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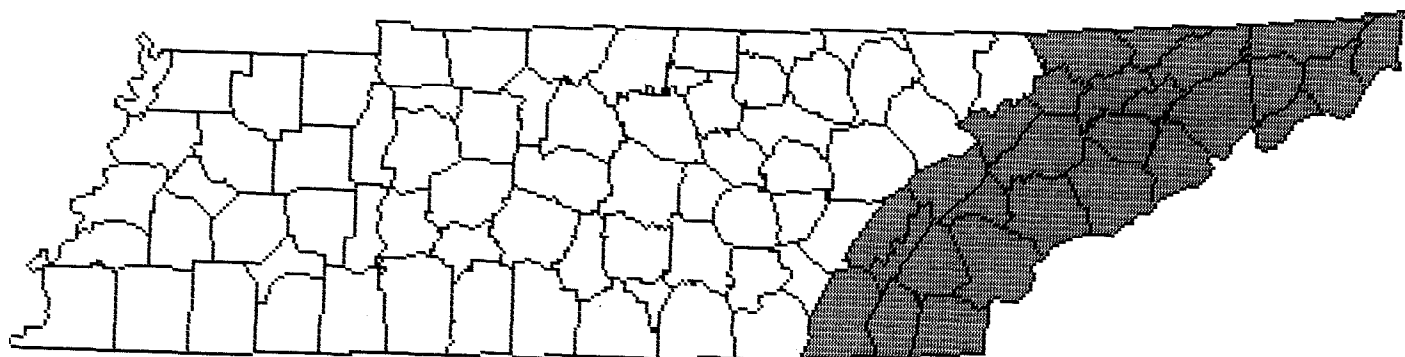
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Forest Statistics for East Tennessee Counties - 1989

Dennis M. May and John S. Vissage



SUMMARY

The 1989 survey of the East Unit of Tennessee revealed the following:

- Timberland now covers **3,442.3** thousand acres, a drop of 1 percent since 1980.
- Public agencies control 21 percent of the unit's timberland.
- Timberland held by farmers fell 20 percent, while timberland held by individuals climbed 22 percent.
- Forest industry ownership of timberland fell 29 percent since 1980.
- Area in sawtimber-sized stands increased and now comprises 57 percent of all timberland.
- Hardwood types occupy 2 out of every 3 acres of timberland.
- The number of softwood growing-stock trees fell 14 percent, while the volume of softwood growing-stock climbed 9 percent to 1,413.0 million cubic feet.
- The number of hardwood growing-stock trees fell 35 percent, while the volume of hardwood growing-stock climbed 31 percent to **3,548.3** million cubic feet.
- Both softwood and hardwood grade 1 volumes have declined since 1980.
- Net growth increased for both growing stock and sawtimber, despite a general doubling in mortality.
- Removals increased for both growing stock and sawtimber, but growth still exceeds removals by approximately 3 to 1.

FOREWORD

The Southern Forest Survey, an activity of the Southern Forest Experiment Station Forest Inventory and Analysis work unit, covers the States of Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, Tennessee, and Texas, and the island of Puerto Rico.

This survey is part of the nationwide Forest Survey originally authorized by the **McSweeney-McNary** Act of 1928. More recent legislation pertinent to the survey mission includes the Forest and Rangeland Renewable Resources Planning Act of 1974 and the Forest and Rangeland Renewable Resources **Rsearch** Act of 1978. The survey mission is to develop, analyze, and maintain renewable forest resource information. This information is essential for formulation of forest policies and programs.

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*Core tables are presented in response to the Southern Industrial Forestry Research Council's recommendations. These tables are identical among Forest Inventory and Analysis units in the eastern United States.

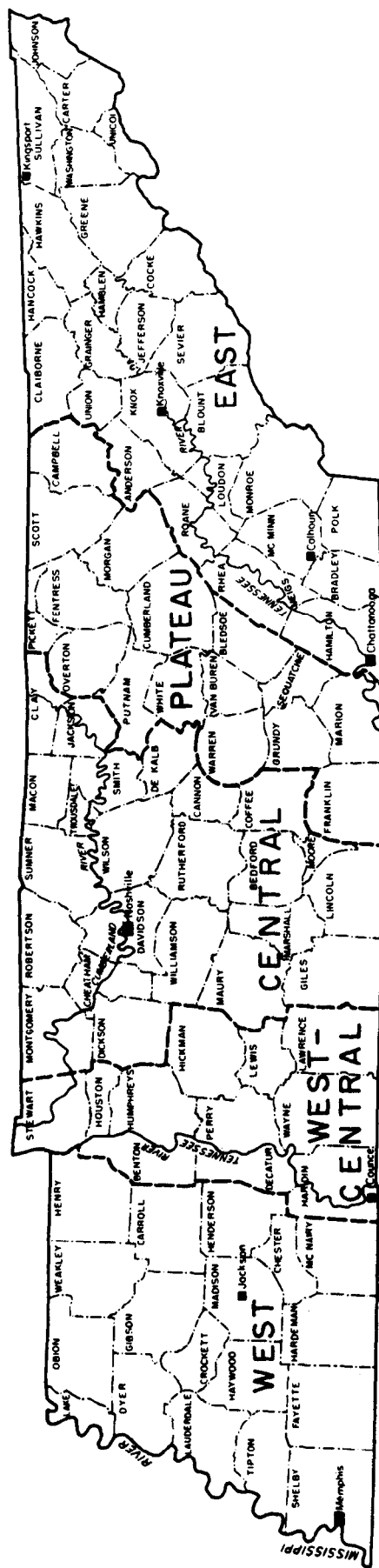


Figure I.-The forest survey regions of Tennessee.

Forest Statistics for East Tennessee Counties – 1989

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INTRODUCTION

Tabulated results were derived from data obtained during a recent inventory of 27 counties comprising the East Unit of Tennessee (fig. I). Tables 1-25 were developed to provide compatibility among Forest Inventory and Analysis Projects. Tables 26-40 are supplementary tables and may change from unit to unit or State to State to address specific resource issues.

Data on forest acreage and timber volume were secured by a three-step process. A forest-nonforest classification using aerial photographs was accomplished for points representing approximately 230 acres. These photo classifications were adjusted based on ground observations at sample locations representing approximately 3,840 acres. Finally, field measurements were made at forest locations on the intersections of grid lines spaced 3 miles apart. At these forest locations, per-acre estimates were obtained from trees measured on ten 37.5 basal area factor prism points.

The sampling methods were designed to achieve suitable sampling errors for estimates of area and volume at the State level. Sampling error increases as the area or volume considered decreases. The sampling errors presented in table I, equal to one standard deviation for the sample data, may be used to construct confidence intervals for population estimates. For example, at the **95-percent** confidence level, the confidence interval for growing-stock volume (in million cubic feet) in the East Unit of Tennessee (with a sampling error of 3.4 percent) is

$$4,961.3 \pm 1.96(0.034 \times 4,961.3) = \\ 4,961.3 \pm 330.6$$

where 1.96 is the number of standard deviations. This confidence interval indicates a **95-percent** degree of confidence that the range, **4,630.7 to 5,291.9** million cubic feet, will contain the true growing-stock inventory volume.

Sampling errors for sub-groups of counties in the unit may be estimated by the following formula:

$$SE_g = \frac{SE_t \sqrt{X_t}}{\sqrt{X_g}}$$

where:

SE = standard error of estimate
(expressed as a percent)

X = variable of interest
(area or volume)

g = group of counties to be combined
t = total for the Umt.

For example, the sampling error estimate of growing-stock volume for Carter, Johnson and Sullivan counties is 9.5 percent. Thus, the 95 percent confidence interval for growing-stock volume is 630.7 ± 117.4 million cubic feet.

Ownership information is obtained by the same systematic sample outlined above. County courthouse records are used to obtain ownership information for each forested plot. An expansion factor representing timberland area in that county is then applied to the ownership group the plot represents. Next, the ownership groups are totaled for each county. Thus, acreages reported at the county level are estimates and may not exactly match known totals for each ownership category within that county.

In order to achieve greater compatibility among Forest Inventory and Analysis Projects, a

Table I -Sampling errors' for timberland growing stock, and *sawtimber*, East Tennessee Counties, 1989

County	Timberland	Growing stock			Sawtimber volume
		Volume	Growth	Removals	
-----Percent-----					
Anderson	5.1	14.4	17.2	48.4	18.6
Blount	2.7	12.3	38.4	...	15.3
Bradley	5.1	31.6	16.0	36.8	39.4
Carter	2.3	10.8	37.7	20.3	13.5
Claiborne	3.1	15.1	20.6	17.4	18.9
Cocke	2.8	12.2	24.2	36.1	15.1
Grainger	2.5	22.3	16.7	42.3	29.2
Greene	1.9	14.7	16.1	39.2	17.8
Hamblen	3.3	32.6	(2)	(2)	36.7
Hamilton	3.0	12.2	14.9	(2)	14.5
Hancock	4.0	36.0	41.1		40.4
Hawkins	2.1	16.1	25.4	...	19.2
Jefferson	1.7	26.9	29.9	...	28.6
Johnson	1.5	18.3	23.0	32.5	21.9
Knox	2.8	23.2	28.5	3.7	26.8
Loudon	4.5	27.1	21.6	32.2	31.7
McMinn	3.1	16.6	21.4	3.3	21.6
Meigs	2.0	16.2	19.5	...	20.1
Monroe	1.8	11.8	13.2	27.3	13.9
Polk	2.4	13.3	27.1	23.2	16.6
Rhea	2.3	14.2	17.9	44.0	18.1
Roane	1.9	9.8	18.0	24.0	13.5
Sevier	1.8	15.3	18.3	7.0	19.4
Sullivan	2.4	13.9	39.8	...	17.9
Unicoi	1.6	17.9	20.7	31.6	21.7
Union	3.0	19.3	31.4	...	23.2
Washington	1.4	20.0	22.5	(2)	24.5
All counties	0.5	3.4	5.5	15.6	4.1

¹By random-sampling formula.

²Sampling error greater than 50.

new tree grading classification has been in effect since the 1988 Arkansas survey. Tree grade 5 is used for trees currently or prospectively capable of producing at least one 12-foot log or two 8-foot logs in the saw-log portion but not able to produce a 12-foot log in the butt 16 feet. These trees, formerly classed as rough or rotten, are now included in growing stock. Table II shows the impact of this change on volume and growth.

HIGHLIGHTS

Area

The East Unit of Tennessee encompasses the counties from the mountains forming the border with North Carolina westward down across the

Great Valley to the highlands forming the western boundary of the Cumberland Plateau. Since the 1950's, when a major shift in the population base from agricultural/rural to more industrial/urban caused a major increase in forest land, forest land in the unit has remained relatively stable. Today, 3,745.6 thousand acres of the unit, 58 percent, are classified as forest land. Much of this acreage is concentrated in the more mountainous portions of the unit. Approximately 8 percent of this area is reserved from commercial timber production by written statute. Most of this reserved acreage is controlled by the National Park Service and U.S. Forest Service. The remaining 3,442.3 thousand acres are classified as timberland, a drop of only 1 percent since 1980.

Public agencies control over one-fifth of the timberland in the unit. Timberlands on the

Table II- Changes in volume and growth estimates due to inclusion of tree grade 5 in growing-stock inventory East Tennessee counties, 1989

Tree grade 5			
	Excluded from growing stock	Included in growing stock	Percent change
----- Million cubic feet -----			
Softwood:			
Growing-stock volume	1384.1	1413.0	2.1
Rough and rotten volume	55.3	26.5	-52.1
Growing-stock growth	37.9	41.4	9.2
Hardwood:			
Growing-stock volume	3309.1	3548.3	7.2
Rough and rotten volume	600.0	360.9	-39.9
Growing-stock growth	107.0	136.6	27.7
----- Million board feet -----			
Softwood:			
Sawtimber volume	4904.5	5008.1	2.1
Sawtimber growth	190.1	202.1	6.3
Hardwood:			
Sawtimber volume	11019.2	11866.2	7.7
Sawtimber growth	467.2	570.0	22.0

Cherokee National Forest account for three-quarters of the public ownership. As with the rest of the state, the majority of the timberland is in private ownership. Within this broad ownership category, there has been a significant shift in ownership patterns away from “farmers”, which lost 238.6 thousand acres, to “individuals”, which gained 241.4 thousand acres. This shift likely reflects both a reduction in the number of individuals earning a livelihood by farming and a reduction in the amount of timberland held by farmers as emphasis is placed on arable acres. Another significant change in the private category was the **29-percent** reduction in forest industry holdings since 1980.

Even in this unit, which has historically had the highest proportion of softwood types in the State, hardwood types still account for two out of every three acres of timberland. Overall, the area in hardwood types remained relatively stable, **while acreage** shifted away from softwood types to mixed (oak-pine) types. Between 1980 and 1989, softwood types fell 15 percent, while mixed types climbed 8 percent. The vast majority of the decline in softwood types can be attributed to a loss in yellow pine types. The loss of softwood types and shift towards mixed types can be caused by several factors. Softwood removals

since 1980 have been concentrated in yellow pine species. This preferential harvesting of pines can cause type changes in residual stands. Additionally, young pine stands are often typed as **mixed** or hardwood until pines capture the sites. Adding credence to this are the 20.6 thousand acres of 1 to 10 year old pine plantations in the unit, of which only one-quarter typed as softwoods. Finally, normal stand development can also account for the shifting away from softwood types as softwoods are replaced by generally more shade tolerant hardwood species. Adding support to this last factor is the general maturation of the unit’s forest. Between 1980 and 1989, the number of acres in sawtimber-sized stands increased by 428.3 thousand acres, while acres in both sapling and pole-sized stands decreased. Today, sawtimber stands comprise 57 percent of all timberland, whereas in 1980 they only accounted for 44 percent.

Timber Inventory

Along with the general maturation of the unit’s timberland has come an expected drop in numbers of trees and accumulation of volume in trees of larger size. Softwood growing-stock

numbers fell 14 percent over the period with the decline concentrated in size classes smaller than 12 inches. This drop occurred across most softwoods, except for white pine which increased across all diameter classes. At the same time, softwood growing-stock volume increased 9 percent to 1,413.0 million cubic feet. The volume increase was concentrated in the 10-inch and larger size classes, but did not occur across all species. Shortleaf pine, pitch pine, and red cedar actually lost volume since 1980.

The hardwoods experienced similar trends with the number of growing-stock trees falling 35 percent over the period. This decline generally occurred across all species and was concentrated in the 6-inch and smaller size classes. Growing-stock volume increased 31 percent to 3,548.3 million cubic feet with the volume increment concentrated in the 8-inch and larger size classes. This volume increase generally occurred across all species. However, the 38-percent rise in yellow-poplar volume since 1980 made it the number one hardwood species in the unit in terms of total volume.

The general maturation of the unit's timberland is especially evident in the sawtimber portion of the inventory, which experienced increases in both numbers and volumes of trees since 1980. The softwood sawtimber inventory climbed 22 percent to 5,008.1 million board feet and the hardwoods increased 43 percent to 11,866.2 million board feet. As with growing-stock volume, the volume increases were generally across all species, with the exceptions of shortleaf and pitch pines which declined in volume since 1980.

In a unit where 70 percent of the sawtimber volume is in hardwood, the quality associated with the sawtimber volume is of special concern. In spite of the increasing inventory in sawtimber-sized trees, grade 1 volume in both softwoods and hardwoods fell since 1980. Softwood grade 1 volume fell 21 percent with all of the decline associated with yellow pine and red cedar. For hardwoods, almost all species experienced some of the 28-percent reduction in grade 1 volume. Much of the loss in grade 1 volume was concentrated in the oaks and hickories. Yellow-poplar was the major

exception to this general loss in grade 1 volume with a 21-percent gain over the period.

Growth, Removals, and Mortality

The increasing inventory of the unit is a consequence of a favorable growth-to-drain situation since 1980. On an average annual basis, net growth for the unit averaged 178.0 million cubic feet for growing stock and 772.1 million board feet for sawtimber. These figures are inflated due to the growing-stock definition change initiated since the 1980 survey. Using comparable net growth figures (Table II), net growth increased 10 percent for growing stock and 44 percent for sawtimber since 1980. The magnitude of the difference between the growing-stock and sawtimber net growth increases is due to a shifting in the size class distribution of the unit's forests. There are now fewer small trees and more large trees causing an influx of trees across the minimum sawtimber-size threshold resulting in a jump in sawtimber growth.

These overall increases in net growth are in spite of a general doubling in the amount of both growing-stock and sawtimber mortality. Much of the increase in mortality was concentrated in the yellow pines and oaks. Bark beetles were the main cause of yellow pine mortality and diseases caused most of the oak mortality.

Although not to the extent of mortality, removals also increased. On an average annual basis, growing-stock removals climbed 14 percent to 56.0 million cubic feet and sawtimber removals climbed 46 percent to 191.7 million board feet. Removals for both growing stock and sawtimber were about equally split between softwoods and hardwoods. Much of the rise in softwood removals can be attributed to increased yellow pine removals, especially shortleaf pine. White pine removals actually declined over the period. Yellow-poplar removals comprised a majority of the increase in hardwood removals. Even at these increased levels, growth still exceeds removals for both growing stock and sawtimber by approximately 3 to 1, which explains the increase in the inventory since 1980.

The unit's timberlands are generally in a desirable condition. The stable timberland base is supporting a maturing forest that's increasing in volume and growing at three times the rate of depletion. This desirable condition is marred only by a slip in sawtimber quality since 1980.

DEFINITION OF TERMS

Average net annual growth. -Average net annual volume increase for the inter-survey period.

Average annual mortality. -Average annual sound-wood volume of growing-stock trees dying from natural causes.

Average annual removal. -Average net annual 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.

Commercial species. -Tree species which normally develop into trees suitable for industrial wood products.

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. -*Live* trees of commercial species. Rough and rotten trees are excluded.

Growing-stock volume. -The cubic-foot volume of sound wood in 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.

Live trees. - Commercial and noncommercial tree species of sapling size or larger.

Natural stands. -Stands with no evidence of artificial regeneration. This includes those established by seed tree regeneration methods.

Noncommercial species. -*Tree* species of typically small size, poor form, or inferior quality which normally do not develop into trees suitable for industrial wood products.

Planted stands. -Stands with some evidence of planting or direct seeding.

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

Reserved timberland. -Productive public forest land withdrawn from timber utilization through statute or administrative regulations.

Rotten trees. -Live trees of commercial species that do not contain at least one 12-foot log or two 8-foot logs in the saw-log portion, now or prospectively, primarily because of rot.

Rough trees. - Live trees of commercial species that do not contain at least one 12-foot log or two 8-foot logs in the saw-log portion, now or prospectively, primarily because of roughness or poor form. Also included are all live trees of noncommercial species.

Saplings. -Growing-stock trees at least 1.0 inches but less than 5.0 inches in diameter at breast height.

Sawtimber trees. -Live trees that contain at least one 12-foot log, or two 8-foot logs in the saw-log portion, 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 in diameter at breast height.

Sawtimber volume. -Sound-wood volume of the saw-log portion of growing-stock sawtimber trees in board feet, International 1/4-inch rule and in cubic feet.

Seedlings. -Growing-stock trees less than 1.0 inches in diameter at breast height and greater than one foot tall for hardwoods, greater than six inches tall for softwoods, and greater than one-half inch in diameter at ground level for longleaf pine.

Select red oaks. -A classification of several red oak species composed of: cherrybark, Shumard, and northern red oaks.

Select white oaks. -A classification of several white oak species composed of: white, swamp chestnut, swamp white, chinkapin, Durand, and bur oaks.

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 diameter size class of live trees on the sampled area; that is, sawtimber, poletimber, or sapling and seedling.

Timberland. -Forest land that is producing, or is capable of producing, crops of industrial wood and not withdrawn from timber utilization. Timberland is synonymous with “commercial forest land” in prior reports.

Tree grade. -A classification of the volume of the saw-log portion of sawtimber trees, based on:

1) the log grade of the butt log, or 2) ability to produce at least one **12-foot** or two **8-foot** logs in the upper-section of the saw-log portion.

Woodland. -Forest land incapable of yielding crops of industrial wood because of adverse site conditions.

CORE TABLES I-25

Table I-Area by county and land class, East Tennessee, 1989

County	All land ¹	Forest land			Nonforest land
		Total	Timberland ²	Woodland ³	
----- <i>Thousand acres</i> -----					
Anderson	216.8	124.0	124.0	...	92.8
Blount	357.2	165.5	69.9	...	191.7
Bradley	209.5	92.5	92.5	...	117.0
Carter	218.0	161.3	155.5	...	56.6
Claibome	276.8	167.5	167.5	...	109.2
Cocke	276.5	182.0	163.4	...	94.5
Grainger	174.7	102.6	102.6	...	72.1
Greene	395.8	179.9	171.8	...	215.9
Hamblen	100.1	32.8	32.8	...	67.3
Hamilton	345.0	210.7	210.7	...	134.3
Hancock	143.0	92.9	92.9	...	50.1
Hawkins	310.7	177.3	177.3	...	133.4
Jefferson	169.9	62.2	62.2	...	107.7
Johnson	190.2	144.4	144.4	...	45.8
Knox	323.8	127.5	127.0	...	196.2
Loudon	150.5	62.3	62.3	...	88.1
McMinn	274.5	136.5	136.5	...	138.0
Meigs	121.1	82.9	82.9	...	38.2
Monroe	414.9	301.5	279.0	...	113.3
Polk	280.0	224.7	214.1	...	55.3
Rhea	197.7	126.5	126.4	...	71.2
Roane	228.3	153.1	153.1	...	75.2
Sevier	377.8	254.5	127.5	...	123.3
Sullivan	265.8	123.6	123.6	...	142.1
Unicoi	119.3	99.3	89.4	...	20.0
Union	139.7	102.5	102.5	...	37.2
Washington	208.8	54.8	50.3	...	154.0
All counties	6486.4	3745.6	3442.3	...	2740.8

¹From U.S. Bureau of the Census.

²**Forest** land (formerly termed commercial forest land) that is producing or capable of producing at least 20 cubic feet of industrial wood per acre per year. Includes areas which may be inaccessible or inoperable by current standards. Excludes reserved timberlands.

³Forest land incapable of producing 20 cubic feet of industrial wood per acre per year under natural conditions because of adverse site conditions.

Table 2-Area of timberland by county and ownership class, East Tennessee, 1989

County	All ownerships	National forest	Misc. federal	State	County and municipal	Forest industry ¹	Farmer	Corporate ¹	Individual ²
.....Thousand acres.....									
Anderson	124.0	...	6.5	...	...	...	26.1	71.8	19.6
Blount	69.9	...	...	...	...	9.1	27.4	3.0	30.4
Bradley	92.5	...	...	...	...	15.4	15.4	...	61.7
Carter	155.5	78.1	...	...	...	...	17.2	...	60.2
Claiborne	167.5	...	...	...	...	...	87.4	51.0	29.1
Cocke	163.4	44.3	...	...	...	5.7	56.7	...	56.7
Grainger	102.6	...	...	...	...	...	59.4	5.4	37.8
Greene	171.8	29.6	...	...	...	...	74.0	5.7	62.6
Hamblen	32.8	...	...	...	...	...	24.6	...	8.2
Hamilton	210.7	...	19.7	6.6	...	13.2	32.9	19.7	118.5
Hancock	92.9	...	...	...	...	...	81.3	...	11.6
Hawkins	177.3	...	5.7	...	5.7	5.7	85.8	5.7	68.6
Jefferson	62.2	...	...	...	...	...	33.9	11.3	17.0
Johnson	144.4	50.5	...	...	...	...	20.1	...	73.7
Knox	127.0	...	...	...	...	...	31.7	15.9	79.4
Loudon	62.3	...	11.3	...	...	5.7	34.0	...	11.3
McMinn	136.5	2.2	...	...	...	28.0	22.4	...	84.0
Meigs	82.9	...	...	5.9	...	11.8	23.7	...	41.5
Monroe	279.0	121.3	15.0	...	...	7.5	45.1	15.0	75.1
Polk	214.1	136.6	...	...	...	...	29.8	17.9	29.8
Rhea	126.4	...	5.5	...	5.5	44.0	27.5	...	44.0
Roane	153.1	...	26.4	5.3	...	...	21.1	10.6	89.7
Sevier	127.5	...	...	...	...	...	33.0	4.7	89.7
Sullivan	123.6	37.1	4.8	...	4.8	...	28.8	4.8	43.3
Unicoi	89.4	43.8	...	12.4	...	...	...	...	33.2
Union	102.5	...	10.8	16.2	...	...	27.0	...	48.6
Washington	50.3	12.4	...	...	...	...	14.2	...	23.7
All counties	3442.3	556.0	105.8	46.4	16.0	146.1	980.6	242.5	1348.9

¹Includes land leased to forest industry.

²Indian land will be classed as corporate or individual as defined by the Bureau of Indian Affairs.

Table 3-Area of timberland by county and forest type group, East Tennessee, 1989

County	Total	Forest type group						
		White-red jack pine	Loblolly-shortleaf pine		Oak- pine	Oak- hickory	Oak-gum- cypress	Maple-beech birch
			Planted	Natural				
----- <i>Thousand acres</i> -----								
Anderson	124.0	...	...	13.1	6.5	104.4	...	...
Blount	69.9	3.0	3.0	6.1	24.3	33.4	...	.
Bradley	92.5	...	...	30.8	15.4	46.3	...	
Carter	155.5	...	...	8.6	17.2	129.7	...	
Claiborne	167.5	...	...	7.3	21.9	138.4	...	...
Cocke	163.4	...	...	17.0	25.9	114.8	5.7	...
Grainger	102.6	...	...	...	16.2	86.4	...	...
Greene	171.8	...	...	28.4	21.3	122.1	...	...
Hamblen	32.8	...	...	8.2	8.2	16.4		
Hamilton	210.7	...	6.6	32.9	39.5	125.1	6.6	
Hancock	92.9	...	...	...	5.8	87.1	...	...
Hawkins	177.3	...	...	11.4	34.3	131.6	...	
Jefferson	62.2	...	11.3	...	5.7	45.2	...	
Johnson	144.4	...	...	...	26.8	117.5	...	...
Knox	127.0	...	...	15.9	31.7	79.4	...	
Loudon	62.3	...	5.7	17.0	11.3	28.3	...	...
McMinn	136.5	...	22.4	44.8	16.8	46.9	5.6	...
Meigs	82.9	...	17.8	...	23.7	41.5	...	...
Monroe	279.0	7.1	...	77.9	76.8	113.6	...	3.6
Polk	214.1	12.8	...	82.7	47.8	66.5	...	4.3
Rhea	126.4	...	5.5	5.5	27.5	87.9	...	.
Roane	153.1	...	5.3	5.3	26.4	116.1	...	..
Sevier	127.5	...	...	14.2	51.9	61.4	...	.
Sullivan	123.6	7.4	...	4.8	20.8	90.7	...	...
Unicoi	89.4	6.3	...	...	20.8	62.4	...	
Union	102.5	...	...	10.8	21.6	70.1		...
Washington	50.3	...	...	...	8.9	41.4	...	
All counties	3442.3	36.7	77.5	442.7	655.0	2204.8	17.9	7.8

Table 4-Area of timberland by county and stand-size class, East Tennessee, 1989

County	All classes	Stand-size class		Sapling- seedling
		Sawtimber	Poletimber	
----- <i>Thousand acres</i> -----				
Anderson	124.0	91.4	26.1	6.5
Blount	69.9	45.6	15.2	9.1
Bradley	92.5	61.7	...	30.8
Carter	155.5	111.3	44.2	...
Claiborne	167.5	94.7	43.7	29.1
Cocke	163.4	84.5	61.8	17.0
Grainger	102.6	70.2	27.0	5.4
Greene	171.8	100.8	44.1	27.0
Hamblen	32.8	24.6	8.2	...
Hamilton	210.7	125.1	52.7	32.9
Hancock	92.9	34.8	17.4	40.7
Hawkins	177.3	91.5	45.8	40.0
Jefferson	62.2	39.6	5.7	17.0
Johnson	144.4	67.2	50.4	26.8
Knox	127.0	63.5	31.7	31.7
Loudon	62.3	45.3	...	17.0
McMinn	136.5	61.6	56.0	18.9
Meigs	82.9	41.5	35.5	5.9
Monroe	279.0	154.0	73.2	51.8
Polk	214.1	113.5	35.0	65.7
Rhea	126.4	54.9	38.5	33.0
Roane	153.1	79.2	58.1	15.8
Sevier	127.5	70.8	42.5	14.2
Sullivan	123.6	62.9	47.4	13.3
Unicoi	89.4	60.3	25.0	4.1
Union	102.5	70.1	21.6	10.8
Washington	50.3	32.6	13.0	4.7
All counties	3442.3	1953.2	919.6	569.5

Table 5—Area of timberland by county and site class, East Tennessee, 1989

County	All classes	Site class (cubic feet/acre&ear)				
		> 165	120-165	85-120	50-85	< 50
<i>----- Thousand acres -----</i>						
Anderson	124.0	13.1	19.6	19.6	65.3	6.5
Blount	69.9	„	6.1	15.2	45.6	3.0
Bradley	92.5	„	15.4	15.4	61.7	...
Carter	155.5	„	17.8	52.8	49.4	35.6
Claiborne	167.5	„	21.9	51.0	43.7	51.0
Cocke	163.4	...	11.3	42.9	93.4	15.8
Grainger	102.6	16.2	32.4	10.8	27.0	16.2
Greene	171.8	5.7	15.6	44.1	35.4	71.0
Hamblen	32.8	...	...	16.4	16.4	...
Hamilton	210.7	...	19.7	65.8	105.3	19.7
Hancock	92.9	„	5.8	34.8	40.7	11.6
Hawkins	177.3	5.7	5.7	51.5	51.5	62.9
Jefferson	62.2	11.3	...	11.3	33.9	5.7
Johnson	144.4	...	3.4	10.1	97.3	33.6
Knox	127.0	23.8	31.7	23.8	47.6	...
Loudon	62.3	5.7	28.3	...	22.7	5.7
McMinn	136.5	16.8	16.8	18.9	72.8	11.2
Meigs	82.9	...	...	35.5	41.5	5.9
Monroe	279.0	44.3	51.8	84.7	65.0	33.2
Polk	214.1	4.3	29.0	77.7	82.7	20.5
Rhea	126.4	5.5	11.0	38.5	54.9	16.5
Roane	153.1	21.1	42.2	42.2	47.5	...
Sevier	127.5	14.2	9.4	18.9	47.2	37.8
Sullivan	123.6	...	9.6	8.5	87.4	18.1
Unicoi	89.4	6.3	29.1	8.3	45.8	...
Union	102.5	...	16.2	48.6	32.4	5.4
Washington	50.3	4.7	9.5	18.3	13.6	4.1
All counties	3442.3	198.6	459.5	865.6	1427.6	491.1

Table 6—Area of timberland by county and stocking classes of growing-stock trees, East Tennessee, 1989

County	All classes	Stocking class (percent)				
		> 130	100-130	60-100	16.7-60	c 16.7
<i>----- Thousand acres -----</i>						
Anderson	124.0	..	13.1	97.9	13.1	..
Blount	69.9	..	9.1	57.8	3.0	..
Bradley	92.5	15.4	...	46.3	30.8	..
Carter	155.5	...	9.2	119.3	27.0	..
Claiborne	167.5	...	21.9	102.0	43.7	..
Cocke	163.4	...	31.5	120.5	11.3	..
Grainger	102.6	...	21.6	81.0	...	..
Greene	171.8	...	29.8	109.4	32.7	..
Hamblen	32.8	...	8.2	16.4	8.2	..
Hamilton	210.7	...	19.7	92.2	92.2	6.6
Hancock	92.9	5.8	11.6	23.2	52.3	...
Hawkins	177.3	...	5.7	120.1	51.5	..
Jefferson	62.2	...	28.3	33.9	...	..
Johnson	144.4	...	16.8	107.4	20.1	..
Knox	127.0	...	15.9	95.2	15.9	..
Loudon	62.3	..	17.0	22.7	22.7	..
McMinn	136.5	5.6	39.2	80.5	11.2	..
Meigs	82.9	5.9	29.6	47.4	...	..
Monroe	279.0	...	80.7	179.7	18.6	..
Polk	214.1	4.3	91.3	100.7	17.9	..
Rhea	126.4	..	33.0	65.9	27.5	..
Roane	153.1	..	21.1	116.1	15.8	..
Sevier	127.5	..	23.6	89.7	14.2	..
Sullivan	123.6	...	36.7	58.1	28.8	..
Unicoi	89.4	..	6.3	68.6	14.6	..
Union	102.5	5.4	10.8	80.9	5.4	..
Washington	50.3	...	17.7	27.8	4.7	..
All counties	3442.3	42.4	649.4	2160.9	583.1	6.6

Table 7—Area of timberland by forest type and ownership class, East Tennessee, 1989

Forest type ^a	All ownerships	National forest	Other public	Forest industry	Forest industry-leased	Other private
<i>----- Thousand acres -----</i>						
White-red-jack pine	36.7	33.6	...	...	...	3.0
Loblolly-shortleaf pine	520.2	64.8	17.1	36.9	...	401.4
Softwood total	556.9	98.4	17.1	36.9	...	404.5
Oak-pine	655.0	116.7	28.7	22.8	5.7	481.1
Oak-hickory	2204.8	333.0	122.5	80.8	...	1668.6
Oak-gum-cypress	17.9	...	...	...	...	17.9
Maple-beech-birch	7.8	7.8	...	...	...	...
Hardwood total	2885.4	457.5	151.1	103.5	5.7	2167.5
All types	3442.3	556.0	168.3	140.4	5.7	2572.0

^aForest type is based on species plurality of all live trees. Mixed types that in combination contain a majority of hardwood stocking are hardwood types.

Table 8—Area of timberland by ownership and stocking classes of growingstock trees, East Tennessee, 1989

Ownership class	All classes	Stocking class (percent)				
		> 130	100-130	60-100	16.7-60	< 16.7
----- <i>Thousand acres</i> -----						
National forest	556.0	4.3	168.8	343.7	39.2	...
Other public	168.3	...	40.0	94.6	33.7	...
Forest industry	140.4	11.5	5.5	89.5	33.9	...
Forest industry-leased	5.7	...	...	...	5.7	...
Other private	2572.0	26.6	435.0	1633.1	470.7	6.6
All ownerships	3442.3	42.4	649.4	2160.9	583.1	6.6

Table 9—Area of timberland by forest type and stand-size class, East Tennessee, 1989

Forest type ¹	All classes	Stand-size class		
		Saw-timber	Poletimber	Sapling-seedling
..... <i>Thousand acres</i>				
White-red-jack pine	36.7	29.4	7.3	...
Loblolly-shortleaf pine	520.2	273.6	152.2	94.4
Softwood total	556.9	303.0	159.5	94.4
Oak-pine	655.0	327.8	189.1	138.1
Oak-hickory	2294.8	1307.6	566.7	330.5
Oak-gum-cypress	17.9	11.3	...	6.6
Maple-beech-birch	7.8	3.6	4.3	...
Hardwood total	2885.4	1650.2	760.1	475.1
All types	3442.3	1953.2	919.6	569.5

¹Forest type is based on species plurality of all live trees. Mixed types that in combination contain a majority of hardwood stocking are hardwood types.

Table 10—Number of live frees on timberland by species and diameter class, East Tennessee, 1989

Species	All classes	Diameter class (inches at breast height)											
		1.0- 2.9	3.0- 4.9	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 & larger
----- <i>Thousand trees</i> -----													
Shortleaf-loblolly pine	65532	16505	13304	8541	11267	8666	4526	1954	546	154	50	20	.
Other yellow pines	165252	56487	32120	26792	23328	13026	8097	3680	1347	285	68	22	...
Eastern white-red pine	51784	32019	9272	2870	2362	1459	1144	663	692	520	354	386	44
Eastern hemlock	39599	24027	8186	3103	1635	906	837	365	138	151	121	117	13
Other softwoods	101757	67258	20703	9226	2830	1106	427	190	17	...	...		
Total softwoods	423923	1962%	83585	50531	41420	25163	15032	6852	2740	1109	594	546	56
Select white oaks	61142	24509	13636	5049	5795	4006	2434	2002	1366	910	609	785	38
Select red oaks	24833	5849	3408	2904	3155	2555	1990	2166	791	573	607	740	94
Other white oaks	110544	33135	18352	16887	13451	9394	6711	4441	3235	1967	1228	1581	162
Other red oaks	66005	19690	8796	8849	7379	7668	4721	3667	2202	1267	957	753	56
Hickory	130952	65440	28616	13007	9698	6681	3382	1826	1203	488	337	268	7
Yellow birch	1056	668	327	...	...	...	...	38	...	...	...	22	2
Hard maple	91131	67414	13779	4984	1542	1485	713	573	242	156	102	121	19
Soft maple	259283	168841	53312	18198	9420	4303	2547	1251	537	284	287	276	27
Beech	22729	12277	4589	1664	1245	1334	2%	438	296	215	104	242	29
Sweetgum	30472	19933	3972	2849	1582	1168	542	239	125	13	31	19	...
Tupelo-blackgum	140991	113923	15359	5649	2778	1326	765	553	255	167	113	104	..
Ash	392%	18727	11661	3224	2154	1379	976	400	312	213	161	90	...
Basswood	2588	1336	...	374	104	243	172	182	69	44	31	28	4
Yellow-poplar	73516	29523	12985	7678	6264	4497	3929	3164	2291	1469	953	727	37
Black walnut	3848	965	...	638	844	365	486	335	139	45	17	12	
Other hardwoods	451868	325430	80554	24145	11625	5569	2415	862	435	361	203	227	43
Total hardwoods	1510254	907660	269345	116101	77036	51973	32078	22138	13500	8174	5741	5993	517
Noncommercial	243114	160013	58875	16164	5548	1500	591	302	104	13	...	6	
All species	2177292	1263970	411804	182797	124004	78635	47701	29291	16343	9296	6334	6544	573

Table 11-Number of growing-stock trees on timberland by species and diameter class, East Tennessee, 1989

Species	Diameter class (inches at breast height)												
	All classes	1.0-2.9	3.0-4.9	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 & larger
<i>----- Thousand trees -----</i>													
Shortleaf-loblolly pine	59634	13176	11190	8451	10953	8666	4473	1954	546	154	50	20	
Other yellow pines	132322	35710	23955	24083	22789	12694	7872	3572	1297	268	68	12	...
Eastern white-red pine	49513	30015	9272	2707	2362	1428	1109	663	674	509	354	377	44
Eastern hemlock	32105	18247	6590	2995	1635	906	837	365	138	142	121	117	13
Other softwoods	82523	52219	183%	8022	2555	830	335	149	17	...	...	...	...
Total softwoods	356097	149367	69403	46258	40293	24525	14627	6703	2673	1073	594	526	56
Select white oaks	44736	13678	10456	4675	5023	3637	2159	1800	1274	828	526	646	34
Select red oaks	28593	3111	2708	2635	3054	2427	1926	2078	753	553	565	697	87
Other white oaks	84009	18233	12638	15288	12331	8770	6044	3888	2917	1683	1008	1115	92
Other red oaks	49487	9682	5274	8164	6953	7261	3990	3465	1964	1161	867	672	35
Hickory	96818	37893	24381	12131	8967	6391	3116	1701	1180	467	326	257	7
Yellow birch	353	...	327	...	...	...	...	12	...	...	...	12	2
Hard maple	53070	33853	11079	3812	1463	1213	644	478	215	114	102	92	7
Soft maple	158719	89920	37680	15708	8105	3448	1845	985	443	190	199	179	18
Beech	11162	5327	1596	1356	829	981	198	293	226	129	61	147	18
Sweetgum	22099	13327	2439	2685	1582	1118	542	239	125	13	18	11	...
Tupelo-blackgum	70060	50215	9854	4734	2544	1090	632	482	191	154	69	94	...
Ash	22167	6468	8383	2668	1783	1212	753	272	256	158	138	75	...
Basswood	939	...	...	161	52	217	172	182	51	44	31	28	...
Yellow-poplar	64596	23029	11866	7038	5977	4450	3803	3060	2250	1440	953	697	30
Black walnut	1784	...	...	320	350	313	397	228	124	45	7	...	...
Other hardwoods	201740	133246	35653	16631	8707	4197	1713	655	313	280	159	160	28
Total hardwoods	902333	437983	174333	98006	67722	46726	27934	19819	12280	7260	5031	4881	358
All species	1258430	587350	243736	144264	108015	71251	42561	26522	14953	8333	5625	5407	414

Table 12-Volume of growing stock on timberland by species and diameter class, East Tennessee, 1989

Species	All classes	Diameter class (inches at breast height)									
		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 & larger
<i>----- Million cubic feet -----</i>											
Shortleaf-loblolly pine	397.8	25.0	74.4	117.7	89.8	55.2	20.9	8.8	3.1	2.9	...
Other yellow pines	705.9	76.6	163.6	162.3	150.1	93.2	43.9	11.4	3.6	1.3	...
Eastern white-red pine	179.2	5.5	12.6	14.9	17.6	15.8	24.2	24.4	21.0	35.9	7.3
Eastern hemlock	83.1	6.8	9.2	10.2	14.6	9.7	4.7	7.0	7.4	11.4	2.0
Other softwoods	46.9	19.5	12.6	7.9	3.9	2.4	0.5	...	...	...	...
Total softwoods	1413.0	133.4	272.4	313.0	276.1	176.3	94.3	51.6	35.0	51.5	9.3
Select white oaks	324.6	11.6	31.9	41.0	40.8	44.0	43.1	35.2	26.9	45.8	4.3
Select red oaks	284.4	6.9	19.9	26.7	34.5	51.1	24.6	24.6	31.2	53.0	11.8
Other white oaks	663.1	38.0	70.4	89.0	99.7	86.8	85.4	65.0	47.4	71.6	9.8
Other red oaks	491.5	22.3	41.3	76.4	64.8	85.4	58.3	48.6	43.7	46.3	4.4
Hickory	371.4	28.8	50.7	72.0	60.6	46.4	45.7	23.6	19.7	23.0	0.9
Yellow birch	1.6	...	...	...	...	0.3	...	...	...	1.2	0.2
Hard maple	82.3	10.0	9.1	13.1	11.5	12.7	7.4	4.6	5.0	7.8	1.1
Soft maple	233.3	44.7	50.5	40.4	31.9	23.5	14.0	7.6	8.8	11.4	0.7
Beech	59.7	3.2	4.6	11.5	3.2	6.3	8.0	5.3	2.9	12.7	1.9
Sweetgum	51.0	5.7	8.1	12.5	10.6	7.1	4.6	0.5	1.1	0.8	...
Tupelo-blackgum	76.2	10.0	13.4	10.3	10.4	10.8	5.3	6.1	3.8	6.0	...
Ash	72.1	6.1	9.8	11.7	12.0	6.2	7.9	6.4	6.9	5.2	...
Basswood	20.7	0.7	0.2	2.8	3.2	5.7	1.9	2.2	2.1	2.0	...
Yellow-poplar	567.8	19.2	40.0	54.8	79.4	88.1	84.2	72.1	63.1	62.8	4.2
Black walnut	21.5	0.6	2.2	3.5	5.1	4.2	4.3	1.5	0.2	...	...
Other hardwoods	227.1	42.0	50.1	43.7	30.9	15.3	10.2	10.3	8.4	12.4	3.8
Total hardwoods	3548.3	249.8	402.1	509.2	498.6	493.8	404.8	313.7	271.3	361.8	43.2
All species	4961.3	383.2	674.6	822.2	774.7	670.1	499.1	365.3	306.3	413.2	52.5

Table 13-Volume of growing stock in the saw-log portion of sawtimber' trees on timberland by species and diameter class, East Tennessee, 1989

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 & larger
..... Million cubic feet									
Shortleaf-loblolly pine	258.1	96.2	79.5	50.3	19.0	7.8	2.8	2.5	...
Other yellow pines	394.5	130.8	129.5	82.4	38.0	10.0	3.0	1.0	...
Eastern white-red pine	144.6	11.7	15.3	13.9	22.6	22.5	19.6	32.6	6.4
Eastern hemlock	59.2	7.9	12.5	8.7	4.4	6.6	6.7	10.4	2.0
Other softwoods	12.4	6.3	3.5	2.1	0.5	...	...	.	...
Total softwoods	868.8	253.0	240.2	157.3	84.5	46.8	32.1	46.6	8.5
Select white oaks	195.5	...	29.8	35.3	35.8	29.5	22.8	38.6	3.7
Select red oaks	191.2	...	25.4	42.2	20.6	21.7	26.5	44.5	10.4
Other white oaks	378.2	...	74.4	70.1	70.9	55.2	39.5	59.8	8.2
Other red oaks	292.8	...	48.3	71.8	50.0	41.0	37.5	40.2	3.9
Hickory	180.0	...	45.7	37.6	38.4	19.9	17.9	19.9	0.7
Yellow birch	1.4	...	...	0.2	...	...	...	1.0	0.2
Hard maple	40.1	...	8.3	10.6	6.2	3.8	4.1	6.3	0.9
Soft maple	77.7	...	23.3	18.2	11.5	6.2	7.8	10.2	0.6
Beech	33.6	...	2.4	5.3	6.7	4.4	2.5	10.8	1.6
Sweetgum	20.0	...	7.9	6.1	4.1	0.3	0.9	0.7	...
Tupelo-blackgum	36.7	...	8.0	9.0	4.9	5.6	3.5	5.7	.
Ash	36.5	...	8.6	5.2	6.8	5.7	5.9	4.4	...
Basswood	13.8	...	2.2	4.6	1.6	1.9	1.8	1.6	...
Yellow-poplar	384.3	...	57.4	72.6	73.7	63.8	56.5	56.5	3.7
Black walnut	11.7	...	3.7	3.4	3.4	1.1	0.1	...	...
Other hardwoods	74.2	...	22.6	12.1	8.7	8.8	7.5	11.0	3.5
Total hardwoods	1967.8	...	367.9	404.3	343.2	269.0	234.8	311.3	37.2
All species	2836.6	253.0	608.1	561.6	427.7	315.8	266.9	357.8	45.7

¹ That part of the bole of sawtimber trees between a 1-foot stump and saw-log top.

Table 14-Volume of sawtimber on timberland by species and diameter class, East Tennessee, 1989

Species	All classes	Diameter class (inches at breast height)							
		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 & larger
----- Million board feet -----									
Shortleaf-loblolly pine	1509.7	533.3	466.9	301.6	120.1	50.4	18.4	19.0	
Other yellow pines	2260.3	707.1	741.3	487.9	233.0	62.9	20.9	7.3	...
Eastern white-red pine	843.4	59.9	82.4	78.2	128.6	134.2	117.9	203.3	38.9
Eastern hemlock	331.9	41.0	67.0	48.9	24.4	38.4	38.2	62.8	11.3
Other softwoods	62.8	31.7	17.6	10.9	2.6	...	.	...	...
Total softwoods	5008.1	1372.9	1375.3	927.4	508.7	285.8	195.3	292.4	50.3
Select white oaks	1170.7	...	166.1	199.7	217.1	178.4	142.1	245.7	21.6
Select red oaks	1151.8	...	142.4	244.9	121.7	133.2	166.1	277.0	66.5
Other white oaks	2281.9	...	416.4	401.7	425.8	344.1	248.1	388.9	57.0
Other red oaks	1722.9	...	257.2	415.3	292.7	251.2	227.6	254.1	24.7
Hickory	1115.6	...	263.2	225.0	242.8	129.6	117.1	133.5	4.4
Yellow birch	9.7	...	...	1.1	...	...	...	7.3	1.3
Hard maple	253.3	...	47.9	66.1	38.9	24.2	27.2	42.2	6.7
Soft maple	454.4	...	132.3	105.8	68.8	39.3	45.8	60.9	1.6
Beech	214.1	...	13.4	31.5	41.0	28.3	15.8	74.1	10.0
Sweetgum	116.6	...	45.8	35.9	23.9	1.8	5.4	3.7	...
Tupelo-blackgum	219.8	...	44.5	51.6	29.8	35.8	23.2	34.9	...
Ash	212.5	...	47.9	30.3	39.0	34.7	33.9	26.7	...
Basswood	86.7	...	12.8	29.7	10.0	12.9	11.5	9.8	...
Yellow-poplar	2360.3	...	333.6	432.0	443.9	394.5	363.6	369.6	22.9
Black walnut	67.1	...	19.3	19.1	21.0	7.1	0.6	...	...
Other hardwoods	428.7	...	127.9	69.3	49.9	51.1	45.1	65.6	13.8
Total hardwoods	11866.2	...	2070.6	2359.2	2066.4	1666.1	1473.2	1994.2	236.5
All species	16874.3	1372.9	3446.0	3286.6	2575.1	1951.9	1668.5	2286.6	286.7

Table 15—Volume of growing stock and sawtimber on timberland by county and species group, East Tennessee, 1989

County	Growing stock						Sawtimber					
	Softwood			Hardwood			softwood			Hardwood		
	All species	Pine		Other	Soft ¹	Hard ²	All species	Pine		Other	Soft ¹	Hard ²
		Planted	Natural					Planted	Natural			
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¹**Hardwood** species with an average specific gravity of **0.50** or less such as gums, yellow-poplar, cottonwood, red maple, basswood, aspen, and willow.
²Hardwood species with an average specific gravity greater than 050 such as oaks, hard maple, hickories, and green and white ash.

Table M-Volume of timber on timberland by class of timber and species group, East Tennessee, 1989

Class of timber	All species	Softwood			Hardwood	
		Pine		Other	Soft ¹	Hard ²
		Planted	Natural			
<i>..... Million cubic feet</i>						
Sawtimber trees:						
Saw-log portion	2836.6	90.2	707.0	71.6	587.0	1380.8
Upper-stem portion	557.6	15.7	112.3	10.2	115.4	304.0
Total	3394.2	105.9	819.3	81.9	702.3	1684.8
Poletimber trees:	1567.0	54.3	303.4	48.1	392.3	768.8
All growing-stock trees	4961.3	160.2	1122.7	130.0	1094.7	2453.6
Rough trees:						
Sawtimber size	153.6	...	9.6	3.2	30.6	110.2
Poletimber size	168.8	1.2	9.0	2.2	36.6	119.7
Total	322.4	1.2	18.6	5.5	67.2	229.9
Rotten trees:						
Sawtimber size	55.6	...	0.6	0.4	12.7	42.0
Poletimber size	9.3	...	...	0.2	3.3	5.8
Total	65.0	...	0.6	0.6	16.0	47.8
Salvable dead trees:						
Sawtimber size	15.0	...	9.6	...	0.3	5.1
Poletimber size	13.8	0.6	1.8	0.8	2.6	8.0
Total	28.9	0.6	11.5	0.8	2.9	13.1
All classes	5377.5	162.0	1153.4	136.9	1180.7	2744.4

¹Hardwood species with an average specific gravity of 0.50 or less such as gums, yellow-poplar, cottonwood, red maple, basswood, aspen, and willow.

²Hardwood species with an average specific gravity greater than 0.50 such as oaks, hard maple, hickories, and green and white ash.

Table 17-Volume of live trees and growing stock on timberland by ownership class and species group, East Tennessee, 1989

Ownership class	Live trees							Growing stock						
	All species	Softwood			Hardwood			All species	Softwood			Hardwood		
		Pine			Other	Soft ¹	Hard ²		Pine			Other	Soft ¹	Hard ²
		Planted	Natural	Other					Planted	Natural	Other			
..... <i>Million cubic feet</i>														
National forest	1077.4	2.4	272.4	30.7	249.3	522.7	1005.0	2.4	270.1	30.5	234.9	467.1		
Other public	252.2	26.5	26.1	5.0	54.4	140.2	237.0	26.5	25.4	4.8	49.5	130.8		
Forest industry	170.9	28.0	35.6	1.7	27.5	78.1	159.8	28.0	35.0	1.7	26.4	68.8		
Forest industry-leased	1.9	...	0.6	0.3	0.2	0.8	1.6	...	0.6	0.2	...	0.8		
Other private	3846.2	104.5	807.2	98.4	846.4	1989.6	3557.8	103.3	791.6	92.9	783.8	1786.1		
All ownerships	5348.6	161.5	1141.9	136.1	1177.8	2731.4	4961.3	160.2	1122.7	130.0	1094.7	2453.6		

¹Hardwood species with an average specific gravity of 0.50 or less such as gums, yellow-poplar, cottonwood, red maple, basswood, aspen, and willow.

²Hardwood species with an average specific gravity greater than 0.50 such as oaks, hard maple, hickories, and green and white ash.

Table 1 & Average net annual growth of growing stock and sawtimber on timberland by county and species group, East Tennessee, 1989

County	Growing stock						Sawtimber						
	All species	Softwood			Hardwood		All species	softwood			Hardwood		
		Planted	Pine		Other	Soft ¹		Hard ²	Planted	Pine		Soft ¹	Hard2
			Natural	Other						Natural	Other		
..... Million cubic feet Million board feet													
Anderson	8.2	...	...	0.4	4.1	3.7	40.2	...	...	2.1	17.1	20.9	
Blount	2.0	0.4	-0.3	...	0.6	1.3	3.9	1.3	-1.5	...	1.8	2.3	
Bradley	5.3	...	2.8	-0.3	0.8	2.1	25.4	...	13.1	-0.4	3.0	9.7	
Carter	7.1	...	0.1	-0.4	4.1	3.3	33.6	...	3.4	4.0	17.8	16.4	
Claibome	8.4	...	-0.1	0.2	3.1	5.2	32.2	...	0.6	...	12.8	18.8	
Cocke	6.0	...	0.7	0.3	3.4	1.6	27.1	...	3.5	0.7	12.7	10.1	
Grainger	8.5	...	0.6	0.2	2.6	5.0	37.4	...	1.8	1.1	2.3	22.3	
Greene	12.2	...	1.7	-0.2	5.1	5.6	48.4	...	5.8	1.2	19.9	21.5	
Hamblen	3.4	...	-0.4	...	0.6	3.2	16.8	...	0.6	...	3.1	13.0	
Hamilton	9.1	0.8	2.1	0.1	1.0	5.0	34.9	3.3	12.6	0.3	0.7	18.0	
Hancock	3.5	...	...	...	0.9	2.5	15.4	...	0.2	...	5.3	9.8	
Hawkins	3.7	...	0.3	0.2	0.9	2.4	17.3	...	0.1	...	4.1	13.1	
Jefferson	6.4	...	0.6	...	1.2	4.6	25.2	...	5.2	0.2	3.4	16.4	
Johnson	10.1	...	0.8	0.7	2.0	6.5	42.7	...	3.1	2.6	9.8	27.1	
Knox	5.9	...	0.9	0.1	1.6	3.3	22.4	...	1.3	0.8	9.9	10.4	
Loudon	4.9	0.8	1.6	0.2	0.4	2.0	24.4	5.9	6.5	0.6	0.2	11.2	
McMinn	9.5	15	3.3	...	1.9	2.7	36.8	5.0	14.8	...	8.3	8.7	
Meigs	5.3	1.8	...	...	1.3	2.2	26.6	11.3	-0.3	0.2	4.6	10.8	
Monroe	17.0	...	6.8	0.6	2.8	6.7	67.6	...	31.2	2.4	10.0	24.0	
Polk	6.1	0.3	4.1	0.1	1.2	0.4	37.1	0.9	18.1	0.2	7.0	10.9	
Rhea	9.2	0.8	1.5	...	2.3	4.5	32.4	3.2	3.2	0.5	7.9	17.6	
Roane	6.9	...	1.7	...	2.4	2.9	28.8	1.2	7.9	...	8.2	11.5	
Sevier	4.8	...	0.7	0.3	1.9	1.9	22.9	...	8.9	1.6	4.3	8.1	
Sullivan	2.6	...	0.6	0.1	0.7	1.3	14.2	...	2.7	...	1.5	10.1	
Unicoi	6.5	...	1.7	0.1	2.1	2.6	30.2	...	12.7	0.4	7.0	10.1	
Union	3.2	...	-0.3	0.1	1.5	1.8	13.5	...	-0.2	1.0	4.6	8.1	
Washington	2.2	...	0.3	0.1	0.9	0.8	14.5	...	2.0	1.0	3.7	7.9	
All counties	178.0	6.4	32.0	3.0	51.6	85.1	772.1	32.1	157.4	12.6	201.1	368.9	

¹Hardwood species with an average specific gravity of 0.50 or less such as gums, yellow-poplar, cottonwood, red maple, basswood, aspen, and willow.

²Hardwood species with an average specific gravity greater than 0.50 such as oaks, hard maple, hickories, and green and white ash.

Table 19-Average net annual removals of growing stock and sawtimber on timberland by county and species group, East Tennessee, 1989

County	Growing stock						Sawtimber					
	All species	Softwood			Hardwood		All species	Softwood			Hardwood	
		Pine		Other	Soft1	Hard ²		Pine		Other	Soft ¹	Hard2
		Planted	Natural					Planted	Natural			
<i>Million cubic feet</i> ----- <i>Million board feet</i> -----												
Anderson	2.5	...	0.2	0.1	0.9	1.3	5.7	...	0.9	...	2.5	2.3
Blount	1.8	...	0.9	...	0.2	0.7	9.2	...	4.6	...	1.2	3.4
Bradley	8.0	...	6.3	...	0.5	1.1	17.6	...	15.1	...	0.5	2.1
Carter	3.6	...	0.1	...	0.9	2.7	12.7	...	...	...	2.1	10.6
Claiborne	2.5	...	0.5	...	1.3	0.7	11.3	...	1.6	...	6.3	3.5
Cocke	3.2	...	1.7	0.1	0.5	0.9	16.2	...	10.0	...	2.3	3.9
Grainger	0.3	...	...	0.1	...	0.2	1.8	...	...	0.4	...	1.4
Greene	1.9	...	...	...	0.9	1.0	10.2	...	...	...	6.1	4.1
Hamblen	...	...	...	...	...	...	...	...	...	...	...	...
Hamilton	2.2	1.5	0.4	...	...	0.3	5.9	4.4	1.1	...	...	0.4
Hancock	2.5	...	...	...	2.1	0.4	12.9	...	...	...	12.9	...
Hawkins	0.4	...	...	...	0.4	...	2.1	...	...	...	2.1	...
Jefferson	0.6	...	...	0.4	0.2	...	1.8	...	...	1.0	0.8	...
Johnson	0.4	...	...	...	0.2	0.2	1.9	...	...	...	0.6	1.2
Knox	2.1	...	0.8	...	...	1.3	8.2	...	2.4	...	...	5.8
Loudon	1.1	...	0.2	0.2	0.1	0.6	3.5	...	0.7	0.4	0.3	2.2
McMinn	1.8	0.9	0.9	...	...	...	5.3	2.1	3.2	...	...	...
Meigs	0.2	...	...	...	...	0.2	...	...	...	...	...	...
Monroe	8.0	1.5	3.5	0.6	0.1	2.5	25.3	4.3	11.6	2.4	...	7.0
Polk	6.1	2.2	3.2	...	0.3	0.4	20.8	3.5	15.8	...	0.8	0.7
Rhea	1.7	...	0.2	...	0.2	1.3	4.7	...	0.8	...	0.5	3.3
Roane	1.5	0.3	1.2	...	...	...	4.7	0.6	4.1	...	...	...
Sevier	0.2	...	0.1	...	...	0.1	0.8	...	0.4	...	...	0.4
Sullivan	0.1	...	...	...	...	0.1	0.3	...	...	...	...	0.3
Unicoi	3.1	...	0.1	0.1	0.9	2.0	8.3	...	...	0.3	3.4	4.6
Union	0.1	...	...	...	0.1	...	...	...	...	...	...	...
Washington	0.2	...	...	...	...	0.2	0.5	...	...	...	...	0.5
All counties	56.0	6.4	20.1	1.5	9.6	18.4	191.7	14.8	72.4	4.6	42.3	57.5

¹Hardwood species with an average specific gravity of 0.50 or less such as gums, yellow-poplar, cottonwood, red maple, basswood, aspen, and willow.

²Hardwood species with an average specific gravity greater than 0.50 such as oaks, hard maple, hickories, and green and white ash.

Table 20—Average net annual growth and average annual removals of growing stock on timberland by species, East Tennessee, 1989

Species	Growth	Removals
----- Million cubic feet -----		
Yellow pines	32.0	25.3
Eastern white-red pines	6.4	1.3
Other softwoods	3.0	1.5
Total softwoods	41.4	28.0
Select white-red oaks	20.0	3.9
Other white-red oaks	40.9	7.8
Hickory	13.0	2.8
Yellow birch	0.1	1.0
Hard maple	4.7	...
Sweetgum	2.6	...
Ash-walnut-black cherry	3.8	0.4
Yellow-poplar	26.7	6.6
Other hardwoods	24.9	5.6
Total hardwoods	136.6	28.0
All species	178.0	56.0

Table 21—Average net annual growth and average annual removals of sawtimber on timberland by species, East Tennessee, 1989

Species	Growth	Removals
----- Million board feet -----		
Yellow pines	156.0	80.7
Eastern white-red pines	33.5	6.5
Other softwoods	12.6	4.6
Total softwoods	202.1	91.8
Select white-red oaks	97.3	14.1
Other white-red oaks	178.5	25.6
Hickory	47.4	10.1
Yellow birch	0.3	5.0
Hard maple	15.0	...
Sweetgum	8.1	...
Ash-walnut-black cherry	11.9	0.9
Yellow-poplar	130.8	35.3
Other hardwoods	80.8	8.8
Total hardwoods	570.0	99.9
All species	772.1	191.7

Table 22—Average annual mortality of growing stock and sawtimber on timberland by species, East Tennessee, 1989

Species	Growing stock	Sawtimber
<i>----- Million cubic feet ----- Million board feet -----</i>		
Yellow pines	16.3	44.2
Eastern white-red pines	0.6	2.3
Other softwoods	1.9	4.1
Total softwoods	18.8	50.6
Select white-red oaks	3.7	9.8
Other white-red oaks	11.1	26.1
Hickory	2.6	8.2
Hard maple	0.3	...
Sweetgum	0.2	0.6
Ash-walnut-black cherry	0.8	1.1
Yellow-poplar	0.8	...
Other hardwoods	5.2	4.1
Total hardwoods	24.6	49.8
All species	43.5	100.4

Table 23—Average net annual growth and average annual removals of growing stock on timberland by ownership class and species group, East Tennessee, 1989

Ownership class	Growth						Removals					
	Softwood			Hardwood			Softwood			Hardwood		
	All species	Pine		Other	Soft ¹	Hard ²	All species	Pine		Other	Soft ¹	Hard2
		Planted	Natural					Planted	Natural			
		----- <i>Million cubic feet</i> -----										
National forest	24.4	...	5.3	0.3	8.1	10.7	15.4	...	5.1	0.6	2.6	1.2
Other public	8.0	0.3	0.7	...	1.5	5.6	0.5	0.3	0.3	...	...	...
Forest industry	8.3	2.8	0.9	0.1	1.1	3.4	2.5	0.9	0.2	...	0.4	1.0
Other private	137.2	3.3	25.1	2.5	40.9	65.4	37.6	5.2	14.6	0.9	6.6	10.3
All ownerships	178.0	6.4	32.0	3.0	51.6	85.1	56.0	6.4	20.1	1.5	9.6	18.4

¹**Hardwood** species with an average specific gravity of 0.50 or less such as gums, yellow-poplar, cottonwood, red maple, basswood, aspen, and willow.

²**Hardwood** species with an average specific gravity greater than 0.50 such as oaks, hard maple, hickories, and green and white ash.

Table 24-Average net annual growth and average annual removals of sawtimber on timberland by ownership class and species group, East Tennessee, 1989

Ownership class	species	Growth					Removals					
		Softwood			Hardwood		Softwood			Hardwood		
		Pine		Other	Soft1	Hard ²	Pine		Other	Soft ¹	Hard ²	
		Planted	Natural				Planted	Natural				
----- Million board feet -----												
National forest	120.4	...	32.1	1.0	32.6	54.6	55.8	...	20.6	2.8	10.2	22.3
Other public	38.0	3.1	5.2	0.6	3.5	25.7	1.6	0.6	1.0	...	..	...
Forest industry	26.9	9.5	1.6	0.3	5.0	10.5	6.3	2.1	0.8	...	1.0	2.5
Other private	586.7	19.5	118.4	10.6	160.0	278.1	128.0	12.1	50.1	1.8	31.2	32.7
All ownerships	772.1	32.1	157.4	12.6	201.1	368.9	191.7	14.8	72.4	4.6	42.3	57.5

¹Hardwood species with an average specific gravity of 0.50 or less such as gums, yellow-poplar, cottonwood, red maple, basswood, aspen, and willow.

²Hardwood species with an average specific gravity greater than 0.50 such as oaks, hard maple, hickories, and green and white ash.

Table 25-Volume of sawtimber on timberland by species and tree grade, East Tennessee, 1989

Species	All grades	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
<i>----- Million board feet -----</i>						
Yellow pines	3770.1	286.1	429.2	2997.0	...	57.7
Redcedar	62.8	59.5	...	...	...	3.3
Other softwoods	1175.3	126.6	290.7	702.9	12.4	42.6
Total softwoods	5008.1	472.1	719.9	3700.0	12.4	103.7
Select white-red oaks	2322.6	302.2	519.7	859.8	502.0	138.8
Other white-red oaks	4004.8	400.9	762.2	1744.6	811.4	285.8
Hickory	1115.6	101.9	185.1	525.9	209.0	93.6
Yellow birch	9.7	...	...	5.9	3.8	...
Hard maple	253.3	26.2	32.1	115.7	68.4	10.9
Sweetgum	116.6	2.8	29.5	64.4	12.4	7.6
Tupelo and blackgum	219.8	34.4	28.2	70.8	52.3	34.1
Ash-walnut-black cherry	296.3	26.0	67.4	135.2	35.4	32.3
Yellow-poplar	2360.3	453.1	515.7	901.1	399.6	90.6
Other hardwoods	1167.3	72.0	154.4	448.9	338.5	153.3
Total hardwoods	11866.2	1419.5	2294.3	4872.5	2432.9	847.0
All species	16874.3	1891.6	3014.2	8572.4	2445.4	950.6

Supplemental Tables 26-40

Table 26—Area of timberland by stand age, forest type group and type of regeneration, East Tennessee, 1989

Stand age class	Pine		Oak-pine		Other hardwood types	
	Artificial	Natural	Artificial	Natural	Artificial	Natural
<i>Thousand acres</i>						
1-10	5.6	...	9.5	14.7	5.5	20.8
11-20	11.5	24.7	5.5	10.7	6.7	6.6
21-30	5.5	...	4.7	...	...	4.1
31-40	28.4	5.6	...	...	5.9	...
41-50	3.0	...	5.9	...	...	...
>50	...	3.6	...	...	...	...
Mixed	23.5	445.5	5.3	598.6	...	2180.8
Total	77.5	479.4	30.9	624.0	18.1	2212.3

Table 27—Volume of softwood growing stock on timberland by forest type, East Tennessee, 1989

County	Total	Forest type group					
		White-red-jack pine	Loblolly-shortleaf pine		Oak-pine	Oak-hickory	Maple-beech-birch
			Planted	Natural			
----- Million cubic feet -----							
Anderson	39.4	...	...	16.9	8.9	13.6	
Blount	41.7	6.1	6.8	7.7	15.7	5.4	...
Bradley	52.2	...	...	48.2	...	4.0	...
Carter	42.0	...	...	4.1	20.1	17.8	...
Claiborne	11.5	...	...	2.2	5.9	3.4	...
Cocke	47.6	...	...	19.2	14.5	13.9	...
Grainger	18.2	...	...	...	8.4	9.8	...
Greene	41.6	...	...	20.3	14.1	7.2	...
Hamblen	21.1	...	...	17.1	3.6	0.5	
Hamilton	92.0	...	14.0	29.5	31.0	17.5	...
Hancock	3.6	...	...	...	2.2	1.5	...
Hawkins	27.8	...	...	9.4	13.9	4.5	...
Jefferson	15.5	...	12.9	...	0.8	1.8	...
Johnson	30.2	...	...	...	13.7	16.5	...
Knox	39.7	...	...	10.3	21.9	7.5	
Loudon	43.3	...	17.1	19.1	7.0	...	...
McMinn	107.9	...	32.6	58.7	11.3	5.4	...
Meigs	55.5	...	32.0	...	15.2	8.2	...
Monroe	201.5	11.1	...	105.4	53.7	31.2	0.1
Polk	197.9	34.0	...	117.6	34.2	10.4	1.7
Rhea	44.1	...	11.4	2.2	26.0	4.6	...
Roane	46.1	...	8.3	11.8	16.6	9.2	..
Sevier	69.1	...	...	14.4	45.8	8.9	...
Sullivan	33.2	13.2	...	5.7	9.6	4.7	...
Unicoi	46.5	13.1	...	...	18.8	14.6	...
Union	23.2	...	...	2.0	17.3	4.0	...
Washington	20.3	...	...	...	8.6	11.7	...
All counties	1413.0	77.5	135.2	521.7	439.0	237.8	1.8

Table 28—Volume of hardwood growing stock on timberland by forest type, East Tennessee, 1989

County	Total	Forest type group						
		White-red- jack pine	Loblolly-shortleaf pine		Oak- pine	Oak- hickory	Oak-gum- cypress	Maple-beech- birch
			Planted	Natural				
----- Million cubic feet -----								
Anderson	159.8	...	...	4.2	5.0	150.7		..
Blount	69.2	3.0	0.5	0.8	15.4	49.6		...
Bradley	61.7	...	...	8.2	0.3	53.1	...	...
Carter	235.6	...	...	1.0	12.7	221.9	...	...
Claibome	184.8	...	...	0.6	6.5	177.6	...	...
Cocke	198.4	...	...	6.2	18.0	158.0	8.2	
Grainger	138.0	...	...	...	10.2	127.8	...	...
Greene	205.2	...	...	8.6	16.3	180.3	...	
Hamblen	49.2	...	...	2.6	7.6	39.0	...	...
Hamilton	156.8	...	5.0	5.6	17.0	128.7	0.5	...
Hancock	61.6	...	...	...	2.1	59.5	...	
Hawkins	164.1	...	...	...	17.6	146.5	...	...
Jefferson	82.7	...	7.3	...	2.0	73.4	.	
Johnson	162.9	...	...	...	21.9	141.0	...	...
Knox	129.9	...	...	1.2	17.2	111.5	...	...
Loudon	54.2	...	...	2.3	7.4	44.6	...	...
McMinn	107.1	...	7.2	15.2	9.8	67.1	7.7	...
Meigs	71.1	...	3.7	...	17.3	50.1	...	.
Monroe	275.9	1.5	...	23.2	47.1	195.7	...	8.3
Polk	128.2	12.8	...	28.0	26.3	57.9	...	3.2
Rhea	136.0	...	0.4	...	19.4	116.3	...	...
Roane	182.7	...	...	3.3	18.1	161.3	...	...
Sevier	114.4	...	...	3.4	35.0	76.1	...	...
Sullivan	126.8	5.0	...	0.6	14.7	106.6	...	...
Unicoi	123.7	3.1	...	...	15.4	105.3	...	...
Union	100.0	...	...	2.2	15.5	82.3	...	...
Washington	76.1	...	...	...	6.7	69.5	...	...
All counties	3548.3	25.3	24.0	117.2	402.5	2951.3	16.4	11.5

Table 29—Volume of softwood growing stock in the saw-logportion of sawtimber trees on timberland by forest type, East Tennessee, 1989

County	Total	Forest type group					
		White-red-jack pine	Loblolly-shortleaf pine		Oak-pine	Oak-hickory	Maple-beech-birch
			Planted	Natural			
..... Million cubic feet							
Anderson	28.4	...	...	11.7	7.2	9.5	...
Blount	26.9	5.0	4.2	45	9.7	3.5	...
Bradley	34.1	...	...	30.6	...	3.5	...
Carter	29.6	...	...	1.1	14.9	13.6	...
Claiborne	6.4	...	...	0.4	3.4	2.7	...
Cocke	31.2	...	...	12.0	10.1	9.1	...
Grainger	10.0	...	...	...	3.6	6.3	...
Greene	22.7	...	...	9.0	9.3	4.5	...
Hamblen	12.6	...	...	11.0	1.6	...	...
Hamilton	64.6	...	11.1	18.7	21.3	13.4	...
Hancock	1.7	...	...	...	0.2	1.5	...
Hawkins	13.9	...	...	2.7	8.6	2.6	...
Jefferson	9.2	...	8.1	...	0.3	0.8	...
Johnson	22.7	...	...	...	10.5	12.2	...
Knox	20.0	...	...	4.6	10.7	4.7	...
Loudon	25.6	...	11.4	9.2	4.9	...	...
McMinn	51.8	...	13.3	25.3	9.6	3.6	...
Meigs	29.5	...	13.9	...	9.6	6.0	...
Monroe	118.4	7.7	...	56.7	30.9	23.1	...
Polk	126.5	27.3	...	67.7	22.7	7.3	1.4
Rhea	19.2	...	3.3	0.8	12.3	2.8	...
Roane	33.4	...	7.3	7.9	12.2	6.1	...
Sevier	43.2	...	...	7.7	29.3	6.3	...
Sullivan	22.5	10.6	...	3.8	5.8	2.3	...
Unicoi	36.6	12.2	...	...	13.7	10.7	...
Union	12.6	...	...	0.7	9.6	2.4	...
Washington	15.5	...	...	...	5.4	10.0	...
All counties	868.8	62.8	72.6	286.0	277.6	168.5	1.4

Table 30—Volume of hardwood growing stock in the saw-logportion of sawtimber trees on timberland by forest type, East Tennessee, 1989

County	Total	Forest type group						
		White-red- jack pine	Loblolly-shortleaf pine		Oak- pine	Oak- hickory	Oak-gum- cypress	Maple-beech- birch
			Planted	Natural				
----- Million cubic feet -----								
Anderson	101.6	...	...	1.4	3.6	96.5	...	...
Blount	37.5	1.7	0.2	...	7.2	28.5	...	...
Bradley	39.7	...	...	2.4	0.3	36.9	...	...
Carter	131.5	...	...	0.3	4.2	126.9	...	...
Claiborne	99.7	...	...	0.5	1.1	98.2	...	...
Cocke	104.6	...	...	2.9	6.8	90.2	4.7	...
Grainger	76.9	...	...	...	4.8	72.1	...	...
Greene	116.8	...	...	4.2	4.4	108.2	...	...
Hamblen	31.1	...	...	0.5	6.5	24.1	...	...
Hamilton	88.1	...	2.2	2.1	7.3	76.5	...	...
Hancock	32.6	...	...	...	...	32.6	...	...
Hawkins	87.4	...	...	...	5.3	82.1	...	...
Jefferson	49.1	...	3.5	...	0.8	44.8	...	...
Johnson	84.8	...	...	...	13.1	71.7	...	...
Knox	81.5	...	...	1.0	9.3	71.2	...	...
Loudon	36.6	...	...	0.8	4.2	31.6	...	...
McMinn	60.5	...	2.7	4.1	6.4	42.6	4.6	...
Meigs	35.1	...	1.2	...	9.6	24.3	...	...
Monroe	138.6	0.5	...	6.2	22.3	105.6	...	4.1
Polk	70.2	7.5	...	14.3	16.2	31.8	...	0.4
Rhea	67.3	...	...	...	8.2	59.1	...	...
Roane	91.4	...	...	2.0	9.2	80.2	...	...
Sevier	62.7	...	...	0.4	17.8	44.4	...	...
Sullivan	65.8	1.5	...	0.4	4.9	58.9	...	...
Unicoi	64.5	0.3	...	...	7.7	56.5	...	...
Union	64.1	...	...	1.0	8.4	54.7	...	...
Washington	48.3	...	...	...	4.2	44.0	...	...
All counties	1967.8	11.6	9.8	44.6	193.8	1694.2	9.3	4.5

Table 31—Volume of timber on timberland by county, class of timber and species group, East Tennessee, 1989

County	All classes	Growing stock		Rough		Rotten	
		Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
----- Million cubic feet -----							
Anderson	219.5	39.4	159.8	1.6	11.7	...	7.0
Blount	115.7	41.7	69.2	0.3	4.2	...	0.2
Bradley	116.6	52.2	61.7	...	2.7	...	
Carter	310.7	42.0	235.6	0.9	25.8	...	6.3
Claiborne	216.2	11.5	184.8	0.3	15.8	0.4	3.5
Cocke	252.0	47.6	190.4	1.1	11.9		1.0
Grainger	171.2	18.2	138.0	0.2	13.0	...	1.8
Greene	270.0	41.6	205.2	1.6	18.4	...	3.1
Hamblen	76.0	21.1	49.2	...	5.4	...	0.2
Hamilton	273.3	92.0	156.8	0.2	19.3	0.2	4.8
Hancock	75.7	3.6	61.6	0.2	9.9	...	0.3
Hawkins	208.1	27.8	164.1	0.9	14.4	...	1.0
Jefferson	106.1	15.5	82.7	...	7.0	.	0.9
Johnson	208.9	30.2	162.9	...	13.2	...	2.6
Knox	192.0	39.7	129.9	2.5	16.3	...	3.6
Loudon	103.7	43.3	54.2	1.6	3.7	0.2	0.6
McMinn	227.3	107.9	107.1	1.2	9.1	0.3	1.7
Meigs	132.6	55.5	71.1	...	5.7	...	0.3
Monroe	511.9	201.5	275.9	5.6	21.5	...	7.5
Polk	339.9	197.9	128.2	1.5	9.5	0.1	2.8
Rhea	193.2	44.1	136.0	0.7	11.1	...	1.2
Roane	247.1	46.1	182.7	...	15.7	...	2.6
Sevier	196.1	69.1	114.4	2.1	6.1	...	4.3
Sullivan	170.2	33.2	126.8	0.4	8.4	...	1.4
Unicoi	186.3	46.5	123.7	1.3	10.4	...	4.3
Union	126.8	23.2	100.0	0.7	2.9	...	
Washington	101.4	20.3	76.1	0.4	4.0	...	0.6
All counties	5348.6	1413.0	3548.3	25.3	297.1	1.2	63.8

Table 32-Number of live trees on timberland by detailed species and diameter class, East Tennessee, 1989

Species	Diameter class (inches at breast height)												
	All classes	1.0-2.9	3.0-4.9	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 & larger
<i>----- Thousand trees -----</i>													
Shortleaf pine	40381	10249	7482	5007	6867	5533	3268	1395	423	114	2s	20	.
Loblolly pine	25151	6257	5822	3534	4399	3134	1257	559	123	40	25	...	...
Virginia pine	151599	53540	30614	23392	20695	11504	7236	3291	1034	260	26	7	...
Pitch pine	10418	2620	654	279s	1896	1100	616	377	286	2.5	33	15	...
Others. pines												...	...
E. white pine	53284	32029	9852	2800	2382	1433	1246	663	698	520.	354	386	44
Redcedar	101757	67258	20703	9226	2830	1106	427	190	17	...	...	...	.
Hemlock-spruce	39599	24027	8186	3103	1635	906	837	365	138	151	121	117	13
Total softwoods	423923	196296	83585	50531	41420	25163	15032	6852	2740	1109	594	546	56
Select white oaks	61142	24509	13636	5049	5795	4006	2434	2002	1366	910	609	785	38
Select red oaks	24833	5849	3408	2904	3155	2555	1990	2166	791	573	607	740	94
Other white oaks	110544	33135	18352	16887	13451	9394	6711	4441	3235	1967	1228	1581	162
Other red oaks	66005	19690	8796	8849	7379	7668	4721	3667	2202	1267	957	753	56
Other hickories	130952	65440	28616	13007	9698	6681	3382	1826	1203	488	337	268	7
Persimmon	9189	4527	2600	1490	497	4s	28	...	...	...	...	...	...
Hard maple	91131	67414	13779	4984	1542	1485	713	573	242	156	102	121	19
Soft maple	257393	167802	52798	18064	9420	4224	2431	1251	537	284	287	276	19
Boxelder	1890	1040	513	133	...	79	116	...	...	...	...	...	8
Beech	22729	12277	4589	1664	1245	1334	2 %	438	296	21s	104	242	29
Sweetgum	30472	19933	3972	2849	1582	1168	542	239	125	13	31	19	...
Blackgum	140126	113057	15359	5649	2778	1326	765	553	255	167	113	104	...
Other gums/tupelos	866	866	...	...	...	...	...	...	...	...	...	...	...
White ash	31091	13714	9838	2743	1806	1174	748	400	269	177	143	81	...
Other ashes	8205	5013	1823	481	348	205	228	...	43	36	18	9	...
Sycamore	1261	...	...	491	237	157	133	6s	79	21	23	4s	10
Basswood	2588	1336	...	374	104	243	172	182	69	44	31	28	4
Yellow-poplar	73516	29523	12985	7678	6264	4497	3929	3164	2291	1469	953	727	37
Magnolia	6887	1641	2039	1324	806	600	334	56	40	24	23	...	...
Willow	211	...	...	120	71	...	...	20	...	...	...	...	...
Black walnut	3848	965	...	638	844	36s	486	33s	139	4s	17	12	...
Black cherry	41075	27550	8397	2666	1440	671	200	36	42	41	24	8	...
American elm	12980	7291	2989	1128	583	50s	242	159	10	44	11	16	3
Other elms	34928	24868	5016	2873	1167	432	332	116	16	63	16	2s	4
River birch	19	...	...	...	...	19	...	...	...	...	...	...	...
Other birches	19057	8129	4721	2973	2090	686	286	92	10	10	17	36	7
Hackberry	7941	4474	2148	569	412	166	49	40	14	38	...	24	8
Black locust	16109	6346	5027	1473	1188	1257	407	134	134	62	48	34	...
Other locusts	323	...	...	59	43	136	25	23	21	16	...	...	...
Sassafras	45224	26832	12417	3627	1715	470	76	75	...	12	...	...	...
Dogwood	246252	207561	34114	4138	438	...	...	...	...	...	...	...	...
Holly	939	911	...	...	...	...	...	...	16	11	...	...	...
Other commercial	10530	5968	1412	121s	937	426	302	84	53	19	42	60	13
Total hardwoods	1510254	907660	269345	116101	77036	51973	32078	22138	13500	8174	5741	5993	517
Noncommercial	243114	160013	58875	16164	5548	1500	591	302	104	13	...	6	...
All species	2177292	1263970	411804	182797	124004	78635	47701	29291	16343	9296	6334	6544	573

Table 33-Number of growing-stock trees on timberland by detailed species and diameter class, East Tennessee, 1989

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 & larger
<i>----- Thousand trees -----</i>											
Shortleaf pine	22278	4916	6613	5533	3239	1395	423	114	25	20	...
Loblolly pine	12990	3534	4340	3134	1234	559	123	40	25	.	..
Virginia pine	64141	21149	20314	11204	7011	3184	1002	243	26	7	...
Pitch pine	6461	2330	1737	1068	616	377	270	25	33	5	...
Others. pines											...
E. white pine	10036	2604	2382	1428	1246	663	674	509.	354	377.	44
Redcedar											...
Hemlock-spruce	17900	3922	2535	980	837	149	138	142.	121.	117.	13
Total softwoods	137327	46258	40293	24525	14627	6703	2673	1073	594	526	56
Select white oaks	20602	4675	5023	3637	2159	1800	1274	828	526	646	34
Select red oaks	14775	2635	3054	2427	1926	2078	753	553	565	697	87
Other white oaks	53138	15288	12331	8770	6044	3888	2917	1683	1008	1115	92
Other red oaks	34532	8164	6953	7261	3990	3465	1964	1161	867	672	35
Other hickories	34543	12131	8967	6391	3116	1701	1180	467	326	257	7
Persimmon	1781	1210	497	45	28	...	...	...	...	...	...
Hard maple	8138	3812	1463	1213	644	478	215	114	102	92	7
Soft maple	30939	15574	8105	3448	1806	985	443	190	199	179	10
Boxelder	181	133	...	...	39	...	...	...	...	...	8
Beech	4239	1356	829	981	198	293	226	129	61	147	18
Sweetgum	6332	268s	1582	1118	542	239	125	13	18	11	...
Blackgum	9991	4734	2544	1090	632	482	191	154	69	94	...
White ash	6021	2187	1435	1007	584	272	213	129	119	75	...
Other ashes	1294	481	348	205	169	...	43	29	18	...	..
Sycamore	1077	312	237	157	133	65	79	21	23	39	10
Basswood	939	161	52	217	172	182	51	44	31	28	...
Yellow-poplar	29700	7038	5977	4450	3803	3060	2250	1440	953	697	30
Magnolia	2812	1055	806	491	334	56	40	24	6	...	...
Willow	140	120	...	...	...	20	...	...	...	...	...
Black walnut	1784	320	350	313	397	228	124	45	7	...	...
Black cherry	4095	234.5	1133	445	74	36	12	41	9	...	...
American elm	1913	769	404	447	114	114	10	25	11	16	3
Other elms	4160	2390	880	393	279	102	16	63	16	18	4
River birch	19	...	...	19	...	...	...	...	...	...	...
Other birches	5443	2620	1832	598	261	67	10	10	17	21	7
Hackberry	735	296	219	118	...	40	14	38	...	9	...
Black locust	3371	1093	950	774	246	103	112	27	40	24	...
Other locusts	113	...	...	87	25	...	...	...	...	...	...
Sassafras	4041	2588	1073	308	60	...	...	12	...	...	...
Dogwood	1204	1144	60	...	...	...	...	...	...	...	...
Holly	11	...	...	...	...	...	...	11	...	...	...
Other commercial	1952	689	614	314	158	64	19	7	35	45	7
Total hardwoods	290017	98006	67722	46726	27934	19819	12280	7260	5031	4881	358
All species	427344	144264	108015	71251	42561	26522	14953	8333	5625	5407	414

Table 34—Volume of growing-stock trees on timberland by detailed species and diameter class, East Tennessee, 1989

Diameter class (inches at breast height)											
Species	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 & larger
----- Million cubic feet -----											
Shortleaf pine	273.4	16.7	47.9	76.9	64.6	39.8	16.2	6.8	1.4	2.9	...
Loblolly pine	124.4	8.3	26.5	40.8	25.2	15.4	4.6	1.9	1.6	...	...
Virginia pine	634.2	69.3	149.2	147.5	136.8	84.1	34.6	10.5	1.5	0.7	...
Pitch pine	57.0	5.5	10.2	10.9	9.6	8.8	8.6	0.9	1.8	0.5	...
Others, pines	14.8	1.8	4.2	3.8	3.7	0.3	0.8	...	0.3	...	...
E. white pine	179.2	5.5	12.6	14.9	17.6	15.8	24.2	24.4	21.0	35.9	7.3
Redcedar	46.9	19.5	12.6	7.9	3.9	2.4	0.5	...	...	...	...
Hemlock-spruce	83.1	6.8	9.2	10.2	14.6	9.7	4.7	7.0	7.4	11.4	2.0
Total softwoods	1413.0	133.4	272.4	313.0	276.1	176.3	94.3	51.6	35.0	51.5	9.3
Select white oaks	324.6	11.6	31.9	41.0	40.8	44.0	43.1	35.2	26.9	45.8	4.3
Select red oaks	284.4	6.9	19.9	26.7	34.5	51.1	24.6	24.6	31.2	53.0	11.8
Other white oaks	663.1	38.0	70.4	89.0	99.7	86.8	85.4	65.0	47.4	71.6	9.8
Other red oaks	491.5	22.3	41.3	76.4	64.8	85.4	58.3	48.6	43.7	46.3	4.4
Other hickories	371.4	28.8	50.7	72.0	60.6	46.4	45.7	23.6	19.7	23.0	0.9
Persimmon	5.5	2.9	2.2	0.3	0.2	...	...	...	...	...	...
Hard maple	82.3	10.0	9.1	13.1	11.5	12.7	7.4	4.6	5.0	7.8	1.1
Soft maple	232.3	44.4	50.5	40.4	31.5	23.5	14.0	7.6	8.8	11.4	0.3
Boxelder	1.0	0.2	...	...	0.4	...	...	...	...	...	0.4
Beech	59.7	3.2	4.6	11.5	3.2	6.3	8.0	5.3	2.9	12.7	1.9
Sweetgum	51.0	5.7	8.1	12.5	10.6	7.1	4.6	0.5	1.1	0.8	...
Blackgum	76.2	10.0	13.4	10.3	10.4	10.8	5.3	6.1	3.8	6.0	...
White ash	62.0	4.8	8.0	9.9	9.5	6.2	6.9	5.4	6.2	5.2	...
Other ashes	10.1	1.3	1.8	1.8	2.5	...	1.0	1.1	0.7	...	...
Sycamore	17.2	0.8	1.5	1.8	2.4	1.5	2.4	0.7	1.4	3.1	1.4
Basswood	20.7	0.7	0.2	2.8	3.2	5.7	1.9	2.2	2.1	2.0	...
Yellow-poplar	567.8	19.2	40.0	54.8	79.4	88.1	84.2	72.1	63.1	62.8	4.2
Magnolia	27.3	2.4	5.9	6.8	7.2	1.6	1.7	1.4	0.3	...	...
Willow	0.7	0.4	...	...	...	0.4	...	...	...	...	...
Black walnut	21.5	0.6	2.2	3.5	5.1	4.2	4.3	1.5	0.2	...	...
Black cherry	19.4	5.0	6.1	4.2	1.4	0.9	0.3	1.2	0.3	...	...
American elm	16.1	2.2	2.3	3.5	2.0	3.0	0.3	1.0	0.5	0.8	0.6
Other elms	26.2	5.7	4.8	3.4	4.6	2.4	0.4	2.2	1.1	1.1	0.5
River birch	0.1	...	...	0.1	...	...	...	...	...	...	...
Other birches	39.5	8.9	12.4	7.7	5.3	1.4	0.2	0.3	1.2	1.6	0.7
Hackberry	6.0	0.5	1.0	1.0	...	1.2	0.5	1.3	...	0.4	...
Black locust	31.0	2.7	5.3	8.2	4.1	2.0	3.7	0.8	2.3	1.9	...
Other locusts	1.0	...	...	0.7	0.4	...	...	...	...	...	...
Sassafras	16.4	7.2	5.2	2.6	0.9	...	...	0.5	...	...	...
Dogwood	1.9	1.7	0.2	...	...	...	...	...	...	...	...
Holly	0.4	...	...	...	...	...	...	0.4	...	...	...
Other commercial	20.0	1.6	3.4	3.2	2.5	1.2	0.6	0.6	1.4	4.7	0.9
Total hardwoods	3548.3	249.8	402.1	509.2	498.6	493.8	404.8	313.7	271.3	361.8	43.2
All species	4961.3	383.2	674.6	822.2	774.7	670.1	499.1	365.3	306.3	413.2	52.5

Table 35-Volume of growing stock in the saw-log portion of sawtimber trees on timberland by detailed species and diameter class, *East Tennessee, 1989*

		Diameter class (inches at breast height)							
Species	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 & larger
----- Million cubic feet -----									
Shortleaf pine	181.4	63.3	57.6	36.1	14.7	5.9	1.3	2.5	.
Loblolly pine	76.7	33.0	21.8	14.2	4.3	1.9	1.6	...	...
Virginia pine	352.6	119.0	118.1	74.6	30.1	9.1	1.2	0.5	...
Pitch pine	34.0	8.5	8.0	7.5	7.2	0.8	1.4	0.5	...
Others, pines									...
E. white pine	147.0	13.3	13.3	10.9	20.7	22.5	10.8	32.6	6.4
Redcedar	12.4	6.3	3.5	2.1	0.5	...	...	...	...
Hemlock-spruce	59.2	7.9	12.5	8.7	4.4	6.6	6.7	10.4	2.0
Total softwoods	868.8	253.0	240.2	157.3	84.5	46.8	32.1	46.6	8.5
Select white oaks	195.5	...	29.8	35.3	35.8	29.5	22.8	38.6	3.7
Select red oaks	191.2	...	25.4	42.2	20.6	21.7	26.5	44.5	10.4
Other white oaks	378.2	...	74.4	70.1	70.9	55.2	39.5	59.8	8.2
Other red oaks	292.8	...	48.3	71.8	50.0	41.0	37.5	40.2	3.9
Other hickories	180.0	...	45.7	37.6	38.4	19.9	17.9	19.9	0.7
Persimmon	0.2	...	0.2	...	...	...	...	...	...
Hard maple	40.1	...	8.3	10.6	6.2	3.8	4.1	6.3	0.9
Soft maple	77.1	...	23.0	18.2	11.5	6.2	7.8	10.2	0.3
Boxelder	0.6	...	0.2	...	...	...	...	...	0.4
Beech	33.6	...	2.4	5.3	6.7	4.4	2.5	10.8	1.6
Sweetgum	20.0	...	7.9	6.1	4.1	0.3	0.9	0.7	...
Blackgum	36.7	...	8.0	9.0	4.9	5.6	3.5	5.7	...
White ash	32.1	...	6.7	5.2	5.9	4.7	5.2	4.4	...
Other ashes	4.4	...	1.9	...	0.9	1.0	0.6	...	...
Sycamore	10.9	...	1.6	1.3	2.0	0.6	1.3	2.8	1.4
Basswood	13.8	...	2.2	4.6	1.6	1.9	1.8	1.6	...
Yellow-poplar	384.3	...	57.4	72.6	73.7	63.8	56.5	56.5	3.7
Magnolia	9.8	...	5.4	1.3	1.5	1.3	0.3	...	...
Willow	0.2	...	...	0.2	...	...	...	...	...
Black walnut	11.7	...	3.7	3.4	3.4	1.1	0.1	...	...
Black cherry	3.1	...	0.9	0.7	0.2	1.0	0.3	...	...
American elm	6.3	...	1.4	2.5	0.3	0.9	0.4	0.5	0.4
Other elms	10.3	...	3.7	2.0	0.4	1.9	0.9	1.0	0.4
Other birches	8.3	...	3.7	1.2	0.2	0.2	1.1	1.3	0.6
Hackberry	2.8	...	...	1.0	0.4	1.1	...	0.3	...
Black locust	12.1	...	3.0	1.4	3.1	0.7	2.1	1.8	...
Other locusts	0.3	...	0.3	...	...	...	...	.	...
Sassafras	1.1	...	0.7	...	...	0.3	...	...	...
Holly	0.4	...	...	...	...	0.4	...	...	...
Other commercial	9.6	...	1.7	0.8	0.6	0.4	1.1	4.2	0.8
Total hardwoods	1967.8	...	367.9	404.3	343.2	269.0	234.8	311.3	37.2
All species	2836.6	253.0	608.1	561.6	427.7	315.8	266.9	357.8	45.7

**Table 36—Volume of timber on timberland by species and class of timber,
East Tennessee, 1989**

Species	All live	Growing stock	Rough	Rotten
..... Million cubic feet				
Shortleaf pine	275.1	273.4	1.7	...
Loblolly pine	125.1	124.4	0.6	...
Virginia pine	648.5	634.2	13.7	0.6
Pitch pine	59.0	57.0	2.1	...
Others, pines	14.8	14.8	...	..
E. white pine	180.9	179.2	1.7	...
Redcedar	52.5	46.9	5.0	0.6
Hemlock-spruce	83.6	83.1	0.4	...
Total softwoods	1439.5	1413.0	25.3	1.2
Select white oaks	347.7	324.6	18.6	4.6
Select red oaks	292.3	284.4	4.6	3.3
Other white oaks	722.7	663.1	43.7	16.0
Other red oaks	522.3	491.5	21.4	9.4
Other hickories	384.9	371.4	12.3	1.3
Persimmon	5.8	5.5	0.3	...
Hard maple	89.5	82.3	5.8	1.4
Soft maple	268.0	232.3	27.7	8.0
Boxelder	2.3	1.0	1.3	...
Beech	76.7	59.7	11.7	5.3
Sweetgum	52.5	51.0	1.2	0.3
Blackgum	83.9	76.2	5.2	2.6
White ash	72.9	62.0	10.7	0.2
Other ashes	11.0	10.1	0.8	...
Sycamore	17.4	17.2	0.3	...
Basswood	21.4	20.7	0.6	0.1
Yellow-poplar	576.9	567.8	8.0	1.2
Magnolia	29.2	27.3	1.7	0.3
Willow	1.0	0.7	0.3	...
Black walnut	27.1	21.5	4.4	1.1
Black cherry	25.0	19.4	5.2	0.4
American elm	19.9	16.1	3.6	0.3
Other elms	28.4	26.2	2.2	0.1
River birch	0.1	0.1	...	...
Other birches	42.8	39.5	2.6	0.7
Hackberry	8.3	6.0	1.8	0.5
Black locust	38.2	31.0	3.3	3.8
Other locusts	2.6	1.0	1.4	0.2
Sassafras	22.7	16.4	5.8	0.5
Dogwood	6.2	1.9	4.2	0.1
Holly	0.5	0.4	0.1	...
Other commercial	26.7	20.0	4.4	2.3
Total hardwoods	3827.1	3548.3	215.0	63.8
Noncommercial	82.0	...	82.0	...
All species	5348.6	4961.3	322.4	65.0

Table 37-Volume of sawtimber for tree grade 1 on timberland by detailed species and diameter class, East Tennessee, 1989

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 & larger
..... Million board feet									
Shortleaf pine	204.2	22.5	77.2	41.5	51.0	5.3	6.7	...	...
Loblolly pine	24.4	3.0	14.7	6.7	...	...	...	...	...
Virginia pine	42.2	8.1	11.4	18.5	4.1	...	...	...	...
Pitch pine	10.5	...	1.9	...	3.3	5.3	...	...	...
Others, pines	4.9	...	4.9	...	...	...	...	...	...
E. white pine	111.5	...	2.4	5.6	18.7	14.0	25.0	36.2	9.6
Redcedar	59.5	31.7	16.7	8.5	2.6	...	...	...	...
Hemlock-spruce	15.0	...	...	...	...	...	4.6	5.6	4.9
Total softwoods	472.1	65.3	129.2	80.9	79.7	24.6	36.2	41.8	14.5
Select white oaks	117.3	...	...	...	14.4	21.2	24.9	50.2	6.7
Select red oaks	184.9	...	...	...	1.7	21.8	52.8	83.1	25.5
Other white oaks	253.8	...	...	...	26.1	62.1	41.9	102.9	20.8
Other red oaks	147.0	...	...	...	12.0	29.2	38.8	61.2	5.8
Other hickories	101.9	...	...	...	17.9	18.9	25.9	37.0	2.1
Hard maple	26.2	...	...	...	4.8	11.6	...	6.1	3.7
Soft maple	16.3	...	...	...	2.9	3.6	2.4	7.5	...
Beech	6.2	...	...	...	...	...	...	...	6.2
Sweetgum	2.8	...	...	...	...	...	2.8	...	...
Blackgum	34.4	...	...	...	2.3	6.2	10.4	15.5	...
White ash	18.4	...	...	...	2.5	...	8.5	7.4	...
Other ashes	4.7	...	...	...	2.8	1.9	...	...	...
Basswood	15.3	...	...	...	...	8.0	6.2	1.1	...
Yellow-poplar	453.1	...	...	...	44.0	106.9	134.8	163.1	4.3
Magnolia	8.8	...	...	...	...	8.8	...	...	...
Black walnut	2.9	...	...	...	2.9	...	...	...	...
American elm	2.0	...	...	...	...	...	...	2.0	...
Other elms	4.1	...	...	...	...	...	...	4.1	...
Other birches	7.0	...	...	...	...	...	4.1	...	2.9
Other commercial	12.3	...	...	...	...	...	3.4	3.9	5.0
Total hardwoods	1419.5	...	...	...	134.1	300.2	356.9	545.2	83.0
All species	1891.6	65.3	129.2	80.9	213.8	324.8	393.2	587.0	97.5

Table 38—Volume of sawtimber for tree grade 2 on timberland by detailed species and diameter class, East Tennessee, 1989

Species	All classes	Diameter class (inches at breast height)							
		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 & larger
----- <i>Million board feet</i> -----									
Shortleaf pine	180.1	43.6	56.6	60.3	...	14.6	...	4.9	...
Loblolly pine	70.8	30.9	17.1	15.6	3.5	...	3.8	...	...
Virginia pine	145.1	14.7	60.5	36.8	19.7	13.4	...	...	...
Pitch pine	28.9	2.1	6.7	9.2	5.0	...	2.2	3.7	...
Others. pines	4.3	3.2	1.2	...	...	...	...	...	...
E. white pine	265.9	25.1	25.0	18.5	49.9	40.3	34.1	63.7	9.4
Hemlock-spruce	24.8	8.1	10.4	...	...	...	2.7	3.6	...
Total softwoods	719.9	127.8	177.4	140.4	78.1	68.3	42.7	75.9	9.4
Select white oaks	243.8		...	27.6	46.6	54.3	59.2	56.1	...
Select red oaks	275.9	...	...	66.4	26.3	40.2	42.0	94.8	6.2
Other white oaks	441.2	...	...	59.2	103.5	91.1	96.2	84.7	6.3
Other red oaks	321.0	...	...	65.4	64.2	50.8	65.5	70.2	4.9
Other hickories	185.1	...	...	21.9	69.9	31.5	23.5	38.3	...
Hard maple	32.1	...	...	...	12.2	6.5	11.2	2.3	...
Soft maple	60.2	...	...	4.2	21.6	3.3	13.8	17.1	...
Beech	12.7	...	...	3.6	4.9	2.5	1.7	...	...
Sweetgum	29.5	...	...	16.6	7.9	...	2.6	2.4	...
Blackgum	28.2	...	...	5.9	8.3	5.7	3.8	4.6	...
White ash	53.9	...	...	10.7	11.7	13.6	8.8	9.2	...
Sycamore	20.2	...	...	2.9	2.8	2.1	4.1	2.2	6.2
Basswood	16.6	...	...	4.3	6.3	2.1	3.8	...	...
Yellow-poplar	515.7	...	...	87.4	128.6	100.6	108.8	87.7	2.6
Magnolia	16.1	...	...	4.8	9.4	...	1.9	...	...
Black walnut	11.4	...	...	...	8.3	3.1	...	...	...
Black cherry	2.0	...	...	...	...	2.0	...	...	...
American elm	4.1	...	...	...	1.6	...	2.5	...	...
Other elms	2.3	...	...	...	...	...	1.1	1.2	...
Other birches	2.6	...	...	...	...	...	2.6	...	...
Hackberry	6.6	...	...	2.6	2.3	1.6	...	...	...
Black locust	4.1	...	...	1.6	2.5	...	...	...	...
Sassafras	2.0	...	...	...	...	2.0	...	...	...
Other commercial	6.9	...	...	1.4	...	...	...	5.5	...
Total hardwoods	2294.3	...	...	386.8	538.8	413.0	453.2	476.3	26.2
All species	3014.2	127.8	177.4	527.1	616.9	481.3	495.9	552.2	35.6

Table 39—Volume of sawtimber for tree grade 3 on timberland by detailed species and diameter class, East Tennessee, 1989

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 & larger
..... Million board feet									
Shortleaf pine	677.2	284.4	200.8	117.7	37.7	19.8	2.6	14.1	
Loblolly pine	340.3	146.9	97.6	57.7	22.2	10.6	5.3	...	
Virginia pine	1796.4	621.0	596.9	370.4	151.8	44.2	8.4	3.7	...
Pitch pine	149.7	37.1	32.4	33.4	38.7	...	8.1	...	...
Others. pines	33.5	13.6	12.5	1.5	3.8	...	2.1	...	...
E. white pine	426.2	34.6	55.0	49.8	60.0	74.0	49.6	91.2	12.0
Hemlock-spruce	276.8	31.7	54.6	47.9	22.8	36.1	26.3	51.1	6.5
Total softwoods	3700.0	1169.1	1049.9	678.4	337.0	184.6	102.4	160.0	18.5
Select white oaks	423.7	...	95.1	106.5	73.8	61.8	22.2	64.3	...
Select red oaks	436.2	...	100.6	138.8	64.2	34.8	45.3	41.8	10.6
Other white oaks	1047.3	...	311.0	242.1	210.0	126.7	50.6	95.5	11.4
Other red oaks	697.3	...	118.3	218.8	124.2	103.3	68.4	64.2	...
Other hickories	525.9	...	179.6	150.0	94.7	56.2	33.0	12.5	
Hard maple	115.7	...	33.4	38.8	18.7	...	5.8	16.1	3.0
Soft maple	192.8		80.3	54.5	14.6	12.6	16.2	14.6	
Beech	48.1		4.3	3.6	9.2	4.7	9.9	16.4	...
Sweetgum	64.4	...	38.6	165	7.5	1.8	...	...	
Blackgum	70.8	.	20.3	26.1	10.4	14.1	...	...	
White ash	81.0	...	30.4	17.1	18.5	4.3	10.7	...	...
Other ashes	8.6	...	7.1	...	1.5	...	...	...	...
Sycamore	20.9	...	2.7	1.2	5.0	1.3	4.4	6.3	..
Basswood	38.5	...	11.4	21.5	1.4	2.7	1.5	...	.
Yellow-poplar	901.1		229.4	246.9	158.9	107.9	68.7	89.3	
Magnolia	22.4		21.1	1.2	...	...	...	...	..
Black walnut	36.4	...	12.9	14.9	6.5	2.2	...	...	...
Black cherry	9.2	...	3.9	4.1	1.2	...	...	...	...
American elm	13.5	...	3.4	6.1	...	2.5	...	1.4	
Other elms	27.1	..	16.4	3.0	2.4	...	5.2	..	
Other birches	18.9	...	10.3	2.9	0.9	...	...	4.8	
Hackberry	5.4	...	...	3.2	...	2.3	...	...	...
Black locust	40.1	...	10.0	2.3	9.4	3.1	7.7	7.7	...
Sassafras	4.5	...	4.5	...	...	...	...	...	...
Other commercial	22.7	...	7.7	1.7	3.5	3.1	...	6.7	...
Total hardwoods	4872.5	...	1352.6	1321.8	836.4	545.5	349.6	441.7	24.9
All species	8572.4	1169.1	2402.5	2000.2	1173.4	730.1	452.0	601.7	43.4

Table 40—Volume of sawtimber for tree grade 4 on timberland by detailed species and diameter class, East Tennessee, 1989

		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 & larger
Species		----- Million board feet -----								
E. white pine		12.4	...	...	2.7	...	2.6	7.1	...	...
Total softwoods		12.4	...	...	2.7	...	2.6	7.1	...	...
Select white oaks		310.5	...	67.0	58.2	71.8	37.2	27.6	40.9	7.7
Select red oaks		191.5	...	35.8	27.6	23.5	32.1	21.8	38.3	12.4
Other white oaks		378.5	...	88.6	81.4	69.6	47.5	37.6	49.2	4.6
Other red oaks		432.9	...	120.9	104.1	70.3	53.6	35.4	39.7	8.9
Other hickories		209.0	...	70.1	31.8	51.2	12.5	23.7	19.9	...
Hard maple		68.4	...	14.6	25.9	3.2	4.8	5.0	14.9	...
Soft maple		118.8	...	42.1	38.4	14.2	9.2	2.7	11.1	1.2
Boxelder		1.3	...	1.3	...	...	...	...	...	...
Beech		118.4	...	9.1	24.3	23.1	14.0	4.2	43.7	...
Sweetgum		12.4	...	7.2	...	5.2	...	...	...	...
Blackgum		52.3	...	20.3	14.7	4.8	7.8	4.8	...	...
White ash		22.8	...	3.7	2.1	1.3	8.6	...	7.1	...
Other ashes		7.3	...	3.4	...	...	3.9	...	...	...
Sycamore		11.9	...	3.8	2.7	3.2	...	...	2.1	...
Basswood		10.6	...	1.5	3.8	...	...	...	5.3	...
Yellow-poplar		399.6	...	91.5	85.3	89.9	62.9	39.3	18.6	12.1
Magnolia		7.0	...	5.1	1.9	...	...	...	...	...
Black walnut		4.0	...	2.1	...	...	1.9	...	...	...
Black cherry		1.4	...	1.4	...	...	...	...	...	...
American elm		12.2	...	4.0	8.2	...	...	...	...	...
Other elms		24.0	...	4.7	7.6	...	9.3	...	...	2.4
Other birches		17.2	...	10.8	2.6	...	...	...	2.5	1.3
Black locust		6.2	...	2.8	1.2	2.3	...	...	...	...
Other locusts		1.6	...	1.6	...	...	...	...	...	...
Holly		2.4	...	...	...	2.4	...	...	...	...
Other commercial		10.9	...	2.4	0.6	...	...	2.3	5.5	...
Total hardwoods		2432.9	...	615.7	522.4	433.6	307.5	204.4	298.7	50.6
All species		2445.4	...	615.7	525.1	433.6	310.1	211.5	298.7	50.6

Graphics

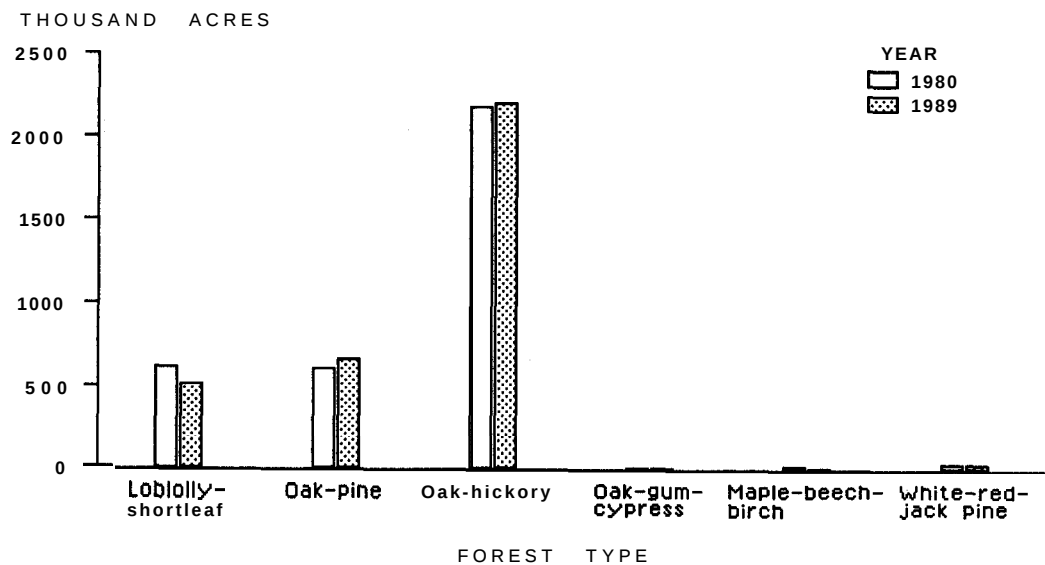


Figure 1.--Area of timberland by forest type, East Tennessee, 1980 and 1989.

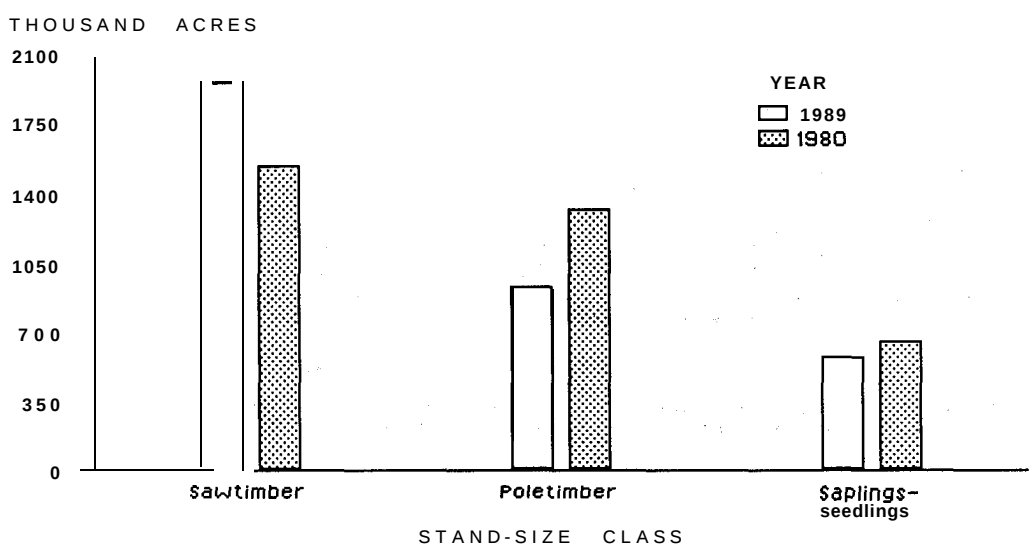


Figure 2.--Area of timberland by stand-size class, East Tennessee, 1980 and 1989.

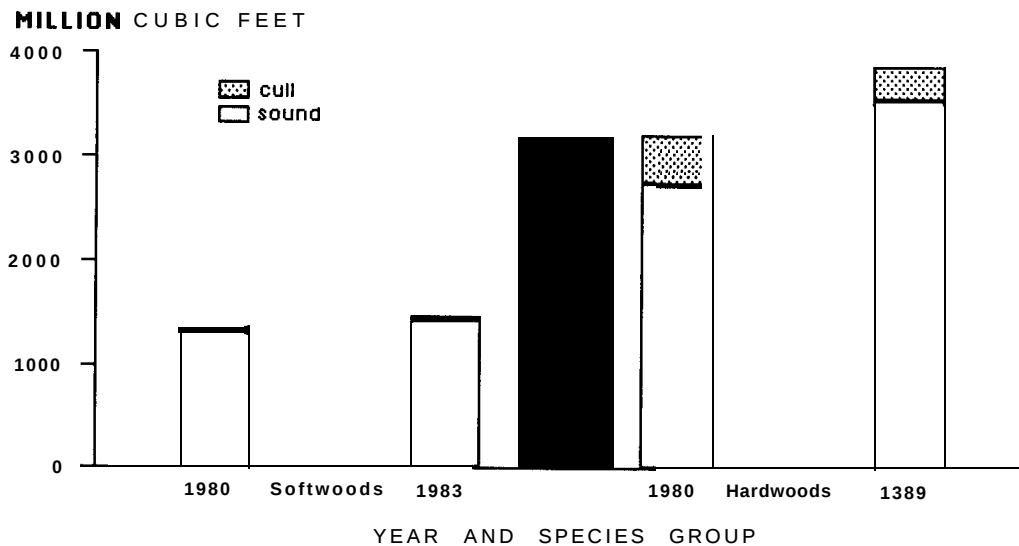


Figure 3.--volume of timber on timberland by species group and class of timber, East Tennessee, 1980 and 1988.

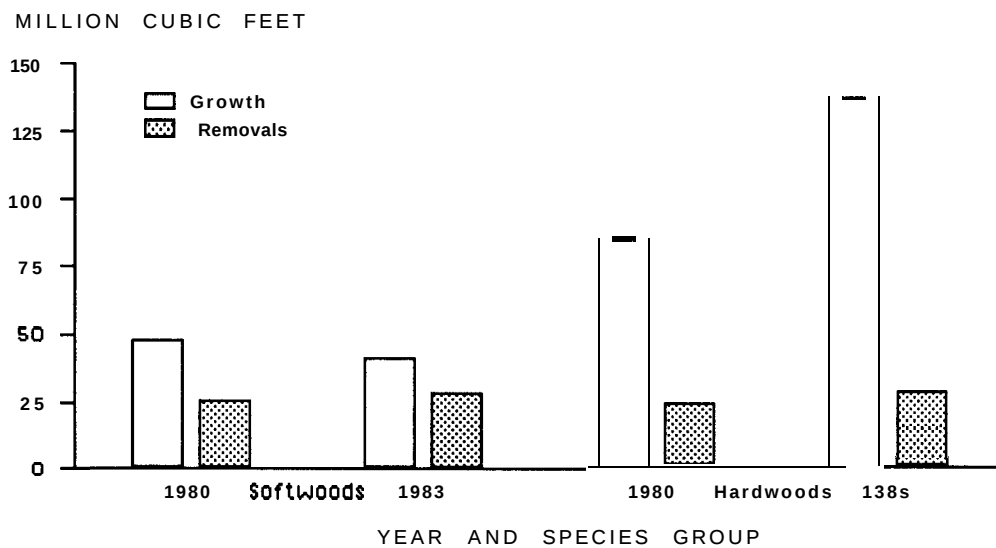


Figure 4.--Average net annual growth and average annual removals of growing stock on timberland by Species group, East Tennessee, 1980 and 1988.

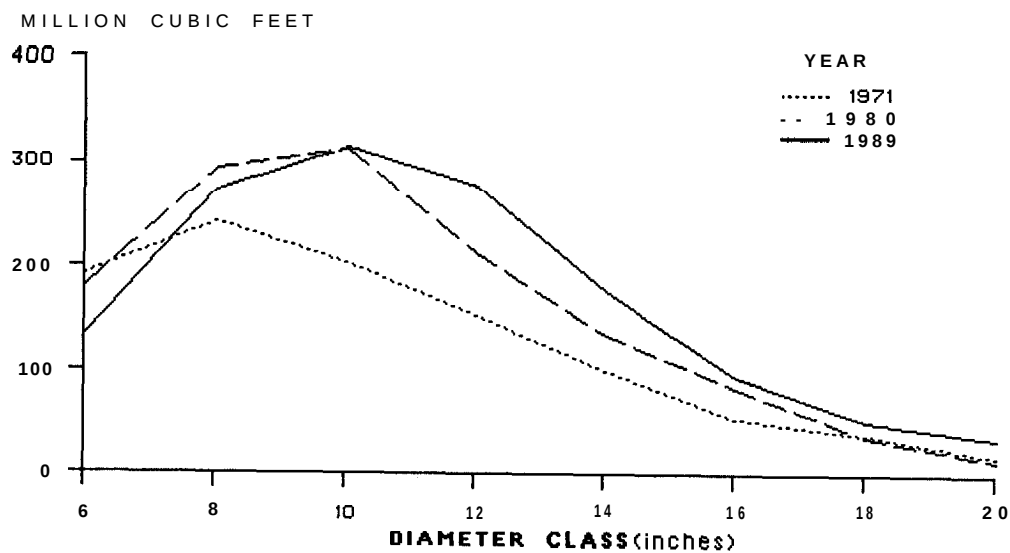


Figure 5.--volume Of softwood growing stock on timberland by diameter class, East Tennessee, 1971, 1980, and 1989.

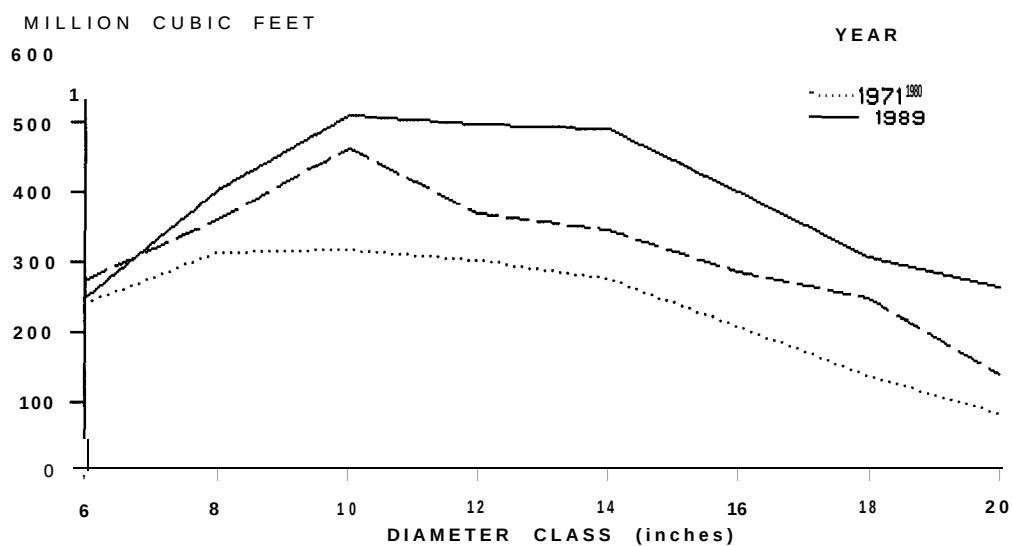


Figure 6.--Volume of hardwood growing stock on timberland by diameter class, East Tennessee, 1971, 1980, and 1989.

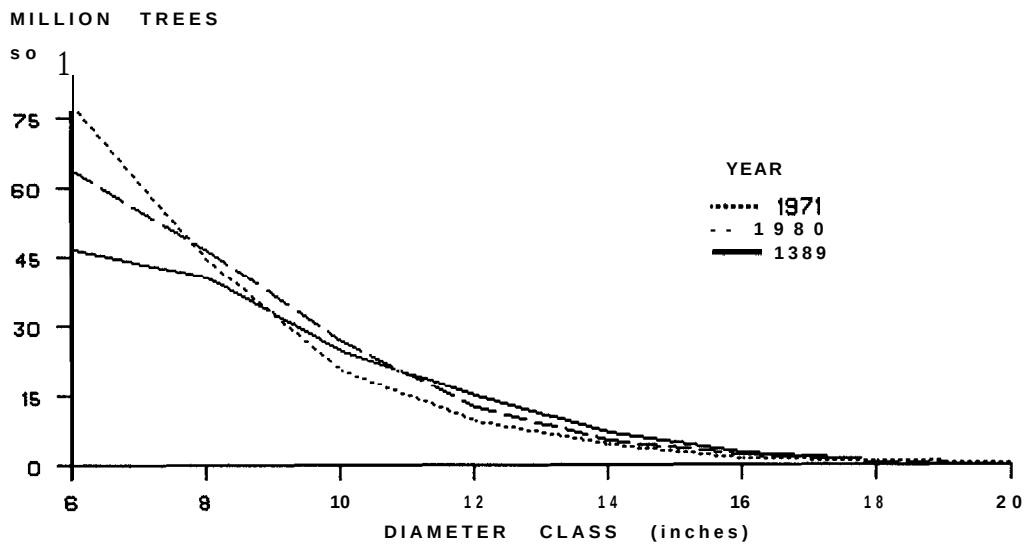


Figure 7.--Number of softwood growing-stock trees on timberland by diameter class, East Tennessee, 1971, 1980, and 1989.

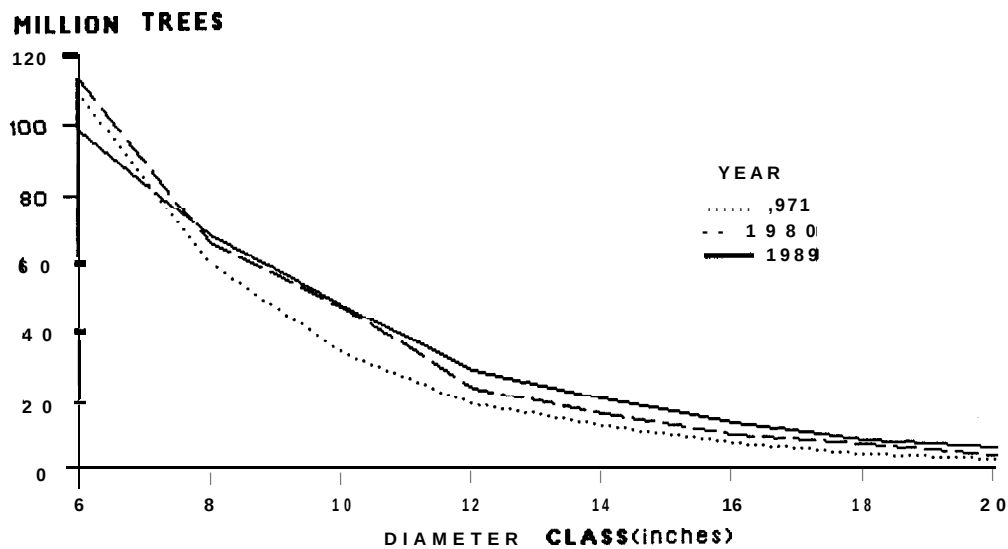


Figure 8.--Number of hardwood growing-stock trees on timberland by diameter class, East Tennessee, 1971, 1980, and 1989.

PERCENT CHANGE

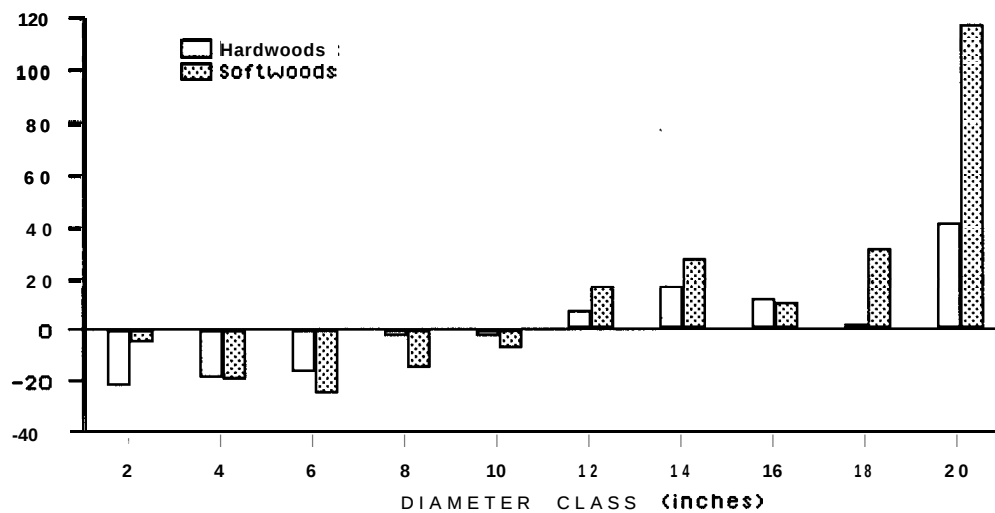


Figure 3.--Percent change in the number of live trees on timberland by species group and diameter class, East Tennessee, 1980 and 1989.

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May, Dennis M.; Vissage, John S. Forest Statistics for East Tennessee Counties-1989. Resource Bull. SO-143. New Orleans, **LA**: U.S. Department of Agriculture, Forest Service, Southern Forest Experiment Station; 1989. 43 p.

Tabulates forest resource information from a new inventory of the East Unit of Tennessee.

Additional Keywords: Area, volume, forest type, stand size, ownership.