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Arkansas' Timber Resources Updated, 1975

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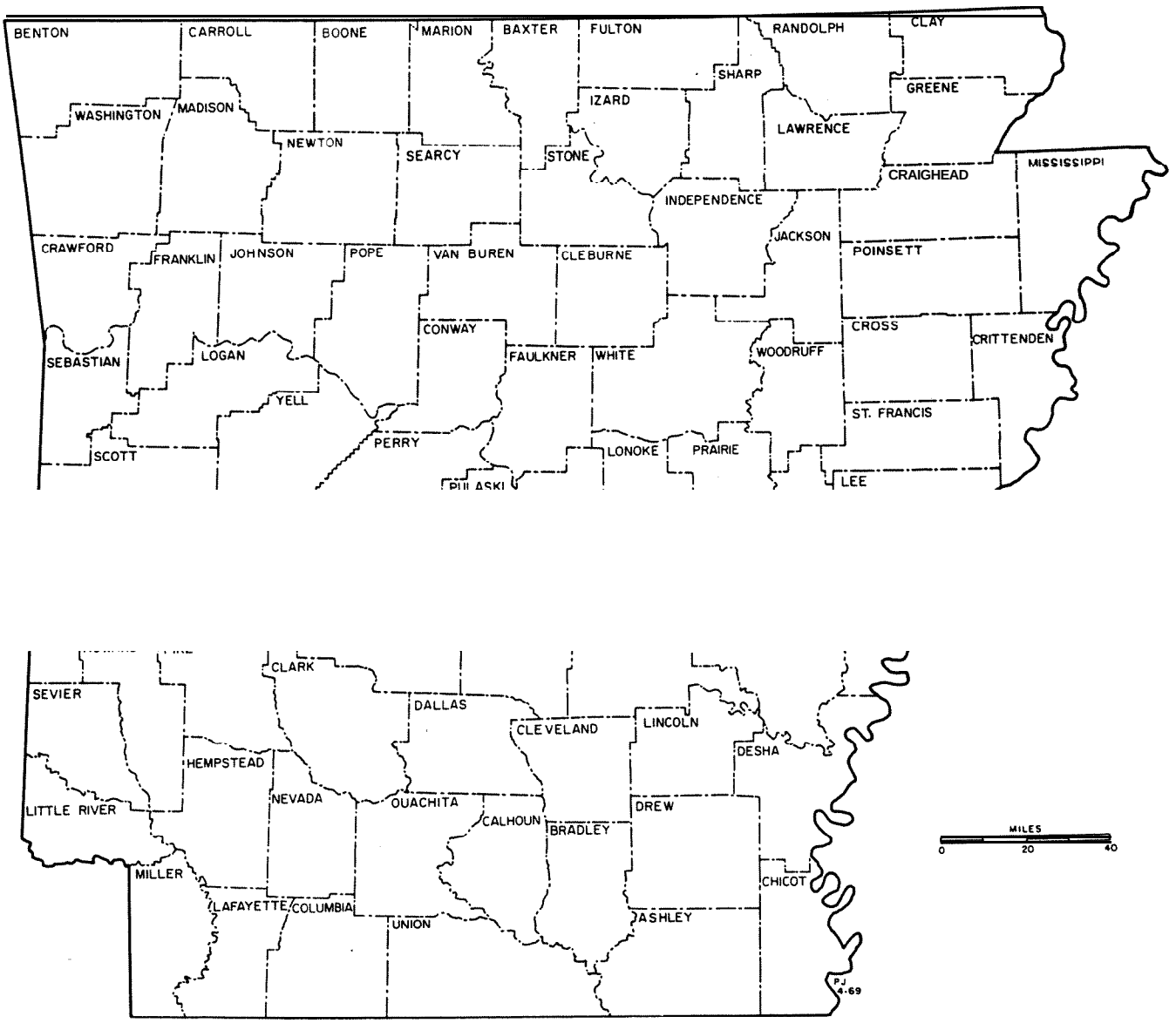
PREFACE

Because Southern forests are changing constantly and rapidly, the forest manager must have current information about the resource. The Southern Forest Experiment Station inventories each Midsouth State every 10 years. To provide current information between surveys, the Station updates the field data collected during on-the-ground *surveys.* Updating begins with the *survey* inventory, *net* growth is added, and current removals are substracted to obtain the new inventory. Net growth is a percent of the inventory 'as determined during the most recent survey. Current removals are estimated from products output indicators such as severance tax and yearly pulpwood production reports. The technique is described in Resource Bulletin SO-31 (Beltz and Bertelson 1971).



Arkansas counties

Arkansas' Timber Resources Updated, 1975

Arkansas ranks second among Midsouth States in hardwood inventory and fourth in timber products output. Because forests play an important role in the State's economy, up-to-date appraisals of the resource are essential.

The most recent on-the-ground survey in Arkansas supplied growth and removal data for 1968 and inventory estimates for January 1, 1969 (Van Sickle 1970). Since that time both softwood and hardwood inventories have been increasing steadily. Removal trends vary for the different species groups. In general, hardwood removals have decreased; softwood removals increased through 1972 but have apparently leveled off since then (fig. 1).

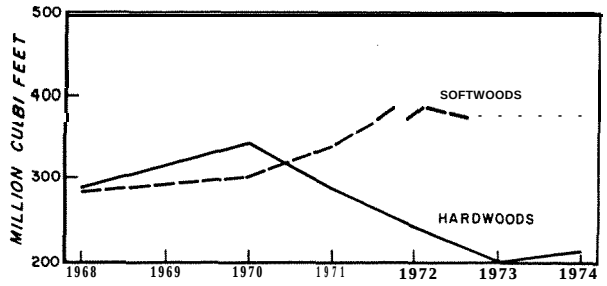


Figure *l.-Arkansas removal trends.*

TIMBER PRODUCTS OUTPUT

About 500 million cubic feet of forest products were produced from Arkansas forests during 1974. More than two-thirds of this volume was softwood, and the chief product was saw logs. These estimates are based on data from a 1971 industry canvass (Bertelson 1973), Arkansas severance tax,[1] and pulpwood production reports published annually by the Forest Service.

Arkansas, unlike most other Midsouth States, still produces a greater volume of logs than pulpwood. Since saw and veneer logs are not taxed separately, individual production trends are obscured. The combined output of softwood saw and veneer logs for 1974 was 226 million cubic feet, up some 18 percent over 1971. The hardwood output of 79 million cubic feet was only an s-percent increase, and the gain was caused by substantial increase in crosstie production.

Pulpwood production, after some ups and downs, shows an increase of about 13 percent since 1971. The 1974 total was 1'73 million cubic feet, 65 percent of which was softwood. Detailed information regarding pulpwood production is available in Bertelson (1975).

Products such as poles, piling, posts, and cooperage comprised a minor portion of the 1974 timber harvest. Only 3 percent of the softwood output and 9 percent of the hardwoods were in such products.

TIMBER VOLUME

Arkansas forests contained an estimated 16.2 billion cubic feet of growing stock as of January 1, 1975. The inventory has been increasing at an average rate of 1 percent per year since the 1969 survey. Softwoods continue to comprise 40 percent of Arkansas' forest resource even though the bulk of the timber removals is softwood.

In determining this estimate, removals for timber products were obtained from severance tax records and pulpwood production reports. Another significant component is nonproduct removals such as land clearing. In 1969, roughly one-third of the total hardwood cut was classified as other removals. Since then, land clearing has slackened substantially. Thus, other removals were arbitrarily reduced at a rate which, by 1974, made them about 10 percent of total removals.

COUNTY RESOURCES

Updating is done at the county level primarily to allow inspection of trends within the State. Tabulating individual county information allows flexibility in combining counties into local timbersheds and procurement areas.

[1] Arkansas Forestry Commission. Unpublished severance tax reports, 1972-74. Little Rock, Ark.

The bulk of Arkansas' forest resources are found south of the Arkansas River (fig. 2). Both softwoods and hardwoods are plentiful in this area (figs. 3 and 4). Some concentration of hardwood volume also occurs in an area north of the Arkansas River including Johnson, Newton, and Madison Counties and near the confluence of the Mississippi, Arkansas, and White Rivers.

As long as growth exceeds removals, the inventory is secure. For the State as a whole, growth/cut ratios were 1.08 for softwoods and 1.80 for hardwoods. However, several local areas have declining inventories.

The situation is most acute with softwoods. About 30 percent of the counties have a growth/cut deficit. Deficits in some counties, such as those in the Delta portion of the State, are unimportant because their inventories are small (fig. 5). However, several counties in south Arkansas, an area central to forest production in the State, have removals in excess of growth. The deficits may not be cause for alarm since heavy cutting could result from such forest management techniques as stand conversion. Still, the imbalance does indicate a need for close scrutiny.

Hardwood deficits are limited to north central Arkansas and a few counties along the lower reaches of the Saline River (fig. 6).

RELIABILITY OF DATA

Users of the updated statistics should be aware of some inherent limitations. Data compiled during State surveys are subject to sampling error. At the State level, sampling error for growing stock volume was 1.3 percent for Arkansas (Hedlund and Earles 1970); as the State estimate is broken into smaller units for counties, the error increases. Updating basic survey data introduces an additional source of error; therefore, individual county estimates should be used with care. For best results, counties should be grouped into local timbersheds or procurement areas for analysis. Trend data, showing net growth, removals, and inventory by county for each year since the 1969 survey are available at cost from the Southern Station.

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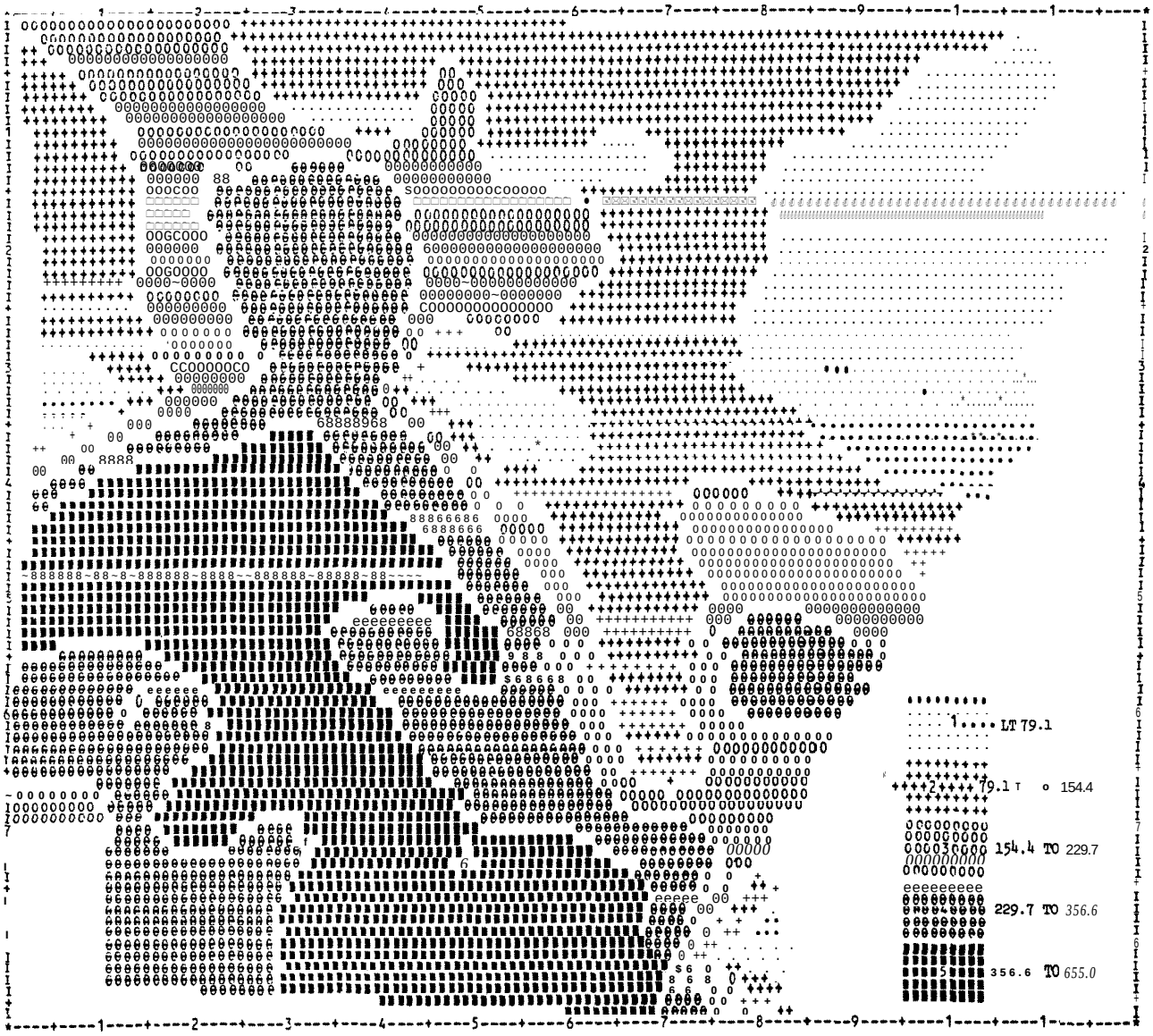

Figure *&-Distribution of growing* ***stock inventory, 1975.***

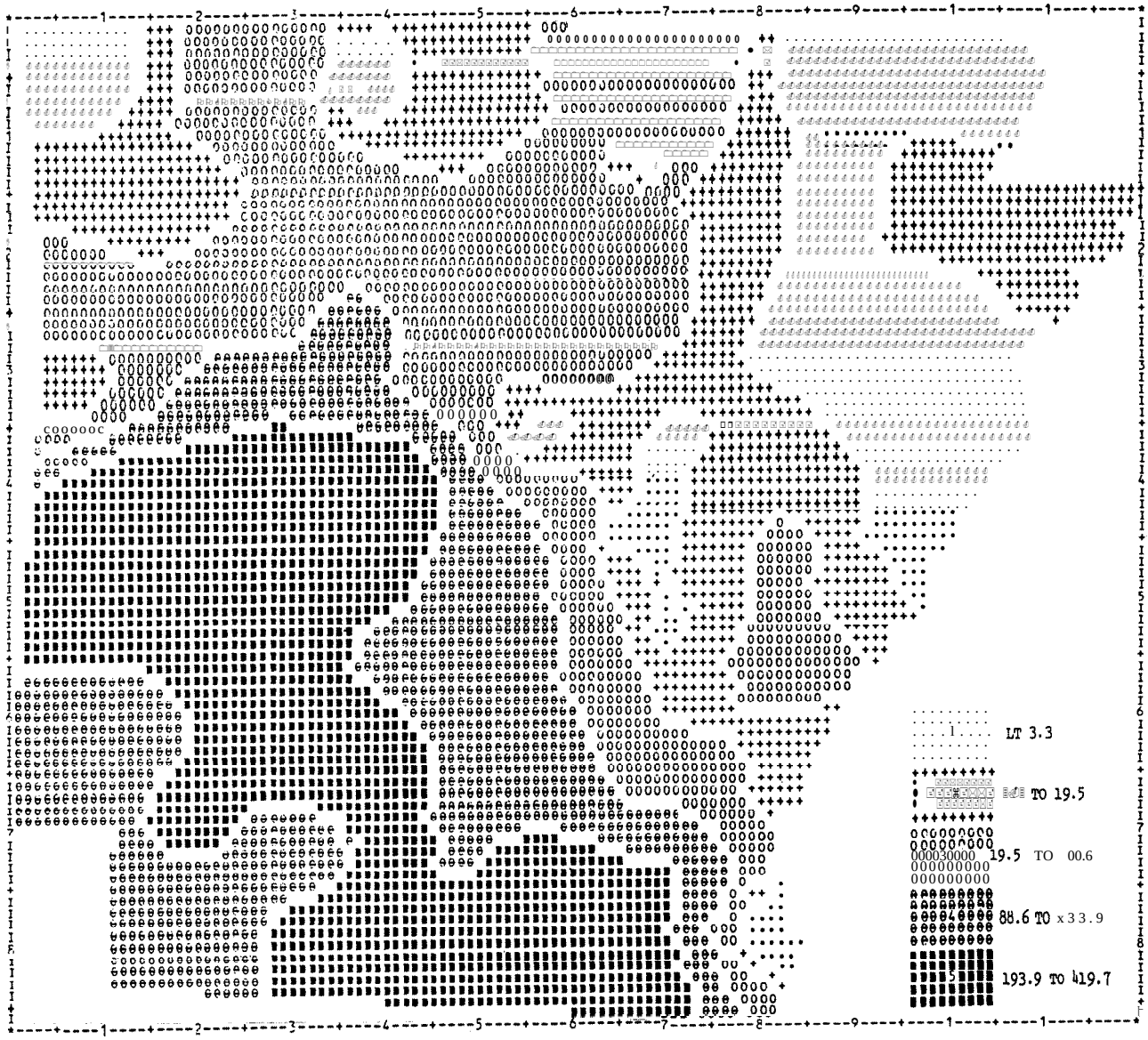

Figure 3.-*Distribution* of *softwood growing stock inventory,* ***1975.***

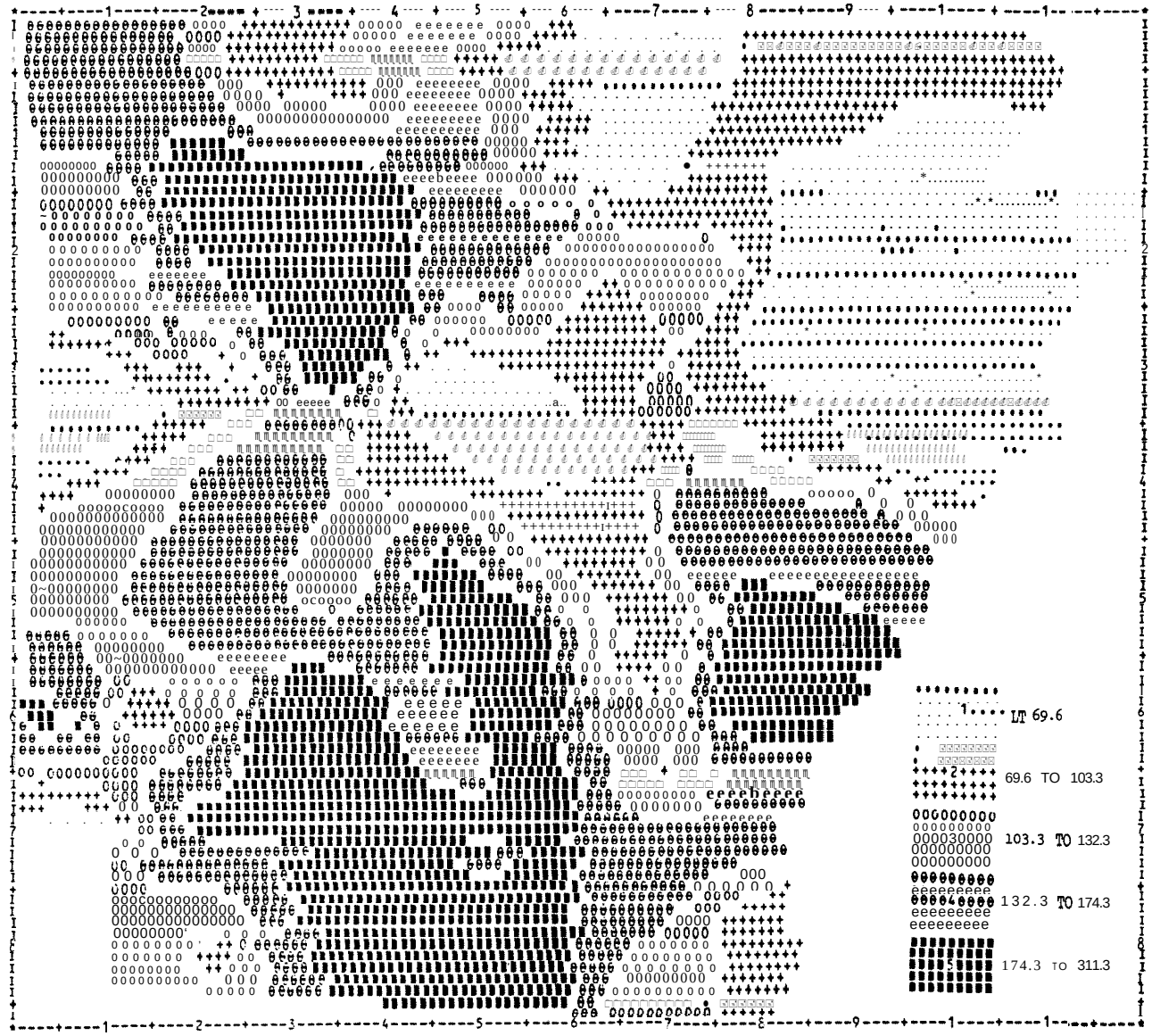

Figure *of hardwood growing* ***stock inventory, 1975.***

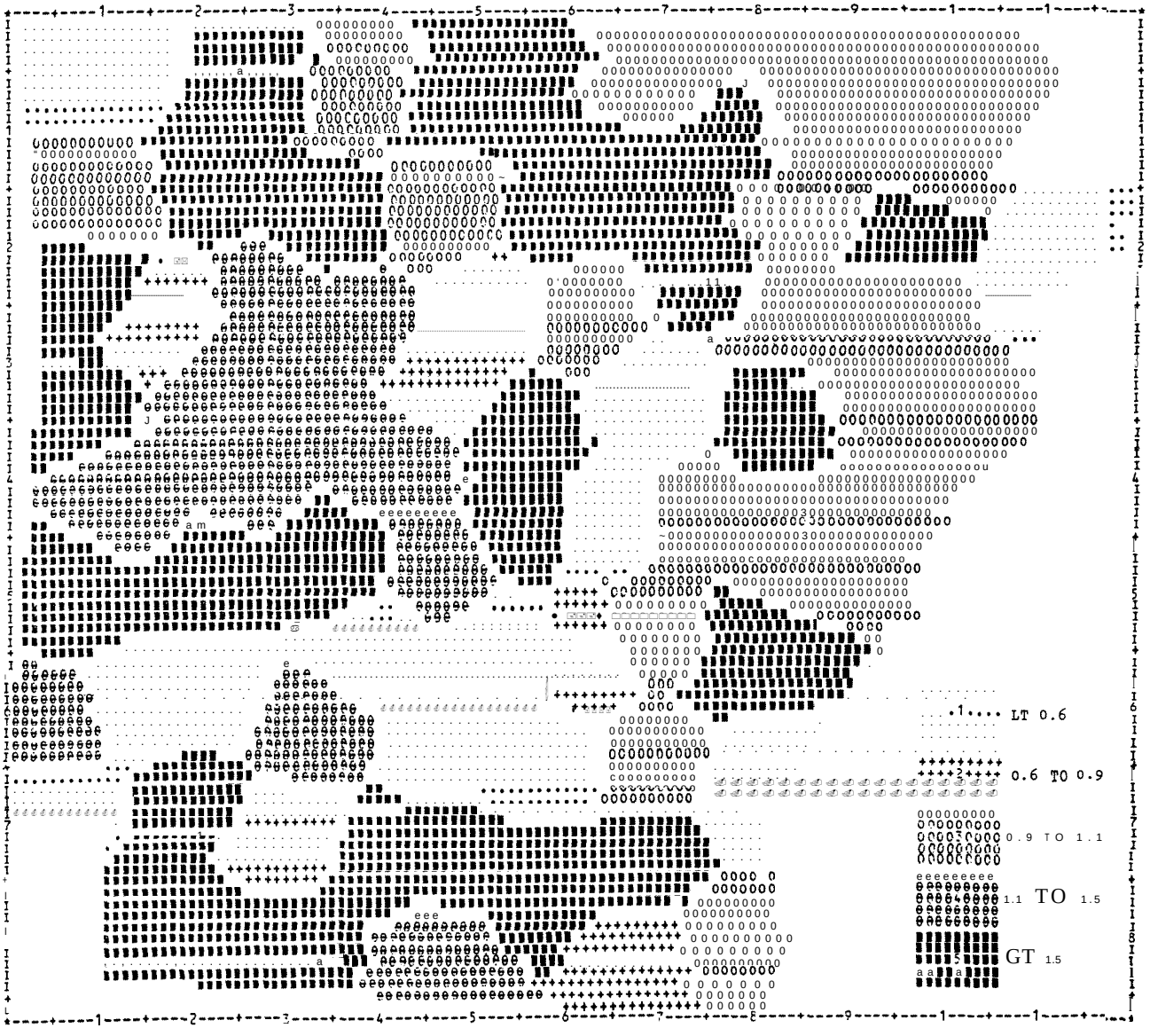

Figure 5.—*Softwood growth/cut relationships,* **1974.**

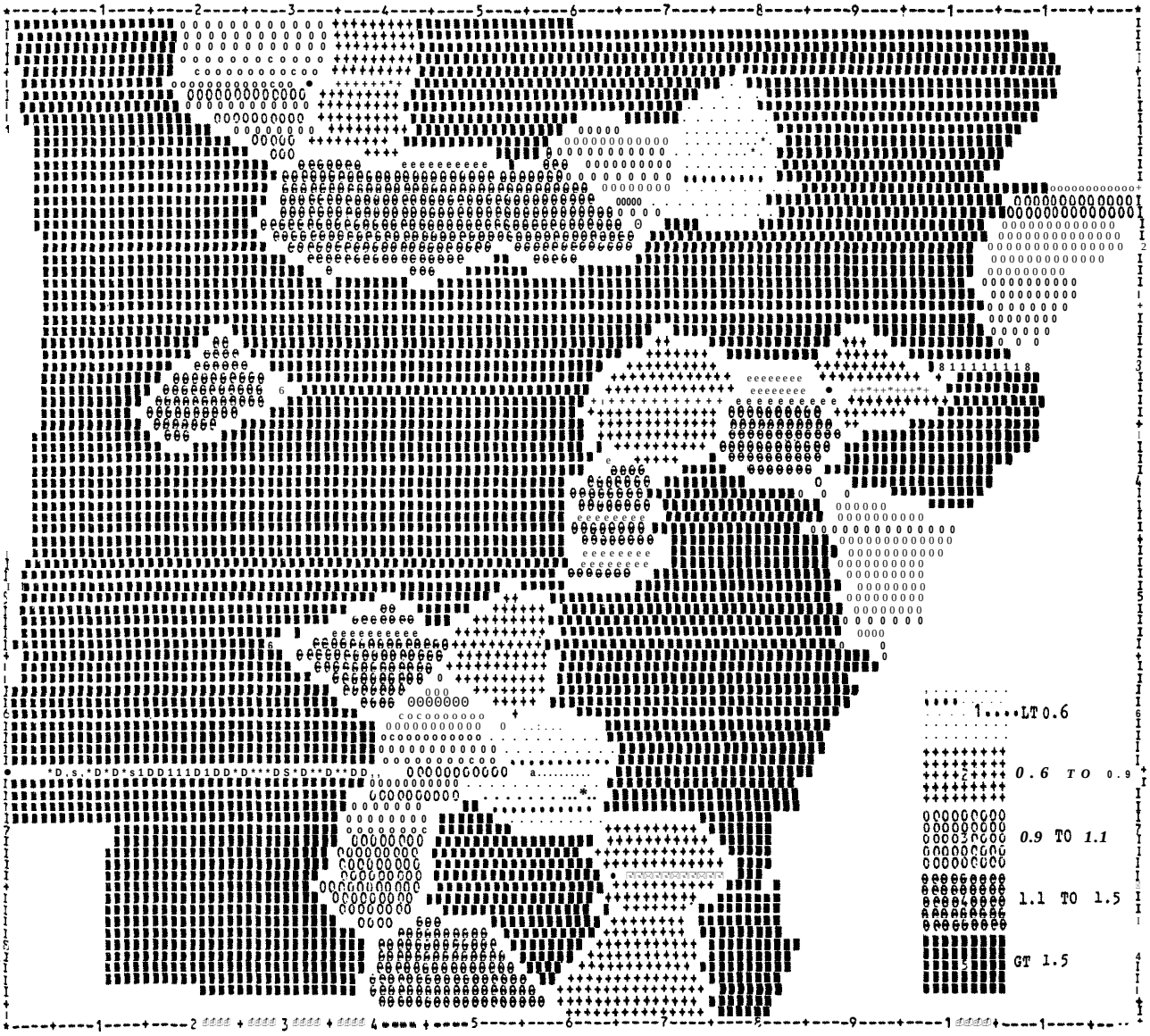

Figure *6.-Hardwood growth/cut relationships, 1974.*

Table 1. *Growing stock and sawtimber volume on commercial forest land, 1975*

county	Growing stock			Sawtimber		
	Total	Softwood	Hardwood	Total	Softwood	Hardwood
	Million cubic feet			*Million board feet*		
Arkansas	273.2	20.7	252.5	989.1	117.8	871.3
Ashley	380.1	256.0	124.1	1,610.0	1,263.0	347.0
Baxter	118.0	15.8	102.2	278.4	39.1	239.3
Benton	154.4	.3	154.1	368.8	...	368.8
Boone	104.4	1.1	103.3	233.3	...	233.3'
Bradley	440.6	261.6	179.0	1.665.3	1,155.0	510.3
Calhoun	353.7	181.0	172.7	1,253.2	748.7	504.5
Carroll	159.3	51.2	108.1	467.5	192.9	274.6
Chicot	83.8	...	83.8	320.6	...	320.6
Clark	549.9	279.3	270.6	1,862.9	1,221.7	641.2
Clay	76.0	...	76.0	195.3		195.3
Cleburne	140.6	50.7	89.9	273.8	114.6	159.2
Cleveland	312.1	125.6	186.5	1,063.5	508.3	555.2
Columbia	388.4	219.9	168.5	1,279.5	844.8	434.7
Conway	50.1	19.4	30.7	101.2	43.4	57.8
Craighead	25.7	5.0	20.7	73.6	22.9	50.7
Crawford	151.0	29.1	121.9	423.0	117.8	305.2
Crittenden	47.9	...	47.9	158.0	...	158.0
Cross	29.7	.4	29.3	88.4	...	88.4
Dallas	344.1	185.0	159.1	1,182.8	870.4	312.4
Desha	168.6	15.1	153.5	655.7	90.6	565.1
Drew	349.7	193.8	155.9	1,226.5	845.6	380.9
Faulkner	45.0	1.9	43.1	9 8 . 2	7.1	91.1
Franklin	158.0	25.7	132.3	433.1	112.7	320.4
Fulton	102.4	48.4	54.0	118.9	8.0	110.9
Garland	388.3	269.1	119.2	1,201.4	1,010.2	191.2
Grant	367.2	127.5	239.7	1.207.0	573.3	633.7
Greene	48.2	6.2	42.0	141.5	26.6	114.9
Hempstead	392.7	216.2	176.5	1.223.2	767.8	455.4
Hot Spring	308.1	164.3	143.8	882.6	647.5	235.1
Howard	225.5	138.8	86.7	654.9	541.3	113.6
Independence	138.8	17.8	121.0	317.6	41.4	276.2
Izard	64.4	14.9	49.5	136.0	21.9	114.1
Jackson	35.2	...	35.2	94.0	...	94:o
Jefferson	156.9	45.1	111.8	421.7	177.0	244.7
Johnson	262.9	66.5	196.4	746.2	279.7	466.5
Lafayette	240.7	143.1	97.6	735.6	504.2	231.4
Lawrence	56.9	.5	56.4	112.6	...	112.6
Lee	151.8	2.4	149.4	551.7	12.8	538.9
Lincoln	135.4	32.2	103.2	385.1	102.4	282.7
Little River	175.5	105.9	69.6	521.0	418.4	102.6
Logan	177.6	110.5	67.1	517.5	380.8	136.7
Lonoke	79.1	1.9	77.2	229.5	12.0	217.5
Madison	229.7	11.7	218.0	425.9	15.7	410.2
Marion	164.4	9.7	154.7	333.1	10.6	322.5
Miller	258.7	131.5	127.2	820.3	481.8	338.5
Mississippi	46.0	4.7	41.3	115 .1	26.5	88.6
Monroe	175.8	23.5	152.3	568.1	124.3	443.8
Montgomery	581.5	419.7	161.8	1,771.1	1,490.6	280.5
Nevada	327.0	150.3	176.7	917.1	518.6	398.5
Newton	339.9	53.1	286.8	727.2	152.5	574.7
Ouachita	492.9	207.7	285.2	1,500.4	823.5	676.9
Perry	318.0	232.1	85.9	971.2	846.2	125.0
Phillips	78.4	.1	78.3	152.1	.5	151.6
Pike	356.6	233.3	123.3	1,116.0	966.7	149.3
Poinsett	59.2	1.8	57.4	170.3	9.8	160.5
Polk	383.1	254.9	128.2	1,147.9	949.4	198.5
Pope	309.3	96.0	213.3	757.7	314.5	443.2
Prairie	179.1	6.4	172.7	649.8	33.0	616.8
Pulaski	180.5	88.5	92.0	406.6	259.5	147.1
Randolph	93.8	1.1	92.7	197.6	4.1	193.5
St. Francis	64.1	3.2	60.9	198.9	19.3	179.6
Saline	367.3	177.3	190.0	935.2	557.1	378.1
Scott	458.2	337.5	120.7	1,267.9	1,074.3	193.6
Searcy	166.3	22.1	144.2	330.6	86.2	244.4
Sebastian	30.1	11.6	18.5	54.6	26.4	28.2
Sevier	321.6	147.3	174.3	1,099.0	726.6	372.4
Sharp	95.0	18.2	76.8	141.1	34.4	106.7
stone	178.1	47.1	131.0	455.6	186.1	269.5
union	655.0	343.7	311.3	2,166.6	1,337.8	823.8
Van Buren	173.c	42.7	130.3	304.6	112.4	192.2
Washington	133.4	10.8	122.6	185.3	26.2	159.1
White	111.4	5.4	106.0	276.0	15.4	260.6
Woodruff	89.3	6.4	82.9	256.3	27.1	229.2
Yell	416.0	249.9	166.1	1,176.4	829.3	347.1
Area total	16,244.6	6,799.2	9,445.4	48.095.3	25,928.1	22,167.2

Table 2. *Net growth of growing stock cd sawtimber* On *commercial forest land,* 1974

county	Growing stock			Sawtimber		
	Total	Softwood	Hardwood	Total	Softwood	Hardwood
	Million cubic feet			*Million board feat*		
Arkansas	10.6	.2	10.4	37.9	1.3	36.6
Ashley	20.7	14.6	6.1	88.2	70.8	17.4
Baxter	2.5	.8	1.7	6.4	2.2	4.2
Benton	4.7	...	4.7	11.6	...	11.6
Boone	3.1	.1	3.0	7.2	...	7.2
Bradley	26.2	18.0	8.2	105.7	eo.4	25.3
Calhoun	21.6	13.2	8.4	82.4	58.2	24.2
Carroll	4.7	2.3	2.4	14.7	8.7	6.0
Chicot	3.1	...	3.1	12.0	...	12.0
Clark	30.2	17.0	13.2	105.7	73.4	32.3
Clay	3.8	...	3.8	9.9	...	9.9
Cleburne	5.6	3.5	2.1	11.4	7.6	3.8
Cleveland	18.5	10.1	8.4	68.6	42.9	25.7
Columbia	25.3	17.6	7.7	86.3	66.1	20.2
Conway	3.1	1.8	1.3	7.4	4.6	2.8
Craighead	1.5	.3	1.2	4.4	1.4	3.0
Crawford	4.6	1.5	3.1	14.0	6.3	7.7
Crittenden	1.8	...	1.8	5.8	...	5.P
Cross	1.1	...	1.1	3.4	...	3.4
Dallas	19.8	11.4	8.4	71.1	53.3	17.8
Desha	6.0	.1	5.9	22.9	.7	22.2
Drew	19.5	13.0	6.5	73.0	56.9	16.1
Faulkner	1.6	.1	1.5	3.5	.4	3.1
Franklin	5.6	1.1	4.5	15.3	4.6	10.7
Fulton	10.1	9.1	1.0	3.5	1.5	2.0
Garland	16.2	11.1	5.1	50.1	40.7	9.4
Grant	21.3	8.8	12.5	72.6	39.7	32.9
Greene	2.0	.4	1.6	5.9	1.7	4.2
Hempstead	25.8	18.2	7.6	86.0	66.3	19.7
Hot spring	18.6	10.6	8.0	54.1	41.0	13.1
Howard	11.8	8.2	3.6	37.4	32.2	5.2
Independence	5.2	1.1	4.1	12.0	2.5	9.5
Izard	2.5	1.0	1.5	5.0	1.7	3.3
Jackson	2.5	...	2.5	6.8	...	6.8
Jefferson	10.5	3.1	7.4	30.3	12.3	18.0
Johnson	8.6	3.0	5.6	26.2	12.4	13.8
Lafayette	17.1	12.b	4.7	57.7	46.4	11.3
Lawrence	3.5	.1	3.4	7.5	...	7.5
Lee	6.3	.1	6.2	23.1	.4	22.7
Lincoln	7.9	2.5	5.4	23.4	7.9	15.5
Little River	12.0	7.7	4.3	38.7	31.1	7.6
Logan	8.1	5.1	3.0	23.5	17.3	6.2
Lonoke	3.9	...	3.9	10.9	.2	10.7
Madison	6.9	.8	6.1	12.7	1.1	11.6
Marion	3.6	.8	2.8	6.7	.9	5.8
Miller	13.8	8.1	5.7	45.5	29.8	15.7
Mississippi	2.3	.1	2.2	5.3	.6	4.7
Monroe	7.9	.8	7.1	26.7	4.2	22.5
Montgomery	25.9	17.8	8.1	76.6	61.9	14.7
Nevada	21.6	12.5	9.1	64.5	43.4	21.1
Newton	10.5	3.3	7.2	24.3	9.9	14.4
Ouachita	28.2	13.4	14.8	90.0	53.9	36.1
Perry	16.0	9.7	6.3	44.9	35.0	9.9
Phillips	4.7	...	4.7	12.4	...	12.4
Pike	21.8	14.9	6.9	69.5	60.2	9.3
Poinsett	2.8	.1	2.7	8.1	.4	7.7
Polk	17.8	11.3	6.5	52.1	40.8	11.3
Pope	11.1	5.4	5.7	30.2	18.1	12.1
Prairie	6.5		6.4	22.9	.6	22.3
Pulaski	9.5	5::	4.1	23.1	16.2	6.9
Randolph	3.1	...	3.1	6.3	.2	6.1
St. Francis	3.7		3.6	11.1	.4	10.7
Saline	17.3	9::	8.2	46.0	29.1	16.9
Scott	21.1	16.1	5.0	58.2	50.1	8.1
Searcy	4.6	.9	3.7	10.5	3.6	6.9
Sebastian	1.7	.7	1.0	3.3	1.7	1.6
Sevier	15.6	7.4	8.2	53.7	35.1	18.6
Sharp	2.8	1.0	1.8	4.7	2.0	2.7
Stone	5.5	2.4	3.1	16.5	9.8	6.7
Union	38.6	24.2	14.4	133.2	94.2	39.0
Van Buren	6.7	2.6	4.1	12.9	6.8	6.1
Washington	4.5	.5	4.0	7.3	1.3	6.0
white	3.4	.2	3.2	9.6	.7	8.9
Woodruff	4.6	.3	4.3	13.b	1.3	12.3
Yell	1 .	12.1	7.4	56.0	40.6	15.4
Area total	802.7	411.3	391.4	2,501.9	1,549.0	952.9

Table 3. *Removals* of growing stock *and sawtimber on commercial forest land, 1974*

county	Growing stock			Sax-timber		
	Total	Softwood	Hardwood	Total	Softwood	Hardwood
	Million cubic feet			*Million board feet*		
Arkansas	3.8	.1	3.7	13.7	.7	13.0
Ashley	28.0	21.1	7.7	124.0	102.1	21.9
Baxter	.9	.1	.8	2.1	.2	1.9
Benton	.9	.1	.8	2.C	...	2.0
Boone	3.5	...	3.5	8.3	...	8.3
Bradley	10.3	8.1	2.2	42.8	36.0	6.8
Calhoun	5.8	3.6	2.2	22.3	16.0	6.3
Carroll	2.7	.2	2.5	7.0	.7	6.3
Chicot	.3	...		1.2	...	1.2
Clark	18.3	12.8	5::	68.6	55.2	13.4
Clay	.9	...	.9	2.4	...	2.4
Cleburne	4.7		1.0	9.9	8.1	1.8
Cleveland	49.2	3:::	17.7	187.4	133.1	54.3
Columbia	12.8	10.7	2.1	45.8	40.3	5.5
Conway	2.9	2.1	.8	7.2	5.5	1.7
Craighead	.9	.1	.8	2.2	.3	1.9
Crawford	1.2	.1	1.1	2.9	.3	2.6
Crittenden	.3	...	.3	.9	...	.9
Cross	1.4	...	1.4	4.2	...	4.2
Dallas	28.8	19.9	8.9	112.2	93.3	18.9
Desha	1.3	.3	1.0	5.5	1.7	3.8
Drew	16.3	5.8	10.5	51.6	25.5	26.1
Faulkner	1.0	.1	.9	2.1	.2	1.9
Franklin	3.6	1.2	2.4	10.9	5.2	5.7
Nton	.1		.1	.2	...	.2
Garland	1.9	1.3	.6	6.1	4.9	1.2
Grant	34.8	17.5	17.3	124.4	79.0	45.4
Greene	.3	...	.3	1.0	.1	.9
Hempstead	12.9	10.4	2.5	44.3	37.9	6.4
not spring	26.2	20.4	5.8	88.0	78.5	9.5
Howard	36.9	35.6	1.3	141.7	139.9	1.8
Independence	1.7	.3	1.4	4.0	.7	3.3
Izard	1.9	.5	1.4	3.9	.8	3.1
Jackson	.5	...	.5	1.4	...	1.4
Jefferson	7.0	3.7	3.3	22.3	14.4	7.9
Johnson	3.5	2.4	1.1	12.5	9.8	2.7
Lafayette	7.4	6.3	1.1	26.2	23.5	2.7
Lawrence	.4	.1	.3	.7	...	.7
Lee	5.8	...	5.8	21.4	.2	21.2
Lincoln	3.4	2.5	.9	10.4	7.9	2.5
Little River	15.4	13.2	2.2	56.6	52.8	3.8
Logan	6.0	3.8	2.2	17.4	12.8	4.6
Lonoke	2.7	.1	2.6	7.6	.4	7.2
Madison	3.4	.1	3.3	6.3	.1	6.2
Marion	.6	.1	.5	1.4	.2	1.2
Miller	6.2	4.0	2.2	20.8	14.7	6.1
Mississippi	.2	.2	...	1.1	1.1	...
Monroe	1.6	...	1.6	5.2	.2	5.0
Montgomery	4.1	3.5	.b	13.4	12.3	1.1
Nevada	16.6	14.7	1.9	55.4	50.9	4.5
Newton	5.4	.6	4.8	11.5	1.8	9.7
Ouachita	24.6	8.2	16.4	72.9	32.9	40.0
Perry	8.9	8.3	.6	30.9	29.9	1.0
Phillips	2.4	...	2.4	6.3	.1	6.2
Pike	30.7	2e.I	2.6	117.5	114.0	3.5
Poinsett	.6	...	.6	1.8	...	1.8
Polk	7.1	5.6	1.5	22.8	20.2	2.6
Pope	5.9	3.8	2.1	17.2	12.7	4.5
Prairie	1.5	...	1.5	5.4		5.3
Pulaski	4.8	2.3	2.5	11.1	6:;	4.2
Randolph	1.0	...	1.0	2.1	.1	2.0
St. Francis	1.0	...	1.0	3.1	...	3.1
Saline	11.0	7.7	3.3	31.4	24.7	6.7
Scott	16.4	13.1	3.3	46.1	40.8	5.3
Searcy	3.7	1.0	2.7	8.7	3.8	4.9
Sebastian	.6	.1	.5	1.2	.3	.9
Sevier	8.9	6.3	2.6	35.5	29.7	5.8
Sharp	3.3	.2	3.1	4.9	.3	4.6
stone	3.3	.7	2.6	8.1	2.7	5.4
Union	28.9	18.9	10.0	100.5	73.6	26.9
Van Buren	5.7	3.7	2.0	12.3	9.4	2.9
Washington	1.1	...	1.1	1.8	.1	1.7
White	5.6	.6	5.0	15.4	1.5	13.9
Woodruff	3.3	.1	3.2	9.5	.4	9.1
Yell	9.6	8.7	.9	30.9	29.1	1.8
Area total	597.4	380.3	217.1	2,039.8	1,502.6	537.2

Beltz, Roy C.

1975. Arkansas' timber resources updated, 1975. South. For. Exp. Stn., New Orleans, La. 10 p. (USDA For. Serv. Resour. Bull. SO-56)

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