louisiana	394,344	59,168	31,515	425,859
Mississippi	194,477	23,308	35,213	229,690
Oklahoma	—	3,624	—	—
Tennessee	4,821	4,047	3,579	8,400
Texas	155,824	27,872	6,032	161,856
Total	1,212,310	127,926	139,077	1,351,387

¹ International ¼-inch rule.

Table 4.—Veneer log movement by species, 1969

Species	Logged in Midsouth			Midsouth imports	Net used in Midsouth
	Total	Retained	Exported		
	Thousand board feet¹				
Softwood	1,123,551	1,121,929	1,622	101	1,122,030
Sweetgum	60,098	60,098	—	2,861	62,959
Oak	43,764	43,425	339	419	43,844
Yellow-poplar	27,831	24,511	3,320	1,606	26,117
Tupelo	23,007	22,918	89	2,311	25,229
Cottonwood	22,500	22,389	111	373	22,762
Other hardwoods	39,485	32,296	7,189	1,955	34,251
Cativo	—	—	—	11,960	11,960
Other foreign	—	—	—	2,235	2,235
All species	1,340,236	1,327,566	12,670	23,821	1,351,387

¹ International ¼-inch rule.

Table 5.—Veneer plant residues used, 1969

State	All	Fiber	Fuel	Other
	Thousand cubic feet			
Alabama	17,776	12,723	920	4,133
Arkansas	21,432	13,143	421	7,868
Louisiana	30,848	21,789	129	8,930
Mississippi	16,596	14,267	928	1,401
Tennessee	568	218	304	46
Texas	11,757	7,096	1,213	3,448
Total	98,977	69,236	3,915	25,826

Table 6.—Veneer plant residues not used, 1969

State	All types	Coarse ¹	Fine
	Thousand cubic feet		
Alabama	689	518	171
Arkansas	283	226	57
Louisiana	1,595	306	1,289
Mississippi	963	703	260
Tennessee	85	81	4
Texas	615	504	111
Total	4,230	2,338	1,892

¹ Coarse residues include cores and other material generally suitable for chipping.

Table 7.—Alabama veneer plants

County	Type ¹	Firm	Location
Baldwin	O	Bacon-McMillan Veneer Co., Inc.	Stockton
Barbour	C	Alabama-Georgia Veneer Co.	Eufaula
Bibb	O	W. E. Belcher Co., Inc.	Centreville
Blount	C	Marsh and Standridge	Nectar
	C	Oneonta Basket Co.	Oneonta
Butler	C	Georgiana Veneer Co., Inc.	Georgiana
	O	Union Camp Co.*	Chapman
Chilton	O	Chilton County Veneer Co.	Maplesville
	C	Jemison Basket Co.	Jemison
Clarke	O	Scotch Plywood Co.*	Fulton
Crenshaw	C	H. E. Browder Veneer Co.	Bradleyton
Covington	O	Dixon Plywood Corp.*	River Falls
Cullman	C	E. Malchow & Sons	Cullman
Dallas	O	Howell Veneer Co., Inc.	Selma
De Kalb	C	Winborn Veneer Co.	Allen
Escambia	O	Harold Brothers Lumber Co.	East Brewton
	C	T. R. Miller Mill Co., Inc.	Brewton
Greene	C	Knoxville Veneer Works	Knoxville
	C	Sumter Veneer Works	Eutaw
Henry	O	Dixie Veneer Co.	Abbeville
Houston	O	Howell Plywood Corp.	Dothan
Marengo	O	A. R. Taylor Veneer Co., Inc.	Demopolis
Monroe	O	Meridian Plywood Inc.	Monroeville
Montgomery	C	Browder Veneer Works	Montgomery
	C	Capital Veneer Works, Inc.	Montgomery
Morgan	C	Decatur Box and Basket Co.	Decatur
Pickens	C	Aliceville Veneers Inc.	Aliceville
Sumter	O	Sumpter Plywood Corp.*	Livingston
Tuscaloosa	O	Thompson and Swaim Veneer, Inc.	Tuscaloosa
Walker	O	Birmingham Forest Products, Inc.*	Cordova
Wilcox	C	Browder Veneer Inc.	Camden
	O	MacMillan Bloedel Products, Inc.*	Pine Hill
	C	Millers Bend Lumber Co.	Pine Hill

¹ C indicates plants producing chiefly container veneer.

O indicates plants producing chiefly commercial and other veneers.

* Produces southern pine plywood.

Table 8.—Arkansas veneer plants

County	Type ¹	Firm	Location
Ashley	O	Georgia-Pacific Corp.* (Plant # 1)	Crossett
	O	Georgia-Pacific Corp.* (Plant # 2)	Crossett
Clark	O	Arkla Chemical Corp.*	Gurdon
Dallas	O	Georgia-Pacific Corp.*	Fordyce
Hot Spring	C	Van Veneer Co.	Malvern
Howard	C	Nashville Basket Co.	Nashville
	O	Ouachita Veneer Co.	Umpire
Phillips	O	Beisel Veneer Co.	West Helena
	C	Chicago Mill and Lumber Co.	West Helena
	O	McKnight Veneer and Plywoods, Inc.	West Helena
Pulaski	C	Little Rock Crate and Basket Co.	Little Rock
Union	O	Junction City Veneer Corp.	Junction City
	O	Olinkraft, Inc.*	Huttig
White	O	Enterprise Veneer Co.	Judsonia
Woodruff	O	Delta Plywood Corp.	Cotton Plant

¹ C indicates plants producing chiefly container veneer.

O indicates plants producing chiefly commercial and other veneers.

* Produces southern pine plywood.

Table 9.—Louisiana veneer plants

Parish	Type ¹	Firm	Location
Allen	O	Vancouver Plywood Co., Inc.*	Oakdale
Bossier	O	Anthony Forest Products Co.*	Plain Dealing
Calcasieu	C	General Box Co.	Lunita
Claiborne	O	Santiam Southern Co.	Haynesville
Concordia	C	American Box Co.	Clayton
Iberia	O	Freeman Veneer Co., Inc.	Jeanerette
Jackson	O	Louisiana Veneer Co.	Chatham
La Salle	O	Georgia-Pacific Corp.*	Urania
Lincoln	O	Santiam Southern Co.*	Ruston
Livingston	O	U.S. Plywood-Champion Papers, Inc.*	Holden
Madison	C	Chicago Mill and Lumber Co.	Tallulah
Natchitoches	O	South Ply, Inc.*	Natchitoches
Sabine	O	Vancouver Plywood Co., Inc.*	Florien
St. Charles	O	Delta Match Corp. of La.	Kenner
Webster	O	Woodard-Walker-Willamette, Inc.*	Minden
Winn	O	Louisiana Plywood Corp.*	Dodson
	O	Olinkraft, Inc.*	Winnfield
	O	Red Oak Veneer Mill, Inc.	Winnfield
	O	Tremont Lumber Co.*	Joyce
	O	Winnfield Veneer Co.	Winnfield

¹ C indicates plants producing chiefly container veneer.

O indicates plants producing chiefly commercial and other veneers.

* Produces southern pine plywood.

Table 10.—Mississippi veneer plants

County	Type ¹	Firm	Location
Adams	O	Natchez Veneer and Lumber Co.	Natchez
Amite	O	Georgia-Pacific Corp.*	Gloster
Claiborne	C	Port Gibson Veneer and Box Co.	Port Gibson
Copiah	C	Central Box Co., Inc.	Crystal Springs
	C	Hazlehurst Box Co.	Hazlehurst
Covington	O	Rhymes Veneers, Inc.	Collins
George	O	Lucedale Veneer Co., Inc.	Lucedale
Greene	C	Leakesville Forest Products, Inc.	Leakesville
Jackson	O	PAVCO Industries, Inc.	Pascagoula
Lauderdale	O	Meridian Plywood, Inc.	Meridian
Neshoba	O	Weyerhaeuser Co.*	Philadelphia
Pearl River	C	St. Regis Paper Co.	Picayune
Perry	O	Delta Pine Plywood Co.*	Beaumont
	O	Perry County Plywood Corp.	Beaumont
Smith	O	Georgia-Pacific Corp.*	Taylorville
Stone	O	International Paper Co.*	Wiggins
	O	Wiggins Veneer Co., Inc.	Wiggins
Washington	C	Chicago Mill and Lumber Co.	Greenville
Wayne	C	The Day Co.	Waynesboro
	O	Scotch Plywood Co. of Miss.	Waynesboro
Winston	O	Georgia-Pacific Corp.*	Louisville

¹ C indicates plants producing chiefly container veneer.
O indicates plants producing chiefly commercial and other veneers.

* Produces southern pine plywood.

Table 11.—Tennessee veneer plants

County	Type ¹	Firm	Location
Gibson	C	Dyer Fruit Box Mfg. Co.	Dyer
Knox	O	Foreign and Domestic Veneers, Inc.	Knoxville
Lauderdale	C	Ripley Veneer and Plywood Co.	Ripley
Madison	O	Ashby Veneer and Lumber Co.	Jackson
Rhea	C	Gholdston Basket Factory	Dayton
	C	W. A. Shipley Basket Mfg. Co.	Dayton
Shelby	O	Tennessee Veneer Co., Inc.	Memphis

¹ C indicates plants producing chiefly container veneer.
O indicates plants producing chiefly commercial and other veneers.

Table 12.—Texas veneer plants

County	Type ¹	Firm	Location
Angelina	O	Owens-Illinois, Inc.*	Lufkin
	O	Southern Pine Plywood Co.*	Diboll
Cherokee	C	Aber Box and Basket Factory	Jacksonville
	C	Newton-Shank Mfg. Co.	Jacksonville
	C	Peacock Crate Factory	Jacksonville
	C	F. A. Shinalt and Sons	Jacksonville
	C	Slover Crate and Lumber Mill	Rusk
Hardin	O	Kirby Lumber Corp.*	Silsbee
Harrison	C	Key Brothers Mfg. Co.	Marshall
Jasper	O	Owens-Illinois, Inc.*	Jasper
Lamar	C	American Box Co.	Paris
Liberty	O	E. L. Bruce Co. of Texas	Cleveland
	O	Liberty Veneer and Panel Co.	Liberty
Montgomery	O	Timber Products, Inc.	Willis
Nacogdoches	O	International Paper Co.*	Nacogdoches
Shelby	O	E. L. Bruce Co. of Texas	Center
	O	Center Plywood Co., Inc.	Center
Smith	C	B. C. Slover Crate Factory	Gresham
Walker	O	Georgia-Pacific Corp.*	New Waverly

¹ C indicates plants producing chiefly container veneer.

O indicates plants producing chiefly commercial and other veneers.

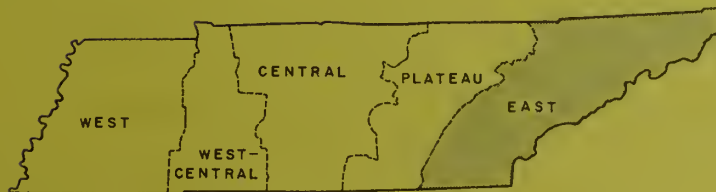
* Produces southern pine plywood.



Forest Statistics
for
East Tennessee Counties



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Forest Service, U. S. Department of Agriculture

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—cubic feet	10,18,20,22,24
—cubic meters	11,25
SAWTIMBER IN—	
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Forest Statistics for East Tennessee Counties

Arnold Hedlund and J. M. Earles

This report tabulates information from a new forest inventory of east Tennessee counties, completed in 1971 by the Southern Forest Experiment Station. The tables are intended for use as source data in compiling estimates for groups of counties. Because the sampling procedure is intended primarily to furnish inventory data for the State as a whole, estimates for individual counties have limited and variable accuracy.

The data on forest acreage and timber volume were secured by a systematic sampling method involving a forest-nonforest classification on aerial photographs and on-the-ground measurements of trees at sample locations. The sample locations were at the intersections of a grid of lines spaced 3 miles apart. At each forested location, 10 small plots were uniformly distributed on an area of about 1 acre.

The sampling errors to which the county area and volume totals are liable (on a probability of two chances out of three) are shown in table 1.

An approximation of sampling errors for groups of counties may be obtained by using the formula:

$$e = \frac{(SE) \sqrt{\text{specified volume or area}}}{\sqrt{\text{volume or area total in question}}}$$

Where e = Estimated sampling error of the volume or area total in question

SE = Specified sampling error for the region.

When data for two or more counties are grouped the error decreases. Conversely, as data for individual counties are broken down

Table 1. *Sampling errors¹ for forest land and timber volume by county, 1971*

County	Commercial forest land	Growing stock	Sawtimber	County	Commercial forest land	Growing stock	Sawtimber
----- Percent -----				----- Percent -----			
Anderson	2	13	19	Knox	2	18	24
Blount	3	15	21	Loudon	9	23	32
Bradley	7	8	28	McMinn	3	13	25
Carter	2	11	17	Meigs	4	23	37
Claiborne	3	14	22	Monroe	1	9	14
Cocke	2	12	17	Polk	2	10	13
Grainger	3	18	21	Rhea	3	10	18
Greene	2	15	22	Roane	4	10	17
Hamblen	4	36	48	Sevier	3	12	19
Hamilton	3	15	24	Sullivan	1	17	23
Hancock	2	30	35	Unicoi	5	15	20
Hawkins	3	13	24	Union	5	13	25
Jefferson	5	21	29	Washington	1	18	29
Johnson	4	15	23	All counties	.6	2.8	4.3

¹ By random-sampling formula.

by various subdivisions, the possibility of error increases and is greatest for the smallest items. Sampling errors associated with the estimates of the principal timber species in this report are shown in table 2.

Table 2. *Sampling errors¹ for timber volume by species, 1971*

Species	Growing stock	Sawtimber
	- Percent -	
Softwood:		
Shortleaf pine	11	15
Loblolly pine	26	35
Virginia pine	9	11
Pitch pine	22	26
Table-Mountain pine	39	42
White pine	18	19
Hemlock	28	35
Redcedar	17	25
All softwoods	5.6	7.6
Hardwood:		
White oak (<i>Quercus alba</i>)	8	10
Other white oaks	7	9
Northern red oak	9	12
Other red oaks	7	9
Hickory	8	10
Hard maple	29	48
Soft maple	10	17
Beech	20	24
Sweetgum	22	29
Blackgum	12	19
White ash	16	22
Sycamore	40	43
Basswood	38	36
Yellow-poplar	11	13
Black walnut	22	24
Black cherry	27	(²)
Magnolia (<i>Magnolia</i> spp.)	27	41
American elm	25	35
Other elms	28	37
Other hardwoods	17	32
All hardwoods	3.8	5.3
All species	2.8	4.3

¹ By random-sampling formula.

² Exceeds 50 percent.

Because of differences in standards of tree measurement, meaningful comparisons cannot be made between the estimates in this report and those contained in earlier publications on Tennessee. In table 3, changes between the two surveys are summarized in terms of 1971 measurement standards.

Table 3. *Change in forest resource since 1961*

Item	Change ¹
	Percent
Commercial forest land	- 1.9
Growing-stock volume:	
Softwood	+ 28
Hardwood	+ 20
All species	+ 23
Sawtimber volume:	
Softwood	+ 15
Hardwood	+ 18
All species	+ 17

¹ Based on 1971 measurement standards.

It is anticipated that data for other counties of Tennessee will be published as field work progresses. A Statewide interpretive report will be issued when all counties have been inventoried; it will include an evaluation of timber trends since the previous survey of 1961.

In the tables that follow, sawtimber volume is shown in International ¼-inch rule except when Doyle or Scribner rule is indicated.

DEFINITIONS OF TERMS

Acceptable trees.—Growing-stock trees of commercial species that meet specified standards of size and quality but do not qualify as desirable trees.

Commercial forest land.—Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization.

Desirable trees.—Growing-stock trees that are of commercial species, have no defects in quality for timber products, are of relatively high vigor, and contain no pathogens that may result in death or serious deterioration before rotation age.

Forest type.—A classification of forest land based upon the species forming a plurality of live-tree stocking.

Growing-stock trees.—Live trees that are of commercial species and qualify as desirable or acceptable trees.

Growing-stock volume.—Net volume in cubic feet of growing-stock trees at least 5.0

inches in diameter at breast height, from a 1-foot stump to a minimum 4.0-inch top diameter outside bark of the central stem, or to the point where the central stem breaks into limbs.

Poletimber trees.—Growing-stock trees of commercial species at least 5.0 inches in diameter at breast height, but smaller than sawtimber size.

Sawtimber trees.—Live trees that are of commercial species, contain at least a 12-foot saw log, and meet regional specifications for freedom from defect. Softwoods must be at

least 9.0 inches in diameter at breast height and hardwoods at least 11.0 inches.

Sawtimber volume.—Net volume of the saw-log portion of live sawtimber in board feet, International 1/4-inch rule, unless otherwise indicated.

Site class.—A classification of forest land in terms of inherent capacity to grow crops of industrial wood.

Stand-size class.—A classification of forest land based on the size class of growing-stock trees on the area; that is, sawtimber, poletimber, or seedling and saplings.

Table 4. Commercial forest land by ownership class and county, 1971

County	All ownerships	National forest	Other public	Forest industry	Farmer	Misc. private
- - - - - Thousand acres - - - - -						
Anderson	140.3	...	10.1	...	30.3	99.9
Blount	125.6	...	.2	17.9	94.9	12.6
Bradley	107.2	...	.2	26.6	39.9	40.5
Carter	145.0	78.9	(1/)	...	23.0	43.1
Claiborne	166.4	...	6.4	...	95.3	64.7
Cocke	168.0	42.2	.1	...	72.3	53.4
Grainger	94.6	...	3.4	4.3	81.1	5.8
Greene	135.2	35.7	.1	...	92.9	6.5
Hamblen	25.2	...	1.9	...	18.8	4.5
Hamilton	180.2	...	13.8	5.3	57.9	103.2
Hancock	85.4	...	...	...	84.8	.6
Hawkins	167.4	...	6.4	5.4	118.0	37.6
Jefferson	58.5	...	.9	...	49.1	8.5
Johnson	124.2	49.0	.1	...	32.2	42.9
Knox	106.2	...	1.7	...	41.0	63.5
Loudon	53.3	...	1.0	4.1	28.5	19.7
McMinn	145.5	2.1	.5	22.2	55.6	65.1
Meigs	80.6	...	1.6	12.3	43.1	23.6
Monroe	295.8	138.1	.8	17.3	86.4	53.2
Polk	227.7	148.8	2.3	5.4	21.7	49.5
Rhea	134.6	...	...	36.1	71.8	26.7
Roane	131.2	...	27.7	...	73.3	30.2
Sevier	159.2	...	.8	...	70.9	87.5
Sullivan	109.2	36.9	2.9	...	29.2	40.2
Unicoi	94.4	51.5	.1	11.8	...	31.0
Union	84.6	...	28.5	...	23.3	32.8
Washington	61.6	16.5	(1/)	...	33.4	11.7
All counties	3,407.1	599.7	111.5	168.7	1,468.7	1,058.5

1/ Negligible.

Table 5. *Metric area of commercial forest land by ownership class and county, 1971*

County	All ownerships	National forest	Other public	Forest industry	Farmer	Misc. private
- - - - - Thousand hectares - - - - -						
Anderson	56.8	...	4.1	...	12.3	40.4
Blount	50.8	...	.1	7.2	38.4	5.1
Bradley	43.4	...	.1	10.8	16.1	16.4
Carter	58.7	31.9	(<u>1</u> /)	...	9.3	17.5
Claiborne	67.3	...	2.6	...	38.5	26.2
Cocke	68.0	17.1	(<u>1</u> /)	...	29.3	21.6
Grainger	38.3	...	1.4	1.7	32.9	2.3
Greene	54.7	14.5	(<u>1</u> /)	...	37.6	2.6
Hamblen	10.2	...	.8	...	7.6	1.8
Hamilton	72.9	...	5.6	2.1	23.4	41.8
Hancock	34.6	...	...	...	34.4	.2
Hawkins	67.7	...	2.6	2.2	47.7	15.2
Jefferson	23.7	...	.4	...	19.9	3.4
Johnson	50.3	19.9	(<u>1</u> /)	...	13.0	17.4
Knox	43.0	...	.7	...	16.6	25.7
Loudon	21.6	...	.4	1.7	11.5	8.0
McMinn	58.9	.8	.2	9.0	22.5	26.4
Meigs	32.6	...	.6	5.0	17.4	9.6
Monroe	119.7	55.9	.4	7.0	34.9	21.5
Polk	92.1	60.2	.9	2.2	8.8	20.0
Rhea	54.5	...	...	14.6	29.1	10.8
Roane	53.1	...	11.2	...	29.7	12.2
Sevier	64.4	...	.3	...	28.7	35.4
Sullivan	44.2	14.9	1.2	...	11.8	16.3
Unicoi	38.2	20.8	(<u>1</u> /)	4.8	...	12.6
Union	34.2	...	11.5	...	9.4	13.3
Washington	24.9	6.7	(<u>1</u> /)	...	13.5	4.7
All counties	1,378.8	242.7	45.1	68.3	594.3	428.4

1/ Negligible.

Table 6. Commercial forest land by forest type and county, 1971

County	All types	White pine	Loblolly-shortleaf pine	Oak-pine	Cedar	Oak-hickory	Maple-beech-birch
----- Thousand acres -----							
Anderson	140.3	...	6.1	18.3	12.2	103.7	...
Blount	125.6	6.0	12.0	47.8	...	59.8	...
Bradley	107.2	...	67.0	...	...	40.2	...
Carter	145.0	5.8	11.6	11.6	...	110.2	5.8
Claiborne	166.4	...	6.4	12.8	12.8	128.0	6.4
Cocke	168.0	...	11.2	39.2	...	112.0	5.6
Grainger	94.6	...	...	...	8.6	86.0	...
Greene	135.2	...	5.2	10.4	10.4	109.2	...
Hamblen	25.2	...	6.3	...	6.3	12.6	...
Hamilton	180.2	...	21.2	58.3	...	100.7	...
Hancock	85.4	...	...	...	...	85.4	...
Hawkins	167.4	...	21.6	16.2	10.8	118.8	...
Jefferson	58.5	...	13.5	4.5	13.5	27.0	...
Johnson	124.2	...	...	16.2	...	102.6	5.4
Knox	106.2	...	11.8	17.7	11.8	64.9	...
Loudon	53.3	...	12.3	12.3	4.1	24.6	...
McMinn	145.5	...	56.0	22.3	5.6	61.6	...
Meigs	80.6	...	12.4	31.0	...	37.2	...
Monroe	295.8	5.8	92.8	58.0	5.8	121.8	11.6
Polk	227.7	...	92.3	70.6	...	64.8	...
Rhea	134.6	...	15.5	36.3	...	82.8	...
Roane	131.2	...	16.4	16.4	8.2	90.2	...
Sevier	159.2	...	36.0	41.0	...	82.2	...
Sullivan	109.2	4.2	16.8	4.2	4.2	75.6	4.2
Unicoi	94.4	5.9	...	23.6	...	59.0	5.9
Union	84.6	...	9.4	23.5	14.1	37.6	...
Washington	61.6	...	...	16.8	...	44.8	...
All counties	3,407.1	27.7	553.8	609.0	128.4	2,043.3	44.9

Table 7. Commercial forest land by stand-size class and county, 1971

County	All classes	Sawtimber	Poletimber	Sapling and seedling	Nonstocked areas
- - - - - Thousand acres - - - - -					
Anderson	140.3	36.6	42.7	61.0	...
Blount	125.6	36.0	47.8	41.8	...
Bradley	107.2	13.4	80.4	13.4	...
Carter	145.0	75.4	52.2	17.4	...
Claiborne	166.4	38.4	51.2	70.4	6.4
Cocke	168.0	50.4	72.8	44.8	...
Grainger	94.6	30.1	21.5	43.0	...
Greene	135.2	26.0	20.8	88.4	...
Hamblen	25.2	6.3	12.6	6.3	...
Hamilton	180.2	58.3	31.8	90.1	...
Hancock	85.4	18.3	30.5	36.6	...
Hawkins	167.4	27.0	81.0	59.4	...
Jefferson	58.5	13.5	9.0	36.0	...
Johnson	124.2	32.4	64.8	27.0	...
Knox	106.2	29.5	17.7	59.0	...
Loudon	53.3	16.4	16.4	20.5	...
McMinn	145.5	33.6	44.8	67.1	...
Meigs	80.6	6.2	37.2	37.2	...
Monroe	295.8	81.2	98.6	116.0	...
Polk	227.7	102.7	76.1	48.9	...
Rhea	134.6	15.5	51.9	67.2	...
Roane	131.2	20.5	36.9	73.8	...
Sevier	159.2	36.0	51.3	71.9	...
Sullivan	109.2	29.4	29.4	50.4	...
Unicoi	94.4	47.2	17.7	29.5	...
Union	84.6	28.2	37.6	18.8	...
Washington	61.6	28.0	16.8	16.8	...
All counties	3,407.1	936.5	1,151.5	1,312.7	6.4

Table 8. Commercial forest land by site class and county, 1971

County	All classes	165 cu.ft. or more	120-165 cu.ft.	85-120 cu.ft.	50-85 cu.ft.	Less than 50 cu.ft.
- - - - - Thousand acres - - - - -						
Anderson	140.3	...	12.2	24.4	67.1	36.6
Blount	125.6	12.0	12.0	11.9	71.7	18.0
Bradley	107.2	...	...	13.4	67.0	26.8
Carter	145.0	...	...	23.2	63.8	58.0
Claiborne	166.4	...	...	51.2	76.8	38.4
Cocke	168.0	...	5.6	28.0	95.2	39.2
Grainger	94.6	...	4.3	25.8	25.8	38.7
Greene	135.2	...	10.4	15.6	57.2	52.0
Hamblen	25.2	...	...	6.3	18.9	...
Hamilton	180.2	...	...	26.5	121.9	31.8
Hancock	85.4	...	...	18.3	48.8	18.3
Hawkins	167.4	...	10.8	16.2	86.4	54.0
Jefferson	58.5	...	...	13.5	18.0	27.0
Johnson	124.2	...	...	16.2	81.0	27.0
Knox	106.2	...	11.8	29.5	47.2	17.7
Loudon	53.3	...	4.1	4.1	36.9	8.2
McMinn	145.5	...	11.2	33.6	78.3	22.4
Meigs	80.6	...	6.2	6.2	62.0	6.2
Monroe	295.8	5.8	11.6	75.4	127.6	75.4
Polk	227.7	5.4	16.4	64.9	103.1	37.9
Rhea	134.6	...	...	30.8	62.2	41.6
Roane	131.2	...	...	32.8	86.1	12.3
Sevier	159.2	...	...	20.5	66.9	71.8
Sullivan	109.2	4.2	...	16.8	50.4	37.8
Unicoi	94.4	...	...	29.5	53.1	11.8
Union	84.6	...	...	28.2	37.6	18.8
Washington	61.6	...	...	16.8	28.0	16.8
All counties	3,407.1	27.4	116.6	679.6	1,739.0	844.5

Table 9. Cordage of growing stock on commercial forest land by species group and county, 1971

County	All species	Softwood			Hardwood			
		Total	Southern pine	Other	Total	Oak	Gum	Other
- - - - - Thousand cords - - - - -								
Anderson	1,507	311	242	69	1,196	645	43	508
Blount	2,030	872	773	99	1,158	725	15	418
Bradley	1,392	865	834	31	527	236	31	260
Carter	2,450	496	119	377	1,954	1,058	30	866
Claiborne	1,644	237	234	3	1,407	654	48	705
Cocke	2,463	521	313	208	1,942	1,133	12	797
Grainger	1,242	160	123	37	1,082	503	46	533
Greene	1,465	243	176	67	1,222	594	15	613
Hamblen	461	88	60	28	373	266	...	107
Hamilton	2,135	881	881	...	1,254	827	22	405
Hancock	920	32	25	7	888	304	18	566
Hawkins	2,112	357	340	17	1,755	982	33	740
Jefferson	587	77	49	28	510	248	19	243
Johnson	1,812	255	67	188	1,557	866	28	663
Knox	1,325	392	377	15	933	470	31	432
Loudon	616	212	195	17	404	291	12	101
McMinn	1,706	716	696	20	990	437	82	471
Meigs	907	404	391	13	503	285	68	150
Monroe	4,541	2,048	1,873	175	2,493	1,339	96	1,058
Polk	3,834	2,144	1,829	315	1,690	1,095	65	530
Rhea	1,367	219	167	52	1,148	677	120	351
Roane	1,304	312	295	17	992	579	76	337
Sevier	1,826	644	613	31	1,182	667	33	482
Sullivan	1,050	229	112	117	821	489	4	328
Unicoi	1,320	348	71	277	972	397	16	559
Union	1,115	299	275	24	816	424	22	370
Washington	1,000	275	104	171	725	467	18	240
All counties	44,131	13,637	11,234	2,403	30,494	16,658	1,003	12,833

Table 10. *Growing-stock volume on commercial forest land by species group and county, 1971*

County	All species	Softwood			Hardwood			
		Total	Southern pine	Other	Total	Oak	Gum	Other
- - - - - Million cubic feet - - - - -								
Anderson	103.4	23.3	18.1	5.2	80.1	43.2	2.9	34.0
Blount	143.0	65.4	58.0	7.4	77.6	48.6	1.0	28.0
Bradley	100.2	64.9	62.6	2.3	35.3	15.8	2.1	17.4
Carter	168.1	37.2	8.9	28.3	130.9	70.9	2.0	58.0
Claiborne	112.1	17.8	17.6	.2	94.3	43.8	3.2	47.3
Cocke	169.2	39.1	23.5	15.6	130.1	75.9	.8	53.4
Grainger	84.5	12.0	9.2	2.8	72.5	33.7	3.1	35.7
Greene	100.1	18.2	13.2	5.0	81.9	39.8	1.0	41.1
Hamblen	31.6	6.6	4.5	2.1	25.0	17.8	...	7.2
Hamilton	150.1	66.1	66.1	...	84.0	55.4	1.5	27.1
Hancock	61.9	2.4	1.9	.5	59.5	20.4	1.2	37.9
Hawkins	144.4	26.8	25.5	1.3	117.6	65.8	2.2	49.6
Jefferson	40.0	5.8	3.7	2.1	34.2	16.6	1.3	16.3
Johnson	123.4	19.1	5.0	14.1	104.3	58.0	1.9	44.4
Knox	91.9	29.4	28.3	1.1	62.5	31.5	2.1	28.9
Loudon	43.0	15.9	14.6	1.3	27.1	19.5	.8	6.8
McMinn	120.0	53.7	52.2	1.5	66.3	29.3	5.5	31.5
Meigs	64.0	30.3	29.3	1.0	33.7	19.1	4.5	10.1
Monroe	320.6	153.6	140.5	13.1	167.0	89.7	6.4	70.9
Polk	274.0	160.8	137.2	23.6	113.2	73.4	4.3	35.5
Rhea	93.3	16.4	12.5	3.9	76.9	45.4	8.0	23.5
Roane	89.9	23.4	22.1	1.3	66.5	38.8	5.1	22.6
Sevier	127.5	48.3	46.0	2.3	79.2	44.7	2.2	32.3
Sullivan	72.2	17.2	8.4	8.8	55.0	32.7	.3	22.0
Unicoi	91.2	26.1	5.3	20.8	65.1	26.6	1.1	37.4
Union	77.1	22.4	20.6	1.8	54.7	28.4	1.5	24.8
Washington	69.2	20.6	7.8	12.8	48.6	31.3	1.2	16.1
All counties	3,065.9	1,022.8	842.6	180.2	2,043.1	1,116.1	67.2	859.8

Table 11. *Metric volume of growing stock on commercial forest land by species group and county, 1971*

County	All species	Softwood			Hardwood			
		Total	Southern pine	Other	Total	Oak	Gum	Other
- - - - - Thousand cubic meters - - - - -								
Anderson	2,928	660	513	147	2,268	1,223	82	963
Blount	4,049	1,852	1,642	210	2,197	1,376	28	793
Bradley	2,837	1,838	1,773	65	999	447	59	493
Carter	4,759	1,053	251	802	3,706	2,008	57	1,641
Claiborne	3,174	504	498	6	2,670	1,240	91	1,339
Cocke	4,791	1,107	665	442	3,684	2,149	23	1,512
Grainger	2,393	340	261	79	2,053	954	88	1,011
Greene	2,835	516	374	142	2,319	1,127	28	1,164
Hamblen	895	187	128	59	708	504	...	204
Hamilton	4,250	1,872	1,872	...	2,378	1,569	42	767
Hancock	1,753	68	54	14	1,685	578	34	1,073
Hawkins	4,089	759	722	37	3,330	1,863	62	1,405
Jefferson	1,133	164	105	59	969	470	37	462
Johnson	3,494	541	142	399	2,953	1,642	54	1,257
Knox	2,602	833	802	31	1,769	892	59	818
Loudon	1,218	450	413	37	768	552	23	193
McMinn	3,399	1,521	1,478	43	1,878	830	156	892
Meigs	1,812	858	830	28	954	541	127	286
Monroe	9,079	4,349	3,978	371	4,730	2,541	181	2,008
Polk	7,759	4,553	3,884	669	3,206	2,079	122	1,005
Rhea	2,642	464	354	110	2,178	1,286	227	665
Roane	2,546	663	626	37	1,883	1,099	144	640
Sevier	3,610	1,368	1,303	65	2,242	1,265	62	915
Sullivan	2,044	487	238	249	1,557	926	8	623
Unicoi	2,583	739	150	589	1,844	753	32	1,059
Union	2,183	634	583	51	1,549	804	42	703
Washington	1,960	583	221	362	1,377	886	35	456
All counties	86,817	28,963	23,860	5,103	57,854	31,604	1,903	24,347

Table 12. *Sawtimber volume on commercial forest land by species group and county, 1971*

County	All species	Softwood			Hardwood			
		Total	Southern pine	Other	Total	Oak	Gum	Other
- - - - - Million board feet - - - - -								
Anderson	273.8	73.5	58.0	15.5	200.3	112.8	9.0	78.5
Blount	415.1	187.0	160.7	26.3	228.1	163.8	...	64.3
Bradley	126.5	63.3	59.5	3.8	63.2	27.4	...	35.8
Carter	439.0	143.0	11.4	131.6	296.0	173.5	7.2	115.3
Claiborne	264.6	38.0	37.3	.7	226.6	108.0	6.2	112.4
Cocke	447.7	141.3	68.2	73.1	306.4	186.4	1.8	118.2
Grainger	233.2	30.1	29.1	1.0	203.1	104.8	5.6	92.7
Greene	307.8	52.6	35.2	17.4	255.2	138.8	2.4	114.0
Hamblen	72.2	5.3	2.4	2.9	66.9	54.3	...	12.6
Hamilton	450.8	217.7	217.7	...	233.1	163.1	3.6	66.4
Hancock	175.9	8.9	7.6	1.3	167.0	71.7	1.5	93.8
Hawkins	357.0	43.0	43.0	...	314.0	213.3	2.3	98.4
Jefferson	125.0	10.4	8.5	1.9	114.6	64.7	4.2	45.7
Johnson	295.5	73.4	17.3	56.1	222.1	124.2	3.6	94.3
Knox	287.0	59.2	58.5	.7	227.8	126.7	6.6	94.5
Loudon	110.9	23.2	20.1	3.1	87.7	66.9	1.0	19.8
McMinn	275.1	110.2	110.2	...	164.9	87.6	1.3	76.0
Meigs	136.2	53.5	50.8	2.7	82.7	42.7	7.5	32.5
Monroe	885.5	429.2	390.0	39.2	456.3	225.2	8.4	222.7
Polk	764.5	471.0	388.2	82.8	293.5	203.2	8.2	82.1
Rhea	224.7	44.8	32.4	12.4	179.9	115.6	20.0	44.3
Roane	183.1	35.0	32.6	2.4	148.1	86.6	11.4	50.1
Sevier	303.4	106.9	99.1	7.8	196.5	127.7	2.5	66.3
Sullivan	156.3	46.1	16.3	29.8	110.2	73.1	...	37.1
Unicoi	259.8	98.6	19.5	79.1	161.2	83.2	1.9	76.1
Union	178.6	27.3	24.7	2.6	151.3	89.6	5.9	55.8
Washington	181.6	64.4	10.9	53.5	117.2	84.4	3.7	29.1
All counties	7,930.8	2,656.9	2,009.2	647.7	5,273.9	3,119.3	125.8	2,028.8

Table 13. *Sawtimber volume on commercial forest land by species group, diameter class, and county, 1971*

County	All species	Softwood			Hardwood		
		Total	9.0-14.9 inches	15.0 inches and up	Total	11.0-14.9 inches	15.0 inches and up
- - - - - Million board feet - - - - -							
Anderson	273.8	73.5	67.5	6.0	200.3	84.9	115.4
Blount	415.1	187.0	166.1	20.9	228.1	114.4	113.7
Bradley	126.5	63.3	63.3	...	63.2	32.7	30.5
Carter	439.0	143.0	44.6	98.4	296.0	149.4	146.6
Claiborne	264.6	38.0	36.3	1.7	226.6	146.9	79.7
Cocke	447.7	141.3	69.6	71.7	306.4	130.5	175.9
Grainger	233.2	30.1	25.8	4.3	203.1	86.7	116.4
Greene	307.8	52.6	31.5	21.1	255.2	87.9	167.3
Hamblen	72.2	5.3	5.3	...	66.9	35.7	31.2
Hamilton	450.8	217.7	158.4	59.3	233.1	107.9	125.2
Hancock	175.9	8.9	5.8	3.1	167.0	79.0	88.0
Hawkins	357.0	43.0	41.1	1.9	314.0	115.8	198.2
Jefferson	125.0	10.4	10.4	...	114.6	53.6	61.0
Johnson	295.5	73.4	27.6	45.8	222.1	111.3	110.8
Knox	287.0	59.2	48.9	10.3	227.8	52.4	175.4
Loudon	110.9	23.2	21.3	1.9	87.7	32.1	55.6
McMinn	275.1	110.2	78.7	31.5	164.9	83.4	81.5
Meigs	136.2	53.5	51.7	1.8	82.7	45.0	37.7
Monroe	885.5	429.2	310.6	118.6	456.3	208.9	247.4
Polk	764.5	471.0	394.4	76.6	293.5	155.4	138.1
Rhea	224.7	44.8	33.0	11.8	179.9	94.6	85.3
Roane	183.1	35.0	31.8	3.2	148.1	74.1	74.0
Sevier	303.4	106.9	90.9	16.0	196.5	83.4	113.1
Sullivan	156.3	46.1	28.5	17.6	110.2	62.6	47.6
Unicoi	259.8	98.6	61.1	37.5	161.2	64.5	96.7
Union	178.6	27.3	23.2	4.1	151.3	54.8	96.5
Washington	181.6	64.4	37.7	26.7	117.2	39.5	77.7
All counties	7,930.8	2,656.9	1,965.1	691.8	5,273.9	2,387.4	2,886.5

Table 14. *Sawtimber volume in Scribner rule on commercial forest land by species group and county, 1971*

County	All species	Softwood			Hardwood			
		Total	Southern pine	Other	Total	Oak	Gum	Other
- - - - - Million board feet - - - - -								
Anderson	234.5	59.1	46.0	13.1	175.4	98.0	7.9	69.5
Blount	359.0	155.7	133.6	22.1	203.3	146.4	...	56.9
Bradley	104.8	51.0	47.9	3.1	53.8	22.7	...	31.1
Carter	384.6	124.2	9.1	115.1	260.4	153.9	6.2	100.3
Claiborne	227.3	31.0	30.5	.5	196.3	94.0	5.1	97.2
Cocke	391.8	120.3	56.9	63.4	271.5	165.4	1.5	104.6
Grainger	205.8	25.2	24.5	.7	180.6	94.0	4.8	81.8
Greene	273.3	44.8	29.7	15.1	228.5	125.6	2.2	100.7
Hamblen	64.3	4.6	2.3	2.3	59.7	48.8	...	10.9
Hamilton	386.9	182.1	182.1	...	204.8	143.9	3.3	57.6
Hancock	154.3	7.1	6.2	.9	147.2	63.4	1.3	82.5
Hawkins	318.0	36.2	36.2	...	281.8	192.5	1.7	87.6
Jefferson	110.6	8.5	7.2	1.3	102.1	57.7	3.6	40.8
Johnson	259.6	63.6	14.1	49.5	196.0	110.4	3.2	82.4
Knox	253.3	49.7	49.2	.5	203.6	113.9	6.1	83.6
Loudon	96.9	19.2	16.5	2.7	77.7	59.4	.8	17.5
McMinn	237.2	91.1	91.1	...	146.1	77.9	1.1	67.1
Meigs	117.2	43.9	41.8	2.1	73.3	37.5	6.6	29.2
Monroe	765.9	362.2	327.4	34.8	403.7	198.4	7.2	198.1
Polk	656.1	394.9	325.3	69.6	261.2	180.5	7.2	73.5
Rhea	195.5	38.0	27.5	10.5	157.5	101.3	17.3	38.9
Roane	158.1	27.8	26.0	1.8	130.3	76.4	9.9	44.0
Sevier	263.4	88.8	82.2	6.6	174.6	113.1	2.2	59.3
Sullivan	135.0	38.4	12.7	25.7	96.6	64.3	...	32.3
Unicoi	225.5	82.6	16.3	66.3	142.9	74.3	1.5	67.1
Union	154.0	21.8	19.7	2.1	132.2	78.9	5.0	48.3
Washington	158.2	53.8	8.2	45.6	104.4	75.8	3.2	25.4
All counties	6,891.1	2,225.6	1,670.2	555.4	4,665.5	2,768.4	108.9	1,788.2

Table 15. *Sawtimber volume in Scribner rule on commercial forest land by species group, diameter class, and county, 1971*

County	All species	Softwood			Hardwood		
		Total	9.0-14.9 inches	15.0 inches and up	Total	11.0-14.9 inches	15.0 inches and up
- - - - - Million board feet - - - - -							
Anderson	234.5	59.1	53.7	5.4	175.4	72.1	103.3
Blount	359.0	155.7	137.6	18.1	203.3	100.2	103.1
Bradley	104.8	51.0	51.0	...	53.8	26.6	27.2
Carter	384.6	124.2	36.3	87.9	260.4	128.0	132.4
Claiborne	227.3	31.0	29.6	1.4	196.3	124.8	71.5
Cocke	391.8	120.3	56.9	63.4	271.5	111.7	159.8
Grainger	205.8	25.2	21.4	3.8	180.6	74.5	106.1
Greene	273.3	44.8	25.8	19.0	228.5	76.8	151.7
Hamblen	64.3	4.6	4.6	...	59.7	31.3	28.4
Hamilton	386.9	182.1	129.9	52.2	204.8	91.8	113.0
Hancock	154.3	7.1	4.4	2.7	147.2	68.3	78.9
Hawkins	318.0	36.2	34.6	1.6	281.8	100.0	181.8
Jefferson	110.6	8.5	8.5	...	102.1	46.4	55.7
Johnson	259.6	63.6	22.6	41.0	196.0	95.8	100.2
Knox	253.3	49.7	40.6	9.1	203.6	44.5	159.1
Loudon	96.9	19.2	17.5	1.7	77.7	26.9	50.8
McMinn	237.2	91.1	63.2	27.9	146.1	71.7	74.4
Meigs	117.2	43.9	42.3	1.6	73.3	39.2	34.1
Monroe	765.9	362.2	256.5	105.7	403.7	178.9	224.8
Polk	656.1	394.9	327.4	67.5	261.2	134.5	126.7
Rhea	195.5	38.0	27.5	10.5	157.5	80.0	77.5
Roane	158.1	27.8	25.0	2.8	130.3	63.1	67.2
Sevier	263.4	88.8	74.6	14.2	174.6	71.1	103.5
Sullivan	135.0	38.4	22.5	15.9	96.6	53.7	42.9
Unicoi	225.5	82.6	49.5	33.1	142.9	55.0	87.9
Union	154.0	21.8	18.3	3.5	132.2	44.9	87.3
Washington	158.2	53.8	30.1	23.7	104.4	33.8	70.6
All counties	6,891.1	2,225.6	1,611.9	613.7	4,665.5	2,045.6	2,619.9

Table 16. *Sawtimber volume in Doyle rule on commercial forest land by species group and county, 1971*

County	All species	Softwood			Hardwood			
		Total	Southern pine	Other	Total	Oak	Gum	Other
- - - - - Million board feet - - - - -								
Anderson	170.4	42.5	32.7	9.8	127.9	70.7	5.8	51.4
Blount	269.1	113.7	97.7	16.0	155.4	113.0	...	42.4
Bradley	74.9	37.8	35.3	2.5	37.1	14.5	...	22.6
Carter	287.8	96.1	6.5	89.6	191.7	117.3	4.3	70.1
Claiborne	161.9	23.0	22.5	.5	138.9	65.0	3.2	70.7
Cocke	294.7	89.5	41.5	48.0	205.2	125.9	.9	78.4
Grainger	156.9	18.1	17.5	.6	138.8	73.5	3.1	62.2
Greene	210.8	34.6	23.0	11.6	176.2	100.9	1.8	73.5
Hamblen	49.9	3.7	1.7	2.0	46.2	38.6	...	7.6
Hamilton	289.6	135.4	135.4	...	154.2	109.3	2.5	42.4
Hancock	113.4	5.5	4.7	.8	107.9	47.1	1.0	59.8
Hawkins	251.6	28.2	28.2	...	223.4	155.9	.9	66.6
Jefferson	85.6	7.0	5.7	1.3	78.6	45.1	2.4	31.1
Johnson	193.8	47.8	9.1	38.7	146.0	83.9	2.1	60.0
Knox	198.9	38.5	38.0	.5	160.4	91.7	5.0	63.7
Loudon	73.7	14.0	11.5	2.5	59.7	45.9	.5	13.3
McMinn	178.8	68.2	68.2	...	110.6	59.5	.5	50.6
Meigs	86.7	31.7	30.5	1.2	55.0	28.0	4.7	22.3
Monroe	582.8	274.9	247.3	27.6	307.9	150.7	4.8	152.4
Polk	483.2	284.0	234.5	49.5	199.2	137.1	5.3	56.8
Rhea	144.9	28.7	21.1	7.6	116.2	75.0	12.6	28.6
Roane	116.2	19.8	18.5	1.3	96.4	57.6	6.7	32.1
Sevier	198.9	65.1	60.9	4.2	133.8	86.0	1.8	46.0
Sullivan	98.3	29.6	8.5	21.1	68.7	45.6	...	23.1
Unicoi	168.7	60.9	12.6	48.3	107.8	57.5	.8	49.5
Union	114.1	16.6	15.0	1.6	97.5	60.7	3.2	33.6
Washington	119.4	38.1	5.7	32.4	81.3	61.0	2.2	18.1
All counties	5,175.0	1,653.0	1,233.8	419.2	3,522.0	2,117.0	76.1	1,328.9

Table 17. *Sawtimber volume in Doyle rule on commercial forest land by species group, diameter class, and county, 1971*

County	All species	Softwood			Hardwood		
		Total	9.0-14.9 inches	15.0 inches and up	Total	11.0-14.9 inches	15.0 inches and up
- - - - - Million board feet - - - - -							
Anderson	170.4	42.5	38.0	4.5	127.9	46.8	81.1
Blount	269.1	113.7	100.8	12.9	155.4	71.4	84.0
Bradley	74.9	37.8	37.8	...	37.1	15.6	21.5
Carter	287.8	96.1	25.3	70.8	191.7	84.0	107.7
Claiborne	161.9	23.0	22.1	.9	138.9	83.0	55.9
Cocke	294.7	89.5	40.4	49.1	205.2	73.8	131.4
Grainger	156.9	18.1	15.2	2.9	138.8	50.2	88.6
Greene	210.8	34.6	19.3	15.3	176.2	52.8	123.4
Hamblen	49.9	3.7	3.7	...	46.2	22.8	23.4
Hamilton	289.6	135.4	96.1	39.3	154.2	62.2	92.0
Hancock	113.4	5.5	3.2	2.3	107.9	46.0	61.9
Hawkins	251.6	28.2	27.0	1.2	223.4	68.6	154.8
Jefferson	85.6	7.0	7.0	...	78.6	32.0	46.6
Johnson	193.8	47.8	15.2	32.6	146.0	63.8	82.2
Knox	198.9	38.5	31.2	7.3	160.4	29.5	130.9
Loudon	73.7	14.0	12.7	1.3	59.7	17.4	42.3
McMinn	178.8	68.2	46.9	21.3	110.6	49.4	61.2
Meigs	86.7	31.7	30.6	1.1	55.0	27.1	27.9
Monroe	582.8	274.9	189.7	85.2	307.9	122.0	185.9
Polk	483.2	284.0	232.8	51.2	199.2	92.6	106.6
Rhea	144.9	28.7	20.5	8.2	116.2	52.2	64.0
Roane	116.2	19.8	17.7	2.1	96.4	41.6	54.8
Sevier	198.9	65.1	54.2	10.9	133.8	47.3	86.5
Sullivan	98.3	29.6	16.3	13.3	68.7	34.3	34.4
Unicoi	168.7	60.9	35.6	25.3	107.8	35.7	72.1
Union	114.1	16.6	14.0	2.6	97.5	27.2	70.3
Washington	119.4	38.1	20.1	18.0	81.3	22.8	58.5
<u>All counties</u>	<u>5,175.0</u>	<u>1,653.0</u>	<u>1,173.4</u>	<u>479.6</u>	<u>3,522.0</u>	<u>1,372.1</u>	<u>2,149.9</u>

Table 18. Growing-stock volume of softwoods and hardwoods on commercial forest land by forest type and county, 1971

County	All species	Softwood			Hardwood				Total	Million cubic feet
		Loblolly-shortleaf pine	Oak-pine	Oak-hickory	Other types ^{1/}	Loblolly-shortleaf pine	Oak-pine	Oak-hickory			Other types^{1/}
Anderson	103.4	5.9	10.9	4.8	1.7	...	7.1	72.5	80.1	0.5
Blount	143.0	13.2	28.4	14.2	9.6	...	20.6	52.3	77.6	4.7
Bradley	100.2	58.1	...	6.8	...	6.3	...	29.0	35.3	...
Carter	168.1	7.6	7.9	9.7	12.0	3.5	8.5	104.0	130.9	14.9
Claiborne	112.1	5.6	3.9	8.1	.2	.2	...	82.8	94.3	11.3
Cocke	169.2	3.1	23.9	12.1	...	.8	12.1	113.0	130.1	4.2
Grainger	84.5	...	...	8.7	3.3	...	...	65.2	72.5	7.3
Greene	100.1	1.5	7.1	8.2	1.4	.3	2.8	78.8	81.9	...
Hamblen	31.6	4.5	...	1.5	.6	.3	...	21.2	25.0	3.5
Hamilton	150.1	38.9	19.9	7.3	...	4.8	13.0	66.2	84.0	...
Hancock	61.9	...	...	2.4	...	...	...	59.5	59.5	...
Hawkins	144.4	12.9	7.2	4.9	1.8	2.0	3.7	109.1	117.6	2.8
Jefferson	40.0	3.6	.6	.2	1.4	1.9	...	30.4	34.2	1.9
Johnson	123.4	...	8.8	10.3	...	...	6.0	91.6	104.3	6.7
Knox	91.9	13.5	8.5	4.8	2.6	5.0	9.8	46.9	62.5	.8
Loudon	43.0	11.4	2.9	.9	.7	.8	2.1	24.1	27.1	.1
McMinn	120.0	30.2	15.2	6.7	1.6	6.2	10.1	50.0	66.3	...
Meigs	64.0	12.5	12.2	5.6	...	...	9.8	23.9	33.7	...
Monroe	320.6	99.2	28.4	23.2	2.8	16.4	19.2	96.5	167.0	34.9
Polk	274.0	110.2	44.6	6.0	...	28.7	48.8	35.7	113.2	...
Rhea	93.3	4.7	7.2	4.5	...	.4	12.5	64.0	76.9	...
Roane	89.9	11.9	3.9	6.3	1.3	1.0	3.6	59.4	66.5	2.5
Sevier	127.5	17.7	22.4	8.2	...	8.6	18.4	52.2	79.2	...
Sullivan	72.2	2.3	.4	5.3	9.2	.4	1.4	48.7	55.0	4.5
Unicoi	91.2	...	17.0	2.7	6.4	...	10.4	48.1	65.1	6.6
Union	77.1	10.4	8.5	1.7	1.8	2.0	10.4	41.4	54.7	.9
Washington	69.2	...	15.5	5.1	...	...	13.0	35.6	48.6	...
All counties	3,065.9	478.9	305.3	180.2	58.4	89.6	243.3	1,602.1	2,043.1	108.1

^{1/} Includes white pine, maple-beech-birch, and cedar types.

Table 19. Sawtimber volume of softwoods and hardwoods on commercial forest land by forest type and county, 1971

County	All species	Softwood			Hardwood			Other types ^{1/}			
		Total	Loblolly-shortleaf pine	Oak-pine	Oak-hickory	Other types ^{1/}	Total		Loblolly-shortleaf pine	Oak-pine	
----- Million board feet -----											
Anderson	273.8	73.5	19.7	37.2	15.4	1.2	200.3	...	24.4	175.9	...
Blount	415.1	187.0	14.7	88.7	53.0	30.6	228.1	...	74.4	141.1	12.6
Bradley	126.5	63.3	49.3	...	14.0	...	63.2	2.7	...	60.5	...
Carter	439.0	143.0	11.7	32.5	37.7	61.1	296.0	...	18.3	252.4	25.3
Claiborne	264.6	38.0	3.0	6.9	27.4	.7	226.6	...	...	194.0	32.6
Cocke	447.7	141.3	9.0	87.9	44.4	...	306.4	3.4	24.8	269.5	8.7
Grainger	233.2	30.1	...	...	25.1	5.0	203.1	...	...	188.7	14.4
Greene	307.8	52.6	...	13.6	38.5	.5	255.2	1.3	5.7	248.2	...
Hamblen	72.2	5.3	2.4	...	2.5	.4	66.9	...	...	51.8	15.1
Hamilton	450.8	217.7	155.4	37.5	24.8	...	233.1	7.5	30.1	195.5	...
Hancock	175.9	8.9	...	...	8.9	...	167.0	...	...	167.0	...
Hawkins	357.0	43.0	9.5	17.7	13.3	2.5	314.0	.9	1.5	305.3	6.3
Jefferson	125.0	10.4	7.9	.6	...	1.9	114.6	3.5	...	108.7	2.4
Johnson	295.5	73.4	...	37.6	35.8	...	222.1	...	17.0	181.8	23.3
Knox	287.0	59.2	19.1	29.5	5.6	5.0	227.8	12.2	40.1	173.4	2.1
Loudon	110.9	23.2	11.9	9.0	.7	1.6	87.7	1.2	3.3	83.2	...
McMinn	275.1	110.2	40.9	44.5	23.6	1.2	164.9	13.0	22.8	129.1	...
Meigs	136.2	53.5	3.3	27.5	22.7	...	82.7	...	8.4	74.3	...
Monroe	885.5	429.2	264.8	82.1	79.3	3.0	456.3	37.3	39.1	236.5	143.4
Polk	764.5	471.0	295.7	147.8	27.5	...	293.5	74.0	124.5	95.0	...
Rhea	224.7	44.8	2.2	25.5	17.1	...	179.9	1.5	27.6	150.8	...
Roane	183.1	35.0	15.0	4.9	14.3	.8	148.1	3.4	10.0	128.5	6.2
Sevier	303.4	106.9	33.3	51.1	22.5	...	196.5	22.5	27.1	146.9	...
Sullivan	156.3	46.1	4.8	.5	11.9	28.9	110.2	...	3.1	99.9	7.2
Unicoi	259.8	98.6	...	65.7	8.2	24.7	161.2	...	29.3	128.3	3.6
Union	178.6	27.3	13.0	7.9	4.0	2.4	151.3	4.9	19.6	124.9	1.9
Washington	181.6	64.4	...	48.5	15.9	...	117.2	...	38.3	78.9	...
All counties	7,930.8	2,656.9	986.6	904.7	594.1	171.5	5,273.9	189.3	589.4	4,190.1	305.1

^{1/} Includes white pine, maple-beech-birch, and cedar types.

Table 20. Growing-stock volume of softwoods and hardwoods on commercial forest land by stand-size class and county, 1971

County	All species	Softwood			Hardwood			Nonstocked areas		
		Total	Sawtimber	Poletimber	Sapling and seedling	Total	Sawtimber		Poletimber	Sapling and seedling
----- Million cubic feet -----										
Anderson	103.4	23.3	10.7	2.5	10.1	80.1	32.5	36.2	11.4	...
Blount	143.0	65.4	29.9	23.0	12.5	77.6	42.5	28.5	6.6	...
Bradley	100.2	64.9	...	56.5	8.4	35.3	15.8	17.7	1.8	...
Carter	168.1	37.2	28.5	8.1	.6	130.9	74.9	50.4	5.6	...
Claiborne	112.1	17.8	6.1	7.4	4.3	94.3	37.3	41.8	15.0	0.2
Cocke	169.2	39.1	18.8	13.3	7.0	130.1	60.3	64.7	5.1	...
Grainger	84.5	12.0	3.6	4.6	3.8	72.5	43.2	23.4	5.9	...
Greene	100.1	18.2	6.6	4.0	7.6	81.9	36.7	14.3	30.9	...
Hamblen	31.6	6.6	...	6.0	.6	25.0	16.2	5.3	3.5	...
Hamilton	150.1	66.1	34.5	12.4	19.2	84.0	51.3	14.0	18.7	...
Hancock	61.9	2.4	2.0	...	.4	59.5	29.3	24.3	5.9	...
Hawkins	144.4	26.8	.8	18.7	7.3	117.6	48.5	52.5	16.6	...
Jefferson	40.0	5.8	...	.2	5.6	34.2	18.4	8.9	6.9	...
Johnson	123.4	19.1	11.6	5.9	1.6	104.3	31.0	69.1	4.2	...
Knox	91.9	29.4	10.7	7.6	11.1	62.5	39.1	6.6	16.8	...
Loudon	43.0	15.9	3.3	10.6	2.0	27.1	18.5	7.6	1.0	...
McMinn	120.0	53.7	15.4	22.6	15.7	66.3	40.7	9.0	16.6	...
Meigs	64.0	30.3	1.4	24.1	4.8	33.7	10.3	16.5	6.9	...
Monroe	320.6	153.6	66.7	58.7	28.2	167.0	75.4	57.1	34.5	...
Polk	274.0	160.8	97.8	57.5	5.5	113.2	74.6	28.1	10.5	...
Rhea	93.3	16.4	2.9	5.5	8.0	76.9	14.8	35.4	26.7	...
Roane	89.9	23.4	5.0	11.4	7.0	66.5	17.3	25.2	24.0	...
Sevier	127.5	48.3	18.6	18.9	10.8	79.2	34.4	32.9	11.9	...
Sullivan	72.2	17.2	10.5	4.0	2.7	55.0	23.1	24.7	7.2	...
Unicoi	91.2	26.1	22.2	.9	3.0	65.1	44.0	14.2	6.9	...
Union	77.1	22.4	2.0	18.6	1.8	54.7	35.4	15.7	3.6	...
Washington	69.2	20.6	14.8	5.3	.5	48.6	31.7	10.7	6.2	...
All counties	3,665.9	1,022.8	424.4	408.3	190.1	2,043.1	997.2	734.8	310.9	.2

Table 21. Sawtimber volume of softwoods and hardwoods on commercial forest land by stand-size class and county, 1971

County	All species	Softwood			Hardwood			Nonstocked areas		
		Total	Sawtimber	Poletimber	Sapling and seedling	Total	Sawtimber		Poletimber	Sapling and seedling
----- Million board feet -----										
Anderson	273.8	73.5	38.6	7.3	27.6	200.3	109.4	63.1	27.8	...
Blount	415.1	187.0	110.0	39.8	37.2	228.1	157.1	65.7	5.3	...
Bradley	126.5	63.3	...	54.3	9.0	63.2	39.0	24.2	...	...
Carter	439.0	143.0	127.4	15.1	.5	296.0	217.2	65.6	13.2	...
Claiborne	264.6	38.0	24.6	5.4	8.0	226.6	112.4	89.1	24.2	0.9
Cocke	447.7	141.3	86.7	33.1	21.5	306.4	194.8	102.7	8.9	...
Grainger	233.2	30.1	17.4	8.6	4.1	203.1	127.4	58.4	17.3	...
Greene	307.8	52.6	35.7	4.2	12.7	255.2	136.7	31.0	87.5	...
Hamblen	72.2	5.3	...	4.9	.4	66.9	42.8	9.0	15.1	...
Hamilton	450.8	217.7	150.1	23.0	44.6	233.1	171.7	19.4	42.0	...
Hancock	175.9	8.9	8.9	...	...	167.0	92.8	63.9	10.3	...
Hawkins	357.0	43.0	3.1	28.0	11.9	314.0	185.7	90.0	38.3	...
Jefferson	125.0	10.4	...	...	10.4	114.6	69.1	28.2	17.3	...
Johnson	295.5	73.4	48.0	21.2	4.2	222.1	107.7	113.5	.9	...
Knox	287.0	59.2	20.1	6.0	33.1	227.8	169.2	10.0	48.6	...
Loudon	110.9	23.2	9.7	11.1	2.4	87.7	66.1	19.8	1.8	...
McMinn	275.1	110.2	65.5	25.8	18.9	164.9	123.6	11.5	29.8	...
Meigs	136.2	53.5	7.3	33.5	12.7	82.7	42.5	21.4	18.8	...
Monroe	885.5	429.2	239.4	125.2	64.6	456.3	271.0	104.7	80.6	...
Polk	764.5	471.0	350.7	109.5	10.8	293.5	230.1	45.0	18.4	...
Rhea	224.7	44.8	10.8	11.1	22.9	179.9	53.9	65.4	60.6	...
Roane	183.1	35.0	16.6	8.0	10.4	148.1	51.8	38.7	57.6	...
Sevier	303.4	106.9	56.9	28.9	21.1	196.5	120.2	47.6	28.7	...
Sullivan	156.3	46.1	34.1	6.7	5.3	110.2	60.1	37.5	12.6	...
Unicoi	259.8	98.6	84.4	1.5	12.7	161.2	128.2	8.0	25.0	...
Union	178.6	27.3	4.6	20.3	2.4	151.3	125.0	20.8	5.5	...
Washington	181.6	64.4	53.5	10.1	.8	117.2	96.8	17.5	2.9	...
All counties	7,930.8	2,656.9	1,604.1	642.6	410.2	5,273.9	3,502.3	1,271.7	699.0	.9

Table 22. Growing-stock volume on commercial forest land by species and diameter classes, 1971 ^{1/}

Species	Diameter class (inches at breast height)											17.0- 18.9	19.0- 20.9	21.0- 28.9	29.0 and larger		
	All classes	5.0- 6.9	7.0- 8.9	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 28.9	29.0 and larger						
	Million cubic feet																
Softwood:																	
Shortleaf pine	311.3	52.9	84.1	73.8	45.2	28.2	16.1	8.8	2.2	...	...	...	...	...	...	...	...
Loblolly pine	86.1	33.2	28.2	8.9	10.3	1.4	1.8	.8	.8	0.7	...	...	...	...	...	...	...
Virginia pine	364.8	76.9	91.7	83.3	67.2	31.7	7.4	4.5	1.5	.6	...	...	...	...	...	...	...
Pitch pine	70.3	12.6	10.6	11.5	7.8	11.6	5.7	6.0	4.1	.4	...	...	...	...	...	...	...
Table-Mountain pine	10.1	1.4	2.9	1.6	1.8	1.4	1.0	...	...	...	...	...	...	...	...	...	...
White pine	127.6	5.2	10.4	17.8	15.0	20.2	15.7	15.7	7.9	16.4	3.3	...	...	...	...	...	...
Hemlock	27.7	1.6	4.8	2.4	3.9	3.8	4.5	2.1	.6	3.1	.9	...	...	...	...	...	...
Redcedar	24.9	8.1	9.4	4.1	2.2	.5	.2	.3	.1	...	...	...	...	...	...	...	...
Total	1,022.8	191.9	242.1	203.4	153.4	98.8	52.4	38.2	17.2	21.2	4.2						
Hardwood:																	
White oak (<i>Quercus alba</i>)	163.6	12.8	21.6	24.7	21.3	24.2	18.1	15.3	6.5	18.7	.4	...	...	...	...	...	...
Other white oaks	414.3	43.1	54.3	59.3	66.3	61.5	46.5	33.5	25.5	21.1	3.2	...	...	...	...	...	...
Northern red oak	156.5	13.1	14.4	23.9	18.4	23.8	16.1	13.5	10.5	18.9	3.9	...	...	...	...	...	...
Other red oaks	381.7	33.1	59.4	64.1	57.2	54.4	51.2	24.7	14.9	20.0	2.7	...	...	...	...	...	...
Hickory	239.7	32.8	36.2	39.9	38.6	30.0	25.6	15.8	7.6	12.7	.5	...	...	...	...	...	...
Hard maple	26.2	2.2	2.7	5.4	.7	4.5	2.2	2.3	2.5	3.7	...	...	...	...	...	...	...
Soft maple	101.1	26.2	27.5	17.5	15.5	3.9	3.5	3.9	1.7	1.4	...	...	...	...	...	...	...
Beech	31.1	2.1	6.7	4.6	3.5	3.3	2.1	2.3	2.5	4.0	...	...	...	...	...	...	...
Sweetgum	26.5	5.7	3.6	5.4	5.4	2.8	1.4	1.0	.3	.9	...	...	...	...	...	...	...
Blackgum	40.7	2.5	11.5	7.6	6.6	5.6	1.4	1.7	1.8	2.0	...	...	...	...	...	...	...
White ash	27.1	3.4	5.9	4.4	3.7	3.0	3.2	1.6	1.3	.6	...	...	...	...	...	...	...
Sycamore	11.2	.4	.8	1.3	1.5	2.7	.7	1.3	.9	1.2	.4	...	...	...	...	...	...
Basswood	20.1	2.1	1.4	3.0	2.7	2.7	1.6	3.0	1.2	2.4	...	...	...	...	...	...	...
Yellow-poplar	245.9	19.2	31.8	34.3	43.4	43.1	34.6	18.7	9.8	9.7	1.3	...	...	...	...	...	...
Magnolia (<i>Magnolia</i> spp.)	10.1	1.0	2.8	3.2	1.0	1.7	...	.4	...	...	...	...	...	...	...	...	...
Black walnut	20.9	1.7	3.7	4.4	6.6	2.2	1.8	.5	...	...	...	...	...	...	...	...	...
Black cherry	10.1	1.2	4.2	2.0	.9	1.4	...	.4	...	...	...	...	...	...	...	...	...
American elm	7.6	1.4	1.5	1.4	.7	.3	.4	.3	.3	1.3	...	...	...	...	...	...	...
Other elms	8.1	1.1	1.6	1.5	2.0	.8	...	...	1.1	...	...	...	...	...	...	...	...
Other hardwoods	100.6	36.2	20.8	11.2	9.1	6.9	2.8	2.3	2.2	7.3	1.8	...	...	...	...	...	...
Total	2,043.1	241.3	312.4	319.1	305.1	278.8	213.2	142.5	90.6	125.9	14.2						
All species	3,065.9	433.2	554.5	522.5	458.5	377.6	265.6	180.7	107.8	147.1	18.4						

^{1/} Detailed county statistics by species and diameter class are available upon request.

Table 13. Sawtimber volume on commercial forest land by species and diameter classes, 1971^{1/}

Species	Diameter class (inches at breast height)										19.0- 20.9	21.0- 28.9	29.0 and larger	
	All ownerships	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	Million board feet							
Softwood:														
Shortleaf pine	803.9	296.8	219.4	140.8	87.3	47.5	12.1	...	...	...	...	...	...
Loblolly pine	107.7	30.4	47.8	8.3	9.4	4.2	3.9	...	...	...	...	...	...
Virginia pine	860.3	311.4	313.3	160.1	38.4	25.4	8.0	...	...	...	...	...	...
Pitch pine	215.2	34.8	35.5	59.8	30.0	31.0	22.3	...	...	...	...	...	...
Table-Mountain pine	22.1	4.6	5.6	7.1	4.8	...	...	...	...	...	...	...	...
White pine	528.7	63.5	67.5	97.2	78.9	78.6	40.4	...	...	...	...	...	...
Hemlock	94.3	6.6	15.2	17.3	20.7	10.0	3.8	...	...	...	...	...	...
Redcedar	24.7	11.8	8.1	2.2	.9	1.2	.5	...	...	...	...	...	...
Total	2,656.9	759.9	712.4	492.8	270.4	197.9	91.0	111.9	111.9	20.6				
Hardwood:														
White oak (<i>Quercus alba</i>)	480.6	...	77.4	107.8	84.4	76.9	33.9	...	...	...	...	...	...
Other white oaks	1,155.9	...	248.9	276.8	220.1	157.6	127.5	...	...	...	...	...	...
Northern red oak	478.4	...	67.0	106.2	75.5	65.1	51.0	...	...	...	...	...	...
Other red oaks	1,004.4	...	214.9	237.1	234.6	120.2	71.0	...	...	...	...	...	...
Hickory	615.8	...	151.9	139.9	129.6	81.2	41.0	...	...	...	...	...	...
Hard maple	77.3	...	1.7	20.2	9.8	12.7	12.4	...	...	...	...	...	...
Soft maple	125.7	...	57.6	16.4	16.6	18.0	9.1	...	...	...	...	...	...
Beech	74.2	...	12.0	13.5	8.6	11.8	10.9	...	...	...	...	...	...
Sweetgum	46.8	...	17.2	13.1	6.3	4.2	1.3	...	...	...	...	...	...
Blackgum	79.0	...	21.9	22.8	7.0	8.8	8.9	...	...	...	...	...	...
White ash	57.0	...	11.6	12.8	14.1	8.0	6.6	...	...	...	...	...	...
Sycamore	33.7	...	3.7	10.5	3.3	5.0	3.8	...	...	...	...	...	...
Basswood	60.6	...	10.8	10.9	6.2	14.3	6.0	...	...	...	...	...	...
Yellow poplar	730.8	...	167.8	195.7	165.2	94.3	50.0	...	...	...	...	...	...
Magnolia (<i>Magnolia</i> spp.)	14.1	...	4.0	7.8	...	2.3	...	...	...	...	...	...	...
Black walnut	49.3	...	27.9	10.3	8.2	2.9	...	...	...	...	...	...	...
Black cherry	10.8	...	2.1	6.7	...	2.0	...	...	...	...	...	...	...
American elm	16.6	...	3.1	1.3	1.6	1.5	1.0	...	...	...	...	...	...
Other elms	15.8	...	7.2	3.4	...	...	5.2	...	...	...	...	...	...
Other hardwoods	147.1	...	38.1	27.4	13.1	11.5	9.7	...	...	...	...	...	...
Total	5,273.9	...	1,146.8	1,240.6	1,004.2	698.3	449.3	659.3	659.3	75.4				
All species	7,930.8	759.9	1,859.2	1,733.4	1,274.6	896.2	540.3	771.2	771.2	96.0				

^{1/} Detailed county statistics by species and diameter class are available upon request.

Table 24. *Average volume per acre of growing stock and sawtimber on commercial forest land by species group and ownership class, 1971*

Ownership class	Growing stock			Sawtimber		
	All species	Softwood	Hardwood	All species	Softwood	Hardwood
	- - Cubic feet - -			- - Board feet - -		
National forest	1,228	435	793	3,496	1,440	2,056
Other public	951	584	367	2,456	1,645	811
Forest industry	796	454	342	1,720	1,010	710
Farmer	838	225	613	2,208	531	1,677
Misc. private	<u>812</u>	<u>277</u>	<u>535</u>	<u>1,913</u>	<u>630</u>	<u>1,283</u>
All ownerships	900	300	600	2,328	780	1,548

Table 25. *Average cubic meters per hectare of growing stock on commercial forest land by species group and ownership class, 1971*

Ownership class	All species	Softwood	Hardwood
	- - - Cubic meters - - -		
National forest	86	30	56
Other public	67	41	26
Forest industry	56	32	24
Farmer	59	16	43
Misc. private	<u>56</u>	<u>19</u>	<u>37</u>
All ownerships	63	21	42







Forest Statistics
for
Tennessee Plateau Counties

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New Orleans, Louisiana
Forest Service, U. S. Department of Agriculture

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Forest Statistics for Tennessee Plateau Counties

Arnold Hedlund and J. M. Earles

This report tabulates information from a new forest inventory of counties in the Cumberland Plateau region of Tennessee. The inventory was completed in 1971 by the Southern Forest Experiment Station. The tables are intended for use as source data in compiling estimates for groups of counties. Because the sampling procedure is intended primarily to furnish data for the State as a whole, estimates for individual counties have limited and variable accuracy.

The data on forest acreage and timber volume were secured by a systematic sampling method involving a forest-nonforest classification on aerial photographs and on-the-ground measurements of trees at sample locations. The sample locations were at the intersections of a grid of lines spaced 3 miles apart. At each forested location, 10 small plots were uniformly distributed on an area of about 1 acre.

The sampling errors to which the county area and volume totals are liable (on a probability of two chances out of three) are shown in table 1.

An approximation of sampling errors for groups of counties may be obtained by using the formula:

$$e = \frac{(SE)\sqrt{\text{specified volume or area}}}{\sqrt{\text{volume or area total in question}}}$$

Where e = Estimated sampling error of the volume or area total in question

SE = Specified sampling error for the region.

Table 1. *Sampling errors¹ for forest land and timber volume, 1971*

County	Commercial forest land	Growing stock	Sawtimber
- - - - Percent - - - -			
Bledsoe	4	14	21
Campbell	3	9	13
Cumberland	2	9	12
Fentress	2	11	18
Franklin	3	11	16
Grundy	1	12	19
Marion	2	11	14
Morgan	2	10	14
Overton	3	12	18
Pickett	2	21	20
Putnam	3	12	19
Scott	3	6	10
Sequatchie	5	16	24
Van Buren	4	16	22
Warren	2	10	17
White	4	16	23
All counties	.7	2.8	4.2

¹ By random-sampling formula.

When data for two or more counties are grouped the error decreases. Conversely, as data for individual counties are broken down by various subdivisions, the possibility of error increases and is greatest for the smallest items. Sampling errors associated with the estimates of the principal timber species are shown in table 2.

Table 2. Sampling errors¹ for timber volume by species, 1971

Species	Growing stock	Sawtimber
	- Percent -	
Softwood:		
Shortleaf pine	15	20
Virginia pine	14	19
Other southern pines	41	50
White pine	26	27
Hemlock	30	32
Redcedar	24	37
All softwoods	<u>6.5</u>	<u>9.3</u>
Hardwood:		
White oak (<i>Quercus alba</i>)	8	10
Other white oaks	9	11
Northern red oak	10	12
Other red oaks	6	8
Hickory	7	9
Hard maple	17	24
Soft maple	12	16
Beech	21	22
Sweetgum	24	34
Blackgum	11	14
White ash	19	24
Other ashes	22	32
Sycamore	42	(²)
Basswood	29	37
Yellow-poplar	11	15
Magnolia (<i>Magnolia</i> spp.)	30	35
Black walnut	34	42
Black cherry	27	36
Elms	43	(²)
Locust	26	41
Other hardwoods	22	44
All hardwoods	<u>3.1</u>	<u>4.7</u>
All species	2.8	4.2

¹ By random-sampling formula.

² Exceeds 50 percent.

Because of differences in standards of tree measurement, meaningful comparisons cannot be made between the estimates in this report and those contained in earlier publications on Tennessee. In table 3, changes between the two surveys are summarized in terms of 1971 measurement standards.

It is anticipated that data for other counties of Tennessee will be published as field work progresses. A Statewide interpretive report will be issued when all counties have been inventoried; it will include an evaluation of

timber trends since the previous survey of 1961.

In the tables that follow, sawtimber volume is shown in International 1/4-inch rule except when Doyle or Scribner rule is indicated.

Table 3. Change in forest resource since 1961

Item	Change ¹
	Percent
Commercial forest land	-3.2
Growing-stock volume:	
Softwood	+ 7
Hardwood	+ 7
All species	+ 7
Sawtimber volume:	
Softwood	+ 24
Hardwood	+ 12
All species	+ 14

¹ Based on 1971 measurement standards.

DEFINITIONS OF TERMS

Acceptable trees.—Growing-stock trees of commercial species that meet specified standards of size and quality but do not qualify as desirable trees.

Commercial forest land.—Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization.

Desirable trees.—Growing-stock trees that are of commercial species, have no defects in quality for timber products, are of relatively high vigor, and contain no pathogens that may result in death or serious deterioration before rotation age.

Forest type.—A classification of forest land based upon the species forming a plurality of live-tree stocking.

Growing-stock trees.—Live trees that are of commercial species and qualify as desirable or acceptable trees.

Growing-stock volume.—Net volume in cubic feet of growing-stock trees at least 5.0 inches in diameter at breast height, from a 1-foot stump to a minimum 4.0-inch top diameter outside bark of the central stem, or to the

point where the central stem breaks into limbs.

Poletimber trees.—Growing-stock trees of commercial species at least 5.0 inches in diameter at breast height, but smaller than sawtimber size.

Sawtimber trees.—Live trees that are of commercial species, contain at least a 12-foot saw log, and meet regional specifications for freedom from defect. Softwoods must be at least 9.0 inches in diameter at breast height and hardwoods at least 11.0 inches.

Sawtimber volume.—Net volume of the saw-log portion of live sawtimber in board feet, International 14-inch rule, unless otherwise indicated.

Site class.—A classification of forest land in terms of inherent capacity to grow crops of industrial wood.

Stand-size class.—A classification of forest land based on the size class of growing-stock trees on the area; that is, sawtimber, poletimber, or seedling and saplings.

Table 4. *Commercial forest land by ownership class, 1971*

County	All ownerships	National forest	Other public	Forest industry	Farmer	Misc. private
- - - - - Thousand acres - - - - -						
Bledsoe	173.6	...	5.8	47.4	35.5	84.9
Campbell	225.5	...	12.9	33.7	16.9	162.0
Cumberland	324.5	...	49.9	39.3	106.8	128.5
Fentress	246.4	...	3.8	74.4	34.3	133.9
Franklin	187.0	...	13.8	5.6	50.6	117.0
Grundy	186.0	...	.7	19.0	19.0	147.3
Marion	247.5	...	34.9	28.1	28.1	156.4
Morgan	291.6	...	44.3	11.0	82.7	153.6
Overton	174.2	...	9.1	6.8	89.0	69.3
Pickett	67.0	...	14.5	...	13.7	38.8
Putnam	140.3	...	1.1	6.2	37.4	95.6
Scott	308.0	...	5.5	17.2	91.5	193.8
Sequatchie	140.0	...	.1	28.6	5.7	105.6
Van Buren	124.2	...	.4	93.8	11.0	19.0
Warren	114.0	...	...	...	58.2	55.8
White	127.2	...	1.2	32.5	32.5	61.0
All counties	3,077.0	...	198.0	443.6	712.9	1,722.5

Table 5. Commercial forest land by forest type, 1971

County	All types	White pine	Loblolly-shortleaf pine	Oak-pine	Cedar	Oak-hickory	Maple-beech-birch	Elm-ash-cottonwood
- - - - -Thousand acres- - - - -								
Bledsoe	173.6	...	23.1	17.4	...	133.1	...	...
Campbell	225.5	...	38.5	16.5	...	170.5	...	...
Cumberland	324.5	...	27.5	71.5	...	225.5	...	...
Fentress	246.4	...	39.2	50.4	5.6	145.6	5.6	...
Franklin	187.0	...	...	...	5.5	176.0	5.5	...
Grundy	186.0	...	12.4	24.8	...	148.8	...	...
Marion	247.5	...	5.5	55.0	...	176.0	5.5	5.5
Morgan	291.6	...	10.8	48.6	...	232.2	...	...
Overton	174.2	...	6.7	13.4	...	154.1	...	...
Pickett	67.0	...	6.7	6.7	...	53.6	...	...
Putnam	140.3	...	...	6.1	6.1	122.0	6.1	...
Scott	308.0	11.2	28.0	28.0	...	224.0	16.8	...
Sequatchie	140.0	...	16.8	44.8	...	78.4	...	...
Van Buren	124.2	...	10.8	32.4	...	81.0	...	...
Warren	114.0	...	5.7	...	5.7	102.6	...	...
White	127.2	...	15.9	...	5.3	100.7	...	5.3
All counties	3,077.0	11.2	247.6	415.6	28.2	2,324.1	39.5	10.8

Table 6. Commercial forest land by stand-size class, 1971

County	All classes	Sawtimber	Poletimber	Sapling and seedling	Nonstocked areas
- - - - - Thousand acres - - - - -					
Bledsoe	173.6	5.8	57.8	110.0	...
Campbell	225.5	88.0	110.0	27.5	...
Cumberland	324.5	93.5	126.5	104.5	...
Fentress	246.4	78.4	78.4	89.6	...
Franklin	187.0	82.5	60.5	44.0	...
Grundy	186.0	49.6	49.6	86.8	...
Marion	247.5	77.0	71.5	99.0	...
Morgan	291.6	102.6	75.6	113.4	...
Overton	174.2	40.2	87.1	46.9	...
Pickett	67.0	13.4	33.5	20.1	...
Putnam	140.3	48.8	61.0	30.5	...
Scott	308.0	89.6	123.2	95.2	...
Sequatchie	140.0	22.4	50.4	67.2	...
Van Buren	124.2	21.6	32.4	70.2	...
Warren	114.0	22.8	51.3	39.9	...
White	127.2	42.4	42.4	42.4	...
All counties	3,077.0	878.6	1,111.2	1,087.2	...

Table 7. Commercial forest land by site class, 1971

County	All classes	165 cu.ft. or more	120-165 cu.ft.	85-120 cu.ft.	50-85 cu.ft.	Less than 50 cu.ft.
- - - - - Thousand acres - - - - -						
Bledsoe	173.6	...	...	11.6	98.3	63.7
Campbell	225.5	11.0	11.0	77.0	110.0	16.5
Cumberland	324.5	...	5.5	22.0	148.5	148.5
Fentress	246.4	5.6	5.6	67.2	128.8	39.2
Franklin	187.0	...	...	16.5	77.0	93.5
Grundy	186.0	...	...	31.0	86.8	68.2
Marion	247.5	...	11.0	11.0	154.0	71.5
Morgan	291.6	...	...	75.6	167.4	48.6
Overton	174.2	...	...	20.1	127.3	26.8
Pickett	67.0	...	6.7	33.5	13.4	13.4
Putnam	140.3	...	...	12.2	103.7	24.4
Scott	308.0	...	11.2	84.0	168.0	44.8
Sequatchie	140.0	...	...	11.2	112.0	16.8
Van Buren	124.2	...	...	27.0	64.8	32.4
Warren	114.0	...	...	28.5	51.3	34.2
White	127.2	...	5.3	10.6	84.8	26.5
<u>All counties</u>	<u>3,077.0</u>	<u>16.6</u>	<u>56.3</u>	<u>539.0</u>	<u>1,696.1</u>	<u>769.0</u>

Table 8. Cordage of growing stock on commercial forest land by species group, 1971

County	All species	Softwood			Hardwood			
		Total	Southern pine	Other	Total	Oak	Gum	Other
- - - - - <i>Thousand cords</i> - - - - -								
Bledsoe	1,018	208	197	11	810	613	10	187
Campbell	3,578	829	803	26	2,749	1,375	110	1,264
Cumberland	3,585	884	763	121	2,701	1,770	151	780
Fentress	2,854	1,012	889	123	1,842	1,136	57	649
Franklin	2,571	59	12	47	2,512	1,594	25	893
Grundy	1,879	197	189	8	1,682	782	81	819
Marion	2,756	332	272	60	2,424	1,375	64	985
Morgan	3,040	503	387	116	2,537	1,394	85	1,058
Overton	2,594	276	260	16	2,318	767	67	1,484
Pickett	778	62	47	15	716	251	12	453
Putnam	1,991	113	103	10	1,878	561	62	1,255
Scott	4,668	1,049	914	135	3,619	1,890	85	1,644
Sequatchie	1,314	384	345	39	930	543	66	321
Van Buren	1,063	221	149	72	842	358	55	429
Warren	1,386	80	60	20	1,306	455	49	802
White	1,846	25	16	9	1,821	625	93	1,103
All counties	36,921	6,234	5,406	828	30,687	15,489	1,072	14,126

Table 9. *Growing-stock volume on commercial forest land by species group, 1971*

County	All species	Softwood			Hardwood			
		Total	Southern pine	Other	Total	Oak	Gum	Other
- - - - - <i>Million cubic feet</i> - - - - -								
Bledsoe	69.9	15.6	14.8	0.8	54.3	41.1	0.7	12.5
Campbell	246.4	62.2	60.2	2.0	184.2	92.1	7.4	84.7
Cumberland	247.3	66.3	57.2	9.1	181.0	118.6	10.7	52.3
Fentress	199.3	75.9	66.7	9.2	123.4	76.1	3.8	43.5
Franklin	172.7	4.4	.9	3.5	168.3	106.8	1.7	59.8
Grundy	127.5	14.8	14.2	.6	112.7	52.4	5.4	54.9
Marion	187.3	24.9	20.4	4.5	162.4	92.1	4.3	66.0
Morgan	207.7	37.7	29.0	8.7	170.0	93.4	5.7	70.9
Overton	176.0	20.7	19.5	1.2	155.3	51.4	4.5	99.4
Pickett	52.6	4.6	3.5	1.1	48.0	16.8	.8	30.4
Putnam	134.3	8.5	7.7	.8	125.8	37.6	4.1	84.1
Scott	321.1	78.6	68.5	10.1	242.5	126.6	5.7	110.2
Sequatchie	91.1	28.8	25.9	2.9	62.3	36.4	4.4	21.5
Van Buren	73.0	16.6	11.2	5.4	56.4	24.0	3.7	28.7
Warren	93.5	6.0	4.5	1.5	87.5	30.5	3.3	53.7
White	123.9	1.9	1.2	.7	122.0	41.9	6.2	73.9
All counties	2,523.6	467.5	405.4	62.1	2,056.1	1,037.8	71.8	946.5

Table 10. *Sawtimber volume on commercial forest land by species group, 1971*

County	All species	Softwood			Hardwood			
		Total	Southern pine	Other	Total	Oak	Gum	Other
- - - - - Million board feet - - - - -								
Bledsoe	125.9	34.6	33.0	1.6	91.3	67.6	1.0	22.7
Campbell	716.9	169.4	166.4	3.0	547.5	280.6	27.7	239.2
Cumberland	595.9	203.4	169.6	33.8	392.5	263.5	15.6	113.4
Fentress	540.2	225.8	188.9	36.9	314.4	180.4	15.8	118.2
Franklin	509.7	1.4	...	1.4	508.3	344.9	4.4	159.0
Grundy	333.6	33.3	31.5	1.8	300.3	115.1	14.9	170.3
Marion	553.8	83.8	59.5	24.3	470.0	263.5	11.7	194.8
Morgan	552.8	122.0	86.7	35.3	430.8	235.6	13.0	182.2
Overton	441.7	88.8	86.7	2.1	352.9	133.6	8.4	210.9
Pickett	129.4	3.1	2.6	.5	126.3	57.3	1.3	67.7
Putnam	313.2	25.1	25.1	...	288.1	81.3	9.3	197.5
Scott	854.9	230.7	191.4	39.3	624.2	349.4	14.5	260.3
Sequatchie	247.5	92.8	79.2	13.6	154.7	93.0	11.2	50.5
Van Buren	195.2	41.3	17.2	24.1	153.9	64.3	6.7	82.9
Warren	205.7	7.1	5.3	1.8	198.6	72.9	8.0	117.7
White	340.5	.8	.5	.3	339.7	118.7	13.7	207.3
All counties	6,656.9	1,363.4	1,143.6	219.8	5,293.5	2,721.7	177.2	2,394.6

Table 11. *Sawtimber volume on commercial forest land by species group and diameter class, 1971*

County	All species	Softwood			Hardwood		
		Total	9.0-14.9 inches	15.0 inches and up	Total	11.0-14.9 inches	15.0 inches and up
- - - - - Million board feet - - - - -							
Bledsoe	125.9	34.6	32.9	1.7	91.3	65.8	25.5
Campbell	716.9	169.4	140.4	29.0	547.5	249.5	298.0
Cumberland	595.9	203.4	154.3	49.1	392.5	213.5	179.0
Fentress	540.2	225.8	175.2	50.6	314.4	170.6	143.8
Franklin	509.7	1.4	1.4	...	508.3	260.2	248.1
Grundy	333.6	33.3	29.2	4.1	300.3	140.3	160.0
Marion	553.8	83.8	57.1	26.7	470.0	255.4	214.6
Morgan	552.8	122.0	103.0	19.0	430.8	227.9	202.9
Overton	441.7	88.8	69.9	18.9	352.9	228.3	124.6
Pickett	129.4	3.1	3.1	...	126.3	56.5	69.8
Putnam	313.2	25.1	19.4	5.7	288.1	145.9	142.2
Scott	854.9	230.7	207.4	23.3	624.2	365.9	258.3
Sequatchie	247.5	92.8	78.6	14.2	154.7	84.0	70.7
Van Buren	195.2	41.3	34.2	7.1	153.9	90.5	63.4
Warren	205.7	7.1	7.1	...	198.6	90.9	107.7
White	340.5	.8	.3	.5	339.7	150.4	189.3
All counties	6,656.9	1,363.4	1,113.5	249.9	5,293.5	2,795.6	2,497.9

Table 12. *Sawtimber volume in Scribner rule on commercial forest land by species group, 1971*

County	All species	Softwood			Hardwood			
		Total	Southern pine	Other	Total	Oak	Gum	Other
- - - - - Million board feet - - - - -								
Bledsoe	103.5	26.4	25.3	1.1	77.1	56.9	0.8	19.4
Campbell	631.9	142.2	139.6	2.6	489.7	251.5	25.2	213.0
Cumberland	507.3	166.9	138.1	28.8	340.4	227.4	13.1	99.9
Fentress	469.9	190.0	159.4	30.6	279.9	160.3	13.9	105.7
Franklin	448.5	1.1	...	1.1	447.4	302.1	3.8	141.5
Grundy	292.5	27.4	26.0	1.4	265.1	100.6	13.3	151.2
Marion	483.4	69.7	48.6	21.1	413.7	232.7	9.9	171.1
Morgan	479.5	100.3	70.3	30.0	379.2	208.1	11.4	159.7
Overton	381.5	74.0	72.3	1.7	307.5	116.7	6.7	184.1
Pickett	114.7	2.7	2.2	.5	112.0	50.7	1.0	60.3
Putnam	273.5	21.2	21.2	...	252.3	70.7	8.0	173.6
Scott	745.7	190.7	157.7	33.0	555.0	310.4	13.0	231.6
Sequatchie	212.9	77.0	65.8	11.2	135.9	82.1	9.1	44.7
Van Buren	167.7	33.9	13.6	20.3	133.8	55.6	6.0	72.2
Warren	177.5	5.6	4.1	1.5	171.9	63.5	6.9	101.5
White	300.9	.7	.4	.3	300.2	105.9	11.5	182.8
All counties	5,790.9	1,129.8	944.6	185.2	4,661.1	2,395.2	153.6	2,112.3

Table 13. *Sawtimber volume in Scribner rule on commercial forest land by species group and diameter class, 1971*

County	All species	Softwood			Hardwood		
		Total	9.0-14.9 inches	15.0 inches and up	Total	11.0-14.9 inches	15.0 inches and up
- - - - - Million board feet - - - - -							
Bledsoe	103.5	26.4	25.1	1.3	77.1	54.3	22.8
Campbell	631.9	142.2	116.5	25.7	489.7	217.2	272.5
Cumberland	507.3	166.9	124.0	42.9	340.4	179.2	161.2
Fentress	469.9	190.0	144.7	45.3	279.9	149.1	130.8
Franklin	448.5	1.1	1.1	...	447.4	224.0	223.4
Grundy	292.5	27.4	23.9	3.5	265.1	119.3	145.8
Marion	483.4	69.7	45.9	23.8	413.7	220.3	193.4
Morgan	479.5	100.3	83.7	16.6	379.2	196.0	183.2
Overton	381.5	74.0	57.4	16.6	307.5	195.8	111.7
Pickett	114.7	2.7	2.7	...	112.0	48.2	63.8
Putnam	273.5	21.2	16.2	5.0	252.3	123.5	128.8
Scott	745.7	190.7	170.5	20.2	555.0	319.2	235.8
Sequatchie	212.9	77.0	64.5	12.5	135.9	71.5	64.4
Van Buren	167.7	33.9	27.7	6.2	133.8	77.1	56.7
Warren	177.5	5.6	5.6	...	171.9	76.2	95.7
White	300.9	.7	.3	.4	300.2	129.0	171.2
All counties	5,790.9	1,129.8	909.8	220.0	4,661.1	2,399.9	2,261.2

Table 14. *Sawtimber volume in Doyle rule on commercial forest land by species group, 1971*

County	All species	Softwood			Hardwood			
		Total	Southern pine	Other	Total	Oak	Gum	Other
----- Million board feet -----								
Bledsoe	68.7	18.5	17.4	1.1	50.2	37.2	0.5	12.5
Campbell	488.7	105.8	103.6	2.2	382.9	196.8	21.3	164.8
Cumberland	361.6	119.0	99.3	19.7	242.6	160.1	7.7	74.8
Fentress	358.4	143.2	120.5	22.7	215.2	122.0	10.7	82.5
Franklin	335.0	1.1	...	1.1	333.9	222.1	2.7	109.1
Grundy	219.7	20.5	19.5	1.0	199.2	74.8	10.1	114.3
Marion	357.4	52.8	36.0	16.8	304.6	172.4	6.4	125.8
Morgan	353.5	70.4	48.3	22.1	283.1	157.5	8.1	117.5
Overton	271.8	52.2	51.0	1.2	219.6	84.4	3.5	131.7
Pickett	87.1	2.5	2.0	.5	84.6	38.0	.5	46.1
Putnam	199.4	15.7	15.7	...	183.7	51.5	5.2	127.0
Scott	561.9	137.5	114.1	23.4	424.4	237.9	10.3	176.2
Sequatchie	153.5	56.0	48.9	7.1	97.5	59.6	4.9	33.0
Van Buren	120.4	24.5	10.4	14.1	95.9	40.2	4.5	51.2
Warren	126.4	3.9	3.1	.8	122.5	47.0	4.8	70.7
White	226.1	.6	.3	.3	225.5	83.3	7.3	134.9
All counties	4,289.6	824.2	690.1	134.1	3,465.4	1,784.8	108.5	1,572.1

Table 15. *Sawtimber volume in Doyle rule on commercial forest land by species group and diameter class, 1971*

County	All species	Softwood			Hardwood		
		Total	9.0-14.9 inches	15.0 inches and up	Total	11.0-14.9 inches	15.0 inches and up
- - - - - Million board feet - - - - -							
Bledsoe	68.7	18.5	17.8	0.7	50.2	33.4	16.8
Campbell	488.7	105.8	86.0	19.8	382.9	153.6	229.3
Cumberland	361.6	119.0	88.4	30.6	242.6	114.4	128.2
Fentress	358.4	143.2	106.7	36.5	215.2	106.6	108.6
Franklin	335.0	1.1	1.1	...	333.9	151.9	182.0
Grundy	219.7	20.5	18.1	2.4	199.2	79.7	119.5
Marion	357.4	52.8	34.0	18.8	304.6	149.9	154.7
Morgan	353.5	70.4	57.4	13.0	283.1	133.6	149.5
Overton	271.8	52.2	39.5	12.7	219.6	132.1	87.5
Pickett	87.1	2.5	2.5	...	84.6	31.5	53.1
Putnam	199.4	15.7	11.8	3.9	183.7	79.5	104.2
Scott	561.9	137.5	122.5	15.0	424.4	228.6	195.8
Sequatchie	153.5	56.0	46.7	9.3	97.5	45.9	51.6
Van Buren	120.4	24.5	20.1	4.4	95.9	51.1	44.8
Warren	126.4	3.9	3.9	...	122.5	51.0	71.5
White	226.1	.6	.3	.3	225.5	85.4	140.1
All counties	4,289.6	824.2	656.8	167.4	3,465.4	1,628.2	1,837.2

Table 16. Growing-stock volume of softwoods and hardwoods on commercial forest land by forest type, 1971

County	All species	Softwood				Hardwood					
		Total	Loblolly-shortleaf pine	Oak-pine	Oak-hickory	Other types ^{1/}	Total	Loblolly-shortleaf pine	Oak-pine	Oak-hickory	Other types ^{1/}
----- Million cubic feet -----											
Bledsoe	69.9	15.6	10.7	1.7	3.2	...	54.3	0.6	3.4	50.3	...
Campbell	246.4	62.2	50.8	8.2	3.2	...	184.2	8.5	4.2	171.5	...
Cumberland	247.3	66.3	18.2	37.5	10.6	...	181.0	3.5	36.3	141.2	...
Fentress	199.3	75.9	34.5	26.8	12.5	2.1	123.4	6.8	14.7	99.8	2.1
Franklin	172.7	4.4	...	...	2.5	1.9	168.3	...	...	160.8	7.5
Grundy	127.5	14.8	2.5	9.2	3.1	...	112.7	2.2	4.3	106.2	...
Marion	187.3	24.9	...	18.8	6.1	...	162.4	...	20.1	135.0	7.3
Morgan	207.7	37.7	.3	17.0	20.4	...	170.0	...	20.8	149.2	...
Overton	176.0	20.7	12.7	5.8	2.2	...	155.3	1.5	7.4	146.4	...
Pickett	52.6	4.6	.3	3.2	1.1	...	48.0	1.8	2.0	44.2	...
Putnam	134.3	8.5	...	2.4	5.3	.8	125.8	...	1.8	110.8	13.2
Scott	321.1	78.6	38.6	11.8	23.7	4.5	242.5	6.3	11.5	207.7	17.0
Sequatchie	91.1	28.8	7.5	16.2	5.1	...	62.3	1.1	9.4	51.8	...
Van Buren	73.0	16.6	2.8	9.0	4.8	...	56.4	.8	6.3	49.3	...
Warren	93.5	6.0	3.6	...	1.5	.9	87.5	...	...	85.5	2.0
White	123.9	1.9	.1	...	1.2	.6	122.0	.4	...	121.0	.6
All counties	2,523.6	467.5	182.6	167.6	106.5	10.8	2,056.1	33.5	142.2	1,830.7	49.7

^{1/} Includes the following minor types: white pine, cedar, maple-beech-birch and elm-ash-cottonwood.

Table 17. Sawtimber volume of softwoods and hardwoods on commercial forest land by forest type, 1971

County	All species	Softwood				Hardwood				Other types ^{1/}	
		Total	Loblolly-shortleaf pine	Oak-pine	Oak-hickory	Other types ^{1/}	Total	Loblolly-shortleaf pine	Oak-pine		Oak-hickory
----- Million board feet -----											
Bledsoe	125.9	34.6	22.7	3.3	8.6	...	91.3	1.1	0.9	89.3	...
Campbell	716.9	169.4	122.6	34.2	12.6	...	547.5	17.9	11.5	518.1	...
Cumberland	595.9	203.4	51.5	113.5	38.4	...	392.5	3.9	80.2	308.4	...
Fentress	540.2	225.8	114.6	66.1	34.6	10.5	314.4	16.1	26.3	265.3	6.7
Franklin	509.7	1.4	...	...	1.4	...	508.3	...	...	484.8	23.5
Grundy	333.6	33.3	1.3	20.4	11.6	...	300.3	1.3	13.0	286.0	...
Marion	553.8	83.8	...	65.9	17.9	...	470.0	...	64.6	379.7	25.7
Morgan	552.8	122.0	.8	59.3	61.9	...	430.8	...	40.3	390.5	...
Overton	441.7	88.8	56.8	29.0	3.0	...	352.9	3.1	6.5	343.3	...
Pickett	129.4	3.1	...	2.6	.5	...	126.3	7.6	5.3	113.4	...
Putnam	313.2	25.1	...	8.1	17.0	...	288.1	...	4.8	243.4	39.9
Scott	854.9	230.7	127.4	19.8	70.1	13.4	624.2	16.9	23.6	546.6	37.1
Sequatchie	247.5	92.8	24.9	52.3	15.6	...	154.7	2.8	16.2	135.7	...
Van Buren	195.2	41.3	11.0	27.4	2.9	...	153.9	2.3	15.5	136.1	...
Warren	205.7	7.1	5.3	...	1.8	...	198.6	...	...	195.3	3.3
White	340.5	.8	...	...	.3	.5	339.7	...	...	339.7	...
All counties	6,656.9	1,363.4	538.9	501.9	298.2	24.4	5,293.5	73.0	308.7	4,775.6	136.2

^{1/} Includes the following minor types: white pine, cedar, maple-beech-birch and elm-ash-cottonwood.

Table 18. Growing-stock volume of softwoods and hardwoods on commercial forest land by stand-size class, 1971

County	All species	Softwood			Hardwood				
		Total	Sawtimber	Poletimber	Sapling and seedling	Total	Sawtimber	Poletimber	Sapling and seedling
----- Million cubic feet -----									
Bledsoe	69.9	15.6	1.6	9.1	4.9	54.3	4.9	26.2	23.2
Campbell	246.4	62.2	26.0	36.2	...	184.2	99.7	75.9	8.6
Cumberland	247.3	66.3	31.2	26.8	8.3	181.0	72.1	84.3	24.6
Fentress	199.3	75.9	33.1	25.8	17.0	123.4	68.6	36.6	18.2
Franklin	172.7	4.4	1.3	2.5	.6	168.3	96.1	57.7	14.5
Grundy	127.5	14.8	4.9	3.8	6.1	112.7	53.3	38.2	21.2
Marion	187.3	24.9	16.0	4.8	4.1	162.4	80.8	56.3	25.3
Morgan	207.7	37.7	19.9	12.8	5.0	170.0	94.1	49.8	26.1
Overton	176.0	20.7	12.9	7.8	...	155.3	49.0	90.0	16.3
Pickett	52.6	4.6	.2	4.1	.3	48.0	10.3	31.3	6.4
Putnam	134.3	8.5	5.4	3.0	.1	125.8	67.1	48.0	10.7
Scott	321.1	78.6	38.3	25.6	14.7	242.5	92.2	105.3	45.0
Sequatchie	91.1	28.8	10.1	9.3	9.4	62.3	19.4	29.3	13.6
Van Buren	73.0	16.6	5.1	3.6	7.9	56.4	19.0	27.0	10.4
Warren	93.5	6.0	.4	1.1	4.5	87.5	26.0	47.0	14.5
White	123.2	1.9	.5	.4	1.0	122.0	71.0	44.1	6.9
All counties	2,523.6	467.5	206.9	176.7	83.9	2,056.1	923.6	847.0	285.5

Table 19. Sawtimber volume of softwoods and hardwoods on commercial forest land by stand-size class, 1971

County	All species	Softwood			Hardwood				
		Total	Sawtimber	Poletimber	Sapling and seedling	Total	Sawtimber	Poletimber	Sapling and seedling
----- Million board feet -----									
Bledsoe	125.9	34.6	6.8	15.1	12.7	91.3	15.1	41.2	35.0
Campbell	716.9	169.4	118.0	51.4	...	547.5	378.9	152.1	16.5
Cumberland	595.9	203.4	114.9	66.3	22.2	392.5	201.3	132.6	58.6
Fentress	540.2	225.8	136.5	52.7	36.6	314.4	232.9	53.6	27.9
Franklin	509.7	1.4	...	1.4	...	508.3	329.1	143.3	35.9
Grundy	333.6	33.3	15.7	4.8	12.8	300.3	182.9	75.6	41.8
Marion	553.8	83.8	60.0	13.3	10.5	470.0	292.4	105.5	72.1
Morgan	552.8	122.0	87.5	28.4	6.1	430.8	291.7	91.3	47.8
Overton	441.7	88.8	56.8	32.0	...	352.9	156.9	171.7	24.3
Pickett	129.4	3.1	.5	2.6	...	126.3	27.8	75.2	23.3
Putnam	313.2	25.1	20.6	4.5	...	288.1	203.0	65.1	20.0
Scott	854.9	230.7	143.1	56.7	30.9	624.2	312.4	204.4	107.4
Sequatchie	247.5	92.8	34.9	32.3	25.6	154.7	73.9	55.9	24.9
Van Buren	195.2	41.3	23.1	1.8	16.4	153.9	73.6	59.1	21.2
Warren	205.7	7.1	1.8	...	5.3	198.6	89.7	79.9	29.0
White	340.5	.8	.3	...	.5	339.7	257.1	70.0	12.6
All counties	6,656.9	1,363.4	820.5	363.3	179.6	5,293.5	3,118.7	1,576.5	598.3

Table 20. Growing-stock volume on commercial forest land by species and diameter class, 1971 ^{1/}

Species	Diameter class (inches at breast height)											29.0 and larger									
	5.0- 6.9		7.0- 8.9		9.0- 10.9		11.0- 12.9		13.0- 14.9		15.0- 16.9		17.0- 18.9		19.0- 20.9		21.0- 28.9				
	----- Million cubic feet -----																				
Softwood:																					
Shortleaf pine	202.0	32.7	53.0	57.0	33.3	13.0	11.1	1.9	...	...	...	...	...	...	...	...	...	...	...	...	...
Virginia pine	191.9	32.2	35.2	51.0	38.9	24.3	7.3	2.0	0.6	...	...	...	...	...	...	...	...	...	...	...	...
Other southern pines	11.5	.2	.9	2.4	2.5	2.5	2.3	.7	...	...	...	...	...	...	...	...	...	...	...	...	...
White pine	23.5	.2	2.8	2.2	4.7	2.0	3.9	2.5	2.0	...	...	...	...	...	...	...	...	...	...	...	...
Hemlock	27.5	.8	2.7	5.0	3.3	5.1	4.8	.8	3.8	...	...	...	...	...	...	...	...	...	...	...	...
Redcedar	11.1	4.2	4.2	2.0	.7	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	467.5	70.3	98.8	119.6	83.4	46.9	29.4	7.9	6.4	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
Hardwood:																					
White oak (<i>Quercus alba</i>)	309.5	35.8	51.4	62.4	50.4	46.1	24.5	23.7	6.0	8.8	4	...	...	...	...	...	...	...	...	...	...
Other white oaks	278.5	26.8	43.3	47.9	54.3	43.3	27.4	15.5	7.4	11.4	1.2	...	...	...	...	...	...	...	...	...	...
Northern red oak	114.7	5.7	6.5	15.7	19.8	20.9	24.2	5.7	4.5	10.3	1.4	...	...	...	...	...	...	...	...	...	...
Other red oaks	335.1	32.9	40.4	52.5	61.7	61.9	44.4	20.9	12.1	8.3	...	...	...	...	...	...	...	...	...	...	...
Hickory	340.7	27.7	56.7	66.9	59.0	51.1	34.8	15.7	13.4	13.2	2.2	...	...	...	...	...	...	...	...	...	...
Hard maple	86.2	7.8	16.3	14.9	15.3	10.3	5.9	6.3	3.4	5.0	1.0	...	...	...	...	...	...	...	...	...	...
Soft maple	71.0	11.6	14.2	16.4	9.9	5.5	6.9	2.3	2.5	.9	.8	...	...	...	...	...	...	...	...	...	...
Beech	38.5	2.3	2.5	2.1	2.8	4.5	5.4	4.0	5.5	9.4	...	...	...	...	...	...	...	...	...	...	...
Sweetgum	15.8	2.1	2.9	3.1	3.1	1.3	.6	2.7	...	...	...	...	...	...	...	...	...	...	...	...	...
Blackgum	56.0	7.0	8.5	5.8	11.0	7.8	5.7	5.6	2.9	1.7	...	...	...	...	...	...	...	...	...	...	...
White ash	26.1	2.1	5.2	2.8	4.7	5.2	3.5	1.3	.5	.8	...	...	...	...	...	...	...	...	...	...	...
Other ashes	18.7	1.9	4.2	3.3	1.8	1.6	2.7	.8	1.3	1.1	...	...	...	...	...	...	...	...	...	...	...
Sycamore	3.0	...	.7	.4	.5	.6	.5	.3	...	...	...	...	...	...	...	...	...	...	...	...	...
Basswood	22.7	1.0	3.6	3.0	5.0	2.8	2.4	1.9	.6	2.4	...	...	...	...	...	...	...	...	...	...	...
Yellow-poplar	241.8	25.6	29.9	42.4	48.5	34.1	29.6	10.0	13.6	7.5	.6	...	...	...	...	...	...	...	...	...	...
Magnolia (<i>Magnolia</i> spp.)	14.0	.9	.9	1.6	3.8	1.8	1.9	.7	.5	1.9	...	...	...	...	...	...	...	...	...	...	...
Black walnut	7.0	.4	.9	1.0	2.3	1.3	.6	...	.5	...	...	...	...	...	...	...	...	...	...	...	...
Black cherry	10.0	.5	3.0	1.3	4.0	...	1.2	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Elms	10.5	2.1	2.2	1.6	2.8	1.1	.5	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Black locust	16.2	3.1	3.7	3.1	2.6	3.0	.7	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Other hardwoods	40.1	11.2	8.3	7.0	3.2	5.7	3.7	1.0	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	2,056.1	208.5	305.3	355.2	366.5	309.9	227.1	118.4	74.7	82.7	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
All species	2,523.6	278.8	404.1	474.8	449.9	356.8	256.5	126.3	81.1	86.9	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4

^{1/} Detailed county statistics by species and diameter class are available upon request.

Table 21. Sawtimber volume on commercial forest land by species and diameter class, 1971^{1/}

Species	Diameter class (inches at breast height)										19.0- 20.9 and larger	
	All classes	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 28.9	29.0 and larger			
----- Million board feet -----												
Softwood:												
Shortleaf pine	539.9	237.2	160.2	70.3	62.0	10.2	...	...	...	...	...	...
Virginia pine	556.0	196.3	182.7	124.2	36.6	10.7	3.6	1.9	...	...	...	...
Other southern pines	47.7	8.3	11.9	12.1	11.5	3.9	...	...	...	...	...	...
White pine	93.6	8.2	21.8	9.5	19.1	10.7	9.6	11.7	3.0	...	...	...
Hemlock	117.6	21.1	15.1	26.0	23.4	4.2	21.8	6.0	...	...	...	...
Redcedar	8.6	5.8	2.8	...	...	...	...	...	...	...	...	...
Total	1,363.4	476.9	394.5	242.1	152.6	39.7	35.0	19.6	3.0	...	...	...
Hardwood:												
White oak (<i>Quercus alba</i>)	699.9	...	197.7	203.9	112.4	115.7	25.8	41.6	2.8	...	...	...
Other white oaks	687.0	...	200.6	186.9	127.1	74.4	36.0	56.7	5.3	...	...	...
Northern red oak	404.9	...	80.1	96.6	113.2	29.4	23.6	53.5	8.5	...	...	...
Other red oaks	929.9	...	223.7	279.2	212.9	105.1	63.6	45.4	...	...	...	...
Hickory	911.8	...	244.3	243.9	181.3	81.9	74.2	74.1	12.1	...	...	...
Hard maple	211.7	...	58.5	45.9	28.5	30.9	17.1	25.2	5.6	...	...	...
Soft maple	118.5	...	34.9	22.6	29.7	9.9	12.1	3.9	5.4	...	...	...
Beech	143.8	...	10.1	18.8	25.6	22.5	30.1	36.7	...	...	...	...
Sweetgum	28.2	...	10.1	5.4	2.4	10.3	...	...	...	...	...	...
Blackgum	149.0	...	38.4	32.1	29.2	26.6	13.0	9.7	...	...	...	...
White ash	73.9	...	18.1	26.1	16.4	6.7	2.6	4.0	...	...	...	...
Other ashes	41.6	...	6.4	6.8	13.3	4.3	5.7	5.1	...	...	...	...
Sycamore	5.9	...	...	2.4	1.7	1.3	...	...	...	...	...	...
Basswood	70.3	...	18.4	15.3	11.9	9.3	2.9	12.5	...	...	...	...
Yellow-poplar	616.9	...	181.5	151.3	135.6	44.8	65.5	35.4	2.8	...	...	...
Magnolia (<i>Magnolia</i> spp.)	50.2	...	18.2	8.0	8.6	3.3	2.9	9.2	...	...	...	...
Black walnut	17.0	...	7.7	4.1	2.8	...	2.4	...	...	...	...	...
Black cherry	22.0	...	15.7	...	6.3	...	...	...	...	...	...	...
Elms	21.4	...	12.9	4.8	2.2	...	...	...	...	...	...	...
Black locust	28.4	...	10.8	13.2	4.4	...	...	...	...	...	...	...
Other hardwoods	61.2	...	12.6	27.1	16.6	4.9	...	...	...	...	...	...
Total	5,293.5	...	1,401.2	1,394.4	1,082.1	581.3	377.5	413.0	44.0	...	...	...
All species	6,656.9	476.9	1,795.7	1,636.5	1,234.7	621.0	412.5	432.6	47.0	...	...	...

^{1/} Detailed county statistics by species and diameter class are available upon request.

Table 22. Average volume per acre of growing stock and sawtimber on commercial forest land by species group and ownership class, 1971

Ownership class	Growing stock			Sawtimber		
	All species	Softwood	Hardwood	All species	Softwood	Hardwood
	- - - Cubic feet - - -			- - - Board feet - - -		
National forest	...	...	...	...	...	...
Other public	1,015	342	673	2,711	1,025	1,686
Forest industry	661	179	482	1,848	552	1,296
Farmer	920	189	731	2,290	624	1,666
Misc. private	<u>798</u>	<u>108</u>	<u>690</u>	<u>2,129</u>	<u>273</u>	<u>1,856</u>
All ownerships	820	152	668	2,163	443	1,720











Southern Pulpwood Production, 1970

Roy C. Beltz



Southern Forest Experiment Station
New Orleans, Louisiana
Forest Service, U. S. Department of Agriculture

1971

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Southern Pulpwood Production, 1970

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SOUTHERN FOREST EXPERIMENT STATION

New Orleans, Louisiana

and

SOUTHEASTERN FOREST EXPERIMENT STATION

Asheville, North Carolina

of the

Forest Service, U. S. Department of Agriculture

in cooperation with

**SOUTHEASTERN AND SOUTHWESTERN TECHNICAL
DIVISIONS**

of the

AMERICAN PULPWOOD ASSOCIATION

1971



Southern pulpwood production climbed to 42,152,410 cords in 1970, exceeding last year's record by 3 percent. This increase is smaller than those of recent years. Pulping capacity also rose 3 percent to 83,316 tons per day, and four mills are currently under construction. Of the 119 mills processing southern pulpwood, 107 were located within the region.

Southern pulpwood production moved into the seventies with a record output of 42,152,410 cords. Roundwood output, residue use, and total production each expanded by about 3 percent during 1970. The increase of nearly 1.3 million cords was effected by the production of an additional 1,370,378 cords of softwood roundwood and 323,703 cord equivalents of hardwood residues. Output of softwood residues and hardwood roundwood declined during 1970.

Pulpwood production gains were recorded in seven of the Southern States. North Carolina had the largest increase, about 590,000 cords. Louisiana's output rose about 320,000 cords and South Carolina's about 190,000. Output did not rise in any of the three States where production is greatest. Georgia is still the leader, but 1970 output was less than 1969. Alabama, whose production was static, was second, and Mississippi was third despite a slight decline.

Roundwood production continued strong in 1970, with eight Southern States showing gains. Changes varied considerably by State and species, however; softwood roundwood output rose in nine States, while that of hardwood roundwood declined in nine States. North Carolina and Tennessee were the only States where production of both softwoods and hardwoods was up; output in both categories was down in Florida and Oklahoma. Although the overall change in roundwood species composition was not great during the year, the volume comprised by softwoods rose to slightly over three-fourths of the total. Of the hardwood volume, 40 percent was oak, 31 percent gums, and 29 percent other species. The use of gums appears to be declining while the volume of oaks and other hardwoods is increasing.

In 1970, 71 counties produced at least 100,000

cords of roundwood. Of these, 25 were in Southern States bordering the Atlantic. Alabama alone had 18. The three leading producers were: Choctaw County in Alabama, Beaufort in North Carolina, and Fairfield in South Carolina. These three produced more than a half million cords of roundwood. Choctaw and Fairfield have been among the top three counties in past years while Beaufort is a newcomer to the group.

The pulping of plant byproducts grew almost a quarter of a million cords in 1970. Gains in hardwood residue use were recorded in most States, while pulping of softwood residues increased in only four States. Arkansas, Oklahoma, and South Carolina were the only States in which production of both increased. The volume of softwood residues pulped in all States combined, declined slightly.

Changes in residue use probably relate to patterns of availability rather than species preferences. The pulping of byproducts began with pine in 1952, and 1970 was the first year since then in which use of chipped softwood byproducts declined. The amount of residues available for pulping is, of course, limited by the output of primary products. Utilization of pine byproducts may be approaching a practical limit, while a considerable volume of hardwood slabs, edgings, and other materials is not used.

Southern pulping capacity rose 3 percent in 1970. Two mills started up during the year, and construction was begun on another. Four mills are now under construction. In all, some 107 southern mills, plus 12 outside the region processed southern pulpwood.

The increases in production recorded in 1970 do not compare favorably with average increases over the past decade. During the six-

ties, total production grew at an average annual rate of 6 percent. Total output during 1970 exceeded that of 1969 by only 3.1 percent. The use of residues during the sixties was the most active component of pulpwood production—the average annual increase was almost 24 percent. The rise in 1970 was about 3 percent.

Only the 6 percent increase in production of softwood roundwood from 1969 to 1970 ex-

ceeded the average rate for the sixties. Changes in all other components—hardwood roundwood, and pine and hardwood residues—were off the paces set in the past decade. The relatively small gains made in 1970 probably reflect slow growth in the national economy. Gains in southern pulpwood production can be expected to return to former levels as the pace of the national economy quickens.

Table 1. *Pulpwood production in the South during 1970, and change since 1969*

State	Pulpwood	Change
	<i>Thousand cords</i>	<i>Percent</i>
Alabama	6,409.4	(¹)
Arkansas	2,574.2	(²)
Florida	3,425.2	- 1
Georgia	7,280.6	(²)
Louisiana	3,915.9	+ 9
Mississippi	5,053.9	(²)
North Carolina	4,107.5	+ 17
Oklahoma	196.7	+ 3
South Carolina	3,300.8	+ 6
Tennessee	567.3	+ 32
Texas	2,917.6	+ 3
Virginia	2,403.3	(²)
All States	42,152.4	+ 3

¹ Less than 0.5 percent increase.

² Less than 0.5 percent decrease.

Table 2. *Roundwood production in the South, by State and species group, 1970*

State	All species	Softwood	Hardwood			
			Total	Gums	Oaks	Other hardwoods
----- <i>Thousand cords</i> -----						
Alabama	5,188.6	3,676.1	1,512.5	468.0	530.2	514.3
Arkansas	1,667.6	1,122.9	544.7	63.4	389.3	92.0
Florida	2,941.9	2,708.2	233.7	41.8	90.2	101.7
Georgia	6,178.3	5,584.8	593.5	212.6	231.9	149.0
Louisiana	2,989.4	2,248.3	741.1	252.9	243.3	244.9
Mississippi	4,124.3	3,073.6	1,050.7	365.9	325.8	359.0
North Carolina	3,415.0	2,381.5	1,033.5	465.5	375.3	192.7
Oklahoma	93.1	49.5	43.6	5.9	7.2	30.5
South Carolina	2,557.6	2,009.1	548.5	205.2	191.6	151.7
Tennessee	436.9	190.1	246.8	17.9	168.7	60.2
Texas	2,092.6	1,819.7	272.9	82.2	141.5	49.2
Virginia	1,862.0	962.1	899.9	183.4	398.1	318.4
All States	33,547.3	25,825.9	7,721.4	2,364.7	3,093.1	2,263.6

Table 3. Roundwood production in the South, by State and species group, 1970 and 1969

State	Change from 1969	1970			1969		
		All species	Softwood	Hardwood	All species	Softwood	Hardwood
		<i>Percent - - - - - Thousand cords - - - - -</i>					
Alabama	+ 1	5,188.6	3,676.1	1,512.5	5,135.7	3,556.6	1,579.1
Arkansas	- 4	1,667.6	1,122.9	544.7	1,743.0	1,121.8	621.2
Florida	- 3	2,941.9	2,708.2	233.7	3,020.7	2,752.2	268.5
Georgia	+ 1	6,178.3	5,584.8	593.5	6,108.5	5,385.4	723.1
Louisiana	+ 10	2,989.4	2,248.3	741.1	2,719.5	1,947.9	771.6
Mississippi	(¹)	4,124.3	3,073.6	1,050.7	4,128.6	3,023.5	1,105.1
North Carolina	+ 21	3,415.0	2,381.5	1,033.5	2,829.9	1,910.1	919.8
Oklahoma	- 20	93.1	49.5	43.6	117.0	55.0	62.0
South Carolina	+ 2	2,557.6	2,009.1	548.5	2,504.8	1,884.2	620.6
Tennessee	+ 20	436.9	190.1	246.8	364.7	167.9	196.8
Texas	+ 4	2,092.6	1,819.7	272.9	2,008.0	1,654.5	353.5
Virginia	+ 2	1,862.0	962.1	899.9	1,830.2	996.4	833.8
All States	+ 3	33,547.3	25,825.9	7,721.4	32,510.6	24,455.5	8,055.1

¹ Less than 0.5 percent decrease.

Table 4. Southern output of wood residues for pulp manufacture, by State and species group, 1970 and 1969

State	Change from 1969	1970			1969		
		All species	Softwood	Hardwood	All species	Softwood	Hardwood
		<i>Percent - - - - - Thousand cords - - - - -</i>					
Alabama	- 2	1,220.8	963.0	257.8	1,243.0	964.7	278.3
Arkansas	+ 8	906.6	733.8	172.8	836.0	688.6	147.4
Florida	+ 14	483.3	391.0	92.3	425.4	330.3	95.1
Georgia	- 8	1,102.3	916.3	186.0	1,195.0	1,013.4	181.6
Louisiana	+ 6	926.5	637.5	289.0	876.8	707.9	168.9
Mississippi	- 1	929.6	671.1	258.5	942.7	678.2	264.5
North Carolina	+ 1	692.5	493.0	199.5	687.0	531.3	155.7
Oklahoma	+ 41	103.6	98.9	4.7	73.7	70.4	3.3
South Carolina	+ 22	743.2	568.3	174.9	607.6	471.7	135.9
Tennessee	+ 99	130.4	12.1	118.3	65.6	12.8	52.8
Texas	(¹)	825.0	758.1	66.9	826.0	785.6	40.4
Virginia	- 7	541.3	326.5	214.8	579.6	391.7	187.9
All States	+ 3	8,605.1	6,569.6	2,035.5	8,358.4	6,646.6	1,711.8

¹ Less than 0.5 percent decrease.

Table 5. *Southern output of wood residues for pulp manufacture, by State and type of residue, 1970*

State	All types	Chips			Other residues ¹		
		All species	Softwood	Hardwood	All species	Softwood	Hardwood
----- <i>Thousand cords</i> -----							
Alabama	1,220.8	1,156.7	899.6	257.1	64.1	63.4	0.7
Arkansas	906.6	879.9	727.2	152.7	26.7	6.6	20.1
Florida	483.3	483.3	391.0	92.3	...	...	...
Georgia	1,102.3	1,097.4	914.6	182.8	4.9	1.7	3.2
Louisiana	926.5	839.0	612.7	226.3	87.5	24.8	62.7
Mississippi	929.6	859.0	633.3	225.7	70.6	37.8	32.8
North Carolina	692.5	659.3	467.4	191.9	33.2	25.6	7.6
Oklahoma	103.6	103.6	98.9	4.7	(²)	(²)	...
South Carolina	743.2	704.9	532.2	172.7	38.3	36.1	2.2
Tennessee	130.4	130.4	12.1	118.3	...	...	...
Texas	825.0	688.7	621.8	66.9	136.3	136.3	...
Virginia	541.3	519.0	308.8	210.2	22.3	17.7	4.6
All States	8,605.1	8,121.2	6,219.6	1,901.6	483.9	350.0	133.9

¹ Veneer cores, pole and piling trim, cull crossties, sawdust and secondary residues.

² Negligible.

Table 6. *Southern pulpwood production by Experiment Station territory, 1970*

Station and source of wood	All species	Softwood	Hardwood
----- <i>Standard cords</i> -----			
Southeastern:			
Roundwood	16,954,807	13,645,713	3,309,094
Residues	3,562,621	2,695,148	867,473
Total	20,517,428	16,340,861	4,176,567
Southern:			
Roundwood	16,592,538	12,180,192	4,412,346
Residues	5,042,444	3,874,436	1,168,008
Total	21,634,982	16,054,628	5,580,354
Both stations:			
Roundwood	33,547,345	25,825,905	7,721,440
Residues	8,605,065	6,569,584	2,035,481
Total	42,152,410	32,395,489	9,756,921

Table 7. Round pulpwood production in Alabama, 1970

County	All species	Softwood	Hardwood
- - - - Standard cords - - - -			
Autauga	64,119	41,405	22,714
Baldwin	186,643	143,399	43,244
Barbour	99,200	72,311	26,889
Bibb	79,952	65,414	14,538
Blount	31,241	31,218	23
Bullock	48,216	37,986	10,230
Butler	187,368	113,505	73,863
Calhoun	52,213	48,663	3,550
Chambers	70,821	43,385	27,436
Cherokee	26,464	21,341	5,123
Chilton	77,175	57,244	19,931
Choctaw	235,637	107,525	128,112
Clarke	187,134	86,752	100,382
Clay	78,184	53,794	24,390
Cleburne	54,417	46,390	8,027
Coffee	42,789	29,643	13,146
Colbert	5,337	5,246	91
Conecuh	148,838	104,968	43,870
Coosa	128,516	83,312	45,204
Covington	169,801	137,049	32,752
Crenshaw	79,396	53,893	25,503
Cullman	42,343	40,287	2,056
Dale	93,984	49,194	44,790
Dallas	112,820	56,824	55,996
De Kalb	18,090	16,192	1,898
Elmore	60,536	57,219	3,317
Escambia	133,741	113,193	20,548
Fayette	27,348	26,278	1,070
Franklin	41,032	38,985	2,047
	18,009	17,683	326
Geneva	41,313	29,117	12,196
Greene	66,529	39,530	26,999
Hale	56,954	34,325	22,629
Henry	80,425	53,223	27,202
Houston	49,811	34,076	15,735

County	All species	Softwood	Hardwood
- - - - Standard cords - - - -			
Jackson	7,142	4,588	2,554
Jefferson	30,504	28,483	2,021
Lamar	35,627	33,235	2,392
Lauderdale	6,262	5,475	787
Lawrence	348	333	15
Lee	121,337	102,142	19,195
Limestone	340	340	...
Lowndes	57,336	36,899	20,437
Macon	40,530	38,541	1,989
Madison	134	134	...
Marengo	198,338	115,636	82,702
Marion	42,742	42,118	624
Marshall	15,736	15,736	...
Mobile	111,989	87,306	24,683
Monroe	196,250	123,962	72,288
Montgomery	86,472	50,595	35,877
Morgan	935	935	...
Perry	69,501	46,333	23,168
Pickens	89,867	48,646	41,221
Pike	94,111	75,132	18,979
Randolph	115,889	100,696	15,193
Russell	75,947	70,386	5,561
St. Clair	63,064	59,884	3,180
Shelby	55,779	44,739	11,040
Sumter	114,331	54,840	59,491
Talledega	66,620	53,218	13,402
Tallapoosa	154,632	115,154	39,478
Tuscaloosa	58,815	51,850	6,965
Walker	63,788	61,422	2,366
Washington	174,397	120,305	54,092
Wilcox	112,224	66,223	46,001
Winston	31,156	30,220	936
All counties	5,188,539	3,676,075	1,512,464

Table 8. Round pulpwood production in Arkansas, 1970

County ¹	All species	Softwood	Hardwood	County ¹	All species	Softwood	Hardwood
- - - Standard cords - - -				- - - Standard cords - - -			
Ashley	84,354	58,010	26,344	Logan	11,536	10,737	799
Bradley	18,684	9,628	9,056	Lonoke	6,556	266	6,290
Calhoun	56,579	37,491	19,088	Miller	22,282	14,379	7,903
Chicot	13,064	...	13,064	Mississippi	1,538	...	1,538
Clark	74,630	51,907	22,723	Monroe	113	80	33
Cleburne	27,719	23,958	3,761	Montgomery	22,957	17,489	5,468
Cleveland	36,689	21,439	15,250	Nevada	76,512	59,777	16,735
Columbia	69,638	54,091	15,547	Newton	19	12	7
Conway	30,808	26,960	3,848	Ouachita	45,551	33,108	12,443
Craighead	12	...	12	Perry	6,216	5,584	632
Crawford	3,158	631	2,527	Phillips	11,435	...	11,435
Crittenden	615	...	615	Pike	46,696	38,476	8,220
Dallas	89,557	54,368	35,189	Polk	27,421	23,440	3,981
Desha	7,866	4	7,862	Pope	17,654	14,427	3,227
Drew	86,021	48,479	37,542	Prairie	680	5	675
Faulkner	215	...	215	Pulaski	29,558	23,671	5,887
Franklin	1,208	1,050	158	St. Francis	1,224	144	1,080
Garland	14,642	11,102	3,540	Saline	57,690	37,088	20,602
Grant	134,666	78,844	55,822	Scott	12,742	12,046	696
Hempstead	43,974	34,516	9,458	Sebastian	240	210	30
Hot Spring	53,087	34,364	18,723	Sevier	43,925	25,875	18,050
Howard	29,559	20,348	9,211	Stone	1,118	1,050	68
Independence	8,367	4,892	3,475	Union	118,878	91,879	26,999
Izard	4,409	3,523	886	Van Buren	17,755	16,766	989
Jackson	673	41	632	White	10,557	2,471	8,086
Jefferson	39,505	19,804	19,701	Woodruff	824	...	824
Johnson	14,788	10,280	4,508	Yell	36,116	28,185	7,931
Lafayette	44,640	29,770	14,870	All counties	1,667,590	1,122,937	544,653
Lee	4,540	148	4,392				
Lincoln	7,784	2,807	4,977				
Little River	38,346	27,317	11,029				

¹ Counties with no pulpwood production are omitted.

Table 9. Round pulpwood production in Florida, 1970

County ¹	All species	Softwood	Hardwood	County ¹	All species	Softwood	Hardwood
- - - - Standard cords - - - -				- - - - Standard cords - - - -			
Alachua	58,630	43,612	15,018	Leon	51,255	50,749	506
Baker	101,869	101,869	...	Levy	96,680	85,500	11,180
Bay	83,155	83,135	20	Liberty	75,662	63,105	12,557
Bradford	65,937	65,675	262	Madison	88,585	84,441	4,144
Brevard	910	910	...	Manatee	1,619	1,619	...
Calhoun	89,149	84,189	4,960	Marion	100,972	85,835	15,137
Charlotte	1,163	1,163	...	Martin	42	42	...
Citrus	2,379	2,379	...	Nassau	131,549	131,546	3
Clay	79,091	77,490	1,601	Okaloosa	20,199	17,020	3,179
Collier	5,851	5,851	...	Okeechobee	2,263	2,263	...
Columbia	95,309	91,839	3,470	Orange	221	221	...
Dade	910	910	...	Osceola	15,112	15,091	21
De Soto	3,389	3,389	...	Palm Beach	1,873	1,873	...
Dixie	99,432	70,693	28,739	Pasco	4,064	4,064	...
Duval	77,340	75,283	2,057	Pinellas	291	291	...
Escambia	43,980	42,896	1,084	Polk	23,045	23,045	...
Flagler	40,376	35,837	4,539	Putnam	56,586	43,354	13,232
Franklin	61,716	61,335	381	St. Johns	77,772	72,815	4,957
Gadsden	52,595	48,258	4,337	St. Lucie	422	422	...
Gilchrist	22,470	16,758	5,712	Santa Rosa	103,488	103,147	341
Glades	3,438	3,438	...	Sarasota	6,131	6,131	...
Gulf	37,808	24,026	13,782	Seminole	10,969	10,969	...
Hamilton	74,722	74,722	...	Sumter	2,706	2,706	...
Hardee	20,296	20,296	...	Suwannee	54,421	47,588	6,833
Hendry	13,114	13,114	...	Taylor	160,985	158,893	2,092
Hernando	9,492	8,078	1,414	Union	69,945	64,537	5,408
Highlands	6,564	6,564	...	Volusia	49,704	48,660	1,044
Hillsborough	3,181	3,181	...	Wakulla	52,696	51,996	700
Holmes	76,622	66,008	10,614	Walton	86,358	75,531	10,827
Jackson	104,483	78,534	25,949	Washington	98,241	84,244	13,997
Jefferson	50,174	46,524	3,650				
Lafayette	101,663	101,663	...	All counties	2,941,938	2,708,191	233,747
Lake	2,877	2,877	...				
Lee	7,997	7,997	...				

¹ Counties with no pulpwood production are omitted.

Table 10. Round pulpwood production in Georgia, 1970

County	All species	Softwood	Hardwood	County	All species	Softwood	Hardwood
- - - - Standard cords - - - -				- - - - Standard cords - - - -			
Appling	128,248	123,551	4,697	Gilmer	10,502	7,906	2,596
Atkinson	85,307	84,369	938	Glascok	5,214	4,788	426
Bacon	57,129	56,869	260	Glynn	72,318	57,893	14,425
Baker	30,031	20,629	9,402	Gordon	21,940	21,118	822
Baldwin	23,473	19,551	3,922	Grady	23,992	18,788	5,204
Banks	9,788	8,522	1,266	Greene	58,724	50,980	7,744
Barrow	17,475	15,532	1,943	Gwinnett	26,614	26,320	294
Bartow	16,250	15,718	532	Habersham	10,920	6,152	4,768
Ben Hill	84,596	84,209	387	Hall	27,415	27,182	233
Berrien	61,399	58,329	3,070	Hancock	55,821	48,678	7,143
Bibb	13,867	10,881	2,986	Haralson	25,234	22,821	2,413
Bleckley	25,513	16,681	8,832	Harris	64,015	62,344	1,671
Brantley	176,328	163,835	12,493	Hart	3,762	3,679	83
Brooks	51,487	45,494	5,993	Heard	33,629	33,502	127
Bryan	71,282	66,956	4,326	Henry	35,286	29,150	6,136
Bulloch	51,040	48,197	2,843	Houston	38,320	34,283	4,037
Burke	56,683	33,066	23,617	Irwin	2,902	2,902	...
Butts	30,078	28,606	1,472	Jackson	24,562	23,852	710
Calhoun	38,790	32,304	6,486	Jasper	25,525	25,056	469
Camden	101,488	89,329	12,159	Jeff Davis	53,359	48,492	4,867
Candler	24,639	21,078	3,561	Jefferson	35,128	26,325	8,803
Carroll	57,748	56,206	1,542	Jenkins	29,592	23,876	5,716
Catoosa	7,759	7,243	516	Johnson	40,251	26,114	14,137
Charlton	106,767	103,387	3,380	Jones	52,131	49,349	2,782
Chatham	15,680	14,622	1,058	Lamar	22,659	22,366	293
Chattahoochee	39,253	34,262	4,991	Lanier	17,560	17,560	...
Chattooga	19,486	18,611	875	Laurens	63,928	48,034	15,894
Cherokee	48,543	47,100	1,443	Lee	10,894	10,838	56
Clarke	5,954	5,654	300	Liberty	103,170	93,300	9,870
Clay	20,312	17,182	3,130	Lincoln	29,119	26,987	2,132
Clayton	8,940	6,824	2,116	Long	53,797	52,665	1,132
Clinch	165,084	165,084	...	Lowndes	30,110	30,110	...
Cobb	17,554	16,924	630	Lumpkin	5,664	5,639	25
Coffee	86,036	84,097	1,939	McDuffie	22,297	18,366	3,931
Colquitt	54,794	45,396	9,398	McIntosh	62,838	60,108	2,730
Columbia	40,898	34,752	6,146	Macon	53,785	38,026	15,759
Cook	9,367	9,317	50	Madison	14,614	13,955	659
Coweta	43,749	41,285	2,464	Marion	30,626	29,364	1,262
Crawford	50,727	48,634	2,093	Meriwether	54,478	53,409	1,069
Crisp	12,256	12,208	48	Miller	14,416	13,038	1,378
Dade	1,209	1,161	48	Mitchell	49,126	42,351	6,775
Dawson	13,089	13,089	...	Monroe	44,469	40,554	3,915
Decatur	41,614	38,820	2,794	Montgomery	47,357	45,828	1,529
De Kalb	13,777	9,919	3,858	Morgan	15,431	13,638	1,793
Dodge	91,235	81,239	9,996	Murray	25,531	22,542	2,989
Dooly	17,844	9,578	8,266	Muscogee	9,000	8,859	141
Dougherty	71,491	64,332	7,159	Newton	22,915	22,311	604
Douglas	21,692	20,667	1,025	Oconee	21,916	18,494	3,422
Early	29,826	25,579	4,247	Oglethorpe	32,320	29,485	2,835
Echols	66,317	64,121	2,196	Paulding	33,500	30,668	2,832
Effingham	45,595	40,773	4,822	Peach	12,354	11,410	944
Elbert	56,453	51,460	4,993	Pickens	23,859	22,805	1,054
Emanuel	86,728	83,378	3,350	Pierce	55,659	55,359	300
Evans	24,017	22,381	1,636	Pike	9,611	9,481	130
Fannin	17,978	8,940	9,038	Polk	24,569	22,924	1,645
Fayette	11,443	11,060	383	Pulaski	33,126	22,511	10,615
Floyd	32,520	30,424	2,096	Putnam	49,701	41,807	7,894
Forsyth	6,179	6,158	21				
Franklin	24,972	18,519	6,453				
Fulton	16,584	16,552	32				

Table 10. Round pulpwood production in Georgia, 1970 (Continued)

County	All species	Softwood	Hardwood	County	All species	Softwood	Hardwood
- - - - Standard cords - - - -				- - - - Standard cords - - - -			
Quitman	17,051	15,986	1,065	Treutlen	26,724	25,368	1,356
Rabun	8,427	...	8,427	Troup	85,555	82,381	3,174
Randolph	61,589	41,547	20,042	Turner	13,499	13,461	38
Richmond	13,757	10,454	3,303	Twiggs	27,539	21,212	6,327
Rockdale	3,650	2,046	1,604	Union	7,437	5,363	2,074
Schley	14,027	14,027	...	Upson	38,163	36,415	1,748
Screven	45,133	33,837	11,296	Walker	14,473	13,039	1,434
Seminole	10,878	10,253	625	Walton	15,610	13,471	2,139
Spalding	19,070	18,871	199	Ware	175,931	175,426	505
Stephens	15,746	7,610	8,136	Warren	23,996	21,353	2,643
Stewart	60,592	57,244	3,348	Washington	58,488	47,051	11,437
Sumter	25,009	23,554	1,455	Wayne	195,572	178,827	16,745
Talbot	45,307	43,476	1,831	Webster	27,683	26,478	1,205
Taliaferro	7,064	6,264	800	Wheeler	63,344	60,434	2,910
Tattnall	61,491	58,213	3,278	White	2,438	2,431	7
Taylor	39,966	39,495	471	Whitfield	14,189	13,487	702
Telfair	60,041	57,569	2,472	Wilcox	53,266	48,677	4,589
Terrell	23,443	23,392	51	Wilkes	53,469	48,541	4,928
Thomas	56,384	39,765	16,619	Wilkinson	54,519	44,029	10,490
Tift	16,314	15,615	699	Worth	39,815	38,780	1,035
Toombs	46,474	41,418	5,056				
Towns	1,199	951	248	All counties	6,178,238	5,584,797	593,441

Table 11. Round pulpwood production in Louisiana, 1970

Parish ¹	All species	Softwood	Hardwood	Parish ¹	All species	Softwood	Hardwood
- - - Standard cords - - -				- - - Standard cords - - -			
Acadia	17,787	17,644	143	Madison	24,292	17	24,275
Allen	85,173	81,294	3,879	Morehouse	61,098	33,824	27,274
Ascension	25,166	4,715	20,451	Natchitoches	80,412	69,535	10,877
Avoyelles	30,299	5,236	25,063	Orleans	14	...	14
Beauregard	169,724	163,343	6,381	Ouachita	54,906	35,635	19,271
Bienville	164,375	132,371	32,004	Pointe Coupee	45,188	...	45,188
Bossier	73,447	57,961	15,486	Rapides	165,159	119,332	45,827
Caddo	41,294	34,198	7,096	Red River	29,967	24,222	5,745
Calcasieu	43,794	41,287	2,507	Richland	430	172	258
Caldwell	60,112	46,424	13,688	Sabine	181,453	161,951	19,502
Cameron	132	132	...	St. Helena	61,787	46,985	14,802
Catahoula	50,764	22,154	28,610	St. Landry	24,881	3,289	21,592
Claiborne	71,049	60,853	10,196	St. Martin	850	...	850
Concordia	36,680	6	36,674	St. Tammany	38,904	37,423	1,481
De Soto	105,472	98,411	7,061	Tangipahoa	52,538	41,742	10,796
East Baton Rouge	5,067	327	4,740	Tensas	11,694	7	11,687
East Carroll	13,904	...	13,904	Terrebonne	7	7	...
East Feliciana	29,389	20,349	9,040	Union	194,800	131,645	63,155
Evangeline	27,963	21,839	6,124	Vermilion	30	26	4
Franklin	1,215	715	500	Vernon	189,262	176,748	12,514
Grant	77,633	53,154	24,479	Washington	156,522	124,695	31,827
Iberia	22	...	22	Webster	46,277	39,372	6,905
Iberville	3,461	...	3,461	West Baton Rouge	3,899	...	3,899
Jackson	95,077	74,532	20,545	West Carroll	53	...	53
Jefferson Davis	9,525	9,251	274	West Feliciana	9,817	2,266	7,551
La Salle	96,294	81,084	15,210	Winn	75,067	55,537	19,530
Lincoln	68,338	55,157	13,181	All parishes	2,989,446	2,248,319	741,127
Livingston	76,983	61,452	15,531				

¹ Parishes with no pulpwood production are omitted.

Table 12. Round pulpwood production in Mississippi, 1970

County ¹	All species	Softwood	Hardwood	County ¹	All species	Softwood	Hardwood
- - - - Standard cords - - - -				- - - - Standard cords - - - -			
Adams	36,521	3,249	33,272	Madison	48,157	26,281	21,876
Alcorn	17,193	15,886	1,307	Marion	94,784	79,137	15,647
Amite	89,946	80,053	9,893	Marshall	18,191	9,714	8,477
Attala	94,701	72,364	22,337	Monroe	14,895	11,392	3,503
Benton	16,533	11,972	4,561	Montgomery	36,551	29,027	7,524
Bolivar	10,257	68	10,189	Neshoba	66,070	49,094	16,976
Calhoun	9,555	7,589	1,966	Newton	96,365	72,452	23,913
Carroll	9,412	4,583	4,829	Noxubee	43,341	30,285	13,056
Chickasaw	28,666	22,938	5,728	Oktibbeha	21,267	14,398	6,869
Choctaw	37,750	23,634	14,116	Panola	11,462	1,727	9,735
Claiborne	46,067	15,286	30,781	Pearl River	187,664	161,876	25,788
Clarke	181,466	130,647	50,819	Perry	85,466	74,376	11,090
Clay	7,318	6,098	1,220	Pike	65,607	54,049	11,558
Coahoma	854	52	802	Pontotoc	18,613	14,969	3,644
Copiah	116,081	83,975	32,106	Prentiss	18,420	16,459	1,961
Covington	74,000	60,193	13,807	Quitman	20	20	...
Forrest	51,202	44,717	6,485	Rankin	93,171	62,985	30,186
Franklin	53,732	31,598	22,134	Scott	62,277	49,088	13,189
George	43,599	33,557	10,042	Sharkey	7,162	32	7,130
Greene	97,384	65,441	31,943	Simpson	70,732	59,509	11,223
Grenada	4,363	2,343	2,020	Smith	40,166	30,128	10,038
Hancock	89,736	87,197	2,539	Stone	74,750	60,192	14,558
Harrison	168,630	166,720	1,910	Tallahatchie	2,593	256	2,337
Hinds	35,597	15,338	20,259	Tate	5,315	236	5,079
Holmes	47,233	25,000	22,233	Tippah	21,879	18,575	3,304
Humphreys	7,435	24	7,411	Tishomingo	35,067	28,397	6,670
Issaquena	15,829	5	15,824	Tunica	18,846	9,715	9,131
Itawamba	36,594	35,361	1,233	Union	3,322	1,577	1,745
Jackson	71,178	66,679	4,499	Walthall	57,978	50,292	7,686
Jasper	123,122	101,168	21,954	Warren	16,209	1,125	15,084
Jefferson	72,240	29,749	42,491	Washington	14,445	...	14,445
Jefferson Davis	50,737	45,273	5,464	Wayne	102,467	79,484	22,983
Jones	113,006	82,113	30,893	Webster	44,233	38,088	6,145
Kemper	81,222	53,963	27,259	Wilkinson	88,393	45,092	43,301
Lafayette	18,357	10,172	8,185	Winston	54,858	42,864	11,994
Lamar	104,118	91,176	12,942	Yalobusha	29,188	17,138	12,050
Lauderdale	110,297	77,807	32,490	Yazoo	17,796	1,072	16,724
Lawrence	76,568	71,773	4,795				
Leake	71,851	61,417	10,434				
Lee	6,833	6,776	57				
Leflore	3,061	576	2,485				
Lincoln	100,076	83,184	16,892				
Lowndes	6,306	4,800	1,506	All counties	4,124,346	3,073,615	1,050,731

¹ Counties with no pulpwood production are omitted.

Table 13. Round pulpwood production in North Carolina, 1970

County ¹	All species	Softwood	Hardwood	County ¹	All species	Softwood	Hardwood
- - - - Standard cords - - - -				- - - - Standard cords - - - -			
Alamance	8,973	4,962	4,011	Lee	20,765	13,761	7,004
Alexander	6,462	6,232	230	Lenoir	17,195	16,042	1,153
Anson	77,081	52,398	24,683	Lincoln	10,364	6,497	3,867
Avery	1,115	3	1,112	McDowell	18,701	8,105	10,596
Beaufort	210,409	162,859	47,550	Macon	9,620	...	9,620
Bertie	75,822	42,752	33,070	Madison	6,822	3,407	3,415
Bladen	58,658	44,705	13,953	Martin	100,197	81,822	18,375
Brunswick	70,998	58,221	12,777	Mecklenburg	15,870	10,502	5,368
Buncombe	37,713	13,969	23,744	Mitchell	2,129	5	2,124
Burke	38,188	23,593	14,595	Montgomery	36,355	23,553	12,802
Cabarrus	9,907	6,383	3,524	Moore	58,043	42,830	15,213
Caldwell	10,543	7,110	3,433	Nash	35,962	19,923	16,039
Camden	2,773	676	2,097	New Hanover	5,933	4,115	1,818
Carteret	18,625	16,526	2,099	Northampton	46,978	22,530	24,448
Caswell	9,544	1,763	7,781	Onslow	148,423	119,681	28,742
Catawba	7,186	5,353	1,833	Orange	15,978	9,698	6,280
Chatham	52,953	31,113	21,840	Pamlico	62,666	51,947	10,719
Cherokee	28,535	18,329	10,206	Pasquotank	9,806	5,941	3,865
Chowan	7,022	1,996	5,026	Pender	59,575	49,719	9,856
Clay	3,567	3,139	428	Perquimans	53,327	35,981	17,346
Cleveland	13,946	10,656	3,290	Person	21,332	8,975	12,357
Columbus	83,787	62,818	20,969	Pitt	36,717	31,564	5,153
Craven	186,964	155,957	31,007	Polk	16,665	5,834	10,831
Cumberland	45,975	31,291	14,684	Randolph	30,460	13,865	16,595
Currituck	1,059	129	930	Richmond	65,205	57,823	7,382
Dare	48,074	44,421	3,653	Robeson	63,755	52,890	10,865
Davidson	18,273	16,060	2,213	Rockingham	22,997	17,470	5,527
Davie	12,733	8,643	4,090	Rowan	8,069	6,526	1,543
Duplin	53,766	32,537	21,229	Rutherford	44,224	24,704	19,520
Durham	26,934	10,460	16,474	Sampson	59,444	43,108	16,336
Edgecombe	16,120	10,485	5,635	Scotland	94,379	91,250	3,129
Forsyth	10,019	8,008	2,011	Stanly	21,166	9,560	11,606
Franklin	75,064	43,249	31,815	Stokes	6,826	5,111	1,715
Gaston	8,483	6,880	1,603	Surry	26,007	22,038	3,969
Gates	26,579	14,768	11,811	Swain	6,419	4,852	1,567
Graham	4,088	2,526	1,562	Transylvania	18,291	2,068	16,223
Granville	32,893	15,448	17,445	Tyrrell	88,708	73,602	15,106
Greene	8,967	8,545	422	Union	44,876	26,226	18,650
Guilford	16,349	9,302	7,047	Vance	19,770	10,405	9,365
Halifax	59,192	35,061	24,131	Wake	54,838	40,206	14,632
Harnett	19,479	10,507	8,972	Warren	82,022	64,939	17,083
Haywood	12,398	2,524	9,874	Washington	29,812	19,911	9,901
Henderson	30,533	8,206	22,327	Wayne	15,951	12,204	3,747
Hertford	21,941	5,742	16,199	Wilkes	10,887	6,841	4,046
Hoke	22,168	16,595	5,573	Wilson	18,395	11,164	7,231
Hyde	31,924	25,297	6,627	Yadkin	4,638	4,262	376
Iredell	35,590	24,129	11,461	All counties	3,415,006	2,381,503	1,033,503
Jackson	27,594	1,831	25,763				
Johnston	18,598	8,761	9,837				
Jones	62,880	55,128	7,752				

¹ Counties with no pulpwood production are omitted.

Table 14. Round pulpwood production in Oklahoma, 1970

County ¹	All species	Softwood	Hardwood	County ¹	All species	Softwood	Hardwood
- - - - Standard cords - - - -				- - - - Standard cords - - - -			
Alfalfa	122	...	122	McCurtain	39,819	27,280	12,539
Blaine	1,621	...	1,621	Mayes	1,470	...	1,470
Canadian	3,857	...	3,857	Muskogee	1,832	...	1,832
Choctaw	3,622	2,451	1,171	Okfuskee	1,677	...	1,677
Dewey	22	...	22	Oklahoma	1,023	...	1,023
Garvin	1,352	...	1,352	Ottawa	1,548	...	1,548
Grady	3,973	...	3,973	Pushmataha	12,353	10,426	1,927
Haskell	2,244	...	2,244	Rogers	40	...	40
Hughes	805	...	805	Sequoyah	758	...	758
Jefferson	1,142	...	1,142	Wagoner	1,470	...	1,470
Johnston	585	...	585	Washita	1,209	...	1,209
Latimer	644	644	...	Woodward	897	...	897
Le Flore	8,993	8,629	364	All counties	93,078	49,430	43,648

¹ Counties with no pulpwood production are omitted.

Table 15. Round pulpwood production in South Carolina, 1970

County	All species	Softwood	Hardwood	County	All species	Softwood	Hardwood
- - - - Standard cords - - - -				- - - - Standard cords - - - -			
Abbeville	33,848	29,257	4,591	Jasper	30,266	26,803	3,463
Aiken	51,193	44,235	6,958	Kershaw	119,819	97,193	22,626
Allendale	25,336	20,426	4,910	Lancaster	68,687	47,523	21,164
Anderson	26,323	19,760	6,563	Laurens	65,774	50,982	14,792
Bamberg	29,155	19,505	9,650	Lee	23,101	18,348	4,753
Barnwell	24,625	24,084	541	Lexington	34,655	28,342	6,313
Beaufort	17,610	15,710	1,900	McCormick	105,529	97,126	8,403
Berkeley	77,284	60,207	17,077	Marion	61,399	33,777	27,622
Calhoun	8,961	7,920	1,041	Marlboro	49,833	20,788	29,045
Charleston	45,371	38,644	6,727	Newberry	115,200	98,174	17,026
Cherokee	16,944	15,439	1,505	Oconee	40,070	19,409	20,661
Chester	79,930	62,506	17,424	Orangeburg	45,805	40,055	5,750
Chesterfield	82,212	64,041	18,171	Pickens	17,941	14,725	3,216
Clarendon	49,885	36,825	13,060	Richland	62,921	52,119	10,802
Colleton	68,858	52,558	16,300	Saluda	51,694	42,651	9,043
Darlington	50,883	34,628	16,255	Spartanburg	28,679	19,495	9,184
Dillon	13,927	10,781	3,146	Sumter	37,021	26,045	10,976
Dorchester	40,214	30,792	9,422	Union	72,121	63,036	9,085
Edgefield	73,542	62,296	11,246	Williamsburg	49,941	30,593	19,348
Fairfield	198,674	167,434	31,240	York	61,559	44,094	17,465
Florence	48,884	36,444	12,440	All counties	2,557,589	2,009,093	548,496
Georgetown	132,497	103,570	28,927				
Greenville	15,028	14,001	1,027				
Greenwood	78,189	68,912	9,277				
Hampton	39,980	31,757	8,223				
Horry	86,221	66,083	20,138				

Table 16. Round pulpwood production in Tennessee, 1970

County ¹	All species	Softwood	Hardwood	County ¹	All species	Softwood	Hardwood
- - - - Standard cords - - - -				- - - - Standard cords - - - -			
Anderson	6,008	2,384	3,624	Johnson	3,816	...	3,816
Benton	6,134	434	5,700	Knox	5,254	3,520	1,734
Bledsoe	9,646	6,875	2,771	Lawrence	364	330	34
Blount	11,992	8,805	3,187	Lewis	5,687	11	5,676
Bradley	16,689	14,682	2,007	Loudon	6,866	1,908	4,958
Campbell	8,022	2,711	5,311	McMinn	24,740	20,781	3,959
Carroll	3,092	233	2,859	McNairy	8,925	7,467	1,458
Carter	3,592	114	3,478	Madison	690	400	290
Chester	1,679	1,040	639	Meigs	12,649	6,444	6,205
Claiborne	243	...	243	Monroe	23,041	14,331	8,710
Cocke	8,496	5,097	3,399	Morgan	20,172	5,839	14,333
Coffee	2,563	2,563	...	Obion	542	7	535
Cumberland	20,499	6,270	14,229	Perry	5,702	27	5,675
Decatur	856	856	...	Polk	10,528	7,054	3,474
Dickson	2,762	...	2,762	Putnam	14,773	5,262	9,511
Fayette	170	167	3	Rhea	20,672	7,595	13,077
Fentress	5,729	3,951	1,778	Roane	13,382	8,873	4,509
Gibson	166	3	163	Scott	15,386	4,424	10,962
Giles	42	42	...	Sequatchie	3,079	1,348	1,731
Grainger	366	...	366	Sevier	1,367	1,253	114
Greene	2,677	573	2,104	Stewart	40	1	39
Grundy	2,617	2,617	...	Sullivan	9,893	...	9,893
Hamblen	131	95	36	Tipton	197	...	197
Hamilton	12,482	7,142	5,340	Unicoi	7,198	113	7,085
Hancock	677	...	677	Union	2,865	1,203	1,662
Hardeman	9,615	8,975	640	Warren	1,460	1,370	90
Hardin	22,219	9,412	12,807	Washington	2,520	227	2,293
Hawkins	3,515	...	3,515	Wayne	3,020	2,576	444
Haywood	490	487	3	Weakley	2,322	184	2,138
Henderson	1,629	1,604	25	All counties	436,941	190,105	246,836
Henry	10,943	324	10,619				
Hickman	11,381	31	11,350				
Houston	590	...	590				
Humphreys	21,911	...	21,911				
Jefferson	168	70	98				

¹ Counties with no pulpwood production are omitted.

Table 17. Round pulpwood production in Texas, 1970

County ¹	All species	Softwood	Hardwood	County ¹	All species	Softwood	Hardwood
- - - Standard cords - - -				- - - Standard cords - - -			
Anderson	24,463	23,434	1,029	Montgomery	78,007	65,648	12,359
Angelina	74,422	71,043	3,379	Morris	14,622	13,940	682
Bowie	35,211	31,649	3,562	Nacogdoches	120,560	107,378	13,182
Brazoria	535	264	271	Newton	114,967	85,091	29,876
Camp	9,661	9,587	74	Orange	14,855	12,706	2,149
Cass	57,219	52,469	4,750	Panola	98,670	95,120	3,550
Chambers	2,247	1,934	313	Polk	137,583	116,141	21,442
Cherokee	51,249	44,867	6,382	Red River	2,571	2,571	...
Fort Bend	121	...	121	Rusk	49,618	48,848	770
Franklin	13,906	10,581	3,325	Sabine	46,194	40,710	5,484
Gregg	32,280	31,128	1,152	San Augustine	81,351	75,467	5,884
Grimes	13,292	12,320	972	San Jacinto	55,481	48,560	6,921
Hardin	107,255	86,200	21,055	Shelby	113,364	106,530	6,834
Harris	32,707	24,081	8,626	Smith	22,231	22,231	...
Harrison	52,987	52,438	549	Titus	9,523	9,514	9
Hopkins	783	783	...	Trinity	103,208	95,647	7,561
Houston	60,111	56,640	3,471	Tyler	106,111	73,300	32,811
Jasper	144,531	115,964	28,567	Upshur	52,788	51,423	1,365
Jefferson	2,649	1,673	976	Walker	48,723	38,760	9,963
Lamar	34	...	34	Waller	5,783	4,939	844
Leon	4,200	4,200	...	Wood	7,598	7,449	149
Liberty	43,567	24,146	19,421	All counties	2,092,598	1,819,711	272,887
Marion	45,360	42,337	3,023				

¹ Counties with no pulpwood production are omitted.

Table 18. Round pulpwood production in Virginia, 1970

County ¹	All species	Softwood	Hardwood	County ¹	All species	Softwood	Hardwood
- - - - Standard cords - - - -				- - - - Standard cords - - - -			
Accomack	17,396	16,875	521	Lancaster	6,213	5,615	598
Albemarle	38,909	19,299	19,610	Lee	1,108	...	1,108
Alleghany	30,260	4,692	25,568	Loudoun	2,688	2,573	115
Amelia	26,946	17,727	9,219	Louisa	23,431	17,289	6,142
Amherst	42,637	11,712	30,925	Lunenburg	26,782	16,417	10,365
Appomattox	58,160	25,091	33,069	Madison	103	76	27
Arlington	482	6	476	Mathews	4,497	2,930	1,567
Augusta	15,544	2,205	13,339	Mecklenburg	19,829	10,815	9,014
Bath	35,352	4,019	31,333	Middlesex	5,333	4,345	988
Bedford	46,585	19,008	27,577	Montgomery	867	74	793
Bland	75	48	27	Nansemond	16,193	8,264	7,929
Botetourt	46,247	7,632	38,615	Nelson	17,485	7,135	10,350
Brunswick	99,776	67,158	32,618	New Kent	21,262	17,332	3,930
Buchanan	27	...	27	Norfolk	2,847	482	2,365
Buckingham	107,708	18,195	89,513	Northampton	2,480	2,415	65
Campbell	55,096	30,009	25,087	Northumberland	3,605	3,131	474
Caroline	28,661	24,546	4,115	Nottoway	24,012	11,671	12,341
Carroll	1,366	736	630	Orange	5,039	2,735	2,304
Charles City	22,032	12,997	9,035	Page	667	121	546
Charlottesville	36,542	16,376	20,166	Patrick	5,652	5,251	401
Chesterfield	24,753	19,829	4,924	Pittsylvania	82,136	55,022	27,114
Craig	24,786	4,626	20,160	Powhatan	7,990	3,390	4,600
Culpeper	9,299	7,693	1,606	Prince Edward	43,963	23,202	20,761
Cumberland	20,767	7,430	13,337	Prince George	34,861	19,019	15,842
Dinwiddie	45,673	27,518	18,155	Prince William	9,576	9,456	120
Essex	16,768	14,908	1,860	Princess Anne	262	68	194
Fairfax	1,168	1,146	22	Pulaski	1,009	807	202
Fauquier	7,341	5,615	1,726	Rappahannock	397	322	75
Floyd	184	152	32	Richmond	6,686	6,283	403
Fluvanna	48,371	30,748	17,623	Roanoke	4,430	542	3,888
Franklin	28,382	19,020	9,362	Rockbridge	48,329	5,637	42,692
Frederick	3,002	1,864	1,138	Rockingham	5,192	2,147	3,045
Giles	465	75	390	Russell	30	...	30
Gloucester	8,702	7,798	904	Scott	291	...	291
Goochland	32,883	21,215	11,668	Shenandoah	9,266	3,233	6,033
Grayson	12	3	9	Smyth	5,075	13	5,062
Greene	565	318	247	Southampton	54,719	19,898	34,821
Greensville	55,548	37,874	17,674	Spotsylvania	12,294	7,804	4,490
Halifax	30,135	16,834	13,301	Stafford	742	388	354
Hanover	21,035	15,476	5,559	Surry	24,501	8,850	15,651
Henrico	11,277	9,547	1,730	Sussex	54,196	25,742	28,454
Henry	27,233	22,344	4,889	Warren	4,377	818	3,559
Highland	4,376	401	3,975	Warwick	1,558	1,431	127
Isle of Wight	24,584	7,400	17,184	Washington	6,039	34	6,005
James City	3,171	2,026	1,145	Westmoreland	5,738	5,607	131
King and Queen	42,802	35,001	7,801	Wise	7,412	...	7,412
King George	877	667	210	Wythe	7,267	2,446	4,821
King William	24,746	21,544	3,202	York	4,901	3,896	1,005
				All counties	1,862,036	962,129	899,907

¹ Includes independent cities. Counties with no pulpwood production are omitted.

Table 19. Mills using southern pulpwood in 1970, by process and capacity

Location	Map code ¹	Company	Pulping capacity, 24 hours ²				
			All processes	Sulfate	Groundwood and other mechanical	Semi-chemical	Soda and sulfite
----- Tons -----							
ALABAMA							
Mahrt	(1)	Alabama Kraft Co., Div. Ga. Kraft Co.	800	800	...	...	...
Jackson	(2)	Allied Paper Corp.	470	470	...	...	...
Naheola	(3)	American Can Co.	900	900	...	...	...
Brewton	(4)	Container Corp. of America	800	800	...	...	...
Mobile	(5)	General Aniline and Film Corp.	48	...	48	...	...
Demopolis	(6)	Gulf States Paper Corp.	400	400	...	...	...
Tuscaloosa	(7)	Gulf States Paper Corp.	450	450	...	...	...
Riverdale	(8)	Hammermill Paper Co., Riverdale Div.	400	400	...	...	...
Mobile	(9)	International Paper Co.	1,315	1,015	300	...	...
Coosa Pines	(10)	Kimberly-Clark Corp., Coosa River Newsprint Div.	1,590	650	940	...	...
Pine Hill	(11)	MacMillan Bloedel United, Inc.	925	925	...	...	...
Mobile	(12)	National Gypsum Co.	300	...	150	150	...
Mobile	(13)	Scott Paper Co.	1,400	1,400	...	...	...
Montgomery	(14)	Union Camp Corp.	870	870	...	...	...
Courtland	(15)	U.S. Plywood-Champion Papers Inc.	500	500	...	...	...
Total			11,168	9,580	1,438	150	...
ARKANSAS							
Morrilton	(16)	Arkansas Kraft Corp.	350	350	...	...	...
Crossett	(17)	Georgia-Pacific Corp., Crossett Division-Paper	1,220	1,220	...	...	...
Camden	(18)	International Paper Co.	750	750	...	...	...
Pine Bluff	(19)	International Paper Co.	1,700	1,300	400	...	...
Ashdown	(20)	Nekoosa-Edwards Paper Co.	400	400	...	...	...
Little Rock	(21)	Superwood Corp. of Arkansas	120	...	120	...	...
Pine Bluff	(22)	Weyerhaeuser Co., Dierks Div.	150	150	...	...	...
Total			4,690	4,170	520	...	...
FLORIDA							
Jacksonville	(23)	Alton Box Board Co.	625	625	...	...	...
Foley	(24)	The Buckeye Cellulose Corp.	923	923	...	...	...
Fernandina Beach	(25)	Container Corp. of America	800	800	...	...	...
Palatka	(26)	Hudson Pulp and Paper Corp.	950	950	...	...	...
Panama City	(27)	International Paper Co.	1,375	1,375	...	...	...
Fernandina Beach	(28)	I.T.T. Rayonier Inc.	375	...	...	...	375
Port St. Joe	(29)	St. Joe Paper Co.	1,700	1,700	...	...	...
Jacksonville	(30)	St. Regis Paper Co.	1,400	1,400	...	...	...
Pensacola	(31)	St. Regis Paper Co.	900	900	...	...	...
Total			9,048	8,673	...	...	375
GEORGIA							
Macon	(32)	Armstrong Cork Co.	400	...	400	...	...
Brunswick	(33)	Brunswick Pulp and Paper Co.	1,200	1,200	...	...	...
Savannah	(34)	Certain-teed Products Corp.	65	...	...	65	...
Augusta	(35)	Continental Can Co., Inc.	700	700	...	...	...
Port Wentworth	(36)	Continental Can Co., Inc.	600	600	...	...	...
Augusta	(37)	Cox Newsprint, Inc.	375	...	375	...	...
Savannah	(38)	General Aniline and Film Corp.	48	...	48	...	...
Macon	(39)	Georgia Kraft Co., Mead Div.	850	850	...	...	...
Rome	(40)	Georgia Kraft Co., Krannert Div.	1,500	1,500	...	...	...
St. Marys	(41)	Gilman Paper Co., St. Marys Kraft Div.	1,000	1,000	...	...	...
Cedar Springs	(42)	Great Northern Paper Co., Southern Div.	2,000	1,700	...	300	...
Jesup	(43)	I.T.T. Rayonier Inc.	675	675	...	...	...
Riceboro	(44)	Interstate Paper Corp.	500	500	...	...	...
Valdosta	(45)	Owens-Illinois, Forest Products Div.	865	865	...	...	...
Savannah	(46)	Union Camp Corp.	3,000	2,600	...	400	...
Total			13,778	12,190	823	765	...

Table 19. Mills using southern pulpwood in 1970, by process and capacity (Continued)

Location	Map code ¹	Company	Pulping capacity, 24 hours ²				
			All processes	Sulfate	Groundwood and other mechanical	Semi-chemical	Soda and sulfite
----- Tons -----							
ILLINOIS							
Alton	(47)	Alton Box Board Co.	800	...	...	800	...
Peoria	(48)	The Celotex Corp.	110	...	110	...	...
East St. Louis	(49)	Certain-teed Products Corp.	100	...	100	...	...
Wilmington	(50)	Philip Carey Corp.	150	...	150	...	...
Total			1,160	...	360	800	...
KENTUCKY							
Hawesville	(51)	WesCor Corp.	250	...	...	250	...
Hawesville	(52)	Western Kraft Corp.	200	200	...	...	...
Wickliffe	(53)	Westvaco Corp.	600	600	...	...	...
Total			1,050	800	...	250	...
LOUISIANA							
Shreveport	(54)	Bird and Son, Inc.	60	...	...	60	...
DeRidder	(55)	Boise Southern Co.	1,300	950	350	...	...
Elizabeth	(56)	Calcasieu Paper Co., Inc.	240	240	...	...	...
Hodge	(57)	Continental Can Co., Inc.	750	550	...	200	...
Bogalusa	(58)	Crown Zellerbach Corp.	1,435	1,300	...	135	...
St. Francisville	(59)	Crown Zellerbach Corp.	500	500	...	...	...
Port Hudson	(60)	Georgia-Pacific Corp., Crossett Division-Paper	510	510	...	...	...
Bastrop	(61)	International Paper Co. (Bastrop Mill)	485	...	...	485	...
Bastrop	(62)	International Paper Co. (Louisiana Mill)	1,100	1,100	...	...	...
Springhill	(63)	International Paper Co.	1,625	1,625	...	...	...
West Monroe	(64)	Olinkraft, Inc.	1,205	1,135	...	70	...
Pineville	(65)	Pineville Kraft Corp.	750	750	...	...	...
St. Francisville	(66)	St. Francisville Paper Co.	235	...	235	...	...
New Orleans	(67)	Southern Johns-Manville Products Corp.	85	...	85	...	...
Total			10,280	8,660	670	950	...
MARYLAND							
Luke	(68)	Westvaco Corp.	743	743	...	...	...
Total			743	743	...	...	...
MISSISSIPPI							
Meridian	(69)	The Flintkote Co.	250	...	200	50	...
Moss Point	(70)	International Paper Co.	725	725	...	...	...
Natchez	(71)	International Paper Co.	950	950	...	...	...
Vicksburg	(72)	International Paper Co.	1,000	1,000	...	...	...
Meridian	(73)	Kroehler Mfg. Co. of Miss., Inc.	80	...	80	...	...
Laurel	(74)	Masonite Corp.	1,200	...	1,200	...	...
Monticello	(75)	St. Regis Paper Co.	1,620	1,620	...	...	...
Greenville	(76)	United States Gypsum Co.	225	...	225	...	...
Total			6,050	4,295	1,705	50	...
MISSOURI							
Kansas City	(77)	General Aniline & Film Corp.	100	...	100	...	...
Total			100	...	100	...	...

Table 19. Mills using southern pulpwood in 1970, by process and capacity (Continued)

Location	Map code ¹	County	Pulping capacity, 24 hours ²				
			All processes	Sulfate	Groundwood and other mechanical	Semi-chemical	Soda and sulfite
----- Tons -----							
NORTH CAROLINA							
Roaring River	(78)	Abitibi Corp.	120	...	120	...	...
Roanoke Rapids	(79)	Albemarle Paper Co.	940	940	...	...	...
Conway	(80)	Georgia-Pacific Corp.	200	...	200	...	...
Sylva	(81)	The Mead Corp.	290	...	...	290	...
Riegelwood	(82)	Riegel Paper Co.	1,000	1,000	...	...	...
Canton	(83)	U.S. Plywood-Champion Papers Inc.	1,325	1,325	...	...	...
New Bern	(84)	Weyerhaeuser Co., N. C. Div.	600	600	...	...	...
Plymouth	(85)	Weyerhaeuser Co., N. C. Div.	1,500	1,250	...	250	...
Total			5,975	5,115	320	540	...
OHIO							
Chillicothe	(86)	The Mead Corp.	600	600	...	...	...
Total			600	600	...	...	...
OKLAHOMA							
Pryor	(87)	Georgia-Pacific, Bestwall Gypsum Div.	150	...	150	...	...
Broken Bow	(88)	Weyerhaeuser Co., Dierks Div.	450	...	450	...	...
Total			600	...	600	...	...
PENNSYLVANIA							
York	(89)	Certain-teed Products Corp.	75	...	...	75	...
Tyrone	(90)	Westvaco Corp.	153	153	...	...	...
Total			228	153	...	75	...
SOUTH CAROLINA							
Catawba	(91)	Bowaters Carolina Corp.	700	600	100	...	...
Catawba	(92)	Catawba Newsprint Co.	500	...	500	...	...
Georgetown	(93)	International Paper Co.	2,130	1,650	...	480	...
Hartsville	(94)	Sonoco Products Co.	320	...	...	320	...
Florence	(95)	South Carolina Industries, Inc.	600	600	...	...	...
Charleston	(96)	Westvaco Corp.	1,994	1,994	...	...	...
Total			6,244	4,844	600	800	...
TENNESSEE							
Calhoun	(97)	Bowaters Southern Paper Corp.	1,600	500	900	200	...
New Johnsonville	(98)	Inland Container Corp.	450	...	...	450	...
Paris	(99)	The Celotex Corp.	300	...	...	300	...
Harriman	(100)	The Mead Corp.	190	...	...	190	...
Kingsport	(101)	The Mead Corp.	300	...	...	...	300
Knoxville	(102)	Southern Extract Co.	130	...	...	130	...
Counce	(103)	Tennessee River Pulp and Paper Co.	700	700	...	...	...
Total			3,670	1,200	900	1,270	300
TEXAS							
Evadale	(104)	EasTex, Inc.	1,200	1,200	...	...	...
Dallas	(105)	General Aniline & Film Corp.	40	...	40	...	...
Orange	(106)	Owens-Illinois, Forest Products Div.	1,000	1,000	...	...	...
Houston	(107)	Philip Carey Corp.	25	...	25	...	...
Lufkin	(108)	Southland Paper Mills, Inc.	1,250	400	850	...	...
Sheldon	(109)	Southland Paper Mills, Inc.	860	500	360	...	...
Diboll	(110)	Temple Industries, Fiber Products Div.	195	...	...	195	...
Pasadena	(111)	U.S. Plywood-Champion Papers Inc.	930	850	80	...	...
Total			5,500	3,950	1,355	195	...

Table 19. Mills using southern pulpwood in 1970, by process and capacity (Continued)

Location	Map code ¹	Company	Pulping capacity, 24 hours ²				
			All processes	Sulfate	Groundwood and other mechanical	Semi-chemical	Soda and sulfite
----- Tons -----							
VIRGINIA							
West Point	(112)	The Chesapeake Corp. of Virginia	1,050	1,050	...	...	...
Hopewell	(113)	Continental Can Co., Inc.	1,070	900	...	170	...
Lynchburg	(114)	The Mead Corp.	190	...	...	190	...
Big Island	(115)	Owens-Illinois, Forest Products Div.	450	...	...	450	...
Jarratt	(116)	Southern Johns-Manville Products Corp.	200	...	200	...	...
Franklin	(117)	Union Camp Corp.	1,750	1,750	...	...	...
Danville	(118)	United States Gypsum Co.	225	...	225	...	...
Covington	(119)	Westvaco Corp.	1,378	1,095	...	283	...
		Total	6,313	4,795	425	1,093	...
		All States	87,197	69,768	9,816	6,938	675

¹ Corresponds to numbers at locations on mill capacity map, page 22.

² Southern Pulp and Paper Manufacturer, vol 33, No. 10 (Oct. 1, 1970); and other sources.

Table 20. Pulpmills under construction in the South

Location	Map code ¹	Company	Pulping capacity, 24 hours
Tons			
FLORIDA			
Blountstown	(120)	Abitibi Corp.	100
OKLAHOMA			
Valliant	(121)	Weyerhaeuser Co.	1,600
TEXAS			
Texarkana	(122)	International Paper Co.	610
VIRGINIA			
Doswell	(123)	Evans Products Co.	300

¹ Corresponds to numbers at locations on mill capacity map, page 22.

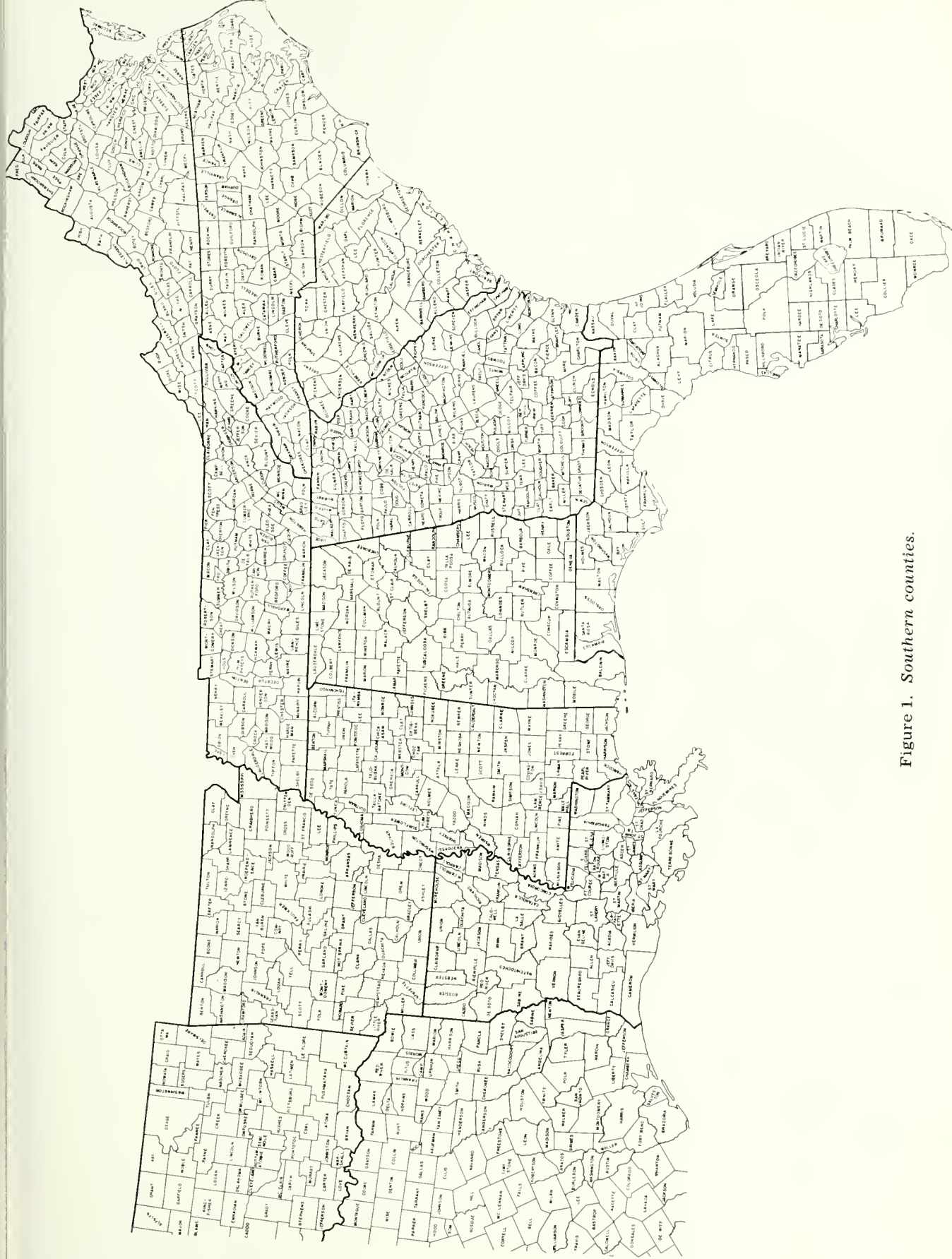


Figure 1. Southern counties.

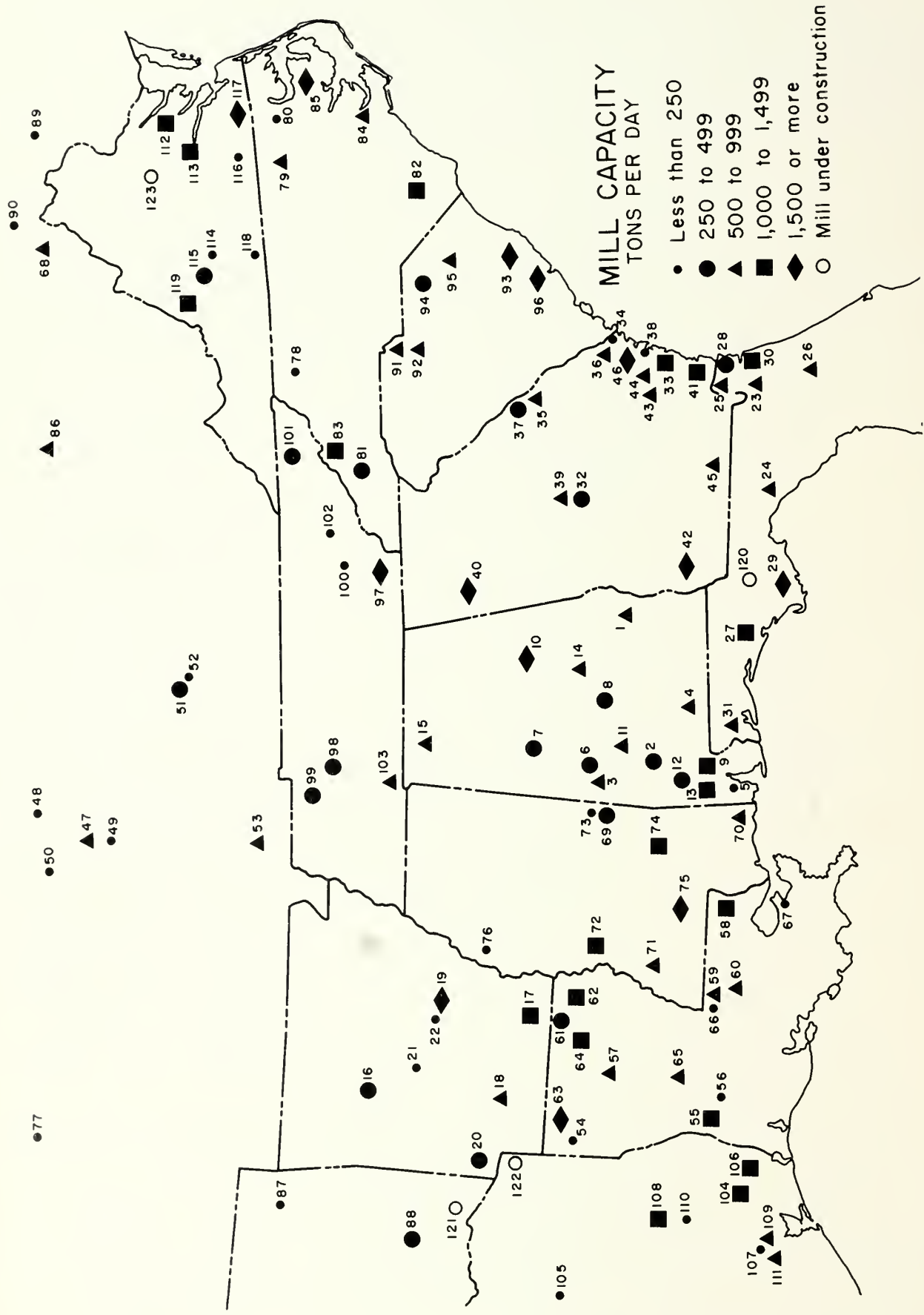


Figure 2. Mills using southern pulpwood in 1970, and those under construction. Numbers at mill locations correspond to numbers in tables 19 and 20.



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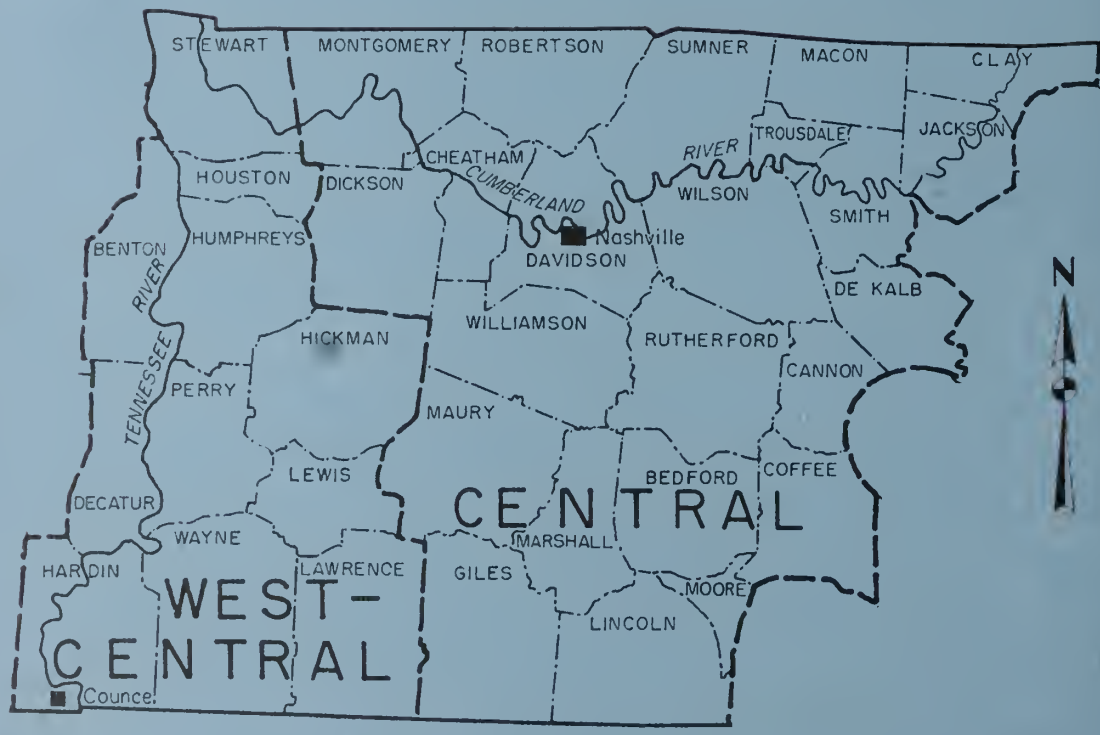
Arnold Hedlund
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Southern Forest Experiment Station
New Orleans, Louisiana
Forest Service, U. S. Department of Agriculture
1971

In this report:

	Table
SAMPLING ERRORS	1,2
FOREST RESOURCE CHANGES, 1961-71	3
FOREST AREA IN ACRES	4-11
GROWING STOCK IN—	
—cords	12,13
—cubic feet	14,15,28-31,36-39,44,45,48,49
SAWTIMBER IN—	
—International 1/4-inch rule	16-19,32-35,40-43,46-49
—Scribner rule	20-23
—Doyle rule	24-27



Forest Statistics for Middle Tennessee Counties

Arnold Hedlund and J. M. Earles

This report tabulates information from a new forest inventory of counties of the central and west-central regions of Tennessee, completed in 1971 by the Southern Forest Experiment Station. The tables are intended for use as source data in compiling estimates for groups of counties. Because the sampling procedure is intended primarily to furnish inventory data for the State as a whole, estimates for individual counties have limited and variable accuracy.

The data on forest acreage and timber volume were secured by a systematic sampling method involving a forest-nonforest classification on aerial photographs and on-the-ground measurements of trees at sample locations. The sample locations were at the intersections of a grid of lines spaced 3 miles apart. At each forested location, 10 small plots were uniformly distributed on an area of about 1 acre.

The sampling errors to which the county area and volume totals are liable (on a probability of two chances out of three) are shown in table 1.

An approximation of sampling errors for groups of counties may be obtained by using the formula:

$$e = \frac{(SE) \sqrt{\text{specified volume or area}}}{\sqrt{\text{volume or area total in question}}}$$

Where e = Estimated sampling error of the volume or area total in question

SE = Specified sampling error for the region.

When data for two or more counties are grouped the error decreases. Conversely, as data for individual counties are broken down

Table 1. Sampling errors¹ for forest land and timber volume, 1971

County	Commercial forest land	Growing stock	Sawtimber
----- Percent -----			
Bedford	2	33	46
Benton	4	14	20
Cannon	2	16	34
Cheatham	2	24	32
Clay	2	33	50
Coffee	4	18	26
Davidson	1	37	38
Decatur	3	10	16
De Kalb	3	27	47
Dickson	1	13	21
Giles	2	15	27
Hardin	2	9	15
Hickman	2	7	13
Houston	2	19	34
Humphreys	2	10	17
Jackson	4	29	56
Lawrence	1	14	23
Lewis	5	13	19
Lincoln	2	24	36
Macon	4	15	23
Marshall	3	32	41
Maur	2	21	32
Montgomery	3	22	37
Moore	3	27	40
Perry	1	7	13
Robertson	1	33	37
Rutherford	2	30	44
Smith	5	35	70
Stewart	3	10	13
Sumner	3	44	45
Trousdale	3	50	46
Wayne	3	6	12
Williamson	3	13	20
Wilson	4	39	51
All counties	6	5.5	8.5

¹ By random-sampling formula.

by various subdivisions, the possibility of error increases and is greatest for the smallest items. Sampling errors associated with the estimates of the principal timber species in this report are shown in table 2.

Table 2. Sampling errors for timber volume by species, 1971

Species	West Central		Central	
	Growing stock	Saw-timber	Growing stock	Saw-timber
----- Percent -----				
Softwood:				
Shortleaf pine	23	28		
Loblolly pine	39	(¹)	(¹)	
Virginia pine	(¹)	(¹)	(¹)	(¹)
Redcedar	33	(¹)	16	40
Cypress	(¹)			
All softwoods	<u>18.2</u>	<u>23.0</u>	<u>15.2</u>	<u>35.0</u>
Hardwood:				
White oak (<i>Quercus alba</i>)	6	9	13	17
Other white oaks	13	16	19	29
Northern red oak	11	13	18	22
Other red oaks	7	11	14	18
Hickory	7	9	12	20
Hard maple	21	40	18	21
Soft maple	30	36	24	35
Beech	21	23	25	34
Sweetgum	16	25	34	38
Blackgum	13	21	22	42
White ash	28	(¹)	19	27
Other ashes	25	33	22	33
Sycamore	33	38	30	33
Basswood			34	41
Yellow-poplar	12	14	18	25
Black walnut	24	39	15	23
Black cherry	28	(¹)	25	34
American elm	27	(¹)	18	30
Other elms	22	31	18	29
Hackberry	(¹)	(¹)	20	36
Black locust	(¹)		23	(¹)
Sassafras	32	(¹)	25	(¹)
Other hardwoods	(¹)	(¹)	(¹)	(¹)
All hardwoods	<u>3.2</u>	<u>5.2</u>	<u>5.7</u>	<u>8.1</u>
All species	<u>2.9</u>	<u>5.0</u>	<u>5.5</u>	<u>8.5</u>

¹ Exceeds 50 percent.

Because of differences in standards of tree measurement, meaningful comparisons cannot be made between the estimates in this report and those contained in earlier publications on Tennessee. In table 3, changes between the two surveys are summarized in terms of 1971 measurement standards.

Table 3. Change¹ in forest resource since 1961

Item	West Central region	Central region
-- Percent --		
Commercial forest land	-1.1	-11.8
Growing-stock volume:		
Softwood	+ 62	+ 65
Hardwood	+ 18	+ 8
All species	+ 20	+ 9
Sawtimber volume:		
Softwood	+ 80	+ 28
Hardwood	+ 27	+ 9
All species	+ 29	+ 9

¹ Based on 1971 measurement standards.

It is anticipated that data for other counties of Tennessee will be published as field work progresses. A Statewide interpretive report will be issued when all counties have been inventoried; it will include an evaluation of timber trends since the previous survey of 1961.

In the tables that follow, sawtimber volume is shown in International 1/4-inch rule except when Doyle or Scribner rule is indicated.

DEFINITIONS OF TERMS

Acceptable trees.—Growing-stock trees of commercial species that meet specified standards of size and quality but do not qualify as desirable trees.

Commercial forest land.—Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization.

Desirable trees.—Growing-stock trees that are of commercial species, have no defects in quality for timber products, are of relatively high vigor, and contain no pathogens that may result in death or serious deterioration before rotation age.

Forest type.—A classification of forest land based upon the species forming a plurality of live-tree stocking.

Growing-stock trees.—Live trees that are of commercial species and qualify as desirable or acceptable trees.

Growing-stock volume.—Net volume in cubic feet of growing-stock trees at least 5.0 inches in diameter at breast height, from a 1-foot stump to a minimum 4.0-inch top diameter outside bark of the central stem, or to the point where the central stem breaks into limbs.

Poletimber trees.—Growing-stock trees of commercial species at least 5.0 inches in diameter at breast height, but smaller than sawtimber size.

Sawtimber trees.—Live trees that are of commercial species, contain at least a 12-foot saw log, and meet regional specifications for

freedom from defect. Softwoods must be at least 9.0 inches in diameter at breast height and hardwoods at least 11.0 inches.

Sawtimber volume.—Net volume of the saw-log portion of live sawtimber in board feet, International ¼-inch rule, unless otherwise indicated.

Site class.—A classification of forest land in terms of inherent capacity to grow crops of industrial wood.

Stand-size class.—A classification of forest land based on the size class of growing-stock trees on the area; that is, sawtimber, poletimber, or seedling and saplings.

Table 4. Commercial forest land by ownership class, west central region, 1971

County	All ownerships	National forest	Other public	Forest industry	Farmer	Misc. private
----- Thousand acres -----						
Benton	168.2	...	14.9	...	69.5	83.8
Decatur	149.1	...	3.4	11.4	74.0	60.3
Hardin	225.6	...	2.9	38.3	91.1	93.3
Hickman	269.5	...	...	83.2	117.5	68.8
Houston	91.0	...	.9	13.0	38.9	38.2
Humphreys	248.0	...	7.3	24.8	86.7	129.2
Lawrence	182.7	...	12.6	6.3	100.6	63.2
Lewis	144.9	...	1.4	25.2	25.2	93.1
Perry	212.8	...	2.5	39.1	111.8	59.4
Stewart	221.1	...	86.2	40.1	53.5	41.3
Wayne	378.0	...	.2	106.9	138.4	132.5
All counties	2,290.9	...	132.3	388.3	907.2	863.1

Table 5. Commercial forest land by ownership class, central region, 1971

County	All ownerships	National forest	Other public	Forest industry	Farmer	Misc. private
----- Thousand acres -----						
Bedford	76.0	...	(1/)	...	60.0	16.0
Cannon	86.4	...	(1/)	...	56.8	29.6
Cheatham	108.8	...	21.2	...	13.4	74.2
Clay	99.0	...	9.8	...	16.3	72.9
Coffee	117.6	...	22.2	9.7	67.7	18.0
Davidson	104.0	...	6.1	...	20.5	77.4
De Kalb	88.2	...	17.6	...	12.4	58.2
Dickson	160.0	...	.3	...	74.0	85.7
Giles	160.0	...	.1	4.9	88.8	66.2
Jackson	110.5	...	3.0	...	83.8	23.7
Lincoln	116.6	...	...	...	62.7	53.9
Macon	73.6	...	...	...	54.4	19.2
Marshall	78.1	...	(1/)	...	42.0	36.1
Maury	126.0	...	...	...	65.1	60.9
Montgomery	116.2	...	21.2	...	40.9	54.1
Moore	30.8	...	...	...	30.4	.4
Robertson	59.0	...	...	...	11.6	47.4
Rutherford	117.6	...	4.5	...	87.0	26.1
Smith	72.0	...	1.8	...	35.5	34.7
Sumner	98.1	...	1.3	...	43.0	53.8
Trousdale	23.8	...	.3	...	11.7	11.8
Williamson	145.0	...	.6	...	88.8	55.6
Wilson	109.0	...	8.3	...	75.2	25.5
All counties	2,276.3	...	118.3	14.6	1,142.0	1,001.4

1/ Negligible.

Table 6. Commercial forest land by forest type, west central region, 1971

County	All types	Loblolly-shortleaf pine	Oak-pine	Cedar	Oak-hickory	Oak-gum-cypress	Elm-ash-cottonwood
----- Thousand acres -----							
Benton	168.2	11.6	5.8	11.6	121.8	17.4	...
Decatur	149.1	5.8	5.7	5.8	131.8	...	...
Hardin	225.6	28.8	43.2	...	115.2	38.4	...
Hickman	269.5	4.9	...	...	264.6	...	...
Houston	91.0	...	...	6.5	84.5	...	...
Humphreys	248.0	...	...	12.4	235.6	...	...
Lawrence	182.7	...	...	...	176.4	...	6.3
Lewis	144.9	...	6.3	...	138.6	...	...
Perry	212.8	...	...	11.2	196.0	5.6	...
Stewart	221.1	...	...	6.7	214.4	...	...
Wayne	378.0	12.6	31.5	6.3	321.3	...	6.3
All counties	2,290.9	63.7	92.5	60.5	2,000.2	61.4	12.6

Table 7. Commercial forest land by forest type, central region, 1971

County	All types	Loblolly-shortleaf pine	Oak-pine	Cedar	Oak-hickory	Oak-gum-cypress	Elm-ash-cottonwood
----- Thousand acres -----							
Bedford	76.0	...	...	30.4	38.0	7.6	...
Cannon	86.4	...	9.6	9.6	67.2	...	...
Cheatham	108.8	...	...	13.6	95.2	...	...
Clay	99.0	...	...	16.5	82.5	...	...
Coffee	117.6	...	...	9.8	98.0	9.8	...
Davidson	104.0	...	...	10.4	93.6	...	...
De Kalb	88.2	...	...	31.5	50.4	6.3	...
Dickson	160.0	...	...	...	160.0	...	...
Giles	160.0	...	5.0	...	150.0	5.0	...
Jackson	110.5	...	...	25.5	85.0	...	...
Lincoln	116.6	...	...	53.0	42.4	10.6	10.6
Macon	73.6	...	...	...	73.6	...	...
Marshall	78.1	...	...	28.4	49.7	...	...
Maury	126.0	...	...	6.0	114.0	6.0	...
Montgomery	116.2	...	8.3	8.3	74.7	24.9	...
Moore	30.8	...	...	...	30.8	...	...
Robertson	59.0	...	...	...	59.0	...	...
Rutherford	117.6	...	...	68.6	49.0	...	...
Smith	72.0	...	...	18.0	54.0	...	...
Sumner	98.1	...	...	10.9	76.3	...	10.9
Trousdale	23.8	...	...	...	23.8	...	...
Williamson	145.0	...	5.0	30.0	105.0	...	5.0
Wilson	109.0	...	...	65.4	43.6	...	...
All counties	2,276.3	...	27.9	435.9	1,715.8	70.2	26.5

Table 8. Commercial forest land by stand-size class, west central region, 1971

County	All classes	Sawtimber	Poletimber	Sapling and seedling	Nonstocked areas
----- Thousand acres -----					
Benton	168.2	23.2	92.8	52.2	...
Decatur	149.1	51.6	63.1	34.4	...
Hardin	225.6	62.4	91.2	72.0	...
Hickman	269.5	44.1	127.4	98.0	...
Houston	91.0	32.5	32.5	26.0	...
Humphreys	248.0	31.0	130.2	86.8	...
Lawrence	182.7	31.5	69.3	81.9	...
Lewis	144.9	25.2	75.6	44.1	...
Perry	212.8	33.6	128.8	50.4	...
Stewart	221.1	87.1	87.1	46.9	...
Wayne	378.0	37.8	277.2	63.0	...
All counties	2,290.9	460.0	1,175.2	655.7	...

Table 9. Commercial forest land by stand-size class, central region, 1971

County	All classes	Sawtimber	Poletimber	Sapling and seedling	Nonstocked areas
----- Thousand acres -----					
Bedford	76.0	15.2	7.6	53.2	...
Cannon	86.4	9.6	48.0	28.8	...
Cheatham	108.8	40.8	40.8	27.2	...
Clay	99.0	33.0	49.5	16.5	...
Coffee	117.6	39.2	58.8	19.6	...
Davidson	104.0	20.8	31.2	52.0	...
De Kalb	88.2	12.6	18.9	56.7	...
Dickson	160.0	60.0	70.0	30.0	...
Giles	160.0	20.0	60.0	75.0	5.0
Jackson	110.5	17.0	59.5	34.0	...
Lincoln	116.6	10.6	42.4	63.6	...
Macon	73.6	9.2	55.2	9.2	...
Marshall	78.1	14.2	14.2	49.7	...
Maury	126.0	24.0	36.0	66.0	...
Montgomery	116.2	24.9	24.9	66.4	...
Moore	30.8	7.7	23.1	...	...
Robertson	59.0	23.6	11.8	23.6	...
Rutherford	117.6	...	49.0	58.8	9.8
Smith	72.0	...	36.0	36.0	...
Sumner	98.1	32.7	...	65.4	...
Trousdale	23.8	...	11.9	11.9	...
Williamson	145.0	30.0	25.0	90.0	...
Wilson	109.0	...	32.7	76.3	...
All counties	2,276.3	445.1	806.5	1,009.9	14.8

Table 10. Commercial forest land by site class, west central region, 1971

County	All classes	165 cu.ft. or more	120-165 cu.ft.	85-120 cu.ft.	50-85 cu.ft.	Less than 50 cu.ft.
----- Thousand acres -----						
Benton	168.2	...	...	29.0	63.8	75.4
Decatur	149.1	...	40.3	28.6	74.5	5.7
Hardin	225.6	...	28.8	52.8	110.4	33.6
Hickman	269.5	...	4.9	24.5	181.3	58.8
Houston	91.0	...	...	19.5	58.5	13.0
Humphreys	248.0	...	...	49.6	80.6	117.8
Lawrence	182.7	...	...	31.5	88.2	63.0
Lewis	144.9	...	...	...	94.5	50.4
Perry	212.8	...	...	11.2	128.8	72.8
Stewart	221.1	...	...	20.1	140.7	60.3
Wayne	378.0	6.3	...	63.0	144.9	163.8
All counties	2,290.0	6.3	74.0	329.8	1,166.2	714.6

Table 11. Commercial forest land by site class, central region, 1971

County	All classes	165 cu.ft. or more	120-165 cu.ft.	85-120 cu.ft.	50-85 cu.ft.	Less than 50 cu.ft.
----- Thousand acres -----						
Bedford	76.0	...	...	7.6	22.8	45.6
Cannon	86.4	...	...	...	38.4	48.0
Cheatham	108.8	...	...	13.6	81.6	13.6
Clay	99.0	...	...	49.5	...	49.5
Coffee	117.6	...	...	19.6	58.8	39.2
Davidson	104.0	...	...	...	62.4	41.6
De Kalb	88.2	...	...	18.9	25.2	44.1
Dickson	160.0	...	...	30.0	85.0	45.0
Giles	160.0	...	...	40.0	90.0	30.0
Jackson	110.5	...	...	25.5	51.0	34.0
Lincoln	116.6	...	...	10.6	74.2	31.8
Macon	73.6	...	...	18.4	55.2	...
Marshall	78.1	...	...	...	42.6	35.5
Maury	126.0	...	...	42.0	42.0	42.0
Montgomery	116.2	8.3	...	49.8	49.8	8.3
Moore	30.8	...	...	...	23.1	7.7
Robertson	59.0	...	...	...	59.0	...
Rutherford	117.6	...	...	...	19.6	98.0
Smith	72.0	...	...	9.0	54.0	9.0
Sumner	98.1	...	...	10.9	65.4	21.8
Trousdale	23.8	...	...	...	23.8	...
Williamson	145.0	...	...	50.0	65.0	30.0
Wilson	109.0	...	...	10.9	54.5	43.6
All counties	2,276.3	8.3	...	406.3	1,143.4	718.3

Table 12. *Cordage of growing stock on commercial forest land by species group, west central region, 1971*

County	All species	Softwood			Hardwood			
		Total	Southern pine	Other	Total	Oak	Gum	Other
----- Thousand cords -----								
Benton	1,804	77	77	...	1,727	1,199	134	394
Decatur	1,876	139	113	26	1,737	1,022	105	610
Hardin	2,694	512	477	35	2,182	1,031	241	910
Hickman	3,041	40	31	9	3,001	1,988	73	940
Houston	1,199	8	...	8	1,191	696	40	455
Humphreys	2,508	21	4	17	2,487	1,727	170	590
Lawrence	1,849	...	...	...	1,849	1,031	170	648
Lewis	1,699	47	47	...	1,652	1,361	13	278
Perry	2,601	23	4	19	2,578	1,751	61	766
Stewart	3,056	53	...	53	3,003	1,770	223	1,010
Wayne	4,641	520	499	21	4,121	2,678	131	1,312
All counties	26,968	1,440	1,252	188	25,528	16,254	1,361	7,913

Table 13. *Cordage of growing stock on commercial forest land by species group, central region, 1971*

County	All species	Softwood			Hardwood			
		Total	Southern pine	Other	Total	Oak	Gum	Other
----- Thousand cords -----								
Bedford	480	11	...	11	469	108	...	361
Cannon	420	17	10	7	403	90	19	294
Cheatham	1,253	20	...	20	1,233	615	103	515
Clay	1,031	24	17	7	1,007	616	12	379
Coffee	1,463	...	...	...	1,463	911	19	533
Davidson	993	...	...	...	993	555	...	438
De Kalb	787	72	...	72	715	190	85	440
Dickson	2,516	3	...	3	2,513	1,534	75	904
Giles	1,040	16	8	8	1,024	373	69	582
Jackson	1,058	77	...	77	981	219	...	762
Lincoln	670	57	...	57	613	171	9	433
Macon	852	...	...	...	852	158	6	688
Marshall	491	31	...	31	460	145	...	315
Maury	1,007	...	...	...	1,007	267	31	709
Montgomery	1,032	23	...	23	1,009	379	52	578
Moore	470	25	...	25	445	178	4	263
Robertson	821	...	...	...	821	416	57	348
Rutherford	457	75	...	75	382	107	...	275
Smith	588	31	...	31	557	204	...	353
Sumner	785	16	...	16	769	364	99	306
Trousdale	87	5	...	5	82	12	...	70
Williamson	1,268	64	...	64	1,204	407	61	736
Wilson	480	47	...	47	433	148	...	285
All counties	20,049	614	35	579	19,435	8,167	701	10,567

Table 14. *Growing-stock volume on commercial forest land by species group, west central region, 1971*

County	All species	Softwood			Hardwood			
		Total	Southern pine	Other	Total	Oak	Gum	Other
- - - - - Million cubic feet - - - - -								
Benton	121.5	5.8	5.8	...	115.7	80.3	9.0	26.4
Decatur	126.8	10.4	8.5	1.9	116.4	68.5	7.0	40.9
Hardin	184.6	38.4	35.8	2.6	146.2	69.1	16.1	61.0
Hickman	204.1	3.0	2.3	.7	201.1	133.2	4.9	63.0
Houston	80.4	.6	...	.6	79.8	46.6	2.7	30.5
Humphreys	168.2	1.6	.3	1.3	166.6	115.7	11.4	39.5
Lawrence	123.9	...	...	...	123.9	69.1	11.4	43.4
Lewis	114.2	3.5	3.5	...	110.7	91.2	.9	18.6
Perry	174.4	1.7	.3	1.4	172.7	117.3	4.1	51.3
Stewart	205.2	4.0	...	4.0	201.2	118.6	14.9	67.7
Wayne	315.1	39.0	37.4	1.6	276.1	179.4	8.8	87.9
All counties	1,818.4	108.0	93.9	14.1	1,710.4	1,089.0	91.2	530.2

Table 15. *Growing-stock volume on commercial forest land by species group, central region, 1971*

County	All species	Softwood			Hardwood			
		Total	Southern pine	Other	Total	Oak	Gum	Other
- - - - - Million cubic feet - - - - -								
Bedford	32.2	0.8	...	0.8	31.4	7.2	...	24.2
Cannon	28.3	1.3	0.8	.5	27.0	6.0	1.3	19.7
Cheatham	84.1	1.5	...	1.5	82.6	41.2	6.9	34.5
Clay	69.3	1.8	1.3	.5	67.5	41.3	.8	25.4
Coffee	98.0	...	...	...	98.0	61.0	1.3	35.7
Davidson	66.5	...	...	...	66.5	37.2	...	29.3
De Kalb	53.3	5.4	...	5.4	47.9	12.7	5.7	29.5
Dickson	168.6	.2	...	.2	168.4	102.8	5.0	60.6
Giles	69.8	1.2	.6	.6	68.6	25.0	4.6	39.0
Jackson	71.5	5.8	...	5.8	65.7	14.7	...	51.0
Lincoln	45.4	4.3	...	4.3	41.1	11.5	.6	29.0
Macon	57.1	...	...	...	57.1	10.6	.4	46.1
Marshall	33.1	2.3	...	2.3	30.8	9.7	...	21.1
Maury	67.5	...	...	...	67.5	17.9	2.1	47.5
Montgomery	69.3	1.7	...	1.7	67.6	25.4	3.5	38.7
Moore	31.7	1.9	...	1.9	29.8	11.9	.3	17.6
Robertson	55.0	...	...	...	55.0	27.9	3.8	23.3
Rutherford	31.2	5.6	...	5.6	25.6	7.2	...	18.4
Smith	39.6	2.3	...	2.3	37.3	13.7	...	23.6
Sunner	52.7	1.2	...	1.2	51.5	24.4	6.6	20.5
Trousdale	5.9	.4	...	.4	5.5	.8	...	4.7
Williamson	85.5	4.8	...	4.8	80.7	27.3	4.1	49.3
Wilson	32.5	3.5	...	3.5	29.0	9.9	...	19.1
All counties	1,348.1	46.0	2.7	43.3	1,302.1	547.3	47.0	707.8

Table 16. *Sawtimber volume on commercial forest land by species group, west central region, 1971*

County	All species	Softwood			Hardwood			
		Total	Southern pine	Other	Total	Oak	Gum	Other
- - - - - Million board feet - - - - -								
Benton	219.4	13.8	13.8	...	205.6	158.7	17.2	29.7
Decatur	296.8	11.4	8.6	2.8	285.4	170.6	14.6	100.2
Hardin	429.3	81.8	79.8	2.0	347.5	191.8	31.2	124.5
Hickman	399.4	6.7	4.0	2.7	392.7	265.9	5.4	121.4
Houston	176.4	1.8	...	1.8	174.6	112.9	4.4	57.3
Humphreys	286.6	3.1	.5	2.6	283.5	204.6	1.8	77.1
Lawrence	274.3	...	...	...	274.3	168.3	11.5	94.5
Lewis	197.3	11.5	11.5	...	185.8	152.5	...	33.3
Perry	304.7	2.0	.8	1.2	302.7	212.9	2.2	87.6
Stewart	526.3	17.0	...	17.0	509.3	334.1	16.7	158.5
Wayne	525.3	52.4	52.4	...	472.9	326.8	8.4	137.7
All counties	3,635.8	201.5	171.4	30.1	3,434.3	2,299.1	113.4	1,021.8

Table 17. *Sawtimber volume on commercial forest area by species group, central region, 1971*

County	All species	Softwood			Hardwood			
		Total	Southern pine	Other	Total	Oak	Gum	Other
- - - - - Million board feet - - - - -								
Bedford	64.3	...	...	...	64.3	29.2	...	35.1
Cannon	31.3	...	...	...	31.3	11.2	2.1	18.0
Cheatham	243.6	...	...	...	243.6	112.4	36.4	94.8
Clay	190.3	7.0	7.0	...	183.3	128.8	...	54.5
Coffee	263.0	...	...	...	263.0	181.4	3.1	78.5
Davidson	184.3	...	...	...	184.3	117.7	...	66.6
De Kalb	129.2	1.5	...	1.5	127.7	37.5	16.5	73.7
Dickson	415.2	...	...	...	415.2	301.4	.7	113.1
Giles	142.4	...	...	...	142.4	77.0	10.1	55.3
Jackson	201.1	1.1	...	1.1	200.0	43.6	...	156.4
Lincoln	72.2	...	...	...	72.2	17.7	...	54.5
Macon	99.5	...	...	...	99.5	27.3	...	72.2
Marshall	94.6	2.7	...	2.7	91.9	29.0	...	62.9
Mauzy	173.1	...	...	...	173.1	53.9	6.3	112.9
Montgomery	149.6	...	...	...	149.6	59.2	5.2	85.2
Moore	82.8	6.4	...	6.4	76.4	47.9	...	28.5
Robertson	176.7	...	...	...	176.7	110.0	8.6	58.1
Rutherford	17.9	...	...	...	17.9	6.4	...	11.5
Smith	60.4	.5	...	.5	59.9	19.1	...	40.8
Sumner	177.3	2.6	...	2.6	174.7	99.2	13.4	62.1
Trousdale	7.4	...	...	...	7.4	2.4	...	5.0
Williamson	217.4	4.8	...	4.8	212.6	72.0	12.0	128.6
Wilson	57.7	.6	...	.6	57.1	20.3	...	36.8
All counties	3,251.3	27.2	7.0	20.2	3,224.1	1,604.6	114.4	1,505.1

Table 18. *Sawtimber volume on commercial forest land by species group and diameter class, west central region, 1971*

County	All species	Softwood			Hardwood		
		Total	9.0-14.9 inches	15.0 inches and up	Total	11.0-14.9 inches	15.0 inches and up
----- Million board feet -----							
Benton	219.4	13.8	13.8	...	205.6	140.6	65.0
Decatur	296.8	11.4	10.0	1.4	285.4	183.9	101.5
Hardin	429.3	81.8	73.1	8.7	347.5	193.7	153.8
Hickman	399.4	6.7	4.0	2.7	392.7	257.0	135.7
Houston	176.4	1.8	...	1.8	174.6	98.8	75.8
Humphreys	286.6	3.1	1.6	1.5	283.5	198.3	85.2
Lawrence	274.3	...	...	...	274.3	160.3	114.0
Lewis	197.3	11.5	11.5	...	185.8	143.6	42.2
Perry	304.7	2.0	2.0	...	302.7	240.9	61.8
Stewart	526.3	17.0	17.0	...	509.3	251.1	258.2
Wayne	525.3	52.4	52.4	...	472.9	351.8	121.1
All counties	3,635.8	201.5	185.4	16.1	3,434.3	2,220.0	1,214.3

Table 19. *Sawtimber volume on commercial forest land by species group and diameter class, central region, 1971*

County	All species	Softwood			Hardwood		
		Total	9.0-14.9 inches	15.0 inches and up	Total	11.0-14.9 inches	15.0 inches and up
----- Million board feet -----							
Bedford	64.3	...	...	...	64.3	45.0	19.3
Cannon	31.3	...	...	...	31.3	21.3	10.0
Cheatham	243.6	...	...	...	243.6	91.3	152.3
Clay	190.3	7.0	7.0	...	183.3	119.4	63.9
Coffee	263.0	...	...	...	263.0	114.7	148.3
Davidson	184.3	...	...	...	184.3	88.4	95.9
De Kalb	129.2	1.5	1.5	...	127.7	50.5	77.2
Dickson	415.2	...	...	...	415.2	238.3	176.9
Giles	142.4	...	...	...	142.4	74.4	68.0
Jackson	201.1	1.1	1.1	...	200.0	86.8	113.2
Lincoln	72.2	...	...	...	72.2	48.9	23.3
Macon	99.5	...	...	...	99.5	63.5	36.0
Marshall	94.6	2.7	2.7	...	91.9	38.7	53.2
Maury	173.1	...	...	...	173.1	89.1	84.0
Montgomery	149.6	...	...	...	149.6	62.6	87.0
Moore	82.8	6.4	6.4	...	76.4	29.7	46.7
Robertson	176.7	...	...	...	176.7	41.4	135.3
Rutherford	17.9	...	...	...	17.9	15.7	2.2
Smith	60.4	.5	.5	...	59.9	16.3	43.6
Sumner	177.3	2.6	...	2.6	174.7	49.6	125.1
Trousdale	7.4	...	...	...	7.4	7.4	...
Williamson	217.4	4.8	1.7	3.1	212.6	101.4	111.2
Wilson	57.7	.6	.6	...	57.1	31.1	26.0
All counties	3,251.3	27.2	21.5	5.7	3,224.1	1,525.5	1,698.6

Table 20. *Sawtimber volume in Scribner rule on commercial forest land by species group, west central region, 1971*

County	All species	Softwood			Hardwood			
		Total	Southern pine	Other	Total	Oak	Gum	Other
----- Million board feet -----								
Benton	186.4	11.0	11.0	...	175.4	135.7	14.8	24.9
Decatur	256.3	10.0	7.4	2.6	246.3	146.6	12.3	87.4
Hardin	371.3	66.8	65.2	1.6	304.5	168.3	27.1	109.1
Hickman	348.8	5.5	3.2	2.3	343.3	232.0	4.8	106.5
Houston	154.0	1.6	...	1.6	152.4	99.1	3.6	49.7
Humphreys	247.0	2.6	.4	2.2	244.4	176.2	1.6	66.6
Lawrence	240.3	...	...	...	240.3	147.6	9.7	83.0
Lewis	169.1	9.1	9.1	...	160.0	131.4	...	28.6
Perry	263.0	1.3	.5	.8	261.7	183.9	1.8	76.0
Stewart	460.7	13.3	...	13.3	447.4	293.5	14.4	139.5
Wayne	456.4	42.4	42.4	...	414.0	287.3	7.2	119.5
All counties	3,153.3	163.6	139.2	24.4	2,989.7	2,001.6	97.3	890.8

Table 21. *Sawtimber volume in Scribner rule on commercial forest land by species group, central region, 1971*

County	All species	Softwood			Hardwood			
		Total	Southern pine	Other	Total	Oak	Gum	Other
----- Million board feet -----								
Bedford	55.6	...	...	...	55.6	25.5	...	30.1
Cannon	26.4	...	...	...	26.4	9.6	1.6	15.2
Cheatham	215.4	...	...	...	215.4	101.2	32.1	82.1
Clay	169.3	6.2	6.2	...	163.1	116.0	...	47.1
Coffee	231.7	...	...	...	231.7	160.0	2.6	69.1
Davidson	163.4	...	...	...	163.4	104.7	...	58.7
De Kalb	114.6	2.3	...	2.3	112.3	32.7	14.1	65.5
Dickson	363.8	...	...	...	363.8	264.6	.6	98.6
Giles	124.7	...	...	...	124.7	67.8	8.9	48.0
Jackson	177.3	1.4	...	1.4	175.9	38.2	...	137.7
Lincoln	59.5	...	...	...	59.5	14.3	...	45.2
Macon	85.0	...	...	...	85.0	23.3	...	61.7
Marshall	82.3	1.9	...	1.9	80.4	25.4	...	55.0
Maury	153.2	...	...	...	153.2	48.1	5.7	99.4
Montgomery	131.0	...	...	...	131.0	51.6	4.6	74.8
Moore	72.9	5.2	...	5.2	67.7	43.0	...	24.7
Robertson	157.6	...	...	...	157.6	98.4	7.6	51.6
Rutherford	15.2	...	...	...	15.2	5.3	...	9.9
Smith	54.3	.9	...	.9	53.4	16.8	...	36.6
Sumner	157.8	2.1	...	2.1	155.7	89.3	11.6	54.8
Trousdale	5.3	...	...	...	5.3	1.7	...	3.6
Williamson	192.5	3.7	...	3.7	188.8	63.5	10.6	114.7
Wilson	51.0	1.0	...	1.0	50.0	17.6	...	32.4
All counties	2,859.8	24.7	6.2	18.5	2,835.1	1,418.6	100.0	1,316.5

Table 22. *Sawtimber volume in Scribner rule on commercial forest land by species group and diameter class, west central region, 1971*

County	All species	Softwood			Hardwood		
		Total	9.0-14.9 inches	15.0 inches and up	Total	11.0-14.9 inches	15.0 inches and up
----- Million board feet -----							
Benton	186.4	11.0	11.0	...	175.4	117.8	57.6
Decatur	256.3	10.0	8.8	1.2	246.3	155.2	91.1
Hardin	371.3	66.8	59.2	7.6	304.5	164.6	139.9
Hickman	348.8	5.5	3.2	2.3	343.3	220.8	122.5
Houston	154.0	1.6	...	1.6	152.4	83.9	68.5
Humphreys	247.0	2.6	1.3	1.3	244.4	167.6	76.8
Lawrence	240.3	...	...	...	240.3	136.1	104.2
Lewis	169.1	9.1	9.1	...	160.0	122.3	37.7
Perry	263.0	1.3	1.3	...	261.7	206.2	55.5
Stewart	460.7	13.3	13.3	...	447.4	213.1	234.3
Wayne	456.4	42.4	42.4	...	414.0	304.1	109.9
All counties	3,153.3	163.6	149.6	14.0	2,989.7	1,891.7	1,098.0

Table 23. *Sawtimber volume in Scribner rule on commercial forest land by species group and diameter class, central region, 1971*

County	All species	Softwood			Hardwood		
		Total	9.0-14.9 inches	15.0 inches and up	Total	11.0-14.9 inches	15.0 inches and up
----- Million board feet -----							
Bedford	55.6	...	...	...	55.6	38.4	17.2
Cannon	26.4	...	...	...	26.4	17.6	8.8
Cheatham	215.4	...	...	...	215.4	77.6	137.8
Clay	169.3	6.2	6.2	...	163.1	104.8	58.3
Coffee	231.7	...	...	...	231.7	97.3	134.4
Davidson	163.4	...	...	...	163.4	76.2	87.2
De Kalb	114.6	2.3	2.3	...	112.3	42.8	69.5
Dickson	363.8	...	...	...	363.8	203.0	160.8
Giles	124.7	...	...	...	124.7	63.4	61.3
Jackson	177.3	1.4	1.4	...	175.9	73.8	102.1
Lincoln	59.5	...	...	...	59.5	39.3	20.2
Macon	85.0	...	...	...	85.0	52.9	32.1
Marshall	82.3	1.9	1.9	...	80.4	32.6	47.8
Maury	153.2	...	...	...	153.2	77.3	75.9
Montgomery	131.0	...	...	...	131.0	52.5	78.5
Moore	72.9	5.2	5.2	...	67.7	25.8	41.9
Robertson	157.6	...	...	...	157.6	35.2	122.4
Rutherford	15.2	...	...	...	15.2	13.2	2.0
Smith	54.3	.9	.9	...	53.4	13.2	40.2
Sumner	157.8	2.1	...	2.1	155.7	42.3	113.4
Trousdale	5.3	...	...	...	5.3	5.3	...
Williamson	192.5	3.7	1.2	2.5	188.8	87.4	101.4
Wilson	51.0	1.0	1.0	...	50.0	26.3	23.7
All counties	2,859.8	24.7	20.1	4.6	2,835.1	1,298.2	1,536.9

Table 24. *Sawtimber volume in Doyle rule on commercial forest land by species group, west central region, 1971*

County	All species	Softwood			Hardwood			
		Total	Southern pine	Other	Total	Oak	Gum	Other
- - - - - Million board feet - - - - -								
Benton	128.3	8.1	8.1	...	120.2	94.2	10.2	15.8
Decatur	181.1	7.6	5.4	2.2	173.5	103.6	7.8	62.1
Hardin	273.8	49.1	47.5	1.6	224.7	125.2	19.3	80.2
Hickman	253.5	3.9	2.5	1.4	249.6	167.2	3.9	78.5
Houston	112.9	1.1	...	1.1	111.8	73.8	2.2	35.8
Humphreys	170.9	2.0	.4	1.6	168.9	121.2	1.2	46.5
Lawrence	175.6	...	...	...	175.6	109.6	5.8	60.2
Lewis	116.8	6.8	6.8	...	110.0	90.2	...	19.8
Perry	183.4	1.2	.5	.7	182.2	128.7	.8	52.7
Stewart	345.3	10.2	...	10.2	335.1	217.6	10.4	107.1
Wayne	328.3	31.0	31.0	...	297.3	208.8	4.4	84.1
All counties	2,269.9	121.0	102.2	18.8	2,148.9	1,440.1	66.0	642.8

Table 25. *Sawtimber volume in Doyle rule on commercial forest land by species group, central region, 1971*

County	All species	Softwood			Hardwood			
		Total	Southern pine	Other	Total	Oak	Gum	Other
- - - - - Million board feet - - - - -								
Bedford	37.8	...	...	...	37.8	17.8	...	20.0
Cannon	15.1	...	...	...	15.1	5.9	0.7	8.5
Cheatham	162.1	...	...	...	162.1	81.1	23.9	57.1
Clay	128.9	5.0	5.0	...	123.9	92.4	...	31.5
Coffee	173.4	...	...	...	173.4	121.1	1.4	50.9
Davidson	122.4	...	...	...	122.4	78.9	...	43.5
De Kalb	85.7	2.3	...	2.3	83.4	25.0	9.1	49.3
Dickson	267.3	...	...	...	267.3	196.4	.2	70.7
Giles	92.1	...	...	...	92.1	53.0	6.2	32.9
Jackson	131.7	1.4	...	1.4	130.3	28.6	...	101.7
Lincoln	36.0	...	...	...	36.0	8.6	...	27.4
Macon	56.7	...	...	...	56.7	15.7	...	41.0
Marshall	59.8	1.6	...	1.6	58.2	18.7	...	39.5
Maury	117.1	...	...	...	117.1	37.6	4.9	74.6
Montgomery	96.8	...	...	...	96.8	37.3	3.7	55.8
Moore	55.0	3.6	...	3.6	51.4	34.2	...	17.2
Robertson	123.0	...	...	...	123.0	77.8	5.6	39.6
Rutherford	11.0	...	...	...	11.0	4.0	...	7.0
Smith	43.9	.9	...	.9	43.0	13.9	...	29.1
Sumner	121.4	1.1	...	1.1	120.3	71.6	8.2	40.5
Trousdale	3.0	...	...	...	3.0	.8	...	2.2
Williamson	145.9	2.6	...	2.6	143.3	47.4	7.8	88.1
Wilson	37.2	1.0	...	1.0	36.2	12.5	...	23.7
All counties	2,123.3	19.5	5.0	14.5	2,103.8	1,080.3	71.7	951.8

Table 26. *Sawtimber volume in Doyle rule on commercial forest land by species group and diameter class, west central region, 1971*

County	All species	Softwood			Hardwood		
		Total	9.0-14.9 inches	15.0 inches and up	Total	11.0-14.9 inches	15.0 inches and up
----- Million board feet -----							
Benton	128.3	8.1	8.1	...	120.2	76.4	43.8
Decatur	181.1	7.6	6.8	0.8	173.5	101.9	71.6
Hardin	273.8	49.1	43.3	5.8	224.7	110.7	114.0
Hickman	253.5	3.9	2.5	1.4	249.6	150.9	98.7
Houston	112.9	1.1	...	1.1	111.8	56.6	55.2
Humphreys	170.9	2.0	1.3	.7	168.9	107.5	61.4
Lawrence	175.6	...	...	...	175.6	89.3	86.3
Lewis	116.8	6.8	6.8	...	110.0	80.9	29.1
Perry	183.4	1.2	1.2	...	182.2	136.8	45.4
Stewart	345.3	10.2	10.2	...	335.1	144.1	191.0
Wayne	328.3	31.0	31.0	...	297.3	207.1	90.2
All counties	2,269.9	121.0	111.2	9.8	2,148.9	1,262.2	886.7

Table 27. *Sawtimber volume in Doyle rule on commercial forest land by species group and diameter class, central region, 1971*

County	All species	Softwood			Hardwood		
		Total	9.0-14.9 inches	15.0 inches and up	Total	11.0-14.9 inches	15.0 inches and up
----- Million board feet -----							
Bedford	37.8	...	...	...	37.8	25.0	12.8
Cannon	15.1	...	...	...	15.1	9.4	5.7
Cheatham	162.1	...	...	...	162.1	50.9	111.2
Clay	128.9	5.0	5.0	...	123.9	75.4	48.5
Coffee	173.4	...	...	...	173.4	64.5	108.9
Davidson	122.4	...	...	...	122.4	51.3	71.1
De Kalb	85.7	2.3	2.3	...	83.4	28.0	55.4
Dickson	267.3	...	...	...	267.3	134.2	133.1
Giles	92.1	...	...	...	92.1	41.3	50.8
Jackson	131.7	1.4	1.4	...	130.3	47.9	82.4
Lincoln	36.0	...	...	...	36.0	21.7	14.3
Macon	56.7	...	...	...	56.7	32.2	24.5
Marshall	59.8	1.6	1.6	...	58.2	20.6	37.6
Maury	117.1	...	...	...	117.1	53.6	63.5
Montgomery	96.8	...	...	...	96.8	34.1	62.7
Moore	55.0	3.6	3.6	...	51.4	18.3	33.1
Robertson	123.0	...	...	...	123.0	23.6	99.4
Rutherford	11.0	...	...	...	11.0	9.2	1.8
Smith	43.9	.9	.9	...	43.0	8.7	34.3
Sumner	121.4	1.1	...	1.1	120.3	27.5	92.8
Trousdale	3.0	...	...	...	3.0	3.0	...
Williamson	145.9	2.6	1.0	1.6	143.3	59.3	84.0
Wilson	37.2	1.0	1.0	...	36.2	16.5	19.7
All counties	2,123.3	19.5	16.8	2.7	2,103.8	856.2	1,247.6

Table 28. *Growing-stock volume of softwoods on commercial forest land by forest type, west central region, 1971*

County	All types	Loblolly-shortleaf pine	Oak-pine	Cedar	Oak hickory ^{1/}
- - - - - Million cubic feet - - - - -					
Benton	5.8	3.7	2.1	...	...
Decatur	10.4	7.5	1.2	0.5	1.2
Hardin	38.4	19.1	12.8	...	6.5
Hickman	3.0	2.8	...	...	.2
Houston	.6	...	...	.6	...
Humphreys	1.6	...	...	.9	.7
Lawrence	...	...	...	...	...
Lewis	3.5	...	3.0	...	.5
Perry	1.7	...	...	1.1	.6
Stewart	4.0	...	...	4.0	...
Wayne	39.0	16.3	14.7	1.2	6.8
All counties	108.0	49.4	33.8	8.3	16.5

^{1/} Includes 0.5 million cubic feet of oak-gum-cypress type.

Table 29. *Growing-stock volume of softwoods on commercial forest land by forest type, central region, 1971*

County	All types	Loblolly-shortleaf pine	Oak-pine	Cedar	Oak hickory
- - - - - Million cubic feet - - - - -					
Bedford	0.8	...	...	0.8	...
Cannon	1.3	...	0.8	...	0.5
Cheatham	1.5	...	...	1.5	...
Clay	1.8	...	...	...	1.8
Coffee	...	...	...	...	...
Davidson	...	...	...	...	...
De Kalb	5.4	...	...	5.3	.1
Dickson	.2	...	...	...	.2
Giles	1.2	...	...	...	1.2
Jackson	5.8	...	...	5.1	.7
Lincoln	4.3	...	...	3.6	.7
Macon	...	...	...	...	...
Marshall	2.3	...	...	1.8	.5
Mauzy	...	...	...	...	...
Montgomery	1.7	...	...	.2	1.5
Moore	1.9	...	...	...	1.9
Robertson	...	...	...	...	...
Rutherford	5.6	...	...	5.6	...
Smith	2.3	...	...	1.9	.4
Sumner	1.2	...	...	.6	.6
Trousdale	.4	...	...	...	.4
Williamson	4.8	...	...	4.1	.7
Wilson	3.5	...	...	1.1	2.4
All counties	46.0	...	.8	31.6	13.6

Table. 30. *Growing-stock volume of hardwoods on commercial forest land by forest type, west central region, 1971*

County	All types	Loblolly-shortleaf pine	Oak-pine	Cedar	Oak-hickory	Other types ^{1/}
- - - - - Million cubic feet - - - - -						
Benton	115.7	...	1.9	0.9	106.5	6.4
Decatur	116.4	0.2	1.9	1.0	113.3	...
Hardin	146.2	4.5	14.9	...	79.5	47.3
Hickman	201.1	...	...	...	201.1	...
Houston	79.8	...	...	...	79.8	...
Humphreys	166.6	...	...	5.1	161.5	...
Lawrence	123.9	...	...	...	117.6	6.3
Lewis	110.7	...	2.2	...	108.5	...
Perry	172.7	...	...	3.7	164.8	4.2
Stewart	201.2	...	...	2.6	198.6	...
Wayne	276.1	.7	9.7	3.8	256.8	5.1
All counties	1,710.4	5.4	30.6	17.1	1,588.0	69.3

^{1/} Includes oak-gum-cypress and elm-ash-cottonwood types.

Table 31. *Growing-stock volume of hardwoods on commercial forest land by forest type, central region, 1971*

County	All types	Loblolly-shortleaf pine	Oak-pine	Cedar	Oak-hickory	Other types ^{1/}
- - - - - Million cubic feet - - - - -						
Bedford	31.4	...	...	2.6	21.6	7.2
Cannon	27.0	...	3.1	.6	23.3	...
Cheatham	82.6	...	...	5.1	77.5	...
Clay	67.5	...	...	.9	66.6	...
Coffee	98.0	...	...	...	90.3	7.7
Davidson	66.5	...	...	.8	65.7	...
De Kalb	47.9	...	...	2.4	32.7	12.8
Dickson	168.4	...	...	...	168.4	...
Giles	68.6	...	.3	...	66.0	2.3
Jackson	65.7	...	...	6.3	59.4	...
Lincoln	41.1	...	...	18.7	22.2	.2
Macon	57.1	...	...	...	57.1	...
Marshall	30.8	...	...	7.0	23.8	...
Maury	67.5	...	...	.2	57.2	10.1
Montgomery	67.6	...	...	3.1	50.9	13.6
Moore	29.8	...	...	...	29.8	...
Robertson	55.0	...	...	...	55.0	...
Rutherford	25.6	...	...	8.0	17.6	...
Smith	37.3	...	...	6.6	30.7	...
Sumner	51.5	...	...	...	51.5	...
Trousdale	5.5	...	...	...	5.5	...
Williamson	80.7	...	2.9	4.1	67.1	6.6
Wilson	29.0	...	...	1.3	27.7	...
All counties	1,302.1	...	6.3	67.7	1,167.6	60.5

^{1/} Includes oak-gum-cypress and elm-ash-cottonwood types.

Table 32. *Sawtimber volume of softwoods on commercial forest land by forest type, west central region, 1971*

County	All types	Loblolly-shortleaf pine	Oak-pine	Cedar	Oak-hickory
- - - - - Million board feet - - - - -					
Benton	13.8	13.8	...	...	...
Decatur	11.4	3.3	5.4	0.9	1.8
Hardin	81.8	48.8	21.5	...	11.5
Hickman	6.7	6.7	...	...	...
Houston	1.8	...	...	1.8	...
Humphreys	3.1	...	...	2.0	1.1
Lawrence	...	...	...	...	...
Lewis	11.5	...	9.2	...	2.3
Perry	2.0	...	...	2.0	...
Stewart	17.0	...	...	17.0	...
Wayne	52.4	18.7	19.8	...	13.9
All counties	201.5	91.3	55.9	23.7	30.6

Table 33. *Sawtimber volume of softwoods on commercial forest land by forest type, central region, 1971*

County	All types	Loblolly-shortleaf pine	Oak-pine	Cedar	Oak-hickory
- - - - - Million board feet - - - - -					
Bedford	...	...	...	...	...
Cannon	...	...	...	...	...
Cheatham	...	...	...	...	...
Clay	7.0	...	...	...	7.0
Coffee	...	...	...	...	...
Davidson	...	...	...	...	...
De Kalb	1.5	...	...	1.5	...
Dickson	...	...	...	...	...
Giles	...	...	...	...	...
Jackson	1.1	...	...	1.1	...
Lincoln	...	...	...	...	...
Macon	...	...	...	...	...
Marshall	2.7	...	...	2.7	...
Maury	...	...	...	...	...
Montgomery	...	...	...	...	...
Moore	6.4	...	...	...	6.4
Robertson	...	...	...	...	...
Rutherford	...	...	...	...	...
Smith	.5	...	...	.5	...
Sumner	2.6	...	...	...	2.6
Trousdale	...	...	...	...	...
Williamson	4.8	...	...	1.7	3.1
Wilson	.6	...	...	.6	...
All counties	27.2	...	...	8.1	19.1

Table 34. Sawtimber volume of hardwoods on commercial forest land by forest type, west central region, 1971

County	All types	Loblolly-shortleaf pine	Oak-pine	Cedar	Oak-hickory	Other types ^{1/}
- - - - - Million board feet - - - - -						
Benton	205.6	...	0.6	...	197.3	7.7
Decatur	285.4	...	3.1	1.5	280.8	...
Hardin	347.5	6.1	27.9	...	186.9	126.6
Hickman	392.7	...	...	...	392.7	...
Houston	174.6	...	...	...	174.6	...
Humphreys	283.5	...	...	2.7	280.8	...
Lawrence	274.3	...	...	...	265.3	9.0
Lewis	185.8	...	1.3	...	184.5	...
Perry	302.7	...	...	.7	290.9	11.1
Stewart	509.3	...	...	10.8	498.5	...
Wayne	472.9	...	18.1	10.2	431.8	12.8
All counties	3,434.3	6.1	51.0	25.9	3,184.1	167.2

^{1/} Includes oak-gum-cypress and elm-ash-cottonwood types.

Table 35. Sawtimber volume of hardwoods on commercial forest land by forest type, central region, 1971

County	All types	Loblolly-shortleaf pine	Oak-pine	Cedar	Oak-hickory	Other types ^{1/}
- - - - - Million board feet - - - - -						
Bedford	64.3	...	...	3.7	32.1	28.5
Cannon	31.3	...	2.1	...	29.2	...
Cheatham	243.6	...	...	17.6	226.0	...
Clay	183.3	...	...	4.7	178.6	...
Coffee	263.0	...	...	...	235.7	27.3
Davidson	184.3	...	...	...	184.3	...
De Kalb	127.7	...	...	...	85.3	42.4
Dickson	415.2	...	...	...	415.2	...
Giles	142.4	...	...	...	137.3	5.1
Jackson	200.0	...	...	10.0	190.0	...
Lincoln	72.2	...	...	33.6	38.6	...
Macon	99.5	...	...	...	99.5	...
Marshall	91.9	...	...	22.1	69.8	...
Maury	173.1	...	...	...	134.2	38.9
Montgomery	149.6	...	...	5.3	111.8	32.5
Moore	76.4	...	...	...	76.4	...
Robertson	176.7	...	...	...	176.7	...
Rutherford	17.9	...	...	8.9	9.0	...
Smith	59.9	...	...	5.8	54.1	...
Sumner	174.7	...	...	...	174.7	...
Trousdale	7.4	...	...	...	7.4	...
Williamson	212.6	...	6.2	6.2	175.9	24.3
Wilson	57.1	...	...	...	57.1	...
All counties	3,224.1	...	8.3	117.9	2,898.9	199.0

Table 36. *Growing-stock volume of softwoods on commercial forest land by stand-size class, west central region, 1971*

County	All classes	Sawtimber	Poletimber	Sapling and seedling	Nonstocked areas
- - - - - Million cubic feet - - - - -					
Benton	5.8	...	2.1	3.7	...
Decatur	10.4	0.7	8.0	1.7	...
Hardin	38.4	10.6	20.7	7.1	...
Hickman	3.0	...	2.8	.2	...
Houston	.6	...	...	.6	...
Humphreys	1.6	.7	.9	...	...
Lawrence	...	...	...	...	...
Lewis	3.5	...	3.5	...	...
Perry	1.7	...	1.3	.4	...
Stewart	4.0	4.0	...	...	...
Wayne	39.0	6.7	27.9	4.4	...
All counties	108.0	22.7	67.2	18.1	...

Table 37. *Growing-stock volume of softwoods on commercial forest land by stand-size class, central region, 1971*

County	All classes	Sawtimber	Poletimber	Sapling and seedling	Nonstocked areas
- - - - - Million cubic feet - - - - -					
Bedford	0.8	...	...	0.8	...
Cannon	1.3	...	1.0	.3	...
Cheatham	1.5	...	...	1.5	...
Clay	1.8	1.3	.5	...	...
Coffee	...	...	...	...	...
Davidson	...	...	...	...	...
De Kalb	5.4	...	2.5	2.9	...
Dickson	.2	...	...	.2	...
Giles	1.2	...	1.2	...	...
Jackson	5.8	...	5.1	.7	...
Lincoln	4.3	...	2.4	1.9	...
Macon	...	...	...	...	...
Marshall	2.3	...	.5	1.8	...
Maury	...	...	...	...	...
Montgomery	1.7	1.5	...	.2	...
Moore	1.9	1.9	...	...	...
Robertson	...	...	...	...	...
Rutherford	5.6	...	3.0	2.6	...
Smith	2.3	...	1.9	.4	...
Sumner	1.2	...	...	1.2	...
Trousdale	.4	...	...	.4	...
Williamson	4.8	.7	2.7	1.4	...
Wilson	3.5	...	2.4	1.1	...
All counties	46.0	5.4	23.2	17.4	...

Table 38. *Growing-stock volume of hardwoods on commercial forest land by stand-size class, west central region, 1971*

County	All classes	Sawtimber	Poletimber	Sapling and seedling	Nonstocked areas
- - - - - Million cubic feet - - - - -					
Benton	115.7	34.7	76.1	4.9	...
Decatur	116.4	54.5	50.7	11.2	...
Hardin	146.2	70.5	57.5	18.2	...
Hickman	201.1	46.5	118.2	36.4	...
Houston	79.8	48.6	24.8	6.4	...
Humphreys	166.6	35.9	101.8	28.9	...
Lawrence	123.9	35.0	58.8	30.1	...
Lewis	110.7	30.5	65.5	14.7	...
Perry	172.7	33.4	121.3	18.0	...
Stewart	201.2	98.2	85.2	17.8	...
Wayne	276.1	40.6	219.1	16.4	...
All counties	1,710.4	528.4	979.0	203.0	...

Table 39. *Growing-stock volume of hardwoods on commercial forest land by stand-size class, central region, 1971*

County	All classes	Sawtimber	Poletimber	Sapling and seedling	Nonstocked areas
- - - - - Million cubic feet - - - - -					
Bedford	31.4	11.9	10.8	8.7	...
Cannon	27.0	3.5	19.0	4.5	...
Cheatham	82.6	50.8	26.7	5.1	...
Clay	67.5	40.8	25.8	.9	...
Coffee	98.0	49.9	48.1	...	...
Davidson	66.5	35.8	17.4	13.3	...
De Kalb	47.9	25.3	7.7	14.9	...
Dickson	168.4	106.3	55.9	6.2	...
Giles	68.6	21.0	31.9	14.9	0.8
Jackson	65.7	28.0	32.7	5.0	...
Lincoln	41.1	9.1	24.3	7.7	...
Macon	57.1	11.3	39.0	6.8	...
Marshall	30.8	11.7	10.6	8.5	...
Maury	67.5	31.6	26.3	9.6	...
Montgomery	67.6	30.5	22.2	14.9	...
Moore	29.8	4.8	25.0	...	...
Robertson	55.0	33.7	15.4	5.9	...
Rutherford	25.6	...	20.6	5.0	...
Smith	37.3	...	29.4	7.9	...
Sumner	51.5	43.5	...	8.0	...
Trousdale	5.5	...	4.4	1.1	...
Williamson	80.7	33.0	18.7	29.0	...
Wilson	29.0	...	23.5	5.5	...
All counties	1,302.1	582.5	535.4	183.4	.8

Table 40. *Sawtimber volume of softwoods on commercial forest land by stand-size class, west central region, 1971*

County	All classes	Sawtimber	Poletimber	Sapling and seedling	Nonstocked areas
- - - - - Million board feet - - - - -					
Benton	13.8	...	...	13.8	...
Decatur	11.4	...	5.1	6.3	...
Hardin	81.8	38.5	21.8	21.5	...
Hickman	6.7	...	6.7	...	...
Houston	1.8	...	...	1.8	...
Humphreys	3.1	1.1	2.0	...	...
Lawrence	...	...	...	...	...
Lewis	11.5	...	11.5	...	...
Perry	2.0	...	2.0	...	...
Stewart	17.0	17.0	...	...	...
Wayne	52.4	19.9	21.5	11.0	...
All counties	201.5	76.5	70.6	54.4	...

Table 41. *Sawtimber volume of softwoods on commercial forest land by stand-size class, central region, 1971*

County	All classes	Sawtimber	Poletimber	Sapling and seedling	Nonstocked areas
- - - - - Million board feet - - - - -					
Bedford	...	...	...	...	...
Cannon	...	...	...	...	...
Cheatham	...	...	...	...	...
Clay	7.0	7.0	...	...	...
Coffee	...	...	...	...	...
Davidson	...	...	...	...	...
De Kalb	1.5	...	1.2	0.3	...
Dickson	...	...	...	...	...
Giles	...	...	...	...	...
Jackson	1.1	....	1.1	...	...
Lincoln	...	...	...	...	...
Macon	...	...	...	...	...
Marshall	2.7	...	...	2.7	...
Maury	...	...	...	...	...
Montgomery	...	...	...	...	...
Moore	6.4	6.4	...	...	...
Robertson	...	...	...	...	...
Rutherford	...	...	...	...	...
Smith	.5	...	.5	...	...
Sumner	2.6	...	...	2.6	...
Trousdale	...	...	...	...	...
Williamson	4.8	3.1	1.2	.5	...
Wilson	.6	...	...	.6	...
All counties	27.2	16.5	4.0	6.7	...

Table 42. *Sawtimber volume of hardwoods on commercial forest land by stand-size class, west central region, 1971*

County	All classes	Sawtimber	Poletimber	Sapling and seedling	Nonstocked areas
- - - - - Million board feet - - - - -					
Benton	205.6	93.9	104.8	6.9	...
Decatur	285.4	175.2	89.3	20.9	...
Hardin	347.5	221.2	93.4	32.9	...
Hickman	392.7	148.4	189.5	54.8	...
Houston	174.6	147.8	20.1	6.7	...
Humphreys	283.5	107.9	132.1	43.5	...
Lawrence	274.3	120.8	97.7	55.8	...
Lewis	185.8	77.1	96.6	12.1	...
Perry	302.7	91.6	181.9	29.2	...
Stewart	509.3	300.5	168.6	40.2	...
Wayne	472.9	128.3	331.1	13.5	...
All counties	3,434.3	1,612.7	1,505.1	316.5	...

Table 43. *Sawtimber volume of hardwoods on commercial forest land by stand-size class, central region, 1971*

County	All classes	Sawtimber	Poletimber	Sapling and seedling	Nonstocked areas
- - - - - Million board feet - - - - -					
Bedford	64.3	45.2	8.4	10.7	...
Cannon	31.3	10.9	16.1	4.3	...
Cheatham	243.6	170.1	55.9	17.6	...
Clay	183.3	146.7	31.9	4.7	...
Coffee	263.0	173.6	89.4	...	...
Davidson	184.3	109.5	30.0	44.8	...
De Kalb	127.7	93.0	9.1	25.6	...
Dickson	415.2	328.4	74.2	12.6	...
Giles	142.4	73.9	51.2	15.7	1.6
Jackson	200.0	126.2	71.7	2.1	...
Lincoln	72.2	24.0	40.6	7.6	...
Macon	99.5	29.9	52.1	17.5	...
Marshall	91.9	38.7	31.1	22.1	...
Maury	173.1	116.1	45.1	11.9	...
Montgomery	149.6	105.7	23.2	20.7	...
Moore	76.4	12.5	63.9	...	...
Robertson	176.7	129.4	31.9	15.4	...
Rutherford	17.9	...	14.9	3.0	...
Smith	59.9	...	55.3	4.6	...
Sumner	174.7	145.1	...	29.6	...
Trousdale	7.4	...	5.4	2.0	...
Williamson	212.6	114.5	39.9	58.2	...
Wilson	57.1	...	48.9	8.2	...
All counties	3,224.1	1,993.4	890.2	338.9	1.6

Table 44. *growing-stock volume on commercial forest land by species and diameter class, west central region, 1971*^{1/}

County	Diameter class (inches at breast height)											Million cubic feet	
	All classes	5.0- 6.9	7.0- 8.9	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 28.9	29.0 and larger		
	----- Million cubic feet -----												
Softwood:													
Shortleaf pine	51.6	12.5	9.2	11.5	11.0	5.7	0.8	0.9	...	...	...	...	...
Loblolly pine	39.5	16.1	16.5	5.1	1.4	.4	...	...	...	...	...	...	...
Virginia pine	2.8	.8	.3	1.1	.6	...	...	...	...	...	...	...	...
Redcedar	13.8	4.1	2.1	4.5	1.2	.4	.9	.6	...	...	...	...	...
Cypress	.3	...	.3	...	...	...	...	...	...	...	...	...	...
Total	108.0	33.5	28.4	22.2	14.2	6.5	1.7	1.5	...	...	...	...	...
Hardwood:													
White oak (<i>Quercus alba</i>)	476.4	54.5	86.9	96.2	105.9	66.3	36.5	19.8	5.3	5.0	...	...	...
Other white oaks	202.2	27.9	42.9	43.1	38.2	27.5	16.6	3.4	1.9	.7	...	...	...
Northern red oak	87.0	6.0	13.0	20.8	16.1	15.8	7.9	5.1	1.5	.8	...	...	...
Other red oaks	323.4	32.4	42.0	64.7	66.9	51.7	31.6	16.8	8.2	7.6	...	...	1.5
Hickory	268.1	37.5	61.4	65.2	53.1	25.6	13.0	8.1	2.9	1.3	...	...	...
Hard maple	20.2	2.4	3.0	6.3	3.0	1.4	1.1	.4	1.5	1.1	...	...	...
Soft maple	13.5	2.0	1.7	3.7	4.5	.8	.5	...	...	.3	...	...	...
Beech	22.1	1.4	3.5	2.9	4.1	2.2	3.1	1.2	1.3	1.8	...	...	.6
Sweetgum	62.9	10.4	14.8	19.5	7.6	5.4	2.8	...	1.0	1.4	...	...	...
White ash	7.4	2.0	.9	2.3	.9	.5	.8	...	...	...	...	...	...
Other ashes	21.1	3.3	2.4	4.2	3.5	3.1	2.4	.9	1.3	...	...	...	...
Sycamore	15.2	1.2	1.9	4.0	4.2	1.1	1.7	.6	.5	...	...	...	...
Yellow-poplar	86.1	4.8	11.9	8.4	18.6	11.6	12.0	6.2	4.0	7.9	...	...	.7
Black walnut	12.2	2.1	3.0	2.7	2.8	1.2	...	...	.4	...	...	...	...
Black cherry	7.3	1.5	1.7	2.3	1.3	.5	...	...	...	...	...	...	...
American elm	12.0	2.7	3.6	2.0	.9	.9	.7	.4	.4	.4	...	...	...
Other elms	20.7	3.3	4.5	5.5	4.0	2.4	...	.3	.7	...	...	...	...
Other hardwoods	52.6	11.8	14.2	11.0	7.3	4.8	.9	.9	.5	1.2	...	...	...
Total	1,710.4	207.2	313.3	364.8	342.9	222.8	131.6	64.1	31.4	29.5	2.8	2.8	2.8
All species	1,818.4	240.7	341.7	387.0	357.1	229.3	133.3	65.6	31.4	29.5	2.8	2.8	2.8

^{1/} Detailed county statistics by species and diameter class are available upon request.

Table 45. Growing-stock volume on commercial forest land by species and diameter class, central region, 1971^{1/}

County	Diameter class (inches at breast height)										17.0- 18.9	19.0- 20.9	21.0- 28.9	29.0 and larger	
	All classes	5.0- 6.9	7.0- 8.9	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 28.9					
----- Million cubic feet -----															
Softwood:															
Southern pine	2.7	1.0	0.4	1.3
Redcedar	43.3	22.8	14.3	2.5	1.0	1.4	1.3
Total	46.0	23.8	14.7	2.5	1.0	2.7	1.3
Hardwood:															
White oak (<i>Quercus alba</i>)	157.2	11.4	14.0	26.0	21.8	25.0	26.0	16.1	6.7	8.3	1.9				
Other white oaks	108.4	13.6	15.0	20.6	14.1	20.3	13.5	6.7	1.4	2.5	.7				
Northern red oak	70.0	2.9	9.2	7.0	10.3	14.0	7.1	7.9	3.2	7.2	1.2				
Other red oaks	211.7	12.1	16.7	34.4	27.5	35.9	30.3	20.4	11.5	18.8	4.1				
Hickory	220.0	30.4	41.9	45.7	48.0	27.0	15.1	6.6	2.5	2.8	...				
Hard maple	51.8	8.2	8.3	7.0	8.5	10.2	6.9	...	1.3	1.4	...				
Soft maple	26.8	5.0	3.6	4.8	3.6	2.7	5.6	.2	...	1.3	...				
Beech	27.1	1.8	2.5	3.6	.8	3.7	4.3	3.0	1.2	5.6	.6				
Sweetgum	28.4	2.2	3.7	4.2	6.6	2.8	6.5	1.4	1.0	...	...		
Blackgum	18.6	2.8	4.9	4.2	2.9	.4	1.8	1.1	...	.5	...		
White ash	39.3	5.7	6.2	11.9	2.5	7.6	1.8	1.9	.4	1.3	...				
Other ashes	24.0	5.7	4.7	3.4	2.9	2.7	1.8	.9	.8	1.1	...				
Sycamore	14.5	.7	...	.9	2.1	.9	3.7	.9	.8	4.5	...		
Basswood	9.9	.3	1.5	1.3	...	3.3	.6	.8	1.5	.6	...				
Yellow-poplar	82.1	5.2	8.5	11.6	15.4	10.4	13.5	6.8	7.4	2.8	.5				
Black walnut	31.8	3.7	7.0	7.1	4.8	5.5	3.1	.6	...	...	...	
Black cherry	17.2	4.0	4.2	2.6	1.6	1.7	1.6	1.5	...	...	...	
American elm	32.7	7.7	3.6	7.4	4.9	3.0	1.3	1.8	.9	2.1	...				
Other elms	23.2	4.7	3.0	6.5	3.2	2.5	1.2	...	1.6	.5	...				
Hackberry	42.9	6.9	9.2	9.3	4.8	3.3	5.7	1.0	2.3	.4	...				
Black locust	18.5	9.3	4.1	1.7	1.1	1.0	.2	.5	.6	...	...		
Sassafras	28.3	10.6	9.4	4.5	2.9	.9	...	...	...	...	...
Other hardwoods	17.7	6.1	4.5	3.0	2.0	1.3	.8	...	...	...	...
Total	1,302.1	161.0	185.7	228.7	192.3	186.1	152.4	80.1	45.1	61.7	9.0				
All species	1,348.1	184.8	200.4	231.2	193.3	188.8	153.7	80.1	45.1	61.7	9.0				

^{1/} Detailed county statistics by species and diameter class are available upon request.

Table 46. Sawtimber volume on commercial forest land by species and diameter class, west central region, 1971 ^{1/}

County	Diameter class (inches at breast height)										29.0 and larger
	All classes	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 28.9	29.0 and larger		
----- Million board feet -----											
Softwood:											
Shortleaf pine	139.6	46.5	55.4	29.0	3.8	4.9	...	...	...	...
Loblolly pine	26.5	17.1	7.2	2.2	...	...	...	...	...	...
Virginia pine	5.3	2.9	2.4	...	...	...	...	...	...	...
Redcedar	30.1	14.8	5.7	2.2	4.1	3.3	...	...	...	...
Total	201.5	81.3	70.7	33.4	7.9	8.2	...	...	...	...
Hardwood:											
White oak (<i>Quercus alba</i>)	984.8	...	391.6	285.0	168.4	90.2	23.3	26.3	...	...
Other white oaks	344.0	...	130.0	111.4	72.9	16.3	9.3	4.1	...	...
Northern red oak	204.8	...	62.6	70.7	37.0	23.6	7.5	3.4	...	...
Other red oaks	765.5	...	246.7	213.6	143.8	80.9	38.1	34.3	...	8.1	
Hickory	442.0	...	206.2	116.3	61.8	36.9	14.1	6.7	...	...
Hard maple	33.0	...	10.4	5.8	4.1	1.5	6.9	4.3	...	...
Soft maple	23.3	...	17.5	3.0	1.5	...	...	1.3	...	...
Beech	65.2	...	15.2	10.8	15.7	5.6	5.9	8.6	...	3.4	
Sweetgum	71.8	...	27.2	24.3	10.9	...	4.2	5.2	...	...
White ash	9.2	...	3.1	2.0	4.1	...	...	...	...	...
Other ashes	47.7	...	10.4	13.6	12.5	4.1	7.1	...	...	...
Sycamore	31.5	...	14.2	4.5	7.8	2.6	2.4	...	...	...
Yellow-poplar	275.6	...	69.4	54.0	57.6	29.5	20.3	41.3	...	3.5	
Black walnut	19.3	...	11.6	6.0	...	...	1.7	...	...	...
Black cherry	7.2	...	5.8	1.4	...	...	...	...	...	...
American elm	17.4	...	3.2	4.1	3.7	2.3	1.5	2.6	...	...
Other elms	31.0	...	15.1	9.9	...	1.3	4.7	...	...	...
Other hardwoods	61.0	...	25.8	17.6	4.4	4.8	3.0	5.4	...	...
Total	3,434.3	...	1,266.0	954.0	606.2	299.6	150.0	143.5	15.0	15.0	
All species	3,635.8	81.3	1,336.7	987.4	614.1	307.8	150.0	143.5	15.0	15.0	

^{1/} Detailed county statistics by species and diameter class are available upon request.

Table 47. Sawtimber volume on commercial forest land by species and diameter class, central region, 1971^{1/}

County	Diameter class (inches at breast height)										Million board feet
	All classes	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0 and larger		
Softwood:											
Southern pine	7.0	...	...	7.0	...	...	...	...	...	...	...
Redcedar	20.2	4.6	3.4	6.5	5.7	...	...	...	...	...	...
Total	27.2	4.6	3.4	13.5	5.7	...	...	...	...	...	...
Hardwood:											
White oak (<i>Quercus alba</i>)	455.8	...	72.4	103.4	122.3	77.1	33.0	39.9	7.7	...	...
Other white oaks	248.2	...	52.0	84.1	57.8	33.0	7.7	9.5	4.1	...	...
Northern red oak	237.6	...	37.3	63.0	33.3	40.1	16.0	41.3	6.6	...	...
Other red oaks	663.0	...	102.4	155.7	133.7	97.9	58.0	97.1	18.2	...	...
Hickory	449.9	...	196.5	119.8	74.4	33.1	12.4	13.7	...	...	...
Hard maple	114.5	...	28.9	38.5	32.0	...	7.2	7.9	...	...	...
Soft maple	58.4	...	12.2	11.9	25.7	...	...	7.7	...	...	...
Beech	91.5	...	2.7	12.7	19.9	15.8	7.6	29.2	3.6	...	...
Sweetgum	85.8	...	26.8	13.4	31.8	8.6	5.2	...	...	...	...
Blackgum	28.6	...	11.7	1.4	8.5	4.9	...	2.1	...	...	...
White ash	74.4	...	10.5	35.1	7.0	12.2	2.5	7.1	...	...	...
Other ashes	47.9	...	11.4	13.1	9.8	4.8	3.2	5.6	...	...	...
Sycamore	54.0	...	5.0	3.4	15.3	3.6	5.0	21.7	...	...	...
Basswood	33.6	...	...	16.8	3.6	3.7	6.8	2.7	...	...	...
Yellow-poplar	273.0	...	61.6	44.8	72.3	36.3	39.0	16.4	2.6	...	...
Black walnut	61.8	...	17.8	26.9	13.9	3.2	...	...	...	...	...
Black cherry	27.0	...	5.0	7.9	6.9	7.2	...	...	...	...	...
American elm	60.5	...	18.2	12.3	5.9	9.1	4.5	10.5	...	...	...
Other elms	40.1	...	12.5	12.3	5.2	...	7.7	2.4	...	...	...
Hackberry	75.3	...	17.4	14.1	25.0	5.8	11.4	1.6	...	...	...
Black locust	14.1	...	4.2	2.9	1.3	3.1	2.6	...	...	...	...
Sassafras	11.0	...	7.8	3.2	...	...	...	...	...	...	...
Other hardwoods	18.1	...	7.9	6.6	3.6	...	...	...	...	...	...
Total	3,224.1	...	722.2	803.3	709.2	400.4	229.8	316.4	42.8	...	...
All species	3,251.3	4.6	725.6	816.8	714.9	400.4	229.8	316.4	42.8	...	...

^{1/} Detailed county statistics by species and diameter class are available upon request.

Table 48. Average volume per acre of growing stock and sawtimber on commercial forest land, west central region, 1971

Ownership	Growing stock			Sawtimber		
	All species	Softwood	Hardwood	All species	Softwood	Hardwood
	- - - - Cubic feet - - - -			- - - - Board feet - - - -		
National forest	...	...	...	...	...	...
Other public	925	57	868	2,207	144	2,063
Forest industry	807	56	751	1,577	112	1,465
Farmer	821	27	794	1,617	54	1,563
Misc. private	<u>739</u>	<u>63</u>	<u>676</u>	<u>1,465</u>	<u>104</u>	<u>1,361</u>
All ownerships	794	47	747	1,587	88	1,499

Table 49. Average volume per acre of growing stock and sawtimber on commercial forest land, central region, 1971

Ownership	Growing stock			Sawtimber		
	All species	Softwood	Hardwood	All species	Softwood	Hardwood
	- - - - Cubic feet - - - -			- - - - Board feet - - - -		
National forest	...	...	...	...	...	...
Other public	701	42	659	1,730	20	1,710
Forest industry	678	...	678	1,897	...	1,897
Farmer	559	18	541	1,317	12	1,305
Misc. private	<u>617</u>	<u>21</u>	<u>596</u>	<u>1,512</u>	<u>11</u>	<u>1,501</u>
All ownerships	592	20	572	1,428	12	1,416





TENNESSEE FOREST INDUSTRIES

Daniel F. Bertelson



Southern Forest Experiment Station
Forest Service
U.S. Department of Agriculture



TENNESSEE FOREST INDUSTRIES

Daniel F. Bertelson

**U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
SOUTHERN FOREST EXPERIMENT STATION**
in cooperation with
**TENNESSEE DEPARTMENT OF CONSERVATION
DIVISION OF FORESTRY**

and
**TENNESSEE VALLEY AUTHORITY
DIVISION OF FORESTRY, FISHERIES,
AND WILDLIFE DEVELOPMENT**

1971



Tennessee forests supplied 137 million cubic feet of roundwood to forest industries in 1970; hardwoods made up nearly four-fifths of the total. Saw logs and pulpwood, ranking first and second, accounted for 90 percent of the roundwood harvest. These are some of the major findings of a 1970 canvass of all primary forest industries in Tennessee.

Pulpwood production increased, but output of all products combined decreased in the last 10 years (fig. 1). The number of wood-using plants in the State, as in other Midsouth States, declined. Since 1960, the average size of processing plants has increased, and production of specialty items has declined.

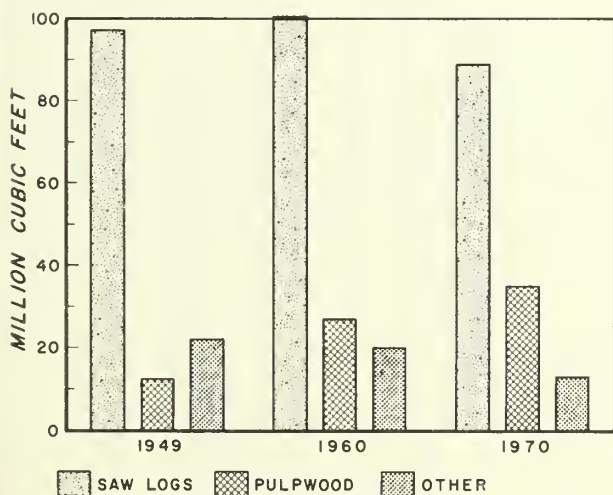


Figure 1. — Output of industrial roundwood in Tennessee, by product, 1949-1970.

SAW LOGS

The 1970 harvest of saw logs in Tennessee, 534 million board feet, was the smallest since the depression of the 1930's. Saw logs still account for almost two-thirds of the State's roundwood output, however. Over 87 percent of the output was hardwoods, mainly oaks, gums, and yellow-poplar. Southern pine accounted for

most of the softwood, but some cypress, white pine, redcedar, and hemlock were also sawn.

At the end of World War II, some 2,800 sawmills were active in Tennessee. Less than half remained in 1960, and in 1970 only 546 were producing lumber. Only small mills have been closing; the number of large plants, those cutting at least 3 million board feet annually, has more than doubled in the last 10 years.

Small sawmills have been closing for a variety of reasons, not the least of which is competition from large, more efficient mills. Most small sawmills operate intermittently. Crosstie producers, for example, typically operate when the demand for ties is high, and demand has been relatively low in recent years. Some small mills are owned by farmers and worked only during the slack season, and only then if lumber prices are high enough to make the venture worthwhile. Most small mills are using old machinery, and, as the equipment wears out or becomes obsolete, the plant is shut down or sold to neighboring mills for parts. Minimum wage increases and population movement to urban areas have reduced the available manpower for work in small mills. The trends in number and size of sawmills are expected to continue for the next few years.

In this and prior studies, small sawmills were found to be processing most of the softwood. As the number of small mills has declined, output of softwood logs has also dropped. Softwood log output in 1970 was less than half that in 1960. Large sawmills process mainly hardwood and, although hardwood log production decreased, the change was not as pronounced as that for softwoods. The increase in large sawmills has not offset the loss in volume attributed to the decrease in small mills.

Only small volumes of saw logs were shipped over Tennessee's boundaries. Five percent of the logs cut in Tennessee were shipped to other States; imports exceeded exports by 22 million board feet. In past years, large sawmills in west Tennessee reached into the Delta regions of Arkansas and Mississippi for about half of their

saw logs. The tremendous amount of land clearing in the Delta in recent years has reduced the supply of hardwood saw logs from this source.

Almost half of the hardwood logs harvested crossed county lines before being cut into lumber. The volume of hardwood logs moving from one county to another indicates that large sawmills are going to surrounding counties to find the quantity and quality of logs required to maintain plant production. Softwood saw log receipts are concentrated at small mills, and about two-thirds of the softwoods cut are manufactured within the same county.

PULPWOOD

Tennessee production of pulpwood bolts in 1970 hit a record high of 437,000 cords. Hardwoods made up more than half of the harvest. Softwood bolt production has remained fairly stable over the last 10 years, while hardwood production has increased almost 50 percent since 1960 (fig. 2). Tennessee pulpmills consumed twice as much pulpwood as was produced in the State in 1970.

Construction of two new mills, as well as expansion of existing facilities, increased Tennessee's daily pulping capability from 2,357 tons in 1960 to 3,670 tons in 1970. The seven

pulpmills have an average capacity of 524 tons per day, compared to 471 tons a decade earlier. Individual mill capacity ranges from 130 to 1,600 tons daily.

To meet pulpmill needs, Tennessee imported more pulpwood than the State produced. Almost three-fourths of the softwood used was from outside the State. Hardwood imports exceeded exports; both volumes were low compared to softwood imports. As the inventory of standing pine timber rises, Tennessee's pulping industry should draw a substantially larger share of its wood from local sources.

The Nation's pulpwood demand is expected to more than double by the year 2000. The South, now supplying two-thirds of the Country's pulpwood, will absorb most of the needed expansion. Tennessee, with a low softwood inventory, has lagged behind the rest of the South in output. Although it will never keep pace with the States to the south, it is expected to increase its pulpwood production. A major factor affecting Tennessee's future pulpwood output will be its ability to increase the softwood inventory. Three-fourths of all roundwood harvested for pulp in the South in 1970 was softwood.

In addition to the roundwood volume, the equivalent of 130,000 cords of plant byproducts was used by pulpmills. This volume represents over one-fifth of the total pulpwood production. The use of plant byproducts doubled in the last

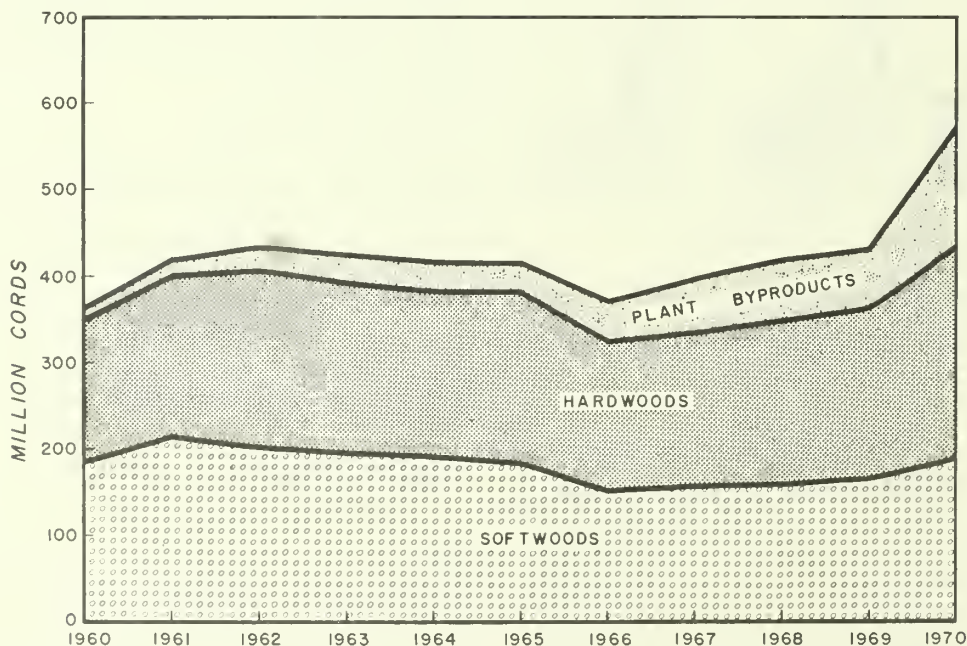


Figure 2. Pulpwood production in Tennessee, 1960-1970.

year and was more than 15 times greater than in 1960. Large sawmills have the ability to absorb the cost of debarking and chipping equipment to realize an income from the sale of byproducts to pulp mills. As the number of large sawmills increases, plant byproducts will become even more important in the pulping industry.

veneer

In the 1960's the Tennessee veneer industry declined from nine to six active mills. In 1970 these mills processed 9 million board feet of roundwood, half of which was imported from other States. Domestic imports came from as far as Pennsylvania. Khaya from Africa was the only foreign species brought into the State for manufacturing.

The 1970 harvest of veneer logs was one-third less than that in 1960. It accounted for less than 1 percent of the State's total 1970 industrial roundwood output. Hardwoods composed 99 percent of veneer logs produced, with yellow-poplar supplying over one-third the total. Cypress was the only softwood logged for veneer production.

Tennessee is the only State in the Midsouth that does not have a pine plywood plant in operation or under construction. Dominated by hardwoods, Tennessee does not appear to have the softwood volume or size to support such an industry.

Tennessee's hardwood veneer industry, like those in other Midsouth States, has been declining for a number of years. Prospects for increasing or maintaining present production are poor. Timber suited to hardwood veneer production occurs in trees 18 inches and larger in diameter. Much of the existing volume in these sizes occurs either in single trees and small groups that are not economically harvested or in species that are in little demand for veneer. Thus, most veneer logs are bought in small quantities from sawmills, contract loggers, and other sources.

OTHER PRODUCTS

Although the number of handlestock plants

decreased, the volume of roundwood used increased slightly. Hickory is the main species for handles of striking tools. Its combined qualities of toughness, hardness, and shock resistance are unequaled by any other commercial species.

Cooperage, once the leading specialty item in Tennessee, had probably the greatest decline of any product. The number of active plants dropped by two-thirds, and roundwood output decreased by over one-half in the 1960's. White oak for tight cooperage accounted for approximately 95 percent of the timber harvested in 1970. The remaining 5 percent was used to manufacture slack cooperage.

Miscellaneous products accounted for less than 6 percent of the total industrial roundwood produced in Tennessee. These products include charcoal, commercial posts, poles, piling, mine timbers, furniture stock, miscellaneous dimension, excelsior, shuttleblocks, and other industrial products.

PLANT RESIDUES

In the conversion of roundwood into primary products, more than 47 million cubic feet of various wood particles was generated. Over half of this volume was in coarse items such as slabs, edgings, cull pieces, and other material suitable for conversion into pulp chips. The rest was comprised of finer particles such as sawdust and shavings.

Over 10 million cubic feet went into production of pulp and particleboard. Almost 8 million cubic feet of material, both coarse and fine, was burned for fuel. Another 5.4 million cubic feet was used for miscellaneous purposes like charcoal, animal bedding, and soil mulch.

Almost one-half of the residues produced, over 23 million cubic feet, was not utilized. These residues represent the greatest single opportunity to bolster profits in Tennessee's forest industries. With increased utilization through improved technology and the growth of new wood products, much of the unused residues and some of the low-value byproducts could be converted to higher uses.

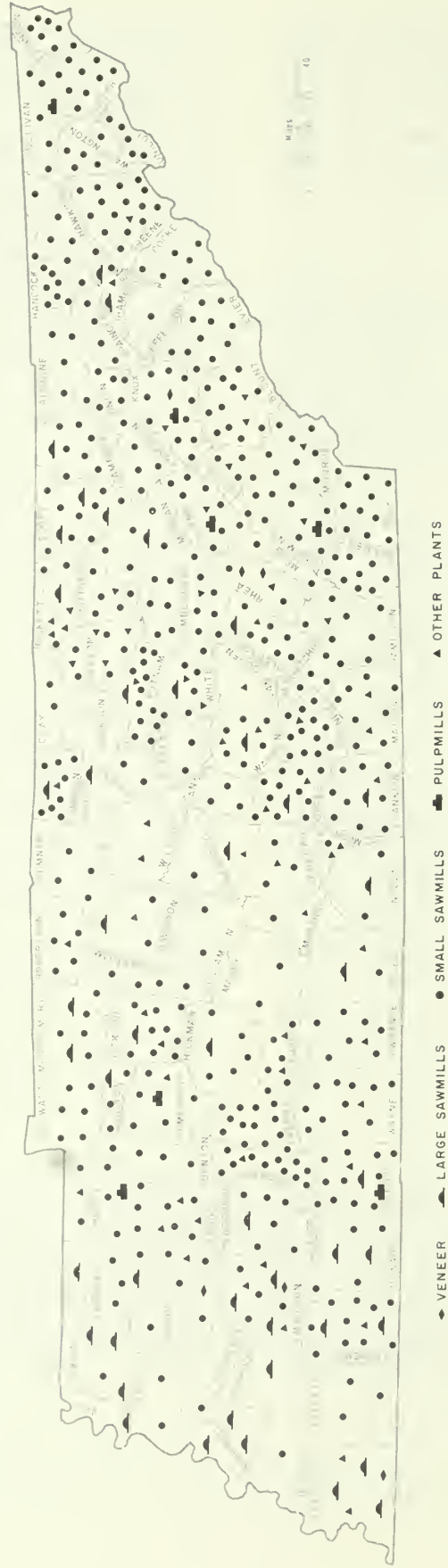


Figure 3. — Primary wood-using plants in Tennessee, 1970.

Table 1. - Volume of industrial roundwood, 1970

Product	Volume in standard units				Roundwood volume		
	Standard units	All species	Softwoods	Hardwoods	All species	Softwoods	Hardwoods
					----- <i>M cu. ft.</i> -----		
Saw logs	M bd. ft. ¹	534,041	69,218	464,823	88,872	11,386	77,486
Veneer logs	M bd. ft.	7,011	70	6,941	1,177	12	1,165
Pulpwood	Std. cords	436,941	190,105	246,836	35,145	15,398	19,747
Cooperage	M bd. ft.	10,885	112	10,773	1,569	18	1,551
Piling	M linear ft.	6	6	...	4	4	...
Poles	M pieces	71	71	...	317	317	...
Posts	M pieces	764	762	2	503	502	1
Misc. products ²	M cu. ft.	9,661	267	9,394	9,661	267	9,394
Total		...	...	...	137,248	27,904	109,344

¹International ¼-inch rule.²Includes mine timber, handlestock, furniture, miscellaneous dimension, hewn crosssties, chemical wood, excelsior, and shuttleblocks.

Table 2. - Industrial roundwood, by species, 1970

Species group	Saw logs	Veneer logs	Pulpwood	Cooperage	Miscellaneous products ¹
	----- <i>M bd. ft.</i> ² -----		<i>Std. cords</i>	<i>M bd. ft.</i>	<i>M cu. ft.</i>
Softwood:					
Pines	46,610	...	190,105	112	841
Cypress	4,965	70	...	...	...
Other softwoods	17,643	...	...	...	249
Total	69,218	70	190,105	112	1,090
Hardwood:					
Blackgum	7,447	25	³ 17,939	...	551
Sweetgum	18,733	1,896	...	...	393
Yellow-poplar	48,860	2,472	...	23	2,800
Red oaks	169,796	110	⁴ 168,742	280	628
White oaks	105,937	211	...	10,404	366
Other hardwoods	114,050	2,227	60,155	66	4,657
Total	464,823	6,941	246,836	10,773	9,395
All Species	534,041	7,011	436,941	10,885	10,485

¹Includes posts, poles, piling, mine timbers, and miscellaneous industrial products.²International ¼-inch rule.³Black and tupelo combined with sweetgum.⁴Red and white oaks combined.

Table 3. - Residues produced by primary wood-using plants, 1970

Type of industry ¹	All species			Softwoods			Hardwoods		
	Total	Fine ²	Coarse ³	Total	Fine ²	Coarse ³	Total	Fine ²	Coarse ³
	----- <i>M cubic feet</i> -----								
Lumber	43,223	19,917	23,306	5,093	2,106	2,987	38,130	17,811	20,319
Veneer	704	27	677	5	...	5	699	27	672
Cooperage	932	419	513	9	4	5	923	415	508
Miscellaneous products	2,257	1,373	884	57	53	4	2,200	1,320	880
All products	47,116	21,736	25,380	5,164	2,163	3,001	41,952	19,573	22,379

¹Excludes woodpulp industry.²Fine residues include sawdust, screenings, and other material generally too small for chipping.³Coarse residues include slabs, edgings, trimmings, and other material generally suitable for chipping.

Table 4. — *Volume of primary plant byproducts, 1970*

Source industry ¹	Byproduct	All species	Softwoods	Hardwoods
----- <i>M cubic feet</i> -----				
Lumber	Fuel ²	6,976	734	6,242
	Fiber ³	9,772	980	8,792
	Other ⁴	4,779	423	4,356
	Total	21,527	2,137	19,390
Veneer	Fuel	184	...	184
	Fiber	389	...	389
	Other	...	...	...
	Total	573	...	573
Cooperage	Fuel	173	5	168
	Fiber	151	...	151
	Other	346	...	346
	Total	670	5	665
Miscellaneous industries	Fuel	620	...	620
	Fiber	132	...	132
	Other	309	...	309
	Total	1,061	...	1,061
All industries	Fuel	7,953	739	7,214
	Fiber	10,444	980	9,464
	Other	5,434	423	5,011
	Total	23,831	2,142	21,689

¹Excludes woodpulp industry.

²Includes all residues used as fuel by industrial plants and domestic fuel either sold or given away.

³Includes all residues used in manufacture of fiber products, such as pulp or hardboard.

⁴Includes residues used as livestock bedding, mulch, floor sweepings, and specialty items.

Table 5. — *Movement of industrial roundwood, by product, 1970*

Product	Unit	Out of State receipts	Logged and remained in State	Logged and shipped out of State	Total receipts	Total production
----- <i>Standard units</i> -----						
Saw logs	M bd. ft. ¹	47,635	508,285	25,756	555,920	534,041
Veneer	M bd. ft. ¹	4,516	4,548	2,463	9,064	7,011
Pulpwood	Std. cords	505,448	397,341	39,600	902,789	436,941
Cooperage	M bd. ft. ¹	1,447	9,985	900	11,432	10,885
Miscellaneous ²	M cu. ft.	1,250	9,928	557	11,178	10,485

¹International ¼-inch rule.

²Includes piling, poles, posts, and miscellaneous industrial products.

Table 6. — Saw-log production by county, 1970

County	All species	Softwood	Hardwood	County	All species	Softwood	Hardwood
----- M board feet ¹ -----				----- M board feet ¹ -----			
Anderson	10,849	220	10,629	Lawrence	8,012	...	8,012
Bedford	1,877	486	1,391	Lewis	4,666	326	4,340
Benton	6,162	20	6,142	Lincoln	5,514	733	4,781
Bledsoe	4,934	823	4,111	Loudon	422	197	225
Blount	2,019	1,002	1,017	McMinn	2,841	1,249	1,592
Bradley	2,895	1,668	1,227	McNairy	16,627	629	15,998
Campbell	5,777	842	4,935	Macon	6,980	29	6,951
Cannon	3,706	278	3,428	Madison	8,325	602	7,723
Carroll	10,433	144	10,289	Marion	5,924	1,460	4,464
Carter	2,657	1,859	798	Marshall	1,440	416	1,024
Cheatham	5,382	42	5,340	Maury	3,875	253	3,622
Chester	3,871	114	3,757	Meigs	1,446	714	732
Claiborne	7,337	849	6,488	Monroe	13,712	10,356	3,356
Clay	4,155	4	4,151	Montgomery	7,507	42	7,465
Cocke	4,402	2,297	2,105	Moore	2,949	629	2,320
Coffee	10,539	288	10,251	Morgan	5,059	1,530	3,529
Crockett	1,699	...	1,699	Obion	11,191	656	10,535
Cumberland	3,509	571	2,938	Overton	5,646	102	5,544
Davidson	1,740	228	1,512	Perry	9,899	1	9,898
Decatur	9,022	174	8,848	Pickett	2,177	...	2,177
De Kalb	4,659	423	4,236	Polk	14,409	11,002	3,407
Dickson	7,957	196	7,761	Putnam	7,975	...	7,975
Dyer	9,138	609	8,529	Rhea	344	239	105
Fayette	5,227	...	5,227	Roane	2,063	868	1,195
Fentress	8,833	2,027	6,806	Robertson	5,723	...	5,723
Franklin	6,878	238	6,640	Rutherford	1,228	425	803
Gibson	2,580	165	2,415	Scott	17,037	981	16,056
Giles	4,933	642	4,291	Sequatchie	2,548	248	2,300
Granger	2,176	299	1,877	Sevier	1,039	543	496
Greene	3,420	500	2,920	Shelby	2,422	26	2,396
Grundy	7,883	1,344	6,539	Smith	3,247	375	2,872
Hamblen	2,945	230	2,715	Stewart	7,127	...	7,127
Hamilton	3,906	2,210	1,696	Sullivan	1,404	92	1,312
Hancock	1,766	100	1,666	Sumner	2,732	204	2,528
Hardeman	13,276	641	12,635	Tipton	4,319	191	4,128
Hardin	13,314	708	12,606	Trousdale	162	36	126
Hawkins	3,289	337	2,952	Unicoi	2,358	1,768	590
Haywood	9,695	224	9,471	Union	2,930	620	2,310
Henderson	8,813	35	8,778	Van Buren	4,670	600	4,070
Henry	7,198	151	7,047	Warren	5,130	380	4,750
Hickman	8,660	204	8,456	Washington	2,277	168	2,109
Houston	4,896	...	4,896	Wayne	10,301	1,183	9,118
Humphreys	6,169	...	6,169	Weakley	10,468	358	10,110
Jackson	3,435	...	3,435	White	6,881	136	6,745
Jefferson	1,317	203	1,114	Williamson	2,848	218	2,630
Johnson	5,397	2,519	2,878	Wilson	1,408	326	1,082
Knox	1,391	468	923	Total	534,041	69,218	464,823
Lake	3,465	679	2,786				
Lauderdale	21,198	1,246	19,952				

¹International ¼-inch rule.

Table 7. — Saw-log movement, 1970

County ¹	Logged and remained in county	Outgoing shipments	Incoming shipments	Total log receipts	County ¹	Logged and remained in county	Outgoing shipments	Incoming shipments	Total log receipts
----- M board feet ² -----					----- M board feet ² -----				
Anderson	163	10,686	2,888	3,051	Lawrence	4,293	3,719	678	4,971
Bedford	743	1,134	370	1,113	Lewis	2,977	1,689	1,718	4,695
Benton	2,349	3,813	2,046	4,395	Lincoln	3,023	2,491	5,682	8,705
Bledsoe	3,643	1,291	983	4,626	Loudon	310	112	1,048	1,358
Blount	514	1,505	157	671	McMinn	2,117	724	...	2,117
Bradley	2,380	515	1,781	4,161	McNairy	10,177	6,450	3,477	13,654
Campbell	5,236	541	6,245	11,481	Macon	5,074	1,906	11,238	16,312
Cannon	1,661	2,045	2,641	4,302	Madison	5,626	2,699	11,034	16,660
Carroll	3,365	7,068	3,404	6,769	Marion	4,664	1,260	858	5,522
Carter	1,441	1,216	912	2,353	Monroe	10,260	3,452	1,659	11,919
Cheatham	1,522	3,860	389	1,911	Montgomery	5,450	2,057	9,714	15,164
Claiborne	1,260	6,077	496	1,756	Morgan	1,465	3,594	10,831	12,296
Cocke	3,241	1,161	105	3,346	Obion	7,550	3,641	9,870	17,420
Coffee	7,077	3,462	2,807	9,884	Overton	1,978	3,668	316	2,294
Cumberland	2,745	764	413	3,158	Perry	9,417	482	4,862	14,279
Davidson	1,190	550	3,715	4,905	Polk	10,399	4,010	1,714	12,113
Decatur	6,996	2,026	3,226	10,222	Putnam	5,841	2,134	7,024	12,865
Dickson	7,098	859	2,572	9,670	Roane	978	1,085	3,545	4,523
Fayette	1,886	3,341	1,728	3,614	Robertson	2,111	3,612	3,231	5,342
Fentress	6,490	2,343	1,227	7,717	Scott	9,935	7,102	7,717	17,652
Franklin	5,427	1,451	3,379	8,806	Sequatchie	2,232	316	548	2,780
Gibson	100	2,480	6	106	Sevier	793	246	587	1,380
Grainger	630	1,546	...	630	Shelby	2,080	342	27,363	29,443
Greene	1,626	1,794	409	2,035	Smith	1,880	1,367	3,032	4,912
Grundy	4,826	3,057	1,759	6,585	Stewart	2,733	4,394	603	3,336
Hamblen	2,945	...	5,357	8,302	Sullivan	1,000	404	1,233	2,233
Hamilton	3,239	667	272	3,511	Sumner	1,659	1,073	1,608	3,267
Hancock	483	1,283	77	560	Unicoi	1,765	593	520	2,285
Hardeman	9,728	3,548	4,242	13,970	Union	1,208	1,722	...	1,208
Hardin	10,381	2,933	4,848	15,229	Warren	3,021	2,109	8,083	11,104
Hawkins	1,891	1,398	534	2,425	Washington	1,837	440	1,197	3,034
Henderson	5,122	3,691	7,449	12,571	Wayne	8,013	2,288	3,053	11,066
Henry	4,580	2,618	4,148	8,728	Weakley	5,560	4,908	5,113	10,673
Hickman	6,116	2,544	1,553	7,669	White	3,571	3,310	4,953	8,524
Houston	3,751	1,145	3,135	6,886	Williamson	2,046	802	854	2,900
Humphreys	3,135	3,034	754	3,889	All other counties	17,110	53,275	20,137	37,247
Johnson	5,397	...	126	5,523	Total	298,455	235,586	257,465	555,920
Knox	563	828	309	872					
Lauderdale	7,362	13,836	5,903	13,265					

¹Counties with less than three plants are omitted.²International ¼-inch rule.

Table 8. — Veneer-log production, by county, 1970

County ¹	All species	County ¹	All species	County ¹	All species
	--M bd. ft. ² --		--M bd. ft. ² --		--M bd. ft. ² --
Benton	45	Hardeman	326	Perry	45
Bledsoe	8	Hawkins	61	Polk	240
Blount	119	Haywood	65	Rhea	249
Carroll	46	Henderson	45	Robertson	304
Carter	102	Humphreys	43	Scott	9
Chester	45	Jefferson	51	Shelby	43
Cocke	51	Johnson	102	Sumner	4
Crockett	65	Knox	204	Tipton	46
Cumberland	38	Lake	460	Unicoi	102
Davidson	23	Loudon	6	Warren	8
Decatur	45	McMinn	8	Washington	107
Dyer	929	Madison	326	Wayne	42
Fayette	88	Meigs	38	Weakley	20
Gibson	1,234	Monroe	120	Total	7,011
Grainger	51	Montgomery	9		
Greene	153	Obion	364		
Hamblen	514	Overton	8		

¹Counties with negligible output are omitted.²International ¼-inch rule.

Table 9. — Cooperage production, by county, 1970

County ¹	All species	County ¹	All species	County ¹	All species
	--M bd. ft. ² --		--M bd. ft. ² --		--M bd. ft. ² --
Anderson	39	Hardin	787	Pickett	1,417
Bedford	205	Henry	157	Polk	32
Blount	107	Humphreys	123	Roane	42
Bradley	79	Jackson	8	Robertson	157
Clay	244	Jefferson	79	Rutherford	205
Cocke	247	Knox	323	Scott	425
Coffee	79	Lawrence	787	Sevier	79
Decatur	787	Lincoln	205	Shelby	3
Dickson	859	McMinn	157	Union	39
Fentress	244	Meigs	88	Warren	283
Franklin	1,180	Monroe	252	Weakley	110
Greene	392	Montgomery	123	Williamson	123
Hamblen	39	Obion	94	Total	10,885
Hamilton	42	Overton	244		

¹Counties with negligible output are omitted.²International ¼-inch rule.

Table 10. - Output of miscellaneous products,¹ by county, 1970

County ²	All species	Softwoods	Hardwoods	County ²	All species	Softwoods	Hardwoods
----- M cubic feet -----				----- M cubic feet -----			
Anderson	29	...	29	Loudon	28	...	28
Bedford	36	...	36	McMinn	117	86	31
Benton	4	...	4	McNairy	115	...	115
Bledsoe	109	19	90	Macon	127	...	127
Bradley	4	...	4	Madison	62	32	30
Campbell	27	...	27	Marion	118	1	117
Cannon	3	...	3	Marshall	390	243	147
Carroll	434	299	135	Maury	173	...	173
Cheatham	1	...	1	Meigs	86	86	...
Chester	26	...	26	Monroe	135	57	78
Claiborne	25	...	25	Moore	60	...	60
Clay	23	...	23	Morgan	37	...	37
Coffee	22	1	21	Overton	335	...	335
Cumberland	287	...	287	Perry	23	...	23
Davidson	34	...	34	Pickett	111	...	111
Decatur	51	...	51	Polk	5	...	5
De Kalb	12	...	12	Putman	60	...	60
Dickson	16	...	16	Rhea	58	58	...
Fayette	75	...	75	Roane	16	...	16
Fentress	301	...	301	Robertson	40	...	40
Franklin	76	4	72	Rutherford	114	...	114
Giles	151	75	76	Scott	157	...	157
Grainger	1,455	...	1,455	Sequatchie	40	...	40
Grundy	284	...	284	Shelby	75	...	75
Hamblen	1,455	...	1,455	Smith	20	...	20
Hardeman	87	...	87	Sumner	130	...	130
Hardin	89	...	89	Tipton	76	...	76
Haywood	6	...	6	Trousdale	27	...	27
Henderson	145	74	71	Van Buren	17	...	17
Henry	70	50	20	Warren	260	...	260
Hickman	39	...	39	Wayne	53	...	53
Humphreys	18	5	13	Weakley	14	...	14
Jackson	16	...	16	White	94	...	94
Jefferson	1,455	...	1,455	Williamson	98	...	98
Lauderdale	181	...	181	Wilson	94	...	94
Lawrence	35	...	35	Total	10,485	1,090	9,395
Lewis	20	...	20				
Lincoln	19	...	19				

¹Includes piling, poles, commercial posts, and miscellaneous industrial products.

²Counties with negligible output are omitted.

Table 11. — Industrial roundwood production, by county, 1970

County	All species	Softwood	Hardwood	County	All species	Softwood	Hardwood
----- M cubic feet -----				----- M cubic feet -----			
Anderson	2,325	229	2,096	Lauderdale	3,712	205	3,507
Bedford	378	80	298	Lawrence	1,514	27	1,487
Benton	1,529	38	1,491	Lewis	1,251	54	1,197
Bledsoe	1,709	711	998	Lincoln	965	120	845
Blount	1,338	878	460	Loudon	650	187	463
Bradley	1,843	1,463	380	McMinn	2,612	1,975	637
Campbell	1,633	358	1,275	McNairy	3,607	708	2,899
Cannon	620	46	574	Macon	1,290	5	1,285
Carroll	2,428	341	2,087	Madison	1,558	163	1,395
Carter	743	315	428	Marion	1,102	241	861
Cheatham	899	7	892	Marshall	629	311	318
Chester	814	103	711	Maury	819	42	777
Claiborne	1,266	140	1,126	Meigs	1,364	726	638
Clay	751	1	750	Monroe	4,312	2,921	1,391
Cocke	1,459	800	659	Montgomery	1,271	7	1,264
Coffee	1,997	256	1,741	Moore	550	103	447
Crockett	294	...	294	Morgan	2,496	724	1,772
Cumberland	2,524	602	1,922	Obion	1,983	109	1,874
Davidson	327	38	289	Overton	1,313	17	1,296
Decatur	1,745	98	1,647	Perry	2,137	2	2,135
De Kalb	788	70	718	Pickett	678	...	678
Dickson	1,686	32	1,654	Polk	3,277	2,381	896
Dyer	1,677	101	1,576	Putnam	2,576	426	2,150
Fayette	976	14	962	Rhea	1,818	712	1,106
Fentress	2,268	654	1,614	Roane	1,444	862	582
Franklin	1,392	43	1,349	Robertson	1,068	...	1,068
Gibson	650	38	612	Rutherford	347	70	277
Giles	976	184	792	Scott	4,292	520	3,772
Grainger	1,855	49	1,806	Sequatchie	712	150	562
Greene	867	138	729	Sevier	294	191	103
Grundy	1,807	433	1,374	Shelby	487	4	483
Hamblen	2,048	46	2,002	Smith	561	62	499
Hamilton	1,658	942	716	Stewart	1,191	...	1,191
Hancock	348	16	332	Sullivan	1,025	15	1,010
Hardeman	3,131	832	2,299	Sumner	586	34	552
Hardin	4,206	879	3,327	Tipton	819	32	787
Hawkins	839	55	784	Trousdale	54	6	48
Haywood	1,672	76	1,596	Unicoi	982	300	682
Henderson	1,754	210	1,544	Union	723	199	524
Henry	2,168	101	2,067	Van Buren	795	99	696
Hickman	2,394	37	2,357	Warren	1,274	173	1,101
Houston	863	...	863	Washington	599	46	553
Humphreys	2,824	5	2,819	Wayne	2,018	403	1,615
Jackson	590	...	590	Weakley	1,964	74	1,890
Jefferson	1,707	39	1,668	White	1,240	22	1,218
Johnson	1,216	414	802	Williamson	590	36	554
Knox	735	362	373	Wilson	328	54	274
Lake	654	112	542	Total	137,248	27,904	109,344

Table 12. — *Plant byproducts, by county, 1970*

County ¹	All species		Softwoods		Hardwoods	
	Fine	Coarse	Fine	Coarse	Fine	Coarse
-----M cubic feet-----						
Anderson	4	136	2	41	2	95
Bedford	76	86	19	18	57	68
Benton	2	141	1	1	1	140
Bledsoe	...	17	...	...	...	17
Blount	33	31	8	5	25	26
Bradley	76	80	58	58	18	22
Campbell	3	331	1	3	2	328
Cannon	109	139	22	31	87	108
Carroll	...	163	...	...	...	163
Carter	...	84	...	49	...	35
Cheatham	66	82	...	...	66	82
Claiborne	...	43	...	3	...	40
Cocke	61	141	29	87	32	54
Coffee	208	446	...	5	208	441
Cumberland	148	158	8	12	140	146
Davidson	58	193	...	...	58	193
Decatur	9	184	...	...	9	184
Dickson	207	394	8	12	199	382
Fentress	132	149	82	77	50	72
Franklin	192	280	...	...	192	280
Gibson	9	208	...	2	9	206
Grainger	11	16	2	4	9	12
Greene	1	91	1	31	...	60
Grundy	195	160	19	12	176	148
Hamblen	1	317	...	31	1	286
Hamilton	33	35	6	12	27	23
Hancock	...	9	...	1	...	8
Hardeman	...	263	...	4	...	259
Hardin	9	189	...	3	9	186
Hawkins	16	61	2	6	14	55
Henderson	...	446	...	...	...	446
Henry	218	384	...	4	218	380
Hickman	194	244	...	...	194	244
Houston	34	197	...	...	34	197
Humphreys	...	167	...	...	...	167
Johnson	...	49	...	21	...	28
Knox	56	212	8	7	48	205
Lauderdale	...	487	...	15	...	472
Lawrence	...	11	...	...	...	11
Lewis	130	218	...	...	130	218
Lincoln	305	319	61	89	244	230
Loudon	16	20	6	8	10	12
McMinn	48	99	5	5	43	94
McNairy	...	346	...	...	...	346
Macon	12	786	...	...	12	786
Madison	202	734	6	9	196	725
Marion	152	34	2	...	150	34
Monroe	6	291	6	229	...	62
Montgomery	420	565	...	...	420	565
Morgan	386	389	14	10	372	379

¹Omitted counties have either negligible volume or less than three plants.

Table 12. — *Plant byproducts, by county, 1970* (continued)

County ¹	All species		Softwoods		Hardwoods	
	Fine	Coarse	Fine	Coarse	Fine	Coarse
----- <i>M cubic feet</i> -----						
Obion	...	653	...	39	...	614
Overton	90	133	...	...	90	133
Perry	...	365	...	...	...	365
Polk	60	72	48	68	12	4
Putnam	...	434	...	...	...	434
Roane	9	200	2	101	7	99
Robertson	61	99	...	...	61	99
Scott	1	544	...	49	1	495
Sevier	34	49	15	22	19	27
Shelby	1,032	1,094	60	86	972	1,008
Smith	...	152	...	...	...	152
Stewart	66	95	...	...	66	95
Sullivan	...	93	...	8	...	85
Sumner	120	140	...	...	120	140
Unicoi	...	29	...	19	...	10
Union	1	5	1	3	...	2
Warren	37	289	...	...	37	289
Washington	...	89	...	...	...	89
Wayne	...	349	...	...	...	349
Weakley	13	427	2	21	11	406
White	88	335	...	...	88	335
Williamson	...	85	...	...	...	85
All other counties	561	1,464	100	217	461	1,247
Total	6,011	17,820	604	1,538	5,407	16,282

Table 13. — *Unused plant residues, by county, 1970*

County ¹	All species		Softwoods		Hardwoods	
	Fine	Coarse	Fine	Coarse	Fine	Coarse
----- <i>M cubic feet</i> -----						
Anderson	103	...	28	...	75	...
Bedford	...	8	...	8	...	...
Benton	157	57	...	...	157	57
Bledsoe	197	189	24	30	173	159
Blount	6	19	2	9	4	10
Bradley	59	106	39	80	20	26
Campbell	415	137	27	37	388	100
Cannon	43	54	7	9	36	45
Carroll	324	165	45	...	279	165
Carter	79	20	41	8	38	12
Cheatham	3	4	...	...	3	4
Claiborne	63	36	4	3	59	33
Cocke	50	9	37	7	13	2
Coffee	153	...	4	...	149	...
Cumberland	29	26	2	1	27	25

¹Omitted counties have either negligible volume or less than three plants.

Table 13. - *Unused plant residues, by county, 1970 (continued)*

County ¹	All species		Softwoods		Hardwoods	
	Fine	Coarse	Fine	Coarse	Fine	Coarse
----- <i>M cubic feet</i> -----						
Davidson	185	47	1	2	184	45
Decatur	367	280	5	7	362	273
Dickson	202	79	...	...	202	79
Fayette	131	162	2	2	129	160
Fentress	185	201	10	52	175	149
Franklin	173	141	1	1	172	140
Gibson	4	11	3	6	1	5
Grainger	11	11	3	3	8	8
Greene	88	19	22	1	66	18
Grundy	70	155	21	43	49	112
Hamblen	300	...	21	...	279	...
Hamilton	91	126	59	79	32	47
Hancock	20	17	...	...	20	17
Hardeman	614	386	24	29	590	357
Hardin	569	470	29	38	540	432
Hawkins	71	47	5	4	66	43
Henderson	461	75	...	...	461	75
Henry	98	9	4	3	94	6
Hickman	85	102	...	...	85	102
Houston	219	87	...	...	219	87
Humphreys	142	8	...	...	142	8
Johnson	188	197	79	91	109	106
Knox	...	10	...	4	...	6
Lauderdale	487	18	11	...	476	18
Lawrence	188	218	...	...	188	218
Lewis	140	109	10	14	130	95
Lincoln	...	24	...	...	...	24
Loudon	70	66	10	14	60	52
McMinn	61	39	16	25	45	14
McNairy	501	218	...	...	501	218
Macon	708	...	...	...	708	...
Madison	426	111	18	23	408	88
Marion	153	290	54	80	99	210
Monroe	382	240	277	172	105	68
Montgomery	139	23	...	...	139	23
Morgan	61	92	22	42	39	50
Obion	636	11	27	...	609	11
Overton	50	8	3	4	47	4
Perry	518	278	...	...	518	278
Polk	336	467	232	329	104	138
Putnam	537	162	...	...	537	162
Roane	149	7	73	4	76	3
Robertson	133	141	...	...	133	141
Scott	645	171	36	3	609	168
Sequatchie	99	124	13	18	86	106
Sevier	14	14	4	4	10	10
Shelby	182	219	6	9	176	210
Smith	179	40	14	20	165	20
Stewart	55	56	...	...	55	56
Sullivan	80	8	6	1	74	7
Unicoi	75	72	54	57	21	15
Union	41	59	8	10	33	40
Warren	462	193	1	1	461	192
Washington	110	47	2	3	108	44
Wayne	469	191	33	47	436	144
Weakley	376	1	12	...	364	1
White	234	11	6	9	228	2
Williamson	105	46	...	...	105	46
All other counties	969	325	62	17	907	308
Total	15,725	7,560	1,559	1,463	14,166	6,097

Table 14. — *Large sawmills*¹

County	Firm	Plant	
		Location	Address ²
Bledsoe	Morgan Pallet Co.	Pikeville	Box 256
Campbell	Genett Lumber Co.	Jacksboro	Rt. 1, Pioneer
Coffee	Campbell Lumber Co.	Tullahoma	Box 607
Davidson	Farris Hardwood Lumber Co.	Nashville	Oldham Street
Dickson	Spann Bros. Lumber Co.	White Bluff	Rt. 1
Fentress	Taubert Wood Industries, Inc.	Jamestown	Box 14
Franklin	Ray Johnson and Co.	Huntland	Box 220
Giles	Whitworth Lumber Co.	Pulaski	R.R. 7
Hamblen	Hatfields, Inc. Stewart Lumber Co., Inc.	Morristown Morristown	1432 Davis St. New Line Rd.
Hardeman	W.J. Cornelius Sawmill H.B. Vickers	Middleton Middleton	Rt. 1, Box 112
Hardin	Hassell Lumber Co.	Savannah	Box 10
Haywood	Powell Tie and Timber Co.	Brownsville	Box 25
Henderson	Bailey Sawmill, Inc.	Lexington	Box 296
Hickman	Joe Freeman Sawmill	Centerville	Rt. 3
Houston	Moss American, Inc.	McKennon	Box 25861, Oklahoma City, Okla.
Lake	Ridgely Sawmill Co.	Ridgely	Box 250
Lauderdale	Gus Hangett Lumber Co. Huey Bros. Lumber Co. Reelfoot Lumber Co.	Henning Halls Henning	Box 36 Box 556, Obion
Lincoln	Saunders Lumber Co., Inc.	Shelbyville	Box 403
McNairy	Kenneth Locke Sawmill Mitchell and McClain Sawmill	Selmer Selmer	Box 35 Box 33
Macon	Macon Lumber Co.	Red Boiling Spring	Rt. 1
Madison	Haynes Sawmill Jackson Sawmill Co. Miller Lumber Co., Inc.	Jackson Jackson Jackson	Rt. 2 Box 1903 Box 387
Montgomery	Oliver Sawmill Whitson's Timber Products	Clarksville Clarksville	Rt. 1 Kraft St.
Morgan	Georgia Pacific	Oliver Springs	Rt. 1
Obion	Huey Bros. Lumber Co. Reelfoot Lumber Co. Storey Lumber Co.	Obion Sambore Troy	Box 556 Hornbeak
Putnam	Putnam County Lumber Corp.	Monterey	Box 188
Rutherford	Lane Co.	Symrna	
Scott	Elgin Wood Products Corp. Oncida Wood Industries, Inc. Southern Wood Piedmont Co.	Elgin Oncida New River	Box 419 Box 5447, Spartanburg, S.C.
Shelby	Anderson Tully Shannon Bros. Woods Lumber Co.	Memphis Memphis Memphis	Box 1242 Box 6108, McKellar Station Box 8067
Smith	Tedrow Log and Lumber Co.	Gordonsville	Rt. 2
Warren	Burroughs-Ross-Colville	McMinnville	Depot St.
Weakley	Replogle Lumber Co. Watkins Sawmill and Lumber Co.	Martin Greenfield	Rt. 3, Milan Rt. 1
White	White County Lumber Co.	Sparta	Rt. 4

¹Output of 3 million board feet or more.²Office address specified when different from plant location.

Table 15. — *Small sawmills*¹

County	Firm	Plant	
		Location	Address ²
Anderson	Ed Black Sawmill	Clinton	Rt. 4
	Hileman Sawmill	Dutch Valley	Rt. 5, Clinton
	Joe Long Sawmill	Dutch Valley	Rt. 5, Clinton
	Longleaf Industries	Marlow	Box 526, Oakridge
	Walker Lumber Co.	Clinton	Rt. 4
Bedford	Bedford Lumber Co.	Shelbyville	302 Marshall St.
	Clarence Hoover Sawmill	Shelbyville	Rt. 1
	Houston Neeley Lumber Co.	Shelbyville	130 E. Cedar St.
Benton	Dobson Sawmill	Camden	
	Newt Frazee Sawmill	Camden	Rt. 4
	Howard's Sawmill	Camden	Rt. 4, Savannah
	J. A. McKelvy	Camden	
Bledsoe	Leonard Bickford	Pikeville	Rt. 3
	Harold Boyd	Pikeville	Box 19
	David Hankins	Pikeville	Rt. 4
	George Henderson	Pikeville	Box 195
	G. B. Myers	Pikeville	Rt. 2
	Robert Pendergrass	Pikeville	Rt. 1
	Ben Sapp	Pikeville	Rt. 3
Blount	N. C. Dillingham Sawmill	Maryville	Rt. 8
	Downey and Boring Sawmill	Six-Mile	Rt. 6, Maryville
	Harvey Garland Sawmill	Tallassee	
	Ernest Herring Sawmill	Happy Valley	Tallassee
	John L. Jeffries Sawmill	Louisville	Rt. 3
	Howard Lambert Sawmill	Friendsville	Rt. 2, Greenback
	Earl McCampbell Sawmill	Townsend	Rt. 1
	Herman Ogle Sawmill	Walland	Rt. 1
	Ralph Perkins Sawmill	Friendsville	Rt. 2
	Earl Russell Sawmill	Walland	Box 268A
Charles Viars Sawmill	Paint Rick	Rt. 1, Kingston	
Bradley	Jim Carden Sawmill	Cleveland	1520½ Big Springs Ave.
	J. R. Evans	Cleveland	Rt. 7
	Waymond Hawkins	Old Fort	Rt. 1
	Lake Lawson	Cleveland	Rt. 5
	Murray Lumber Co.	Cleveland	Box 621
	H. R. Murray and Son	Georgetown	Rt. 1
	Tom Shannon	Old Fort	Rt. 1
	Orville Withrow	Cleveland	Rt. 3
	Calvin L. Withrow Sawmill	Cleveland	Box 398
Campbell	Baird Lumber Co., Inc.	Jellico	Box 239
	Chapman Bros.	LaFollette	Rt. 4
	William E. Creekmore	Newcomb	Rt. 1, Box 12
	Bill Parrott	LaFollette	Box 344
	Estell Payne	Royal Blue	Rt. 3, Oneida
	Otis Richardson	Jacksboro	Rt. 2
	Tenn-Flake Co.	Morley	2525 Trade St., Morristown
Cannon	Powell and Bowman Lumber Co.	Woodbury	Rt. 2
	Eugene Reed Sawmill	Woodbury	Rt. 3
	Tilford Lumber Co.	Readyville	
Carroll	B. C. Milling Co.	Hollow Rock	
	Tommie Grogan Sawmill	Cedar Grove	Rt. 2
	J. D. Hall	Cedar Grove	Rt. 1
	Tommie Mann	Huntingdon	Rt. 4
	R. B. and R. Lumber Co.	Huntingdon	922 East Main
	Southern Star Lumber Co.	McKenzie	
Carter	Earl Banner	Roan Mt.	Rt. 3
	Carl Blevins	Roan Mt.	Rt. 2

¹Output of less than 3 million board feet.²Office address specified when different from plant location.

Table 15. — *Small sawmills*¹ (continued)

County	Firm	Plant	
		Location	Address ²
	William Carriway	Roan Mt.	Box 233
	Edd Hart	Burbank	Rt. 1, Box 89, Roan Mt.
	Wayne Holtsclaw	Roan Mt.	Box 22
	Thurman Jullian	Roan Mt.	Rt. 3
	Bill Kerley	Hampton Creek	Box 44, Roan Mt.
	J. G. McCloud	Valley Forge	Box 1906, Elizabethton
Cheatham	Rayburn Binkley Sawmill	Ashland City	Rt. 1
	Harold Bradley	Ashland City	126 Cumberland St.
	Thurmon Sesler	Sam's Creek	Rt. 1, Charlotte
	Marvin Simkins Sawmill	Ashland City	Rt. 5
Chester	I. M. Campbell Sawmill	Enville	
	E. Moore Sawmill	Montezuma	
Claiborne	John Hamblin	Clairfield	Rt. 1
	Robert M. Hatfield	Lone Mt.	
	James E. Massengill	Harrogate	Rt. 1
	Riddle Lumber Co.	Tazwell	Rt. 7
Clay	Prentiss Clark Lumber Co.	Bakertown	Rt. 4, Red Boiling Springs
	J. H. Overstreet and Son Lumber Co.	Celina	Box 368
Cocke	Bradshaw Sawmill	Delrio	
	Bryant and Pack Lumber Co.	Newport	1408 Cosby Rd.
	Lindsey Lumber Co.	Newport	Rt. 3
	Frank Pack Sawmill	Delrio	
	Kenneth Proffitt Sawmill	Delrio	Old Cave Church Rd., Newport
	Seay Sawmill	Bybee	Rt. 1
	Williams Sawmill	Newport	Rt. 5
Coffee	Alford Sawmill	Manchester	Rt. 5
	Crouch Lumber Co.	Tullahoma	Box 366
	Daniel's Sawmill	Hilsboro	Rt. 2
	A. W. Daniels Sawmill	Manchester	102 N. White St.
	Duncan Sawmill	Manchester	Rt. 5
	Glover Sawmill	Tullahoma	405 E. Grizzard St.
	Laford Sawmill	Manchester	Rt. 5
	Lusk Sawmill	Manchester	Rt. 1
	Phelps Sawmill	Manchester	Rt. 5
	Wayne Roberts Pallet Mill	Summitville	
	Vaugns Sawmill	Manchester	Rt. 2
Cumberland	Jimmy Baisley	Crossville	Rt. 1
	Semp D. Burgess	Crossville	Rt. 6
	Elmer Davis	Crossville	Rt. 1
	Albert Frye	Crossville	Rt. 7
	H. E. Gunnels	Crossville	Rt. 7
	Clarence W. Lockwood	Sparta	Rt. 7
	Nolen Lowe	Crossville	
	William McFarland, Jr.	Crossville	Willnell Blvd.
	Bill Neely	Crossville	Rt. 5
	C. C. Neely	Crossville	Rt. 6, Box 351
	Donald Rose	Crossville	Rt. 3
	Hubert Roy	Crossville	Rt. 6, Box 99
	James Wyatt	Crossville	
Davidson	Percy Taylor and Son	Linton	Rt. 2, White Bluff
	Tennessee Lumber Co.	Nashville	Box 60055
Decatur	Blasingim and Boroughs Sawmill	Decaturville	Rt. 3
	Gulledge Sawmill	Holladay	Rt. 2
	J. A. Inman Sawmill	Jeannette	Rt. 2, Holladay

Table 15. — *Small sawmills*¹ (continued)

County	Firm	Plant	
		Location	Address ²
	Martin and Montgomery Sawmill	Bath Springs	
	O. T. Miller Sawmill	Jeannette	Rt. 3, Parsons
	Odle and Conrad Sawmill	Cozette	Sugar Tree
	Pusser and Creasey Sawmill	Scotts-Hill	Rt. 2
	E. V. Price Sawmill	Jeanette	500 W. 2nd St., Parsons
	Riley Sawmill	Sugar Tree	118 Pevahouse Blvd., Parsons
	T. Strawn Sawmill	Bath Springs	Rt. 1
	P. Tubs Sawmill	Parsons	Rt. 3
	R. L. Volner and Son Sawmill	Parsons	Box 172
	De Kalb	Ralph Gartman Sawmill	Liberty	Rt. 3
Knott Lumber Co.		Smithville	Rt. 3
Dickson	Robert and Don Duke	Bellsburg	Rt. 1, Charlotte
	W. T. Duke Sawmill	Charlotte	Rt. 1
	J. F. Goodman and Son	White Bluff	Rt. 2
	W. H. Haley Sawmill	Dickson	Rt. 1
	Lester Hampton	Dickson	Rt. 3
	Hauhee Lumber Co.	Vanleer	
	McCaslin Pallet Plant	Dickson	506 Broad
	Bill Milam Sawmill	Vanleer	211 E. Park Circle
Stanfield and Stokes	Vanleer	Rt. 1	
Dyer	A.M. Cox Sawmill	Dyersburg	Rt. 1, Henderson
	Patterson Wood Products	Dyersburg	Box 445
Fayette	Acuff Sawmill	Moscow	
	Skelton Sawmill	Somerville	
	Perry Tuckers Sawmill	Somerville	Rt. 3
Fentress	Gernt Lumber Co.	Allardt	
	Kentucky-Tennessee Lumber Co.	Jamestown	
	Aruil Key	Pall Mall	Jamestown
	Justice Norris	Deer Lodge	Rt. 1
	B. D. Shapero	Jamestown	Box 236
	Oscar Smith	Jamestown	Rt. 1
Franklin	Boswell Sawmill	Winchester	Rt. 4
	Brewer Sawmill	Winchester	Rt. 2
	Haleys Sawmill	Tullahoma	Rt. 1
	Hastings Sawmill	Sewanee	Rt. 1
	Evans Logging Co.	Belvidere	Rt. 3, Winchester
	Magbys Mill	Sewanee	Rt. 1
	Sargeants Sawmill	Sewanee	Rt. 4, Tullahoma
	University of the South Sawmill	Sewanee	Dept. of Forestry
	Walls Sawmill Co.	Gum Creek	Rt. 1, Dechard
Gibson	Billy Davison Sawmill	Dyer	Rt. 2
	Roy Davison Sawmill	Dyer	Rt. 2
	Massey Sawmill	Trenton	Rt. 1
Giles	Sharder's Sawmill	Rose Hill	R.R. 1, Wales
Grainger	Millon Clonce	Rutledge	Rt. 1, Bean Station
	L. S. Fennell and Son	Rutledge	Rt. 1
	H. J. Nance	Rutledge	Box 35
	Coy Nicely	Blaine	
Greene	J. C. Arrington	Houston Valley	Rt. 4, Greenville
	Landen S. Ayres	Warrenburg	Rt. 1
	Bailey Mfg. Co.	S. Central Comm.	Rt. 4, Chuckey
	Cook Lumber Corp.	Cove Creek	Rt. 7, Greenville
	Crumb Lumber Corp.	Greenville	227 Benaud Ave.
	Charles Cutshall	Greenville	Rt. 7
	Billy Hughes	Pine Grove	
	J. D. Jenkins	Houston Valley	Rt. 6, Marshall, N.C.

Table 15. — *Small sawmills*¹ (continued)

County	Firm	Plant	
		Location	Address ²
Grundy	Guy Keifer	Sinking Springs	Rt. 1, Midway
	Jim Riley	Mohawk	Rt. 2
	William Starnes	Baileyton	Rt. 11, Greenville
	Frank Taylor	Warrensburg	Midway
	Horace Tipton	Pleasantville	Rt. 1, Chuckey
	Aubrey Tolliver	West Pine	Rt. 12, Greenville
	Herman Ward and Sons	Bulls Gap	Rt. 3
	Brewer Sawmill	Palmer	Box 373, Tracy City
	Bryant's Sawmill	Tracy City	
	Campbell Bros. Sawmill	Altamont	
	Groves Sawmill	Morrison	Rt. 2
	Hampton Bros.	Altamont	Star Route
	Hobbs and Nunley Bros.	Altamont	Star Route
	Layne Bros. Sawmill	Monteagle	Box 452, Tracy City
	Lusk and Rhymers and Barrett	Altamont	Star Route
	Meeks Sawmill	Pelham	
	Myers Sawmill	Altamont	Star Route
Clint Pickett Sawmill	Palmer	Laager	
Whitlow Bros. Sawmill	Palmer	Star Route, Dunlap	
Hamblen	Fred M. Hull	Russellville	Rt. 1
Hamilton	Charlie Caldwell	Daisy	Rt. 1
	W. D. Cline and Son	Sale Creek	Rt. 6, Dalton
	Reece Hodge Sawmill	Sale Creek	Rt. 1
	Hooker Sawmill	Sale Creek	
	Charles James Lumber Co.	Bakewell	
	Lester Lewis	Daisy	Lewis Rd.
Hancock	Roark Sawmill	Birchwood	Rt. 1
	Ray and Don Baker	Kyles Ford	Rt. 1
	Mack H. Harvey	Evanston	Rt. 5, Sneedville
	Don Kite	Big Springs	Fall Branch
	Earl Lawson and Jack Winkler	Stoney Gap	Rt. 2, Sneedville
	Hugh Kyle Livesay	Kyles Ford	Rt. 1
	Delmas McCoy	Sneedville	Rt. 2
	Sam Stewart	Sneedville	Rt. 2, Blackwater
	Lewis Turnmire	Thorn Hill	Rt. 1
	Hardeman	E. J. Bass Sawmill	Bolivar	211 Tilsdale
W. G. Carter		Grand Junction	
Max Frost Sawmill		Toone	
Galloway Sawmill		Saulsburg	Rt. 1
Dorris Gene Howell Sawmill		Bolivar	Rt. 3
W. A. McKinnie Sawmill		Bolivar	Rt. 3
Charles Mullen		Bolivar	Hwy. 18 N
Sidney Sims, Jr., Sawmill		Middleton	
W. D. Vandiver Sawmill		Bolivar	Walnut Grove Rd.
T. A. Whitehurst Lumber Co.		Hornsby	Box 86
Hardin	Baugus and Gilbert Sawmill	Cross Roads	Rt. 5, Savannah
	Bevis and Williams	Savannah	109 Herbert Dr.
	Casteel's Sawmill	Burnt Church	Rt. 3, Savannah
	J. F. Fields Sawmill	Saltillo	Box 41
	Hinton Lumber Co.	Savannah	1012 Pickwick
	A. Hosea and Whitlow	Olivehill	Rt. 3, Savannah
	Jerrold's Sawmill	Burnt Church	Rt. 5, Savannah
	J. Kirkman Sawmill	Crump	
	V. Lowe's Sawmill	Olive Hill	Rt. 1
	H. W. Neil's Sawmill	Burnt Church	Rt. 5, Savannah
River Heights Lumber Co.	Counce	Crump	

Table 15. — *Small sawmills*¹ (continued)

County	Firm	Plant	
		Location	Address ²
Hawkins	Carroll Lumber Co.	Mooreburg	Rt. 1
	A. L. Everhart	Persia	Rt. 7, Rogersville
	Blake Henard	Rogersville	Rt. 4
	Joe McDaniels	Mooreburg	Rt. 1
	Hugh S. Moles Lumber Co.	Rogersville	Box 151
	Byrd Quillen	Caney Valley	Box 264, Gate City
	P. G. Sizemore	Pressman's Home	Rt. 2, Edison
Henderson	Azbill's Sawmill, Inc.	Cedar Grove	Lexington
	Q. T. Bailey Sawmill	Reagon	Rt. 2
	R. C. Blackwell Sawmill	Cedar Grove	Rt. 2
	L. W. Dill Sawmill	Reagon	Box 115
	L. Roach Sawmill	Reagon	Rt. 1, Enville
Henry	R. T. Bennett Sawmill	Paris	Rt. 5
	Craig and Middleton Sawmill	Puryear	Rt. 3
	Como Mill and Lumber Co., Inc.	Como	
	Gooch Lumber Co.	Paris	Pearl St.
	James Lanus Sawmill	Como	Rt. 1, Paris
	Ross Lumber Co.	Paris	Box 329
	Woodrow Sanders	Paris	Rt. 6
	Elroy Wimberly Sawmill	Paris	Rt. 2
Hickman	Coble and Coble Sawmill	Centerville	164 Linden Rd.
	B. E. Johnson Sawmill	Brushy	Rt. 3, Centerville
	McCaleb Sawmill	Lyles	
	Bill Quillen Sawmill	Farmers Exchange	Rt. 3, Centerville
	Grover Simmons Sawmill	Centerville	Rt. 4
Houston	J. V. Averitt Co.	Eris	
	Slayden Choate	McEwen	Rt. 2
	Largent Tie and Lumber Co.	Erin	Box 289
Humphreys	Bell and Mallard	Waverly	Rt. 2
	Koppers Co., Inc.	Waverly	Box 58, Memphis
	E. L. Milam Sawmill	Miller Branch	Rt. 2, Dickson
	Wallace Bros. Sawmill	Bold Springs	
	John W. Young	Waverly	206 Hillview
Jefferson	H. B. Jarnagin	New Market	Main St., Dandridge
Johnson	H. D. Arnold	Butler	Rt. 3
	Argis N. Blevins	Shady Valley	Rt. 1
	Darrell Brinkley	Shady Valley	Rt. 1
	Clyde Cress	Mountain City	Rt. 1
	George Shoun	Butler	Rt. 3, Box 71
	A. J. Staloup	Mountain City	Rt. 3
	Paul Story	Shady Valley	
	Ransom Woodard	Mountain City	
Knox	Ben Abbott Sawmill	Concord	Rt. 1
	Tom Gheen Sawmill	Concord	Rt. 1
	Austin Hall Sawmill	Halls	Cunningham Rd.
	Horace Hurst Sawmill	Halls	Rt. 11, Knoxville
	Jackson Sawmill	Knoxville	Rt. 2, Strawberry Plains
	William Loy Sawmill	Gibbs	Rt. 3, Corryton
	Franklin Parker Sawmill	Corryton	Rt. 4
	Rogers Lumber and Supply Co.	Knoxville	929 Lee Ave.
	Rex Waters Sawmill	Knoxville	Rt. 2, Cosby
	Arthur Wright Lumber and Log Co.	Knoxville	Rt. 4, Clinton
Lauderdale	Joe H. Stowers Sawmill	Henning	Rt. 2
Lawrence	Beckman Lumber Co.	Lawrenceburg	Box 237
	L. Caperton's Sawmill	Iron City	Rt. 2

Table 15. — *Small sawmills*¹ (continued)

County	Firm	Plant	
		Location	Address ²
Lewis	Kilburn Sawmill	Lawrenceburg	R.R. 1
	A. Miller Sawmill	Ethridge	Rt. 2
	Willard Ray's Sawmill	Ovilla	376 Groh St., Lawrenceburg
	Wm. Tony Stults Sawmill	Iron City	R.R. 2
	Yodder Bros. Sawmill	Ethridge	Rt. 2
	Jim Keatts Sawmill	Hohenwald	Rt. 2
	David Lynch Sawmill	Kimmins	Rt. 4, Centerville
	Charles McClaren Sawmill	Kimmins	
	Raymond Tanner Sawmill	Hohenwald	Rt. 3
Lincoln	Willis Lumber Co.	Hohenwald	48 Hwy. North
	Ashley's Sawmill	Elora	
Loudon	Harold Frame Sawmill	Kelso	Rt. 1
	Curtis Owen Babb	Lenoir City	Rt. 1
	Curtis Sawmill	Loudon	Rt. 2
McMinn	Dutch Johnson	Lenoir City	Pikeville
	Millards Mill	Loudon	Rt. 4
	Bruce Coffee	Oak Grove	Rt. 3, Athens
	Henry Guffy	Riceville	Box 202
	Raymond Howell	Athens	Box 483
McNairy	Chester McKeehan	Athens	Rt. 3
	James Mitchell	Englewood	Rt. 1
	Homer Sneed	Clearwater	Rt. 3, Athens
	Millard Brown Sawmill	Leapwood	Rt. 3, Adamsville
Macon	Knight Sawmill	Selmer	Rt. 3
	E. D. Price Sawmill	Selmer	Rt. 1
	Bohannon Lumber Co.	Lafayette	Rt. 4
	J. B. Cassetty Lumber Co.	Red Boiling Springs	Box 272
	Charles Clark Lumber Co.	Red Boiling Springs	Rt. 4
	Genie Jones Lumber Co.	Red Boiling Springs	
	Red Boiling Springs Lumber Co.	Red Boiling Springs	
	Tenn Wood Products, Inc.	Red Boiling Springs	
Madison	Witcher Lumber Co.	Red Boiling Springs	
	Kenneth Witcher Lumber Co.	Red Boiling Springs	
	W. B. Cherry Sawmill	Henderson	511 White St.
	Mott Sawmill	Jackson	Rt. 3
	Harold Williams Mill	Jackson	Box 426
	J. H. Williams	Jackson	Rt. 3
Marion	Cardins Sawmill	South Pittsburg	Rt. 1, Jasper
	Ferrell's Sawmill	Jasper	Box 483
	Hauser's Sawmill	South Pittsburg	Rt. 1
	Killians Sawmill	Tracy City	Beersheba Springs
	Knot, Bark, and Cull Lumber Co.	Whitwell	Rt. 1
	Meek and Bell	Jasper	Box 151
	Moss-American Tie Co.	Sequatchie	Dickson
	Sharp and Pickett Lumber Co., Inc.	Powell's Cross Road	Whitwell
Marshall	J. O. Sharp and Sons	Berlin	Box 36, Lewisburg
Maury	Andy Carpenter Sawmill	Mt. Pleasant	Lawrenceburg Pike
	Pleasant Grove Timber Products	Culleoka	Box 402, Lewisburg
Meigs	Jennings Lumber Co.	Decatur	Rt. 2
	Charles Letner	Ten Mile	Rt. 1
Monroe	Ward Barnes Mill	Vonroe	
	Edward E. Bivens	Ballplay	Star Route, Tellico Plains
	Jess Brooks Lumber Co.	Tellico Plains	
	Everhardt and Gray Lumber Co.	Tellico Plains	

Table 15. — *Small sawmills*¹ (continued)

County	Firm	Plant	
		Location	Address ²
Montgomery	A. J. Hamby	Tellico Plains	Star Route, Box 42
	Onley Lynn	Citico Beach	Star Route, Tellico Plains
	Richie and Loney	Madisonville	Rt. 1
	Charles Roberts	Nioto	970 Patterson St., Madisonville
	Melvin Sheets	Hopewell	Rt. 4, Madisonville
	Glen Simpson	Vonroe	Rt. 3, Madisonville
	Tellico Lumber Co.	Tellico Plains	
	Henry Torbitt	Madisonville	Rt. 1
	Don West	Citico Cr.	Star Route, Tellico Plains
	Averitt Lumber Co., Inc.	Clarksville	Box 2217
Moore	Clyde Ferrell Sawmill	Cunningham	Rt. 1
	Jake McWhorter Sawmill	Cunningham	Rt. 1
	St. Bethlehem Lumber Co.	Clarksville	Box 167
Morgan	Bakers Sawmill	Bakertown	Rt. 2, Lynchburg
Morgan	Hershel Atkinson	Deer Lodge	Rt. 1
	Elmer Howard	Lancing	Rt. 1
	Pete Neskaug	Wartburg	Box 14
	R & W Lumber Co.	Oliver Springs	Rt. 1
Adam Susack	Lancing	Rt. 1	
Obion	West Tenn Pallet Co.	Obion	Box 301
Overton	Culbert Reed Lumber Co.	Carwford	
	Scott Sawmill	Monroe	
	Simcox and Copeland Lumber Co.	Livingston	118 7th St.
	Story Lumber Co.	Livingston	
Perry H. Windle, Jr.	Livingston	113 Calvin St.	
Perry	James Depriest Sawmill	Pine View	Rt. 2, Linden
	H. D. Dill Sawmill	Linden	Box 302
	Easley Sawmill	Lobelville	Box 453
	Edwards Lumber Co.	Bethel	Box 73, Linden
	Denton Graham Lumber Co., Inc.	Linden	Box 84
	Elmer Gregory's Sawmill	Linden	Rt. 4
	L. Hinson's Sawmill	Linden	Rt. 3
	Holt Bros.	Linden	Box 200
	Alfred Jones Sawmill	Linden	Rt. 5
	Koppers Co.	Linden	Rt. 4
	Marshall Bros. Sawmill	Pine View	Rt. 2, Linden
	D. Mercer Sawmill	Linden	Rt. 4
	Moss American, Inc.	Lobelville	Box 264
Pickett	Mullins Lumber Co.	Byrdstown	Rt. 1
	Sells Lumber Co.	Byrdstown	Rt. 1
Polk	C & W Lumber Co.	Benton	Box 212
	Cockburn Bros.	Conasauga	Rt. 5
	Benton Davis	Springtown	Star Route, Tellico Plains
	Rudolph Evans Lumber Co.	Benton	Rt. 1
	Wayford Frerich Mill	Ducktown	Star Route, Tellico Plains
	Masingale Lumber Co.	Springtown	Rt. 1, Englewood
	R. L. Prince and Sons	Copperhill	Rt. 1
	Glen Verner	Copperhill	Box 4, Turtle Town
	R. W. West	Springtown	Star Route, Tellico Plains
Clyde Williamson	Turtle Town	Box 91, Farner	
Putnam	Brown Dogwood Co.	Algood	
	E. L. Bruce Co., Inc.	Monterey	
	Dry Valley Lumber Co.	Cookeville	
	Emery Lumber Co.	Cookeville	Box 534
Farley Lumber Co.	Sparta	Rt. 2	

Table 15. — *Small sawmills*¹ (continued)

County	Firm	Plant	
		Location	Address ²
	Herren Lumber Co.	Baxter	Rt. 1
	Lee Lumber Co.	Algood	
	Roy Luke Lumber Co.	Baxter	Rt. 2
	Allon Martin Sawmill	Cookeville	Rt. 2, Baxter
	Willard Nash	Cookeville	Rt. 2, Baxter
	Robert Shubert	Cherry Valley Rd.	Rt. 5, Cookeville
	Thompson Mfg. Co.	Algood	
	H. T. Whitson Lumber Co.	Cookeville	
Rhea	Pelfrey Sawmill	Evensville	Rt. 2
	Irving Simpson	Spring City	Rt. 1, Box 29
Roane	Bowman Sawmill	Midtown	Rt. 1, Ten Mile
	Oscar Gates Sawmill	Dogwood	Rt. 2, Box 220, Kingston
	Bernie East Sawmill	Rockwood	Rt. 2
	Clarence Hill Sawmill	Rockwood	Rt. 1
	Hopper Sawmill	Oliver Springs	Rt. 2
	C. B. Jones Sawmill	Glen Alice	Rt. 2, Rockwood
	Roane Lumber Co.	Ten Mile	Rt. 2
	Yankie Lumber Co.	Harriman	Box 392
Robertson	Benton Lumber Co.	Springfield	Eastland Heights
	J. B. Collins Mill	Greenbriar	
	Benny Gibbs Sawmill	Ashland City	
	Melvin Grubbs Sawmill	Greenbriar	Rt. 1
	Smith and Dalton Mill	Greenbriar	Rt. 1
Rutherford	Sam C. Farris Sawmill	Rockvale	Rt. 1
Scott	Fred Bowling	Helenwood	Lowgap
	Everette Boyatt	Oneida	
	E. J. Foster, III	Winfield	
	King Bros. Wood Products	Winfield	
	Starling Lawson and Son	Huntsville	Rt. 1
	Payne Bros.	Oneida	Rt. 3, Box 90
	Charles D. Roberts	Helenwood	Box 3033, Greensboro, N.C.
	James E. Terry	Elgin	Rock Creek Route, Jamestown
	Tibbals Flooring Co.	Oneida	
Sequatchie	Cunningham Mill	Dunlap	Star Route
	R. E. Johnson	Dunlap	Rt. 1
	Meeks Sawmill	Dunlap	Palmer
	Rutledges Sawmill	Dunlap	Rt. 1
	Worley's Sawmill	Signal Mt.	Box 55
Sevier	Jessie Balls Sawmill	Kodak	Rt. 2
	Willis Dykes Sawmill	Thorn Grove	Rt. 1, Strawberry Plains
	Gold Rush Junction	Pigeon Forge	Box 186
	Ralph Huskey Sawmill	Pigeon Forge	Rt. 7, Sevierville
	Roy Kirby Sawmill	Sevierville	Rt. 4
	McMahan Forest Industries, Inc.	Sevierville	Chapman Hwy.
	Messamore Sawmill	Kodak	Rt. 2
	Mize Lumber Co.	Sevierville	Box 286
	Vonnie Owens Sawmill	Pigeon Forge	Rt. 9, Sevierville
	Russell Sawmill	Kodak	Rt. 1
	James Williams Sawmill	Sunset Gap	Rt. 2, Cosby
Smith	Houston Owens Lumber Co.	Carthage	
	J. C. Owens Sawmill	Carthage	
Stewart	Coleman Lumber Co.	Erin	Rt. 1, Box 82
	J. W. Hutchinson Sawmill	Dover	Rt. 2
	Jackson and Son Sawmill	Dover	Rt. 1
	Melton Lumber Co.	Dover	Rt. 2

Table 15. — *Small sawmills*¹ (continued)

County	Firm	Plant	
		Location	Address ²
Sullivan	Lloyd Miles Sawmill	Dover	Box 127
	Tom Riley Sawmill	Dover	Rt. 1
	Kermit Bebbler	Bristol	Rt. 3
	Joe Harr	Blountville	Rt. 4
	Garland Jarrett	Bluff City	Rt. 3
	Ray Quillen	Morrison	Box 664, Gate City
Sumner	Eugene Smith	Bluff City	Rt. 1, Piney Flats
	J. H. Brown Lumber Co.	Westmoreland	
	Dorris Sawmill	Portland	Rt. 1
	N. L. Jones Lumber Co.	Hendersonville	Rt. 1
Tipton	Law Sawmill	Portland	Rt. 2
	R. C. Hoy Sawmill	Munford	Rt. 2, Brighton
Unicoi	D. C. Brummitt Sawmill	Unicoi	
	Lloyd Garland	Limestone Cove	Rt. 1, Unicoi
	Ray Kegley	Shallowford	Rt. 2, Erwin
	Royal Shelton Mill	Sweetwater	Rt. 2, Flag Pond
	Grady Simmons	Shallowford	Rt. 2, Erwin
Union	Arthur Atkins Sawmill	Maynardville	Rt. 2, Luttrell
	Cliff Bailey Sawmill	Maynardville	Rt. 3
	Herbert Lay Sawmill	Maynardville	
	J. H. Overstreet and Son Lumber Co.	Celina	Box 368
	John Russell Sawmill	Maynardville	Rt. 3
Warren	Sam Smith Sawmill	Ridenour	Rt. 2, Andersonville
	E. L. Hillis	McMinnville	Rt. 5
	Fred Ledbetter Sawmill	Morrison	Rt. 2
	W. W. McCoy Sawmill	McMinnville	Spring St.
	Howard Rhea Sawmill	Morris	Rt. 2
	Rogers Lumber Co.	McMinnville	Rt. 1, Rock Island
Washington	Whiteaker Sawmill	McMinnville	Rt. 4
	James A. Clouse	Jonesboro	Rt. 2, Erwin
	Don Kite	Fall Branch	
	Malone Lumber Co.	Jonesboro	Rt. 8
	Jack Malone	Cherokee	Jonesboro
Wayne	M. S. Reaves Mill	Philadelphia	Rt. 4, Chuckey
	Brown's Sawmill	Cypress Inn	
	By-Far Products Co.	Collinwood	Box 187
	Fielder Sawmill	Lutts	Rt. 1
	Frank's Lumber Co.	Clifton Junction	Olive Hill
	Gobble Lumber Co.	Waynesboro	Rt. 2
	Grinder's Sawmill	Waynesboro	R.R. 3
	Joe Hardwick's Sawmill	Iron City	Rt. 1, Florence, Ala.
	Hassell and Hughes Corp.	Collinwood	Box 68
	Lanna Keeton, Jr., Sawmill	Houston	Rt. 4, Waynesboro
	Skelton Lumber Co.	Waynesboro	Box 71
	Stagg's Lumber Co.	Waynesboro	Rt. 5
Weakley	Cantrell Lumber Co.	Palmersville	Rt. 1
	Fitzgerald Lumber Co.	McKenzie	
	Harris Sawmill	Latham	Rt. 4, Dresden
	Miles Sawmill	Sharon	Rt. 2
White	Jesse Lawson Sawmill	Ravenscroft	Rt. 7, Sparta
	Rowland Lumber Co.	Quebec	
	Alex Savage Sawmill	Doyle	
	Bob Slatten	Quebec	
Williamson	Volunteer Specialty Co.	Quebec	Box 430, Sparta
	Fox Bros. Sawmill	Bending Chestnut	Rt. 6, Franklin
	Hood and Tindall	Franklin	Box 5
	Spann-Oakley Sawmill	Hillsboro	Box 125, White Bluff

Table 16. — *Wood pulpmills*

County	Firm	Location
Hardin	Tennessee River Pulp and Paper Co.	Counce
Henry	The Celotex Corp.	Paris
Humphreys	Inland Container Corp.	New Johnsonville
Knox	Southern Extract Co.	Knoxville
McMinn	Bowaters Southern Paper Corp.	Calhoun
Roane	The Mead Corp.	Harriman
Sullivan	The Mead Corp.	Kingsport

Table 17. — *Veneer plants*

County	Firm	Location	Address ¹	Type ²
Gibson	Dyer Box Mfg. Co.	Dyer		C
Knox	Foreign and Domestic Veneers, Inc.	Knoxville	Box 1067	O
Madison	Ashby Veneer and Lumber Co.	Jackson	Box 1336	O
Rhea	Gholdston Basket Factory	Dayton	Box 109	C
	Shiple's Basket Mfg. Co.	Dayton	Box 341	C
Shelby	Tennessee Veneer Co., Inc.	Memphis	251 East Industrial	O

¹Office address specified when different from plant location.

²C=plants producing chiefly container veneer.

O=plants producing chiefly commercial and other veneers.

Table 18. — *Miscellaneous plants*

County	Firm	Plant	
		Location	Address ¹
Bedford	Hollis Parrott Sawmills ³	Shelbyville	215 Orchard Dr.
Bledsoe	Sequatchie Handle Works ⁴	Pikeville	Box 331
Blount	Greenback Stave Co. ³	Greenback	Rt. 2, Madisonville
	Sam Kirby Heading Mill ³	Six-Mile	Rt. 6, Maryville
Carroll	D & K Forest Products, Inc. ⁶	Leach	
	Dimension Wood Co. ⁶	Leach	Rt. 4, Huntingdon
	Billy A. Sellers ⁶	Leach	Rt. 4, Huntingdon
	Tennessee Wood Preserving Co. ⁵	Leach	Box 21
Coffee	Reeves Billet Mill ⁶	Riley Creek	Rt. 1, Tullahoma
	Tennessee Dickel Distilling Co. ²	Tullahoma	Box 490
Cumberland	Turner Day and Woolworth Co. ⁴	Crossville	Box 322

¹Office address specified when different from plant location.

²Charcoal.

³Cooperage.

⁴Handlestock.

⁵Posts, poles, and piling.

⁶Miscellaneous dimension mill.

Table 18. — *Miscellaneous plants (continued)*

County	Firm	Plant	
		Location	Address ¹
Davidson	True Temper Corp. ⁴	Nashville	1400 Adams St.
Decatur	Graves Bros. Sawmill ⁴	Parsons	326 N. Tenn. Ave.
Dickson	A. H. Leathers Manufacturing Co. ⁴	Dickson	Box 29
	West Kentucky Stave Co. ³	Dickson	Rt. 2
Fentress	Royal Oak Charcoal Co. ²	Jamestown	Nashville Hwy., Cookeville
	Turner Day and Woolworth ⁴	Jamestown	Box 213
Franklin	Wellford Bros., Inc. ³	Huntland	Box F
Giles	Stanley, Inc. ⁴	Pulaski	Box 283
Greene	Greeneville Stave Co. ³	Greeneville	1114 West Irish St.
Grundy	True Temper Mill ⁴	Tracy City	Box 164
Hamblen	Ten-Flake Corp. ⁶	Morristown	Box 1158
Hamilton	Blanchard Handle Corp. ⁴	Chattanooga	Box 5126
Hardeman	I X L Manufacturing Co. ⁴	Middleton	Burnie, Missouri
Hardin	Roser Handle Co. ⁴	Savannah	Box 147
Henry	John Buffington ³	Paris	Hwy. 79E
Humphrey	Waverly Timber Co. ⁵	Waverly	
Knox	E. Tenn. Stave and Heading Co. ³	Knoxville	Box 2291
Lawrence	M. J. Malone Sawmill ⁴	Iron City	
Lewis	Roy Burns Sawmill ⁴	Hohenwald	Rt. 1
	West Kentucky Stave Corp. ³	Hohenwald	Box 121
Loudon	Loudon Hickory Products Co. ⁴	Loudon	
McMinn	Brockheading and Stave Co. ³	Sweetwater	Box 286, Spring City
Macon	Cumberland Charcoal Corp. ²	Red Boiling Springs	Burnside
Madison	Am. Creosote Works, Inc. ⁵	Jackson	Box 1444
	Grisham Stave and Heading Co. ³	Medon	Rt. 1
	Keathley-Beamer Handle Co. ⁴	Jackson	Rt. 5
Marion	Sequatchie Handle Works, Inc. ⁴	Sequatchie	
	Sewanee Forest Industries, Inc. ⁶	South Pittsburg	
Marshall	C.D. Dalton Lumber Co. ⁶	Lewisburg	Rt. 5
Monroe	The Langdale Co., Cherokee Div. ⁵	Sweetwater	Box 328
Moore	Jack Daniels Distillery ²	Lynchburg	Box 199
	Vaughn Handle Mill ⁶	Lois	Rt. 2, Lynchburg
Overton	Livingston Handle Co. ⁴	Livingston	
	Benny Matt Lumber Co. ⁶	Timothy	Rt. 1, Allons
	Roy Scott Lumber Co. ⁶	Livingston	
	George Wright Lumber Co. ⁶	Livingston	Rt. 5
Pickett	George Cowan Lumber Co. ⁶	Byrdstown	Rt. 2
	Arlen King Lumber Co. ⁴	Byrdstown	Rt. 2
	Oren Rich and Son, Heading and Stave Co. ³	Static	Box 32, Byrdstown
Putnam	Chattanooga Handle Co. ⁶	Cookeville	Box 361
Rhea	Locke Farms ⁵	Dayton	Rt. 1
Roane	Burdette Hardwood Mill ³	Midtown	Rt. 2, Box 43, Rockwood
Robertson	Hinkle Chair Co. ⁶	Springfield	Drawer 0
Rutherford	Earl Roberts, Jr. ⁶	Murfreesboro	Box 964

Table 18. — *Miscellaneous plants* (continued)

County	Firm	Plant	
		Location	Address ¹
Shelby	Charles O. Cox Corp. ⁶	Memphis	2392 Ellridge Ave.
	C. F. Work and Son ⁶	Memphis	Box 201
Van Buren	Royal Oak Charcoal Co. ²	Spencer	Nashville Hwy., Cookeville
Warren	O. Ames Co. ⁴	Campaign	Box 34
	Burroughs-Ross-Colville ⁴	McMinnville	Depot St.
Wayne	True-Temper Corp. ⁴	Waynesboro	Box 377, Bowling Green, Ky.
White	Appalachian Lumber Co. ⁶	Sparta	
	Griffin Bros. ⁴	Sparta	Rt. 6
Wilson	Lebanon Handle Co. ⁴	Lebanon	
	David Mason Sawmill ⁶	Lebanon	Tater Peeler Rd.

T

F







