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Southern Forest Experiment Station

Paul A. Murphy

East Oklahoma Forests

Trends and Outlook

SUMMARY

The softwood inventory in east Oklahoma gained 34 percent in volume from 1966 to 1976. It now totals 1 billion cubic feet; most of it is shortleaf pine. The gain was especially strong in the smaller sawtimber sizes, a trend which bodes well for the future sawtimber inventory. The hardwood volume of 1.1 billion cubic feet grew about 4 percent. Net growth of 117 million cubic feet in 1975 more than offset removals totaling 63 million. Forest area is presently 4.3 million acres and represents a 12-percent decline since 1966. Land clearing for agriculture was the primary factor in area loss, and it played a leading role in checking hardwood gains. Land suited for pine production greatly exceeds the 850,000 acres presently in southern pine types. Some 1.8 million acres of hardwood-dominated sites could be converted to pine production. Most of the 1.7 million acres of hardwood sites need treatment to improve the stocking of desirable trees.

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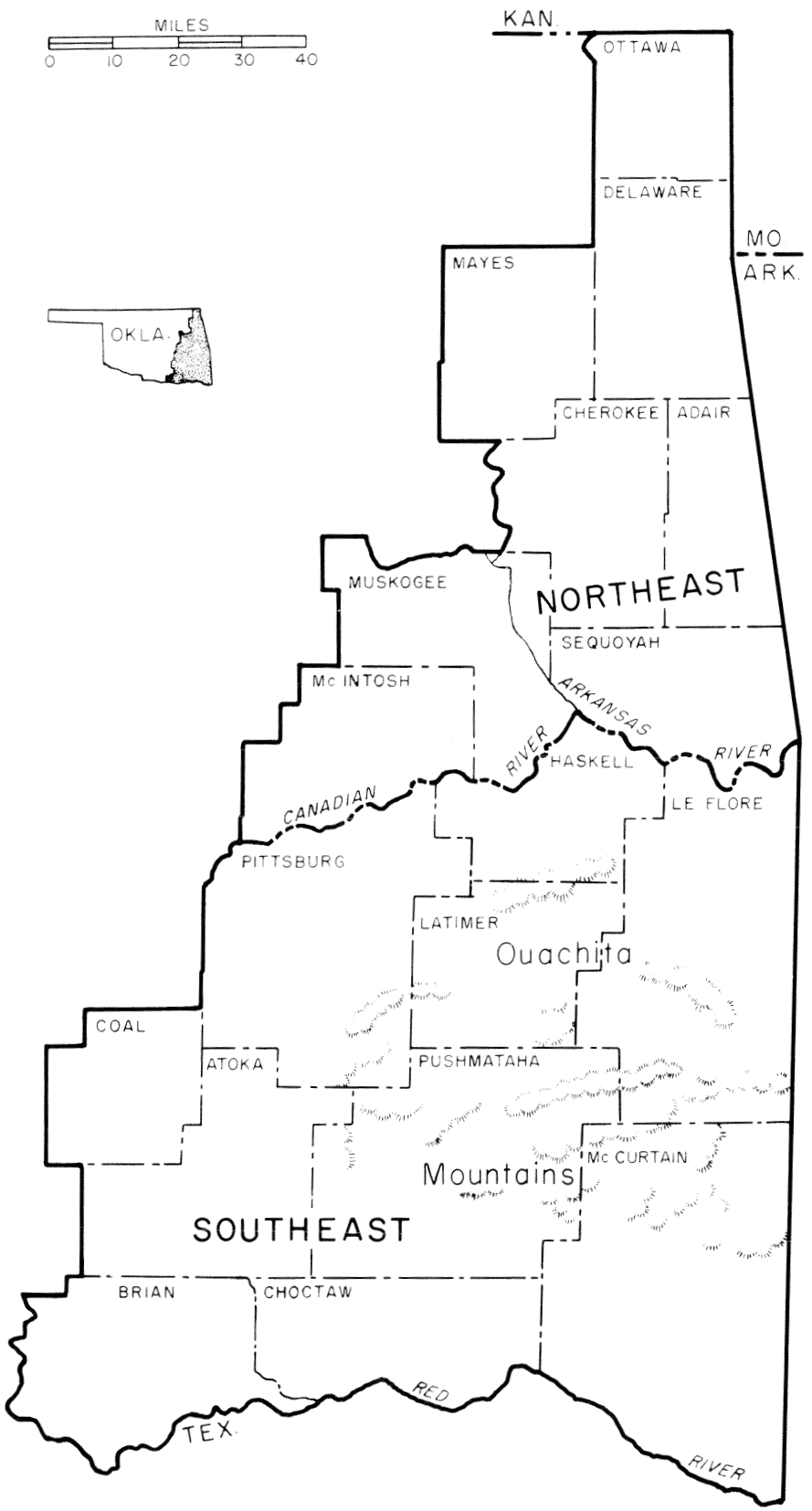

Figure 1. *Forest resource regions of east Oklahoma*

EAST OKLAHOMA FORESTS: TRENDS AND OUTLOOK

Paul A. Murphy

FOREST AREA

Forests cover 4.9 million acres or 49 percent of the land in the 18 counties that comprise east Oklahoma (figure 1). Of this total forest area, about 4.3 million acres are classed as commercial forest land. The remaining 600,000 acres are either too low in productivity to be considered commercial or occur on public land reserved for nontimber use.

Forest Acreage Declines

Commercial forest acreage in east Oklahoma has been declining for the last 20 years. It dropped 4 percent from 1956 to 1966 and 12 percent from 1966 to 1976. Although the loss reported since 1966 was widespread, decreases have been particularly severe in the western and northern parts of the region — the parts that do not include the Ouachita Mountains.

Most of the loss has been due to agriculture. Some 585,900 acres of forest land have been cleared for farming since 1966. Because of an expanding cattle industry, most cleared land has gone into pasture. In addition, 74,500 acres were diverted to uses other than agriculture. Some 77,900 acres reverted to forests. Loss of forest land to such uses as urban expansion or water impoundments will continue but will be small compared to losses to agriculture. As prime agricultural land is taken for high-value commercial and residential developments, struggles to maintain or expand the agricultural land base will continue to impinge heavily on forests.

Private Land Predominates

About 13 percent of the forest land in east Oklahoma is public, and the bulk of this is in Federal ownership. Forest industry owns 991,300 acres of forest land in the region, or about 23 percent. In 1966 most of the forest industry land was held by lumber companies. Since then, some lumber companies have been absorbed by multi-product corporations, whose land management objectives may differ from those of the previous owners. Both the public's and industry's share of east Oklahoma forests has remained fairly constant during the last decade, and both public and forest industry lands are concentrated in the southern part of the region.

Most forest land in east Oklahoma belongs to individuals. Farmers and other private owners not in the forest industry own about 64 percent of the commercial forest. Their combined holdings are down from 3.4 million acres in 1966 to 2.8 million acres today, primarily because of clearing forest land for pasture. Stand sizes are generally smallest and volume production lowest on these miscellaneous, private ownerships. They contain three-fourths of the non-stocked areas and seedling and sapling stands in the region, and they produce less than 30 percent of the softwood sawtimber volume.

Forest Types

Hardwood forest types dominate in east Oklahoma. The oak-hickory type covers over half the total commercial forest area. About 10 percent is bottom-land hardwood, elm-ash-cottonwood, and oak-gum-cypress. Oak-pine accounts for about 16 percent. Stands in which pine is the dominant component comprise 20 percent and are concentrated in the southern half of the region. Although loblolly pine extends into east Oklahoma, the chief pine species is shortleaf.

TIMBER VOLUME

East Oklahoma forests contained 2.8 billion cubic feet of wood in 1976. Volume in growing stock — that is, trees presently or prospectively suitable for sawtimber — was 2.1 billion cubic feet, or 74 percent of the total. Since different methods of computing timber volume have evolved since the last survey, 1966 volumes were adjusted to conform to current standards.

Softwood Inventory Gains

Softwood growing stock in east Oklahoma totaled 1 billion cubic feet in 1976. About 93 percent of this inventory is in shortleaf pine (figure 2); the rest is mainly loblolly pine, redcedar, and cypress.

The present volume represents a 34-percent increase over that of 1966. The gain was particularly strong in the small sawtimber sizes (figure 3). The sawtimber inventory for softwood is presently 3.6 billion board feet, which is a 38-percent gain over 1966.

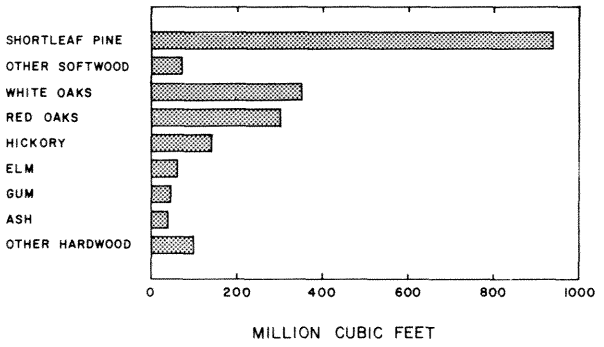

Figure 2. *Growing stock by species.*

The distribution of softwood is concentrated both geographically and by ownership. Some 85 percent of the softwood growing stock is in LeFlore, McCurtain, and Pushmataha Counties. Public and forest industry ownership is also concentrated in this tri-county area, and these owners account for almost 70 percent of the softwood volume in east Oklahoma.

Hardwood Volume Is Stable

The hardwood growing stock of 1.1 billion cubic feet is slightly larger than the softwood growing-stock volume. The species groups with the greatest volumes are the oaks, the hickories, elm, gum, and ash (figure 2). Post oak is the most common oak species. Almost two-thirds of the hardwood growing stock is concentrated on private lands not held by the forest industry.

Growing-stock volume remained relatively stable with a only 4-percent gain since 1966. The only real change in size classes came in the lower threshold diameters (figure 4). The sawtimber inventory for hardwood presently stands at 2.5 billion board feet, a 3-percent increase over 1966 totals.

An additional 700 million cubic feet of hardwood is found in trees — culls, salvable dead trees, or noncommercial species — that do not qualify as growing stock. Such trees account for about 40 percent of the total hardwood inventory. Although not growing stock, some forest products can nevertheless be derived from them.

Land clearing for agriculture was concentrated in areas where hardwood naturally predominates. Thus, the 12-percent decline in forest area had a severe impact on the hardwood resource, and shifts in land use will continue to adversely affect the hardwood resource.

Growth and Removals

In 1975 net growth (gross growth minus mortality) for east Oklahoma growing stock was 116.8 million cubic feet, or about 27 cubic feet per acre. This growth is considerably less than it could be, and one of the causes is the moderate stocking level. The average volume per acre in the region is 477 cubic feet. Even adding the cull tree volume lifts the average to only about 644 feet. Net annual growth can be raised considerably by reducing cull tree occupancy and increasing stocking.

Softwood growth exceeded mortality by 55.9 million cubic feet. Mortality caused by fire, insects, diseases, and other agents amounted to 1.9 million cubic feet, or 3 percent of gross growth. Hardwood net growth was 60.9 million cubic feet. Mortality claimed a larger share of hardwood gross growth than it did for softwood; hardwood mortality amounted to about 11 percent of gross growth.

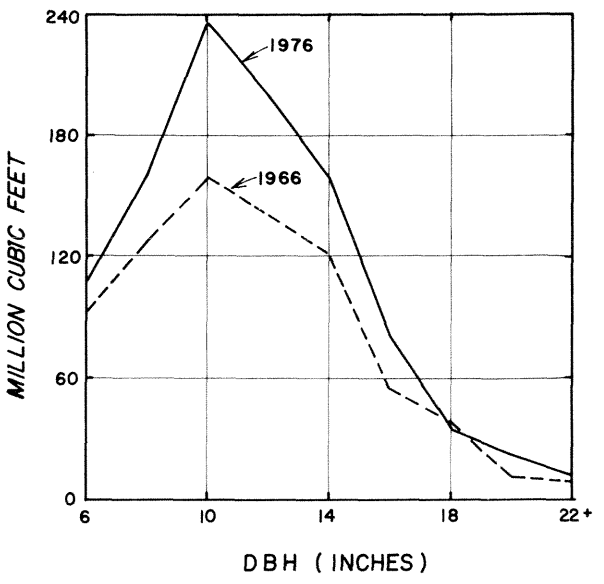

Figure 3. *Softwood growing stock by tree diameter, 1966 and 1976.*

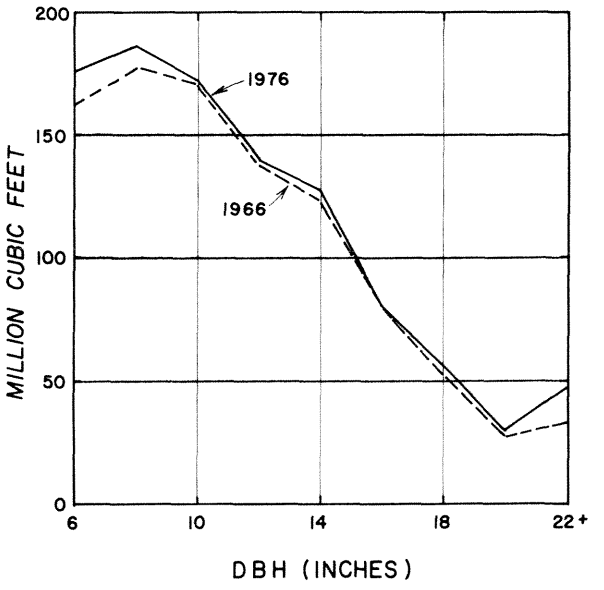

Figure 4. *Hardwood growing stock by tree diameter, 1966 and 197*

Removals in growing stock amounted to 63.3 million cubic feet in 1975 — 46.7 million for softwood and 16.6 million for hardwood. Most of the softwood was cut for timber products. Land clearing played a significant role in hardwood removals.

The growth-cut ratio for hardwood has increased since 1965; whereas the surplus of growth over cut for softwood has lessened, primarily because of increased industrial activity in east Oklahoma.

HARDWOOD TREATMENT OPPORTUNITIES

About 1.7 million acres of forest land in east Oklahoma are suitable for growing hardwood. Of this total, about 425,800 acres are bottom-land hardwood forests; the rest occur in the uplands. However, the quality of the hardwood resource is not good. About one of every two hardwood trees 5 inches or greater in diameter has defects or rot that renders it unsuitable for sawtimber now or in the future.

What conditions are encountered in these hardwood stands, and what might be done to improve them? The proportion of desirable trees and growing stock provides a partial answer.

A desirable tree is growing stock that is vigorous, has no defects that would seriously limit its present or prospective use, and contains no pathogens that would cause death or serious degrade before rotation age. Growing stock not classed as desirable is called acceptable.

About 39,000 acres of hardwood sites in east Oklahoma contain plentiful growing stock but few desirable trees. On these acres stocking of desirable trees can be enhanced by concentrating intermediate removals on the acceptable trees. Though desirable tree stocking is less than optimal, enough growing stock is present so that a manageable stand exists, and cutting acceptable trees will not reduce stocking to unacceptably low levels.

An additional 578,600 acres of hardwood sites have adequate growing stock but few desirable trees. In some of these stands, building up the inventory will be a lengthy process. Growing stock can be removed to facilitate occupancy by desirable trees, but removals cannot be so great as to reduce stocking too low. Cull tree removal will be a major stand improvement measure in these stands.

Finally, 1.1 million acres of hardwood are poorly stocked with both growing stock and desirable trees. Rehabilitation of these sites will take a long time. In some cases, the existing stand might have enough growing stock that can be nursed into a manageable stand. Others, however, have such poor stocking that establishing a new stand is the only feasible solution. Many of these stands also have species that do not qualify as growing stock, and promoting preferred species will be a formidable task.

EXPANDING THE PINE RESOURCE

The softwood resource of east Oklahoma is the mainstay of the region's timber economy, but extensive acreages of hardwoods now dominate sites that could be growing pine. This hardwood is often of little or no value. Since only about 169,000 acres of nonstocked forest land remain in east Oklahoma, the best means of increasing the pine timber supply is to convert these low-grade stands of hardwood to more productive pine.

The amount of hardwood-dominated pine sites in east Oklahoma is surprising. Of the 2.6 million acres of pine sites, some 1.8 million acres, or two-thirds, are now growing hardwoods. Some of these hardwood stands have enough potential to be managed and harvested before the land is regenerated to pine; but most are poorly stocked, have no value, and should be converted immediately.

Even though these sites are dominated by hardwood, some have enough pines so that conversion might be accomplished by natural regeneration. About 422,800 acres can be regenerated naturally. Natural regeneration means lower costs, and every acre restocked this way frees resources for areas that must be artificially regenerated. The remaining 1.3 million acres will have to be converted by planting or seeding.

Areas with high site quality should probably be converted first. Good sites will offer better financial rewards, even though much higher site preparation costs might be encountered on them.

Pine sites that already have pine forests also need varying degrees of treatment. Some 564,300 acres of pine types are poorly stocked with desirable trees and need improvement to bring stocking to an acceptable level. Growing-stock trees are usually present in sufficient numbers so that upgrading can be accomplished by favoring preferred trees through thinnings and cull tree removal. However, some acres are so poorly stocked that a new stand must be established. In addition, 238,500 acres have enough desirable trees so that treatment consists primarily of favoring them in intermediate cuts and reserving them as crop trees. An additional 44,500 acres of pine are in good condition and need little or no treatment.

OUTLOOK

The short-term outlook for the pine resource of east Oklahoma is encouraging. The 34-percent gain in the softwood inventory in the last decade bodes well for the next few years. The prospect for hardwoods is not so encouraging. The hardwood inventory registered little growth in the last decade, and clearing for pasture will continue to impinge on the hardwood resource. In

addition, cull trees preempt a large amount of hardwood growing space and make inventory gains difficult.

Ownership patterns in east Oklahoma also affect the outlook for the timber resource. The forest industry, though it owns only 23 percent of the commercial forest area, holds over half the softwood growing-stock inventory. The pine resource is the mainstay of the industry, and, as timber stands on this ownership category are harvested, provisions will be made to perpetuate this resource by prompt regeneration. Furthermore, hardwood stands on pine sites owned by the industry will probably be converted to pine as part of the timber management program. Hence, the outlook for maintenance and expansion of the pine resource on forest industry lands seems assured.

The prospect is not as good for miscellaneous, private ownerships. Although possibilities for increasing the pine timber supply are abundant, many of these owners lack the financial resources for type conversion. Site preparation can be quite costly, and, if a sufficient pine seed source is lacking, additional cash outlays are needed for planting or direct seeding operations. Stands needing converting often have no merchantable trees from which proceeds could be derived to defray costs. Thus, there is a long delay between the time conversion costs are incurred and the time when benefits from them are realized. Whether these owners convert low-grade hardwoods to pine will depend to some extent on the availability of financing such as cost sharing.

Also, much of the potential hardwood resource is found on land owned by individuals. These lands have a preponderance of seedling and sapling stands, and returns from stand improvement measures will be long term. The presence of a large number of cull trees is also a challenge. Hardwood stands with a large cull tree stocking will not necessarily evolve into ones with more growing stock. As long as growing space is preempted by worthless trees, development of a stand with desired stocking is unlikely. As with type conversion, hardwood stand improvement is hampered by inadequate financial resources. For maximum cost effectiveness, hardwood stand treatment should be concentrated on the better sites.

Even with these problems, private, nonindustrial forests can play a substantial role in east Oklahoma's timber economy.

RELIABILITY OF THE DATA

The data on forest acreage and timber volume 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 Oklahoma, 48,468 photographic classifications were made and 2,753 ground sample locations were visited.

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 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 Service 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 0.7 percent for the estimate of commercial forest area. The sampling errors for growing stock are 3.4 percent for volume, 3.4 percent for growth, and 2.4 percent for removals. For sawtimber, the sampling errors are 4.9 percent for volume, 5.5 percent for growth, and 2.1 percent for removals. As these totals are broken down by forest types, species, tree diameters, and other subdivisions, the possibility of error increases and is greatest for the smallest items.

DEFINITIONS OF TERMS

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

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.

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

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

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.

D.b.h. (Diameter breast height). — 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.

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.

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

Growing-stock trees. — Sawtimber trees, poletimber trees, saplings, and seedlings; that is, all live trees except rough and rotten 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 of 4.0-inch top diameter outside bark of the central stem, or to the point where the central stem breaks into limbs.

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

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

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

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.

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.

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

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 12-foot saw log.

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

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

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

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 sapling and seedling.

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.

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

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.

STANDARD TABLES

Table 1. *Area by land classes, east Oklahoma, 1976*

Land class	Area
	Thousand acres
Forest:	
Commercial	4,323.4
Productive-reserved	52.8
Unproductive	550.5
Total forest	4,926.7
Nonforest:	
Cropland[1]	1,971.4
Other[2]	3,220.4
Total nonforest	5,191.8
All land[3]	10,118.5

[1]Census of Agriculture.

[2]Includes pasture and range, industrial and urban areas, other nonforest land, and 40,268 acres, classed as water by Forest Survey standards, but defined by the Bureau of the Census as land.

[3]United States Bureau of the Census.

Table 2. *Area of commercial forest land by ownership classes, east Oklahoma, 1976*

Ownership class	Area
	Thousand acres
Public:	
National forest	218.8
Indian	114.7
Other federal	123.8
State	90.8
County and municipal	14.5
Total public	562.6
Private:	
Forest industry[1]	991.3
Farmer	1,095.5
Miscellaneous private:	
Individual	1,513.0
Corporate	161.0
Total private	3,760.8
All ownerships	4,323.4

[1]Not including 5.5 thousand acres of farmer-owened and miscellaneous private lands leased to forest industry.

Table 3. *Area of commercial forest land by stand-size and ownership classes, east Oklahoma, 1976*

Stand-size class	All ownerships	National forest	Other public	Forest industry	Farmer and misc. private
	Thousand acres				
Sawtimber	1,028.6	112.2	88.0	368.3	460.1
Poletimber	1,483.1	75.3	103.2	316.6	988.0
Sapling and seedling	1,642.7	25.0	152.6	306.4	1,158.7
Nonstocked areas	169.0	6.3	. . .	. . .	162.7
All classes	4,323.4	218.8	343.8	991.3	2,769.5

Table 4. *Area of commercial forest land by stand-volume and ownership classes, east Oklahoma, 1976*

Stand-volume per acre[1]	All ownerships	National forest	Other public	Forest industry	Farmer and misc. private
	Thousand acres				
Less than 1,500 fbm	3,026.6	81.6	262.4	452.3	2,230.3
1,500 to 5,000 fbm	1,047.6	87.6	60.1	402.1	497.8
More than 5,000 fbm	249.2	49.6	21.3	136.9	41.4
All classes	4,323.4	218.8	343.8	991.3	2,769.5

[1]International 1/4-inch rule.

Table 5. *Area of commercial forest land by stocking classes based on selected stand components, east Oklahoma, 1976*

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	27.0	10.8	. . .	. . .	. . .	. . .
150 to 160	16.8	16.2	. . .	. . .	. . .	. . .
140 to 150	34.4	10.8	. . .	. . .	. . .	. . .
130 to 140	221.5	28.0	. . .	5.4	. . .	. . .
120 to 130	414.8	61.5	10.8	11.4	5.9	. . .
110 to 120	749.7	144.4	17.9	21.8	13.5	. . .
100 to 110	934.2	221.3	22.3	21.3	11.5	. . .
90 to 100	755.8	276.7	10.8	99.3	35.4	. . .
80 to 90	571.4	397.9	38.5	157.1	110.8	. . .
70 to 80	375.3	482.4	77.5	314.4	157.6	. . .
60 to 70	127.6	603.5	123.1	462.1	353.9	. . .
50 to 60	36.8	562.5	166.9	661.6	471.2	. . .
40 to 50	40.1	547.4	245.9	745.4	672.9	. . .
30 to 40	12.0	482.5	254.7	790.3	872.1	. . .
20 to 30	. . .	249.3	371.0	519.6	701.3	4.5
10 to 20	. . .	149.8	606.9	348.8	533.2	10.2
Less than 10	6.0	78.4	2,377.1	164.9	384.1	4,308.7
All areas	4,323.4	4,323.4	4,323.4	4,323.4	4,323.4	4,323.4

Table 6. *Area of commercial forest land by area-condition and ownership classes, east Oklahoma, 1976*

Area-condition class	All ownerships	National forest	Other public	Forest industry	Farmer and misc. private
	Thousand acres				
10	39.9	. . .	6.5	16.6	16.8
20	11.1	. . .	. . .	5.4	5.7
30	38.5	6.2	. . .	16.2	16.1
40	211.4	12.6	. . .	142.5	56.3
50	297.0	43.6	15.7	137.6	100.1
60	1,655.6	99.8	147.4	474.8	933.6
70	2,069.9	56.6	174.2	198.2	1,640.9
All classes	4,323.4	218.8	343.8	991.3	2,769.5

Table 7. *Area of commercial forest land by site and ownership classes, east Oklahoma, 1976*

Site class	All ownerships	National forest	Other public	Forest industry	Farmer and misc. private
	Thousand acres				
165 ft^3 or more	5.5	. . .	5.5	. . .	. . .
120 to 165 ft^3	33.1	6.2	. . .	10.8	16.1
85 to 120 ft^3	230.4	43.3	21.2	102.6	63.3
50 to 85 ft^3	1,879.1	87.6	147.1	616.8	1,027.6
Less than 50 ft^3	2,175.3	81.7	170.0	261.1	1,662.5
All classes	4,323.4	218.8	343.8	991.3	2,769.5

Table 8. *Area of commercial forest land by forest types and ownership classes, east Oklahoma, 1976*

Type	All ownerships	National forest	Other public	Forest industry	Farmer and misc. private
	Thousand acres				
Loblolly-shortleaf pine	847.3	100.0	45.9	436.0	265.4
Oak-pine	693.1	37.5	37.3	281.2	337.1
Oak-hickory	2,357.2	75.1	181.0	230.6	1,870.5
Oak-gum-cypress	296.3	6.2	29.5	43.5	217.1
Elm-ash-cottonwood	129.5	. . .	50.1	. . .	79.4
All types	4,323.4	218.8	343.8	991.3	2,769.5

Table 9. *Area of noncommercial forest land by forest types, east Oklahoma, 1976*

Type	All areas	Productive-reserved	Unproductive
	Thousand acres		
Loblolly-shortleaf pine	20.9	20 .9	. . .
Oak-pine	8.0	8.0	. . .
Oak-hickory	574.4	23.9	550.5
All types	603.3	52.8	550.5

Table 10. *Number of growing-stock trees on commercial forest land by species and diameter classes, east Oklahoma, 1976*

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	126,703	49,075	31,442	23,189	13,064	6,391	2,550	729	244	14	5
Loblolly pine	5,127	1,526	1,479	1,000	350	385	74	81	132	100	. . .
Cypress	22	. . .	. . .	. . .	. . .	18	. . .	. . .	. . .	. . .	4
Redcedar	2,189	1,484	487	120	24	44	16	14	. . .	. . .	. . .
Total	134,041	52,085	33,408	24,309	13,438	6,838	2,640	824	376	114	9
Hardwood:											
Select white oaks[1]	16,747	8,423	4,175	2,002	911	679	239	162	89	67	. . .
Select red oaks[2]	9,141	3,792	2,222	1,358	852	350	281	84	88	91	23
Other white oaks	64,271	36,354	14,656	6,887	3,076	2,118	676	242	132	130	. . .
Other red oaks	35,863	14,965	8,851	5,134	2,839	2,020	1,192	558	167	137	. . .
Pecan	1,064	438	216	76	89	43	58	49	11	67	17
Other hickories	29,878	16,736	6,417	3,668	1,598	970	302	132	28	27	. . .
Sweetgum	2,813	746	859	491	456	92	65	71	10	23	. . .
Tupelo and blackgum	2,560	1,264	388	237	257	225	82	60	42	5	. . .
Hard maple	108	. . .	. . .	81	27	. . .	. . .	. . .	. . .	. . .	. . .
Soft maple	1,031	638	. . .	191	108	22	47	12	. . .	8	5
Ash	7,606	3,982	1,704	1,110	268	361	58	74	22	27	. . .
Cottonwood	2,051	755	729	127	86	39	92	155	40	28	. . .
Basswood	112	. . .	61	51	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Black walnut	402	217	. . .	83	61	. . .	33	. . .	8	. . .	. . .
Black cherry	377	214	63	80	. . .	20	. . .	. . .	. . .	. . .	. . .
Willow	1,070	158	323	90	262	71	89	43	10	24	. . .
American elm	1,821	606	308	309	260	126	125	34	39	10	4
Other elms	11,125	6,094	2,541	1,441	627	284	42	61	10	25	. . .
Hackberry	2,332	683	676	607	188	74	91	. . .	13	. . .	. . .
Sycamore	1,461	641	233	127	72	162	81	23	59	45	18
Other hardwoods	2,669	1,376	733	172	199	103	43	. . .	28	15	. . .
Total	194,502	98,082	45,155	24,322	12,236	7,759	3,596	1,760	796	729	67
All species	328,543	150,167	78,563	48,631	25,674	14,597	6,236	2,584	1,172	843	76

[1]Includes white, swamp chestnut, chinkapin, and bur 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, east Oklahoma, 1976*

Class of timber	All species	Soft-wood	Hard-wood
	-------- *Million cubic feet* --------		
Sawtimber trees:			
Saw-log portion	1,100.6	669.6	431.0
Upper-stem portion	141.6	72.9	68.7
Total	1,242.2	742.5	499.7
Poletimber trees	819.3	267.9	551.4
All growing stock	2,061.5	1,010.4	1,051.1
Rough trees	610.1	15.0	595.1
Rotten trees	111.0	3.1	107.9
Salvable dead trees	1.5	. . .	1.5
All timber	2,784.1	1,028.5	1,755.6

Table 12. *Volume of growing stock and sawtimber on commercial forest land by ownership classes and by softwoods and hardwoods, east Oklahoma, 1976*

Ownership class	Growing stock			Sawtimber		
	All species	Softwood	Hardwood	All species	Softwood	Hardwood
	---------- *Million cubic feet* ----------			---------- *Million board feet* ----------		
National forest	201.7	127.0	74.7	756.2	510.2	246.0
Other public	147.1	50.2	96.9	437.6	145.4	292.2
Forest industry	728.3	517.2	211.1	2,410.0	1,923.5	486.5
Farmer and misc. private	984.4	316.0	668.4	2,462.9	996.7	1,466.2
All ownerships	2,061.5	1,010.4	1,051.1	6,066.7	3,575.8	2,490.9

Table 13. *Volume of growing stock on commercial forest land by species and diameter classes, east Oklahoma, 1976*

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	938.7	101.4	151.8	224.6	193.8	146.9	77.9	29.2	11.6	1.1	0.4
Loblolly pine	63.7	3.7	6.7	10.1	6.2	10.3	2.8	5.0	10.2	8.7	. . .
Cypress	1.2	. . .	. . .	. . .	. . .	.3	. . .	. . .	. . .	. . .	.9
Redcedar	6.8	2.5	1.8	.7	.3	.8	.3	.4	. . .	. . .	. . .
Total	1,010.4	107.6	160.3	235.4	200.3	158.3	81.0	34.6	21.8	9.8	1.3
Hardwood:											
Select white oaks	96.4	18.5	20.5	16.5	11.5	12.7	6.1	4.0	3.0	3.6	. . .
Select red oaks	63.8	7.7	11.0	9.6	10.2	5.2	6.2	2.8	3.6	4.8	2.7
Other white oaks	258.5	65.5	57.5	45.4	30.6	31.2	13.1	6.0	3.7	5.5	. . .
Other red oaks	243.1	28.1	39.1	42.0	36.3	36.3	29.1	19.3	6.5	6.4	. . .
Pecan	15.1	.7	1.0	.6	1.1	.8	1.7	1.4	.3	5.0	2.5
Other hickories	125.7	27.3	25.4	25.3	17.9	16.2	6.7	4.3	1.0	1.6	. . .
Sweetgum	28.8	1.9	4.4	5.2	7.9	2.4	2.2	2.7	.6	1.5	. . .
Tupelo and blackgum	19.0	2.5	1.6	1.7	3.1	4.3	2.2	1.6	1.5	.5	. . .
Hard maple	1.0	. . .	. . .	.7	.3	. . .	. . .	. . .	. . .	. . .	. . .
Soft maple	8.5	1.5	. . .	2.1	1.5	.6	1.3	.6	. . .	.4	.5
Ash	40.0	8.5	7.2	8.5	3.3	6.1	1.8	2.2	.8	1.6	. . .
Cottonwood	23.6	1.3	3.3	1.2	1.3	.8	3.5	7.5	2.4	2.3	. . .
Basswood	.5	. . .	.2	.3	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Black walnut	2.5	.4	. . .	.6	.5	. . .	.8	. . .	.2	. . .	. . .
Black cherry	1.9	.4	.4	.6	. . .	.5	. . .	. . .	. . .	. . .	. . .
Willow	11.9	.1	1.6	.7	3.3	1.1	2.2	1.3	.5	1.1	. . .
American elm	15.3	.9	1.4	2.2	2.9	2.0	2.7	.9	1.4	.6	.3
Other elms	46.6	9.5	10.2	9.8	7.7	4.7	1.0	1.9	.5	1.3	. . .
Hackberry	13.0	.9	2.2	3.8	2.4	1.0	2.4	. . .	.3	. . .	. . .
Sycamore	22.3	2.2	1.7	1.6	1.2	3.5	2.4	.6	3.4	2.6	3.1
Other hardwoods	13.6	2.8	2.3	1.3	2.6	2.3	.8	. . .	.8	.7	. . .
Total	1,051.1	180.7	191.0	179.7	145.6	131.7	86.2	57.1	30.5	39.5	9.1
All species	2,061.5	288.3	351.3	415.1	345.9	290.0	167.2	91.7	52.3	49.3	10.4

Table 14. *Volume of sawtimber on commercial forest land by species and diameter classes, east Oklahoma, 1976*

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	3,273.2	912.1	920.4	777.9	427.9	161.1	64.2	7.1	2.5
Loblolly pine	284.1	39.9	29.8	55.2	15.1	30.7	61.4	52.0	. . .
Cypress	7.4	. . .	. . .	1.2	. . .	. . .	. . .	. . .	6.2
Redcedar	11.1	2.2	1.5	4.3	1.1	2.0	. . .	. . .	. . .
Total	3,575.8	954.2	951.7	838.6	444.1	193.8	125.6	59.1	8.7
Hardwood:									
Select white oaks	218.3	. . .	52.8	65.7	34.6	23.5	19.6	22.1	. . .
Select red oaks	190.9	. . .	46.7	27.2	31.8	16.3	21.1	30.0	17.8
Other white oaks	458.5	. . .	140.1	157.6	70.5	34.4	21.5	34.4	. . .
Other red oaks	653.9	. . .	147.9	177.9	148.9	104.5	35.2	39.5	. . .
Pecan	73.9	. . .	5.2	3.8	7.7	7.8	1.9	31.8	15.7
Other hickories	233.3	. . .	79.5	80.7	36.4	23.2	5.2	8.3	. . .
Sweetgum	78.1	. . .	29.8	11.4	11.6	14.6	2.7	8.0	. . .
Tupelo and blackgum	66.6	. . .	12.2	20.2	12.3	8.9	9.0	4.0	. . .
Hard maple	1.9	. . .	1.9	. . .	. . .	. . .	. . .	. . .	. . .
Soft maple	24.2	. . .	6.0	2.9	7.3	3.1	. . .	2.3	2.6
Ash	75.0	. . .	12.8	28.6	8.0	11.9	3.8	9.9	. . .
Cottonwood	85.2	. . .	2.8	2.9	16.6	37.4	12.4	13.1	. . .
Black walnut	7.2	. . .	2.0	. . .	3.5	. . .	1.7	. . .	. . .
Black cherry	1.8	. . .	. . .	1.8	. . .	. . .	. . .	. . .	. . .
Willow	40.1	. . .	10.2	4.7	9.6	6.8	2.7	6.1	. . .
American elm	55.3	. . .	12.1	9.0	15.2	4.4	8.4	4.2	2.0
Other elms	79.9	. . .	31.0	24.4	3.9	10.1	2.8	7.7	. . .
Hackberry	26.5	. . .	9.6	5.6	9.5	. . .	1.8	. . .	. . .
Sycamore	86.7	. . .	5.3	15.4	11.4	3.0	19.9	13.0	18.7
Other hardwoods	33.6	. . .	9.9	10.8	3.2	. . .	4.9	4.8	. . .
Total	2,490.9	. . .	617.8	650.6	442.0	309.9	174.6	239.2	56.8
All species	6,066.7	954.2	1,569.5	1,489.2	886.1	503.7	300.2	298.3	65.5

Table 15. *Volume of sawtimber on commercial forest land by species and log grade, east Oklahoma, 1976*

Species	All grades	Grade 1	Grade 2	Grade 3	Grade 4
	Million board feet				
Softwood:					
Yellow pines	3,557.3	122.8	434.3	3,000.2	. . .
Cypress	7.4	. . .	.1	7.3	. . .
Redcedar	11.1	11.1	. . .	. . .	. . .
Total	3,575.8	133.9	434.4	3,007.5	. . .
Hardwood:					
Select white and red oaks	409.2	61.8	65.0	178.1	104.3
Other white and red oaks	1,112.4	22.4	131.2	491.1	467.7
Hickory	307.2	15.6	54.2	127.5	109.9
Hard maple	1.9	. . .	. . .	. . .	1.9
Sweetgum	78.1	7.5	9.2	35.9	25.5
Tupelo and blackgum	66.6	8.2	12.4	34.2	11.8
Ash, walnut, and black cherry	84.0	15.0	17.3	44.0	7.7
Other hardwoods	431.5	38.2	89.1	178.4	125.8
Total	2,490.9	168.7	378.4	1,089.2	854.6
All species	6,066.7	302.6	812.8	4,096.7	854.6

Table 16. *Annual growth and removals of growing stock on commercial forest land by species, east Oklahoma, 1975*

Species	Net annual growth	Annual removals
	Million cubic feet	
Softwood:		
Yellow pines	55.4	46.4
Cypress	(1)	. . .
Redcedar	.5	.3
Total	55.9	46.7
Hardwood:		
Select white and red oaks	10.0	1.4
Other white and red oaks	27.9	8.3
Hickory	8.5	2.0
Hard maple	(1)	(1)
Sweetgum	1.3	1.3
Tupelo and blackgum	.7	.4
Ash, walnut, and black cherry	3.4	.9
Other hardwoods	9.1	2.3
Total	60.9	16.6
All species	116.8	63.3

[1]Negligible.

Table 17. *Annual growth and removals of growing stock on commercial forest land by ownership classes and by softwoods and hardwoods, east Oklahoma, 1975*

Ownership class	Net annual growth			Annual removals		
	All species	Softwood	Hardwood	All species	Softwood	Hardwood
	Million cubic feet					
National forest	9.8	6.8	3.0	5.0	4.5	0.5
Other public	8.8	2.9	5.9	1.9	.3	1.6
Forest industry	39.7	27.3	12.4	37.2	34.5	2.7
Farmer and misc. private	58.5	18.9	39.6	19.2	7.4	11.8
All ownerships	116.8	55.9	60.9	63.3	46.7	16.6

Table 18. *Annual growth and removals of sawtimber on commercial forest land by species, east Oklahoma, 1975*

Species	Net annual growth	Annual removals
	Million board feet	
Softwood:		
Yellow pines	241.6	221.7
Cypress	.1	. . .
Redcedar	.5	.8
Total	242.2	222.5
Hardwood:		
Select white and red oaks	30.7	3.7
Other white and red oaks	65.3	28.4
Hickory	13.3	4.6
Hard maple	.1	. . .
Sweetgum	6.0	3.8
Tupelo and blackgum	3.7	1.9
Ash, walnut, and black cherry	4.0	2.0
Other hardwoods	31.9	6.7
Total	155.0	51.1
All species	397.2	273.6

Table 19. *Annual growth and removals of sawtimber on commercial forest land by ownership classes and by softwoods and hardwoods, east Oklahoma, 1975*

Ownership class	Net annual growth			Annual removals		
	All species	Softwood	Hardwood	All species	Softwood	Hardwood
	Million board feet					
National forest	40.1	26.2	13.9	28.2	27.4	0.8
Other public	24.1	7.0	17.1	5.5	1.2	4.3
Forest industry	158.4	133.9	24.5	172.9	165.1	7.8
Farmer and misc. private	174.6	75.1	99.5	67.0	28.8	38.2
All ownerships	397.2	242.2	155.0	273.6	222.5	51.1

Table 20. *Mortality of growing stock and sawtimber on commercial forest land by species, east Oklahoma, 1975*

Species	Growing stock	Sawtimber
	--- *Million cubic feet* ---	--- *Million board feet* ---
Softwood:		
Yellow pines	1.9	5.6
Other softwoods	([1])	([1])
Total	1.9	5.6
Hardwood:		
Select white and red oaks	.5	1.7
Other white and red oaks	2.6	7.1
Hickory	1.3	2.5
Hard maple	([1])	.2
Sweetgum	.5	1.5
Tupelo and blackgum	([1])	.2
Ash, walnut, and black cherry	.5	.4
Other hardwoods	2.0	7.1
Total	7.4	20.7
All species	9.3	26.3

[1]Negligible.

Table 21. *Mortality of growing stock and sawtimber on commercial forest land by ownership classes and by softwoods and hardwoods, east Oklahoma, 1975*

Ownership class	Growing stock			Sawtimber		
	All species	Softwood	Hardwood	All species	Softwood	Hardwood
	---------- *Million cubic feet* ----------			---------- *Million board feet* ----------		
National forest	0.3	0.1	0.2	0.6	0.2	0.4
Other public	2.1	.2	1.9	5.5	.8	4.7
Forest industry	2.2	1.1	1.1	6.0	3.3	2.7
Farmer and misc. private	4.7	.5	4.2	14.2	1.3	12.9
All ownerships	9.3	1.9	7.4	26.3	5.6	20.7

Table 22. *Mortality of growing stock and sawtimber on commercial forest land by causes and by softwoods and hardwoods, east Oklahoma, 1975*

Cause of death	Growing stock			Sawtimber		
	All species	Softwood	Hardwood	All species	Softwood	Hardwood
	---------- *Million cubic feet* ----------			---------- *Million board feet* ----------		
Fire	1.2	0.1	1.1	1.0	. . .	1.0
Insects	.3	.3	. . .	1.4	1.4	. . .
Disease	1.4	.1	1.3	4.6	. . .	4.6
Other	4.2	.5	3.7	13.4	1.6	11.8
Unknown	2.2	.9	1.3	5.9	2.6	3.3
All causes	9.3	1.9	7.4	26.3	5.6	20.7

Table 23. *Total output of timber products by product, by type of material used, and by softwoods and hardwoods, east Oklahoma, 1975*

Produce and species group	Standard units	Total output		Roundwood products		Plant byproducts	
		Number	M ft³	Number	M ft³	Number	M ft³
Saw logs:							
Softwood	M fbm[1]	163,479	26,892	157,479	25,905	6,000	987
Hardwood	M fbm[1]	31,870	5,313	31,870	5,313	. . .	. . .
Total	M fbm[1]	195,349	32,205	189,349	31,218	6,000	987
Veneer logs and bolts:							
Softwood	M fbm	32,150	5,289	32,150	5,289	. . .	. . .
Hardwood	M fbm	2,122	356	2,122	356	. . .	. . .
Total	M fbm	34,272	5,645	34,272	5,645	. . .	. . .
Pulpwood:							
Softwood	Std. cords[2]	326,174	26,421	110,453	8,947	215,721	17,474
Hardwood	Std. cords[2]	54,675	4,374	39,275	3,142	15,400	1,232
Total	Std. cords[2]	380,849	30,795	149,728	12,089	231,121	18,706
Poles:							
Softwood	M pieces	189	736	189	736	. . .	. . .
Hardwood		. . .	. . .	. . .	. . .	. . .	. . .
Total	M pieces	189	736	189	736	. . .	. . .
Commercial posts (round and split):							
Softwood	M pieces	3,552	2,194	3,552	2,194	. . .	. . .
Hardwood	M pieces	5	3	5	3	. . .	. . .
Total	M pieces	3,557	2,197	3,557	2,197	. . .	. . .
Other[3]:							
Softwood	M ft³	368	368	. . .	. . .	368	368
Hardwood	M ft³	1,695	1,695	858	858	837	837
Total	M ft³	2,063	2,063	858	858	1,205	1,205
Total industrial products:							
Softwood	. . .	. . .	. . .	. . .	43,071	. . .	18,829
Hardwood	. . .	. . .	. . .	. . .	9,672	. . .	2,069
Total	. . .	. . .	. . .	. . .	52,743	. . .	20,898
Noncommercial posts (round and split):							
Softwood	M pieces	140	88	140	88	. . .	. . .
Hardwood	M pieces	158	102	158	102	. . .	. . .
Total	M pieces	298	190	298	190	. . .	. . .
Fuelwood:							
Softwood	Std. cords	66,419	4,981	939	70	[4] 65,480	[4] 4,911
Hardwood	Std. cords	88,787	6,659	79,160	5,937	[4] 9,627	[4] 722
Total	Std. cords	155,206	11,640	80,099	6,007	[4] 75,107	[4] 5,633
All products:							
Softwood	. . .	. . .	. . .	. . .	43,229	. . .	23,740
Hardwood	. . .	. . .	. . .	. . .	15,711	. . .	2,791
Total	. . .	. . .	. . .	. . .	58,940	. . .	26,531

[1]International 1/4-inch rule.
[2]Rough wood basis (for example, chips converted to equivalent standard cords).
[3]Includes chemical wood, handle stock 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, east Oklahoma, 1975*

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	25,905	25,732	25,637	95	32	. . .	141
Hardwood	5,313	5,115	5,109	6	71	124	3
Total	31,218	30,847	30,746	101	103	124	144
Veneer logs and bolts:							
Softwood	5,289	5,253	5,234	19	7	. . .	29
Hardwood	356	350	350	. . .	4	. . .	2
Total	5,645	5,603	5,584	19	11	. . .	31
Pulpwood:							
Softwood	8,947	8,520	5,874	2,646	59	. . .	368
Hardwood	3,142	2,524	1,418	1,106	477	8	133
Total	12,089	11,044	7,292	3,752	536	8	501
Poles:							
Softwood	736	730	646	84	. . .	. . .	6
Hardwood	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Total	736	730	646	84	. . .	. . .	6
Commercial posts (round and split):							
Softwood	2,194	2,000	. . .	2,000	. . .	. . .	194
Hardwood	3	3	1	2	. . .	. . .	. . .
Total	2,197	2,003	1	2,002	. . .	. . .	194
Other:							
Softwood	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Hardwood	858	598	232	366	104	52	104
Total	858	598	232	366	104	52	104
All misc. industrial products:							
Softwood	2,930	2,730	646	2,084	. . .	. . .	200
Hardwood	861	601	233	368	104	52	104
Total	3,791	3,331	879	2,452	104	52	304
All industrial products:							
Softwood	43,071	42,235	37,391	4,844	98	. . .	738
Hardwood	9,672	8,590	7,110	1,480	656	184	242
Total	52,743	50,825	44,501	6,324	754	184	980
Noncommercial posts (round and split):							
Softwood	88	65	12	53	6	5	12
Hardwood	102	75	14	61	7	6	14
Total	190	140	26	114	13	11	26
Fuelwood:							
Softwood	70	41	6	35	11	5	13
Hardwood	5,937	3,447	516	2,931	996	420	1,074
Total	6,007	3,488	522	2,966	1,007	425	1,087
All products:							
Softwood	43,229	42,341	37,409	4,932	115	10	763
Hardwood	15,711	12,112	7,640	4,472	1,659	610	1,330
Total	58,940	54,453	45,049	9,404	1,774	620	2,093

[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, east Oklahoma, 1975*

Item	All species	Softwood	Hardwood
	Thousand cubic feet		
Roundwood products:			
Saw logs	30,847	25,732	5,115
Veneer logs and bolts	5,603	5,253	350
Pulpwood	11,044	8,520	2,524
Poles	730	730	. . .
Posts	2,143	2,065	78
Other	598	. . .	598
Fuelwood	3,488	41	3,447
All products	54,453	42,341	12,112
Logging residues	6,660	4,370	2,290
Other removals	2,228	. . .	2,228
Total removals	63,341	46,711	16,630

Table 26. *Timber removals from live sawtimber on commercial forest lands by items and by softwoods and hardwoods, east Oklahoma, 1975*

Item	All species	Softwood	Hardwood
	Thousand board feet		
Roundwood products:			
Saw logs	185,509	155,573	29,936
Veneer logs and bolts	33,820	31,761	2,059
Pulpwood	28,844	23,351	5,493
Poles	3,734	3,734	. . .
Posts	81	64	17
Other	1,057	. . .	1,057
Fuelwood	2,554	31	2,523
All products	255,599	214,514	41,085
Logging residues	12,956	7,937	5,019
Other removals	5,002	. . .	5,002
Total removals	273,557	222,451	51,106

Table 27. *Volume of plant residues by industrial source and type of residue and by softwoods and hardwoods, east Oklahoma, 1975*

Species group and type	All industries	Lumber	Other
	Thousand cubic feet		
Softwood:			
Coarse[1]	184	135	49
Fine[2]	221	120	101
Total	405	255	150
Hardwood:			
Coarse	172	150	22
Fine	293	260	33
Total	465	410	55
All species:			
Coarse	356	285	71
Fine	514	380	134
All types	870	665	205

[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, east Oklahoma, 1975-2005*[1]

Item	Growing stock				Sawtimber			
	1975	1985	1995	2005	1975	1985	1995	2005
	Thousand cubic feet				*Thousand board feet*			
Softwood:								
Cut	46,700	59,800	71,000	77,500	222,500	235,000	257,000	253,000
Growth	55,900	65,400	73,700	77,500	242,200	216,000	219,000	221,000
Inventory[2]	1,010,400	1,081,500	1,122,000	1,133,500	3,575,800	3,587,000	3,267,000	2,911,000
Hardwood:								
Cut	16,600	65,600	85,100	102,300	51,100	156,000	178,000	181,000
Growth	60,900	78,900	93,200	102,300	155,000	155,000	155,000	152,000
Inventory[2]	1,051,100	1,205,500	1,311,100	1,359,100	2,490,900	2,654,000	2,505,000	2,235,000
Total:								
Cut	63,300	125,400	156,100	179,800	273,600	391,000	435,000	434,000
Growth	116,800	144,300	166,900	179,800	397,200	371,000	374,000	373,000
Inventory[2]	2,061,500	2,287,000	2,433,100	2,492,600	6,066,700	6,241,000	5,772,000	5,146,000

[1]Based on the assumption that the cut of growing stock will be in balance with growth by the year 2005, and that forestry progress will continue at the rate indicated by recent trends.
[2]Inventory as of January 1 of the following year.

Murphy, Paul A.

1977. East Oklahoma forests: trends and outlook. South. For. Exp. Stn., New Orleans, La. 20p. (USDA For. Serv. Resour. Bull. SO-63)

The softwood inventory gained 34 percent from 1966 to 1976 and now totals 1 billion cubic feet; hardwoods increased 4 percent to a total of 1.1 billion cubic feet. The commercial forest area declined 12 percent to 4.3 million acres.

Additional keywords: Timber volume, forest area, timber cut, timber growth.

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