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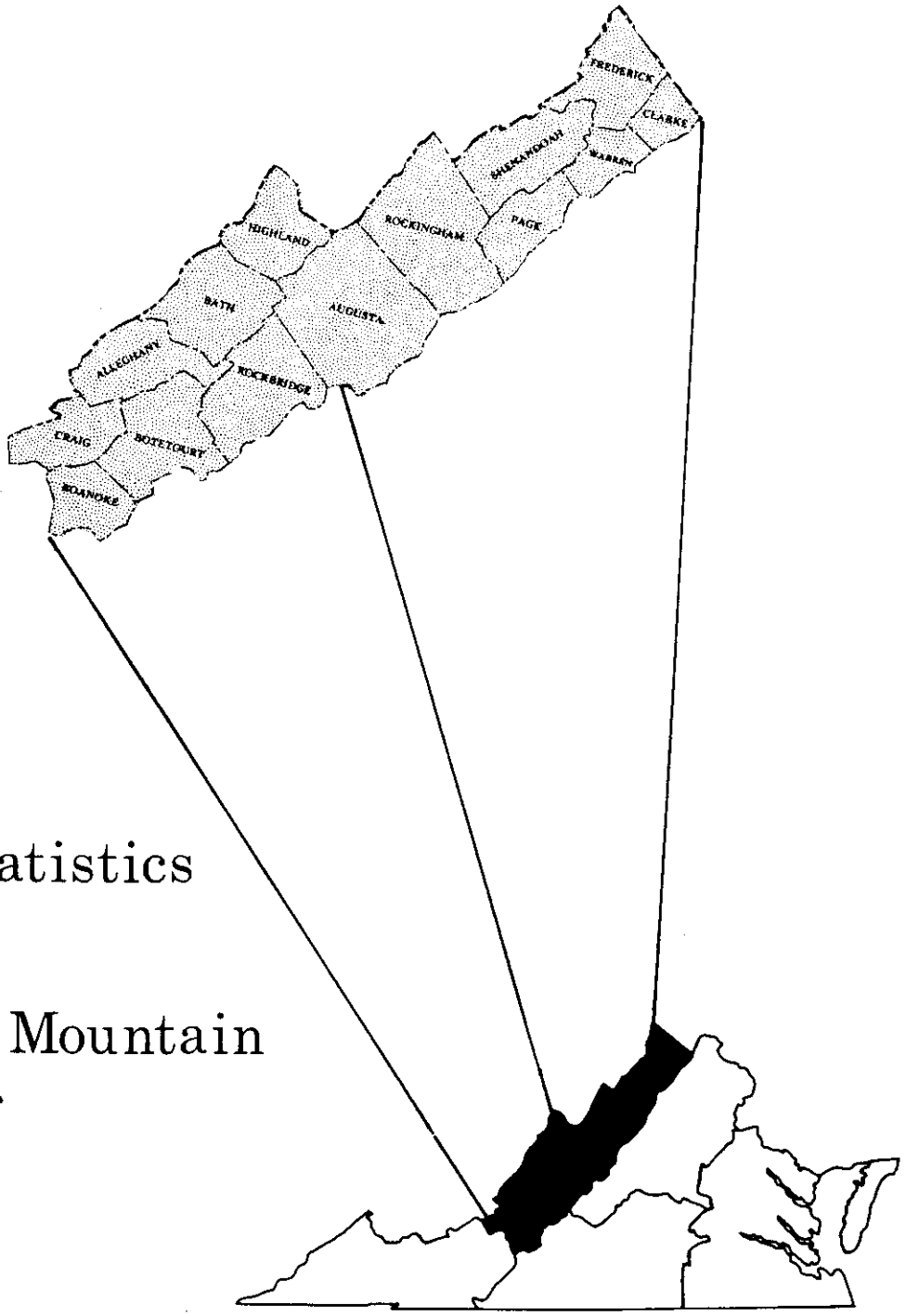

Forest Statistics for the Northern Mountain Region of Virginia 1977

FOREWORD

This report highlights the principal findings of the fourth inventory of the timber resource in the Northern Mountain Region of Virginia. The inventory was started in August 1976 and completed in December 1976. Three previous inventories, completed in 1940, 1957, and 1966, provide statistics for measuring changes and trends over the past 37 years. In this report, the primary emphasis is on the changes and trends since 1966. Previously reported figures have been adjusted to provide the best estimate of real change.

Forest Survey, now Renewable Resources Evaluation, authorized by the McSweeney-McNary Forest Research Act of 1928, as amended, and by the Forest and Rangeland Renewable Resources Planning Act of 1974, is a continuing, nationwide undertaking by the regional experiment stations of the Forest Service, USDA. In Florida, Georgia, North Carolina, South Carolina, and Virginia, Renewable Resources Evaluation is administered through the Southeastern Forest Experiment Station, with headquarters at Asheville, North Carolina. The objective of the statewide timber inventories is to periodically measure and evaluate the timber resource. These inventories provide information on the extent and condition of the forest lands, volume of timber, and rates of timber growth and removals. These data and evaluations help provide a basis for the formulation of forest policies and programs and the orderly development and use of the resource.

The 14-county area covered by this report is one of five survey units in Virginia. Similar reports, USDA Forest Service Resource Bulletins SE-34, 35, and 39, have been issued for the Coastal Plain, Southern Piedmont, and Northern Piedmont units. A comparable report for the Southern Mountain Region will be issued as the Statewide inventory progresses. When completed, this inventory will provide updated statistics on the timber resource for all of Virginia.

The Southeastern Station gratefully acknowledges the cooperation and assistance provided by the Virginia Division of Forestry. Appreciation is also expressed for the excellent cooperation of other public agencies, forest industry, and private landowners in providing information and access to the sample locations.

Joe P. McClure

JOE P. McCLURE
Project Leader

Forest Statistics
for the
Northern Mountain Region of Virginia
1977

by
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HIGHLIGHTS

Since 1966 in the Northern Mountain Region of Virginia--

--area of commercial forest land has increased by 122,000 acres, or by 5 percent. This increase is attributed to the reclassification of 147,000 acres of noncommercial forest to commercial forest land. Altogether, additions to commercial forest land totaled 190,000 acres, while diversions to other land uses totaled only 68,000 acres. Almost two-thirds of the diversions were to agricultural uses and urban development; reclassification of former commercial forest land to productive-reserved forest land accounted for most of the remaining diversion. Commercial forests now occupy 2.6 million acres, or 61 percent of the total land area.

--there has been a 14-percent increase in the area of publicly owned commercial forests, resulting largely from the reclassification of unproductive forest lands on the George Washington and Jefferson National Forests. The national forests and other public agencies are the single largest owner group in this region with a total commercial forest acreage of over 1.0 million acres. Farmer-owned commercial forests have declined by 190,000 acres, or by 24 percent; miscellaneous private owners increased their holdings by 137,000 acres, or by 18 percent. Forest industry lands have more than doubled but total only 73,000 acres.

--only 1 out of 5 acres now classified as commercial forests showed evidence of treatment or significant disturbance. The relatively low level of forestry activity is attributed to the mountainous terrain and predominantly hardwood forests. Only 271,000 acres have experienced harvesting or intermediate cutting. Grazing and other significant disturbances occurred on 184,000 acres. Over 59,000 acres suffered significant damage due to insects, disease, weather, and other natural destructive agents.

--average basal area of all live trees 5.0 inches d.b.h. and larger has increased from 67 to 77 square feet per acre of commercial forest land. There are also 572 saplings per acre, about the same number as found in 1966. Trees which fail to qualify as growing stock because of roughness, rot, poor form, or species make up more than 30 percent of the basal area stocking. Despite the increase in average basal area, over 1.0 million acres were classified as either nonstocked or poorly stocked with growing-stock trees.

--volume of softwood growing stock has increased from 0.4 to 0.5 billion cubic feet, or by 31 percent. The increase occurred across all diameter classes and for most major species. Volume of shortleaf pine declined by 8 percent during the past 11 years. Pitch pine, Virginia pine, white pine, and Table-Mountain pine are the predominant softwood species in the area. The current inventory of softwood growing stock includes 1.7 billion board feet of sawtimber, 43 percent more than in 1966.

--volume of hardwood growing stock has increased from 1.9 to 2.4 billion cubic feet, or by 28 percent. Significant increases in volume were recorded for all major hardwood species, with the oaks accounting for two-thirds of the gain. Again, the increase occurred across all diameter classes. Hardwood sawtimber volume increased from 4.8 to 6.5 billion board feet, or by 34 percent.

In 1976--

--net growth of growing stock averaged 36 cubic feet per acre of commercial forest land and totaled 94 million cubic feet. This average growth per acre is considerably below averages found in Virginia's Piedmont and Coastal Plain regions and is attributed to the following factors: (1) nearly half of the commercial forest acreage was classified as poor sites (site class 5), and (2) the average age of adequately stocked stands is 62 years--much older than average ages for the other regions. About 57 percent of the net growth was on oaks, 28 percent was on other hardwood species, and the remaining 15 percent was on yellow pine and other softwoods. By ownership class, 39 percent of the net growth occurred on publicly owned forests; over 2 percent on forest industry lands; 26 percent on farmer-owned lands; and the remaining 33 percent on commercial forests held by miscellaneous private owners. The net growth of all species included some 334 million board feet of sawtimber.

--removals of growing stock totaled nearly 33 million cubic feet, slightly more than one-third the net growth. Almost 21 percent of the volume removed was yellow pine and other softwoods, and the remaining 79 percent was hardwoods. The distribution of removals by ownership class differed from that of net growth. Over 46 percent of the removals came from publicly owned forests, 7 percent from forest industry lands, 20 percent from farmer-owned land, and the remaining 27 percent from miscellaneous private forests. The total removals of all species included 111 million board feet of sawtimber.

--mortality of growing stock totaled 14 million cubic feet and reduced gross growth by 13 percent. Hardwoods accounted for 63 percent of the mortality. Insects, weather, and suppression were the leading identifiable causes of death. Total mortality included 27 million board feet of sawtimber.

HOW THE FOREST SURVEY IS MADE

The method of survey is essentially a sampling procedure designed to provide reliable statistics primarily at the State and Survey Unit levels. Individual county statistics are presented so that any combination of counties may be added together until the total is large enough to meet the desired degree of reliability. The basic steps of the survey procedure were as follows:

1. Initial estimates of forest and nonforest areas were based on the classification of 11,011 sample clusters systematically spaced on the latest aerial photographs available. A subsample of 925 of the 16-point clusters was ground checked, and a linear regression was fitted to the data to develop the relationship between the photo and ground classification of the subsample. This procedure provides a means for adjusting the initial estimates of area for change in land use since date of photography and for photo misclassifications.

2. Estimates of timber volume and forest classifications were based on measurements recorded at 576 ground sample locations systematically distributed within the commercial forest land. A 10-point cluster of plots, measured with a basal area factor of 37.5 square feet per acre, was systematically spaced on an acre at each of these sample locations. Trees less than 5 inches d.b.h. were tallied on a portion of the fixed-radius plots around the point centers.

3. Equations prepared from detailed measurements collected on standing trees in the Northern Mountain Region of Virginia, and similar measurements taken throughout the Southeast, were used to compute the volumes of individual tally trees. A mirror caliper and sectional aluminum poles were used to obtain the additional measurements on standing trees required to construct the volume equations.

4. Felled trees were measured at five active cutting operations. These data will be pooled with similar measurements taken in the State to supplement the standing tree-volume study and to generate utilization factors for product and species groups that will be analyzed at the State level.

5. Estimates of growth, removals, and mortality were determined from the remeasurement of 582 permanent sample plots which were established in the third survey.

6. Ownership information was collected from local contacts, correspondence, and public records. In those counties where the sample missed a particular ownership class, temporary sample plots were added and measured to describe the forest conditions within the ownership class.

7. All field data were sent to Asheville for editing and were punched into cards and stored on magnetic tape for machine computing, sorting, and tabulation. Final estimates were based on statistical summaries of the data.

RELIABILITY OF THE DATA

Statistical analysis of these data indicates the following sampling errors in terms of one standard error (two times out of three):

	Percent
Per million acres of commercial forest land - - - - - -	0.66
Per billion cubic feet of growing stock - - - - - - - - - -	4.31
Per billion cubic feet of net annual growth - - - - - - - -	0.88
Per billion cubic feet of annual removals - - - - - - - - -	2.91

SAMPLING ERRORS FOR COUNTY AND UNIT TOTALS, IN TERMS OF ONE STANDARD ERROR

COUNTY	COMMERCIAL FOREST AREA	CUBIC-FOOT VOLUME OF GROWING STOCK		
		INVENTORY	GROWTH	REMOVALS
	- - - - - - - *SAMPLING ERROR*[2] - - - - - - -			
ALLEGHANY	0.56	7.44	7.90	57.74
AUGUSTA	1.05	8.51	10.91	38.93
BATH	0.45	6.54	6.89	39.82
BOTETOURT	1.27	9.49	10.39	50.72
CLARKE	9.93	19.41	18.76	0.00
CRAIG	0.63	8.09	9.11	77.15
FREDERICK	3.19	10.29	12.07	89.37
HIGHLAND	1.22	10.32	10.17	46.52
PAGE	2.82	10.24	11.26	77.69
ROANOKE	3.72	15.39	12.78	59.84
ROCKBRIDGE	1.38	8.32	7.80	39.37
ROCKINGHAM	1.22	6.45	9.95	71.80
SHENANDOAH	1.59	7.79	11.32	58.40
WARREN	4.23	15.59	15.81	68.24
UNIT TOTAL	0.41	2.50	2.85	16.05

[1] SAMPLING ERROR OF BREAKDOWNS OF COUNTY AND UNIT TOTALS MAY BE COMPUTED WITH THE FOLLOWING FORMULA:

$$E = \frac{(SE)\sqrt{(\text{SPECIFIED VOLUME OR AREA})}}{\sqrt{(\text{VOLUME OR AREA TOTAL IN QUESTION})}}$$

WHERE: E = SAMPLING ERROR OF THE VOLUME OR AREA TOTAL IN QUESTION.
SE = SPECIFIED SAMPLING ERROR IN TABLE.

[2] BY RANDOM-SAMPLING FORMULA (IN PERCENT).

DEFINITIONS OF TERMS

Acceptable trees.--Growing-stock trees of commercial species that meet specified standards of size and quality, 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 of basal area per acre.

Commercial forest land.--Forest land producing or 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.

Cropland.--Land under cultivation within the past 24 months, including orchards and land in soil-improving crops, but excluding land cultivated in developing improved pasture. Also includes idle farmland.

Desirable trees.--Growing-stock trees of commercial species having no serious defects in quality limiting present or prospective use for timber products, of relatively high vigor, and containing no pathogens that may result in death or serious deterioration before rotation age.

Diameter class.--A classification of trees based on diameter outside bark, measured at breast height ($4\frac{1}{2}$ feet above the ground). D.b.h. is the common abbreviation for "diameter at breast height." Two-inch diameter classes are commonly used in Forest Survey, with the even inch the approximate midpoint for a class. For example, the 6-inch class includes trees 5.0 through 6.9 inches d.b.h., inclusive.

Farm.--Either a place operated as a unit of 10 or more acres from which the sale of agricultural products totaled $50 or more annually, or a place operated as a unit of less than 10 acres from which the sale of agricultural products for the year amounted to at least $250.

Farm operator.--A person who operates a farm, either doing the work himself or directly supervising the work.

Farmer-owned lands.--Lands owned by farm operators.

Forest industry lands.--Lands owned by companies or individuals operating wood-using plants.

Forest land.--Land at least 16.7 percent stocked by forest trees of any size, or formerly having had 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.

Longleaf-slash pine.--Forests in which longleaf or slash pine, singly or in combination, comprises a plurality of the stocking. (Common associates include oak, hickory, and gum.)

Loblolly-shortleaf pine.--Forests in which loblolly pine, shortleaf pine, or other southern yellow pines, except longleaf or slash pine, singly or in combination, comprise a plurality of the stocking. (Common associates include oak, hickory, and gum.)

Oak-pine.--Forests in which hardwoods (usually upland oaks) comprise a plurality of the stocking but in which pines comprise 25 to 50 percent of the stocking. (Common associates include gum, hickory, and yellow-poplar.)

Oak-hickory.--Forests in which upland oaks or hickory, singly or in combination, comprise a plurality of the stocking, except where pines comprise 25 to 50 percent, in which case the stand would be classified oak-pine. (Common associates include yellow-poplar, elm, maple, and black walnut.)

Oak-gum-cypress.--Bottomland forests in which tupelo, blackgum, sweetgum, oaks, or southern cypress, singly or in combination, comprises a plurality of the stocking, except where pines comprise 25 to 50 percent, in which case the stand would be classified oak-pine. (Common associates include cottonwood, willow, ash, elm, hackberry, and maple.)

Elm-ash-cottonwood.--Forests in which elm, ash, or cottonwood, singly or in combination, comprises a plurality of the stocking. (Common associates include willow, sycamore, beech, and maple.)

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

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

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

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

Soft hardwoods.--Soft-textured hardwoods such as boxelder, red and silver maple, buckeye, hackberry, loblolly-bay, silverbell (in mountains), butternut, sweetgum, yellow-poplar, cucumbertree, magnolia, sweetbay, water tupelo, blackgum, sycamore, cottonwood, black cherry, willow, basswood, and elm.

Hard hardwoods.--Hard-textured hardwoods such as Florida and sugar maple, birch, hickory, dogwood, persimmon (forest grown), beech, ash, honeylocust, holly, black walnut, mulberry, all commercial oaks, and black locust.

Idle farmland.--Includes former croplands, orchards, improved pastures and farm sites not tended within the past 2 years, and presently less than 16.7 percent stocked with trees.

Improved pasture.--Land currently improved for grazing by cultivation, seeding, irrigation, or clearing of trees or brush.

Industrial wood.--All roundwood products except fuelwood.

Land area.--The area of dry land and land temporarily or partly covered by water such as marshes, swamps, and river flood plains (omitting tidal flats below mean high tide); streams, sloughs, estuaries, and canals less than 1/8 of a statute mile in width; and lakes, reservoirs, and ponds less than 40 acres in area.

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

Miscellaneous Federal lands.--Federal lands other than National Forests, lands administered by the Bureau of Land Management, and Indian lands.

Miscellaneous private lands - corporate.--Lands owned by private corporations other than forest industry.

Miscellaneous private lands - individual.--Privately owned lands other than forest-industry, farmer-owned, or corporate lands.

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

National Forest land.--Federal lands which have been legally designated as National Forests or purchase units, and other lands under the administration of the Forest Service, including experimental areas and Bankhead-Jones Title III lands.

Net annual growth.--The increase in volume for a specific year.

Net volume.--Gross volume less deductions for rot, sweep, or other defect affecting use for timber products.

Noncommercial forest land.--(a) Unproductive forest land incapable of yielding crops of industrial wood because of adverse site conditions, and (b) productive-reserved forest land.

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.

Nonforest land.--Land that has never supported forests and lands formerly forested where timber management is precluded by development for other uses.

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

Other Federal lands.--Federal lands other than National Forests, including lands administered by the Bureau of Land Management, Bureau of Indian Affairs, and other Federal agencies.

Other public lands.--Publicly owned lands other than National Forests.

Overstocked areas.--Areas where growth of trees is significantly reduced by excessive numbers of trees.

Poletimber trees.--Growing-stock trees of commercial species at least 5.0 inches in d.b.h. but smaller than sawtimber size.

Productive-reserved forest land.--Forest land sufficiently productive to qualify as commercial forest land, but withdrawn from timber utilization through statute or administrative designation.

Rangeland.--Land on which the natural plant cover is composed principally of native grasses, forbs, or shrubs valuable for forage.

Rotten trees.--Live trees of commercial species that do not contain at least one 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, now or prospectively, primarily because of rot or missing sections, and with less than one-third of the gross tree volume in sound material.

Rough trees.--(a) Live trees of commercial species that do not contain at least one 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, now or prospectively, primarily because of roughness, poor form, splits, and cracks, and with less than one-third of the gross tree volume in sound material; and (b) all live trees of noncommercial species.

Salvable dead trees.--Standing or down dead trees that are considered merchantable by Forest Survey standards.

Saplings.--Live trees 1.0 to 5.0 inches in diameter at breast height.

Saw log.--A log meeting minimum standards of diameter, length, and defect, including logs at least 8 feet long, sound and straight, and with a minimum diameter inside bark for softwoods of 6 inches (8 inches for hardwoods).

Saw-log portion.--That part of the bole of sawtimber trees between the stump and the saw-log top.

Saw-log top.--The point on the bole of sawtimber trees above which a saw log cannot be produced. The minimum saw-log top is 7.0 inches d.o.b. for softwoods and 9.0 inches d.o.b. for hardwoods.

Sawtimber trees.--Live trees of commercial species containing at least a 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, and with at least one-third of the gross board-foot volume between the 1-foot stump and minimum saw-log top being sound. Softwoods must be at least 9.0 inches and hardwoods at least 11.0 inches in diameter at breast height.

Sawtimber volume.--Net volume of the saw-log portion of live sawtimber in board-foot International 1/4-inch rule.

Seedlings.--Live trees less than 1.0 inch in diameter at breast height that are expected to survive and develop.

Site class.--A classification of forest land in terms of inherent capacity to grow crops of industrial wood based on fully stocked natural stands.

Class 1.--Sites capable of producing 165 or more cubic feet per acre annually.

Class 2.--Sites capable of producing 120 to 165 cubic feet per acre annually.

Class 3.--Sites capable of producing 85 to 120 cubic feet per acre annually.

Class 4.--Sites capable of producing 50 to 85 cubic feet per acre annually.

Class 5.--Sites incapable of producing 50 cubic feet per acre annually, but excluding unproductive sites.

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

Pines.--Yellow pine species which include loblolly, longleaf, slash, shortleaf, pitch, Virginia, Table-Mountain, sand, and spruce pine.

Other softwoods.--White pine, hemlock, cypress, eastern redcedar, white-cedar, spruce, and fir.

Stand-size class.--A classification of forest land based on the size class of growing-stock trees on the area.

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

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

Sapling-seedling stands.--Stands at least 16.7 percent stocked with growing-stock trees of which more than half of the stocking is saplings and seedlings.

State, county, and municipal lands.--Lands owned by States, counties, and local public agencies or municipalities, or lands leased to these governmental units for 50 years or more.

Stocking.--The degree of occupancy of land by trees, measured by basal area or the number of trees in a stand and spacing in the stand, compared to a minimum standard, depending on tree size, to fully utilize the growth potential of the land. (See page 12.)

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

Unproductive forest land.--Forest land incapable of producing 20 cubic feet per acre of industrial wood under natural conditions, because of adverse site conditions.

Upper-stem portion.--That part of the main stem or fork of sawtimber trees above the saw-log top to a minimum top diameter of 4.0 inches outside bark or to the point where the main stem or fork breaks into limbs.

Urban and other areas.--Areas within the legal boundaries of cities and towns; suburban areas developed for residential, industrial, or recreational purposes; school yards; cemeteries; roads; railroads; airports; beaches; powerlines and other rights-of-way; or other nonforest land not included in any other specified land use class.

STOCKING STANDARD

D.B.H. CLASS	MINIMUM NUMBER OF TREES PER ACRE FOR FULL STOCKING	MINIMUM BASAL AREA PER ACRE FOR FULL STOCKING	PERCENT STOCKING ASSIGNED EACH TALLY TREE[1]
SEEDLINGS	600	--	5.0
2	560	--	5.4
4	460	--	6.5
6	340	67	5.8
8	240	84	4.8
10	155	85	4.3
12	115	90	4.0
14	90	96	3.8
16	72	101	3.7
18	60	106	3.5
20	51	111	3.5

[1] TREES LESS THAN 5.0 INCHES D.B.H. WERE TALLIED ON A 10-POINT CLUSTER OF CIRCULAR, 1/300-ACRE PLOTS AT EACH SAMPLE LOCATION. TREES 5.0 INCHES D.B.H. AND LARGER WERE TALLIED ON A 10-POINT CLUSTER OF VARIABLE PLOTS USING A BASAL AREA FACTOR OF 37.5 AT EACH SAMPLE LOCATION.

OVERSTOCKED--OVER 130 PERCENT
FULLY STOCKED--100-130 PERCENT
MEDIUM STOCKED--60-99 PERCENT
POORLY STOCKED--16.7-59 PERCENT
NONSTOCKED--LESS THAN 16.7 PERCENT

CUBIC FEET OF WOOD PER AVERAGE CORD (EXCLUDING BARK)

D.B.H. CLASS	ALL SPECIES	PINE	OTHER SOFTWOOD	HARDWOOD
6	60.4	61.0	68.2	60.0
8	68.7	68.1	76.0	68.4
10	73.6	73.1	81.4	73.4
12	76.7	76.7	85.2	76.4
14	78.8	79.4	88.2	78.4
16	80.3	81.6	90.4	79.8
18	81.4	83.3	92.3	80.8
20	81.9	84.8	93.8	81.5
22	82.8	86.0	95.1	82.1
24+	83.7	87.9	97.3	83.0
AVERAGE	74.4	72.2	83.6	74.4

COUNTY TABLES

THE COUNTY TABLES ARE INTENDED FOR USE IN COMPILING FOREST RESOURCE ESTIMATES FOR GROUPS OF COUNTIES. BECAUSE THE SAMPLING PROCEDURE USED BY THE FOREST SURVEY WAS INTENDED PRIMARILY TO FURNISH INVENTORY DATA FOR THE SURVEY UNIT AS A WHOLE, INDIVIDUAL COUNTY ESTIMATES HAVE LIMITED AND VARIABLE ACCURACY. AS COUNTY TOTALS ARE BROKEN DOWN BY VARIOUS SUBDIVISIONS, THE POSSIBILITY OF ERROR INCREASES AND IS GREATEST FOR THE SMALLEST ITEMS. THE ORDER OF THIS INCREASE CAN BE COMPUTED WITH THE FORMULA ON PAGE 5.

TABLE 1.--*AREA, BY LAND CLASS AND COUNTY, 1977*

COUNTY	ALL LAND[1]	FOREST LAND				NONFOREST LAND[2]
		TOTAL	COMMERCIAL FOREST	UNPRODUCTIVE FOREST	PRODUCTIVE-RESERVED	
	ACRES					
ALLEGHANY	289,280	255,511	251,237	3,927	347	33,769
AUGUSTA	641,280	352,380	318,822	19,115	14,443	288,900
BATH	345,600	309,093	296,962	8,066	4,065	36,507
BOTETOURT	350,507	251,840	244,440	5,598	1,802	98,667
CLARKE	111,360	34,386	34,291	--	95	76,974
CRAIG	215,040	177,625	175,219	13	2,393	37,415
FREDERICK	279,040	144,055	143,151	796	108	134,985
HIGHLAND	266,240	196,394	195,717	677	--	69,846
PAGE	202,240	126,866	85,840	3,473	37,553	75,374
ROANOKE	193,920	114,748	114,165	--	583	79,172
ROCKBRIDGE	388,109	257,335	249,091	2,541	5,703	130,774
ROCKINGHAM	557,440	312,794	259,963	13,089	39,742	244,646
SHENANDOAH	324,480	193,432	185,560	7,872	--	131,048
WARREN	140,160	85,334	71,254	894	13,186	54,826
TOTAL	4,304,696	2,811,793	2,625,712	66,061	120,020	1,492,903

[1] FROM U. S. BUREAU OF THE CENSUS, LAND AND WATER AREA OF THE UNITED STATES, 1970.
[2] INCLUDES 16,836 ACRES OF WATER ACCORDING TO SURVEY STANDARDS OF AREA CLASSIFICATION BUT DEFINED BY THE BUREAU OF THE CENSUS AS LAND.

TABLE 2.--*AREA OF COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND COUNTY, 1977*

COUNTY	ALL OWNERSHIPS	OWNERSHIP CLASS							
		NATIONAL FOREST	MISCELLANEOUS FEDERAL	STATE	COUNTY AND MUNICIPAL	FOREST INDUSTRY	FARMER	MISCELLANEOUS PRIVATE	
								CORPORATE	INDIVIDUAL
	ACRES								
ALLEGHANY	251,237	134,713	1,030	450	258	8,188	22,208	13,325	71,065
AUGUSTA	318,822	168,392	--	8,104	100	--	54,701	16,411	71,114
BATH	296,962	157,712	2,800	9,486	62	320	46,413	29,533	50,636
BOTETOURT	244,440	70,830	--	--	6,327	29,484	55,981	30,143	51,675
CLARKE	34,291	--	--	90	189	758	9,501	4,750	19,003
CRAIG	175,219	112,166	--	--	--	--	33,951	--	29,102
FREDERICK	143,151	4,994	--	3	--	513	68,821	18,352	50,468
HIGHLAND	195,717	52,154	--	13,502	241	11,877	82,048	10,256	25,639
PAGE	85,840	24,594	--	--	35	--	25,204	3,601	32,406
ROANOKE	114,165	589	53	4,204	5,880	8,066	29,803	5,961	59,609
ROCKBRIDGE	249,091	54,773	--	15,449	5,754	12,711	68,054	14,582	77,768
ROCKINGHAM	259,963	120,626	--	227	75	645	39,540	24,712	74,138
SHENANDOAH	185,560	62,317	--	--	190	--	34,455	4,922	83,676
WARREN	71,254	4,591	1,575	93	--	--	37,914	16,249	10,832
TOTAL	2,625,712	968,451	5,458	51,608	19,111	72,562	608,594	192,797	707,131

TABLE 3.--*AREA OF COMMERCIAL FOREST LAND, BY FOREST-TYPE GROUP AND COUNTY, 1977*

COUNTY	ALL TYPE GROUPS	FOREST-TYPE GROUP								
		WHITE PINE-HEMLOCK	SPRUCE-FIR	LONGLEAF-SLASH	LOBLOLLY-SHORTLEAF	OAK-PINE	OAK-HICKORY	OAK-GUM-CYPRESS	ELM-ASH-COTTONWOOD	MAPLE-BEECH-BIRCH
	ACRES									
ALLEGHANY	251,237	--	--	--	22,228	31,852	183,831	--	--	13,326
AUGUSTA	318,822	4,009	--	--	24,055	51,405	239,353	--	--	--
BATH	296,962	4,219	--	--	8,600	21,420	262,723	--	--	--
BOTETOURT	244,440	4,722	--	--	26,252	22,268	186,892	--	4,306	--
CLARKE	34,291	--	--	--	--	--	34,291	--	--	--
CRAIG	175,219	4,850	--	--	32,135	18,674	119,560	--	--	--
FREDERICK	143,151	4,588	--	--	9,176	13,767	115,620	--	--	--
HIGHLAND	195,717	--	--	--	4,346	29,691	156,552	--	--	5,128
PAGE	85,840	--	--	--	10,803	10,838	60,598	--	3,601	--
ROANOKE	114,165	11,922	--	--	18,471	11,922	71,850	--	--	--
ROCKBRIDGE	249,091	--	--	--	22,010	37,591	184,629	--	4,861	--
ROCKINGHAM	259,963	4,020	--	--	19,770	23,170	208,060	--	4,943	--
SHENANDOAH	185,560	4,923	--	--	19,689	22,096	133,930	--	4,922	--
WARREN	71,254	--	--	--	--	5,416	44,173	--	21,665	--
TOTAL	2,625,712	43,253	--	--	217,535	300,110	2,002,062	--	44,298	18,454

TABLE 4.--*AREA OF COMMERCIAL FOREST LAND, BY STAND-SIZE CLASS AND COUNTY, 1977*

COUNTY	ALL STANDS	STAND-SIZE CLASS			NONSTOCKED AREAS
		SAWTIMBER	POLETIMBER	SAPLING-SEEDLING	
	- - - - - -	- - - - - -	- *ACRES* -	- - - - - -	- - - - - -
ALLEGHANY	251,237	102,914	116,472	31,851	--
AUGUSTA	318,822	128,473	126,539	39,380	24,430
BATH	296,962	86,967	167,154	42,841	--
BOTETOURT	244,440	104,299	92,318	43,101	4,722
CLARKE	34,291	24,033	10,258	--	--
CRAIG	175,219	78,453	82,943	9,337	4,486
FREDERICK	143,151	65,151	59,648	18,352	--
HIGHLAND	195,717	102,651	62,646	30,420	--
PAGE	85,840	48,514	26,523	10,803	--
ROANOKE	114,165	23,844	82,371	7,950	--
ROCKBRIDGE	249,091	125,004	79,341	44,746	--
ROCKINGHAM	259,963	172,173	75,728	4,020	8,042
SHENANDOAH	185,560	102,090	67,549	7,332	8,589
WARREN	71,254	27,082	38,756	--	5,416
TOTAL	2,625,712	1,191,648	1,088,246	290,133	55,685

TABLE 5.--*AREA OF COMMERCIAL FOREST LAND, BY SITE CLASS AND COUNTY, 1977*

COUNTY	ALL CLASSES	SITE CLASS				
		1	2	3	4	5
	- - - - - -	- - - - - -	- - - - - -	*ACRES* - - -	- - - - - -	- - - - - -
ALLEGHANY	251,237	--	--	13,695	130,193	107,349
AUGUSTA	318,822	--	--	--	121,541	197,281
BATH	296,962	--	--	--	173,532	123,430
BOTETOURT	244,440	--	4,722	30,977	92,904	115,837
CLARKE	34,291	--	--	--	34,291	--
CRAIG	175,219	--	--	4,486	69,847	100,886
FREDERICK	143,151	--	--	--	83,504	59,647
HIGHLAND	195,717	--	--	14,602	68,910	112,205
PAGE	85,840	--	--	--	55,715	30,125
ROANOKE	114,165	--	--	5,961	53,646	54,558
ROCKBRIDGE	249,091	--	4,214	23,033	155,464	66,380
ROCKINGHAM	259,963	--	--	9,885	67,991	182,087
SHENANDOAH	185,560	--	--	--	107,014	78,546
WARREN	71,254	--	--	5,417	38,756	27,081
TOTAL	2,625,712	--	8,936	108,056	1,253,308	1,255,412

TABLE 6.--*AREA OF COMMERCIAL FOREST LAND, BY STOCKING CLASSES OF GROWING-STOCK TREES, BY COUNTY, 1977*

COUNTY	ALL CLASSES	STOCKING PERCENTAGE[1]				
		OVER 130	100-130	60-99	16.7-59	LESS THAN 16.7
	ACRES					
ALLEGHANY	251,237	--	1,738	135,479	114,020	--
AUGUSTA	318,822	--	30,986	100,034	163,372	24,430
BATH	296,962	--	17,201	181,249	98,512	--
BOTETOURT	244,440	--	18,888	135,706	85,124	4,722
CLARKE	34,291	--	279	29,262	4,750	--
CRAIG	175,219	--	36,622	87,063	47,048	4,486
FREDERICK	143,151	--	13,765	101,858	27,528	--
HIGHLAND	195,717	5,128	5,128	120,866	64,595	--
PAGE	85,840	--	7,236	40,925	37,679	--
ROANOKE	114,165	--	--	59,607	54,558	--
ROCKBRIDGE	249,091	--	31,483	158,356	59,252	--
ROCKINGHAM	259,963	--	4,323	137,861	109,737	8,042
SHENANDOAH	185,560	--	30,685	87,325	58,961	8,589
WARREN	71,254	--	15,423	21,665	28,750	5,416
TOTAL	2,625,712	5,128	213,757	1,397,256	953,886	55,685

[1] SEE STOCKING STANDARDS ON PAGE 12.

TABLE 7.--*VOLUME OF SAWTIMBER AND GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES GROUP AND COUNTY, 1977*

COUNTY	SAWTIMBER					GROWING STOCK				
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
	THOUSAND BOARD FEET					*THOUSAND CUBIC FEET*[1]				
ALLEGHANY	683,327	96,995	31,931	108,573	445,828	249,567	36,643	7,748	27,987	177,189
AUGUSTA	797,719	258,781	44,659	42,816	451,463	310,119	76,016	11,368	15,844	206,891
BATH	925,384	91,264	44,279	62,801	727,040	349,387	30,771	11,255	30,893	276,468
BOTETOURT	882,316	112,653	46,547	233,093	490,023	288,674	39,515	13,986	59,964	175,209
CLARKE	157,183	1,617	1,255	69,120	85,191	49,588	358	580	18,727	29,923
CRAIG	596,681	190,914	34,749	25,342	345,676	222,121	60,118	9,772	9,862	142,369
FREDERICK	474,288	22,234	16,195	31,086	404,773	180,504	9,870	6,664	14,911	149,059
HIGHLAND	792,210	47,108	123,607	94,419	527,076	259,955	14,171	29,069	32,490	184,225
PAGE	217,226	43,557	8,916	24,950	139,803	86,323	17,657	2,398	7,109	59,159
ROANOKE	224,433	33,733	38,708	46,701	105,291	100,287	20,724	11,069	14,152	54,342
ROCKBRIDGE	897,298	69,213	63,908	115,181	648,996	303,244	26,334	17,288	35,187	224,435
ROCKINGHAM	797,882	62,117	45,180	72,319	618,266	276,860	19,030	16,188	26,369	215,273
SHENANDOAH	551,417	93,007	31,771	53,636	373,003	221,057	30,846	9,085	22,963	158,163
WARREN	175,224	10,825	2,234	50,273	111,892	79,492	4,656	866	15,637	58,333
TOTAL	8,172,588	1,134,018	533,939	1,030,310	5,474,321	2,977,178	386,709	147,336	332,095	2,111,038

[1] FACTORS FOR CONVERTING TO CORDS ARE SHOWN ON PAGE 12.

TABLE 8.--*NET ANNUAL GROWTH OF SAWTIMBER AND GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES GROUP AND COUNTY, 1976*

COUNTY	SAWTIMBER					GROWING STOCK				
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
	THOUSAND BOARD FEET					*THOUSAND CUBIC FEET*				
ALLEGHANY	25,909	2,468	1,056	4,700	17,685	7,745	951	267	930	5,597
AUGUSTA	30,853	5,373	1,666	1,926	21,888	9,308	1,088	559	914	6,747
BATH	37,297	2,262	1,226	4,165	29,644	11,735	521	618	1,326	9,270
BOTETOURT	32,719	2,602	2,069	10,586	17,462	9,578	959	454	2,887	5,278
CLARKE	9,627	25	84	5,845	3,673	1,736	5	11	842	878
CRAIG	19,880	4,806	1,608	1,223	12,243	6,563	1,088	365	547	4,563
FREDERICK	21,298	731	1,336	2,196	17,035	6,860	372	277	1,368	4,843
HIGHLAND	32,386	1,079	4,723	3,921	22,663	7,691	271	1,042	888	5,490
PAGE	9,600	1,503	249	1,151	6,697	2,764	605	73	349	1,737
ROANOKE	11,413	1,511	1,717	3,025	5,160	3,418	726	355	623	1,714
ROCKBRIDGE	34,303	1,934	3,322	5,939	23,108	8,856	654	499	1,503	6,200
ROCKINGHAM	34,013	1,163	1,761	4,913	26,176	8,615	300	626	1,424	6,265
SHENANDOAH	23,987	2,075	1,293	4,786	15,833	6,787	638	306	1,360	4,483
WARREN	11,109	270	76	3,062	7,701	2,797	96	21	668	2,012
TOTAL	334,394	27,802	22,186	57,438	226,968	94,453	8,274	5,473	15,629	65,077

TABLE 9.--*ANNUAL REMOVALS OF SAWTIMBER AND GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES GROUP AND COUNTY, 1976*

COUNTY	SAWTIMBER					GROWING STOCK				
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
	THOUSAND BOARD FEET					*THOUSAND CUBIC FEET*				
ALLEGHANY	3,939	518	1,143	--	2,278	2,190	203	171	155	1,661
AUGUSTA	15,875	1,091	1,155	--	13,629	5,659	1,212	183	--	4,264
BATH	9,160	1,702	--	497	6,961	3,387	556	--	132	2,699
BOTETOURT	5,997	2,997	--	702	2,298	1,324	620	--	169	535
CLARKE	--	--	--	--	--	--	--	--	--	--
CRAIG	1,780	958	--	--	822	590	431	--	--	159
FREDERICK	4,336	--	--	--	4,336	799	--	--	--	799
HIGHLAND	15,774	1,074	4,120	--	10,580	4,274	366	853	--	3,055
PAGE	2,486	--	--	--	2,486	597	--	--	--	597
ROANOKE	3,603	--	--	--	3,603	1,284	--	--	--	1,284
ROCKBRIDGE	23,722	902	956	2,847	19,017	6,180	406	163	585	5,026
ROCKINGHAM	7,207	--	3,809	--	3,398	1,727	--	722	--	1,005
SHENANDOAH	13,785	1,891	--	--	11,894	3,914	442	--	--	3,472
WARREN	3,200	615	--	2,585	--	978	495	--	483	--
TOTAL	110,864	11,748	11,183	6,631	81,302	32,903	4,731	2,092	1,524	24,556

TABLE 10.--*AREA OF COMMERCIAL FOREST LAND, BY FOREST TYPE AND OWNERSHIP CLASS, 1977*

FOREST TYPE	ALL OWNERSHIPS	OWNERSHIP CLASS				
		NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY	FARMER	MISC. PRIVATE
	ACRES					
SOFTWOOD TYPES:						
WHITE PINE-HEMLOCK	43,253	12,751	--	--	13,730	16,772
SPRUCE-FIR	--	--	--	--	--	--
LONGLEAF PINE	--	--	--	--	--	--
SLASH PINE	--	--	--	--	--	--
LOBLOLLY PINE	--	--	--	--	--	--
SHORTLEAF PINE	4,923	--	--	--	--	4,923
VIRGINIA PINE	106,739	17,857	--	4,094	38,388	46,400
SAND PINE	--	--	--	--	--	--
EASTERN REDCEDAR	--	--	--	--	--	--
POND PINE	--	--	--	--	--	--
SPRUCE PINE	--	--	--	--	--	--
PITCH PINE	70,750	39,188	3,863	--	4,922	22,777
TABLE-MOUNTAIN PINE	35,123	16,718	--	--	4,306	14,099
TOTAL	260,788	86,514	3,863	4,094	61,346	104,971
HARDWOOD TYPES:						
OAK-PINE	300,110	93,810	7,333	11,275	81,540	106,152
OAK-HICKORY	1,764,127	651,342	49,975	54,223	414,629	593,958
CHESTNUT OAK	237,935	136,785	15,006	2,970	3,601	79,573
SOUTHERN SCRUB OAK	--	--	--	--	--	--
OAK-GUM-CYPRESS	--	--	--	--	--	--
ELM-ASH-COTTONWOOD	44,298	--	--	--	33,466	10,832
MAPLE-BEECH-BIRCH	18,454	--	--	--	14,012	4,442
TOTAL	2,364,924	881,937	72,314	68,468	547,248	794,957
ALL TYPES	2,625,712	968,451	76,177	72,562	608,594	899,928

TABLE 11.--*AREA OF COMMERCIAL FOREST LAND, BY OWNERSHIP AND STOCKING CLASSES OF GROWING-STOCK TREES, 1977*

OWNERSHIP CLASSES	ALL CLASSES	STOCKING PERCENTAGE[1]				
		OVER 130	100-130	60-99	16.7-59	LESS THAN 16.7
	ACRES					
NATIONAL FOREST	968,451	--	102,651	477,682	359,183	28,935
OTHER PUBLIC	76,177	--	2,354	28,191	45,632	--
FOREST INDUSTRY	72,562	--	8,474	29,141	34,947	--
FARMER	608,594	5,128	48,620	348,171	190,319	16,356
MISC. PRIVATE	899,928	--	51,658	514,071	323,805	10,394
ALL OWNERSHIPS	2,625,712	5,128	213,757	1,397,256	953,886	55,685

[1] SEE STOCKING STANDARDS ON PAGE 12.

TABLE 12.--*VOLUME OF TIMBER ON COMMERCIAL FOREST LAND, BY CLASS AND SPECIES GROUP, 1977*

CLASS OF TIMBER	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
	- - - - - - - *THOUSAND CUBIC FEET* - - - - - - -				
SAWTIMBER TREES:					
SAW-LOG PORTION	1,582,628	218,834	91,164	189,257	1,083,373
UPPER-STEM PORTION	319,707	41,683	17,365	38,763	221,896
TOTAL	1,902,335	260,517	108,529	228,020	1,305,269
POLETIMBER TREES	1,074,843	126,192	38,807	104,075	805,769
ALL GROWING-STOCK TREES	2,977,178	386,709	147,336	332,095	2,111,038
ROUGH TREES:					
SAWTIMBER-SIZE TREES	402,174	20,101	3,944	34,360	343,769
POLETIMBER-SIZE TREES	394,889	26,677	3,348	56,532	308,332
TOTAL	797,063	46,778	7,292	90,892	652,101
ROTTEN TREES:					
SAWTIMBER-SIZE TREES	125,410	513	1,075	14,861	108,961
POLETIMBER-SIZE TREES	16,131	379	--	3,603	12,149
TOTAL	141,541	892	1,075	18,464	121,110
SALVABLE DEAD TREES:					
SAWTIMBER-SIZE TREES	3,666	1,528	108	--	2,030
POLETIMBER-SIZE TREES	4,892	1,506	226	121	3,039
TOTAL	8,558	3,034	334	121	5,069
TOTAL, ALL TIMBER	3,924,340	437,413	156,037	441,572	2,889,318

TABLE 13.--*NUMBER OF GROWING-STOCK TREES ON COMMERCIAL FOREST LAND, BY SPECIES AND DIAMETER CLASS, 1977*

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 AND LARGER
	THOUSAND TREES										
SOFTWOOD:											
LONGLEAF PINE	--	--	--	--	--	--	--	--	--	--	--
SLASH PINE	--	--	--	--	--	--	--	--	--	--	--
SHORTLEAF PINE	1,520	441	402	273	232	55	91	18	8	--	--
LOBLOLLY PINE	--	--	--	--	--	--	--	--	--	--	--
POND PINE	--	--	--	--	--	--	--	--	--	--	--
VIRGINIA PINE	21,035	10,061	6,605	2,765	1,203	354	38	9	--	--	--
PITCH PINE	17,776	4,135	4,633	4,162	2,733	1,326	521	204	30	32	--
TABLE-MOUNTAIN PINE	7,647	3,078	1,879	1,465	679	424	76	31	15	--	--
SPRUCE PINE	--	--	--	--	--	--	--	--	--	--	--
SAND PINE	--	--	--	--	--	--	--	--	--	--	--
EASTERN WHITE PINE	10,155	3,829	2,789	1,571	636	488	447	191	57	140	7
EASTERN HEMLOCK	3,877	1,734	719	554	287	288	95	77	49	62	12
SPRUCE AND FIR	--	--	--	--	--	--	--	--	--	--	--
BALDCYPRESS	--	--	--	--	--	--	--	--	--	--	--
PONDCYPRESS	--	--	--	--	--	--	--	--	--	--	--
CEDARS	2,080	1,111	708	190	71	--	--	--	--	--	--
TOTAL SOFTWOODS	64,090	24,389	17,735	10,980	5,841	2,935	1,268	530	159	234	19
HARDWOOD:											
SELECT WHITE OAKS	31,654	11,461	7,789	4,840	2,584	2,034	1,377	689	425	428	27
SELECT RED OAKS	15,893	4,230	3,558	2,508	1,920	1,256	876	487	383	607	68
CHESTNUT OAK	53,225	20,050	12,981	7,840	4,303	2,990	2,219	1,217	704	869	52
OTHER WHITE OAKS	361	244	44	--	42	--	22	9	--	--	--
OTHER RED OAKS	54,980	19,492	14,441	10,314	5,247	2,737	1,525	599	329	284	12
HICKORY	19,092	9,171	4,216	2,446	1,428	874	451	310	135	53	8
YELLOW BIRCH	116	--	87	29	--	--	--	--	--	--	--
HARD MAPLE	3,313	1,191	582	621	453	160	111	77	62	51	5
SOFT MAPLE	9,823	5,267	2,218	1,019	732	262	191	46	32	56	--
BEECH	403	271	--	28	42	15	25	10	--	12	--
SWEETGUM	--	--	--	--	--	--	--	--	--	--	--
TUPELO AND BLACKGUM	3,000	1,598	688	260	166	109	103	48	17	11	--
ASH	2,032	572	517	184	299	168	191	40	39	12	10
COTTONWOOD	113	71	--	--	--	--	23	--	--	19	--
BASSWOOD	1,152	278	140	126	198	202	135	30	9	34	--
YELLOW-POPLAR	9,531	2,398	1,736	1,651	1,246	976	717	379	182	233	13
BAY AND MAGNOLIA	654	164	145	166	143	--	12	19	--	5	--
BLACK CHERRY	675	303	128	36	71	103	12	22	--	--	--
BLACK WALNUT	1,718	811	405	113	179	103	66	11	25	5	--
SYCAMORE	648	--	102	97	178	91	48	57	22	53	--
BLACK LOCUST	4,006	1,492	1,168	726	305	197	60	41	17	--	--
ELM	844	120	505	59	48	16	72	8	16	--	--
OTHER EASTERN HARDWOODS	4,361	1,771	1,243	681	289	149	127	60	24	17	--
TOTAL HARDWOODS	217,594	80,955	52,693	33,744	19,873	12,442	8,363	4,159	2,421	2,749	195
ALL SPECIES	281,684	105,344	70,428	44,724	25,714	15,377	9,631	4,689	2,580	2,983	214

TABLE 14.--*VOLUME OF ALL LIVE TREES ON COMMERCIAL FOREST LAND, BY SPECIES AND DIAMETER CLASS, 1977*

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 AND LARGER
	THOUSAND CUBIC FEET										
SOFTWOOD:											
LONGLEAF PINE	--	--	--	--	--	--	--	--	--	--	--
SLASH PINE	--	--	--	--	--	--	--	--	--	--	--
SHORTLEAF PINE	17,476	1,491	2,586	3,185	4,017	1,682	3,201	899	415	--	--
LOBLOLLY PINE	--	--	--	--	--	--	--	--	--	--	--
POND PINE	--	--	--	--	--	--	--	--	--	--	--
VIRGINIA PINE	151,283	33,034	49,940	34,628	21,980	9,521	1,781	399	--	--	--
PITCH PINE	196,384	13,326	29,159	44,452	46,323	31,617	18,021	9,156	1,680	2,650	--
TABLE-MOUNTAIN PINE	69,236	10,524	13,188	19,175	12,629	9,387	1,961	1,612	760	--	--
SPRUCE PINE	--	--	--	--	--	--	--	--	--	--	--
SAND PINE	--	--	--	--	--	--	--	--	--	--	--
EASTERN WHITE PINE	102,193	9,637	16,176	15,810	11,371	11,578	13,507	8,777	3,005	11,397	935
EASTERN HEMLOCK	42,503	5,071	3,798	5,647	3,551	6,410	3,441	3,521	2,861	5,702	2,501
SPRUCE AND FIR	--	--	--	--	--	--	--	--	--	--	--
BALDCYPRESS	--	--	--	--	--	--	--	--	--	--	--
PONDCYPRESS	--	--	--	--	--	--	--	--	--	--	--
CEDARS	11,007	3,198	4,275	1,751	1,548	235	--	--	--	--	--
TOTAL SOFTWOODS	590,082	76,281	119,122	124,648	101,419	70,430	41,912	24,364	8,721	19,749	3,436
HARDWOOD:											
SELECT WHITE OAKS	443,216	38,586	50,543	60,674	55,026	58,136	53,495	38,947	30,623	47,468	9,718
SELECT RED OAKS	338,035	26,156	30,229	32,811	39,078	36,482	36,946	25,987	25,392	64,531	20,423
CHESTNUT OAK	969,923	91,050	121,783	133,403	115,631	119,579	108,889	83,424	65,235	110,249	20,680
OTHER WHITE OAKS	4,443	1,189	394	--	553	340	1,112	483	372	--	--
OTHER RED OAKS	610,444	74,228	102,206	118,682	100,908	73,788	58,668	29,538	20,435	28,401	3,590
HICKORY	198,633	27,898	28,934	29,513	29,456	26,644	20,324	17,259	10,106	6,951	1,548
YELLOW BIRCH	1,358	--	735	623	--	--	--	--	--	--	--
HARD MAPLE	59,000	5,854	5,127	8,600	8,779	5,582	4,578	5,744	4,954	7,964	1,818
SOFT MAPLE	125,256	28,543	24,715	22,933	16,710	10,777	9,040	2,772	3,076	6,147	543
BEECH	6,386	803	272	407	1,301	486	968	862	232	1,055	--
SWEETGUM	--	--	--	--	--	--	--	--	--	--	--
TUPELO AND BLACKGUM	47,571	7,578	6,707	5,842	8,430	5,054	6,403	3,344	916	3,297	--
ASH	43,584	4,064	4,716	4,839	6,402	5,455	9,659	2,563	2,909	1,485	1,492
COTTONWOOD	3,046	399	--	--	--	--	975	--	384	1,288	--
BASSWOOD	27,780	1,733	1,601	1,741	5,219	5,638	6,289	1,510	426	3,623	--
YELLOW-POPLAR	176,251	8,267	11,264	20,491	24,679	28,129	28,535	19,916	11,446	21,004	2,520
BAY AND MAGNOLIA	8,900	464	875	1,909	2,453	354	594	1,161	--	1,090	--
BLACK CHERRY	13,056	2,651	1,898	1,064	2,185	3,327	847	1,084	--	--	--
BLACK WALNUT	29,576	4,624	6,004	3,356	6,303	3,093	2,129	1,003	1,664	1,400	--
SYCAMORE	19,581	--	946	3,329	2,843	2,565	1,382	2,379	1,316	4,486	335
BLACK LOCUST	79,988	10,185	15,579	19,671	12,455	9,161	4,530	4,581	1,963	1,863	--
ELM	13,778	1,030	4,304	1,837	1,537	419	2,719	377	860	695	--
OTHER EASTERN HARDWOODS	105,895	26,650	21,080	16,871	11,855	8,592	10,186	5,519	2,240	2,152	750
TOTAL HARDWOODS	3,325,700	361,952	439,912	488,596	451,803	403,601	368,268	248,453	184,549	315,149	63,417
ALL SPECIES	3,915,782	438,233	559,034	613,244	553,222	474,031	410,180	272,817	193,270	334,898	66,853

TABLE 15.--*VOLUME OF GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES AND DIAMETER CLASS, 1977*

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 AND LARGER
	THOUSAND CUBIC FEET										
SOFTWOOD:											
LONGLEAF PINE	--	--	--	--	--	--	--	--	--	--	--
SLASH PINE	--	--	--	--	--	--	--	--	--	--	--
SHORTLEAF PINE	16,566	1,136	2,354	3,185	4,017	1,359	3,201	899	415	--	--
LOBLOLLY PINE	--	--	--	--	--	--	--	--	--	--	--
POND PINE	--	--	--	--	--	--	--	--	--	--	--
VIRGINIA PINE	126,118	26,514	39,941	30,090	19,459	8,570	1,145	399	--	--	--
PITCH PINE	181,348	9,343	25,362	41,310	43,768	30,693	17,699	8,843	1,680	2,650	--
TABLE-MOUNTAIN PINE	62,677	10,003	11,539	17,162	11,138	8,798	1,961	1,316	760	--	--
SPRUCE PINE	--	--	--	--	--	--	--	--	--	--	--
SAND PINE	--	--	--	--	--	--	--	--	--	--	--
EASTERN WHITE PINE	97,887	8,607	15,968	15,142	10,144	11,278	13,507	8,414	3,005	10,887	935
EASTERN HEMLOCK	40,786	4,387	3,798	4,887	3,551	6,410	3,441	3,521	2,861	5,429	2,501
SPRUCE AND FIR	--	--	--	--	--	--	--	--	--	--	--
BALDCYPRESS	--	--	--	--	--	--	--	--	--	--	--
PONDCYPRESS	--	--	--	--	--	--	--	--	--	--	--
CEDARS	8,663	2,357	3,690	1,751	865	--	--	--	--	--	--
TOTAL SOFTWOODS	534,045	62,347	102,652	113,527	92,942	67,108	40,954	23,392	8,721	18,966	3,436
HARDWOOD:											
SELECT WHITE OAKS	382,722	31,783	47,009	52,326	46,343	51,758	49,754	33,562	25,881	39,513	4,793
SELECT RED OAKS	270,044	14,638	23,607	27,511	33,258	31,142	31,583	22,911	22,597	50,585	12,212
CHESTNUT OAK	579,071	56,427	74,528	79,499	67,588	68,877	68,372	50,203	37,440	67,027	9,110
OTHER WHITE OAKS	2,893	828	160	--	553	--	869	483	--	--	--
OTHER RED OAKS	536,396	58,231	88,157	109,803	89,000	66,426	53,175	27,330	19,204	22,806	2,264
HICKORY	169,112	23,805	22,395	25,093	25,223	23,340	17,140	16,033	9,049	5,486	1,548
YELLOW BIRCH	1,055	--	735	320	--	--	--	--	--	--	--
HARD MAPLE	47,119	4,298	3,799	7,124	8,457	4,324	4,223	3,860	4,441	5,548	1,045
SOFT MAPLE	76,850	16,521	14,155	12,132	12,898	6,743	6,691	2,019	1,881	3,810	--
BEECH	5,208	803	--	407	960	486	968	529	--	1,055	--
SWEETGUM	--	--	--	--	--	--	--	--	--	--	--
TUPELO AND BLACKGUM	21,586	3,176	3,638	2,607	2,784	2,628	2,997	1,959	745	1,052	--
ASH	31,366	1,806	3,400	2,157	5,305	4,369	7,457	2,064	2,316	1,000	1,492
COTTONWOOD	2,662	399	--	--	--	--	975	--	--	1,288	--
BASSWOOD	23,601	855	1,049	1,741	4,091	5,241	5,751	1,275	426	3,172	--
YELLOW-POPLAR	164,815	6,824	10,713	18,814	22,778	26,262	27,158	19,096	11,171	19,912	2,087
BAY AND MAGNOLIA	7,596	464	875	1,623	2,453	--	594	1,161	--	426	--
BLACK CHERRY	7,297	679	612	345	1,506	2,582	489	1,084	--	--	--
BLACK WALNUT	15,831	2,293	2,555	1,511	3,126	2,021	2,129	240	1,302	654	--
SYCAMORE	16,177	--	662	1,325	2,843	2,205	1,382	2,379	1,316	4,065	--
BLACK LOCUST	32,365	3,571	6,406	7,369	5,192	4,775	2,570	1,571	911	--	--
ELM	9,340	238	3,145	847	735	419	2,719	377	860	--	--
OTHER EASTERN HARDWOODS	40,027	5,759	8,472	7,820	5,207	3,344	4,163	2,593	1,163	1,506	--
TOTAL HARDWOODS	2,443,133	233,398	316,072	360,374	340,300	306,942	291,159	190,729	140,703	228,905	34,551
ALL SPECIES	2,977,178	295,745	418,724	473,901	433,242	374,050	332,113	214,121	149,424	247,871	37,987

TABLE 16.--*VOLUME OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY SPECIES AND DIAMETER CLASS, 1977*

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 AND LARGER
	THOUSAND BOARD FEET								
SOFTWOOD:									
LONGLEAF PINE	--	--	--	--	--	--	--	--	--
SLASH PINE	--	--	--	--	--	--	--	--	--
SHORTLEAF PINE	63,193	12,021	18,469	6,881	17,966	5,313	2,543	--	--
LOBLOLLY PINE	--	--	--	--	--	--	--	--	--
POND PINE	--	--	--	--	--	--	--	--	--
VIRGINIA PINE	231,980	105,227	79,836	39,301	5,568	2,048	--	--	--
PITCH PINE	650,591	137,151	185,268	151,800	97,047	51,437	10,457	17,431	--
TABLE-MOUNTAIN PINE	188,254	68,195	51,502	45,180	10,981	7,686	4,710	--	--
SPRUCE PINE	--	--	--	--	--	--	--	--	--
SAND PINE	--	--	--	--	--	--	--	--	--
EASTERN WHITE PINE	359,819	53,835	44,343	54,736	70,600	46,432	17,344	66,453	6,076
EASTERN HEMLOCK	162,920	16,315	14,467	30,059	17,783	19,118	16,190	32,633	16,355
SPRUCE AND FIR	--	--	--	--	--	--	--	--	--
BALDCYPRESS	--	--	--	--	--	--	--	--	--
PONDCYPRESS	--	--	--	--	--	--	--	--	--
CEDARS	11,200	7,166	4,034	--	--	--	--	--	--
TOTAL SOFTWOODS	1,667,957	399,910	397,919	327,957	219,945	132,034	51,244	116,517	22,431
HARDWOOD:									
SELECT WHITE OAKS	1,087,046	--	152,052	198,975	214,755	155,309	127,476	210,330	28,149
SELECT RED OAKS	866,641	--	106,573	115,080	128,617	99,608	103,480	247,645	65,638
CHESTNUT OAK	1,550,441	--	213,400	255,939	283,674	225,028	177,280	343,140	51,980
OTHER WHITE OAKS	8,748	--	2,097	--	4,157	2,494	--	--	--
OTHER RED OAKS	1,131,253	--	290,018	254,743	230,374	127,089	94,777	120,831	13,421
HICKORY	422,461	--	85,111	93,458	78,163	78,629	47,025	30,669	9,406
YELLOW BIRCH	--	--	--	--	--	--	--	--	--
HARD MAPLE	138,485	--	30,985	17,567	18,262	17,541	20,836	27,742	5,552
SOFT MAPLE	130,353	--	40,333	25,000	27,644	9,205	8,890	19,281	--
BEECH	15,659	--	3,552	1,875	3,793	2,099	--	4,340	--
SWEETGUM	--	--	--	--	--	--	--	--	--
TUPELO AND BLACKGUM	48,767	--	8,490	9,987	12,333	8,904	3,517	5,536	--
ASH	[illegible],746	--	17,203	16,734	31,787	9,560	11,376	5,487	8,599
COTTONWOOD	11,061	--	--	--	4,248	--	--	6,813	--
BASSWOOD	83,159	--	14,154	20,311	24,637	5,810	2,017	16,230	--
YELLOW-POPLAR	623,410	--	80,355	112,482	131,947	100,420	63,149	120,930	14,127
BAY AND MAGNOLIA	22,145	--	8,691	--	3,282	7,006	--	3,166	--
BLACK CHERRY	22,562	--	5,317	10,151	2,152	4,942	--	--	--
BLACK WALNUT	33,186	--	10,818	7,046	7,487	849	4,638	2,348	--
SYCAMORE	62,340	--	8,782	7,978	5,905	11,110	6,623	21,942	--
BLACK LOCUST	54,718	--	18,369	17,328	9,605	5,921	3,495	--	--
ELM	21,485	--	2,375	1,663	11,592	1,748	4,107	--	--
OTHER EASTERN HARDWOODS	69,965	--	17,370	12,708	16,506	11,171	5,148	7,062	--
TOTAL HARDWOODS	6,504,631	--	1,116,045	1,179,025	1,250,920	884,443	683,834	1,193,492	196,872
ALL SPECIES	8,172,588	399,910	1,513,964	1,506,982	1,470,865	1,016,477	735,078	1,310,009	219,303

TABLE 17.--*NET ANNUAL GROWTH AND REMOVALS OF GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES, 1976*

SPECIES	NET ANNUAL GROWTH	ANNUAL TIMBER REMOVALS
	- - THOUSAND CUBIC FEET - -	
SOFTWOOD:		
YELLOW PINES	8,274	4,731
EASTERN WHITE PINE	4,237	1,909
SPRUCE AND FIR	--	--
CYPRESS	--	--
OTHER EASTERN SOFTWOODS	1,236	183
TOTAL SOFTWOODS	13,747	6,823
HARDWOOD:		
SELECT WHITE AND RED OAKS	21,892	8,941
OTHER WHITE AND RED OAKS	32,143	12,259
HICKORY	4,776	3,019
YELLOW BIRCH	20	--
HARD MAPLE	1,384	--
SWEETGUM	--	--
ASH,WALNUT, AND BLACK CHERRY	2,169	337
YELLOW-POPLAR	8,463	986
TUPELO AND BLACKGUM	729	538
BAY AND MAGNOLIA	136	--
OTHER EASTERN HARDWOODS	8,994	--
TOTAL HARDWOODS	80,706	26,080
ALL SPECIES	94,453	32,903

TABLE 18.--*NET ANNUAL GROWTH AND REMOVALS OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY SPECIES, 1976*

SPECIES	NET ANNUAL GROWTH	ANNUAL TIMBER REMOVALS
	- - - THOUSAND BOARD FEET - - -	
SOFTWOOD:		
YELLOW PINES	27,802	11,748
EASTERN WHITE PINE	16,662	10,028
SPRUCE AND FIR	--	--
CYPRESS	--	--
OTHER EASTERN SOFTWOODS	5,524	1,155
TOTAL SOFTWOODS	49,988	22,931
HARDWOOD:		
SELECT WHITE AND RED OAKS	76,114	34,095
OTHER WHITE AND RED OAKS	116,560	32,993
HICKORY	15,206	12,750
YELLOW BIRCH	65	--
HARD MAPLE	5,581	--
SWEETGUM	--	--
ASH,WALNUT, AND BLACK CHERRY	7,977	1,464
YELLOW-POPLAR	36,335	4,234
TUPELO AND BLACKGUM	2,527	2,397
BAY AND MAGNOLIA	450	--
OTHER EASTERN HARDWOODS	23,591	--
TOTAL HARDWOODS	284,406	87,933
ALL SPECIES	334,394	110,864

TABLE 19.--*MORTALITY OF GROWING STOCK AND SAWTIMBER ON COMMERCIAL FOREST LAND, BY SPECIES, 1976*

SPECIES	GROWING STOCK	SAWTIMBER
	THOUSAND CUBIC FEET	*THOUSAND BOARD FEET*
SOFTWOOD:		
YELLOW PINES	4,801	10,505
EASTERN WHITE PINE	438	1,016
SPRUCE AND FIR	--	--
CYPRESS	--	--
OTHER EASTERN SOFTWOODS	90	--
TOTAL SOFTWOODS	5,329	11,521
HARDWOOD:		
SELECT WHITE AND RED OAKS	2,163	4,340
OTHER WHITE AND RED OAKS	5,497	8,655
HICKORY	408	1,538
YELLOW BIRCH	--	--
HARD MAPLE	--	--
SWEETGUM	--	--
ASH,WALNUT, AND BLACK CHERRY	131	--
YELLOW-POPLAR	--	--
TUPELO AND BLACKGUM	--	--
BAY AND MAGNOLIA	--	--
OTHER EASTERN HARDWOODS	858	681
TOTAL HARDWOODS	9,057	15,214
ALL SPECIES	14,386	26,735

TABLE 20.--*VOLUME OF ALL LIVE TREES AND GROWING STOCK ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1977*

OWNERSHIP CLASS	ALL LIVE TREES					GROWING STOCK				
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
	THOUSAND CUBIC FEET									
NATIONAL FOREST	1,584,929	196,355	44,483	125,431	1,218,660	1,171,633	183,981	42,913	93,914	850,825
OTHER PUBLIC	109,583	6,611	5,943	14,040	82,989	70,615	4,845	5,943	8,049	51,778
FOREST INDUSTRY	102,491	10,081	4,671	13,395	74,344	80,561	9,319	4,671	10,621	55,950
FARMER	921,756	75,290	62,259	135,418	648,789	732,357	63,234	57,203	101,732	510,188
MISCELLANEOUS PRIVATE	1,197,023	146,042	38,347	153,167	859,467	922,012	125,330	36,606	117,779	642,297
ALL OWNERSHIPS	3,915,782	434,379	155,703	441,451	2,884,249	2,977,178	386,709	147,336	332,095	2,111,038

TABLE 21.--*VOLUME OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1977*

OWNERSHIP CLASS	SMALL SAWTIMBER[1]					LARGE SAWTIMBER[2]				
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
	THOUSAND BOARD FEET									
NATIONAL FOREST	1,310,592	484,129	60,227	96,148	670,088	2,046,179	140,779	99,632	210,119	1,595,649
OTHER PUBLIC	70,509	13,232	10,333	6,548	40,396	97,541	--	10,271	5,626	81,644
FOREST INDUSTRY	99,027	19,201	7,690	15,391	56,745	139,585	10,315	13,173	20,105	95,992
FARMER	845,473	137,000	89,680	117,793	501,000	1,211,896	14,258	116,063	218,385	863,190
MISCELLANEOUS PRIVATE	1,095,255	247,269	57,025	122,140	668,821	1,256,531	67,835	69,845	218,055	900,796
ALL OWNERSHIPS	3,420,856	900,831	224,955	358,020	1,937,050	4,751,732	233,187	308,984	672,290	3,537,271

[1] VOLUME OF SAWTIMBER TREES LESS THAN 15.0 INCHES AT D.B.H.
[2] VOLUME OF SAWTIMBER TREES 15.0 INCHES AND LARGER AT D.B.H.

TABLE 22.--*NET ANNUAL GROWTH AND REMOVALS OF GROWING STOCK ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1976*

OWNERSHIP CLASS	NET ANNUAL GROWTH					ANNUAL TIMBER REMOVALS				
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
	THOUSAND CUBIC FEET									
NATIONAL FOREST	34,124	3,194	1,800	3,902	25,228	15,106	2,776	1,727	324	10,279
OTHER PUBLIC	2,585	96	433	233	1,823	193	193	--	--	--
FOREST INDUSTRY	2,423	197	152	359	1,715	2,257	83	--	216	1,958
FARMER	24,364	1,823	1,703	5,039	15,799	6,551	291	365	680	5,215
MISCELLANEOUS PRIVATE	30,957	2,964	1,385	6,096	20,512	8,796	1,388	--	304	7,104
ALL OWNERSHIPS	94,453	8,274	5,473	15,629	65,077	32,903	4,731	2,092	1,524	24,556

TABLE 23.--*NET ANNUAL GROWTH AND REMOVALS OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1976*

OWNERSHIP CLASS	NET ANNUAL GROWTH					ANNUAL TIMBER REMOVALS				
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
	THOUSAND BOARD FEET									
NATIONAL FOREST	122,996	13,479	7,078	16,695	85,744	43,305	6,186	8,924	702	27,493
OTHER PUBLIC	7,160	232	1,142	682	5,104	1,008	1,008	--	--	--
FOREST INDUSTRY	9,961	507	1,280	1,973	6,201	7,818	--	--	1,152	6,666
FARMER	87,936	4,584	8,030	16,300	59,022	30,423	1,290	2,259	3,464	23,410
MISCELLANEOUS PRIVATE	106,341	9,000	4,656	21,788	70,897	28,310	3,264	--	1,313	23,733
ALL OWNERSHIPS	334,394	27,802	22,186	57,438	226,968	110,864	11,748	11,183	6,631	81,302

TABLE 24.--*AVERAGE NET VOLUME PER ACRE OF SAWTIMBER, GROWING STOCK, AND OTHER LIVE TIMBER[1] ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS, MAJOR FOREST TYPE, AND SPECIES GROUP, 1977*

FOREST TYPE, SPECIES GROUP, AND CLASS OF MATERIAL	ALL OWNERSHIPS		OWNERSHIP CLASS									
			NATIONAL FOREST		OTHER PUBLIC		FOREST INDUSTRY		FARMER		MISC. PRIVATE	
	BOARD FEET	*CUBIC FEET*	*BOARD FEET*	*CUBIC FEET*	*BOARD FEET*	*CUBIC FEET*	*BOARD FEET*	*CUBIC FEET*	*BOARD FEET*	*CUBIC FEET*	*BOARD FEET*	*CUBIC FEET*
PINE TYPES:												
GROWING STOCK:												
SOFTWOOD	1,769	745	2,726	973	713	374	--	109	1,116	550	1,425	702
HARDWOOD	187	169	70	141	--	106	--	79	378	199	197	184
TOTAL	1,956	914	2,796	1,114	713	480	--	188	1,494	749	1,622	886
OTHER TIMBER:												
SOFTWOOD	--	86	--	49	--	215	--	34	--	94	--	111
HARDWOOD	--	136	--	117	--	307	--	--	--	115	--	163
TOTAL	--	222	--	166	--	522	--	34	--	209	--	274
OAK-PINE TYPES:												
GROWING STOCK:												
SOFTWOOD	1,603	480	1,937	523	2,263	679	1,255	416	1,583	508	1,273	405
HARDWOOD	970	489	617	405	1,929	864	196	365	1,693	643	774	437
TOTAL	2,573	969	2,554	928	4,192	1,543	1,451	781	3,276	1,151	2,047	842
OTHER TIMBER:												
SOFTWOOD	--	35	--	11	--	--	--	23	--	60	--	43
HARDWOOD	--	248	--	258	--	619	--	221	--	177	--	263
TOTAL	--	283	--	269	--	619	--	244	--	237	--	306
UPLAND HARDWOOD TYPES:												
GROWING STOCK:												
SOFTWOOD	356	96	417	105	146	42	515	121	404	116	256	75
HARDWOOD	2,987	1,096	3,046	1,085	1,723	760	2,875	949	3,465	1,255	2,752	1,059
TOTAL	3,343	1,192	3,463	1,190	1,869	802	3,390	1,070	3,869	1,371	3,008	1,134
OTHER TIMBER:												
SOFTWOOD	--	11	--	10	--	11	--	5	--	16	--	10
HARDWOOD	--	374	--	442	--	445	--	281	--	337	--	315
TOTAL	--	385	--	452	--	456	--	286	--	353	--	325
BOTTOMLAND HARDWOOD TYPES:												
GROWING STOCK:												
SOFTWOOD	30	20	--	--	--	--	--	--	--	9	124	55
HARDWOOD	3,093	895	--	--	--	--	--	--	3,636	1,008	1,381	538
TOTAL	3,123	915	--	--	--	--	--	--	3,636	1,017	1,505	593
OTHER TIMBER:												
SOFTWOOD	--	9	--	--	--	--	--	--	--	6	--	19
HARDWOOD	--	380	--	--	--	--	--	--	--	391	--	347
TOTAL	--	389	--	--	--	--	--	--	--	397	--	366
ALL TYPES:												
GROWING STOCK:												
SOFTWOOD	635	203	775	224	415	132	608	169	613	207	510	187
HARDWOOD	2,477	931	2,539	933	1,647	734	2,272	804	2,920	1,051	2,205	878
TOTAL	3,112	1,134	3,314	1,157	2,062	866	2,880	973	3,533	1,258	2,715	1,065
OTHER TIMBER:												
SOFTWOOD	--	21	--	14	--	22	--	9	--	29	--	26
HARDWOOD	--	336	--	394	--	456	--	256	--	296	--	292
TOTAL	--	357	--	408	--	478	--	265	--	325	--	318
ALL TIMBER	3,112	1,491	3,314	1,565	2,062	1,344	2,880	1,238	3,533	1,583	2,715	1,383

[1] ROUGH AND ROTTEN TREES.

TABLE 25.--*LAND AREA, BY CLASS, MAJOR FOREST TYPE, AND SURVEY COMPLETION DATE, 1957, 1966, AND 1977*

LAND USE CLASS	SURVEY COMPLETION DATE			CHANGE
	1957	1966	1977	1966-1977
	ACRES			
FOREST LAND:				
COMMERCIAL FOREST LAND:				
PINE AND OAK-PINE TYPES	657,200	555,079	560,898	+ 5,819
HARDWOOD TYPES	1,740,800	1,948,231	2,064,814	+116,583
TOTAL	2,398,000	2,503,310	2,625,712	+122,402
NONCOMMERCIAL FOREST LAND:				
PRODUCTIVE-RESERVED	103,400	128,100	120,020	- 8,080
UNPRODUCTIVE	275,200	180,997	66,061	-114,936
TOTAL	378,600	309,097	186,081	-123,016
NONFOREST LAND:				
CROPLAND	565,400	369,482	341,294	- 28,188
PASTURE AND RANGE	837,000	874,185	878,334	+ 4,149
OTHER	118,800	245,393	256,439	+ 11,046
TOTAL	1,521,200	1,489,060	1,476,067	- 12,993
ALL LAND[1]	4,297,800	4,301,467	4,287,860	- 13,607

[1] EXCLUDES ALL WATER AREAS.

TABLE 26.--*VOLUME[1] OF SAWTIMBER, GROWING STOCK, AND ALL LIVE TIMBER ON COMMERCIAL FOREST LAND, BY SPECIES GROUP, DIAMETER CLASS, AND SURVEY COMPLETION DATE*

SPECIES GROUP	YEAR	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 AND LARGER
SAWTIMBER (IN THOUSAND BOARD FEET)											
SOFTWOOD	1957	1,041,939	--	--	265,814	250,785	162,659	129,071	58,297	58,337	116,976
	1966	1,162,794	--	--	305,155	279,528	205,112	137,917	87,691	49,635	97,756
	1977	1,667,957	--	--	399,910	397,919	327,957	219,945	132,034	51,244	138,948
HARDWOOD	1957	4,105,928	--	--	--	756,893	820,883	696,923	669,008	410,417	751,804
	1966	4,841,200	--	--	--	824,671	907,682	831,104	694,099	503,632	1,080,012
	1977	6,504,631	--	--	--	1,116,045	1,179,025	1,250,920	884,443	683,834	1,390,364
GROWING STOCK (IN THOUSAND CUBIC FEET)											
SOFTWOOD	1957	365,777	50,801	84,511	75,451	58,581	33,284	24,031	10,329	9,928	18,861
	1966	408,251	62,139	86,804	86,618	65,295	41,971	25,678	15,537	8,447	15,762
	1977	534,045	62,347	102,652	113,527	92,942	67,108	40,954	23,392	8,721	22,402
HARDWOOD	1957	1,632,026	171,576	236,820	245,736	230,760	213,716	162,226	144,276	84,448	142,468
	1966	1,907,653	215,243	274,068	279,165	251,424	236,314	193,460	149,687	103,628	204,684
	1977	2,443,133	233,398	316,072	360,374	340,300	306,942	291,159	190,729	140,703	263,456
ALL LIVE TIMBER (IN THOUSAND CUBIC FEET)											
SOFTWOOD	1957	406,378	61,948	97,951	82,874	63,919	34,940	24,575	10,764	9,928	19,479
	1966	453,990	75,775	100,607	95,137	71,246	44,047	26,273	16,168	8,447	16,290
	1977	590,082	76,281	119,122	124,648	101,419	70,430	41,912	24,364	8,721	23,185
HARDWOOD	1957	2,224,898	265,971	329,791	333,208	306,377	280,943	205,184	187,920	110,781	204,723
	1966	2,607,881	333,659	381,665	378,528	333,796	310,675	244,652	194,977	135,886	294,043
	1977	3,325,700	361,952	439,912	488,596	451,803	403,601	368,268	248,453	184,549	378,566

[1]TO PROVIDE A BASIS FOR VALID COMPARISONS, ADJUSTMENTS HAVE BEEN MADE TO ALLOW FOR DIFFERENCES IN VOLUME TABLES AND SAWTIMBER SPECIFICATIONS USED IN PREVIOUS SURVEYS.

Sheffield, Raymond M.
1977. Forest statistics for the Northern Mountain Region of Virginia, 1977. USDA For. Serv. Resour. Bull. SE-41, 33 p. Southeast. For. Exp. Stn., Asheville, N. C.

Since 1966, the area of commercial forest land in this 14-county area has increased by 5 percent as a result of reclassification of former noncommercial forest land. National Forests and other public agencies are the largest owner group in this region. Volume of hardwood and softwood growing stock has increased by 28 and 31 percent, respectively. Hardwoods make up 82 percent of the inventory. Net annual growth of growing stock averaged 36 cubic feet per acre of commercial forest, 187 percent more than annual timber removals.

Keywords: Forest trends, commercial forest land, forest ownership, timber volume, timber growth, timber removals.

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