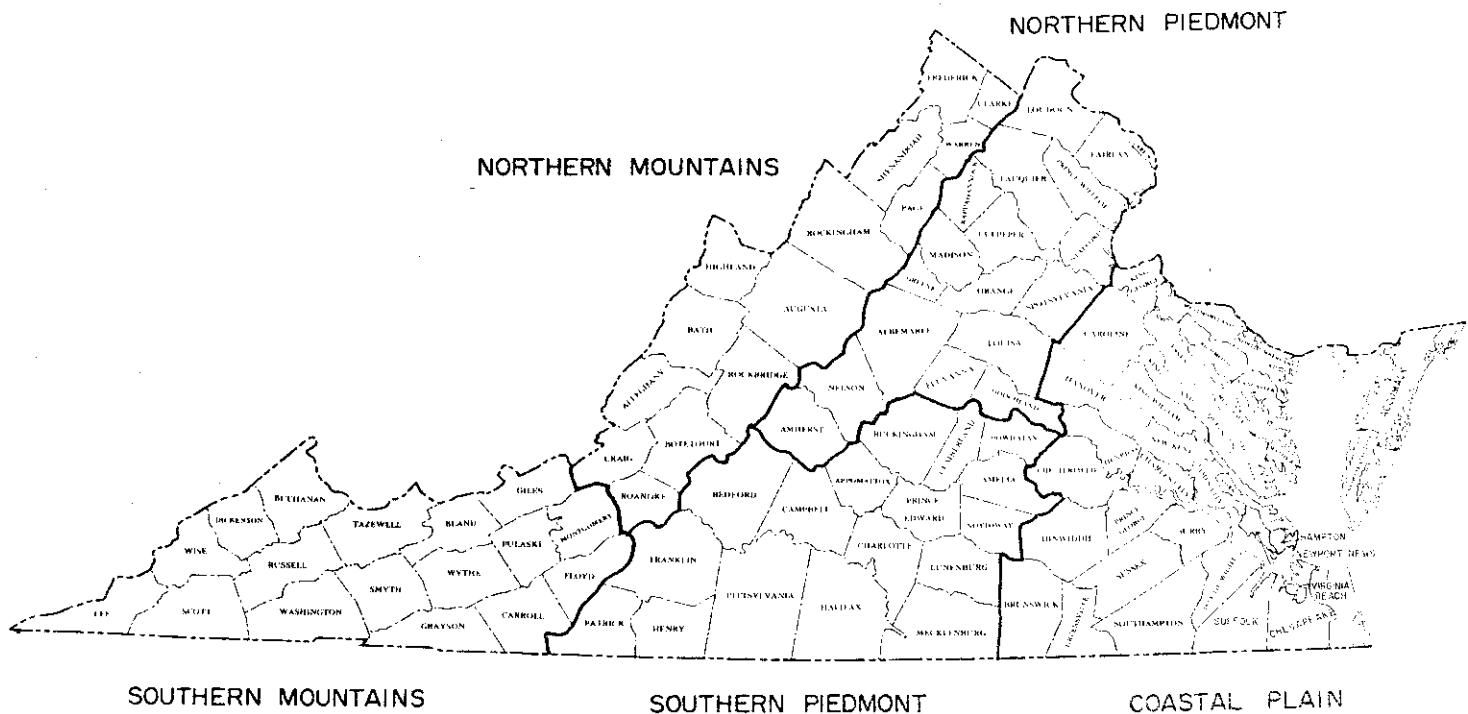


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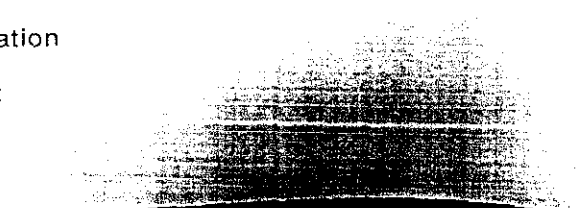
Resource Bulletin
SE-87

Forest Statistics for Virginia, 1986

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July 1986
Southeastern Forest Experiment Station
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Forest Statistics for Virginia, 1986

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Foreword

This report highlights the principal findings of the fifth forest survey of Virginia. Fieldwork began in September 1984 and was completed in November 1985. Four previous surveys, completed in 1940, 1957, 1966, and 1977, provide statistics for measuring changes and trends over the past 46 years. The primary emphasis in this report is on the changes and trends since 1977. Previously reported figures have been adjusted to provide the best estimate of change.

Periodic surveys of the forest resource are authorized by the Forest and Rangeland Renewable Resources Research Act of 1978. These surveys are a continuing, nationwide undertaking by the Regional Experiment Stations of the USDA Forest Service. In Florida, Georgia, North Carolina, South Carolina, and Virginia, these surveys are administered by the Forest Inventory and Analysis (Forest Survey) Research Work Unit at the Southeastern Forest Experiment Station, with headquarters in Asheville, NC. The primary objective of the survey is to periodically inventory and evaluate all forest and related resources. These multiresource data help provide a basis for formulating forest policies and programs and for the orderly development

and use of the resources. This report deals only with the extent and condition of forest lands, associated timber volumes, and rates of timber growth and removals.

Reports for the Survey Units in Virginia, USDA Forest Service Resource Bulletins SE-80, SE-81, SE-84, and SE-85 have been issued for the Coastal Plain, Southern Piedmont, Northern Piedmont, and Northern Mountains. A similar report for the Southern Mountains, SE-86, is being released with this report. An indepth analytical State report should be available in early 1987.

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



JOE P. MCCLURE
Project Leader

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Since the fourth inventory of Virginia's forest resources was completed in 1977

- area of timberland declined from 16.0 to 15.4 million acres, or by 3 percent. Altogether 933,000 acres were converted from timberland to other land uses. This loss was partially offset by the addition of 382,000 acres of new timberland. Of the acreage diverted, 54 percent went to urban and related uses, 31 percent went to agriculture, 13 percent was reclassified to reserved timberland, and the remaining 2 percent was converted to water. Reductions in timberland occurred in four of the five Survey Units, but almost half the net loss took place in the Coastal Plain. In the Southern Piedmont, area of timberland remained relatively unchanged.

- area of nonindustrial private forest land (NIPF) declined from 12.3 to 11.6 million acres, or by 6 percent. Within the NIPF grouping, farmer-owned timberland decreased 33 percent to 4.2 million acres. This decline more than offset gains in the remaining two NIPF categories. Timberland owned by other individuals increased 24 percent to 6.1 million acres, and timberland owned by other corporations increased 10 percent to 1.3 million acres. Altogether NIPF owners possess 75 percent of Virginia's timberland. Area of timberland controlled by forest industry increased 10 percent to almost 1.9 million acres. Public timberland increased 2 percent to 2.0 million acres. About three-fourths of the public timberland is on the Jefferson and George Washington National Forests.

- the overall decrease in timberland occurred across all three major forest type groups: hardwood, softwood, and oak-pine. However, three-fifths of the reduction occurred in pine and oak-pine forest types. The hardwood type group, which represents two-thirds of the State's total timberland, declined 2 percent to 10.4 million acres. The softwood type group, which accounts for more than one-fifth of Virginia's timberland, decreased 2 percent to less than 3.4 million acres. The area of oak-pine

forest type dropped almost 13 percent to 1.7 million acres. Within these major type groups, there were some significant changes in the specific types. For example, the acreage in loblolly pine, the major softwood type, was up more than 12 percent and now totals almost 1.8 million acres. In contrast, short-leaf pine and Virginia pine type acreages dropped by 49 and 16 percent, respectively. Oak-hickory remains the predominant forest type. The area in pine plantations increased 72 percent to almost 1.2 million acres. This figure does not include nearly 340,000 acres originating from planting or seeding that were classified as nonpine types because hardwoods dominated the stocking. The area in natural pine types decreased 21 percent to less than 2.2 million acres.

- area of timberland supporting saw-timber stands increased by almost 1 million acres, or 15 percent. The acreage classified as sawtimber increased in all Survey Units except the Coastal Plain, where it declined 3 percent. Sawtimber stands now occupy 7.3 million acres, or 47 percent of the timberland in Virginia. In addition, the accumulation of stands greater than 70 years old has increased 21 percent to about 2.4 million acres. The area in poletimber stands has decreased 15 percent to 5.1 million acres statewide. Sapling-seedling stands decreased by 17 percent to 2.8 million acres. Areas classified as nonstocked declined 22 percent to only 198,000 acres.

- more than 183,000 acres were harvested annually and retained in timberland. Final harvests on NIPF land continue to account for more than 71 percent of the State's average annual harvest. Harvested acreage controlled by forest industry was up almost 19 percent and now accounts for 25 percent of the total annual harvest. Area of public land harvested was down sharply and makes up less than 4 percent of Virginia's annual harvest. Overall, about 34 percent of the final harvest took place in pine stands, more than 13 percent in oak-pine, 47 percent in upland hardwoods, and the remaining 6 percent in lowland

hardwood stands. In addition to final harvests, high grading, thinning, and other intermediate cutting occurred on 56,000 acres each year. Natural agents such as insects, diseases, and weather caused damage to more than 144,000 acres each year.

- almost 173,000 acres were either artificially or naturally regenerated annually. The area artificially regenerated each year averaged 74,000 acres, compared with 58,000 acres annually for the previous survey period. About 49 percent of the artificial regeneration took place on NIPF land, 47 percent on forest industry land, and 4 percent on public timberland. Planting increased by 41 percent on NIPF land and 11 percent on forest industry land, and it has tripled on public land. Natural regeneration accounted for the remaining 99,000 regenerated acres and 82 percent of it occurred on NIPF land. Of the total acres regenerated annually, 38 percent are in pine forest types, 19 percent in oak-pine, 41 percent in upland hardwood, and 2 percent in lowland hardwood types.

- average basal area of live trees 5.0 inches d.b.h. and larger has increased from 70 to almost 78 square feet per acre, or by 11 percent. At the same time, the number of saplings per acre declined from 640 to 592. The total number of softwood saplings declined by 17 percent. The total number of hardwood saplings decreased by almost 9 percent. The number of hardwood trees increased in all diameter classes 10 inches and larger but decreased in all classes below 10 inches. The number of softwood trees declined in the 2-, 4-, and 12-inch diameter classes but increased in the rest. The average net merchantable volume per acre of all trees increased 13 percent to 1,642 cubic feet.

- softwood growing-stock volume rose from 5.6 to 5.9 billion cubic feet, or by 5 percent. Softwood volume increased in all diameter classes except the 12-inch class, which experienced a 4-percent decline. Softwood growing-stock volume increased 24 percent in areas controlled by forest industry but was practically unchanged on NIPF land.

Loblolly pine remains the predominant softwood species in the State, with nearly 2.5 billion cubic feet. This species accounted for 42 percent of the increase in softwood growing-stock volume. Despite a decline in acreage of Virginia pine type, volume in this species increased to 1.8 billion cubic feet and provided 20 percent of the increase in softwood volume. Shortleaf pine had the largest decrease in volume, dropping 30 percent to 500 million cubic feet. Eastern white pine volume increased by 46 percent to more than 500 million cubic feet, making up 29 percent of the increase in softwood volume. Volume of softwood sawtimber increased 6 percent to 17.5 billion board feet.

- volume of hardwood growing stock increased from 15.4 to almost 17.1 billion cubic feet, or by 11 percent. Hardwood volume increased in all diameter classes 10 inches and larger, while decreasing in the 6- and 8-inch classes. Volume of hardwood growing stock increased on all ownerships, but the increases were lowest on forest industry land. Altogether, oaks account for nearly one-half of the hardwood growing-stock volume. Among the oaks, chestnut oak gained the most volume and accounted for 13 percent of the total increase in hardwood volume. Yellow-poplar is the most abundant individual hardwood, accounting for almost 2.9 billion cubic feet and 29 percent of the increase in hardwood volume. Soft maples accounted for 20 percent of the increase in hardwood volume and jumped to 1.2 billion cubic feet. Hickory volume decreased 3 percent to 1.1 billion cubic feet. The amount of hardwood sawtimber increased 19 percent to nearly 50 billion board feet.

In 1985

- net annual growth of growing stock totaled 802 million cubic feet, down 3 percent from 1976. Net growth of growing stock averaged 52 cubic feet per acre, down slightly from the previous survey. Hardwoods made up 71 percent of the total net annual growth. Across all

ownerships, net annual growth of hardwood growing stock declined less than 1 percent, whereas the growth of softwood growing stock decreased more than 7 percent. On NIPF land, softwood growth was down more than 16 percent, but on areas controlled by forest industry, softwood growth was up almost 24 percent. On forest industry land, hardwood growth was unchanged, but on NIPF land it declined more than 2 percent. Because a larger proportion of the hardwoods were classed as growing stock in this latest survey, the decline in hardwood growth is much greater than 1 percent when based on live trees. On this basis, hardwood growth was down almost 10 percent on all ownerships combined. The total net annual growth for all species includes 3.1 billion board feet of sawtimber.

● annual removals of growing stock totaled 480 million cubic feet, down from 496 million in 1977. Hardwoods accounted for 274 million cubic feet, or 57 percent of the total annual removals. Hardwood removals decreased 6 percent since the previous survey. NIPF land supplied 77 percent of the hardwood volume removed. Softwoods accounted for 206 million cubic feet, or 43 percent of the total annual removals. Softwood

removals increased by less than 1 percent since the previous survey. NIPF land provided 68 percent of the softwood removals. For all ownerships combined, removals averaged 90 percent of net annual growth for softwood growing stock and only 48 percent for hardwoods. The total annual removals of growing stock included nearly 1.7 billion board feet of sawtimber.

● annual mortality of growing stock totaled 163 million cubic feet, up 37 percent from the previous survey. Hardwoods made up 56 percent of the annual mortality. Disease was the leading cause of death to hardwoods, accounting for 40 percent of their mortality. For softwoods, insects and suppression were the main causes of death. Insects caused 36 percent and suppression 27 percent of the softwood mortality. Hardwood mortality increased statewide, but two-thirds of the increase occurred in the two Mountain Survey Units. Softwood mortality declined slightly in the Southern Piedmont but increased elsewhere. For hardwoods and softwoods combined, annual mortality of growing stock included 388 million board feet of sawtimber, an increase of 44 percent since 1977. Altogether, mortality reduced gross growth of growing stock by 17 percent.

How the Inventory is Made

The method of the inventory is 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 a total is large enough to meet the desired degree of reliability. Procedures were as follows:

1. Initial estimates of forest and nonforest areas were based on the classification of 74,655 sample clusters systematically spaced on the latest aerial photographs available. A subsample of 7,006 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 4,266 ground sample locations systematically distributed on timberland. The plot design at each location was based on a cluster of 10 points. In most cases, variable plots, established by using a basal-area factor of 37.5 square feet per acre, were systematically spaced within a single forest condition at 5 of the 10 cluster points. Trees less than 5 inches d.b.h. were tallied on a fixed-radius plot around each point center.

3. Equations prepared from detailed measurements collected on standing trees in Virginia, and similar measurements taken throughout the Southeast, were used to compute the volume of individual tally trees. A mirror caliper and sectional aluminum poles were used to

obtain the additional measurements on these standing trees required to construct volume equations.

4. Felled trees were measured at 105 active cutting operations. These data will supplement the standing-tree volume data and be used to generate utilization factors for product and species groups. Forest biomass estimates were made using equations developed by the Utilization of Southern Timber Research Work Unit of the Southeastern Forest Experiment Station in Athens, GA.

5. Estimates of growth, removals, and mortality were determined from the remeasurement of 4,150 permanent sample plots established in the fourth survey.

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

7. All field data were sent to Asheville for editing and were entered into disk and magnetic-tape storage for processing. 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):

	<u>Percent</u>
Per million acres of	
timberland	0.87
Per billion cubic feet of	
growing stock.	5.47
Per billion cubic feet of	
net annual growth.	1.02
Per billion cubic feet of	
annual removals.	2.79

Sampling errors for county and unit totals,^a in terms of one standard error, Virginia, 1986

County	Timberland area	Cubic-foot volume of growing stock		
		Inventory	Growth	Removals
		- - - - - <u>Sampling error</u> ^b - - - - -		
Accomack	3.55	10.83	11.40	42.71
Albemarle	2.00	7.87	8.44	30.97
Alleghany	1.11	7.12	8.99	62.16
Amelia	1.73	12.93	12.29	35.32
Amherst	1.60	7.59	7.84	34.64
Appomattox	1.89	14.09	15.62	32.85
Arlington	.00	.00	.00	.00
Augusta	2.14	8.37	8.87	73.82
Bath	.96	7.36	7.40	56.56
Bedford	1.69	7.21	7.25	36.86
Bland	1.90	11.06	11.31	71.74
Botetourt	1.76	10.30	9.65	48.44
Brunswick	1.10	9.47	8.41	21.11
Buchanan	1.35	8.29	9.65	45.99
Buckingham	1.20	10.67	10.52	21.45
Campbell	1.81	9.46	8.79	34.19
Caroline	1.66	9.28	7.53	18.73
Carroll	2.35	11.86	15.89	39.85
Charles City	2.16	16.56	13.98	36.71
Charlotte	1.64	11.16	12.76	28.17
Chesapeake	4.67	15.22	12.79	26.87
Chesterfield	2.77	8.88	8.33	24.76
Clarke	5.80	20.48	18.41	.00
Craig	1.85	9.35	11.75	57.24
Culpeper	2.92	9.74	9.97	100.04
Cumberland	2.08	16.73	13.44	40.72
Dickenson	1.19	10.12	11.31	66.26
Dinwiddie	1.35	9.77	8.72	24.26
Essex	2.47	14.26	12.17	40.39
Fairfax	4.60	12.95	11.83	42.54
Fauquier	2.28	9.48	9.14	63.66
Floyd	2.61	10.68	11.86	56.08
Fluvanna	2.28	13.73	12.76	39.97
Franklin	1.62	7.36	7.41	23.94
Frederick	3.24	10.38	10.64	55.10
Giles	1.99	10.15	10.42	59.93
Gloucester	2.40	11.60	11.84	32.47
Goochland	2.40	9.25	11.28	62.91
Grayson	2.99	12.65	12.75	72.37
Greene	5.61	13.14	10.72	73.20
Greensville	1.89	12.58	11.15	26.32

Continued

Sampling errors for county and unit totals,^a in terms of one standard error, Virginia, 1986--Continued

County	Timberland area	Cubic-foot volume of growing stock		
		Inventory	Growth	Removals
		Sampling error ^b		
Halifax	1.03	8.22	7.78	23.41
Hampton	14.42	.00	.00	.00
Hanover	1.94	8.99	7.41	41.12
Henrico	4.12	15.50	12.65	38.11
Henry	1.89	13.68	11.88	45.53
Highland	1.97	10.50	9.83	51.05
Isle of Wight	2.06	14.18	13.64	25.66
James City	3.24	12.75	10.47	50.04
King and Queen	1.55	10.00	10.63	39.43
King George	2.68	10.81	11.10	71.32
King William	2.42	11.69	10.81	31.27
Lancaster	3.02	15.09	16.60	100.06
Lee	2.70	11.64	11.48	63.63
Loudoun	3.82	11.58	10.99	51.92
Louisa	1.48	10.41	10.27	28.26
Lunenburg	1.37	9.88	10.28	30.18
Madison	2.94	11.23	11.94	55.34
Mathews	4.34	17.81	18.74	59.44
Mecklenburg	1.81	8.58	8.02	30.75
Middlesex	3.45	18.30	16.60	66.49
Montgomery	2.64	10.56	12.22	100.03
Nelson	1.47	9.03	9.05	32.39
New Kent	1.86	14.28	12.85	32.76
Newport News	11.92	37.93	40.28	89.33
Northampton	6.71	17.53	17.28	100.55
Northumberland	2.80	15.30	13.19	88.91
Nottoway	2.22	12.74	12.81	39.13
Orange	2.38	14.58	12.21	46.55
Page	3.59	11.65	12.75	64.22
Patrick	1.22	8.44	9.10	30.88
Pittsylvania	1.04	7.66	6.21	23.82
Powhatan	2.02	10.92	10.31	35.94
Prince Edward	1.68	14.06	11.38	35.67
Prince George	2.06	13.68	11.79	27.56
Prince William	3.27	10.63	9.93	44.93
Pulaski	3.33	13.77	15.19	.00
Rappahannock	3.18	14.73	17.92	61.35
Richmond	2.21	15.42	12.12	79.96

Continued

Sampling errors for county and unit totals,^a in terms of one standard error, Virginia, 1986---Continued

County	Timberland area	Cubic-foot volume of growing stock		
		Inventory	Growth	Removals
		<u>Sampling error^b</u>		
Roanoke	3.42	16.08	14.10	100.06
Rockbridge	2.00	7.63	7.54	38.73
Rockingham	2.27	7.28	7.69	47.57
Russell	2.41	11.36	12.07	81.72
Scott	1.81	6.93	7.45	62.47
Shenandoah	2.62	9.01	15.89	100.03
Smyth	2.28	11.10	11.39	31.95
Southampton	1.45	9.00	9.02	20.21
Spotsylvania	1.45	11.03	10.55	38.62
Stafford	1.91	9.93	10.82	59.53
Suffolk	2.70	14.74	12.97	24.94
Surry	1.68	12.52	10.89	26.56
Sussex	1.47	11.09	10.45	22.28
Tazewell	2.38	8.64	9.58	50.73
Virginia Beach	7.07	15.86	16.70	32.54
Warren	4.31	17.61	18.15	55.29
Washington	2.14	10.52	12.78	43.01
Westmoreland	3.12	12.24	13.52	64.34
Wise	1.57	9.70	10.39	88.43
Wythe	3.50	9.48	9.99	69.80
York	6.05	16.38	14.61	72.09
Total	.22	1.15	1.18	4.17

^aSampling error of breakdowns of county and State 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.

^bBy random-sampling formula (in percent).

Definitions of Terms

Allowable cut. The volume of timber that could be cut on timberland during a given period under specified management plans aimed at sustained production of timber products.

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.

Biomass. The aboveground green weight of solid wood and bark in live trees 1.0 inch d.b.h. and larger from the ground to the tip of the tree. All foliage is excluded. The weight of wood and bark in lateral limbs, secondary limbs, and twigs under 0.5 inch in diameter at the point of occurrence on sapling-size trees is included but is excluded on poletimber and sawtimber-size trees.

Bole. That portion of a tree between a 1-foot stump and a 4-inch top diameter outside bark (d.o.b.) in trees 5.0 inches d.b.h. and larger.

Broad management class. A classification of timberland based on forest type and stand origin.

Pine plantation. Stands that have been artificially regenerated by planting or direct seeding and with a southern yellow pine, white pine-hemlock, or other softwood forest type.

Natural pine. Stands that have not been artificially regenerated and with a southern yellow pine, white pine-hemlock, or other softwood forest type.

Oak-pine. Stands with a forest type of oak-pine.

Upland hardwood. Stands with a forest type of oak-hickory, chestnut oak, southern scrub oak, or maple-beech-birch.

Lowland hardwood. Stands with a forest type of oak-gum-cypress, elm-ash-cottonwood, palm, or other tropical.

Bureau of Land Management lands. Federal lands administered by the Bureau of Land Management.

Census water. Streams, sloughs, estuaries, canals, and other moving bodies of water one-eighth of a statute mile in width and greater, and lakes, reservoirs, ponds, and other permanent bodies of water 40 acres in area and greater.

Commercial forest land. (see: Timberland).

Commercial species. Tree species conventionally regarded as being able to develop into trees suitable for the manufacture of industrial timber products. Species that typically exhibit small size, poor form, or inferior quality are excluded.

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.

D.b.h. Tree diameter (outside bark) at breast height (4.5 feet above the ground).

Diameter class. A classification of trees based on tree d.b.h. Two-inch diameter classes are commonly used by Forest Inventory and Analysis, with the even inch as 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. Land on which agricultural operations are being conducted and sale of agricultural products totaled \$1,000 or more during the year.

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

Farmer-owned land (see: Other private land).

Forest industry land. Land owned by companies or individuals operating wood-using plants.

Forest industry leased land. Land leased or under management contracts to forest industry from other owners for periods of one forest rotation or longer. Land under cutting contracts is not included.

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 non-forest use.

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

White pine-hemlock. Forests in which eastern white pine, red pine, or jack pine, singly or in combination, constitute a plurality of the stocking. (Common associates include hemlock, birch, and maple.)

Spruce-fir. Forests in which spruce or true firs, singly or in combination, constitute a plurality of the stocking. (Common associates include maple, birch, and hemlock.)

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

Oak-pine. Forests in which hardwoods (usually upland oaks) constitute a

plurality of the stocking but in which pines account for 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, constitute a plurality of the stocking, except where pines account for 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. Bottom-land forests in which tupelo, blackgum, sweetgum, oaks, or southern cypress, singly or in combination, constitute a plurality of the stocking, except where pines account for 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, constitute a plurality of the stocking. (Common associates include willow, sycamore, beech, and maple.)

Maple-beech-birch. Forests in which maple, beech, or yellow birch, singly or in combination, constitute a plurality of the stocking. (Common associates include hemlock, elm, basswood, and white pine.)

Palm, other tropical. Forests in which palms and other tropicals constitute a plurality of the stocking.

Gross growth. Annual increase in merchantable volume of trees in the absence of cutting and mortality. (Gross growth includes survivor growth, ingrowth, growth on ingrowth, growth on removals prior to removal, and growth on mortality prior to death.)

Growing-stock trees. Live sawtimber-size trees of commercial species containing at least a 12-foot log, or two noncontiguous saw logs each 8 feet or longer, meeting minimum grade requirements (hardwoods must qualify as a log grade of either 3 or 4; softwoods must qualify as a log grade 3) with at least one-third of the gross board-foot volume (International 1/4-inch rule) between a 1-foot stump and the minimum saw-log top being sound, or a live tree below sawtimber size that will prospectively qualify under the above standards.

Desirable tree. A tree that qualifies as growing stock and has no serious defects in quality limiting present or prospective use; is of relatively high vigor (30 percent or more live crown ratio); is compatible with the site and physiographic class; has a total board-foot loss not to exceed 15 percent in softwoods or 25 percent in hardwoods as a result of severe sweep, crook, or lean; and has a relatively clear bole.

Acceptable tree. A tree that qualifies as growing stock but does not meet the minimum requirements to qualify as a desirable tree. Included are sawtimber-size trees that do not contain a 12-foot saw log because of excessive, natural taper in the butt log but have the potential to produce a 12-foot saw log as diameter increases.

Growing-stock volume. Volume (cubic feet) of solid wood in growing-stock trees 5.0 inches d.b.h. and larger, from a 1-foot stump to a minimum 4.0-inch top diameter, outside bark, on the central stem. Volume of solid wood in primary forks from the point of occurrence to a minimum 4.0-inch top diameter outside bark is included.

Hardwoods. Angiosperms; dicotyledonous trees (including all palm species which are monocotyledonous), usually broad-leaf and deciduous.

Soft hardwoods. Soft-textured hardwoods such as boxelder, red and silver maples, hackberry, loblolly-bay, sweetgum, yellow-poplar, magnolia, sweetbay, water tupelo, blackgum, sycamore, cottonwood, black cherry, willow, basswood, and elm.

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

Idle farmland. Land including former cropland, orchard, improved pasture, and farm sites not tended within the past 2 years, and currently less than 16.7 percent stocked with live trees.

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

Indian land. All lands held in trust by the United States for individual Indians or tribes, or all lands, titles to which are held by individual Indians or tribes, subject to Federal restrictions against alienation.

Industrial wood. All roundwood products except fuelwood.

Ingrowth. The number or net volume of trees that grow large enough during a specified year to qualify as saplings, poletimber, or sawtimber.

Inhibiting vegetation. Cover sufficiently dense to prevent the establishment of tree seedlings.

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 one-eighth of a statute mile in width, and lakes, reservoirs, and ponds less than 40 acres in area.

Live trees. All trees 1.0 inch d.b.h. and larger which are not dead at the time of inventory.

Live-tree volume. Volume (cubic feet) of wood above the ground line in live trees 1.0 inch d.b.h. and larger. The volume in twigs and lateral limbs smaller than 0.5 inch in diameter at the point of occurrence on sapling-size trees is included but is excluded on poletimber and sawtimber-size trees.

Logging slash. The unmerchantable portion of growing-stock trees (including saplings) plus all cull trees 1.0 inch d.b.h. and larger cut or destroyed during logging operations and not used.

Manageable stand. Timberland at least 60 percent stocked with growing-stock trees that can be featured together under a management scheme.

Merchantable portion. That portion of live trees 5.0 inches d.b.h. and larger between a 1-foot stump and a minimum 4.0-inch top diameter outside bark on the central stem. That portion of primary forks from the point of occurrence to a minimum 4.0-inch top diameter outside bark is included.

Merchantable volume. Solid-wood volume in merchantable portion of live trees.

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

Miscellaneous private land (see: Other private land).

Mortality. The merchantable volume in trees that have died from natural causes during a specified period.

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

Net annual growth. The net change in merchantable volume for a specific year in the absence of cutting (gross growth minus mortality for that specified year).

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

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 land formerly forested where timber production is precluded by development for other uses.

Nonindustrial private forest (NIPF) land. (see: Other private land).

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

Other private land. Privately owned land, excluding forest industry land or forest industry leased land. Also referred to as nonindustrial private forest (NIPF) land.

Farmer-owned land. Owned by farm operators, excluding incorporated farm ownerships.

Other individual land. Owned by individuals other than farm operators.

Other corporate land. Owned by corporations, including incorporated farm ownerships.

Other removals. The growing-stock volume of trees removed from the inventory by cultural operations such as timber stand improvement, land clearing, and other changes in land use that result in the removal of the trees from the timberland.

Plant residues. Wood material generated in the production of timber products at primary manufacturing plants.

Coarse residues. Material, such as slabs, edgings, trim, veneer cores and ends, which is suitable for chipping.

Fine residues. Material, such as sawdust, shavings, and veneer chippings, which is not suitable for chipping.

Plant byproducts. Residues (coarse or fine) utilized in the further manufacture of industrial products or for consumer use, or utilized as fuel.

Unused plant residues. Residues (coarse or fine) that are not used for any product, including fuel.

Poletimber-size trees. Live trees at least 5.0 inches d.b.h. but smaller than sawtimber size.

Productive-reserved forest land. (see: Reserved timberland).

Quality class. A classification of sawtimber volume by log or tree grades.

Rangeland. Land on which the natural vegetation is predominantly native grasses, grasslike plants, forbs, or shrubs valuable for forage, not qualifying as timberland not developed for another land use. Rangeland includes natural grassland and savannah.

Reserved timberland. Forest land sufficiently productive to qualify as timberland, but withdrawn from timber utilization through statute or administrative designation.

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 board-foot tree volume in sound material.

Rough 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 roughness, poor form, splits, and cracks, and with less than one-third of the gross board-foot tree volume in sound material; and live trees of noncommercial species.

Roundwood (roundwood logs). Logs, bolts, or other round sections cut from trees for industrial or consumer uses.

Roundwood chipped. Any timber cut primarily for pulpwood, delivered to nonpulpmills, chipped, and then sold to pulp mills as residues, including chipped tops, jump sections, whole trees, and pulpwood sticks.

Roundwood products. Any primary product such as lumber, poles, pilings, pulp, or fuelwood which is produced from roundwood.

Salvable dead trees. Standing or down dead trees considered utilizable by Forest Inventory and Analysis standards.

Saplings. Live trees 1.0 to 5.0 inches d.b.h.

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 a 1-foot stump and the saw-log top, including the portion of forks large enough to contain a saw log.

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

Sawtimber-size trees. Softwoods 9.0 inches d.b.h. and larger and hardwoods 11.0 inches d.b.h. and larger.

Sawtimber volume. Growing-stock volume in the saw-log portion of sawtimber-size trees in board feet (International 1/4-inch rule).

Seedlings. Live trees of commercial species less than 1.0 inch d.b.h. 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, by annual production capacity.

Class 1. 165 or more cubic feet per acre.

Class 2. 120 to 164 cubic feet per acre.

Class 3. 85 to 119 cubic feet per acre.

Class 4. 50 to 84 cubic feet per acre.

Class 5. 20 to 49 cubic feet per acre.

Softwoods. Gymnosperms; in the order Coniferales, usually evergreen (includes the genus Taxodium which is deciduous), having needles or scalelike leaves.

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

Other softwoods. Cypress, eastern red-cedar, white cedar, eastern white pine, eastern hemlock, spruce, and fir.

Stand-size class. A classification of forest land based on the diameter class distribution of growing-stock trees in the stand.

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

Poletimber stands. Stands at least 16.7 percent stocked with growing-stock trees of which half or more of total 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 total stocking is saplings and seedlings.

State, county, and municipal land. Land owned by States, counties, and local public agencies or municipalities, or land 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 with a minimum standard, depending on tree size, required to fully utilize the growth potential of the land.

Fully stocked. 100 percent or more stocking.

Medium stocked. 60 to 99 percent stocking.

Poorly stocked. Less than 60 percent stocking.

Survivor growth. The merchantable volume increment on trees 5.0 inches d.b.h. and larger in the inventory at the beginning of the year and surviving to its end.

Timberland. Land at least 16.7 percent stocked by forest trees of any size, or formerly having had such tree cover,

not currently developed for nonforest use, capable of producing 20 cubic feet of industrial wood per acre per year and not withdrawn from timber utilization by legislative action.

Timber products. Roundwood products and byproducts.

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

Top. The portion of the main stem and forks from a 4.0-inch diameter outside bark to the tips of the main stem and forks, plus all other limbs above the 4.0-inch top at least 0.5 inch in diameter at their point of occurrence.

Treatment opportunity. A classification of the management or treatment that would most improve for timber production the existing condition of the stand being sampled.

Unproductive forest land. (see: Woodland).

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

Urban and other areas. 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.

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

* ————— *

Stocking Standard

D.b.h. class	Minimum number of trees per acre for full stocking	Minimum basal area per acre for full stocking
Seedlings	600	--
2	560	--
4	460	--
6	340	67
8	240	84
10	155	85
12	115	90
14	90	96
16	72	101
18	60	106
20	51	111

Conversion factors

Cubic feet of wood per average cord
(excluding bark)

D.b.h. class	All species	Pine	Other softwood	Hardwood
6	60.5	61.0	68.2	60.0
8	68.5	68.1	76.0	68.4
10	73.5	73.1	81.4	73.4
12	76.6	76.7	85.2	76.4
14	78.8	79.4	88.2	78.4
16	80.4	81.6	90.4	79.8
18	81.5	83.3	92.3	80.8
20	82.2	84.8	93.8	81.5
22	82.8	86.0	95.1	82.1
24+	83.8	87.5	97.7	83.0
Average	74.6	72.0	84.8	74.9

Metric equivalents of units used in this report

1 acre = 4,046.86 square meters or 0.404686 hectare
 1 cubic foot = 0.028317 cubic meter
 1 inch = 2.54 centimeters or 0.0254 meter
 Breast height = 1.4 meters above ground level
 1 square foot = 929.03 square centimeters or 0.0929 square meter
 1 square foot per acre basal area = 0.229568 square meter per hectare
 1 pound = 0.454 kilogram
 1 ton = 0.907 metric ton

TABLES

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 7.

Table 1.--Area, by county and land class, Virginia, 1986

County	All land ^a	Forest land				Nonforest land ^b
		Total	Timberland	Woodland	Reserved timberland	
Acres						
Accomack	304,435	104,715	102,592	2,123	--	199,720
Albemarle	470,829	290,860	275,629	--	15,231	179,969
Alleghany	290,317	251,501	249,379	2,021	101	38,816
Amelia	228,410	167,507	167,378	--	129	60,903
Amherst	306,246	221,538	219,671	--	1,867	84,708
Appomattox	215,078	155,856	155,176	--	680	59,222
Arlington	16,614	--	--	--	--	16,614
Augusta	643,097	345,921	297,003	16,681	32,237	297,176
Bath	343,651	302,052	291,651	6,246	4,155	41,599
Bedford	482,618	287,093	281,061	--	6,032	195,525
Bland	229,446	178,055	172,081	394	5,580	51,391
Botetourt	348,550	245,026	235,918	5,492	3,616	103,524
Brunswick	360,460	287,198	287,198	--	--	73,262
Buchanan	322,355	287,004	287,004	--	--	35,351
Buckingham	373,401	299,235	299,235	--	--	74,166
Campbell	355,040	208,415	208,415	--	--	146,625
Caroline	342,695	262,658	262,658	--	--	80,037
Carroll	308,777	164,004	162,551	--	1,453	144,773
Charles City	116,128	86,139	85,984	--	155	29,989
Charlotte	304,960	214,857	214,857	--	--	90,103
Chesapeake	270,655	115,140	73,545	--	41,595	155,515
Chesterfield	304,448	193,898	190,035	--	3,863	110,550
Clarke	114,138	40,601	39,279	--	1,322	73,537
Craig	211,085	175,307	173,085	13	2,209	35,778
Culpeper	244,480	106,997	106,997	--	--	137,483
Cumberland	191,712	135,560	135,560	--	--	56,152
Dickenson	212,077	186,145	182,405	--	3,740	25,932
Dinwiddie	337,213	239,824	239,104	--	720	97,389
Essex	168,051	95,625	95,625	--	--	72,426
Fairfax	266,592	99,337	78,855	--	20,482	167,255
Fauquier	416,570	180,056	180,056	--	--	236,514
Floyd	243,981	134,179	131,487	--	2,692	109,802
Fluvanna	185,510	132,590	132,590	--	--	52,920
Franklin	437,248	286,692	282,572	--	4,120	150,556
Frederick	271,532	130,947	130,606	341	--	140,585
Giles	231,654	176,181	165,781	--	10,400	55,473
Gloucester	144,122	99,488	99,488	--	--	44,634
Goochland	180,032	123,054	123,054	--	--	56,978
Grayson	287,582	161,648	149,318	--	12,330	125,934
Greene	100,371	64,253	49,387	--	14,866	36,118
Greensville	193,779	139,144	139,144	--	--	54,635
Halifax	525,818	348,892	347,578	--	1,314	176,926
Hampton	32,832	6,334	6,334	--	--	26,498
Hanover	299,155	184,587	184,368	--	219	114,568
Henrico	169,210	66,929	66,721	--	208	102,281
Henry	251,712	178,116	175,769	--	2,347	73,596
Highland	266,112	195,822	194,889	933	--	70,290
Isle of Wight	204,454	117,676	117,326	--	350	86,778
James City	101,293	64,104	59,954	--	4,150	37,189
King and Queen	202,982	153,245	153,245	--	--	49,737
King George	115,245	73,029	70,322	--	2,707	42,216
King William	177,766	113,537	113,537	--	--	64,229

Continued

Table 1.--Area, by county and land class, Virginia, 1986--Continued

County	All land ^a	Forest land				Nonforest land ^b
		Total	Timberland	Woodland	Reserved timberland	
----- Acres -----						
Lancaster	85,043	52,896	52,896	--	--	32,147
Lee	279,974	156,526	148,685	315	7,526	123,448
Loudoun	333,498	101,055	100,175	--	880	232,443
Louisa	317,805	232,229	232,229	--	--	85,576
Lunenburg	276,627	208,183	208,183	--	--	68,444
Madison	205,913	118,289	86,037	--	32,252	87,624
Mathews	55,776	35,237	35,237	--	--	20,539
Mecklenburg	394,330	262,562	259,926	--	2,636	131,768
Middlesex	85,728	51,470	51,470	--	--	34,258
Montgomery	254,074	146,183	146,000	183	--	107,891
Nelson	303,590	223,672	222,224	--	1,448	79,918
New Kent	136,256	102,268	102,268	--	--	33,988
Newport News	41,792	10,908	10,695	--	213	30,884
Northampton	144,602	29,932	29,316	616	--	114,670
Northumberland	118,106	67,888	67,888	--	--	50,218
Nottoway	202,502	140,994	140,994	--	--	61,508
Orange	218,822	120,565	120,165	--	400	98,257
Page	200,346	120,991	81,161	2,644	37,186	79,355
Patrick	307,885	225,130	217,454	--	7,676	82,755
Pittsylvania	647,731	400,638	400,638	--	--	247,093
Powhatan	167,162	127,998	127,998	--	--	39,164
Prince Edward	226,253	160,816	160,816	--	--	65,437
Prince George	178,537	119,262	118,282	--	980	59,275
Prince William	223,591	121,061	100,742	--	20,319	102,530
Pulaski	203,661	117,241	116,929	--	312	86,420
Rappahannock	170,970	105,446	73,707	--	31,739	65,524
Richmond	123,335	76,818	76,818	--	--	46,517
Roanoke	197,472	102,107	99,622	--	2,485	95,365
Rockbridge	389,382	243,783	234,494	2,276	7,013	145,599
Rockingham	557,376	308,742	256,501	12,258	39,983	248,634
Russell	306,560	166,872	166,872	--	--	139,688
Scott	342,668	229,142	227,435	122	1,585	113,526
Shenandoah	327,833	185,674	177,799	7,872	3	142,159
Smyth	289,325	172,534	168,540	90	3,904	116,791
Southampton	388,307	241,634	241,582	--	52	146,673
Spotsylvania	262,471	184,537	177,890	--	6,647	77,934
Stafford	173,510	120,200	120,200	--	--	53,310
Suffolk	261,869	147,230	114,732	--	32,498	114,639
Surry	180,058	124,910	123,970	--	940	55,148
Sussex	314,490	250,306	250,306	--	--	64,184
Tazewell	332,832	207,118	200,743	--	6,375	125,714
Virginia Beach	163,795	47,785	45,165	--	2,620	116,010
Warren	139,053	79,845	65,307	676	13,862	59,208
Washington	367,366	194,164	194,079	--	85	173,202
Westmoreland	145,049	76,613	75,076	--	1,537	68,436
Wise	263,417	190,561	190,140	121	300	72,856
Wythe	297,312	145,345	141,945	--	3,400	151,967
York	83,277	34,510	31,048	--	3,462	48,767
Total	25,409,849	15,968,441	15,435,836	61,417	471,188	9,441,408

^aFrom U.S. Bureau of the Census, 1980.^bIncludes 163,803 acres of water according to Forest Survey standards of area classification, but defined by the Bureau of Census as land.

Table 2.--Area of timberland, by county and ownership class, Virginia, 1986

County	All ownerships	Ownership class							
		National Forest	Miscellaneous Federal	State	County and municipal	Forest industry ^a	Other private		
							Farmer	Corporate	Individual
----- Acres -----									
Accomack	102,592	--	1,300	325	140	11,538	32,469	21,646	35,174
Albemarle	275,629	--	--	853	2,888	22,363	74,857	42,776	131,892
Alleghany	249,379	138,460	2,000	145	215	8,565	14,285	23,808	61,901
Amelia	167,378	--	--	1,503	467	48,993	61,845	3,638	50,932
Amherst	219,671	55,226	--	55	1,157	22,990	44,759	14,919	80,565
Appomattox	155,176	--	--	9,916	290	40,411	33,459	8,365	62,735
Arlington	--	--	--	--	--	--	--	--	--
Augusta	297,003	156,253	--	11,620	463	--	33,358	19,062	76,247
Bath	291,651	171,395	--	9,805	199	450	31,878	24,794	53,130
Bedford	281,061	18,012	--	25	1,953	33,683	69,205	13,182	145,001
Bland	172,081	64,289	--	660	--	9,408	72,007	--	25,717
Botetourt	235,918	69,694	--	10	6,910	40,346	32,816	20,510	65,632
Brunswick	287,198	--	5,590	644	365	86,047	62,943	5,722	125,887
Buchanan	287,004	--	--	46	55	22,524	37,768	94,421	132,190
Buckingham	299,235	--	--	12,825	115	89,468	28,118	17,574	151,135
Campbell	208,415	--	--	25	614	36,945	51,992	22,282	96,557
Caroline	262,658	--	57,391	879	259	21,479	52,186	10,437	120,027
Carroll	162,551	3,837	--	1,346	470	6,632	83,972	4,420	61,874
Charles City	85,984	--	--	4,750	41	22,441	13,989	--	44,763
Charlotte	214,857	--	1,835	--	344	55,418	85,005	8,501	63,754
Chesapeake	73,545	--	1,533	170	1,865	7,012	13,688	27,376	21,901
Chesterfield	190,035	--	1,113	5,000	425	37,948	16,477	38,447	90,625
Clarke	39,279	--	--	84	182	5	4,334	--	34,674
Craig	173,085	112,130	--	--	--	--	30,477	4,354	26,124
Culpeper	106,997	--	--	343	280	7,947	50,801	6,350	41,276
Cumberland	135,560	--	--	16,066	7	29,497	35,213	11,738	43,039
Dickenson	182,405	8,082	6,197	--	--	408	19,168	81,463	67,087
Dinwiddie	239,104	--	7,300	679	315	72,080	56,689	5,669	96,372
Essex	95,625	--	109	--	388	14,263	29,111	9,704	42,050
Fairfax	78,855	--	7,836	2,812	1,970	--	3,154	12,617	50,466
Fauquier	180,056	--	3,475	4,423	607	3,683	76,939	24,481	66,448
Floyd	131,487	--	--	54	46	3,463	54,824	4,569	68,531
Fluvanna	132,590	--	--	928	90	18,276	34,860	21,788	56,648
Franklin	282,572	--	2,555	158	328	14,324	94,717	11,366	159,124
Frederick	130,606	4,491	--	43	229	375	54,892	23,525	47,051
Giles	165,781	51,221	--	182	248	5,728	28,279	14,139	65,984
Gloucester	99,488	--	--	100	104	10,993	11,036	2,759	74,496
Goochland	123,054	--	--	10	185	14,813	15,889	3,178	88,979
Grayson	149,318	21,549	--	--	190	4,093	53,511	8,232	61,743
Greene	49,387	--	--	1,169	115	493	17,004	--	30,606
Greensville	139,144	--	--	--	277	48,920	42,475	--	47,472
Halifax	347,578	--	10,218	25	220	41,326	215,452	7,303	73,034
Hampton	6,334	--	100	49	5	--	--	--	6,180
Hanover	184,368	--	--	1,120	601	19,225	48,740	11,468	103,214
Henrico	66,721	--	20	2,290	568	3,008	8,691	20,278	31,866
Henry	175,769	--	893	412	566	21,885	24,002	16,001	112,010
Highland	194,889	56,498	--	13,438	290	13,906	45,310	--	65,447
Isle of Wight	117,326	--	--	10	840	25,850	62,305	2,832	25,489
James City	59,954	--	1,730	850	2,127	5,890	7,050	10,577	31,730
King and Queen	153,245	--	--	320	350	57,733	29,807	2,710	62,325
King George	70,322	--	1,401	223	209	995	7,787	10,384	49,323
King William	113,537	--	460	--	17	28,410	26,604	7,256	50,790

Continued

Table 2.--Area of timberland, by county and ownership class, Virginia, 1986--Continued

County	All ownerships	Ownership class							
		National Forest	Miscellaneous Federal	State	County and municipal	Forest industry ^a	Other private		
							Farmer	Corporate	Individual
----- Acres -----									
Lancaster	52,896	--	--	--	499	8,523	4,388	4,387	35,099
Lee	148,685	11,229	--	--	20	78	45,786	18,314	73,258
Loudoun	100,175	--	5,962	83	1,136	--	41,330	10,333	41,331
Louisa	232,229	--	--	241	493	22,973	41,705	23,169	143,648
Lunenburg	208,183	--	--	--	505	53,695	56,565	6,285	91,133
Madison	86,037	--	--	8,204	10	4,029	40,587	--	33,207
Mathews	35,237	--	--	16	5	7,516	5,036	--	22,664
Mecklenburg	259,926	--	23,680	269	242	27,840	118,797	4,243	84,855
Middlesex	51,470	--	--	5	25	5,283	13,188	--	32,969
Montgomery	146,000	18,858	1,025	960	816	4,116	15,028	20,038	85,159
Nelson	222,224	15,248	--	848	95	44,758	48,039	13,726	99,510
New Kent	102,268	--	--	411	200	29,927	13,794	8,277	49,659
Newport News	10,695	--	2,752	5	2,972	--	--	2,483	2,483
Northampton	29,316	--	50	--	--	163	7,276	2,425	19,402
Northumberland	67,888	--	--	--	212	13,620	22,760	--	31,296
Nottoway	140,994	--	14,489	336	488	24,543	48,371	4,397	48,370
Orange	120,165	--	--	20	190	10,749	44,365	3,413	61,428
Page	81,161	23,826	--	45	40	60	23,549	--	33,641
Patrick	217,454	--	1,948	5,927	4,425	19,340	72,868	7,287	105,659
Pittsylvania	400,638	--	--	1,715	1,369	58,254	263,053	19,062	57,185
Powhatan	127,998	--	--	6,853	275	19,050	19,581	--	82,239
Prince Edward	160,816	--	--	9,621	851	23,806	57,517	7,669	61,352
Prince George	118,282	--	2,180	175	125	36,991	30,508	10,169	38,134
Prince William	100,742	--	11,751	300	1,205	--	24,996	20,830	41,660
Pulaski	116,929	19,092	1,404	10	2,405	548	11,684	35,051	46,735
Rappahannock	73,707	--	--	--	--	20	30,145	3,349	40,193
Richmond	76,818	--	--	235	30	15,848	26,016	2,891	31,798
Roanoke	99,622	3,006	53	7,614	5,207	7,098	22,542	9,017	45,085
Rockbridge	234,494	57,172	--	23,576	1,206	16,338	34,051	4,256	97,895
Rockingham	256,501	124,930	--	217	92	748	18,645	27,967	83,902
Russell	166,872	--	--	5,718	140	58	75,744	33,138	52,074
Scott	227,435	32,630	--	--	184	516	107,269	5,108	81,728
Shenandoah	177,799	69,631	--	45	175	--	25,907	4,318	77,723
Smyth	168,540	68,444	--	10,000	295	--	51,990	--	37,811
Southampton	241,582	--	--	1,700	30	64,560	125,991	5,478	43,823
Spotsylvania	177,890	--	--	60	2,358	37,089	30,752	11,532	96,099
Stafford	120,200	--	21,876	120	2,011	2,029	22,729	16,235	55,200
Suffolk	114,732	--	--	302	2,482	33,183	51,760	2,250	24,755
Surry	123,970	--	--	1,697	85	49,596	42,150	--	30,442
Sussex	250,306	--	--	30	190	103,767	67,934	2,613	75,772
Tazewell	200,743	2,101	--	4,641	87	928	62,590	57,374	73,022
Virginia Beach	45,165	--	1,877	625	826	--	6,606	11,010	24,221
Warren	65,307	5,362	1,738	285	414	557	26,285	8,762	21,904
Washington	194,079	19,262	74	9,263	74	--	60,648	5,514	99,244
Westmoreland	75,076	--	--	--	120	5,558	19,144	4,786	45,468
Wise	190,140	33,807	4,200	15	3,508	--	9,588	76,702	62,320
Wythe	141,945	50,724	109	150	1,924	7,215	38,505	4,813	38,505
York	31,048	--	13,186	360	6,474	29	--	1,833	9,166
Total	15,435,836	1,486,459	221,410	209,087	77,104	1,853,249	4,163,959	1,277,125	6,147,443

^aIncludes 19,438 acres of other private land under long-term lease.

Table 3.--Area of timberland, by county and forest-type group, Virginia, 1986--Continued

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 -----										
Lancaster	52,896	--	--	--	17,797	13,162	17,549	4,388	--	--
Lee	148,685	--	--	--	9,156	--	139,529	--	--	--
Loudoun	100,175	--	--	--	17,222	1,219	78,290	--	3,444	--
Louisa	232,229	--	--	--	45,426	25,294	156,875	--	4,634	--
Lunenburg	208,183	--	--	--	73,155	21,997	95,986	3,143	13,902	--
Madison	86,037	--	--	--	15,098	11,069	59,870	--	--	--
Mathews	35,237	--	--	--	20,107	5,036	7,576	2,518	--	--
Mecklenburg	259,926	--	--	--	47,426	37,718	174,782	--	--	--
Middlesex	51,470	--	--	--	11,882	29,673	9,890	25	--	--
Montgomery	146,000	10,834	--	--	30,876	5,969	98,321	--	--	--
Nelson	222,224	--	--	--	36,953	3,431	174,978	--	6,862	--
New Kent	102,268	--	--	--	36,296	15,383	45,985	4,604	--	--
Newport News	10,695	--	--	--	2,972	2,483	5,240	--	--	--
Northampton	29,316	--	--	--	17,140	2,476	7,275	2,425	--	--
Northumberland	67,888	--	--	--	16,677	2,845	45,521	2,845	--	--
Nottoway	140,994	--	--	--	71,751	11,210	49,238	--	8,795	--
Orange	120,165	--	--	--	27,834	13,651	75,268	--	3,412	--
Page	81,161	--	--	--	10,092	3,364	67,645	--	60	--
Patrick	217,454	974	--	--	16,699	28,468	167,669	--	3,644	--
Pittsylvania	400,638	--	--	--	102,520	19,062	252,367	3,812	22,877	--
Powhatan	127,998	--	--	--	30,123	--	86,868	--	11,007	--
Prince Edward	160,816	--	--	--	56,894	25,123	66,868	--	11,931	--
Prince George	118,282	--	--	--	42,758	10,168	60,271	5,085	--	--
Prince William	100,742	--	--	--	23,767	--	72,809	--	4,166	--
Pulaski	116,929	--	--	--	--	17,525	98,000	--	1,404	--
Rappahannock	73,707	3,350	--	--	3,369	3,349	63,639	--	--	--
Richmond	76,818	--	--	--	22,613	2,921	39,722	8,672	2,890	--
Roanoke	99,622	--	--	--	25,549	13,525	60,548	--	--	--
Rockbridge	234,494	--	--	--	21,563	31,545	177,129	--	4,257	--
Rockingham	256,501	4,256	--	--	9,323	40,955	192,644	--	9,323	--
Russell	166,872	--	--	--	9,468	--	147,936	--	--	9,468
Scott	227,435	--	--	--	5,108	5,108	217,219	--	--	--
Shenandoah	177,799	8,414	--	--	8,635	12,954	143,478	--	4,318	--
Smyth	168,540	--	--	--	7,389	21,567	139,584	--	--	--
Southampton	241,582	--	--	--	90,403	34,307	69,043	45,090	2,739	--
Spotsylvania	177,890	--	--	--	67,287	19,497	87,262	--	3,844	--
Stafford	120,200	--	--	--	20,679	6,494	93,027	--	--	--
Suffolk	114,732	--	--	--	41,703	11,674	38,729	20,375	2,251	--
Surry	123,970	--	--	--	43,530	18,750	52,325	9,365	--	--
Sussex	250,306	--	--	--	123,812	42,803	48,107	24,055	11,529	--
Tazewell	200,743	--	--	--	5,216	--	190,311	--	5,216	--
Virginia Beach	45,165	--	--	--	8,483	6,606	18,240	11,010	826	--
Warren	65,307	--	--	--	414	--	51,193	--	13,700	--
Washington	194,079	--	--	--	5,514	27,568	160,997	--	--	--
Westmoreland	75,076	--	--	--	19,916	9,572	43,195	2,393	--	--
Wise	190,140	--	--	--	--	4,793	175,759	--	--	9,588
Wythe	141,945	9,149	--	--	4,227	14,102	114,467	--	--	--
York	31,048	--	--	--	6,622	6,904	17,522	--	--	--
Total	15,435,836	183,257	--	--	3,172,394	1,689,191	9,689,052	310,705	307,829	83,408

Table 3.--Area of timberland, by county and forest-type group, Virginia, 1986

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								
Accomack	102,592	--	--	--	41,556	21,646	31,273	8,117	--	--
Albemarle	275,629	3,565	--	--	54,118	32,083	182,298	--	3,565	--
Alleghany	249,379	4,775	--	--	16,425	30,787	183,107	--	--	14,285
Amelia	167,378	--	--	--	67,276	18,143	81,959	--	--	--
Amherst	219,671	6,436	--	--	29,708	27,322	156,205	--	--	--
Appomattox	155,176	--	--	--	50,118	8,223	92,652	--	4,183	--
Arlington	--	--	--	--	--	--	--	--	--	--
Augusta	297,003	463	--	--	28,203	30,106	238,231	--	--	--
Bath	291,651	3,542	--	--	11,981	37,497	238,631	--	--	--
Bedford	281,061	--	--	--	38,105	20,686	222,270	--	--	--
Bland	172,081	5,144	--	--	4,286	10,286	152,365	--	--	--
Botetourt	235,918	8,202	--	--	24,607	22,387	176,620	--	4,102	--
Brunswick	287,198	--	--	--	104,370	64,968	103,009	--	14,851	--
Buchanan	287,004	--	--	--	--	14,164	253,956	--	--	18,884
Buckingham	299,235	--	--	--	95,794	35,215	152,972	3,515	11,739	--
Campbell	208,415	--	--	--	65,422	11,533	127,746	--	3,714	--
Caroline	262,658	--	--	--	90,802	42,358	107,859	10,436	11,203	--
Carroll	162,551	33,149	--	--	13,258	30,936	85,208	--	--	--
Charles City	85,984	--	--	--	29,559	21,771	29,363	5,291	--	--
Charlotte	214,857	--	--	--	89,392	23,158	99,229	--	3,078	--
Chesapeake	73,545	--	--	--	11,120	17,960	13,582	30,883	--	--
Chesterfield	190,035	--	--	--	68,298	21,687	93,999	6,051	--	--
Clarke	39,279	--	--	--	--	--	39,274	--	5	--
Craig	173,085	4,354	--	--	29,082	30,065	109,584	--	--	--
Culpeper	106,997	--	--	--	19,393	3,175	81,254	--	3,175	--
Cumberland	135,560	--	--	--	56,769	15,199	56,218	--	7,374	--
Dickenson	182,405	4,791	--	--	4,792	4,792	158,446	--	--	9,584
Dinwiddie	239,104	--	--	--	84,219	57,117	89,265	5,669	2,834	--
Essex	95,625	--	--	--	24,730	23,032	41,393	3,235	3,235	--
Fairfax	78,855	--	--	--	9,462	--	63,085	--	6,308	--
Fauquier	180,056	--	--	--	30,167	24,667	121,725	--	3,497	--
Floyd	131,487	21,783	--	--	18,275	18,329	73,100	--	--	--
Fluvanna	132,590	--	--	--	42,687	16,209	68,408	--	5,286	--
Franklin	282,572	--	--	--	33,175	36,654	212,743	--	--	--
Frederick	130,606	3,921	--	--	11,763	7,842	107,080	--	--	--
Giles	165,781	--	--	--	4,713	9,426	151,642	--	--	--
Gloucester	99,488	--	--	--	26,570	13,235	46,449	13,234	--	--
Goochland	123,054	--	--	--	28,602	12,710	78,564	--	3,178	--
Grayson	149,318	33,120	--	--	3,592	8,233	97,189	--	--	7,184
Greene	49,387	--	--	--	14,211	--	35,176	--	--	--
Greensville	139,144	--	--	--	38,652	16,007	44,662	26,160	13,663	--
Halifax	347,578	--	--	--	126,346	34,258	160,023	--	26,951	--
Hampton	6,334	--	--	--	154	6,180	--	--	--	--
Hanover	184,368	--	--	--	65,331	31,714	73,932	13,391	--	--
Henrico	66,721	--	--	--	8,691	16,964	38,038	20	3,008	--
Henry	175,769	8,001	--	--	59,748	26,686	73,332	--	8,002	--
Highland	194,889	5,034	--	--	4,346	23,107	147,987	--	--	14,415
Isle of Wight	117,326	--	--	--	27,802	26,359	42,481	17,852	2,832	--
James City	59,954	--	--	--	11,469	7,052	41,433	--	--	--
King and Queen	153,245	--	--	--	67,484	20,341	53,894	11,526	--	--
King George	70,322	--	--	--	8,783	5,191	53,529	223	2,596	--
King William	113,537	--	--	--	45,544	10,411	49,866	5,297	2,419	--

Continued

Table 4.--Area of timberland, by county and stand-size class, Virginia, 1986

County	All stands	Stand-size class			Nonstocked areas
		Sawtimber	Poletimber	Sapling- seedling	
----- Acres -----					
Accomack	102,592	62,806	21,246	18,540	--
Albemarle	275,629	149,888	89,769	32,407	3,565
Alleghany	249,379	128,548	107,025	9,044	4,762
Amelia	167,378	69,076	39,769	58,533	--
Amherst	219,671	116,015	72,826	27,791	3,039
Appomattox	155,176	42,177	54,095	58,904	--
Arlington	--	--	--	--	--
Augusta	297,003	138,260	113,664	30,782	14,297
Bath	291,651	152,431	118,800	20,420	--
Bedford	281,061	152,605	81,405	47,051	--
Bland	172,081	91,524	56,554	24,003	--
Botetourt	235,918	117,954	76,013	37,849	4,102
Brunswick	287,198	80,977	97,898	104,818	3,505
Buchanan	287,004	166,191	83,044	33,048	4,721
Buckingham	299,235	65,037	113,983	116,700	3,515
Campbell	208,415	75,781	102,532	30,102	--
Caroline	262,658	102,210	87,090	63,383	9,975
Carroll	162,551	105,209	39,192	18,150	--
Charles City	85,984	43,046	21,774	21,164	--
Charlotte	214,857	77,075	79,149	58,633	--
Chesapeake	73,545	45,234	16,596	8,977	2,738
Chesterfield	190,035	62,188	94,408	33,439	--
Clarke	39,279	26,277	8,668	--	4,334
Craig	173,085	80,917	82,474	9,694	--
Culpeper	106,997	50,800	46,672	6,350	3,175
Cumberland	135,560	45,272	35,423	52,188	2,677
Dickenson	182,405	124,902	28,752	28,751	--
Dinwiddie	239,104	80,560	88,739	64,136	5,669
Essex	95,625	38,550	38,432	15,408	3,235
Fairfax	78,855	48,941	23,606	6,308	--
Fauquier	180,056	90,251	61,643	21,168	6,994
Floyd	131,487	77,768	49,151	4,568	--
Fluvanna	132,590	40,952	48,951	42,687	--
Franklin	282,572	153,664	90,005	35,115	3,788
Frederick	130,606	79,407	39,436	11,763	--
Giles	165,781	73,708	73,220	14,140	4,713
Gloucester	99,488	45,429	33,108	20,951	--
Goochland	123,054	55,085	41,496	26,473	--
Grayson	149,318	92,216	20,056	32,930	4,116
Greene	49,387	38,577	6,916	3,894	--
Greensville	139,144	61,104	43,372	32,170	2,498
Halifax	347,578	108,737	141,551	93,639	3,651
Hampton	6,334	6,285	49	--	--
Hanover	184,368	57,849	86,990	36,662	2,867
Henrico	66,721	19,881	26,262	20,578	--
Henry	175,769	72,511	51,419	51,839	--
Highland	194,889	108,431	72,732	13,726	--
Isle of Wight	117,326	57,513	21,546	38,267	--
James City	59,954	35,782	17,121	7,051	--
King and Queen	153,245	62,359	49,169	37,971	3,746
King George	70,322	50,947	8,782	10,384	209
King William	113,537	31,460	53,997	25,661	2,419

Continued

Table 4.--Area of timberland, by county and stand-size class, Virginia, 1986--Continued

County	All stands	Stand-size class			Nonstocked areas
		Sawtimber	Poletimber	Sapling- seedling	
----- Acres -----					
Lancaster	52,896	31,211	21,685	--	--
Lee	148,685	77,934	42,244	28,507	--
Loudoun	100,175	57,623	25,331	17,221	--
Louisa	232,229	69,290	101,525	61,414	--
Lunenburg	208,183	77,633	82,083	48,467	--
Madison	86,037	67,238	11,080	7,719	--
Mathews	35,237	18,883	13,831	2,523	--
Mecklenburg	259,926	89,686	104,347	65,893	--
Middlesex	51,470	31,433	10,146	9,891	--
Montgomery	146,000	83,220	57,771	5,009	--
Nelson	222,224	137,703	28,871	52,219	3,431
New Kent	102,268	40,879	34,056	24,574	2,759
Newport News	10,695	6,836	3,859	--	--
Northampton	29,316	17,026	9,702	2,588	--
Northumberland	67,888	36,743	11,471	16,829	2,845
Nottoway	140,994	56,871	55,808	28,315	--
Orange	120,165	44,384	38,072	37,709	--
Page	81,161	48,043	26,390	6,728	--
Patrick	217,454	84,482	101,282	31,690	--
Pittsylvania	400,638	142,971	167,693	73,122	16,852
Powhatan	127,998	53,595	47,730	26,673	--
Prince Edward	160,816	42,179	61,152	50,674	6,811
Prince George	118,282	49,862	29,587	38,833	--
Prince William	100,742	69,571	24,067	7,104	--
Pulaski	116,929	40,168	59,235	11,684	5,842
Rappahannock	73,707	50,241	13,397	6,720	3,349
Richmond	76,818	38,682	29,465	8,671	--
Roanoke	99,622	57,389	34,718	7,515	--
Rockbridge	234,494	148,922	58,719	26,853	--
Rockingham	256,501	175,988	62,863	8,825	8,825
Russell	166,872	100,596	28,404	37,872	--
Scott	227,435	150,854	58,207	18,374	--
Shenandoah	177,799	101,678	63,611	4,096	8,414
Smyth	168,540	113,103	36,073	14,342	5,022
Southampton	241,582	103,209	64,575	71,060	2,738
Spotsylvania	177,890	53,875	77,056	46,959	--
Stafford	120,200	67,261	34,693	18,246	--
Suffolk	114,732	43,420	20,732	48,210	2,370
Surry	123,970	54,482	25,956	40,432	3,100
Sussex	250,306	81,922	63,252	96,756	8,376
Tazewell	200,743	115,310	75,001	10,432	--
Virginia Beach	45,165	27,549	11,010	6,606	--
Warren	65,307	45,631	6,533	4,381	8,762
Washington	194,079	113,507	62,217	18,355	--
Westmoreland	75,076	31,495	36,282	7,299	--
Wise	190,140	105,861	58,628	25,651	--
Wythe	141,945	85,194	51,938	4,813	--
York	31,048	27,352	3,696	--	--
Total	15,435,836	7,329,352	5,102,614	2,806,064	197,806

Table 5.--Area of timberland, by county and site class, Virginia, 1986

County	All classes	Site class (cubic feet per acre per year)				
		> 164	120-164	85-119	50-84	20-49
----- Acres -----						
Accomack	102,592	--	2,705	23,557	53,856	22,474
Albemarle	275,629	--	7,128	74,857	171,405	22,239
Alleghany	249,379	--	4,775	14,442	114,044	116,118
Amelia	167,378	--	3,638	39,972	123,768	--
Amherst	219,671	--	2,984	49,144	112,092	55,451
Appomattox	155,176	4,182	--	46,790	87,616	16,588
Arlington	--	--	--	--	--	--
Augusta	297,003	463	--	4,765	117,684	174,091
Bath	291,651	--	8,439	11,986	137,740	133,486
Bedford	281,061	--	9,887	75,244	158,110	37,820
Bland	172,081	5,144	13,715	21,233	100,273	31,716
Botetourt	235,918	4,100	8,204	36,914	115,748	70,952
Brunswick	287,198	--	2,583	61,293	215,018	8,304
Buchanan	287,004	--	14,163	73,657	141,632	57,552
Buckingham	299,235	--	3,515	53,790	199,684	42,246
Campbell	208,415	--	7,427	68,329	117,804	14,855
Caroline	262,658	--	13,046	50,186	188,988	10,438
Carroll	162,551	15,472	13,258	26,987	84,737	22,097
Charles City	85,984	--	--	24,876	56,317	4,791
Charlotte	214,857	4,251	--	25,409	152,365	32,832
Chesapeake	73,545	--	--	36,253	18,128	19,164
Chesterfield	190,035	--	2,746	32,672	143,110	11,507
Clarke	39,279	--	4,335	8,850	21,760	4,334
Craig	173,085	--	--	8,707	105,232	59,146
Culpeper	106,997	--	6,350	31,750	62,547	6,350
Cumberland	135,560	--	10,503	34,760	82,471	7,826
Dickenson	182,405	--	4,792	47,919	95,742	33,952
Dinwiddie	239,104	--	--	49,237	172,860	17,007
Essex	95,625	2,852	3,623	25,496	63,654	--
Fairfax	78,855	3,154	--	11,433	56,432	7,836
Fauquier	180,056	10,491	3,498	28,902	123,175	13,990
Floyd	131,487	13,751	9,138	36,603	67,427	4,568
Fluvanna	132,590	--	7,403	8,716	90,237	26,234
Franklin	282,572	3,789	11,367	84,979	142,612	39,825
Frederick	130,606	--	3,921	15,684	59,083	51,918
Giles	165,781	--	4,713	35,856	97,159	28,053
Gloucester	99,488	--	--	38,067	61,421	--
Goochland	123,054	--	--	20,304	99,573	3,177
Grayson	149,318	16,655	16,464	16,466	95,617	4,116
Greene	49,387	--	3,401	14,773	24,413	6,800
Greensville	139,144	2,499	--	29,828	98,150	8,667
Halifax	347,578	--	7,304	75,843	250,474	13,957
Hampton	6,334	--	--	105	6,229	--
Hanover	184,368	--	--	47,969	124,931	11,468
Henrico	66,721	--	2,897	11,778	40,328	11,718
Henry	175,769	8,001	7,426	48,889	100,027	11,426
Highland	194,889	--	--	13,726	97,804	83,359
Isle of Wight	117,326	--	2,832	27,221	84,441	2,832
James City	59,954	--	7,052	22,957	29,945	--
King and Queen	153,245	--	--	23,399	127,136	2,710
King George	70,322	--	5,192	23,363	39,171	2,596
King William	113,537	--	--	37,756	70,944	4,837

Continued

Table 5.--Area of timberland, by county and site class, Virginia, 1986
--Continued

County	All classes	Site class (cubic feet per acre per year)				
		> 164	120-164	85-119	50-84	20-49
----- Acres -----						
Lancaster	52,896	499	--	7,228	45,169	--
Lee	148,685	--	--	41,228	98,300	9,157
Loudoun	100,175	--	3,444	13,776	74,847	8,108
Louisa	232,229	--	--	20,625	190,486	21,118
Lunenburg	208,183	--	--	38,566	163,333	6,284
Madison	86,037	--	11,069	24,189	37,659	13,120
Mathews	35,237	--	--	16,364	16,355	2,518
Mecklenburg	259,926	--	--	47,130	187,860	24,936
Middlesex	51,470	--	--	13,187	34,961	3,322
Montgomery	146,000	816	10,018	17,013	93,522	24,631
Nelson	222,224	3,431	7,907	83,677	112,438	14,771
New Kent	102,268	--	2,759	47,831	51,678	--
Newport News	10,695	--	--	9,314	1,381	--
Northampton	29,316	--	--	5,014	17,027	7,275
Northumberland	67,888	--	--	16,949	42,404	8,535
Nottoway	140,994	--	--	31,703	96,097	13,194
Orange	120,165	--	--	23,889	92,864	3,412
Page	81,161	--	--	--	43,271	37,890
Patrick	217,454	3,643	10,510	50,883	117,925	34,493
Pittsylvania	400,638	3,812	35,111	95,379	230,422	35,914
Powhatan	127,998	--	--	44,532	80,291	3,175
Prince Edward	160,816	--	--	45,154	111,828	3,834
Prince George	118,282	--	--	23,597	84,516	10,169
Prince William	100,742	--	4,166	11,270	72,808	12,498
Pulaski	116,929	--	--	7,246	75,701	33,982
Rappahannock	73,707	--	3,350	6,698	46,912	16,747
Richmond	76,818	2,891	2,921	19,325	48,790	2,891
Roanoke	99,622	4,508	4,508	13,525	44,486	32,595
Rockbridge	234,494	4,397	--	34,332	136,623	59,142
Rockingham	256,501	92	4,164	13,984	94,162	144,099
Russell	166,872	--	--	14,342	114,658	37,872
Scott	227,435	--	15,324	79,855	127,148	5,108
Shenandoah	177,799	--	--	8,414	76,609	92,776
Smyth	168,540	--	--	31,183	98,785	38,572
Southampton	241,582	--	7,783	84,753	146,307	2,739
Spotsylvania	177,890	--	4,121	30,751	123,798	19,220
Stafford	120,200	3,247	9,741	44,605	52,866	9,741
Suffolk	114,732	--	4,500	23,274	84,708	2,250
Surry	123,970	--	--	34,992	85,879	3,099
Sussex	250,306	--	8,138	68,018	166,311	7,839
Tazewell	200,743	--	5,216	47,029	121,944	26,554
Virginia Beach	45,165	--	2,202	11,835	17,291	13,837
Warren	65,307	--	--	8,762	39,023	17,522
Washington	194,079	--	5,514	60,724	113,652	14,189
Westmoreland	75,076	2,393	--	19,145	46,359	7,179
Wise	190,140	--	--	44,000	135,712	10,428
Wythe	141,945	109	4,813	11,442	79,043	46,538
York	31,048	--	--	17,152	13,896	--
Total	15,435,836	124,642	407,703	3,197,576	9,389,219	2,316,696

Table 6.--Area of timberland, by county and stocking class of growing-stock trees, Virginia, 1986

County	All classes	Stocking class (percent) ^a				
		> 130	100-130	60-99	16.7-59	< 16.7
		Acres				
Accomack	102,592	15,837	38,708	37,623	10,424	--
Albemarle	275,629	7,129	81,958	121,527	61,450	3,565
Alleghany	249,379	--	35,515	152,162	56,940	4,762
Amelia	167,378	14,397	94,376	47,224	11,381	--
Amherst	219,671	10,647	36,742	132,031	37,212	3,039
Appomattox	155,176	--	63,095	62,804	29,277	--
Arlington	--	--	--	--	--	--
Augusta	297,003	--	57,728	141,696	83,282	14,297
Bath	291,651	4,897	85,751	135,746	65,257	--
Bedford	281,061	9,887	89,990	147,316	33,868	--
Bland	172,081	--	20,378	121,701	30,002	--
Botetourt	235,918	4,100	25,549	139,410	62,757	4,102
Brunswick	287,198	9,216	132,249	111,036	31,192	3,505
Buchanan	287,004	4,721	76,389	139,753	61,420	4,721
Buckingham	299,235	8,224	123,535	145,192	18,769	3,515
Campbell	208,415	3,714	62,016	101,834	40,851	--
Caroline	262,658	19,337	97,300	122,693	13,353	9,975
Carroll	162,551	13,258	33,150	85,205	30,938	--
Charles City	85,984	13,381	34,848	35,262	2,493	--
Charlotte	214,857	14,658	70,646	106,393	23,160	--
Chesapeake	73,545	8,213	27,877	31,979	2,738	2,738
Chesterfield	190,035	10,913	98,621	75,045	5,456	--
Clarke	39,279	--	8,668	21,938	4,339	4,334
Craig	173,085	15,032	50,439	76,562	31,052	--
Culpeper	106,997	9,525	35,269	49,503	9,525	3,175
Cumberland	135,560	6,590	79,794	38,674	7,825	2,677
Dickenson	182,405	--	32,792	96,494	53,119	--
Dinwiddie	239,104	5,716	103,571	102,387	21,761	5,669
Essex	95,625	3,623	41,013	41,285	6,469	3,235
Fairfax	78,855	--	17,399	44,158	17,298	--
Fauquier	180,056	3,475	52,647	81,969	34,971	6,994
Floyd	131,487	13,752	44,581	63,964	9,190	--
Fluvanna	132,590	--	64,475	45,399	22,716	--
Franklin	282,572	11,366	102,234	150,029	15,155	3,788
Frederick	130,606	--	31,596	71,188	27,822	--
Giles	165,781	--	51,914	81,044	28,110	4,713
Gloucester	99,488	2,863	61,780	32,086	2,759	--
Goochland	123,054	9,534	45,539	64,803	3,178	--
Grayson	149,318	4,306	28,790	75,060	37,046	4,116
Greene	49,387	3,516	17,003	25,467	3,401	--
Greensville	139,144	7,376	50,985	47,286	30,999	2,498
Halifax	347,578	25,562	125,477	147,677	45,211	3,651
Hampton	6,334	105	49	6,180	--	--
Hanover	184,368	10,699	73,933	77,743	19,126	2,867
Henrico	66,721	2,290	29,180	32,355	2,896	--
Henry	175,769	16,894	67,267	70,843	20,765	--
Highland	194,889	10,069	63,380	69,692	51,748	--
Isle of Wight	117,326	8,496	47,636	49,865	11,329	--
James City	59,954	4,997	22,378	25,528	7,051	--
King and Queen	153,245	18,318	70,159	46,786	14,236	3,746
King George	70,322	2,595	25,960	28,579	12,979	209
King William	113,537	--	67,787	28,819	14,512	2,419

Continued

Table 6.--Area of timberland, by county and stocking class of growing-stock trees, Virginia, 1986--Continued

County	All classes	Stocking class (percent) ^a				
		> 130	100-130	60-99	16.7-59	< 16.7
----- Acres -----						
Lancaster	52,896	5,682	12,115	21,937	13,162	--
Lee	148,685	4,599	27,469	83,530	33,087	--
Loudoun	100,175	--	28,772	61,071	10,332	--
Louisa	232,229	6,723	84,124	120,758	20,624	--
Lunenburg	208,183	10,761	98,298	82,077	17,047	--
Madison	86,037	3,690	27,880	39,709	14,758	--
Mathews	35,237	2,519	20,122	7,559	5,037	--
Mecklenburg	259,926	8,485	110,436	117,968	23,037	--
Middlesex	51,470	3,527	18,246	26,400	3,297	--
Montgomery	146,000	5,825	54,684	63,469	22,022	--
Nelson	222,224	8,952	66,411	116,266	27,164	3,431
New Kent	102,268	12,425	36,952	39,554	10,578	2,759
Newport News	10,695	2,972	1,376	4,971	1,376	--
Northampton	29,316	2,425	19,616	4,850	2,425	--
Northumberland	67,888	2,845	11,350	39,588	11,260	2,845
Nottoway	140,994	9,283	78,994	35,129	17,588	--
Orange	120,165	3,413	27,831	71,858	17,063	--
Page	81,161	--	10,092	39,893	31,176	--
Patrick	217,454	9,831	33,155	115,623	58,845	--
Pittsylvania	400,638	16,053	148,940	173,045	45,748	16,852
Powhatan	127,998	--	68,053	56,028	3,917	--
Prince Edward	160,816	7,670	60,729	67,294	18,312	6,811
Prince George	118,282	10,709	51,850	52,641	3,082	--
Prince William	100,742	4,166	22,816	73,760	--	--
Pulaski	116,929	--	8,257	69,581	33,249	5,842
Rappahannock	73,707	--	16,748	26,815	26,795	3,349
Richmond	76,818	10,919	23,287	29,979	12,633	--
Roanoke	99,622	4,508	22,543	56,508	16,063	--
Rockbridge	234,494	8,796	51,297	130,232	44,169	--
Rockingham	256,501	4,164	40,054	141,679	61,779	8,825
Russell	166,872	--	23,670	110,064	33,138	--
Scott	227,435	184	47,992	139,425	39,834	--
Shenandoah	177,799	16,828	54,578	55,243	42,736	8,414
Smyth	168,540	4,889	47,753	77,195	33,681	5,022
Southampton	241,582	17,873	110,238	100,645	10,088	2,738
Spotsylvania	177,890	23,895	85,398	57,065	11,532	--
Stafford	120,200	11,963	52,124	44,360	11,753	--
Suffolk	114,732	2,250	60,009	41,099	9,004	2,370
Surry	123,970	5,442	45,295	67,792	2,341	3,100
Sussex	250,306	25,163	111,443	94,604	10,720	8,376
Tazewell	200,743	--	57,375	107,431	35,937	--
Virginia Beach	45,165	4,403	19,818	16,540	4,404	--
Warren	65,307	--	10,156	32,689	13,700	8,762
Washington	194,079	16,616	11,690	138,134	27,639	--
Westmoreland	75,076	4,786	26,710	38,794	4,786	--
Wise	190,140	4,793	42,120	104,875	38,352	--
Wythe	141,945	4,336	42,296	53,588	41,725	--
York	31,048	6,534	16,148	8,366	--	--
Total	15,435,836	690,125	5,047,426	7,244,676	2,255,803	197,806

^aSee stocking standards on page 16.

Table 7.--Volume of growing stock and sawtimber on timberland, by county and species group, Virginia, 1986

County	Growing stock					Sawtimber				
	All	Pine	Other	Soft	Hard	All	Pine	Other	Soft	Hard
Thousand cubic feet ^a										
Accomack	187,072	115,507	--	44,410	27,155	602,571	448,621	--	83,424	70,526
Albemarle	416,337	69,893	12,654	101,956	231,834	1,351,338	185,436	53,273	397,721	714,908
Alleghany	306,157	36,411	14,159	28,876	226,711	855,106	84,328	59,493	80,042	629,243
Amelia	264,608	100,405	1,789	54,924	107,490	775,427	243,274	5,249	200,196	326,708
Amherst	307,321	47,718	17,604	86,764	155,235	896,013	77,712	73,526	303,732	441,043
Appomattox	174,116	53,862	972	27,951	91,331	378,520	94,244	--	62,064	222,212
Arlington	--	--	--	--	--	--	--	--	--	--
Augusta	332,337	51,903	15,030	24,544	240,860	887,520	176,291	46,095	60,796	604,338
Bath	419,651	33,083	14,247	45,039	327,282	1,186,750	98,964	40,343	107,102	940,341
Bedford	438,766	91,098	5,082	139,814	202,772	1,245,562	241,965	19,724	430,831	553,042
Bland	229,930	11,943	27,093	62,820	128,074	655,144	39,341	124,114	174,741	316,948
Botetourt	325,930	34,840	19,829	77,650	193,611	1,057,140	93,118	88,464	325,161	550,397
Brunswick	346,322	166,093	774	80,525	98,930	950,388	511,947	--	211,976	226,465
Buchanan	462,729	297	16,430	193,973	252,029	1,419,585	--	75,221	546,436	797,928
Buckingham	266,265	88,310	426	45,052	132,477	581,620	141,064	1,732	119,672	319,152
Campbell	253,744	78,783	--	52,441	122,520	567,208	129,849	--	151,243	286,116
Caroline	419,543	156,201	312	114,606	148,424	1,246,387	469,433	--	151,243	407,098
Cartersville	243,261	18,808	94,532	19,123	110,798	755,663	41,679	375,172	60,008	278,804
Charles City	161,637	59,131	6,011	47,636	48,859	499,422	186,694	31,994	123,733	157,001
Charlotte	282,756	126,220	3,126	65,928	87,482	723,932	235,594	3,946	206,680	277,712
Chesapeake	151,152	40,259	679	78,305	31,909	569,028	215,696	3,682	240,546	109,104
Chesertield	290,085	94,702	--	66,823	128,560	802,395	275,513	--	195,192	331,690
Clarke	79,320	--	--	28,149	51,171	310,232	--	--	125,844	184,388
Craig	274,212	69,753	16,028	8,251	180,180	679,006	240,179	65,561	6,367	366,899
Culpeper	199,086	55,479	1,274	49,004	93,329	533,315	144,013	1,946	122,493	264,863
Cumberland	142,905	63,878	776	33,974	170,675	946,257	124,258	--	77,479	124,811
Dickenson	281,974	11,595	10,804	88,900	170,675	946,257	28,257	50,826	319,803	547,371
Dinwiddie	294,072	129,366	609	59,551	104,546	895,338	490,984	--	154,530	249,824
Essex	168,509	49,664	--	46,713	72,132	526,456	166,798	--	122,447	237,211
Fairfax	152,466	9,181	2,545	35,600	105,140	582,236	29,050	1,256	141,521	410,409
Fauquier	260,032	42,142	2,190	66,630	149,070	770,480	120,562	3,328	206,220	440,370
Floyd	257,020	20,144	60,360	86,345	771,234	34,612	170,616	326,680	170,616	239,326
Fluvanna	147,042	49,280	735	29,606	67,421	341,305	126,862	--	68,304	146,139
Franklin	433,614	67,686	25,851	164,636	175,441	1,141,752	144,655	100,568	444,899	451,630
Frederick	190,419	10,886	9,206	26,958	143,369	577,467	22,947	28,779	57,375	468,366
Giles	290,545	9,116	9,520	89,731	182,178	870,406	30,880	52,733	282,694	504,099
Gloucester	183,891	49,813	261	78,162	55,655	618,231	192,070	--	240,566	185,595
Goodland	195,185	55,042	772	52,070	87,301	485,921	81,182	--	158,890	245,849
Grayson	213,634	5,470	46,193	43,992	117,979	741,202	28,425	222,697	122,634	367,446
Greene	94,809	24,069	559	28,279	41,902	41,844	--	--	119,859	156,126
Greensville	185,765	72,800	1,778	47,330	63,857	586,419	290,509	8,033	115,570	172,307
Hallfax	449,831	159,696	2,865	136,468	150,802	1,106,880	364,696	--	342,233	399,951
Hampton	10,359	6,977	--	1,001	2,381	42,006	27,963	--	3,306	10,737
Hanover	273,340	96,807	426	78,720	97,387	690,631	233,637	--	178,539	278,455
Henrico	87,505	25,438	--	21,312	40,755	213,801	81,418	--	26,095	106,288
Henry	202,095	89,859	15,256	37,992	58,988	198,720	198,720	57,858	86,526	139,192
Highland	315,366	9,053	35,308	53,647	217,358	963,373	14,313	157,322	155,156	636,582
Isle of Wight	177,640	61,079	--	56,215	60,346	655,897	275,706	--	140,294	239,897
James City	110,978	24,352	345	24,879	61,402	367,815	79,635	--	80,971	207,209
King and Queen	258,637	114,709	4,895	67,791	71,242	720,766	298,651	27,634	176,296	218,195
King George	131,610	19,066	1,626	64,959	45,959	456,245	76,184	4,868	220,226	154,967
King William	163,618	56,111	435	49,215	57,857	457,105	150,208	--	132,752	174,145

-- -- -- -- -- Thousand board feet -- -- -- -- --

Table 7.--Volume of growing stock and sawtimber on timberland, by county and species group, Virginia, 1986--Continued

County	Growing stock					Sawtimber				
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
	Thousand cubic feet ^a					Thousand board feet				
Lancaster	89,762	50,702	--	21,284	17,776	240,595	136,869	--	63,899	39,827
Lee	239,541	--	6,325	92,662	140,554	724,191	--	--	278,644	445,547
Loudoun	152,492	6,488	1,675	27,801	116,528	511,439	9,832	1,203	120,098	380,306
Louisa	288,312	66,959	2,989	56,776	161,588	604,279	137,671	5,248	132,300	329,060
Lunenburg	279,966	95,484	1,216	85,063	98,203	808,835	306,349	--	240,373	262,113
Madison	167,017	20,728	6,477	38,395	101,417	614,999	60,029	32,785	156,507	365,678
Mathews	64,621	41,810	--	8,839	13,972	192,000	119,221	--	17,203	55,576
Mecklenburg	372,207	93,126	1,965	113,139	163,977	971,212	230,310	2,522	301,148	437,232
Middlesex	92,166	42,669	--	31,298	18,199	261,673	110,793	--	97,407	53,473
Montgomery	246,234	36,301	43,052	24,498	142,383	728,996	90,376	187,264	62,460	388,896
Nelson	370,094	20,745	13,441	124,628	211,280	1,298,889	37,666	49,074	470,789	741,360
New Kent	190,222	74,496	--	52,935	62,791	558,261	184,005	--	174,629	199,627
Newport News	19,500	9,900	--	5,570	4,030	69,413	33,398	--	22,311	13,704
Northampton	55,362	31,162	--	15,015	9,185	166,934	127,965	--	19,915	19,054
Northumberland	97,591	28,879	--	28,708	40,004	323,558	109,259	--	88,278	126,021
Nottoway	215,107	114,003	--	39,703	61,401	599,833	329,008	--	111,627	159,198
Orange	147,159	17,195	6,350	39,885	83,729	427,099	14,559	18,847	145,301	248,392
Page	118,211	17,882	3,143	13,938	83,248	333,523	44,596	15,815	47,895	225,217
Patrick	284,301	41,944	15,908	107,871	118,578	689,393	64,046	56,024	251,312	318,011
Pittsylvania	573,497	173,501	2,252	181,071	216,673	1,424,278	421,611	8,934	489,318	504,415
Powhatan	207,028	29,132	854	68,029	109,013	547,423	64,532	--	196,207	286,684
Prince Edward	196,735	55,205	921	52,408	88,201	457,183	76,702	1,861	125,059	253,561
Prince George	174,198	77,618	8,905	35,727	51,948	573,017	253,962	49,721	119,721	149,613
Prince William	185,766	39,664	1,260	35,152	109,690	589,329	77,531	--	125,849	385,949
Pulaski	117,203	7,607	4,004	18,672	86,920	244,765	29,808	22,823	49,118	143,016
Rappahannock	113,548	8,240	1,785	40,676	62,847	422,444	22,687	8,621	164,632	226,504
Richmond	141,328	41,013	--	57,655	42,660	439,333	92,645	--	188,549	158,139
Roanoke	123,903	23,650	11,092	11,707	77,454	295,414	40,531	43,422	27,305	184,156
Rockbridge	331,371	38,256	16,097	46,903	230,115	1,002,486	101,962	63,497	138,544	698,483
Rockingham	385,678	22,630	34,124	41,334	287,590	1,268,911	68,434	115,087	106,001	979,389
Russell	237,857	--	4,638	76,264	156,955	761,221	--	20,569	243,542	497,110
Scott	390,277	15,880	3,726	152,091	218,580	1,277,986	59,987	8,722	523,524	685,753
Shenandoah	299,800	33,930	14,348	35,736	215,786	844,144	108,524	64,280	77,927	593,413
Smyth	280,146	25,477	13,919	56,001	184,749	873,894	81,617	68,974	153,322	569,981
Southampton	390,715	149,163	11,201	135,351	95,000	1,302,044	523,258	52,995	406,703	319,088
Spotsylvania	270,012	110,506	1,895	75,494	82,117	575,443	194,394	5,802	174,992	200,255
Stafford	239,814	52,909	315	81,644	104,946	727,170	117,896	--	223,383	385,891
Suffolk	151,367	40,456	4,303	66,950	39,658	475,694	127,709	21,550	209,715	116,720
Surry	172,684	61,891	1,694	52,256	56,843	605,008	246,213	7,946	168,530	182,319
Sussex	364,438	206,948	3,261	81,992	72,237	1,240,555	809,309	17,101	231,140	183,005
Tazewell	347,329	--	4,267	128,783	214,279	954,936	--	21,598	358,987	574,351
Virginia Beach	81,208	18,353	964	41,011	20,880	282,178	89,602	5,030	114,388	73,158
Warren	87,349	7,036	1,285	12,744	66,284	242,569	16,254	4,449	52,557	169,309
Washington	357,561	16,739	7,363	141,272	192,187	1,040,470	72,388	29,732	448,392	489,958
Westmoreland	126,867	38,583	210	37,503	50,571	342,725	94,496	--	96,006	152,223
Wise	302,506	1,575	7,951	130,621	162,359	959,411	7,051	38,390	394,937	519,033
Wythe	218,191	19,523	18,413	13,502	166,753	619,196	83,224	74,861	36,086	425,025
York	89,381	23,000	--	33,749	32,632	338,881	90,669	--	117,496	130,716
Total	22,952,820	5,082,936	814,765	5,959,561	11,095,558	67,036,398	14,248,929	3,236,854	17,615,683	31,934,932

^aFactors for converting to cords are shown on page 16.

Table 8.—Net annual growth of growing stock and sawtimber on timberland, by county and species group, Virginia, 1985

County	Growing stock					Sawtimber				
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
	Thousand cubic feet	Thousand cubic feet	Thousand cubic feet	Thousand cubic feet	Thousand cubic feet	Thousand board feet	Thousand board feet	Thousand board feet	Thousand board feet	Thousand board feet
Accomack	7,072	3,830	--	2,028	1,214	28,151	20,774	--	3,817	3,560
Albemarle	13,845	2,211	476	3,839	7,319	59,792	5,103	1,657	22,593	30,439
Alleghany	8,097	664	581	1,084	5,768	27,348	2,033	2,134	2,306	17,875
Amelia	13,081	6,701	35	2,357	3,988	40,211	18,570	128	6,649	14,864
Amherst	10,837	1,904	526	3,546	4,861	39,936	5,077	2,912	16,347	15,600
Appomattox	7,229	3,212	33	1,118	2,866	25,313	6,155	422	4,036	14,700
Arlington	--	--	--	--	--	--	--	--	--	--
Augusta	7,993	594	483	1,128	5,788	31,669	3,655	1,757	1,483	24,774
Bath	10,356	431	430	1,688	7,807	38,618	1,899	2,851	2,959	30,909
Bedford	16,456	2,792	127	6,869	6,668	61,876	10,291	651	23,504	27,430
Bland	8,047	122	1,310	2,830	3,785	33,301	720	6,458	10,886	15,237
Botetourt	7,716	557	531	2,249	4,379	37,654	1,767	2,760	12,704	20,423
Brunswick	16,532	8,846	105	3,462	4,119	52,669	28,389	--	13,215	11,065
Buchanan	15,400	7	460	8,542	6,391	65,606	--	2,389	37,538	25,679
Buckingham	11,944	5,064	14	2,050	4,816	36,123	10,880	79	7,270	17,894
Campbell	9,617	2,907	13	2,372	4,325	34,975	10,313	--	6,386	18,276
Caroline	15,765	6,210	18	4,272	5,265	59,219	22,324	--	15,733	21,162
Carroll	8,722	491	4,584	751	2,896	41,866	2,179	21,295	3,329	15,063
Charles City	5,889	2,521	130	1,740	1,498	24,160	11,057	866	5,390	6,847
Charlotte	11,300	5,757	165	2,383	2,995	34,715	12,107	450	10,664	11,494
Chesapeake	4,471	836	18	2,638	979	17,653	5,704	125	8,474	3,350
Chesterfield	12,496	4,860	8	2,677	4,951	39,475	13,022	--	8,797	17,656
Clarke	1,905	--	--	764	1,141	7,514	--	--	3,489	4,025
Craig	6,899	836	423	281	5,359	20,401	3,709	1,709	1,875	13,108
Culpeper	6,858	1,716	26	2,246	2,870	29,342	5,336	87	11,564	12,355
Cumberland	5,946	2,431	16	1,661	1,838	16,892	7,977	137	4,235	4,543
Dickenson	8,618	245	296	3,531	4,546	40,706	2,071	2,070	17,471	19,094
Dinwiddie	12,335	5,682	25	2,572	4,056	49,566	21,352	132	10,401	17,681
Essex	6,206	1,715	60	2,231	2,200	28,946	8,991	--	7,842	12,113
Fairfax	3,843	143	58	1,162	2,480	16,857	2,011	23	4,533	10,290
Fauquier	8,465	962	143	2,831	4,529	38,525	3,885	115	10,839	23,686
Floyd	11,175	1,395	4,572	2,414	2,794	44,182	2,854	20,253	10,507	10,568
Fluvanna	5,451	1,466	13	1,528	2,444	19,857	5,788	--	3,124	10,945
Franklin	16,559	2,445	759	7,654	5,701	64,960	7,161	4,769	30,979	22,051
Frederick	4,672	174	291	1,066	3,141	19,470	856	1,410	1,854	15,350
Giles	8,722	119	228	3,508	4,867	41,538	551	1,353	13,382	20,359
Gloucester	7,499	2,157	9	3,614	1,719	27,472	7,785	43	11,618	6,305
Goochland	7,212	2,014	102	2,183	2,913	28,784	5,755	--	13,382	11,368
Grayson	6,501	48	1,590	1,672	3,191	32,144	192	9,951	6,804	15,197
Greene	2,911	713	54	1,023	1,121	12,305	1,442	98	5,019	5,746
Greensville	6,724	2,550	96	1,910	2,168	30,897	13,872	271	8,284	8,470
Halifax	17,213	5,926	111	5,643	5,533	53,692	17,076	43	17,959	18,614
Hampton	330	203	--	75	52	2,028	1,594	--	138	296
Hanover	12,240	5,069	8	3,685	3,478	44,795	16,514	--	13,610	14,671
Henrico	3,674	965	--	1,149	1,560	12,503	3,944	--	2,467	6,092
Henry	7,829	3,029	514	2,148	2,138	26,039	10,019	2,482	4,789	8,749
Highland	7,883	202	1,067	1,435	5,179	33,139	561	4,871	5,390	22,317
Isle of Wight	5,431	2,147	--	1,883	1,401	22,210	9,225	--	7,188	5,797
James City	3,734	1,152	6	874	1,702	16,077	3,325	69	3,506	9,177
King and Queen	12,184	6,512	98	3,121	2,453	40,135	19,722	607	10,725	9,081
King George	4,286	460	79	2,109	1,638	18,626	2,782	502	9,475	5,867
King William	7,898	3,519	16	2,456	1,907	23,777	10,556	--	6,523	6,698

Table 8.--Net annual growth of growing stock and sawtimber on timberland, by county and species group, Virginia, 1985--Continued

County	Growing stock					Sawtimber				
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
	Thousand cubic feet					Thousand board feet				
Lancaster	4,079	2,599	--	826	654	13,014	6,794	--	2,906	3,314
Lee	7,472	--	199	3,694	3,579	34,173	--	577	13,982	19,614
Loudoun	4,616	334	91	1,053	3,138	17,356	648	109	4,819	11,780
Louisa	11,224	2,666	74	2,257	6,227	40,111	6,764	91	8,548	24,708
Lunenburg	10,693	3,814	65	3,336	3,478	42,769	12,396	--	16,372	14,001
Madison	4,837	394	135	1,402	2,906	23,350	2,423	817	6,481	13,629
Mathews	2,970	1,779	51	734	406	12,417	9,977	--	721	1,719
Mecklenburg	14,384	3,624	166	4,504	6,090	54,097	14,314	121	15,221	24,441
Middlesex	3,645	1,492	--	1,447	706	13,431	6,575	--	4,005	2,851
Montgomery	8,391	753	1,932	1,466	4,240	42,804	3,787	10,312	4,423	24,282
Nelson	10,973	794	339	4,845	4,995	50,629	1,438	1,755	26,982	20,454
New Kent	8,101	3,700	--	2,335	2,066	28,410	9,571	--	8,454	10,385
Newport News	683	351	--	165	167	2,533	1,552	--	624	357
Northampton	2,134	1,085	--	636	413	7,228	5,337	--	1,029	862
Northumberland	2,892	853	--	928	1,111	14,901	4,882	--	3,513	6,506
Nottoway	9,335	5,450	16	1,730	2,139	33,207	15,783	--	9,561	7,863
Orange	5,734	1,451	176	1,301	2,806	17,393	754	618	4,508	11,513
Page	2,798	304	59	416	2,019	13,804	1,354	355	2,000	10,095
Patrick	11,527	1,812	483	5,326	3,906	34,539	4,748	2,484	16,155	11,152
Pittsylvania	20,805	5,378	49	7,461	7,917	77,540	18,155	141	31,088	28,156
Powhatan	8,961	1,845	22	3,475	3,619	31,125	4,169	--	11,715	15,241
Prince Edward	7,355	1,873	68	2,179	3,235	24,230	4,549	90	9,693	9,898
Prince George	6,657	3,321	179	1,234	1,923	25,680	12,665	1,208	5,060	6,747
Prince William	4,793	885	43	1,004	2,861	20,026	2,960	64	4,928	12,074
Pulaski	4,179	81	123	1,094	2,881	13,022	356	880	3,392	8,394
Rappahannock	3,474	198	28	1,600	1,648	18,394	1,596	120	9,685	6,993
Richmond	5,675	2,258	--	1,835	1,582	18,498	5,921	--	7,850	4,727
Roanoke	3,108	473	285	299	2,051	10,520	1,343	1,418	1,320	6,439
Rockbridge	7,872	625	611	1,395	5,241	29,445	3,156	1,968	5,162	19,159
Rockingham	8,412	249	1,057	1,274	5,832	36,938	1,207	4,113	3,766	27,852
Russell	7,484	--	65	3,418	4,001	39,657	--	346	16,513	22,798
Scott	12,569	252	94	6,512	5,711	57,791	1,559	862	32,131	23,239
Shenandoah	7,852	472	386	2,043	4,951	29,760	3,442	2,028	4,774	19,516
Smyth	8,072	354	621	2,218	4,879	39,581	1,813	2,655	9,902	25,211
Southampton	15,197	7,057	289	4,136	3,715	50,456	24,545	1,899	11,145	12,867
Spotsylvania	12,376	5,943	35	3,304	3,094	38,958	13,400	206	14,124	11,228
Stafford	8,086	1,203	6	3,981	2,896	32,292	6,377	--	13,112	12,803
Suffolk	5,409	1,930	113	2,137	1,229	22,289	7,532	713	9,641	4,403
Surry	5,805	2,496	47	1,530	1,732	22,346	8,400	290	6,415	7,241
Sussex	14,117	8,373	73	2,329	3,342	51,764	30,251	481	8,236	12,796
Tazewell	11,766	--	86	5,431	6,249	50,418	--	363	24,326	25,729
Virginia Beach	2,649	452	23	1,484	690	11,807	3,400	148	6,113	2,146
Warren	2,330	114	35	431	1,750	10,283	523	153	2,020	7,587
Washington	11,644	200	370	5,987	5,087	61,774	887	1,135	40,503	19,249
Westmoreland	5,202	2,014	15	1,511	1,662	19,162	7,044	--	5,469	6,649
Wise	10,045	11	225	5,865	3,944	45,366	72	1,179	22,657	21,458
Wythe	6,350	230	806	707	4,607	26,106	1,162	5,390	2,186	17,368
York	2,844	725	--	1,223	896	14,765	4,067	--	6,375	4,323
Total	801,644	198,779	30,247	243,550	329,068	3,116,868	668,573	143,018	968,550	1,336,727

County	Growing stock					Sawtimber				
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
Thousand cubic feet										
Accomack	5,116	3,377	--	1,304	435	15,496	11,790	--	2,341	1,365
Albemarle	10,148	1,710	--	1,404	7,034	34,525	2,783	--	6,968	24,774
Alleghany	1,288	461	--	553	274	5,254	2,115	--	3,139	--
Amelia	8,720	3,496	75	1,998	3,151	28,598	9,080	--	8,998	10,520
Amherst	3,721	1,456	343	221	1,701	9,709	2,289	1,510	655	5,255
Appomattox	6,772	3,530	--	574	2,668	16,978	7,174	--	2,209	7,595
Arlington	--	--	--	--	--	--	--	--	--	--
Augusta	530	--	--	--	530	2,362	--	--	--	2,362
Bath	2,137	--	--	124	2,013	6,154	--	--	--	6,154
Bedford	6,022	2,802	--	1,776	1,444	14,070	1,020	--	9,212	3,838
Bland	657	250	--	407	--	1,482	1,482	--	--	--
Botetourt	4,774	279	141	89	4,265	19,165	1,573	558	7,276	17,034
Brunswick	13,302	8,941	63	2,570	1,728	38,667	27,409	--	3,991	3,982
Buchanan	1,763	--	--	1,014	749	5,927	--	--	8,091	1,936
Buckingham	14,309	3,757	116	1,984	8,452	43,240	8,137	638	3,266	26,374
Campbell	6,143	2,129	--	879	3,135	18,092	5,255	--	9,038	9,571
Caroline	18,684	10,416	85	3,399	4,784	56,514	30,802	--	--	16,674
Charlotte	2,751	167	1,193	--	1,391	8,633	--	3,700	--	4,933
Charles City	3,574	916	--	257	2,401	12,416	4,038	--	590	7,788
Charlottesville	15,422	6,685	--	1,701	7,036	43,715	17,544	--	5,315	20,856
Chesapeake	9,579	2,371	--	4,468	2,740	41,341	11,498	--	17,764	12,079
Chesterfield	7,201	2,038	--	2,335	2,828	22,320	5,946	--	7,299	9,075
Clarke	--	--	--	--	--	--	--	--	--	--
Craig	1,491	627	--	--	864	3,736	2,318	--	--	1,418
Culpeper	117	117	--	--	--	578	578	--	--	--
Cumberland	4,586	1,946	--	1,279	1,361	8,884	5,869	--	1,441	1,574
Dickenson	2,148	--	--	1,142	1,006	9,863	--	--	6,460	3,403
Dinwiddie	15,526	9,326	--	2,862	3,338	59,785	42,417	--	5,879	11,489
Essex	6,445	2,371	--	1,571	2,503	26,602	12,835	--	6,849	6,918
Fairfax	3,404	1,541	--	1,279	584	12,311	4,845	--	5,493	1,973
Fauquier	2,970	1,926	168	--	876	12,614	8,111	--	--	4,503
Floyd	720	--	467	--	253	3,959	--	2,744	--	1,215
Fluvanna	3,851	2,415	63	1,274	99	11,429	5,370	--	6,059	15,192
Franklin	11,254	2,430	1,911	2,209	4,704	39,318	5,836	9,589	8,701	1,583
Frederick	714	--	--	--	714	1,583	--	--	1,891	1,138
Giles	621	--	--	310	311	3,029	--	--	2,576	6,127
Gloucester	7,799	5,021	--	1,041	1,737	32,874	24,171	--	--	--
Goochland	534	300	--	--	234	571	571	--	--	--
Grayson	2,740	--	--	401	2,339	11,752	--	--	1,295	10,457
Greene	921	--	--	353	568	3,516	--	--	1,338	2,178
Greensville	7,367	3,467	--	2,497	1,403	30,970	15,574	--	9,913	5,483
Halifax	14,112	7,249	178	2,427	4,258	40,068	18,172	--	9,349	12,547
Hampton	--	--	--	--	--	--	--	--	--	--
Hanover	6,569	5,754	95	530	190	21,488	19,033	437	1,356	662
Henrico	2,630	1,187	--	860	583	9,378	5,017	--	2,789	1,572
Henry	5,277	3,732	--	1,027	518	12,140	7,508	--	2,533	2,099
Highland	2,326	649	322	281	1,074	8,640	4,188	1,864	--	2,588
Isle of Wight	11,538	7,197	--	2,514	1,827	47,656	31,761	--	7,363	8,532
James City	3,518	1,941	--	280	1,297	9,206	1,534	--	1,517	6,155
King and Queen	4,886	3,195	--	390	1,301	17,015	12,514	--	511	3,990
King George	177	--	--	--	177	567	--	--	--	567
King William	8,697	6,161	--	1,000	1,536	36,507	28,423	--	3,060	5,024

Continued

Table 9.--Annual removals of growing stock and sawtimber on timberland, by county and species group, Virginia, 1985--Continued

County	Growing stock				Sawtimber			
	All species	Pine	Other softwood	Hardwood	All species	Pine	Other softwood	Hardwood
Thousand cubic feet								
Lancaster	334	195	--	139	1,589	1,119	--	470
Lee	1,064	183	154	309	5,334	651	688	1,955
Loudoun	3,390	--	--	657	16,237	--	--	13,610
Louisiana	10,116	4,139	165	2,076	30,810	12,363	--	9,679
Lunenburg	7,691	2,163	89	1,470	17,443	1,663	--	11,590
Madison	1,753	642	--	727	7,536	2,977	--	4,509
Mathews	3,161	2,605	--	381	12,737	11,269	--	328
Mecklenburg	6,245	2,711	--	1,585	21,830	10,238	--	7,009
Middlesex	2,618	1,764	--	854	12,458	10,013	--	2,445
Montgomery	190	190	--	--	1,086	1,086	--	--
Nelson	7,204	3,425	156	1,264	24,895	10,645	1,026	5,628
New Kent	5,982	1,923	--	862	26,332	7,645	--	13,843
Newport News	2,485	2,115	--	111	12,666	11,330	--	1,336
Northampton	1,125	501	--	279	3,180	1,685	--	370
Northumberland	1,695	570	--	464	8,722	2,947	--	2,663
Nottoaway	4,970	2,388	--	929	16,315	7,833	--	3,259
Orange	2,710	337	72	304	8,834	855	--	1,893
Page	1,115	--	--	1,115	4,475	--	--	4,475
Patrick	4,880	1,071	789	1,459	17,728	2,369	4,167	6,532
Pittsylvania	16,015	7,738	322	5,920	50,080	21,354	1,265	20,715
Powhatan	3,958	1,965	--	598	8,598	1,177	--	2,312
Prince Edward	6,841	1,939	--	1,350	17,282	4,526	--	3,755
Prince George	7,568	2,812	--	2,068	28,248	12,448	--	7,737
Prince William	2,902	--	--	104	8,028	--	--	438
Pulaski	--	--	--	--	--	--	--	--
Rappahannock	1,550	--	93	474	7,545	--	--	3,101
Richmond	2,598	581	--	141	11,609	2,336	--	856
Roanoke	993	--	--	993	4,793	--	--	4,793
Rockbridge	4,053	--	243	651	14,510	--	1,453	3,427
Rockingham	2,387	115	145	329	7,455	450	751	1,931
Russell	1,169	--	--	452	4,136	--	--	2,106
Scott	908	--	--	235	2,042	--	--	1,397
Shenandoah	120	120	--	--	518	--	--	--
Smyth	4,662	552	--	542	14,292	2,696	--	11,596
Southampton	20,638	7,554	1,989	3,930	85,703	36,480	9,961	24,956
Spotsylvania	5,844	2,831	--	984	17,552	7,717	--	2,528
Stafford	2,153	884	--	738	8,565	2,223	--	3,416
Suffolk	10,401	3,895	--	2,700	39,442	15,856	--	11,670
Surry	7,611	4,446	--	2,095	29,372	19,108	--	4,815
Sussex	16,364	8,765	--	2,246	61,679	39,168	--	5,603
Tazewell	1,564	--	--	726	7,148	--	--	3,985
Virginia Beach	2,757	601	--	1,881	9,470	3,354	--	6,116
Warren	1,392	132	--	1,260	2,802	--	--	--
Washington	3,629	--	90	803	14,860	--	--	3,553
Westmoreland	1,672	488	--	565	4,954	881	--	2,346
Wise	1,490	--	--	132	5,551	--	--	--
Wythe	3,035	--	--	257	11,116	--	--	1,459
York	1,294	1,136	--	158	5,934	5,416	--	518
Total	479,847	196,809	9,527	100,339	1,654,188	679,176	40,351	362,045
	479,847	196,809	9,527	100,339	1,654,188	679,176	40,351	362,045
	572,616							

Unit Tables

Table 10.--Area of timberland, by forest type and ownership class, Virginia, 1986

Forest type	All ownerships	Ownership class				
		National Forest	Other public	Forest industry	Forest industry- leased	Other private
----- Acres -----						
Softwood types:						
White pine-hemlock	183,257	24,814	2,690	10,095	--	145,658
Spruce-fir	--	--	--	--	--	--
Longleaf pine	--	--	--	--	--	--
Slash pine	--	--	--	--	--	--
Loblolly pine	1,772,630	--	63,434	786,392	9,751	913,053
Shortleaf pine	146,573	--	5,801	6,987	--	133,785
Virginia pine	1,029,744	16,876	69,220	108,498	--	835,150
Sand pine	--	--	--	--	--	--
Eastern redcedar	91,754	--	4,098	--	--	87,656
Pond pine	4,940	--	--	--	--	4,940
Spruce pine	--	--	--	--	--	--
Pitch pine	68,495	34,268	--	--	--	34,227
Table Mountain pine	58,258	38,322	--	2,058	--	17,878
Total	3,355,651	114,280	145,243	914,030	9,751	2,172,347
Hardwood types:						
Oak-pine	1,689,191	135,822	46,804	235,195	--	1,271,370
Oak-hickory	9,230,215	1,082,432	274,375	573,640	8,863	7,290,905
Chestnut oak	454,071	142,395	30,467	29,263	--	251,946
Southern scrub oak	4,766	--	--	--	--	4,766
Oak-gum-cypress	310,705	--	3,752	32,419	--	274,534
Elm-ash-cottonwood	307,829	--	6,960	49,264	824	250,781
Maple-beech-birch	83,408	11,530	--	--	--	71,878
Total	12,080,185	1,372,179	362,358	919,781	9,687	9,416,180
All types	15,435,836	1,486,459	507,601	1,833,811	19,438	11,588,527

Table 11.--Area of timberland, by ownership and stocking classes of growing-stock trees, Virginia, 1986

Ownership class	All classes	Stocking class (percent) ^a				
		> 130	100-130	60-99	16.7-59	< 16.7
----- Acres -----						
National Forest	1,486,459	49,943	327,295	785,995	314,966	8,260
Other public	507,601	39,953	184,904	220,340	58,174	4,230
Forest industry	1,833,811	148,433	870,267	664,492	121,637	28,982
Forest industry-leased	19,438	4,035	14,035	30	1,338	--
Other private	11,588,527	447,761	3,650,925	5,573,819	1,759,688	156,334
All ownerships	15,435,836	690,125	5,047,426	7,244,676	2,255,803	197,806

^aSee stocking standards on page 16.

Table 12.--Area of timberland, by forest type and stand-size class, Virginia, 1986

Forest type	All stands	Stand-size class			Nonstocked areas
		Sawtimber	Poletimber	Sapling- seedling	
----- Acres -----					
Softwood types:					
White pine-hemlock	183,257	117,536	33,457	32,264	--
Spruce-fir	--	--	--	--	--
Longleaf pine	--	--	--	--	--
Slash pine	--	--	--	--	--
Loblolly pine	1,772,630	466,225	674,955	612,504	18,946
Shortleaf pine	146,573	78,437	51,407	16,729	--
Virginia pine	1,029,744	317,831	503,883	199,314	8,716
Sand pine	--	--	--	--	--
Eastern redcedar	91,754	5,248	8,363	78,143	--
Pond pine	4,940	4,940	--	--	--
Spruce pine	--	--	--	--	--
Pitch pine	68,495	40,007	25,482	3,006	--
Table Mountain pine	58,258	29,958	28,300	--	--
Total	3,355,651	1,060,182	1,325,847	941,960	27,662
Hardwood types:					
Oak-pine	1,689,191	727,433	507,276	447,002	7,480
Oak-hickory	9,230,215	4,822,641	2,972,594	1,321,769	113,211
Chestnut oak	454,071	292,919	131,767	16,807	12,578
Southern scrub oak	4,766	--	--	--	4,766
Oak-gum-cypress	310,705	174,147	74,123	47,990	14,445
Elm-ash-cottonwood	307,829	178,449	81,180	30,536	17,664
Maple-beech-birch	83,408	73,581	9,827	--	--
Total	12,080,185	6,269,170	3,776,767	1,864,104	170,144
All types	15,435,836	7,329,352	5,102,614	2,806,064	197,806

Table 13.--Area of timberland, by stand-age and broad management classes, all ownerships, Virginia, 1986

Stand-age class (years)	All classes	Broad management class				
		Pine plantation	Natural pine	Oak-pine	Upland hardwood	Lowland hardwood
----- Acres -----						
00-10	1,567,659	444,010	142,687	312,933	630,446	37,583
11-20	1,491,892	463,207	313,612	188,969	508,318	17,786
21-30	1,070,408	219,480	295,623	120,360	403,656	31,289
31-40	1,281,086	41,108	408,608	143,618	649,505	38,247
41-50	1,730,520	100	401,714	167,091	1,078,265	83,350
51-60	2,029,154	--	266,249	178,405	1,527,462	57,038
61-70	1,653,187	--	139,589	174,829	1,265,545	73,224
71-80	1,077,748	--	63,057	91,095	890,497	33,099
81+	1,320,763	--	41,511	103,351	1,134,708	41,193
No manageable stand	2,213,419	2,148	112,948	208,540	1,684,058	205,725
All classes	15,435,836	1,170,053	2,185,598	1,689,191	9,772,460	618,534

Table 14.--Area of timberland, by stand-age and broad management classes, public ownerships, Virginia, 1986

Stand-age class (years)	All classes	Broad management class				
		Pine plantation	Natural pine	Oak-pine	Upland hardwood	Lowland hardwood
<div>----- Acres -----</div>						
00-10	82,202	18,535	3,376	7,475	52,816	--
11-20	133,180	1,372	20,577	31,346	79,459	426
21-30	38,251	4,977	15,404	200	17,670	--
31-40	108,740	1,206	54,529	4,740	47,805	460
41-50	150,405	100	25,111	10,176	114,993	25
51-60	250,491	--	35,805	10,342	204,344	--
61-70	291,153	--	36,325	34,339	216,346	4,143
71-80	255,362	--	21,559	17,313	216,267	223
81+	383,283	--	12,400	29,915	337,865	3,103
No manageable stand	300,993	--	8,247	36,780	253,634	2,332
All classes	1,994,060	26,190	233,333	182,626	1,541,199	10,712

Table 15.--Area of timberland, by stand-age and broad management classes, forest industry,^a Virginia, 1986

Stand-age class (years)	All classes	Broad management class				
		Pine plantation	Natural pine	Oak-pine	Upland hardwood	Lowland hardwood

^aIncludes 19,438 acres of other private land under long-term lease.

Table 16.--Area of timberland, by stand-age and broad management classes, other private ownerships,^a Virginia, 1986

Stand-age class (years)	All classes	Broad management class				
		Pine plantation	Natural pine	Oak-pine	Upland hardwood	Lowland hardwood
<hr/>						
<div>----- Acres -----</div>						
00-10	1,051,995	198,098	117,227	213,758	496,983	25,929
11-20	991,582	195,704	262,502	128,799	393,896	10,681
21-30	793,813	87,303	221,198	110,974	345,632	28,706
31-40	1,052,719	27,798	313,553	123,883	552,873	34,612
41-50	1,468,135	--	330,816	146,853	926,008	64,458
51-60	1,651,643	--	204,733	141,527	1,258,640	46,743
61-70	1,236,312	--	68,517	117,870	980,844	69,081
71-80	736,404	--	27,932	65,825	614,955	27,692
81+	854,108	--	29,111	66,469	732,014	26,514
No manageable stand	1,751,816	--	87,855	155,412	1,317,650	190,899
<hr/>						
All classes	11,588,527	508,903	1,663,444	1,271,370	7,619,495	525,315

^aExcludes 19,438 acres of other private land under long-term lease to forest industry.

Table 17.--Area of timberland, by broad management and stand-volume classes, Virginia, 1986

Broad management class	All classes	Stand-volume class (cubic feet of growing stock per acre)				
		0-499	500-999	1000-1499	1500-1999	2000+
		----- Acres -----				
Pine plantation	1,170,053	613,649	182,013	128,488	102,586	143,317
Natural pine	2,185,598	390,377	276,108	280,663	321,209	917,241
Oak-pine	1,689,191	465,100	311,573	278,405	221,337	412,776
Upland hardwood	9,772,460	1,667,564	1,392,613	1,825,627	1,971,298	2,915,358
Lowland hardwood	618,534	129,704	87,751	105,682	76,169	219,228
All classes	15,435,836	3,266,394	2,250,058	2,618,865	2,692,599	4,607,920

Table 18.--Volume of growing stock on timberland, by broad management class, species group, and stand-age class, Virginia, 1986

Broad management class and species group	All	No manageable stand	Stand-age class (years)									
			0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81+	
Pine plantation:												
Softwood	850,918	--	9,630	359,359	371,622	110,307	--	--	--	--	--	
Hardwood	72,600	--	4,993	21,160	35,806	10,641	--	--	--	--	--	
Total	923,518	--	14,623	380,519	407,428	120,948	--	--	--	--	--	
Natural pine:												
Softwood	3,264,912	20,038	6,604	172,260	379,500	815,073	870,759	560,909	256,002	106,854	76,913	
Hardwood	610,703	13,256	2,881	30,064	64,398	103,775	154,813	111,470	68,907	28,960	32,179	
Total	3,875,615	33,294	9,485	202,324	443,898	918,848	1,025,572	672,379	324,909	135,814	109,092	
Oak-pine:												
Softwood	959,640	67,654	21,973	59,112	67,456	112,747	143,899	162,692	141,877	89,211	93,019	
Hardwood	1,185,438	51,426	31,515	64,736	75,125	124,652	182,464	214,281	180,925	130,053	130,261	
Total	2,145,078	119,080	53,488	123,848	142,581	237,399	326,363	376,973	322,802	219,264	223,280	
Upland hardwood:												
Softwood	746,438	75,786	16,160	32,456	37,178	64,885	83,489	134,061	126,324	82,013	94,086	
Hardwood	14,159,708	967,555	121,671	245,769	366,908	877,841	1,956,739	2,971,184	2,477,517	1,798,048	2,376,476	
Total	14,906,146	1,043,341	137,831	278,225	404,086	942,726	2,040,228	3,105,245	2,603,841	1,880,061	2,470,562	
Lowland hardwood:												
Softwood	75,793	7,096	2,228	674	4,914	4,329	6,560	9,410	16,383	2,453	21,746	
Hardwood	1,026,670	131,440	14,264	11,660	44,699	59,461	198,188	154,674	180,059	103,323	128,902	
Total	1,102,463	138,536	16,492	12,334	49,613	63,790	204,748	164,084	196,442	105,776	150,648	
All types:												
Softwood	5,897,701	170,574	56,595	623,861	860,670	1,107,341	1,104,707	867,072	540,586	280,531	285,764	
Hardwood	17,055,119	1,163,677	175,324	373,389	586,936	1,176,370	2,492,204	3,451,609	2,907,408	2,060,384	2,667,818	
Total	22,952,820	1,334,251	231,919	997,250	1,447,606	2,283,711	3,596,911	4,318,681	3,447,994	2,340,915	2,953,582	

-- Thousand cubic feet

Table 19.--Net annual growth of growing stock on timberland, by broad management class, species group, and stand-age class, Virginia, 1985

Broad management class ^a and species group	All classes	No manageable stand	Stand-age class ^a (years)								
			0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81+
----- Thousand cubic feet -----											
Pine plantation:											
Softwood	71,100	--	3,584	41,180	21,868	4,468	--	--	--	--	--
Hardwood	6,431	--	165	2,063	3,706	497	--	--	--	--	--
Total	77,531	--	3,749	43,243	25,574	4,965	--	--	--	--	--
Natural pine:											
Softwood	106,397	650	688	12,931	19,857	27,709	22,760	13,383	5,195	1,860	1,364
Hardwood	30,553	397	129	1,720	3,979	6,322	7,611	5,594	2,701	1,064	1,036
Total	136,950	1,047	817	14,651	23,836	34,031	30,371	18,977	7,896	2,924	2,400
Oak-pine:											
Softwood	29,047	1,669	1,034	4,901	3,062	3,843	3,575	3,392	3,519	2,164	1,888
Hardwood	45,118	1,685	1,579	3,526	4,221	6,178	7,629	8,019	5,657	3,476	3,148
Total	74,165	3,354	2,613	8,427	7,283	10,021	11,204	11,411	9,176	5,640	5,036
Upland hardwood:											
Softwood	20,601	1,720	693	1,991	1,421	2,530	1,954	3,469	2,692	1,984	2,147
Hardwood	460,467	32,257	5,691	15,302	18,965	39,429	73,999	97,706	74,368	47,604	55,146
Total	481,068	33,977	6,384	17,293	20,386	41,959	75,953	101,175	77,060	49,588	57,293
Lowland hardwood:											
Softwood	1,881	208	83	20	153	112	206	228	323	57	491
Hardwood	30,049	4,026	447	733	1,982	2,877	6,398	4,333	4,300	2,314	2,639
Total	31,930	4,234	530	753	2,135	2,989	6,604	4,561	4,623	2,371	3,130
All types:											
Softwood	229,026	4,247	6,082	61,023	46,361	38,662	28,495	20,472	11,729	6,065	5,890
Hardwood	572,618	38,365	8,011	23,344	32,853	55,303	95,637	115,652	87,026	54,458	61,969
Total	801,644	42,612	14,093	84,367	79,214	93,965	124,132	136,124	98,755	60,523	67,859

^aClassifications at the end of the remeasurement period.

Table 20.--Annual removals of growing stock on timberland, by broad management class, species group, and stand-age class, Virginia, 1985

Broad management class ^a and species group	All classes	No manageable stand	Stand-age class ^a (years)									
			0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81+	
Pine plantation:												
Softwood	11,124	315	218	6,090	4,501	--	--	--	--	--	--	
Hardwood	516	242	94	--	180	--	--	--	--	--	--	
Total	11,640	557	312	6,090	4,681	--	--	--	--	--	--	
Natural pine:												
Softwood	148,693	1,391	2,073	5,775	22,316	37,427	33,847	21,429	17,172	5,594	1,669	
Hardwood	24,668	763	737	523	1,918	4,929	3,876	4,676	3,586	2,394	1,266	
Total	173,361	2,154	2,810	6,298	24,234	42,356	37,723	26,105	20,758	7,988	2,935	
Oak-pine:												
Softwood	23,633	589	--	2,089	2,552	2,721	6,202	6,570	1,221	798	891	
Hardwood	23,784	692	104	1,043	3,608	2,803	4,580	6,569	1,663	1,316	1,406	
Total	47,417	1,281	104	3,132	6,160	5,524	10,782	13,139	2,884	2,114	2,297	
Upland hardwood:												
Softwood	17,642	1,687	267	1,192	671	2,420	3,899	2,704	3,239	340	1,223	
Hardwood	198,792	14,042	3,160	1,686	5,544	14,597	36,713	45,051	28,931	19,291	29,777	
Total	216,434	15,729	3,427	2,878	6,215	17,017	40,612	47,755	32,170	19,631	31,000	
Lowland hardwood:												
Softwood	5,244	560	262	--	--	587	730	1,407	145	1,058	495	
Hardwood	25,751	2,114	163	--	968	1,619	6,873	7,380	646	5,161	827	
Total	30,995	2,674	425	--	968	2,206	7,603	8,787	791	6,219	1,322	
All types:												
Softwood	206,336	4,542	2,820	15,146	30,040	43,155	44,678	32,110	21,777	7,790	4,278	
Hardwood	273,511	17,853	4,258	3,252	12,218	23,948	52,042	63,676	34,826	28,162	33,276	
Total	479,847	22,395	7,078	18,398	42,258	67,103	96,720	95,786	56,603	35,952	37,554	

^aClassification before timber removals occurred.

Table 22.--Area of timberland treated or disturbed annually and retained in timberland, by treatment or disturbance and ownership class, Virginia, 1977 to 1986

Treatment or disturbance	All ownerships	Ownership class			
		Public	Forest industry	Forest industry- leased	Other private
		----- Acres ^a -----			
Final harvest	183,140	6,801	45,126	3	131,210
Selective cutting and high grading	33,689	1,914	2,583	--	29,192
Commercial thinning	14,560	1,349	3,662	591	8,958
Other stand improvement	8,144	3,136	1,456	--	3,552
Site preparation	71,668	2,593	36,640	--	32,435
Artificial regeneration ^b	73,603	2,839	34,784	--	35,980
Natural regeneration ^b	98,900	6,519	11,498	3	80,880
Other treatment	29,842	2,402	868	--	26,572
Natural disturbance	144,393	26,942	17,703	--	99,748

^aSince some acres experience more than one treatment or disturbance, there are no column totals.

^bIncludes establishment of trees for timber production on forest and nonforest land.

Table 23.--Area of timberland treated or disturbed annually and retained in timberland, by treatment or disturbance and broad management class, Virginia, 1977 to 1986

Treatment or disturbance	All classes	Broad management class ^a				
		Pine plantation	Natural pine	Oak- pine	Upland hardwood	Lowland hardwood
		----- Acres ^b -----				
Final harvest	183,140	1,503	60,238	24,760	86,354	10,285
Selective cutting and high grading	33,689	--	3,528	3,487	26,395	279
Commercial thinning	14,560	5,088	5,033	634	3,510	295
Other stand improvement	8,144	1,290	1,044	893	4,917	--
Site preparation	71,668	2,299	26,959	13,056	27,671	1,683
Other treatment	29,842	261	3,578	4,596	20,002	1,405
Natural disturbance	144,393	3,435	33,756	14,502	83,108	9,592

^aClassification before treatment or disturbance.

^bSince some acres experience more than one treatment or disturbance, there are no column totals.

Table 24.--Area of timberland regenerated annually, by type of regeneration and broad management class, Virginia, 1977 to 1986

Type of regeneration	All classes	Broad management class ^a				
		Pine plantation	Natural pine	Oak- pine	Upland hardwood	Lowland hardwood
		<u>Acres</u>				
Artificial regeneration following harvest	56,283	36,504	--	14,128	4,964	687
Natural regeneration following harvest	66,229	--	5,458	11,861	47,140	1,770
Other artificial regen- eration on forest land	14,934	9,305	--	3,784	1,535	310
Other natural regen- eration on forest land	10,426	--	2,126	701	7,341	258
Artificial regeneration on nonforest land	2,386	2,386	--	--	--	--
Natural reversion of nonforest land	22,245	560	9,205	2,100	9,979	401
Total	172,503	48,755	16,789	32,574	70,959	3,426

^aClassification after regeneration.

Table 25.--Area of timberland, by treatment opportunity and broad management classes, Virginia, 1986

Treatment opportunity class	All classes	Broad management class				
		Pine plantation	Natural pine	Oak-pine	Upland hardwood	Lowland hardwood
				Acres		
Salvage	106,331	--	24,097	8,348	73,886	--
Harvest	1,553,816	--	149,097	162,571	1,158,702	83,446
Commercial thinning	567,761	284,580	228,800	7,656	39,237	7,488
Other stand improvement	1,185,401	98,607	200,646	203,347	650,347	32,454
Stand conversion	152,223	--	6,470	12,228	133,525	--
Regeneration	1,517,114	2,148	93,855	126,199	1,136,653	158,259
Stands in relatively good condition	7,433,264	779,984	1,352,740	949,769	4,129,060	221,711
Adverse sites ^a	2,919,926	4,734	129,893	219,073	2,451,050	115,176
All classes	15,435,836	1,170,053	2,185,598	1,689,191	9,772,460	618,534

^a Areas where management opportunities are severely limited because of steep slopes or poor drainage.

Table 26.--Area of timberland, by treatment opportunity and ownership classes, Virginia, 1986

Treatment opportunity class	All ownerships	Ownership class			
		Public	Forest industry	Forest industry-leased	Other private
----- Acres -----					
Salvage	106,331	20,479	2,724	--	83,128
Harvest	1,553,816	318,138	147,636	824	1,087,218
Commercial thinning	567,761	30,314	217,998	4,196	315,253
Other stand improvement	1,185,401	88,070	146,807	--	950,524
Stand conversion	152,223	1,825	37,985	--	112,413
Regeneration	1,517,114	89,098	128,477	1,338	1,298,201
Stands in relatively good condition	7,433,264	800,492	1,028,591	13,080	5,591,101
Adverse sites ^a	2,919,926	645,644	123,593	--	2,150,689
All classes	15,435,836	1,994,060	1,833,811	19,438	11,588,527

^a Areas where management opportunities are severely limited because of steep slopes or poor drainage.

Table 27.--Merchantable volume of live trees and growing stock on timberland, by ownership class and species group, Virginia, 1986

Ownership class	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	2,573,298	220,802	98,365	334,723	1,919,408	2,186,090	212,560	96,405	293,047	1,584,078
Other public	1,143,874	308,552	26,031	310,310	498,981	1,018,787	301,470	25,666	274,026	417,625
Forest industry	2,281,499	1,054,362	38,819	491,288	697,030	2,169,797	1,049,587	38,819	462,493	618,898
Forest industry-leased	31,124	15,250	--	10,316	5,558	30,477	15,250	--	9,669	5,558
Other private	19,308,255	3,558,869	670,876	5,455,795	9,622,715	17,547,669	3,504,069	653,875	4,920,326	8,469,399
All ownerships	25,338,050	5,157,835	834,091	6,602,432	12,743,692	22,952,820	5,082,936	814,765	5,959,561	11,095,558

Table 28.--Volume of sawtimber on timberland, by ownership class and species group, Virginia, 1986

Ownership class	Small sawtimber ^a					Large sawtimber ^b				
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
						Thousand board feet				
National Forest	2,494,215	537,257	169,264	339,806	1,447,888	3,744,765	186,916	182,419	481,793	2,893,637
Other public	1,274,118	563,684	49,616	309,761	351,057	1,889,073	388,799	56,678	557,524	886,072
Forest industry	2,958,190	1,645,074	35,845	608,856	668,415	2,656,655	778,265	113,515	755,300	1,009,575
Forest industry-leased	18,709	7,767	--	7,209	3,733	4,728	--	--	2,268	2,460
Other private	23,183,633	7,451,755	983,819	5,683,692	9,064,367	28,812,312	2,689,412	1,645,698	8,869,474	15,607,728
All ownerships	29,928,865	10,205,537	1,238,544	6,949,324	11,535,460	37,107,533	4,043,392	1,998,310	10,666,359	20,399,472

^aVolume of sawtimber trees less than 15.0 inches at d.b.h.

^bVolume of sawtimber trees 15.0 inches and larger at d.b.h.

Table 29.--Net annual growth and removals of growing stock on timberland, by ownership class and species group, Virginia 1985

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	59,549	2,659	3,495	12,371	41,024	6,362	877	231	786	4,468
Other public	33,161	9,052	961	10,132	13,016	15,007	6,035	--	3,503	5,469
Forest industry	106,634	62,243	1,505	20,315	22,571	106,697	58,673	532	16,632	30,860
Forest industry-leased	1,515	844	--	411	260	518	518	--	--	--
Other private	600,785	123,981	24,286	200,321	252,197	351,263	130,706	8,764	79,418	132,375
All ownerships	801,644	198,779	30,247	243,550	329,068	479,847	196,809	9,527	100,339	173,172

Table 30.--Net annual growth and removals of sawtimber on timberland, by ownership class and species group, Virginia, 1985

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	222,501	11,970	13,618	37,197	159,716	19,190	3,820	558	2,872	11,940
Other public	138,381	38,419	5,679	42,553	51,730	53,997	22,482	--	12,068	19,447
Forest industry	289,627	143,875	5,647	63,895	76,210	359,578	207,375	2,101	55,100	95,002
Forest industry-leased	6,257	3,771	--	1,896	590	546	546	--	--	--
Other private	2,460,102	470,538	118,074	823,009	1,048,481	1,220,877	444,953	37,692	292,005	446,227
All ownerships	3,116,868	668,573	143,018	968,550	1,336,727	1,654,188	679,176	40,351	362,045	572,616

Table 31.--Volume of timber on timberland, by class of timber and species group, Virginia, 1986

Class of timber	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
- - - - - Thousand cubic feet - - - - -					
Sawtimber trees:					
Saw-log portion	11,407,147	2,612,211	575,365	2,970,541	5,249,030
Upper-stem portion ^a	3,667,592	522,501	61,045	898,254	2,185,792
Total	15,074,739	3,134,712	636,410	3,868,795	7,434,822
Poletimber trees	7,878,081	1,948,224	178,355	2,090,766	3,660,736
All growing-stock trees	22,952,820	5,082,936	814,765	5,959,561	11,095,558
Rough trees:					
Sawtimber size	951,118	36,121	10,294	243,399	661,304
Poletimber size	1,136,770	36,599	6,537	295,871	797,763
Total	2,087,888	72,720	16,831	539,270	1,459,067
Rotten trees:					
Sawtimber size	270,160	1,904	2,495	90,753	175,008
Poletimber size	27,182	275	--	12,848	14,059
Total	297,342	2,179	2,495	103,601	189,067
Salvable dead trees:					
Sawtimber size	44,475	17,891	758	4,488	21,338
Poletimber size	41,198	17,954	781	5,262	17,201
Total	85,673	35,845	1,539	9,750	38,539
Total, all timber	25,423,723	5,193,680	835,630	6,612,182	12,782,231

^aIncludes cull sections in the saw-log portion.

Table 32.--Number of live trees on timberland, by species and diameter class, Virginia, 1986

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 and larger
----- Thousand trees -----													
Softwood:													
Longleaf pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Slash pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Shortleaf pine	112,541	29,659	26,294	20,337	17,119	10,876	5,230	1,957	771	187	96	15	--
Loblolly pine	775,448	247,744	211,616	155,994	85,522	35,261	17,800	11,170	5,692	2,807	1,175	660	7
Pond pine	766	--	--	74	169	253	99	59	37	44	21	7	3
Virginia pine	697,334	282,427	168,738	115,250	71,448	38,065	15,488	4,455	1,186	222	27	28	--
Pitch pine	38,268	12,420	4,106	5,096	5,581	4,538	3,711	1,565	826	335	68	22	--
Table Mountain pine	28,605	8,424	4,522	5,460	4,839	2,904	1,326	825	247	42	16	--	--
Spruce pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Sand pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Eastern white pine	156,212	81,577	27,088	16,016	11,522	7,162	4,107	3,377	2,385	1,619	689	648	22
Eastern hemlock	51,499	25,930	10,506	6,397	3,287	2,423	928	691	530	284	188	243	92
Spruce and fir	1,227	968	--	--	101	50	80	28	--	--	--	--	--
Baldcypress	1,024	--	170	--	109	68	202	132	103	66	40	87	47
Pondcypress	181	--	--	--	--	--	26	58	16	12	11	43	15
Cedars	228,882	161,038	45,029	16,470	4,002	1,656	404	190	93	--	--	--	--
Total softwoods	2,091,987	850,187	498,069	341,094	203,699	103,256	49,401	24,507	11,886	5,618	2,331	1,753	186
Hardwood:													
Select white oaks	600,098	267,945	120,285	73,414	48,551	33,913	21,823	14,290	9,164	4,810	2,622	2,975	306
Select red oaks	208,049	93,004	40,533	20,066	14,817	10,696	8,433	6,776	5,268	3,066	1,908	3,055	427
Chestnut oak	418,456	106,151	88,855	71,804	59,156	34,030	22,311	13,693	9,238	5,655	3,103	3,978	482
Other white oaks	49,144	27,092	8,380	5,114	3,787	2,238	1,096	665	466	129	82	70	25
Other red oaks	661,496	324,202	116,943	71,924	54,532	36,799	22,101	15,053	9,266	5,210	2,698	2,603	165
Hickory	528,004	318,265	93,557	43,722	28,621	18,818	11,303	6,719	3,352	1,966	903	732	46
Yellow birch	2,629	861	287	764	236	229	76	28	52	33	34	29	--
Hard maple	123,897	76,495	24,067	10,521	4,840	3,471	1,775	1,128	712	354	213	263	58
Soft maple	1,569,142	1,142,585	235,214	91,556	46,188	22,615	14,917	7,423	3,868	2,169	1,253	1,210	144
Beech	174,550	115,073	25,454	10,048	6,831	5,199	3,362	2,917	1,977	1,471	907	1,196	115
Sweetgum	770,015	529,464	135,390	52,068	22,203	14,878	7,800	4,260	1,980	826	538	569	39
Tupelo and blackgum	681,599	538,672	81,323	27,406	13,721	8,695	5,265	2,925	1,753	956	285	529	69
Ash	165,573	96,564	33,562	15,350	8,645	4,455	3,037	1,935	929	478	339	242	37
Cottonwood	484	160	--	--	--	208	88	--	15	--	--	13	--
Basswood	24,573	10,364	4,114	2,030	2,982	1,392	1,339	887	714	273	227	222	29
Yellow-poplar	600,472	301,101	110,550	57,663	37,260	28,532	23,645	17,688	11,453	6,501	3,035	2,843	201
Bay and magnolia	45,520	31,760	7,452	3,062	1,068	1,573	263	223	69	--	15	35	--
Black cherry	133,032	97,148	23,842	6,199	2,629	1,316	1,062	387	225	61	62	87	14
Black walnut	25,094	6,990	7,894	1,903	2,760	2,105	1,271	1,157	346	314	197	139	18
Sycamore	20,225	8,218	3,956	2,184	1,409	1,008	968	888	574	442	174	356	48
Black locust	123,678	56,037	25,018	14,791	9,594	9,445	4,426	2,427	1,019	526	167	200	28
Elm	95,333	60,677	19,146	8,069	3,144	2,176	1,000	425	389	191	52	62	2
Other eastern hardwoods	2,554,307	1,992,264	387,313	107,182	36,732	16,185	7,331	3,237	2,064	957	496	505	41
Total hardwoods	9,575,370	6,201,092	1,593,135	696,840	409,706	259,976	164,692	105,131	64,893	36,388	19,310	21,913	2,294
All species	11,667,357	7,051,279	2,091,204	1,037,934	613,405	363,232	214,093	129,638	76,779	42,006	21,641	23,666	2,480

Table 33.--Number of growing-stock trees on timberland, by species and diameter class, Virginia, 1986

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 and larger
----- Thousand trees -----													
Softwood:													
Longleaf pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Slash pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Shortleaf pine	104,605	23,465	25,215	19,984	16,979	10,706	5,230	1,957	771	187	96	15	--
Loblolly pine	751,828	230,488	207,197	154,845	85,032	35,076	17,750	11,123	5,678	2,807	1,165	660	7
Pond pine	728	--	--	74	169	253	81	39	37	44	21	7	3
Virginia pine	628,407	236,741	154,909	109,060	69,811	37,075	15,174	4,282	1,088	222	27	18	--
Pitch pine	30,593	6,782	3,811	4,523	4,981	4,292	3,548	1,445	826	295	68	22	--
Table Mountain pine	23,087	5,333	3,354	5,460	3,897	2,658	1,326	754	247	42	16	--	--
Spruce pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Sand pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Eastern white pine	142,129	71,609	24,498	15,312	11,355	6,767	4,065	3,285	2,340	1,580	678	618	22
Eastern hemlock	47,112	23,042	9,342	6,397	3,085	2,351	879	691	530	284	188	231	92
Spruce and fir	1,227	968	--	--	101	50	80	28	--	--	--	--	--
Baldcypress	1,020	--	170	--	109	68	202	132	103	66	40	87	43
Pondcypress	181	--	--	--	--	--	26	58	16	12	11	43	15
Cedars	185,296	126,564	38,004	14,819	3,711	1,570	365	170	93	--	--	--	--
Total softwoods	1,916,213	724,992	466,500	330,474	199,230	100,866	48,726	23,964	11,729	5,539	2,310	1,701	182
Hardwood:													
Select white oaks	479,647	178,362	102,290	68,768	45,031	31,815	20,958	13,779	8,931	4,531	2,426	2,561	195
Select red oaks	155,261	59,891	29,951	15,650	12,917	9,985	7,890	6,297	4,999	2,930	1,766	2,666	319
Chestnut oak	284,014	55,328	53,414	54,874	47,193	27,984	17,598	10,679	7,361	4,391	2,125	2,829	238
Other white oaks	36,863	17,555	6,600	4,535	3,681	2,194	1,017	571	429	129	82	54	16
Other red oaks	528,653	230,147	95,921	63,142	50,244	34,702	20,836	14,644	8,972	5,069	2,532	2,334	110
Hickory	361,955	176,709	77,688	39,361	26,894	17,593	10,709	6,427	3,188	1,874	813	653	46
Yellow birch	1,058	--	287	408	83	109	39	--	52	33	18	29	--
Hard maple	75,815	36,520	19,720	8,673	4,455	2,548	1,575	1,004	609	331	181	178	21
Soft maple	826,758	526,434	153,447	68,975	36,346	18,007	11,748	5,535	2,939	1,615	921	740	51
Beech	108,242	63,159	17,019	8,663	5,137	4,434	2,805	2,510	1,754	1,272	664	763	62
Sweetgum	582,829	373,510	112,412	47,099	20,539	14,117	7,407	4,093	1,886	775	492	480	19
Tupelo and blackgum	250,237	153,744	48,837	21,140	10,544	6,574	4,321	2,432	1,465	668	202	285	25
Ash	77,826	34,719	18,403	9,725	6,005	3,200	2,457	1,620	802	400	266	199	30
Cottonwood	484	160	--	--	--	208	88	--	15	--	--	13	--
Basswood	14,222	2,855	2,562	1,756	2,521	1,230	1,302	790	630	254	148	159	15
Yellow-poplar	517,445	243,063	95,551	53,284	34,307	27,345	23,189	17,343	11,258	6,343	2,935	2,683	144
Bay and magnolia	24,568	15,122	4,539	2,242	1,068	1,025	230	223	69	--	15	35	--
Black cherry	59,571	40,501	14,181	2,312	901	471	749	199	99	61	42	41	14
Black walnut	12,566	1,335	4,068	865	2,132	1,409	1,077	943	271	265	111	82	8
Sycamore	15,165	4,150	3,580	1,900	1,409	965	878	836	493	412	162	334	46
Black locust	57,086	22,401	11,179	7,155	4,851	5,836	2,895	1,702	556	384	48	79	--
Elm	45,544	22,874	11,669	5,458	2,280	1,491	810	395	272	179	52	62	2
Other eastern hardwoods	120,609	56,477	23,019	14,749	10,280	7,525	3,490	2,206	1,277	790	418	352	26
Total hardwoods	4,636,418	2,315,016	906,337	500,734	328,818	220,767	144,068	94,228	58,327	32,706	16,419	17,611	1,387
All species	6,552,631	3,040,008	1,372,837	831,208	528,048	321,633	192,794	118,192	70,056	38,245	18,729	19,312	1,569

Table 34.--Merchantable volume of live trees on timberland, by species and diameter class, Virginia, 1986

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	507,040	51,789	118,053	135,028	100,402	54,785	29,836	9,040	6,703	1,404	--
Loblolly pine	2,475,529	361,238	502,504	412,334	346,230	325,174	230,474	150,131	81,808	64,154	1,482
Pond pine	12,524	155	855	2,610	1,624	1,371	1,252	2,063	1,237	666	691
Virginia pine	1,801,887	357,341	507,372	468,997	290,410	120,463	43,591	10,071	1,598	2,044	--
Pitch pine	235,751	12,571	29,089	46,794	61,592	38,045	26,592	15,179	4,001	1,888	--
Table Mountain pine	125,104	15,881	28,250	30,027	22,424	18,905	7,498	1,528	591	--	--
Spruce pine	--	--	--	--	--	--	--	--	--	--	--
Sand pine	--	--	--	--	--	--	--	--	--	--	--
Eastern white pine	555,010	41,878	62,191	70,555	62,930	78,396	77,522	68,996	36,822	52,238	3,482
Eastern hemlock	153,410	10,982	15,004	20,044	12,513	15,452	17,242	13,153	10,531	21,849	16,640
Spruce and fir	3,146	--	517	659	1,249	721	--	--	--	--	--
Baldcypress	34,368	--	797	901	4,022	3,349	3,793	3,322	2,434	8,121	7,629
Pondcypress	8,755	--	--	--	525	1,602	603	617	603	3,514	1,291
Cedars	79,402	33,584	19,939	14,248	4,974	3,604	3,053	--	--	--	--
Total softwoods	5,991,926	885,419	1,284,571	1,202,197	908,895	661,867	441,456	274,100	146,328	155,878	31,215
Hardwood:											
Select white oaks	2,650,811	191,777	299,978	374,944	390,876	377,629	331,981	230,138	156,718	244,597	52,173
Select red oaks	1,361,548	60,760	90,215	117,640	146,897	169,371	186,342	145,035	113,365	260,392	71,531
Chestnut oak	2,450,437	174,803	330,407	335,641	343,334	296,447	278,189	217,762	146,453	269,261	58,140
Other white oaks	116,643	11,359	19,762	22,796	16,409	14,005	14,192	5,398	4,529	4,768	3,425
Other red oaks	2,591,045	190,910	318,254	390,626	371,660	374,971	318,919	235,377	155,181	212,057	23,090
Hickory	1,198,696	99,274	159,867	205,674	204,142	177,295	123,875	96,327	59,452	65,141	7,649
Yellow birch	14,590	2,044	1,611	2,335	1,270	687	1,569	1,380	1,338	2,356	--
Hard maple	236,330	29,191	30,098	36,415	30,500	27,531	25,355	16,698	11,907	20,438	8,197
Soft maple	1,531,395	253,130	270,246	233,804	240,429	167,490	118,818	85,128	63,829	80,856	17,665
Beech	534,073	28,207	37,197	53,463	55,731	71,896	66,687	66,541	49,609	89,299	15,443
Sweetgum	901,824	112,398	133,946	174,026	153,092	120,239	78,150	42,354	33,312	49,174	5,133
Tupelo and blackgum	518,304	62,210	73,434	86,752	85,632	67,628	56,402	36,413	12,804	30,792	6,237
Ash	336,486	37,952	49,930	48,264	52,848	48,407	31,743	21,257	18,169	20,929	6,987
Cottonwood	5,593	--	--	2,694	1,549	--	513	--	--	837	--
Basswood	162,054	5,472	18,913	16,378	23,902	23,369	26,248	13,609	12,699	16,506	4,958
Yellow-poplar	2,928,884	165,468	241,936	336,387	449,167	497,473	439,716	322,343	189,075	251,816	35,503
Bay and magnolia	47,027	8,141	7,528	14,808	5,056	4,806	2,075	--	1,171	3,442	--
Black cherry	84,636	14,369	13,562	12,149	17,954	8,620	5,971	2,591	2,905	5,333	1,182
Black walnut	132,325	3,994	14,915	19,656	21,209	27,493	10,241	14,372	10,105	8,472	1,868
Sycamore	158,596	8,606	10,035	12,614	18,406	22,247	19,990	19,756	9,929	28,460	8,553
Black locust	338,100	31,213	46,501	81,137	64,913	49,771	26,938	18,714	6,859	10,612	1,442
Elm	115,497	16,887	17,285	22,761	17,664	9,520	12,983	8,796	3,084	5,800	717
Other eastern hardwoods	931,230	237,301	182,765	157,228	108,773	73,178	63,272	39,771	26,198	36,487	6,257
Total hardwoods	19,346,124	1,745,466	2,368,385	2,758,192	2,821,413	2,630,073	2,240,169	1,639,760	1,088,691	1,717,825	336,150
All species	25,338,050	2,630,885	3,652,956	3,960,389	3,730,308	3,291,940	2,681,625	1,913,860	1,235,019	1,873,703	367,365

Table 35.--Volume of growing stock on timberland, by species and diameter class, Virginia, 1986

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	503,303	50,727	117,299	133,107	100,402	54,785	29,836	9,040	6,703	1,404	--
Loblolly pine	2,467,358	359,154	500,097	410,630	345,529	324,517	230,223	150,131	81,441	64,154	1,482
Pond pine	11,877	155	855	2,610	1,371	977	1,252	2,063	1,237	666	691
Virginia pine	1,759,465	344,322	498,162	460,350	286,005	116,452	41,016	10,071	1,598	1,489	--
Pitch pine	223,689	11,370	26,410	44,298	59,329	36,161	26,592	13,640	4,001	1,888	--
Table Mountain pine	117,244	15,881	23,792	27,779	22,424	17,751	7,498	1,528	591	--	--
Spruce pine	--	--	--	--	--	--	--	--	--	--	--
Sand pine	--	--	--	--	--	--	--	--	--	--	--
Eastern white pine	543,711	40,594	61,674	67,243	62,488	76,746	76,623	68,106	36,253	50,502	3,482
Eastern hemlock	151,265	10,982	14,218	19,947	12,203	15,452	17,242	13,153	10,531	20,897	16,640
Spruce and fir	3,146	--	517	659	1,249	721	--	--	--	--	--
Baldcypress	33,621	--	797	901	4,022	3,349	3,793	3,322	2,434	8,121	6,882
Pondcypress	8,755	--	--	--	525	1,602	603	617	603	3,514	1,291
Cedars	74,267	30,741	18,832	13,652	4,609	3,380	3,053	--	--	--	--
Total softwoods	5,897,701	863,926	1,262,653	1,181,176	900,156	651,893	437,731	271,671	145,392	152,635	30,468
Hardwood:											
Select white oaks	2,530,964	182,645	285,190	357,872	380,445	369,031	326,544	219,570	148,286	221,734	39,647
Select red oaks	1,268,046	50,155	81,881	111,175	139,982	160,129	178,668	140,562	108,479	238,976	58,039
Chestnut oak	2,005,991	140,072	274,397	287,212	285,111	244,452	235,334	179,793	113,812	210,314	35,494
Other white oaks	110,027	10,419	19,571	22,498	15,582	12,050	13,545	5,398	4,529	3,977	2,458
Other red oaks	2,477,548	170,653	300,141	373,895	356,478	368,040	310,427	231,939	148,723	199,254	17,998
Hickory	1,141,817	90,543	152,385	196,284	195,953	171,248	120,246	92,379	54,804	60,326	7,649
Yellow birch	9,825	1,231	616	1,214	660	--	1,569	1,380	799	2,356	--
Hard maple	204,115	25,079	27,914	29,238	28,242	24,874	22,044	15,846	10,346	16,898	3,634
Soft maple	1,224,015	198,260	220,544	193,639	196,306	131,720	98,070	69,472	51,280	56,083	8,641
Beech	449,870	24,101	29,944	47,336	48,613	61,514	61,078	60,251	40,078	66,163	10,792
Sweetgum	856,106	102,106	125,433	167,604	148,370	117,149	75,404	40,662	31,650	44,053	3,675
Tupelo and blackgum	422,139	49,282	58,768	69,265	72,369	59,564	49,829	29,235	9,927	20,386	3,514
Ash	274,874	25,651	37,608	37,579	44,639	42,127	28,656	19,192	15,444	17,513	6,465
Cottonwood	5,593	--	--	2,694	1,549	--	513	--	--	837	--
Basswood	143,620	4,782	16,613	14,349	23,414	21,876	23,837	13,201	9,285	13,077	3,186
Yellow-poplar	2,851,048	155,260	227,315	325,935	442,693	490,867	434,044	317,262	185,501	243,116	29,055
Bay and magnolia	40,159	6,218	7,528	10,430	4,489	4,806	2,075	--	1,171	3,442	--
Black cherry	45,043	5,949	4,455	4,633	12,831	4,861	3,067	2,591	2,227	3,247	1,182
Black walnut	102,402	1,746	12,132	14,350	18,524	21,555	8,383	12,259	6,649	5,618	1,186
Sycamore	148,893	7,634	10,035	12,271	16,763	21,003	17,706	18,576	9,726	27,101	8,078
Black locust	217,894	16,947	25,569	55,135	44,137	37,456	16,469	14,644	2,184	5,353	--
Elm	93,523	11,666	13,919	16,720	15,006	8,727	9,635	8,249	3,084	5,800	717
Other eastern hardwoods	431,607	42,189	62,516	83,112	57,868	53,156	42,032	33,807	23,520	28,435	4,972
Total hardwoods	17,055,119	1,322,588	1,994,474	2,434,440	2,550,024	2,426,205	2,079,175	1,526,268	981,504	1,494,059	246,382
All species	22,952,820	2,186,514	3,257,127	3,615,616	3,450,180	3,078,098	2,516,906	1,797,939	1,126,896	1,646,694	276,850

Table 36.--Volume of sawtimber on timberland, by species and diameter class, Virginia, 1986

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	1,497,142	493,584	452,360	280,791	166,143	53,346	41,534	9,384	--
Loblolly pine	7,812,602	1,451,111	1,550,801	1,663,334	1,293,410	900,312	513,582	429,262	10,790
Pond pine	56,765	9,783	6,137	5,023	7,013	11,999	7,528	4,321	4,961
Virginia pine	3,682,310	1,655,674	1,208,467	542,639	205,860	52,625	8,706	8,339	--
Pitch pine	840,153	147,465	254,442	178,004	144,014	79,385	24,614	12,229	--
Table Mountain pine	359,957	108,641	104,802	92,479	41,482	8,939	3,614	--	--
Spruce pine	--	--	--	--	--	--	--	--	--
Sand pine	--	--	--	--	--	--	--	--	--
Eastern white pine	2,248,822	241,079	275,304	380,681	409,656	386,705	213,896	317,563	23,938
Eastern hemlock	645,925	68,579	51,508	73,446	87,793	71,438	59,306	125,106	108,749
Spruce and fir	11,845	2,660	5,561	3,624	--	--	--	--	--
Baldcypress	172,106	2,713	15,413	14,583	18,005	17,009	13,047	47,116	44,220
Pondcypress	47,210	--	2,116	7,269	2,913	3,248	3,241	20,428	7,995
Cedars	110,946	54,945	21,407	17,656	16,938	--	--	--	--
Total softwoods	17,485,783	4,236,234	3,948,318	3,259,529	2,393,227	1,585,006	889,068	973,748	200,653
Hardwood:									
Select white oaks	7,428,067	--	1,290,102	1,469,065	1,441,668	1,044,469	746,236	1,196,540	239,987
Select red oaks	4,526,637	--	467,330	613,083	753,090	633,389	513,150	1,219,286	327,309
Chestnut oak	5,518,562	--	939,340	932,602	999,491	817,845	546,042	1,081,540	201,702
Other white oaks	256,373	--	55,582	50,288	62,386	27,078	23,793	21,847	15,399
Other red oaks	7,152,683	--	1,226,706	1,479,534	1,383,921	1,114,456	752,568	1,086,820	108,678
Hickory	3,024,787	--	673,989	693,717	542,676	450,504	282,393	334,547	46,961
Yellow birch	31,760	--	2,305	--	6,796	6,462	3,776	12,421	--
Hard maple	525,915	--	105,902	100,860	95,498	72,190	48,618	83,959	18,888
Soft maple	2,448,717	--	637,230	497,676	413,794	315,858	245,824	288,075	50,260
Beech	1,370,642	--	177,813	232,856	237,892	239,758	162,168	274,118	46,037
Sweetgum	2,072,928	--	531,178	499,156	362,632	214,301	176,096	264,650	24,915
Tupelo and blackgum	991,296	--	231,639	227,624	213,386	137,469	49,143	109,407	22,628
Ash	731,767	--	144,089	163,095	124,026	90,720	76,537	94,430	38,870
Cottonwood	12,137	--	5,230	--	2,261	--	--	4,646	--
Basswood	463,117	--	78,896	87,230	103,566	61,288	45,328	68,044	18,765
Yellow-poplar	10,305,407	--	1,579,760	2,134,560	2,125,614	1,697,988	1,057,083	1,507,379	203,023
Bay and magnolia	68,364	--	14,988	19,241	9,301	--	6,066	18,768	--
Black cherry	129,302	--	44,357	19,986	14,229	12,814	11,705	18,851	7,360
Black walnut	277,729	--	62,569	78,019	31,847	48,860	27,215	23,906	5,313
Sycamore	538,234	--	53,289	80,336	75,642	86,208	47,999	145,836	48,924
Black locust	441,182	--	155,300	137,281	62,084	56,482	8,572	21,463	--
Elm	211,965	--	51,213	33,432	41,249	37,631	14,798	29,525	4,117
Other eastern hardwoods	1,023,044	--	199,877	206,459	179,615	151,212	112,795	142,081	31,005
Total hardwoods	49,550,615	--	8,728,684	9,756,100	9,282,664	7,316,982	4,957,905	8,048,139	1,460,141
All species	67,036,398	4,236,234	12,677,002	13,015,629	11,675,891	8,901,988	5,846,973	9,021,887	1,660,794

Table 37.--Volume of sawtimber on timberland, by species, size class, and log grade, Virginia, 1986

Species	All size classes					Trees 15.0 inches d.b.h. and larger				
	All grades	Log grade				All grades	Log grade			
		1	2	3	4		1	2	3	4
----- Thousand board feet -----										
Softwood:										
Yellow pines ^a	14,248,929	3,445,153	1,958,318	8,845,458	(b)	4,043,392	1,352,498	583,932	2,106,962	(b)
Eastern white pine ^c	2,248,822	148,694	139,353	1,132,765	828,010	1,351,758	148,694	67,588	540,703	594,773
Cypress ^c	219,316	38,059	108,728	72,529	--	177,222	37,217	86,839	53,166	--
Spruce and fir ^c	11,845	--	119	7,225	4,501	--	--	--	--	--
Other eastern softwoods ^c	756,871	49,764	42,650	367,550	296,907	469,330	49,764	40,715	163,008	215,843
Total	17,485,783	3,681,670	2,249,168	10,425,527	1,129,418	6,041,702	1,588,173	779,074	2,863,839	810,616
Hardwood: ^d										
Select white and red oaks	11,954,704	2,175,466	2,852,297	4,686,911	2,240,030	8,115,124	2,175,466	2,226,264	2,663,971	1,049,423
Other white and red oaks	12,927,618	1,690,922	2,582,187	5,168,934	3,485,575	8,243,566	1,690,922	1,986,801	2,674,533	1,891,310
Hickory	3,024,787	330,249	550,641	1,266,404	877,493	1,657,081	330,249	381,856	592,130	352,846
Yellow birch	31,760	3,535	7,934	11,306	8,985	29,455	3,535	7,658	10,015	8,247
Hard maple	525,915	38,443	108,511	225,289	153,672	319,153	38,443	83,053	108,874	88,783
Sweetgum	2,072,928	316,557	470,536	1,046,677	239,158	1,042,594	316,557	257,781	361,584	106,672
Ash, walnut, and black cherry	1,138,798	220,331	264,321	548,660	105,486	626,683	214,766	159,787	180,722	71,408
Yellow-poplar	10,305,407	2,110,387	2,038,877	3,826,295	2,329,848	6,591,087	2,110,387	1,062,978	2,026,431	1,391,291
Other eastern hardwoods	7,568,698	820,870	1,738,666	3,358,340	1,650,822	4,441,088	820,870	1,240,131	1,483,670	896,417
Total	49,550,615	7,706,760	10,613,970	20,138,816	11,091,069	31,065,831	7,701,195	7,406,309	10,101,930	5,856,397
All species	67,036,398	11,388,430	12,863,138	30,564,343	12,220,487	37,107,533	9,289,368	8,185,383	12,965,769	6,667,013

^aBased on "Southern Pine Log Grades for Yard and Structural Lumber," Research Paper SE-39, published by the Southeastern Forest Experiment Station, Asheville, NC, 1968.

^bNot applicable.

^cBased on "Sawlog Grades for Eastern White Pine," Research Paper NE-205, published by the Northeastern Forest Experiment Station, Broomall, PA, 1971.

^dBased on "A Guide to Hardwood Log Grading (revised)," General Technical Report NE-1, published by the Northeastern Forest Experiment Station, Broomall, PA, 1973.

Table 38.—Cubic volume in the merchantable saw-log portion of sawtimber trees on timberland, by species and diameter class, Virginia, 1986

Species	All classes	Diameter class (inches at breast height)							
		9.0-	11.0-	13.0-	15.0-	17.0-	19.0-	21.0-	29.0 and
		10.9	12.9	14.9	16.9	18.9	20.9	28.9	larger
----- Thousand cubic feet -----									
Softwood:									
Longleaf pine	--	--	--	--	--	--	--	--	--
Slash pine	--	--	--	--	--	--	--	--	--
Shortleaf pine	281,732	103,553	85,311	49,252	27,465	8,473	6,330	1,348	--
Loblolly pine	1,385,736	304,457	292,499	291,754	213,773	142,445	77,810	61,575	1,423
Pond pine	9,607	2,053	1,158	881	1,160	1,906	1,147	639	663
Virginia pine	715,412	347,355	227,922	95,187	34,029	8,357	1,327	1,235	--
Pitch pine	152,117	30,938	47,990	31,222	23,802	12,607	3,752	1,806	--
Table Mountain pine	67,607	22,793	19,765	16,223	6,855	1,420	551	--	--
Spruce pine	--	--	--	--	--	--	--	--	--
Sand pine	--	--	--	--	--	--	--	--	--
Eastern white pine	403,000	52,295	56,159	71,901	72,657	65,003	34,066	47,675	3,244
Eastern hemlock	110,202	14,873	10,507	13,919	15,663	12,116	9,447	18,941	14,736
Spruce and fir	2,398	577	1,134	687	--	--	--	--	--
Baldcypress	29,307	641	3,249	2,836	3,232	2,892	2,188	7,664	6,605
Pondcypress	8,052	--	446	1,414	523	552	544	3,334	1,239
Cedars	22,406	11,918	4,311	3,246	2,931	--	--	--	--
Total softwoods	3,187,576	891,453	750,451	578,522	402,090	255,771	137,162	144,217	27,910
Hardwood:									
Select white oaks	1,224,111	--	241,255	256,514	236,584	164,512	114,023	176,851	34,372
Select red oaks	723,040	--	87,393	107,040	123,589	99,761	78,410	180,203	46,644
Chestnut oak	903,546	--	175,663	162,835	164,012	128,811	83,451	159,848	28,926
Other white oaks	42,735	--	10,394	8,779	10,238	4,265	3,636	3,229	2,194
Other red oaks	1,181,574	--	229,403	258,328	227,100	175,532	114,993	160,634	15,584
Hickory	506,496	--	126,036	121,121	89,053	70,956	43,149	49,446	6,735
Yellow birch	4,977	--	431	--	1,115	1,018	577	1,836	--
Hard maple	87,000	--	19,805	17,607	15,672	11,371	7,429	12,408	2,708
Soft maple	417,195	--	119,868	88,040	69,182	50,697	38,499	43,758	7,151
Beech	222,610	--	33,255	40,655	39,038	37,762	24,781	40,517	6,602
Sweetgum	354,470	--	99,922	88,300	60,632	34,395	27,582	40,143	3,496
Tupelo and blackgum	177,222	--	46,325	42,379	36,815	22,975	8,025	17,329	3,374
Ash	121,297	--	26,946	28,479	20,356	14,289	11,697	13,955	5,575
Cottonwood	2,068	--	984	--	378	--	--	706	--
Basswood	77,537	--	14,842	15,432	17,316	9,836	7,097	10,338	2,676
Yellow-poplar	1,723,151	--	297,159	377,623	355,400	272,535	165,539	227,010	27,885
Bay and magnolia	11,578	--	2,819	3,404	1,554	--	950	2,851	--
Black cherry	22,062	--	8,344	3,536	2,379	2,056	1,833	2,864	1,050
Black walnut	46,705	--	11,703	13,624	5,227	7,696	4,159	3,534	762
Sycamore	87,373	--	10,025	14,213	12,648	13,837	7,518	22,154	6,978
Black locust	76,576	--	29,041	23,971	10,187	8,896	1,310	3,171	--
Elm	35,875	--	9,631	5,915	6,897	6,041	2,318	4,486	587
Other eastern hardwoods	170,373	--	37,445	36,197	29,689	23,955	17,459	21,205	4,423
Total hardwoods	8,219,571	--	1,638,689	1,713,992	1,535,061	1,161,196	764,435	1,198,476	207,722
All species	11,407,147	891,453	2,389,140	2,292,514	1,937,151	1,416,967	901,597	1,342,693	235,632

Table 39.--Total volume of live trees on timberland, by species and diameter class, Virginia, 1986

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 and larger
----- Thousand cubic feet -----													
Softwood:													
Longleaf pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Slash pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Shortleaf pine	638,656	6,434	32,172	70,390	142,261	157,087	115,000	62,242	33,757	10,189	7,548	1,576	--
Loblolly pine	3,250,448	55,566	224,151	512,352	615,320	482,151	396,908	369,330	260,298	168,981	91,864	71,871	1,656
Pond pine	14,488	--	--	199	1,043	3,059	1,878	1,574	1,432	2,354	1,408	757	784
Virginia pine	2,468,668	68,659	226,604	473,904	610,150	549,025	336,114	138,528	49,992	11,529	1,828	2,335	--
Pitch pine	281,710	2,255	4,248	15,962	34,807	54,663	71,255	43,838	30,541	17,381	4,590	2,170	--
Table Mountain pine	153,425	2,354	4,964	20,299	33,214	34,570	25,606	21,495	8,523	1,732	668	--	--
Spruce pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Sand pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Eastern white pine	705,597	20,519	30,218	55,845	75,585	83,285	73,374	90,931	89,605	79,647	42,409	60,183	3,996
Eastern hemlock	199,548	6,188	12,294	15,850	18,489	23,728	14,533	17,786	19,762	15,025	12,013	24,898	18,982
Spruce and fir	3,925	190	--	--	650	780	1,467	838	--	--	--	--	--
Baldcypress	42,065	--	332	--	1,019	1,115	4,911	4,064	4,579	3,996	2,921	9,736	9,392
Pondcypress	10,971	--	--	--	--	--	672	2,027	759	774	754	4,379	1,606
Cedars	196,331	34,132	53,090	51,868	25,625	17,591	6,003	4,395	3,627	--	--	--	--
Total softwoods	7,965,832	196,297	588,073	1,216,669	1,558,163	1,407,054	1,047,721	757,048	502,875	311,608	166,003	177,905	36,416
Hardwood:													
Select white oaks	3,587,788	61,191	158,695	284,402	392,978	475,510	488,997	468,914	410,859	284,153	193,482	302,824	65,783
Select red oaks	1,783,265	23,592	57,280	84,062	115,670	147,723	182,841	209,921	230,369	179,159	140,184	322,565	89,899
Chestnut oak	3,197,197	22,972	115,141	246,129	422,080	417,267	422,529	362,956	339,988	265,513	179,208	330,325	73,089
Other white oaks	169,009	5,952	10,462	17,211	26,593	29,379	20,916	17,721	17,849	6,766	5,651	6,050	4,459
Other red oaks	3,535,530	76,906	174,637	284,005	417,185	493,141	462,807	463,556	392,994	289,339	190,639	261,300	29,021
Hickory	1,688,219	63,755	106,163	154,621	211,195	258,324	251,461	216,182	150,395	116,444	71,585	78,814	9,280
Yellow birch	18,962	202	361	2,906	2,036	2,891	1,562	850	1,913	1,680	1,692	2,869	--
Hard maple	341,999	17,094	29,892	41,284	38,121	44,875	37,092	33,424	30,529	20,130	14,365	25,082	10,111
Soft maple	2,548,368	261,104	359,240	364,127	342,453	286,748	291,083	202,037	143,157	102,354	76,608	97,767	21,690
Beech	741,043	29,583	33,612	42,339	49,129	67,923	69,709	89,199	82,763	82,551	61,609	112,783	19,843
Sweetgum	1,364,847	114,608	156,475	166,788	166,430	206,353	177,825	138,441	89,398	48,407	38,026	56,089	6,007
Tupelo and blackgum	848,339	102,991	92,763	89,728	93,485	107,084	103,945	81,881	68,108	44,932	15,667	38,634	9,121
Ash	471,307	22,645	45,935	53,457	61,618	57,091	61,437	55,722	36,434	24,340	20,738	23,894	7,996
Cottonwood	6,717	90	--	--	--	3,234	1,829	--	600	--	--	964	--
Basswood	197,144	2,420	6,460	7,100	22,433	19,028	27,521	26,939	30,121	15,596	14,688	19,137	5,701
Yellow-poplar	3,593,037	69,929	151,127	221,433	288,611	388,934	512,689	563,884	496,525	363,172	212,921	283,380	40,432
Bay and magnolia	75,825	7,299	9,842	11,754	9,369	17,951	6,018	5,726	2,442	--	1,376	4,048	--
Black cherry	167,241	32,057	31,405	19,880	16,743	14,567	21,227	10,134	7,003	3,036	3,458	6,353	1,378
Black walnut	172,344	1,612	10,278	5,664	18,725	23,997	25,452	32,767	12,215	17,015	12,067	10,269	2,283
Sycamore	195,774	2,208	6,391	11,416	12,251	15,032	21,644	25,977	23,343	22,961	11,596	33,006	9,949
Black locust	471,528	12,875	31,739	44,219	59,636	101,434	80,222	61,101	33,067	22,912	8,526	13,317	2,480
Elm	182,218	12,629	26,219	24,799	21,798	27,583	21,040	11,274	15,372	10,298	3,603	6,769	834
Other eastern hardwoods	2,086,437	413,222	445,088	356,776	239,353	197,435	134,967	89,793	77,119	48,393	31,697	45,030	7,564
Total hardwoods	27,444,138	1,356,936	2,059,205	2,534,100	3,027,892	3,403,504	3,424,813	3,168,399	2,692,563	1,969,151	1,309,386	2,081,269	416,920
All species	35,409,970	1,553,233	2,647,278	3,750,769	4,586,055	4,810,558	4,472,534	3,925,447	3,195,438	2,280,759	1,475,389	2,259,174	453,336

Species	Classes	1.0-	2.9	4.9	6.9	8.9	10.9	12.9	14.9	16.9	18.9	20.9	28.9	larger	29.0 and larger
1	1	1.0	2.9	4.9	6.9	8.9	10.9	12.9	14.9	16.9	18.9	20.9	28.9	larger	29.0 and larger

[illegible]

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2,907,137	47,978	115,747	198,806	310,401	385,548	401,025	387,075	342,477	237,893	163,598	258,641	57,948													
1,455,964	18,315	42,133	62,558	95,420	122,303	151,593	190,386	146,581	114,449	264,295	73,435														
2,553,531	21,048	90,431	177,978	326,184	327,327	292,636	277,077	217,727	148,592	275,943	62,203														
134,956	4,266	7,302	12,357	20,627	23,447	17,243	14,916	14,960	5,736	4,764	5,305														
2,999,277	61,485	128,140	215,882	354,198	426,499	403,319	400,480	250,306	165,134	227,395	26,324														
1,364,991	55,950	93,023	109,398	162,821	203,163	201,837	176,908	125,242	98,324	60,722	68,608														
15,455	173	308	2,070	1,615	2,396	1,259	684	1,608	1,411	1,428	2,503														
281,735	14,040	25,253	29,923	30,221	36,790	30,979	28,141	25,828	17,179	12,460	21,885														
1,660,948	199,559	252,081	246,627	259,368	216,043	217,801	150,217	105,244	74,759	54,944	69,322														
601,172	20,766	24,561	25,908	38,396	55,306	72,260	69,010	52,018	96,348	17,219	14,983														
970,794	75,445	104,674	108,912	118,551	148,207	130,143	102,822	67,106	36,893	29,234	4,866														
579,918	79,937	67,468	48,054	57,859	69,280	69,554	56,609	48,313	33,148	29,756	7,992														
300,381	13,655	29,000	39,290	43,908	37,872	38,737	34,066	21,604	14,028	11,798	12,607														
4,592	65	--	2,104	1,257	1,257	--	--	--	--	742	742														
135,499	1,607	4,439	4,244	15,016	12,759	18,785	18,647	20,955	10,775	13,600	4,242														
2,535,687	50,992	101,725	132,762	196,602	271,749	362,388	358,059	263,856	155,514	208,758	30,040														
46,428	6,091	6,485	5,739	11,483	3,664	3,659	1,585	--	--	2,482	568														
105,628	15,140	20,434	11,927	9,903	14,151	7,090	5,217	2,204	2,481	4,859	1,160														
152,281	1,329	8,624	4,774	16,356	21,233	22,284	28,968	10,999	15,111	10,794	2,249														
139,904	1,494	4,349	5,457	7,449	9,782	14,951	18,894	17,198	17,300	8,810	8,277														
455,041	10,717	26,663	37,328	57,258	100,201	78,708	61,546	23,954	23,442	8,834	13,893														
119,489	9,194	18,252	14,793	13,927	17,579	13,504	7,565	10,239	6,923	2,432	4,513														
337,151	358,378	233,572	174,510	143,589	100,946	70,309	62,187	40,426	25,854	38,781	5,808														
1,591,511	21,312,229	1,044,724	1,529,076	1,729,105	2,317,683	2,655,013	2,688,751	2,512,830	2,150,209	1,583,032	1,056,990	1,699,675													
21,312,229	1,044,724	1,529,076	1,729,105	2,317,683	2,655,013	2,688,751	2,512,830	2,150,209	1,583,032	1,056,990	1,699,675	345,141													
Total hardwoods													All species												

Table 41.--Net annual growth and removals of live timber and growing stock on timberland, by species, Virginia, 1985

Species	Live timber ^a		Growing stock	
	Net annual growth	Annual timber removals	Net annual growth	Annual timber removals
- - - - - Thousand cubic feet - - - - -				
Softwood:				
Yellow pines	199,353	199,327	198,779	196,809
Eastern white pine	21,989	5,325	21,975	5,242
Spruce and fir	43	--	43	--
Cypress	1,026	1,989	1,026	1,989
Other eastern softwoods	7,261	2,422	7,203	2,296
Total softwoods	229,672	209,063	229,026	206,336
Hardwood:				
Select white and red oaks	116,462	73,720	115,261	69,314
Other white and red oaks	140,156	79,668	137,703	71,699
Hickory	29,021	16,517	28,581	15,772
Yellow birch	231	--	201	--
Hard maple	7,058	1,158	6,827	845
Sweetgum	35,248	26,567	34,517	24,720
Ash, walnut, and black cherry	16,045	7,017	14,623	4,830
Yellow-poplar	129,480	48,695	128,225	47,169
Tupelo and blackgum	8,495	7,506	8,061	5,768
Bay and magnolia	1,494	--	1,412	--
Other eastern hardwoods	109,143	49,814	97,207	33,394
Total hardwoods	592,833	310,662	572,618	273,511
All species	822,505	519,725	801,644	479,847

^aMerchantable portion only.

Table 42.--Net annual growth and removals of
sawtimber on timberland, by species, Virginia,
1985

Species	Net annual growth	Annual timber removals
	<u>Thousand board feet</u>	
Softwood:		
Yellow pines	668,573	679,176
Eastern white pine	110,949	24,304
Spruce and fir	216	--
Cypress	6,406	9,961
Other eastern softwoods	25,447	6,086
Total softwoods	811,591	719,527
Hardwood:		
Select white and red oaks	495,394	237,538
Other white and red oaks	548,617	235,263
Hickory	118,167	46,515
Yellow birch	1,308	--
Hard maple	27,980	3,337
Sweetgum	111,196	77,764
Ash, walnut, and black cherry	49,483	15,440
Yellow-poplar	621,522	201,298
Tupelo and blackgum	26,268	18,761
Bay and magnolia	4,283	--
Other eastern hardwoods	301,059	98,745
Total hardwoods	2,305,277	934,661
All species	3,116,868	1,654,188

Table 43.--Annual removals of growing stock on timberland, by species and diameter class, Virginia, 1985

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:											
Yellow pines	196,809	21,939	34,249	39,689	38,045	25,781	18,608	8,177	7,539	2,782	--
Eastern white pine	5,242	369	391	372	330	1,340	736	401	455	848	--
Spruce and fir	--	--	--	--	--	--	--	--	--	--	--
Cypress	1,989	--	108	--	--	611	--	294	131	845	--
Other eastern softwoods	2,296	695	424	291	394	114	--	--	--	222	156
Total softwoods	206,336	23,003	35,172	40,352	38,769	27,846	19,344	8,872	8,125	4,697	156
Hardwood:											
Select white and red oaks	69,314	4,287	5,823	7,084	10,229	11,099	9,814	5,307	6,774	7,618	1,279
Other white and red oaks	71,699	5,226	6,579	8,506	11,690	10,231	8,092	7,645	6,087	6,444	1,199
Hickory	15,772	1,451	1,827	2,111	3,394	1,978	1,422	1,470	1,644	475	--
Yellow birch	--	--	--	--	--	--	--	--	--	--	--
Hard maple	845	111	--	--	264	--	--	233	--	237	--
Sweetgum	24,720	2,016	3,150	3,473	3,718	3,076	3,527	2,311	1,714	1,442	293
Ash, walnut, and black cherry	4,830	597	304	488	501	1,220	414	426	426	454	--
Yellow-poplar	47,169	2,454	2,968	3,115	5,630	7,072	8,526	6,387	5,239	5,441	337
Tupelo and blackgum	5,768	449	555	360	1,006	1,019	1,371	220	462	219	107
Bay and magnolia	--	--	--	--	--	--	--	--	--	--	--
Other eastern hardwoods	33,394	1,671	4,291	4,766	3,681	4,733	4,557	2,434	2,546	4,227	488
Total hardwoods	273,511	18,262	25,497	29,903	40,113	40,428	37,723	26,433	24,892	26,557	3,703
All species	479,847	41,265	60,669	70,255	78,882	68,274	57,067	35,305	33,017	31,254	3,859

Table 44.--Mortality of live timber, growing stock, and sawtimber on timberland, by species, Virginia, 1985

Species	Live timber ^a	Growing stock	Sawtimber
	<u>Thousand</u> <u>-- cubic feet --</u>		<u>Thousand</u> <u>board feet</u>
Softwood:			
Yellow pines	73,934	69,199	154,247
Eastern white pine	1,914	1,688	5,992
Spruce and fir	--	--	--
Cypress	--	--	--
Other eastern softwoods	1,448	1,282	1,758
Total softwoods	77,296	72,169	161,997
Hardwood:			
Select white and red oaks	21,472	13,704	39,977
Other white and red oaks	51,945	36,932	93,081
Hickory	13,132	9,699	22,965
Yellow birch	208	208	1,047
Hard maple	697	271	1,536
Sweetgum	4,883	3,576	5,634
Ash, walnut, and black cherry	6,849	3,185	8,890
Yellow-poplar	7,371	5,988	13,682
Tupelo and blackgum	1,831	730	1,325
Bay and magnolia	206	74	--
Other eastern hardwoods	41,960	16,744	38,067
Total hardwoods	150,554	91,111	226,204
All species	227,850	163,280	388,201

^aMerchantable portion only.

Table 45.--Change in number of live trees on timberland, by species group, survey completion date, and diameter class, Virginia

Species group and year	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 and larger
----- Thousand trees -----									
Yellow pine									
1977	1,897,048	765,514	492,583	293,963	173,809	90,819	45,938	20,305	14,117
1986	1,652,962	580,674	415,276	302,211	184,678	91,897	43,654	20,031	14,541
Change	-244,086	-184,840	-77,307	+8,248	+10,869	+1,078	-2,284	-274	+424
Other softwood									
1977	430,574	276,377	85,928	31,662	15,215	8,320	5,085	3,653	4,334
1986	439,025	269,513	82,793	38,883	19,021	11,359	5,747	4,476	7,233
Change	+8,451	-6,864	-3,135	+7,221	+3,806	+3,039	+662	+823	+2,899
Hardwood									
1977	10,368,017	6,812,549	1,786,610	736,746	415,558	254,622	152,336	92,839	116,757
1986	9,575,370	6,201,092	1,593,135	696,840	409,706	259,976	164,692	105,131	144,798
Change	-792,647	-611,457	-193,475	-39,906	-5,852	+5,354	+12,356	+12,292	+28,041

Table 46.--Land area, by land use class, major forest type, and survey completion date, Virginia

Land use class	Survey completion date			Change 1977-1986
	1966	1977	1986	
	<u>Acres</u>			
Forest land:				
Timberland:				
Pine and oak-pine types	5,523,492	5,373,812	5,044,842	-328,970
Hardwood types	10,300,856	10,613,320	10,390,994	-222,326
Total	15,824,348	15,987,132	15,435,836	-551,296
Reserved timberland	313,427	360,222	471,188	+110,966
Woodland	216,292	70,025	61,417	-8,608
Total forest land	16,354,067	16,417,379	15,968,441	-448,938
Nonforest land:				
Cropland	3,607,794	3,098,623	3,463,490	+364,867
Pasture and range	3,593,906	3,641,844	3,227,675	-414,169
Other	1,831,039	2,138,656	2,586,568	+447,912
Total	9,032,739	8,879,123	9,277,733	+398,610
All land^a	25,386,806	25,296,502	25,246,174	-50,328

^aExcludes all water areas.

Table 47.--Volume^a of sawtimber, growing stock, and live timber on timberland, by species group, survey completion date, and diameter class, Virginia

Species Group and 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											
1966	14,305,192	--	--	3,630,149	3,472,069	2,730,522	1,847,550	1,207,747	695,800	721,355	
1977	16,570,654	--	--	4,071,239	4,135,508	3,219,800	2,181,227	1,339,166	708,763	914,951	
1986	17,485,783	--	--	4,236,234	3,948,318	3,259,529	2,393,227	1,585,006	889,068	1,174,401	
Hardwood											
1966	32,154,020	--	--	--	6,402,333	6,684,504	5,587,519	4,253,710	2,933,865	6,292,089	
1977	41,658,583	--	--	--	8,092,621	8,640,891	7,654,423	5,781,553	3,944,271	7,544,824	
1986	49,550,615	--	--	--	8,728,684	9,756,100	9,282,664	7,316,982	4,957,905	9,508,280	
GROWING STOCK (in thousand cubic feet)											
Softwood											
1966	4,911,884	737,958	1,065,294	1,012,696	788,088	543,166	335,287	205,066	112,603	111,726	
1977	5,596,752	825,018	1,169,698	1,135,321	940,540	643,143	397,113	228,370	115,326	142,223	
1986	5,897,701	863,926	1,262,653	1,181,176	900,156	651,893	437,731	271,671	145,392	183,103	
Hardwood											
1966	12,325,640	1,319,818	1,720,333	1,887,046	1,869,717	1,661,110	1,250,350	887,117	580,727	1,149,422	
1977	15,401,230	1,398,032	2,026,348	2,383,197	2,364,123	2,148,131	1,714,541	1,205,565	780,955	1,380,338	
1986	17,055,119	1,322,588	1,994,474	2,434,440	2,550,024	2,426,205	2,079,175	1,526,268	981,504	1,740,441	
LIVE TIMBER ^b (in thousand cubic feet)											
Softwood											
1966	4,982,879	757,269	1,083,041	1,028,638	794,451	549,456	337,627	205,592	113,235	113,570	
1977	5,684,602	846,030	1,190,663	1,155,470	949,070	652,536	400,151	229,408	116,283	144,991	
1986	5,991,926	885,419	1,284,571	1,202,197	908,895	661,867	441,456	274,100	146,328	187,093	
Hardwood											
1966	14,066,786	1,743,027	2,038,327	2,131,820	2,062,516	1,795,465	1,344,336	953,659	645,614	1,352,022	
1977	17,530,510	1,847,514	2,404,330	2,701,093	2,613,392	2,325,332	1,847,542	1,294,757	868,420	1,628,130	
1986	19,346,124	1,745,466	2,368,385	2,758,192	2,821,413	2,630,073	2,240,169	1,639,760	1,088,691	2,053,975	

^aTo provide a basis for valid comparisons, adjustments have been made to allow for differences in volume tables and sawtimber specifications used in previous surveys.

^bMerchantable volume.

Brown, Mark J.

Forest statistics for Virginia, 1986. Resour. Bull. SE-87. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southeastern Forest Experiment Station; 1986. 67 pp.

Since 1977 the area of timberland declined from 16.0 to 15.4 million acres. Timberland owned by farmers decreased 33 percent to 4.2 million acres. Area of timberland supporting sawtimber stands increased 15 percent to 7.3 million acres. More than 183,000 acres were harvested annually and retained in timberland. Almost 173,000 acres were regenerated annually, 43 percent of them by planting or direct seeding. The average basal area of live trees 5.0 inches d.b.h. and larger increased from 70 to 78 square feet per acre. Volume of softwood growing stock rose 5 percent, while hardwood growing-stock volume increased 11 percent. Net annual growth of growing stock declined 3 percent to 802 million cubic feet. Annual removals of growing stock were down 3 percent to 480 million cubic feet. Annual mortality totaled 163 million cubic feet, up 37 percent.

KEYWORDS: Timberland, forest ownership, timber volume, timber growth, timber removals.

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