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Forest Statistics for the Coastal Plain of Virginia, 1985

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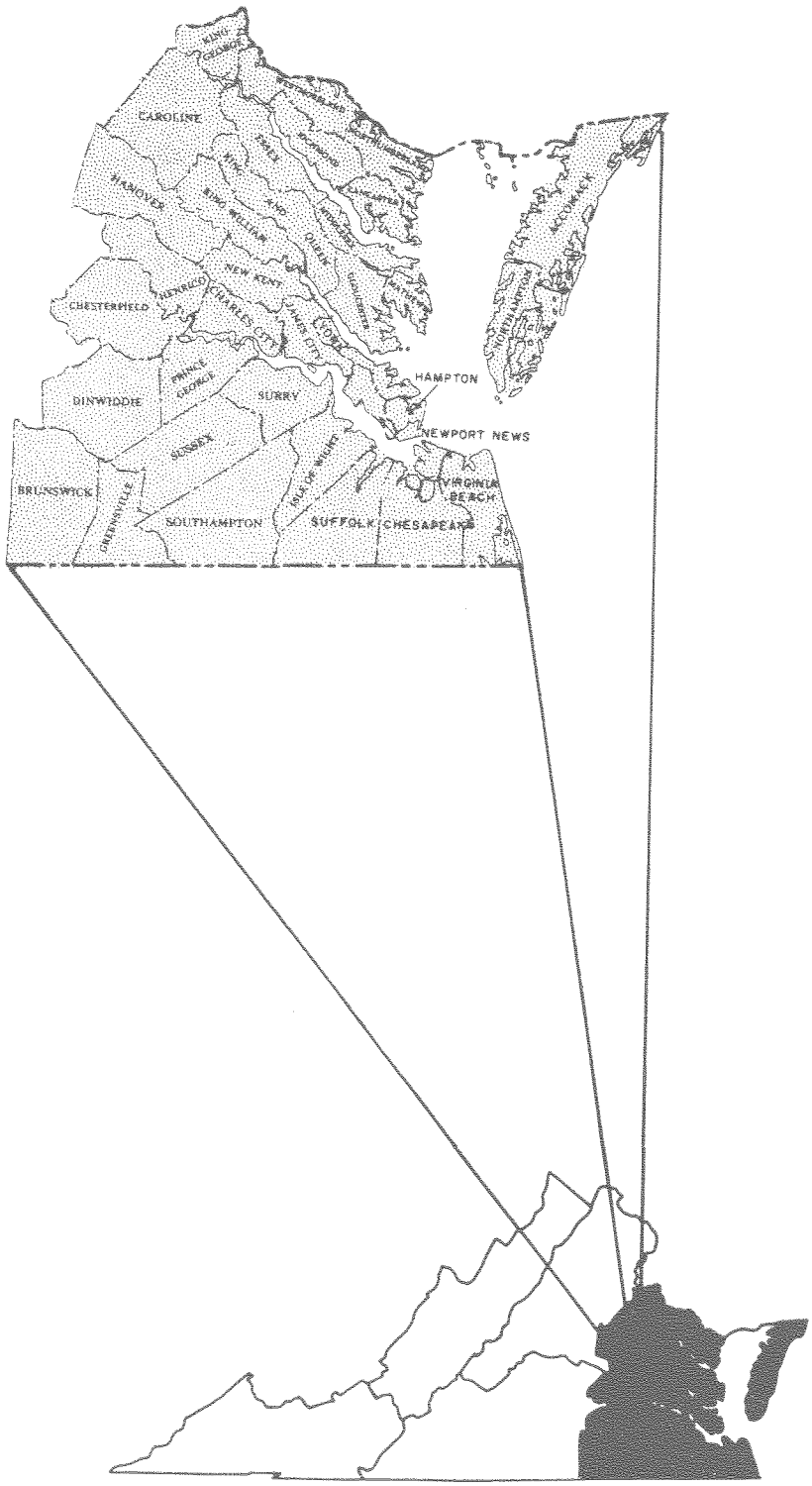

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Southeastern Forest Experiment Station
200 Weaver Boulevard
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Forest Statistics for the Coastal Plain of Virginia, 1985

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Foreword

This report highlights the principal findings of the fifth forest survey in the Coastal Plain of Virginia. Fieldwork began in September 1984 and was completed in February 1985. Four previous surveys, completed in 1940, 1956, 1966, and 1976, provide statistics for measuring changes and trends over the past 45 years. The primary emphasis in this report is on the changes and trends since 1976. 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 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.

The 34-county area covered by this report is one of five survey units in Virginia. Similar reports will be issued for the other four units as the statewide inventory progresses. When completed, these inventories will provide updated statistics on the timber resource for all of Virginia. The Southeastern Station gratefully acknowledges the cooperation and assistance provided by the Virginia Division of Forestry 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

JOE P. MCCLURE
Project Leader

Contents

Page

Since 1976 in the Coastal Plain of Virginia..... 1
How the Inventory Is Made..... 3
Reliability of the Data..... 3
Definitions of Terms..... 5

County Tables*

1. Area, by county and land class.. 13

2. Area of timberland, by county and ownership class..... 14

3. Area of timberland, by county and forest-type group..... 15

4. Area of timberland, by county and stand-size class..... 16

5. Area of timberland, by county and site class..... 17

6. Area of timberland, by county and stocking classes of growing-stock trees..... 18

7. Volume of growing stock and sawtimber on timberland, by county and species group..... 19

8. Net annual growth of growing stock and sawtimber on timberland, by county and species group..... 20

9. Annual removals of growing stock and sawtimber on timberland, by county and species group..... 21

Unit Tables*

10. Area of timberland, by forest type and ownership class..... 22

11. Area of timberland, by ownership and stocking classes of growing-stock trees..... 23

12. Area of timberland, by forest type and stand-size class..... 24

13. Area of timberland, by stand-age and broad management classes, all ownerships 25

Page

14. Area of timberland, by stand-age and broad management classes, public ownerships..... 25

15. Area of timberland, by stand-age and broad management classes, forest industry..... 26

16. Area of timberland, by stand-age and broad management classes, other private ownerships..... 26

17. Area of timberland, by broad management and stand-volume classes 27

18. Volume of growing stock on timberland, by broad management class, species group, and stand-age class.. 28

19. Net annual growth of growing stock on timberland, by broad management class, species group, and stand-age class..... 29

20. Annual removals of growing stock on timberland, by broad management class, species group, and stand-age class..... 30

21. Merchantable volume of live trees and growing stock on timberland, by forest-type group and species group..... 31

22. Area of timberland treated or disturbed annually, by treatment or disturbance and ownership class..... 32

23. Area of timberland treated or disturbed annually and retained in commercial forest land, by treatment or disturbance and broad management class..... 32

24. Area of timberland regenerated annually, by type of regeneration and broad management class..... 33

25. Area of timberland, by treatment opportunity and broad management class..... 34

26. Area of timberland, by treatment opportunity and ownership class..... 34

Page

27. Merchantable volume of live trees and growing stock on timberland, by ownership class and species group..... 35

28. Volume of sawtimber on timberland, by ownership class and species group..... 35

29. Net annual growth and removals of growing stock on timberland, by ownership class and species group... 36

30. Net annual growth and removals of sawtimber on timberland, by ownership class and species group... 36

31. Volume of timber on timberland, by class and species group..... 37

32. Number of live trees on timberland, by species and diameter class 38

33. Number of growing-stock trees on timberland, by species and diameter class..... 39

34. Merchantable volume of live trees on timberland, by species and diameter class..... 40

35. Volume of growing stock on timberland, by species and diameter class..... 41

36. Volume of sawtimber on timberland, by species and diameter class 42

37. Volume of sawtimber on timberland, by species, size class, and log grade..... 43

Page

38. Cubic volume in the merchantable saw-log portion of sawtimber trees on timberland, by species and diameter class..... 44

39. Total volume of live trees on timberland, by species and diameter class..... 45

40. Green weight of forest biomass on timberland, by species and diameter class..... 46

41. Net annual growth and removals of live timber and growing stock on timberland, by species..... 47

42. Net annual growth and removals of sawtimber on timberland, by species..... 48

43. Annual removals of growing stock on timberland, by species and diameter class..... 49

44. Mortality of live timber, growing stock, and sawtimber on timberland, by species..... 50

45. Change in number of live trees on timberland, by species group, survey completion date, and diameter class..... 51

46. Land area, by class, major forest type, and survey completion date..... 52

47. Volume of sawtimber, growing stock, and live timber on timberland, by species group, survey completion date, and diameter class 53

*Tables 1-12, 27, 29-33, 35-38, 41, 42, and 44 are common to all Forest Inventory and Analysis forest resource statistical reports of the Eastern United States.

Since 1976, in the Coastal Plain of Virginia

• area of timberland decreased by 230,000 acres or 6 percent. A total of 272,000 acres were diverted to other land uses, whereas only 42,000 acres were added as new timberland. Of the acreage diverted, 45 percent was to urban and other uses, 39 percent went to agriculture, and 5 percent was changed to water areas. The remaining 11 percent was diverted to reserved timberland, mostly due to an expansion of the Great Dismal Swamp National Wildlife Refuge. Timberland now accounts for 59 percent, or 3.8 million acres, of the total land area in the 34 counties that make up the Coastal Plain of Virginia.

• area of timberland owned by nonindustrial private forest (NIPF) landowners decreased by 10 percent, from 3.1 to 2.8 million acres. This decrease was mainly in the farmer-owned category, which declined some 42 percent, from more than 1.6 to less than 1.0 million acres. Acreage owned by other individuals increased 29 percent, from more than 1.2 to almost 1.6 million acres. Area in the other corporate ownership category increased from 214,000 to 246,000 acres. Lands under forest industry control increased by 10 percent to 848,000 acres. Area of timberland under public ownership changed very little.

• more than 72,000 acres were harvested annually and retained in timberland. Of this average annual harvest, pine and oak-pine types accounted for 45,000 acres, or 62 percent. Approximately two-thirds of the annual harvest occurred on NIPF lands. In addition to acres undergoing a final harvest, 13,000 acres annually experienced some form of partial cutting, thinning, or other stand improvement each year. Nearly 34,000 acres were damaged annually by natural agents such as insects, diseases, and weather.

• more than 65,000 acres were regenerated annually on forest and nonforest land. Pine and oak-pine types accounted for 43,000 acres, or 66 percent of this regeneration. About 34,000 acres of the total were established artificially. One-third of the artificially regenerated stands were classed as oak-pine and other hardwood types because hardwoods dominated the stocking. For the first time in this survey unit, more acres were planted or seeded on NIPF lands than on forest industry lands. NIPF lands accounted for 57 percent of the artificial regeneration. The remaining 31,000 acres of the total annual regeneration occurred naturally. Of the acres regenerating naturally, 74 percent was on NIPF lands.

• average basal area of live trees 5.0 inches d.b.h. and larger has increased from 71 to 75 square feet per acre. Increases in basal area occurred across all major forest types. Pine types experienced a 4 percent increase and the oak-pine type a 3 percent increase. Hardwood forest types increased more than 8 percent in basal area. For live trees in all physiographic classes, the net merchantable volume per acre has increased almost 7 percent to 1,658 cubic feet per acre.

• the number of live sapling-size hardwood trees has declined by nearly 5 percent. This decline reverses a long-term upward trend in numbers of small hardwoods. Similar declines in numbers of pole-size and small sawtimber-size hardwoods have been noted. The number of hardwood trees 15 inches d.b.h. and larger has increased by more than 14 percent. Increases in these larger hardwoods indicate a shift toward older hardwood stands.

• volume of softwood growing stock continued to decrease at nearly the same rate as the previous survey. Volume of softwood growing stock decreased 3 percent, from 2.4 to 2.3 billion cubic feet, compared with a 2 percent decrease for the period 1966 to 1976. Loblolly pine, the predominant softwood species, declined by just over 1 percent, to 1.9 billion cubic feet. Virginia pine showed the only increase in volume, with a gain of 2 percent. Shortleaf pine, a minor yellow pine species in this region, experienced the greatest reduction with a 42 percent decline. Declines in softwood volume were recorded in all diameter classes except for the 6-, 8-, and

18-inch and larger diameter classes. Volume rose by 11 percent in the 6-inch class, by 17 percent in the 8-inch class, and by 5 percent for the 18-inch and larger classes. Total volume of all softwood sawtimber declined 8 percent to 7.9 billion board feet.

• volume of hardwood growing stock has increased nearly 3 percent and now totals 3.6 billion cubic feet. Increases were confined to the 14-inch and larger diameter classes, where increases in cubic volume averaged 10 percent. All of the 12-inch and smaller diameter class had declines in volume. This correlates with the change in numbers of live hardwoods and further indicates a shift toward older hardwood stands. Oaks remain the predominant hardwood species, followed by sweetgum, yellow-poplar, and soft maple. Oaks declined in volume by more than 2 percent, whereas soft maple increased 28 percent and yellow-poplar increased 14 percent. Hardwood sawtimber increased almost 8 percent, from 9.7 to 10.5 billion board feet. Nearly all of this increase occurred in the 16-inch and larger diameter classes.

In 1984

• net annual growth of growing stock totaled 233 million cubic feet, down 3 percent from the 1976 survey. Net growth averaged almost 62 cubic feet per acre, virtually unchanged from the previous survey. Net annual growth of softwood growing stock was down more than 2 percent across all ownerships. On NIPF lands alone, softwood growth was down 15 percent. This was partially offset by a 24 percent increase in softwood growth on areas under forest industry ownership. Hardwood net annual growth was down almost 4 percent. Hardwood growth declined 6 percent on NIPF lands and increased 6 percent on forest industry lands. Total net annual growth of growing stock includes 867 million board feet of sawtimber, nearly 2 percent less than the last survey. Softwood sawtimber declined more than 9 percent and hardwood sawtimber increased more than 5 percent.

• annual removals of growing stock totaled 221 million cubic feet, up nearly 7 percent since 1976. Softwood removals exceeded growth by 15 percent and increased nearly 4 percent to 116 million cubic feet. Hardwood growth exceeded removals by 25 percent, even with removals increasing almost 10 percent. By ownership, forest industry supplied 38 percent of softwood growth and 34 percent of softwood removals. NIPF lands supplied 58 percent of softwood growth and 64 percent of the softwood removals. The annual removals of growing stock in 1984 included 833 million board feet of sawtimber, up 6 percent.

• annual mortality of growing stock totaled 46 million cubic feet, up 30 percent from the previous survey. Softwoods made up 64 percent of the total annual mortality and increased 17 percent since 1975. About 45 percent of this softwood mortality was attributed to insects, 32 percent to suppression, and 10 percent to diseases. Hardwoods accounted for 36 percent of the total annual mortality and increased 63 percent from the last survey. Disease caused 36 percent of the hardwood mortality. The annual mortality of growing stock included 111 million board feet of sawtimber, up 20 percent from 1976. About 42 percent of the sawtimber mortality was caused by insects. Across all species, mortality reduced gross growth by 16 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 21,872 sample clusters systematically spaced on the latest aerial photographs available. A subsample of 2,322 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 1,393 ground sample locations systematically distributed within the commercial forest land. 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 this Unit, 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 44 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 1,330 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 on these lands.

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):

	Percent
Per million acres of commercial forest land	0.87
Per billion cubic feet of growing stock	5.47
Per billion cubic feet of net annual growth	1.01
Per billion cubic feet of annual removals	2.78

Sampling errors for county and unit totals,[a] in terms of one standard error, Coastal Plain of Virginia, 1985

County	Timberland area	Cubic-foot volume of growing stock		
		Inventory	Growth	Removals
	- - - - - - - Sampling error[b] - - - - - - -			
Accomack	3.55	10.83	11.40	42.71
Brunswick	1.10	9.47	8.41	21.11
Caroline	1.66	9.28	7.53	18.73
Charles City	2.16	16.56	13.98	36.71
Chesapeake	4.67	15.22	12.79	26.87
Chesterfield	2.77	8.88	8.33	24.76
Dinwiddie	1.35	9.77	8.72	24.26
Essex	2.47	14.26	12.17	40.39
Gloucester	2.40	11.60	11.84	32.47
Greensville	1.89	12.58	11.15	26.32
Hampton	14.42	.00	.00	.00
Hanover	1.94	8.99	7.41	41.12
Henrico	4.12	15.50	12.65	38.11
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
Mathews	4.34	17.81	18.74	59.44
Middlesex	3.45	18.30	16.60	66.49
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
Prince George	2.06	13.68	11.79	27.56
Richmond	2.21	15.42	12.12	79.96
Southampton	1.45	9.00	9.02	20.21
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
Virginia Beach	7.07	15.86	16.70	32.54
Westmoreland	3.12	12.24	13.52	64.34
York	6.05	16.38	14.61	72.09
Total	.45	2.24	2.08	5.91

[a]Sampling error of breakdowns of county and unit totals may be computed with the following formula:

$$E = \frac{(SE)\sqrt{(\text{specified volume or area})}}{\sqrt{(\text{volume or area total in question})}}$$

Where: E = Sampling error of the volume or area total in question

SE = Specified sampling error in table.

[b]By 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 nonforest 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 broadleaf 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 pulpmills 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.

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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	60.4	61.0	68.2	60.0
8	68.3	68.1	76.0	68.4
10	73.3	73.1	81.4	73.4
12	76.5	76.7	85.2	76.4
14	78.8	79.4	88.2	78.4
16	80.5	81.6	90.4	79.8
18	81.6	83.3	92.3	80.8
20	82.5	84.8	93.8	81.5
22	83.0	86.0	95.1	82.1
24+	84.2	87.6	98.3	83.1
Average	74.5	73.6	90.0	74.8

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

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 4.

Table 1.--Area, by county and land class, Coastal Plain of Virginia, 1985

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
Brunswick	360,460	287,198	287,198	--	--	73,262
Caroline	342,695	262,658	262,658	--	--	80,037
Charles City	116,128	86,139	85,984	--	155	29,989
Chesapeake	270,655	115,140	73,545	--	41,595	155,515
Chesterfield	304,448	193,898	190,035	--	3,863	110,550
Dinwiddie	337,213	239,824	239,104	--	720	97,389
Essex	168,051	95,625	95,625	--	--	72,426
Gloucester	144,122	99,488	99,488	--	--	44,634
Greensville	193,779	139,144	139,144	--	--	54,635
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
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
Lancaster	85,043	52,896	52,896	--	--	32,147
Mathews	55,776	35,237	35,237	--	--	20,539
Middlesex	85,728	51,470	51,470	--	--	34,258
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
Prince George	178,537	119,262	118,282	--	980	59,275
Richmond	123,335	76,818	76,818	--	--	46,517
Southampton	388,307	241,634	241,582	--	52	146,673
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
Virginia Beach	163,795	47,785	45,165	--	2,620	116,010
Westmoreland	145,049	76,613	75,076	--	1,537	68,436
York	83,277	34,510	31,048	--	3,462	48,767
Total	6,350,943	3,872,937	3,773,929	2,739	96,269	2,478,006

[a]From U.S. Bureau of the Census, 1980.

[b]Includes 93,164 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, Coastal Plain of Virginia, 1985

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
Brunswick	287,198	--	5,590	644	365	86,047	62,943	5,722	125,887
Caroline	262,658	--	57,391	879	259	21,479	52,186	10,437	120,027
Charles City	85,984	--	--	4,750	41	22,441	13,989	--	44,763
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
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
Gloucester	99,488	--	--	100	104	10,993	11,036	2,759	74,496
Greensville	139,144	--	--	--	277	48,920	42,475	--	47,472
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
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
Lancaster	52,896	--	--	--	499	8,523	4,388	4,387	35,099
Mathews	35,237	--	--	16	5	7,516	5,036	--	22,664
Middlesex	51,470	--	--	5	25	5,283	13,188	--	32,969
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
Prince George	118,282	--	2,180	175	125	36,991	30,508	10,169	38,134
Richmond	76,818	--	--	235	30	15,848	26,016	2,891	31,798
Southampton	241,582	--	--	1,700	30	64,560	125,991	5,478	43,823
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
Virginia Beach	45,165	--	1,877	625	826	--	6,606	11,010	24,221
Westmoreland	75,076	--	--	--	120	5,558	19,144	4,786	45,468
York	31,048	--	13,186	360	6,474	29	--	1,833	9,166
Total	3,773,929	--	98,092	22,970	23,171	848,396	958,598	245,867	1,576,835

[a]Includes 2,062 acres of other private land under long-term lease.

Table 3.--Area of timberland, by county and forest-type group, Coastal Plain of Virginia, 1985

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	--	--
Brunswick	287,198	--	--	--	104,370	64,968	103,009	--	14,851	--
Caroline	262,658	--	--	--	90,802	42,358	107,859	10,436	11,203	--
Charles City	85,984	--	--	--	29,559	21,771	29,363	5,291	--	--
Chesapeake	73,545	--	--	--	11,120	17,960	13,582	30,883	--	--
Chesterfield	190,035	--	--	--	68,298	21,687	93,999	6,051	--	--
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	--
Gloucester	99,488	--	--	--	26,570	13,235	46,449	13,234	--	--
Greensville	139,144	--	--	--	38,652	16,007	44,662	26,160	13,663	--
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	--
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	--
Lancaster	52,896	--	--	--	17,797	13,162	17,549	4,388	--	--
Mathews	35,237	--	--	--	20,107	5,036	7,576	2,518	--	--
Middlesex	51,470	--	--	--	11,882	29,673	9,890	25	--	--
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	--	--
Prince George	118,282	--	--	--	42,758	10,168	60,271	5,085	--	--
Richmond	76,818	--	--	--	22,613	2,921	39,722	8,672	2,890	--
Southampton	241,582	--	--	--	90,403	34,307	69,043	45,090	2,739	--
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	--
Virginia Beach	45,165	--	--	--	8,483	6,606	18,240	11,010	826	--
Westmoreland	75,076	--	--	--	19,916	9,572	43,195	2,393	--	--
York	31,048	--	--	--	6,622	6,904	17,522	--	--	--
Total	3,773,929	--	--	--	1,277,845	638,756	1,480,217	300,235	76,876	--

Table 4.--Area of timberland, by county and stand-size class, Coastal Plain of Virginia, 1985

County	All stands	Stand-size class			Nonstocked areas
		Sawtimber	Poletimber	Sapling-seedling	
	Acres				
Accomack	102,592	62,806	21,246	18,540	--
Brunswick	287,198	80,977	97,898	104,818	3,505
Caroline	262,658	102,210	87,090	63,383	9,975
Charles City	85,984	43,046	21,774	21,164	--
Chesapeake	73,545	45,234	16,596	8,977	2,738
Chesterfield	190,035	62,188	94,408	33,439	--
Dinwiddie	239,104	80,560	88,739	64,136	5,669
Essex	95,625	38,550	38,432	15,408	3,235
Gloucester	99,488	45,429	33,108	20,951	--
Greensville	139,144	61,104	43,372	32,170	2,498
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	--
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
Lancaster	52,896	31,211	21,685	--	--
Mathews	35,237	18,883	13,831	2,523	--
Middlesex	51,470	31,433	10,146	9,891	--
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
Prince George	118,282	49,862	29,587	38,833	--
Richmond	76,818	38,682	29,465	8,671	--
Southampton	241,582	103,209	64,575	71,060	2,738
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
Virginia Beach	45,165	27,549	11,010	6,606	--
Westmoreland	75,076	31,495	36,282	7,299	--
York	31,048	27,352	3,696	--	--
Total	3,773,929	1,585,164	1,195,884	933,832	59,049

Table 5.--Area of timberland, by county and site class, Coastal Plain of Virginia, 1985

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
Brunswick	287,198	--	2,583	61,293	215,018	8,304
Caroline	262,658	--	13,046	50,186	188,988	10,438
Charles City	85,984	--	--	24,876	56,317	4,791
Chesapeake	73,545	--	--	36,253	18,128	19,164
Chesterfield	190,035	--	2,746	32,672	143,110	11,507
Dinwiddie	239,104	--	--	49,237	172,860	17,007
Essex	95,625	2,852	3,623	25,496	63,654	--
Gloucester	99,488	--	--	38,067	61,421	--
Greensville	139,144	2,499	--	29,828	98,150	8,667
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
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
Lancaster	52,896	499	--	7,228	45,169	--
Mathews	35,237	--	--	16,364	16,355	2,518
Middlesex	51,470	--	--	13,187	34,961	3,322
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
Prince George	118,282	--	--	23,597	84,516	10,169
Richmond	76,818	2,891	2,921	19,325	48,790	2,891
Southampton	241,582	--	7,783	84,753	146,307	2,739
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
Virginia Beach	45,165	--	2,202	11,835	17,291	13,837
Westmoreland	75,076	2,393	--	19,145	46,359	7,179
York	31,048	--	--	17,152	13,896	--
Total	3,773,929	11,134	70,979	983,991	2,497,659	210,166

Table 6.--Area of timberland, by county and stocking class of growing-stock trees, Coastal Plain of Virginia, 1985

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	--
Brunswick	287,198	9,216	132,249	111,036	31,192	3,505
Caroline	262,658	19,337	97,300	122,693	13,353	9,975
Charles City	85,984	13,381	34,848	35,262	2,493	--
Chesapeake	73,545	8,213	27,877	31,979	2,738	2,738
Chesterfield	190,035	10,913	98,621	75,045	5,456	--
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
Gloucester	99,488	2,863	61,780	32,086	2,759	--
Greensville	139,144	7,376	50,985	47,286	30,999	2,498
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	--
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
Lancaster	52,896	5,682	12,115	21,937	13,162	--
Mathews	35,237	2,519	20,122	7,559	5,037	--
Middlesex	51,470	3,527	18,246	26,400	3,297	--
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
Prince George	118,282	10,709	51,850	52,641	3,082	--
Richmond	76,818	10,919	23,287	29,979	12,633	--
Southampton	241,582	17,873	110,238	100,645	10,088	2,738
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
Virginia Beach	45,165	4,403	19,818	16,540	4,404	--
Westmoreland	75,076	4,786	26,710	38,794	4,786	--
York	31,048	6,534	16,148	8,366	--	--
Total	3,773,929	264,449	1,608,609	1,527,856	313,966	59,049

[a]See stocking standards on page 12.

Table 7.--Volume of growing stock and sawtimber on timberland, by county and species group, Coastal Plain of 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[a]					Thousand board feet				
Accomack	187,072	115,507	--	44,410	27,155	602,571	448,621	--	83,424	70,526
Brunswick	346,322	166,093	774	80,525	98,930	950,388	511,947	--	211,976	226,465
Caroline	419,543	156,201	312	114,606	148,424	1,246,387	469,433	--	369,856	407,098
Charles City	161,637	59,131	6,011	47,636	48,859	499,422	186,694	31,994	123,733	157,001
Chesapeake	151,152	40,259	679	78,305	31,909	569,028	215,696	3,682	240,546	109,104
Chesterfield	290,085	94,702	--	66,823	128,560	802,395	275,513	--	195,192	331,690
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
Gloucester	183,891	49,813	261	78,162	55,655	618,231	192,070	--	240,566	185,595
Greensville	185,765	72,800	1,778	47,330	63,857	586,419	290,509	8,033	115,570	172,307
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
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	27,624	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
Lancaster	89,762	50,702	--	21,284	17,776	240,595	136,869	--	63,899	39,827
Mathews	64,621	41,810	--	8,839	13,972	192,000	119,221	--	17,203	55,576
Middlesex	92,166	42,669	--	31,298	18,199	261,673	110,793	--	97,407	53,473
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
Prince George	174,198	77,618	8,905	35,727	51,948	573,017	253,962	49,721	119,721	149,613
Richmond	141,328	41,013	--	57,655	42,660	439,333	92,645	--	188,549	158,139
Southampton	390,715	149,163	11,201	135,351	95,000	1,302,044	523,258	52,995	406,703	319,088
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
Virginia Beach	81,208	18,353	964	41,011	20,880	282,178	89,602	5,030	114,388	73,158
Westmoreland	126,867	38,583	210	37,503	50,571	342,725	94,496	--	96,006	152,223
York	89,381	23,000	--	33,749	32,632	338,881	90,669	--	117,496	130,716
Total	5,903,145	2,274,718	48,689	1,733,996	1,845,742	18,312,770	7,621,040	230,544	4,952,209	5,508,977

[a]Factors for converting to cords are shown on page 12.

Table 8.--Net annual growth of growing stock and sawtimber on timberland, by county and species group, Coastal Plain of Virginia, 1984

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				
Accomack	7,072	3,830	--	2,028	1,214	28,151	20,774	--	3,817	3,560
Brunswick	16,532	8,846	105	3,462	4,119	52,669	28,389	--	13,215	11,065
Caroline	15,765	6,210	18	4,272	5,265	59,219	22,324	--	15,733	21,162
Charles City	5,889	2,521	130	1,740	1,498	24,160	11,057	866	5,390	6,847
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
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
Gloucester	7,499	2,157	9	3,614	1,719	27,472	7,785	--	13,382	6,305
Greensville	6,724	2,550	96	1,910	2,168	30,897	13,872	271	8,284	8,470
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
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
Lancaster	4,079	2,599	--	826	654	13,014	6,794	--	2,906	3,314
Mathews	2,970	1,779	51	734	406	12,417	9,977	--	721	1,719
Middlesex	3,645	1,492	--	1,447	706	13,431	6,575	--	4,005	2,851
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
Prince George	6,657	3,321	179	1,234	1,923	25,680	12,665	1,208	5,060	6,747
Richmond	5,675	2,258	--	1,835	1,582	18,498	5,921	--	7,850	4,727
Southampton	15,197	7,057	289	4,136	3,715	50,456	24,545	1,899	11,145	12,867
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
Virginia Beach	2,649	452	23	1,484	690	11,807	3,400	148	6,113	2,146
Westmoreland	5,202	2,014	15	1,511	1,662	19,162	7,044	--	5,469	6,649
York	2,844	725	--	1,223	896	14,765	4,067	--	6,375	4,323
Total	232,825	99,719	1,466	66,986	64,654	867,060	369,445	7,311	236,523	253,781

Table 9.--Annual removals of growing stock and sawtimber on timberland, by county and species group, Coastal Plain of Virginia, 1984

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				
Accomack	5,116	3,377	--	1,304	435	15,496	11,790	--	2,341	1,365
Brunswick	13,302	8,941	63	2,570	1,728	38,667	27,409	--	7,276	3,982
Caroline	18,684	10,416	85	3,399	4,784	56,514	30,802	--	9,038	16,674
Charles City	3,574	916	--	257	2,401	12,416	4,038	--	590	7,788
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
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
Gloucester	7,799	5,021	--	1,041	1,737	32,874	24,171	--	2,576	6,127
Greensville	7,367	3,467	--	2,497	1,403	30,970	15,574	--	9,913	5,483
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
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
Lancaster	334	195	--	--	139	1,589	1,119	--	--	470
Mathews	3,161	2,605	--	175	381	12,737	11,269	--	328	1,140
Middlesex	2,618	1,764	--	854	--	12,458	10,013	--	2,445	--
New Kent	5,982	1,923	--	862	3,197	26,332	7,645	--	4,844	13,843
Newport News	2,485	2,115	--	111	259	12,666	11,330	--	--	1,336
Northampton	1,125	501	--	279	345	3,180	1,685	--	370	1,125
Northumberland	1,695	570	--	464	661	8,722	2,947	--	2,663	3,112
Prince George	7,568	2,812	--	2,068	2,688	28,248	12,448	--	7,737	8,063
Richmond	2,598	581	--	141	1,876	11,609	2,336	--	856	8,417
Southampton	20,638	7,554	1,989	7,165	3,930	85,703	36,480	9,961	24,956	14,306
Suffolk	10,401	3,895	--	3,806	2,700	39,442	15,856	--	11,670	11,916
Surry	7,611	4,446	--	1,070	2,095	29,372	19,108	--	4,815	5,449
Sussex	16,364	8,765	--	2,246	5,353	61,679	39,168	--	5,603	16,908
Virginia Beach	2,757	601	--	1,881	275	9,470	3,354	--	6,116	--
Westmoreland	1,672	488	--	565	619	4,954	881	--	2,346	1,727
York	1,294	1,136	--	--	158	5,934	5,416	--	--	518
Total	220,911	113,630	2,232	49,565	55,484	832,897	465,817	10,398	160,870	195,812

Table 10.--Area of timberland, by forest type and ownership class, Coastal Plain of Virginia, 1985

Forest type	All ownerships	Ownership class				
		National Forest	Other public	Forest industry	Forest industry-leased	Other private
	Acres					
Softwood types:						
White pine-hemlock	--	--	--	--	--	--
Spruce-fir	--	--	--	--	--	--
Longleaf pine	--	--	--	--	--	--
Slash pine	--	--	--	--	--	--
Loblolly pine	1,161,945	--	44,588	471,945	1,208	644,204
Shortleaf pine	8,640	--	--	2,882	--	5,758
Virginia pine	102,320	--	14,654	23,868	--	63,798
Sand pine	--	--	--	--	--	--
Eastern redcedar	--	--	--	--	--	--
Pond pine	4,940	--	--	--	--	4,940
Spruce pine	--	--	--	--	--	--
Pitch pine	--	--	--	--	--	--
Table Mountain pine	--	--	--	--	--	--
Total	1,277,845	--	59,242	498,695	1,208	718,700
Hardwood types:						
Oak-pine	638,756	--	17,343	115,602	--	505,811
Oak-hickory	1,475,426	--	54,903	178,828	30	1,241,665
Chestnut oak	4,791	--	4,791	--	--	--
Southern scrub oak	--	--	--	--	--	--
Oak-gum-cypress	300,235	--	3,752	32,419	--	264,064
Elm-ash-cottonwood	76,876	--	4,202	20,790	824	51,060
Maple-beech-birch	--	--	--	--	--	--
Total	2,496,084	--	84,991	347,639	854	2,062,600
All types	3,773,929	--	144,233	846,334	2,062	2,781,300

Table 11.--Area of timberland, by ownership and stocking classes of growing-stock trees, Coastal Plain of Virginia, 1985

Ownership class	All classes	Stocking class (percent)[a]				
		> 130	100-130	60-99	16.7-59	< 16.7
	Acres					
National Forest	--	--	--	--	--	--
Other public	144,233	20,930	47,957	67,566	6,577	1,203
Forest industry	846,334	90,571	425,162	259,927	53,896	16,778
Forest industry-leased	2,062	2,032	--	30	--	--
Other private	2,781,300	150,916	1,135,490	1,200,333	253,493	41,068
All ownerships	3,773,929	264,449	1,608,609	1,527,856	313,966	59,049

[a]See stocking standards on page 12.

Table 12.--Area of timberland, by forest type and stand-size class, Coastal Plain of Virginia, 1985

Forest type	All stands	Stand-size class			Nonstocked areas
		Sawtimber	Poletimber	Sapling-seedling	
	Acres				
Softwood types:					
White pine-hemlock	--	--	--	--	--
Spruce-fir	--	--	--	--	--
Longleaf pine	--	--	--	--	--
Slash pine	--	--	--	--	--
Loblolly pine	1,161,945	383,776	409,551	354,286	14,332
Shortleaf pine	8,640	5,743	2,897	--	--
Virginia pine	102,320	37,154	50,321	14,845	--
Sand pine	--	--	--	--	--
Eastern redcedar	--	--	--	--	--
Pond pine	4,940	4,940	--	--	--
Spruce pine	--	--	--	--	--
Pitch pine	--	--	--	--	--
Table Mountain pine	--	--	--	--	--
Total	1,277,845	431,613	462,769	369,131	14,332
Hardwood types:					
Oak-pine	638,756	262,404	191,535	182,058	2,759
Oak-hickory	1,475,426	682,769	458,331	308,108	26,218
Chestnut oak	4,791	4,791	--	--	--
Southern scrub oak	--	--	--	--	--
Oak-gum-cypress	300,235	167,489	74,123	47,990	10,633
Elm-ash-cottonwood	76,876	36,098	9,126	26,545	5,107
Maple-beech-birch	--	--	--	--	--
Total	2,496,084	1,153,551	733,115	564,701	44,717
All types	3,773,929	1,585,164	1,195,884	933,832	59,049

Table 13.--Area of timberland, by stand-age and broad management classes, all ownerships, Coastal Plain of Virginia, 1985

Stand-age class (years)	All classes	Broad management class				
		Pine plantation	Natural pine	Oak-pine	Upland hardwood	Lowland hardwood
	Acres					
00-10	627,734	220,328	45,640	140,187	191,212	30,367
11-20	529,736	213,102	89,131	92,901	117,242	17,360
21-30	409,755	124,933	87,833	69,848	107,152	19,989
31-40	369,431	7,894	154,928	73,263	109,074	24,272
41-50	385,516	100	129,892	62,815	149,266	43,443
51-60	375,383	--	88,073	74,277	176,328	36,705
61-70	289,671	--	49,654	42,624	147,637	49,756
71-80	171,084	--	20,219	21,512	108,630	20,723
81+	191,808	--	16,323	19,660	125,704	30,121
No manageable stand	423,811	2,148	27,647	41,669	247,972	104,375
All classes	3,773,929	568,505	709,340	638,756	1,480,217	377,111

Table 14.--Area of timberland, by stand-age and broad management classes, public ownerships, Coastal Plain of Virginia, 1985

Stand-age class (years)	All classes	Broad management class				
		Pine plantation	Natural pine	Oak-pine	Upland hardwood	Lowland hardwood
	Acres					
00-10	13,845	2,665	3,376	--	7,804	--
11-20	14,956	320	2,857	4,626	7,153	--
21-30	1,387	471	526	200	190	--
31-40	32,977	--	31,674	418	425	460
41-50	17,564	100	7,992	5,402	4,045	25
51-60	16,006	--	5,241	1,170	9,595	--
61-70	8,471	--	--	2,290	2,038	4,143
71-80	14,482	--	--	--	14,259	223
81+	18,585	--	--	3,237	12,245	3,103
No manageable stand	5,960	--	4,020	--	1,940	--
All classes	144,233	3,556	55,686	17,343	59,694	7,954

Table 15.--Area of timberland, by stand-age and broad management classes, forest industry,[a] Coastal Plain of Virginia, 1985

Stand-age class (years)	All classes	Broad management class				
		Pine plantation	Natural pine	Oak-pine	Upland hardwood	Lowland hardwood
	Acres					
00-10	209,804	97,705	15,423	38,394	46,628	11,654
11-20	181,809	122,958	24,967	22,321	4,884	6,679
21-30	145,811	81,322	38,478	5,081	18,347	2,583
31-40	51,202	7,894	24,671	8,197	10,440	--
41-50	50,987	--	29,069	3,157	15,055	3,706
51-60	57,355	--	13,647	19,842	18,613	5,253
61-70	41,386	--	24,479	7,771	9,136	--
71-80	29,732	--	9,524	7,957	7,067	5,184
81+	22,748	--	--	2,882	12,764	7,102
No manageable stand	57,562	2,148	7,618	--	35,924	11,872
All classes	848,396	312,027	187,876	115,602	178,858	54,033

[a]Includes 2,062 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] Coastal Plain of Virginia, 1985

Stand-age class (years)	All classes	Broad management class				
		Pine plantation	Natural pine	Oak-pine	Upland hardwood	Lowland hardwood
	Acres					
00-10	404,085	119,958	26,841	101,793	136,780	18,713
11-20	332,971	89,824	61,307	65,954	105,205	10,681
21-30	262,557	43,140	48,829	64,567	88,615	17,406
31-40	285,252	--	98,583	64,648	98,209	23,812
41-50	316,965	--	92,831	54,256	130,166	39,712
51-60	302,022	--	69,185	53,265	148,120	31,452
61-70	239,814	--	25,175	32,563	136,463	45,613
71-80	126,870	--	10,695	13,555	87,304	15,316
81+	150,475	--	16,323	13,541	100,695	19,916
No manageable stand	360,289	--	16,009	41,669	210,108	92,503
All classes	2,781,300	252,922	465,778	505,811	1,241,665	315,124

[a]Excludes 2,062 acres of other private land under long-term lease to forest industry.

Table 17.--Area of timberland, by broad management and stand-volume classes, Coastal Plain of Virginia, 1985

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	568,505	299,247	91,814	44,863	60,755	71,826
Natural pine	709,340	94,332	67,245	52,014	84,169	411,580
Oak-pine	638,756	170,316	94,220	102,777	90,529	180,914
Upland hardwood	1,480,217	315,784	220,702	235,208	272,911	435,612
Lowland hardwood	377,111	89,926	31,590	56,037	33,450	166,108
All classes	3,773,929	969,605	505,571	490,899	541,814	1,266,040

Table 18.--Volume of growing stock on timberland, by broad management class, species group, and stand-age class, Coastal Plain of Virginia, 1985

Broad management class and species group	All classes	No manageable stand	Stand-age class (years)								
			0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81+
	Thousand cubic feet										
Pine plantation:											
Softwood	392,576	--	6,219	165,908	202,485	17,964	--	--	--	--	--
Hardwood	47,039	--	3,242	13,320	28,447	2,030	--	--	--	--	--
Total	439,615	--	9,461	179,228	230,932	19,994	--	--	--	--	--
Natural pine:											
Softwood	1,274,400	3,365	5,049	58,937	142,839	343,456	315,742	207,730	107,419	52,764	37,099
Hardwood	273,546	2,889	2,077	9,346	32,398	50,483	64,118	52,236	33,319	8,278	18,402
Total	1,547,946	6,254	7,126	68,283	175,237	393,939	379,860	259,966	140,738	61,042	55,501
Oak-pine:											
Softwood	386,470	17,333	6,726	30,193	42,347	70,835	64,412	60,294	41,009	29,396	23,925
Hardwood	485,984	15,512	20,967	35,081	45,353	76,580	87,644	86,423	50,111	35,182	33,131
Total	872,454	32,845	27,693	65,274	87,700	147,415	152,056	146,717	91,120	64,578	57,056
Upland hardwood:											
Softwood	198,142	16,989	7,219	10,528	17,972	14,800	22,983	36,016	28,881	25,623	17,131
Hardwood	2,058,654	140,397	43,366	64,455	116,219	159,990	238,438	360,583	337,366	244,327	353,513
Total	2,256,796	157,386	50,585	74,983	134,191	174,790	261,421	396,599	366,247	269,950	370,644
Lowland hardwood:											
Softwood	71,819	6,185	2,228	674	3,500	3,832	6,560	8,604	16,037	2,453	21,746
Hardwood	714,515	57,563	10,301	9,638	34,844	39,097	128,975	111,661	144,152	78,248	100,036
Total	786,334	63,748	12,529	10,312	38,344	42,929	135,535	120,265	160,189	80,701	121,782
All types:											
Softwood	2,323,407	43,872	27,441	266,240	409,143	450,887	409,697	312,644	193,346	110,236	99,901
Hardwood	3,579,738	216,361	79,953	131,840	257,261	328,180	519,175	610,903	564,948	366,035	505,082
Total	5,903,145	260,233	107,394	398,080	666,404	779,067	928,872	923,547	758,294	476,271	604,983

Table 19.--Net annual growth of growing stock on timberland, by broad management class, species group, and stand-age class, Coastal Plain of Virginia, 1984

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	34,661	--	2,401	18,587	12,844	829	--	--	--	--	--
Hardwood	3,922	--	81	938	2,774	129	--	--	--	--	--
Total	38,583	--	2,482	19,525	15,618	958	--	--	--	--	--
Natural pine:											
Softwood	44,891	137	377	5,133	7,689	12,582	9,342	5,492	2,280	1,200	659
Hardwood	14,560	89	109	612	2,172	3,598	3,195	2,667	1,264	252	602
Total	59,451	226	486	5,745	9,861	16,180	12,537	8,159	3,544	1,452	1,261
Oak-pine:											
Softwood	13,375	500	688	2,857	1,650	2,426	1,563	1,483	1,042	658	508
Hardwood	20,541	454	1,126	1,811	2,856	3,858	3,345	3,400	1,854	987	850
Total	33,916	954	1,814	4,668	4,506	6,284	4,908	4,883	2,896	1,645	1,358
Upland hardwood:											
Softwood	6,464	486	254	801	673	813	671	1,021	792	530	423
Hardwood	72,260	5,218	2,301	3,610	6,166	7,183	9,986	12,541	10,628	6,616	8,011
Total	78,724	5,704	2,555	4,411	6,839	7,996	10,657	13,562	11,420	7,146	8,434
Lowland hardwood:											
Softwood	1,794	193	83	20	104	97	206	224	319	57	491
Hardwood	20,357	1,721	282	568	1,426	1,816	4,253	2,982	3,432	1,779	2,098
Total	22,151	1,914	365	588	1,530	1,913	4,459	3,206	3,751	1,836	2,589
All types:											
Softwood	101,185	1,316	3,803	27,398	22,960	16,747	11,782	8,220	4,433	2,445	2,081
Hardwood	131,640	7,482	3,899	7,539	15,394	16,584	20,779	21,590	17,178	9,634	11,561
Total	232,825	8,798	7,702	34,937	38,354	33,331	32,561	29,810	21,611	12,079	13,642

[a]Classifications 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, Coastal Plain of Virginia, 1984

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	5,883	--	--	3,541	2,342	--	--	--	--	--	--
Hardwood	274	--	94	--	180	--	--	--	--	--	--
Total	6,157	--	94	3,541	2,522	--	--	--	--	--	--
Natural pine:											
Softwood	84,293	289	1,735	2,770	9,899	18,029	21,299	18,251	6,496	4,626	899
Hardwood	15,238	--	273	382	1,205	3,222	2,940	3,347	1,221	2,281	367
Total	99,531	289	2,008	3,152	11,104	21,251	24,239	21,598	7,717	6,907	1,266
Oak-pine:											
Softwood	14,553	462	--	839	1,117	800	4,840	4,919	275	555	746
Hardwood	14,793	212	--	231	721	835	3,782	5,359	1,311	1,055	1,287
Total	29,346	674	--	1,070	1,838	1,635	8,622	10,278	1,586	1,610	2,033
Upland hardwood:											
Softwood	6,020	899	100	1,038	101	1,224	1,168	719	529	87	155
Hardwood	56,753	4,065	795	1,177	1,745	6,231	5,656	11,008	8,928	5,915	11,233
Total	62,773	4,964	895	2,215	1,846	7,455	6,824	11,727	9,457	6,002	11,388
Lowland hardwood:											
Softwood	5,113	560	262	--	--	587	599	1,407	145	1,058	495
Hardwood	17,991	1,416	163	--	465	1,473	4,497	4,508	646	3,996	827
Total	23,104	1,976	425	--	465	2,060	5,096	5,915	791	5,054	1,322
All types:											
Softwood	115,862	2,210	2,097	8,188	13,459	20,640	27,906	25,296	7,445	6,326	2,295
Hardwood	105,049	5,693	1,325	1,790	4,316	11,761	16,875	24,222	12,106	13,247	13,714
Total	220,911	7,903	3,422	9,978	17,775	32,401	44,781	49,518	19,551	19,573	16,009

[a]Classification before timber removals occurred.

Table 21.--Merchantable volume of live trees and growing stock on timberland, by forest-type group and species group, Coastal Plain of Virginia, 1985

Forest type-group	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									
White pine-hemlock	--	--	--	--	--	--	--	--	--	--
Spruce-fir	--	--	--	--	--	--	--	--	--	--
Longleaf-slash pine	--	--	--	--	--	--	--	--	--	--
Loblolly-shortleaf pine	2,025,945	1,672,889	--	205,449	147,607	1,987,561	1,666,976	--	189,539	131,046
Oak-pine	915,966	385,957	2,411	238,600	288,998	872,454	384,274	2,196	220,375	265,609
Oak-hickory	2,426,218	196,043	4,817	862,928	1,362,430	2,256,796	193,939	4,203	797,649	1,261,005
Oak-gum-cypress	749,336	24,957	39,776	506,427	178,176	663,979	24,957	39,029	444,199	155,794
Elm-ash-cottonwood	140,199	4,572	3,261	89,527	42,839	122,355	4,572	3,261	82,234	32,288
Maple-beech-birch	--	--	--	--	--	--	--	--	--	--
All types	6,257,664	2,284,418	50,265	1,902,931	2,020,050	5,903,145	2,274,718	48,689	1,733,996	1,845,742

Table 22.--Area of timberland treated or disturbed annually and retained in timberland, by treatment or disturbance and ownership class, Coastal Plain of Virginia, 1976 to 1985

Treatment or disturbance	All ownerships	Ownership class			
		Public	Forest industry	Forest industry-leased	Other private
	Acres[a]				
Final harvest	72,450	1,209	22,422	3	48,816
Selective cutting and high grading	7,023	666	1,068	--	5,289
Commercial thinning	4,396	372	2,561	--	1,463
Other stand improvement	2,072	359	277	--	1,436
Site preparation	37,855	378	18,209	--	19,268
Artificial regeneration[b]	34,117	276	14,373	--	19,468
Natural regeneration[b]	31,210	887	7,172	3	23,148
Other treatment	7,097	--	868	--	6,229
Natural disturbance	33,729	1,614	7,946	--	24,169

[a]Since some acres experience more than one treatment or disturbance, there are no column totals.

[b]Includes 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, Coastal Plain of Virginia, 1976 to 1985

Treatment or disturbance	All classes	Broad management class[a]				
		Pine plantation	Natural pine	Oak-pine	Upland hardwood	Lowland hardwood
	Acres[b]					
Final harvest	72,450	1,165	31,236	12,605	21,537	5,907
Selective cutting and high grading	7,023	--	1,521	910	4,313	279
Commercial thinning	4,396	1,398	2,455	248	--	295
Other stand improvement	2,072	617	588	569	298	--
Site preparation	37,855	1,165	15,951	8,095	10,961	1,683
Other treatment	7,097	261	1,926	923	3,112	875
Natural disturbance	33,729	2,047	14,139	3,312	8,260	5,971

[a]Classification before treatment or disturbance.

[b]Since 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, Coastal Plain of Virginia, 1976 to 1985

Type of regeneration	All classes	Broad management class[a]				
		Pine plantation	Natural pine	Oak-pine	Upland hardwood	Lowland hardwood
	Acres					
Artificial regeneration following harvest	27,000	18,756	--	6,129	1,428	687
Natural regeneration following harvest	24,479	--	2,774	5,634	14,698	1,373
Other artificial regeneration on forest land	6,822	4,483	--	1,734	295	310
Other natural regeneration on forest land	3,411	--	545	289	2,319	258
Artificial regeneration on nonforest land	295	295	--	--	--	--
Natural reversion of nonforest land	3,320	--	1,732	672	916	--
Total	65,327	23,534	5,051	14,458	19,656	2,628

[a]Classification after regeneration.

Table 25.--Area of timberland, by treatment opportunity and broad management classes, Coastal Plain of Virginia, 1985

Treatment opportunity class	All classes	Broad management class				
		Pine plantation	Natural pine	Oak-pine	Upland hardwood	Lowland hardwood
	Acres					
Salvage	21,083	--	10,910	8,348	1,825	--
Harvest	402,085	--	80,170	53,416	212,721	55,778
Commercial thinning	230,809	137,156	75,913	7,656	2,596	7,488
Other stand improvement	423,908	46,971	74,472	100,761	176,553	25,151
Stand conversion	52,296	--	--	12,228	40,068	--
Regeneration	361,080	2,148	25,445	37,282	232,369	63,836
Stands in relatively good condition	2,111,468	382,230	432,583	414,678	756,496	125,481
Adverse sites[a]	171,200	--	9,847	4,387	57,589	99,377
All classes	3,773,929	568,505	709,340	638,756	1,480,217	377,111

[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, Coastal Plain of Virginia, 1985

Treatment opportunity class	All ownerships	Ownership class			
		Public	Forest industry	Forest industry-leased	Other private
	Acres				
Salvage	21,083	1,825	2,724	--	16,534
Harvest	402,085	38,835	59,096	824	303,330
Commercial thinning	230,809	14,109	115,006	1,208	100,486
Other stand improvement	423,908	6,830	80,458	--	336,620
Stand conversion	52,296	1,825	10,240	--	40,231
Regeneration	361,080	5,960	46,591	--	308,529
Stands in relatively good condition	2,111,468	74,824	516,317	30	1,520,297
Adverse sites[a]	171,200	25	15,902	--	155,273
All classes	3,773,929	144,233	846,334	2,062	2,781,300

[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, Coastal Plain of Virginia, 1985

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	--	--	--	--	--	--	--	--	--	--
Other public	352,286	146,939	2,480	109,999	92,868	336,494	146,279	2,480	101,834	85,901
Forest industry	1,171,486	659,944	10,436	246,530	254,576	1,132,804	659,259	10,436	233,366	229,743
Forest industry-leased	9,485	--	--	7,656	1,829	8,838	--	--	7,009	1,829
Other private	4,724,407	1,477,535	37,349	1,538,746	1,670,777	4,425,009	1,469,180	35,773	1,391,787	1,528,269
All ownerships	6,257,664	2,284,418	50,265	1,902,931	2,020,050	5,903,145	2,274,718	48,689	1,733,996	1,845,742

Table 28.--Volume of sawtimber on timberland, by ownership class and species group, Coastal Plain of Virginia, 1985

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	--	--	--	--	--	--	--	--	--	--
Other public	460,187	292,087	--	109,521	58,579	785,180	300,447	13,262	227,139	244,332
Forest industry	1,605,616	1,048,863	6,607	291,991	258,155	1,501,826	685,412	40,887	388,689	386,838
Forest industry-leased	7,818	--	--	4,085	3,733	4,728	--	--	2,268	2,460
Other private	6,350,537	3,188,596	43,469	1,479,213	1,639,259	7,596,878	2,105,635	126,319	2,449,303	2,915,621
All ownerships	8,424,158	4,529,546	50,076	1,884,810	1,959,726	9,888,612	3,091,494	180,468	3,067,399	3,549,251

[a]Volume of sawtimber trees less than 15.0 inches at d.b.h.

[b]Volume 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, Coastal Plain of Virginia, 1984

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	--	--	--	--	--	--	--	--	--	--
Other public	10,706	4,361	59	3,472	2,814	6,647	2,508	--	1,614	2,525
Forest industry	56,777	37,698	257	9,323	9,499	59,847	39,279	95	7,921	12,552
Forest industy-leased	332	--	--	283	49	--	--	--	--	--
Other private	165,010	57,660	1,150	53,908	52,292	154,417	71,843	2,137	40,030	40,407
All ownerships	232,825	99,719	1,466	66,986	64,654	220,911	113,630	2,232	49,565	55,484

Table 30.--Net annual growth and removals of sawtimber on timberland, by ownership class and species group, Coastal Plain of Virginia, 1984

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	--	--	--	--	--	--	--	--	--	--
Other public	53,006	24,531	398	15,497	12,580	24,127	10,400	--	3,929	9,798
Forest industry	162,071	97,461	1,402	31,223	31,985	225,108	159,641	437	20,844	44,186
Forest industry-leased	1,400	--	--	1,234	166	--	--	--	--	--
Other private	650,583	247,453	5,511	188,569	209,050	583,662	295,776	9,961	136,097	141,828
All ownerships	867,060	369,445	7,311	236,523	253,781	832,897	465,817	10,398	160,870	195,812

Table 31.--Volume of timber on timberland, by class and species group, Coastal Plain of Virginia, 1985

Class of timber	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
	Thousand cubic feet				
Sawtimber trees:					
Saw-log portion	3,130,233	1,350,025	39,627	837,056	903,525
Upper-stem portion[a]	826,431	215,663	4,513	248,017	358,238
Total	3,956,664	1,565,688	44,140	1,085,073	1,261,763
Poletimber trees	1,946,481	709,030	4,549	648,923	583,979
All growing-stock trees	5,903,145	2,274,718	48,689	1,733,996	1,845,742
Rough trees:					
Sawtimber size	113,064	4,814	250	54,707	53,293
Poletimber size	181,368	3,964	355	76,779	100,270
Total	294,432	8,778	605	131,486	153,563
Rotten trees:					
Sawtimber size	54,228	922	971	33,520	18,815
Poletimber size	5,859	--	--	3,929	1,930
Total	60,087	922	971	37,449	20,745
Salvable dead trees:					
Sawtimber size	11,319	8,086	--	1,374	1,859
Poletimber size	10,657	8,014	--	1,036	1,607
Total	21,976	16,100	--	2,410	3,466
Total, all timber	6,279,640	2,300,518	50,265	1,905,341	2,023,516

[a]Includes cull sections in the saw-log portion.

Table 32.--Number of live trees on timberland, by species and diameter class, Coastal Plain of Virginia, 1985

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	10,924	3,221	1,885	1,855	1,453	1,537	575	215	158	--	19	6	--
Loblolly pine	544,241	182,222	150,472	97,464	55,512	24,829	14,533	9,747	5,128	2,584	1,119	624	7
Pond pine	766	--	--	74	169	253	99	59	37	44	21	7	3
Virginia pine	92,436	37,417	23,225	15,233	8,958	4,379	2,135	716	264	74	27	8	--
Pitch pine	17	--	--	--	--	--	--	17	--	--	--	--	--
Table Mountain pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Spruce pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Sand pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Eastern white pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Eastern hemlock	--	--	--	--	--	--	--	--	--	--	--	--	--
Spruce and fir	--	--	--	--	--	--	--	--	--	--	--	--	--
Baldcypress	1,024	--	170	--	109	68	202	132	103	66	40	87	47
Pondcypress	181	--	--	--	--	--	26	58	16	12	11	43	15
Cedars	30,803	22,599	6,583	1,061	307	158	50	20	25	--	--	--	--
Total softwoods	680,392	245,459	182,335	115,687	66,508	31,224	17,620	10,964	5,731	2,780	1,237	775	72
Hardwood:													
Select white oaks	184,658	93,580	37,056	20,073	12,542	8,073	5,568	3,604	1,850	1,158	585	489	80
Select red oaks	29,737	16,391	5,545	3,139	1,156	1,104	708	490	532	250	136	225	61
Chestnut oak	8,602	3,136	1,642	1,297	1,104	374	506	269	75	91	39	61	8
Other white oaks	18,225	11,082	2,361	1,490	1,702	784	443	147	97	44	28	30	17
Other red oaks	232,641	142,714	40,050	19,041	11,500	7,137	4,495	2,967	2,305	1,182	657	548	45
Hickory	89,944	64,301	13,138	4,132	2,984	2,393	1,297	933	357	174	57	172	6
Yellow birch	--	--	--	--	--	--	--	--	--	--	--	--	--
Hard maple	979	830	--	--	50	39	24	36	--	--	--	--	--
Soft maple	443,022	332,592	63,874	23,361	9,292	5,740	3,318	2,024	1,266	729	424	344	58
Beech	62,954	41,096	9,392	3,754	2,124	2,307	1,252	1,008	684	593	345	352	47
Sweetgum	521,451	360,123	92,275	34,087	15,153	9,769	4,462	2,956	1,259	529	389	418	31
Tupelo and blackgum	152,811	106,409	18,979	10,335	5,831	4,890	2,807	1,516	844	658	201	277	64
Ash	50,281	33,788	9,146	3,686	1,494	743	708	420	137	41	65	47	6
Cottonwood	382	160	--	--	--	156	51	--	15	--	--	--	--
Basswood	--	--	--	--	--	--	--	--	--	--	--	--	--
Yellow-poplar	145,713	89,314	25,615	8,835	7,058	4,286	3,449	2,679	2,045	1,053	643	674	62
Bay and magnolia	24,628	19,469	3,754	1,147	84	174	--	--	--	--	--	--	--
Black cherry	31,336	22,850	6,412	1,381	498	69	54	64	--	--	--	8	--
Black walnut	3,443	1,396	1,090	336	188	78	164	55	44	55	--	27	10
Sycamore	5,650	3,275	813	361	125	400	278	92	96	81	65	54	10
Black locust	2,133	1,165	352	218	130	161	50	36	--	13	--	8	--
Elm	25,733	17,980	4,089	964	1,570	545	197	169	87	88	--	42	2
Other eastern hardwoods	673,989	561,293	84,603	17,608	6,108	2,062	1,232	422	253	179	97	119	13
Total hardwoods	2,708,312	1,922,944	420,186	155,245	80,693	51,284	31,063	19,887	11,946	6,918	3,731	3,895	520
All species	3,388,704	2,168,403	602,521	270,932	147,201	82,508	48,683	30,851	17,677	9,698	4,968	4,670	592

Table 33.--Number of growing-stock trees on timberland, by species and diameter class, Coastal Plain of Virginia, 1985

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	10,198	2,719	1,721	1,855	1,393	1,537	575	215	158	--	19	6	--
Loblolly pine	528,881	170,621	147,874	96,797	55,295	24,644	14,483	9,729	5,114	2,584	1,109	624	7
Pond pine	728	--	--	74	169	253	81	39	37	44	21	7	3
Virginia pine	88,373	34,456	22,733	14,771	8,908	4,335	2,111	716	234	74	27	8	--
Pitch pine	17	--	--	--	--	--	--	17	--	--	--	--	--
Table Mountain pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Spruce pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Sand pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Eastern white pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Eastern hemlock	--	--	--	--	--	--	--	--	--	--	--	--	--
Spruce and fir	--	--	--	--	--	--	--	--	--	--	--	--	--
Baldcypress	1,020	--	170	--	109	68	202	132	103	66	40	87	43
Pondcypress	181	--	--	--	--	--	26	58	16	12	11	43	15
Cedars	24,528	17,951	5,268	810	307	117	50	--	25	--	--	--	--
Total softwoods	653,926	225,747	177,766	114,307	66,181	30,954	17,528	10,906	5,687	2,780	1,227	775	68
Hardwood:													
Select white oaks	152,865	68,371	33,018	18,875	11,785	7,711	5,464	3,540	1,833	1,147	585	462	74
Select red oaks	25,358	12,826	4,993	2,940	1,156	1,104	683	490	532	240	136	210	48
Chestnut oak	7,002	2,297	1,316	1,003	1,104	329	480	232	75	74	31	61	--
Other white oaks	14,155	8,070	1,711	1,237	1,702	740	364	130	97	44	28	24	8
Other red oaks	190,614	109,199	34,658	17,038	10,871	6,910	4,385	2,910	2,288	1,158	649	513	35
Hickory	64,530	42,053	10,710	3,524	2,931	2,362	1,297	914	357	161	57	158	6
Yellow birch	--	--	--	--	--	--	--	--	--	--	--	--	--
Hard maple	274	164	--	--	50	--	24	36	--	--	--	--	--
Soft maple	273,314	187,194	49,189	18,652	7,352	4,610	2,801	1,556	899	478	315	241	27
Beech	39,053	22,536	6,335	3,222	1,348	1,998	1,025	881	588	524	297	261	38
Sweetgum	402,742	259,281	80,166	30,785	13,974	9,107	4,223	2,818	1,187	492	343	355	11
Tupelo and blackgum	79,081	44,448	12,604	8,070	4,554	3,969	2,471	1,366	755	510	137	172	25
Ash	19,925	10,683	4,408	2,079	1,040	588	578	315	91	41	56	40	6
Cottonwood	382	160	--	--	--	156	51	--	15	--	--	--	--
Basswood	--	--	--	--	--	--	--	--	--	--	--	--	--
Yellow-poplar	126,079	73,840	22,437	8,554	6,630	4,211	3,373	2,639	2,028	1,053	634	627	53
Bay and magnolia	11,234	8,414	2,220	483	84	33	--	--	--	--	--	--	--
Black cherry	12,337	8,461	3,351	400	74	--	28	23	--	--	--	--	--
Black walnut	1,814	465	475	336	188	37	164	55	32	43	--	19	--
Sycamore	4,012	1,867	649	361	125	357	255	92	96	81	65	54	10
Black locust	946	488	161	96	130	35	--	36	--	--	--	--	--
Elm	12,527	6,858	2,449	794	1,428	457	165	169	87	76	--	42	2
Other eastern hardwoods	22,692	15,687	2,661	1,435	1,020	680	487	252	181	155	47	82	5
Total hardwoods	1,460,936	883,362	273,511	119,884	67,546	45,394	28,318	18,454	11,141	6,277	3,380	3,321	348
All species	2,114,862	1,109,109	451,277	234,191	133,727	76,348	45,846	29,360	16,828	9,057	4,607	4,096	416

Table 34.--Merchantable volume of live trees on timberland, by species and diameter class, Coastal Plain of 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:											
Longleaf pine	--	--	--	--	--	--	--	--	--	--	--
Slash pine	--	--	--	--	--	--	--	--	--	--	--
Shortleaf pine	60,095	4,856	9,715	19,270	11,804	6,052	6,436	--	1,361	601	--
Loblolly pine	1,947,172	231,547	345,250	301,100	289,650	288,831	210,178	139,166	78,661	61,307	1,482
Pond pine	12,524	155	855	2,610	1,624	1,371	1,252	2,063	1,237	666	691
Virginia pine	264,083	50,391	70,225	60,859	45,630	20,661	10,201	3,760	1,598	758	--
Pitch pine	544	--	--	--	--	544	--	--	--	--	--
Table Mountain pine	--	--	--	--	--	--	--	--	--	--	--
Spruce pine	--	--	--	--	--	--	--	--	--	--	--
Sand pine	--	--	--	--	--	--	--	--	--	--	--
Eastern white pine	--	--	--	--	--	--	--	--	--	--	--
Eastern hemlock	--	--	--	--	--	--	--	--	--	--	--
Spruce and fir	--	--	--	--	--	--	--	--	--	--	--
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	7,142	2,250	1,857	1,496	713	224	602	--	--	--	--
Total softwoods	2,334,683	289,199	428,699	386,236	353,968	322,634	233,065	148,928	85,894	74,967	11,093
Hardwood:											
Select white oaks	650,578	53,661	78,018	89,972	102,392	96,759	68,770	59,373	37,136	45,226	19,271
Select red oaks	132,957	9,859	6,948	13,062	12,536	13,162	19,972	12,897	8,825	22,830	12,866
Chestnut oak	43,246	2,954	5,988	4,257	9,136	6,854	2,661	3,506	2,251	4,513	1,126
Other white oaks	41,015	3,325	8,976	7,885	6,417	3,032	3,169	1,907	1,596	2,641	2,067
Other red oaks	579,832	49,612	65,752	74,541	77,467	75,084	82,552	56,612	40,849	50,178	7,185
Hickory	150,667	8,307	18,170	28,521	24,486	26,857	13,736	9,244	4,013	16,082	1,251
Yellow birch	--	--	--	--	--	--	--	--	--	--	--
Hard maple	1,909	--	411	327	299	872	--	--	--	--	--
Soft maple	404,213	63,075	55,614	60,085	56,097	46,787	40,045	29,137	21,983	24,084	7,306
Beech	198,499	9,778	10,294	23,552	20,906	25,691	22,801	27,365	20,931	29,657	7,524
Sweetgum	599,067	72,535	92,888	114,334	89,865	86,495	50,853	27,498	24,573	36,499	3,527
Tupelo and blackgum	283,075	25,409	33,433	51,292	48,588	37,099	28,940	26,870	8,673	16,925	5,846
Ash	63,624	8,894	9,104	8,041	11,778	11,397	4,231	2,048	3,488	3,717	926
Cottonwood	3,530	--	--	2,047	970	--	513	--	--	--	--
Basswood	--	--	--	--	--	--	--	--	--	--	--
Yellow-poplar	525,048	24,727	46,211	51,511	67,246	78,637	81,874	56,329	41,595	63,917	13,001
Bay and magnolia	4,740	2,726	370	1,644	--	--	--	--	--	--	--
Black cherry	7,515	2,857	2,173	400	1,010	1,012	--	--	--	63	--
Black walnut	12,702	782	1,123	569	2,866	1,277	1,256	2,574	--	1,573	682
Sycamore	34,600	1,555	917	5,184	5,859	2,506	3,451	3,878	3,973	5,209	2,068
Black locust	4,572	488	485	1,162	543	821	--	620	--	453	--
Elm	37,183	2,187	8,484	5,605	3,700	3,953	3,899	4,644	--	3,994	717
Other eastern hardwoods	144,409	37,355	27,869	18,505	17,305	10,148	8,799	8,089	4,784	10,487	1,068
Total hardwoods	3,922,981	380,086	473,228	562,496	559,466	528,443	437,522	332,591	224,670	338,048	86,431
All species	6,257,664	669,285	901,927	948,732	913,434	851,077	670,587	481,519	310,564	413,015	97,524

Table 35.--Volume of growing stock on timberland, by species and diameter class, Coastal Plain of 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:											
Longleaf pine	--	--	--	--	--	--	--	--	--	--	--
Slash pine	--	--	--	--	--	--	--	--	--	--	--
Shortleaf pine	59,763	4,856	9,383	19,270	11,804	6,052	6,436	--	1,361	601	--
Loblolly pine	1,941,519	230,654	343,809	299,396	288,949	288,535	209,927	139,166	78,294	61,307	1,482
Pond pine	11,877	155	855	2,610	1,371	977	1,252	2,063	1,237	666	691
Virginia pine	261,015	49,427	69,891	60,384	45,201	20,661	9,335	3,760	1,598	758	--
Pitch pine	544	--	--	--	--	544	--	--	--	--	--
Table Mountain pine	--	--	--	--	--	--	--	--	--	--	--
Spruce pine	--	--	--	--	--	--	--	--	--	--	--
Sand pine	--	--	--	--	--	--	--	--	--	--	--
Eastern white pine	--	--	--	--	--	--	--	--	--	--	--
Eastern hemlock	--	--	--	--	--	--	--	--	--	--	--
Spruce and fir	--	--	--	--	--	--	--	--	--	--	--
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	6,313	1,895	1,857	1,246	713	--	602	--	--	--	--
Total softwoods	2,323,407	286,987	426,592	383,807	352,585	321,720	231,948	148,928	85,527	74,967	10,346
Hardwood:											
Select white oaks	634,553	51,583	74,637	86,887	101,318	95,648	68,382	58,715	37,136	43,109	17,138
Select red oaks	127,645	9,433	6,948	13,062	12,219	13,162	19,972	12,540	8,825	21,592	9,892
Chestnut oak	39,318	2,580	5,988	3,949	8,757	5,766	2,661	3,141	1,963	4,513	--
Other white oaks	37,818	2,908	8,976	7,587	5,590	2,681	3,169	1,907	1,596	2,304	1,100
Other red oaks	564,123	45,660	63,046	72,768	76,044	74,038	81,990	55,717	40,424	48,493	5,943
Hickory	147,527	7,453	17,928	28,016	24,486	26,482	13,736	8,809	4,013	15,353	1,251
Yellow birch	--	--	--	--	--	--	--	--	--	--	--
Hard maple	1,582	--	411	--	299	872	--	--	--	--	--
Soft maple	331,080	52,499	46,192	49,301	48,920	37,881	32,129	21,364	18,352	19,649	4,793
Beech	174,903	8,307	7,011	21,097	17,854	22,687	20,214	25,742	19,675	25,548	6,768
Sweetgum	565,192	65,675	87,128	108,924	86,895	83,831	48,426	26,413	22,911	32,920	2,069
Tupelo and blackgum	243,085	20,292	27,452	43,787	44,047	34,883	26,875	22,970	6,598	12,667	3,514
Ash	52,185	5,470	7,412	6,528	10,801	9,557	2,906	2,048	3,099	3,438	926
Cottonwood	3,530	--	--	2,047	970	--	513	--	--	--	--
Basswood	--	--	--	--	--	--	--	--	--	--	--
Yellow-poplar	515,358	24,119	43,711	50,712	66,328	78,087	81,475	56,329	41,172	61,498	11,927
Bay and magnolia	2,127	1,352	370	405	--	--	--	--	--	--	--
Black cherry	2,134	1,021	243	--	424	446	--	--	--	--	--
Black walnut	10,599	782	1,123	390	2,866	1,277	931	2,113	--	1,117	--
Sycamore	33,779	1,555	917	4,841	5,381	2,506	3,451	3,878	3,973	5,209	2,068
Black locust	1,876	270	485	300	--	821	--	--	--	--	--
Elm	34,150	1,652	7,905	4,854	3,079	3,953	3,899	4,097	--	3,994	717
Other eastern hardwoods	57,174	3,963	5,218	7,772	8,186	6,733	6,767	7,270	3,041	7,816	408
Total hardwoods	3,579,738	306,574	413,101	513,227	524,464	501,311	417,496	313,053	212,778	309,220	68,514
All species	5,903,145	593,561	839,693	897,034	877,049	823,031	649,444	461,981	298,305	384,187	78,860

Table 36.--Volume of sawtimber on timberland, by species and diameter class, Coastal Plain of Virginia, 1985

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	203,297	70,719	53,299	30,854	35,923	--	8,460	4,042	--
Loblolly pine	6,771,845	1,065,217	1,299,084	1,479,291	1,179,168	834,477	493,896	409,922	10,790
Pond pine	56,765	9,783	6,137	5,023	7,013	11,999	7,528	4,321	4,961
Virginia pine	586,372	219,852	191,578	95,948	46,423	19,589	8,706	4,276	--
Pitch pine	2,761	--	--	2,761	--	--	--	--	--
Table Mountain pine	--	--	--	--	--	--	--	--	--
Spruce pine	--	--	--	--	--	--	--	--	--
Sand pine	--	--	--	--	--	--	--	--	--
Eastern white pine	--	--	--	--	--	--	--	--	--
Eastern hemlock	--	--	--	--	--	--	--	--	--
Spruce and fir	--	--	--	--	--	--	--	--	--
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	11,228	4,868	3,114	--	3,246	--	--	--	--
Total softwoods	7,851,584	1,373,152	1,570,741	1,635,729	1,292,691	886,322	534,878	490,105	67,966
Hardwood:									
Select white oaks	1,830,301	--	344,065	379,194	301,952	279,306	187,285	233,381	105,118
Select red oaks	467,026	--	41,456	52,146	87,719	59,391	44,626	119,530	62,158
Chestnut oak	108,814	--	29,213	21,569	11,396	14,177	9,334	23,125	--
Other white oaks	82,241	--	19,902	11,077	14,276	9,519	8,351	12,556	6,560
Other red oaks	1,729,039	--	267,936	303,577	369,832	271,659	207,586	272,225	36,224
Hickory	411,566	--	84,077	107,410	62,851	42,843	20,712	85,729	7,944
Yellow birch	--	--	--	--	--	--	--	--	--
Hard maple	4,493	--	1,008	3,485	--	--	--	--	--
Soft maple	749,063	--	157,525	142,999	134,936	96,898	88,210	101,010	27,485
Beech	547,334	--	65,298	85,956	78,669	102,499	79,751	106,238	28,923
Sweetgum	1,379,170	--	310,709	358,212	232,830	138,706	127,493	197,405	13,815
Tupelo and blackgum	625,906	--	141,869	134,621	115,958	108,725	33,106	68,999	22,628
Ash	134,338	--	35,279	37,767	12,350	9,765	15,328	18,193	5,656
Cottonwood	5,603	--	3,342	--	2,261	--	--	--	--
Basswood	--	--	--	--	--	--	--	--	--
Yellow-poplar	1,976,728	--	238,006	340,636	397,869	301,090	234,108	381,313	83,706
Bay and magnolia	--	--	--	--	--	--	--	--	--
Black cherry	3,223	--	1,488	1,735	--	--	--	--	--
Black walnut	30,993	--	9,753	4,617	3,504	8,423	--	4,696	--
Sycamore	119,580	--	16,662	9,665	14,953	17,967	19,485	28,018	12,830
Black locust	2,941	--	--	2,941	--	--	--	--	--
Elm	85,618	--	10,488	15,087	16,738	18,883	--	20,305	4,117
Other eastern hardwoods	167,209	--	28,033	25,733	28,179	31,488	14,109	37,640	2,027
Total hardwoods	10,461,186	--	1,806,109	2,038,427	1,886,273	1,511,339	1,089,484	1,710,363	419,191
All species	18,312,770	1,373,152	3,376,850	3,674,156	3,178,964	2,397,661	1,624,362	2,200,468	487,157

Table 37.--Volume of sawtimber on timberland, by species, size class, and log grade, Coastal Plain of Virginia, 1985

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]	7,621,040	2,109,438	1,097,861	4,413,741	(b)	3,091,494	1,112,938	463,724	1,514,832	(b)
Eastern white pine[c]	--	--	--	--	--	--	--	--	--	--
Spruce and fir[c]	--	--	--	--	--	--	--	--	--	--
Cypress[c]	219,316	38,059	108,728	72,529	--	177,222	37,217	86,839	53,166	--
Other eastern softwoods[c]	11,228	--	--	9,972	1,256	3,246	--	--	2,629	617
Total	7,851,584	2,147,497	1,206,589	4,496,242	1,256	3,271,962	1,150,155	550,563	1,570,627	617
Hardwood:[d]										
Select white and red oaks	2,297,327	370,249	469,371	964,031	493,676	1,480,466	370,249	359,179	532,967	218,071
Other white and red oaks	1,920,094	321,076	434,368	810,895	353,755	1,266,820	321,076	355,157	413,232	177,355
Hickory	411,566	57,220	84,228	191,435	78,683	220,079	57,220	44,016	88,032	30,811
Yellow birch	--	--	--	--	--	--	--	--	--	--
Hard maple	4,493	--	1,078	2,876	539	--	--	--	--	--
Sweetgum	1,379,170	220,177	325,138	716,832	117,023	710,249	220,177	184,665	248,587	56,820
Ash, walnut, and black cherry	168,554	20,513	55,766	87,092	5,183	77,915	18,700	30,387	27,270	1,558
Yellow-poplar	1,976,728	517,292	417,054	706,339	336,043	1,398,086	517,292	237,675	405,445	237,674
Other eastern hardwoods	2,303,254	438,910	655,194	947,390	261,760	1,463,035	438,910	453,541	409,650	160,934
Total	10,461,186	1,945,437	2,442,197	4,426,890	1,646,662	6,616,650	1,943,624	1,664,620	2,125,183	883,223
All species	18,312,770	4,092,934	3,648,786	8,923,132	1,647,918	9,888,612	3,093,779	2,215,183	3,695,810	883,840

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

[b]Not applicable.

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

[d]Based 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, Coastal Plain of Virginia, 1985

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 cubic feet								
Softwood:									
Longleaf pine	--	--	--	--	--	--	--	--	--
Slash pine	--	--	--	--	--	--	--	--	--
Shortleaf pine	38,107	14,839	10,049	5,413	5,939	--	1,290	577	--
Loblolly pine	1,189,992	223,500	245,023	259,469	194,889	132,031	74,815	58,842	1,423
Pond pine	9,607	2,053	1,158	881	1,160	1,906	1,147	639	663
Virginia pine	111,835	46,127	36,135	16,831	7,671	3,111	1,327	633	--
Pitch pine	484	--	--	484	--	--	--	--	--
Table Mountain pine	--	--	--	--	--	--	--	--	--
Spruce pine	--	--	--	--	--	--	--	--	--
Sand pine	--	--	--	--	--	--	--	--	--
Eastern white pine	--	--	--	--	--	--	--	--	--
Eastern hemlock	--	--	--	--	--	--	--	--	--
Spruce and fir	--	--	--	--	--	--	--	--	--
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	2,268	1,055	635	--	578	--	--	--	--
Total softwoods	1,389,652	288,215	296,695	287,328	213,992	140,492	81,311	71,689	9,930
Hardwood:									
Select white oaks	302,242	--	64,336	66,213	49,556	43,992	28,617	34,494	15,034
Select red oaks	73,710	--	7,754	9,103	14,393	9,356	6,820	17,660	8,624
Chestnut oak	18,177	--	5,464	3,766	1,871	2,233	1,427	3,416	--
Other white oaks	13,571	--	3,722	1,934	2,343	1,499	1,276	1,856	941
Other red oaks	283,741	--	50,109	53,001	60,691	42,788	31,720	40,237	5,195
Hickory	68,510	--	15,720	18,753	10,314	6,747	3,164	12,673	1,139
Yellow birch	--	--	--	--	--	--	--	--	--
Hard maple	797	--	189	608	--	--	--	--	--
Soft maple	126,120	--	29,630	25,299	22,558	15,556	13,815	15,343	3,919
Beech	88,307	--	12,211	15,005	12,909	16,144	12,186	15,704	4,148
Sweetgum	234,886	--	58,448	63,368	38,928	22,262	19,969	29,956	1,955
Tupelo and blackgum	114,260	--	29,439	25,891	20,525	18,362	5,514	11,155	3,374
Ash	22,601	--	6,596	6,595	2,028	1,539	2,342	2,689	812
Cottonwood	1,007	--	629	--	378	--	--	--	--
Basswood	--	--	--	--	--	--	--	--	--
Yellow-poplar	325,461	--	44,769	60,257	66,524	48,326	36,665	57,473	11,447
Bay and magnolia	--	--	--	--	--	--	--	--	--
Black cherry	587	--	280	307	--	--	--	--	--
Black walnut	5,227	--	1,825	807	575	1,326	--	694	--
Sycamore	19,365	--	3,134	1,709	2,500	2,884	3,052	4,256	1,830
Black locust	514	--	--	514	--	--	--	--	--
Elm	14,144	--	1,972	2,669	2,799	3,032	--	3,085	587
Other eastern hardwoods	27,354	--	5,244	4,493	4,633	4,960	2,168	5,565	291
Total hardwoods	1,740,581	--	341,471	360,292	313,525	241,006	168,735	256,256	59,296
All species	3,130,233	288,215	638,166	647,620	527,517	381,498	250,046	327,945	69,226

Table 39.--Total volume of live trees on timberland, by species and diameter class, Coastal Plain of Virginia, 1985

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	73,309	666	1,998	6,573	11,723	22,447	13,530	6,879	7,277	--	1,541	675	--
Loblolly pine	2,519,870	42,300	160,712	329,553	422,609	351,909	332,028	328,048	237,392	156,647	88,329	68,687	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	361,011	9,658	32,978	67,118	84,522	71,288	52,869	23,811	11,755	4,318	1,828	866	--
Pitch pine	633	--	--	--	--	--	--	633	--	--	--	--	--
Table Mountain pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Spruce pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Sand pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Eastern white pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Eastern hemlock	--	--	--	--	--	--	--	--	--	--	--	--	--
Spruce and fir	--	--	--	--	--	--	--	--	--	--	--	--	--
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	22,383	4,814	8,130	3,317	2,388	1,856	840	338	700	--	--	--	--
Total softwoods	3,044,730	57,438	204,150	406,760	523,304	451,674	406,728	367,374	263,894	168,089	96,781	85,100	13,438
Hardwood:													
Select white oaks	900,594	22,082	50,950	79,592	102,217	114,046	128,039	120,140	85,065	73,198	45,739	55,769	23,757
Select red oaks	179,946	4,321	8,130	13,710	9,001	16,461	15,598	16,319	24,765	16,031	10,906	28,438	16,266
Chestnut oak	57,211	637	2,293	4,265	7,706	5,319	11,309	8,424	3,254	4,293	2,788	5,511	1,412
Other white oaks	58,705	2,139	2,544	5,178	12,114	10,173	8,229	3,890	3,964	2,401	1,986	3,315	2,772
Other red oaks	831,977	32,455	56,007	77,217	88,165	95,167	97,143	93,278	101,925	69,691	50,166	61,788	8,975
Hickory	215,977	11,628	14,631	13,178	23,975	35,821	30,221	32,813	16,684	11,204	4,841	19,461	1,520
Yellow birch	--	--	--	--	--	--	--	--	--	--	--	--	--
Hard maple	2,501	141	--	--	522	409	369	1,060	--	--	--	--	--
Soft maple	687,093	73,868	102,718	92,360	70,633	73,997	68,073	56,835	48,515	35,277	26,520	29,362	8,935
Beech	276,260	12,233	13,973	14,545	13,675	29,838	26,174	31,738	28,155	33,817	25,793	36,950	9,369
Sweetgum	911,127	77,093	107,257	108,045	115,490	135,683	104,457	99,574	58,176	31,445	28,089	41,637	4,181
Tupelo and blackgum	408,818	22,411	25,537	37,532	43,460	64,183	59,916	45,588	35,583	33,428	10,829	21,725	8,626
Ash	97,677	7,662	12,846	12,701	11,341	9,559	13,763	13,168	4,896	2,342	4,004	4,305	1,090
Cottonwood	4,298	90	--	--	--	2,460	1,148	--	600	--	--	--	--
Basswood	--	--	--	--	--	--	--	--	--	--	--	--	--
Yellow-poplar	658,306	20,214	32,687	33,406	55,393	59,715	77,003	89,380	92,766	63,683	46,972	72,306	14,781
Bay and magnolia	15,889	4,340	5,081	3,975	483	2,010	--	--	--	--	--	--	--
Black cherry	25,740	7,611	8,183	4,234	2,714	522	1,187	1,179	--	--	--	110	--
Black walnut	17,440	432	1,390	1,156	1,428	697	3,447	1,527	1,507	3,055	--	1,913	888
Sycamore	42,326	740	769	2,039	1,130	6,172	6,912	2,928	4,022	4,522	4,627	6,047	2,418
Black locust	6,738	293	444	701	648	1,504	746	1,045	--	784	--	573	--
Elm	53,700	3,448	4,948	3,114	10,769	6,809	4,411	4,680	4,586	5,436	--	4,665	834
Other eastern hardwoods	394,472	107,473	95,106	56,159	36,799	23,447	21,702	12,552	10,891	9,957	6,024	12,939	1,423
Total hardwoods	5,846,795	411,311	545,494	563,107	607,663	693,992	679,847	636,118	525,354	400,564	269,284	406,814	107,247
All species	8,891,525	468,749	749,644	969,867	1,130,967	1,145,666	1,086,575	1,003,492	789,248	568,653	366,065	491,914	120,685

Table 40.--Green weight of forest biomass on timberland, by species and diameter class, Coastal Plain of Virginia, 1985

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
	Hundred thousand pounds												
Softwood:													
Longleaf pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Slash pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Shortleaf pine	50,925	364	1,209	4,018	8,046	15,830	9,654	4,963	5,245	--	1,102	494	--
Loblolly pine	1,797,909	22,032	95,175	229,968	310,128	257,507	242,669	239,401	172,128	113,897	64,106	49,719	1,179
Pond pine	10,405	--	--	160	760	2,212	1,347	1,151	1,035	1,660	993	533	554
Virginia pine	269,070	8,327	26,551	49,943	63,007	52,234	38,274	17,258	8,458	3,079	1,330	609	--
Pitch pine	410	--	--	--	--	--	--	410	--	--	--	--	--
Table Mountain pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Spruce pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Sand pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Eastern white pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Eastern hemlock	--	--	--	--	--	--	--	--	--	--	--	--	--
Spruce and fir	--	--	--	--	--	--	--	--	--	--	--	--	--
Baldcypress	32,601	--	207	--	605	722	3,449	2,978	3,406	3,042	2,255	7,749	8,188
Pondcypress	8,508	--	--	--	--	--	467	1,462	562	594	579	3,500	1,344
Cedars	14,982	2,970	4,847	2,529	1,729	1,340	712	222	633	--	--	--	--
Total softwoods	2,184,810	33,693	127,989	286,618	384,275	329,845	296,572	267,845	191,467	122,272	70,365	62,604	11,265
Hardwood:													
Select white oaks	726,085	17,344	36,603	54,491	80,856	93,300	105,432	99,462	71,075	61,125	38,486	47,102	20,809
Select red oaks	147,049	3,218	5,842	9,677	7,082	13,340	13,155	13,743	20,762	13,354	9,170	23,906	13,800
Chestnut oak	44,584	585	1,793	2,916	5,971	4,042	8,797	6,519	2,579	3,551	2,167	4,518	1,146
Other white oaks	46,954	1,511	1,827	3,499	9,328	8,208	6,849	3,304	3,298	2,053	1,700	2,906	2,471
Other red oaks	685,906	26,355	41,575	51,599	70,344	79,561	82,432	79,224	87,449	60,637	43,534	54,948	8,248
Hickory	175,044	10,150	12,751	9,281	18,243	28,053	24,200	26,588	14,034	9,345	4,065	16,917	1,417
Yellow birch	--	--	--	--	--	--	--	--	--	--	--	--	--
Hard maple	2,189	111	--	--	434	374	348	922	--	--	--	--	--
Soft maple	495,638	56,858	70,914	59,968	53,612	56,097	50,631	41,981	34,948	25,476	18,751	20,287	6,115
Beech	222,472	7,640	8,922	9,246	11,015	24,580	21,800	26,371	23,781	28,392	21,430	31,208	8,087
Sweetgum	647,834	50,599	71,766	70,767	82,170	97,488	76,221	73,812	43,632	23,939	21,543	32,533	3,364
Tupelo and blackgum	275,901	16,251	17,316	18,774	26,466	41,681	40,276	31,742	25,456	24,837	8,329	17,173	7,600
Ash	61,718	4,662	8,118	8,914	7,747	6,306	8,813	7,897	2,924	1,336	2,246	2,235	520
Cottonwood	2,880	65	--	--	--	1,601	790	--	424	--	--	--	--
Basswood	--	--	--	--	--	--	--	--	--	--	--	--	--
Yellow-poplar	463,506	14,615	22,286	19,412	37,392	41,727	54,632	63,835	66,382	45,805	34,043	52,451	10,926
Bay and magnolia	9,200	2,592	3,106	1,947	272	1,283	--	--	--	--	--	--	--
Black cherry	15,035	3,583	5,197	2,370	1,832	364	757	848	--	--	--	84	--
Black walnut	15,775	381	1,149	845	1,196	688	3,145	1,406	1,397	2,765	--	1,849	954
Sycamore	29,903	491	541	985	645	4,032	4,668	2,129	3,028	3,363	3,449	4,564	2,008
Black locust	6,358	249	374	589	652	1,478	750	956	--	739	--	571	--
Elm	34,970	2,499	3,481	1,895	6,732	4,353	2,784	3,094	2,878	3,594	--	3,092	568
Other eastern hardwoods	301,424	85,234	74,212	33,645	26,679	18,177	16,940	10,580	9,264	8,750	4,975	11,572	1,396
Total hardwoods	4,410,425	304,993	387,773	360,820	448,668	526,733	523,420	494,413	413,311	319,061	213,888	327,916	89,429
All species	6,595,235	338,686	515,762	647,438	832,943	856,578	819,992	762,258	604,778	441,333	284,253	390,520	100,694

Table 41.--Net annual growth and removals of live timber and growing stock on timberland, by species, Coastal Plain of Virginia, 1984

Species	Live timber[a]		Growing stock	
	Net annual growth	Annual timber removals	Net annual growth	Annual timber removals
	- - - - - Thousand cubic feet - - - - -			
Softwood:				
Yellow pines	99,719	114,329	99,719	113,630
Eastern white pine	--	--	--	--
Spruce and fir	--	--	--	--
Cypress	1,026	1,989	1,026	1,989
Other eastern softwoods	440	267	440	243
Total softwoods	101,185	116,585	101,185	115,862
Hardwood:				
Select white and red oaks	26,224	24,192	26,044	23,076
Other white and red oaks	26,027	24,997	25,786	23,195
Hickory	3,283	4,731	3,258	4,340
Yellow birch	--	--	--	--
Hard maple	62	--	59	--
Sweetgum	22,440	21,935	22,062	20,379
Ash, walnut, and black cherry	2,466	1,473	2,244	858
Yellow-poplar	23,729	15,113	23,584	14,549
Tupelo and blackgum	4,226	5,213	4,042	4,529
Bay and magnolia	171	--	156	--
Other eastern hardwoods	26,687	18,586	24,405	14,123
Total hardwoods	135,315	116,240	131,640	105,049
All species	236,500	232,825	232,825	220,911

[a]Merchantable portion only.

Table 42.--Net annual growth and removals of sawtimber on timberland, by species, Coastal Plain of Virginia, 1984

Species	Net annual growth	Annual timber removals
	Thousand board feet	
Softwood:		
Yellow pines	369,445	465,817
Eastern white pine	--	--
Spruce and fir	--	--
Cypress	6,406	9,961
Other eastern softwoods	905	437
Total softwoods	376,756	476,215
Hardwood:		
Select white and red oaks	103,768	78,483
Other white and red oaks	99,853	85,162
Hickory	16,593	13,988
Yellow birch	--	--
Hard maple	221	--
Sweetgum	71,883	66,062
Ash, walnut, and black cherry	5,120	2,990
Yellow-poplar	102,890	52,666
Tupelo and blackgum	16,153	15,480
Bay and magnolia	--	--
Other eastern hardwoods	73,823	41,851
Total hardwoods	490,304	356,682
All species	867,060	832,897

Table 43.--Annual removals of growing stock on timberland, by species and diameter class, Coastal Plain of Virginia, 1984

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	113,630	6,461	14,051	19,048	23,381	19,818	14,804	7,164	6,548	2,355	--
Eastern white pine	--	--	--	--	--	--	--	--	--	--	--
Spruce and fir	--	--	--	--	--	--	--	--	--	--	--
Cypress	1,989	--	108	--	--	611	--	294	131	845	--
Other eastern softwoods	243	63	85	--	95	--	--	--	--	--	--
Total softwoods	115,862	6,524	14,244	19,048	23,476	20,429	14,804	7,458	6,679	3,200	--
Hardwood:											
Select white and red oaks	23,076	1,614	1,767	2,061	4,259	4,016	3,359	1,052	2,064	2,884	--
Other white and red oaks	23,195	1,719	1,581	2,072	3,519	2,304	3,227	2,991	1,991	2,783	1,008
Hickory	4,340	424	521	210	1,260	305	553	395	526	146	--
Yellow birch	--	--	--	--	--	--	--	--	--	--	--
Hard maple	--	--	--	--	--	--	--	--	--	--	--
Sweetgum	20,379	1,396	2,513	2,766	3,271	2,538	2,996	1,815	1,453	1,338	293
Ash, walnut, and black cherry	858	80	--	107	--	108	150	272	--	141	--
Yellow-poplar	14,549	1,254	1,317	1,539	1,584	2,797	1,499	1,960	1,048	1,551	--
Tupelo and blackgum	4,529	315	334	280	893	738	961	220	462	219	107
Bay and magnolia	--	--	--	--	--	--	--	--	--	--	--
Other eastern hardwoods	14,123	830	1,598	1,977	1,134	2,718	1,648	953	964	1,982	319
Total hardwoods	105,049	7,632	9,631	11,012	15,920	15,524	14,393	9,658	8,508	11,044	1,727
All species	220,911	14,156	23,875	30,060	39,396	35,953	29,197	17,116	15,187	14,244	1,727

Table 44.--Mortality of live timber, growing stock, and sawtimber on timberland, by species, Coastal Plain of Virginia, 1984

Species	Live timber[a]	Growing stock	Sawtimber
	Thousand cubic feet		Thousand board feet
Softwood:			
Yellow pines	30,295	29,542	68,940
Eastern white pine	--	--	--
Spruce and fir	--	--	--
Cypress	--	--	--
Other eastern softwoods	45	--	--
Total softwoods	30,340	29,542	68,940
Hardwood:			
Select white and red oaks	2,435	1,639	3,603
Other white and red oaks	5,471	4,276	9,223
Hickory	1,352	1,123	4,341
Yellow birch	--	--	--
Hard maple	--	--	--
Sweetgum	2,983	2,179	4,692
Ash, walnut, and black cherry	1,657	1,219	4,220
Yellow-poplar	1,909	1,463	4,071
Tupelo and blackgum	796	314	742
Bay and magnolia	116	74	--
Other eastern hardwoods	8,582	4,036	11,116
Total hardwoods	25,301	16,323	42,008
All species	55,641	45,865	110,948

[a]Merchantable portion only.

Table 45.--Change in number of live trees on timberland, by species group, survey completion date, and diameter class, Coastal Plain of 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:									
1976	718,950	292,796	189,696	102,330	56,232	33,731	22,246	11,549	10,370
1985	648,384	222,860	175,582	114,626	66,092	30,998	17,342	10,754	10,130
Change	-70,566	-69,936	-14,114	+12,296	+9,860	-2,733	-4,904	-795	-240
Other softwood:									
1976	32,485	22,712	5,437	1,984	816	413	300	272	551
1985	32,008	22,599	6,753	1,061	416	226	278	210	465
Change	-477	-113	+1,316	-923	-400	-187	-22	-62	-86
Hardwood:									
1976	2,835,687	2,019,457	440,297	159,862	88,577	51,618	32,395	19,873	23,608
1985	2,708,312	1,922,944	420,186	155,245	80,693	51,284	31,063	19,887	27,010
Change	-127,375	-96,513	-20,111	-4,617	-7,884	-334	-1,332	+14	+3,402

Table 46.--Land area, by class, major forest type, and survey completion date, Coastal Plain of Virginia

Land use class	Survey completion date			Change 1976-1985
	1966	1976	1985	
	Acres			
Forest land:				
Timberland:				
Pine and oak-pine types	2,025,327	2,024,058	1,916,601	-107,457
Hardwood types	2,053,964	1,979,481	1,857,328	-122,153
Total	4,079,291	4,003,539	3,773,929	-229,610
Reserved timberland	13,400	69,056	96,269	+27,213
Woodland	6,707	2,739	2,739	--
Total forest land	4,099,398	4,075,334	3,872,937	-202,397
Nonforest land:				
Cropland	1,305,319	1,190,864	1,270,814	+79,950
Pasture and range	155,855	147,676	148,508	+832
Other	711,222	831,048	965,520	+134,472
Total	2,172,396	2,169,588	2,384,842	+215,254
All land[a]	6,271,794	6,244,922	6,257,779	+12,857

[a]Excludes 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, Coastal Plain of 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	8,739,289	--	--	1,689,814	1,966,406	1,826,732	1,337,113	901,231	541,390	476,603
1976	8,568,562	--	--	1,501,830	2,010,412	1,763,441	1,408,264	883,378	486,905	514,332
1985	7,851,584	--	--	1,373,152	1,570,741	1,635,729	1,292,691	886,322	534,878	558,071
Hardwood:										
1966	8,867,426	--	--	--	1,733,682	1,804,580	1,568,803	1,188,209	792,545	1,779,607
1976	9,708,345	--	--	--	1,883,572	2,037,127	1,650,574	1,321,597	936,617	1,878,858
1985	10,461,186	--	--	--	1,806,109	2,038,427	1,886,273	1,511,339	1,089,484	2,129,554
					GROWING STOCK (in thousand cubic feet)					
Softwood:										
1966	2,436,015	218,867	393,366	472,279	441,393	359,310	239,927	151,442	86,567	72,864
1976	2,400,362	258,713	366,154	419,740	451,271	346,861	252,694	148,442	77,855	78,632
1985	2,323,407	286,987	426,592	383,807	352,585	321,720	231,948	148,928	85,527	85,313
Hardwood:										
1966	3,226,516	306,248	426,393	482,880	503,392	443,822	347,234	246,108	154,794	315,645
1976	3,489,705	316,019	453,786	516,720	546,914	501,015	365,333	273,736	182,933	333,249
1985	3,579,738	306,574	413,101	513,227	524,464	501,311	417,496	313,053	212,778	377,734
					LIVE TIMBER[b] (in thousand cubic feet)					
Softwood:										
1966	2,447,491	220,620	395,301	475,218	443,045	360,370	241,092	151,442	86,939	73,464
1976	2,411,838	260,785	367,960	422,361	452,949	347,892	253,903	148,442	78,189	79,357
1985	2,334,683	289,199	428,699	386,236	353,968	322,634	233,065	148,928	85,894	86,060
Hardwood:										
1966	3,544,676	379,549	487,728	529,160	537,004	467,738	363,893	261,507	163,437	354,660
1976	3,829,829	391,662	519,061	566,249	583,434	528,026	382,862	290,884	193,186	374,465
1985	3,922,981	380,086	473,228	562,496	559,466	528,443	437,522	332,591	224,670	424,479

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

[b]Merchantable volume.

Brown, Mark J.; Craver, Gerald C.
Forest statistics for the Coastal Plain of Virginia, 1985. Resour. Bull. SE-80. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southeastern Forest Experiment Station; 1985. 53 pp.

Since 1976 the area of timberland in the Coastal Plain of Virginia declined by 230,000 acres, or 6 percent. More than 72,000 acres were harvested annually and retained in timberland. Together, artificial and natural regeneration averaged 65,000 acres annually. Lands under nonindustrial private forest (NIPF) ownership accounted for 57 percent of the artificial regeneration. Volume of softwood growing stock declined 3 percent, whereas hardwood growing-stock volume increased 3 percent. Net annual growth averaged 62 cubic feet per acre--little change from the previous survey. Softwood removals increased 4 percent and exceeded growth by 15 percent. Hardwood removals were up 10 percent, but hardwood growth continued to exceed removals by 25 percent. Annual mortality of growing stock was up 30 percent from the last survey, totaling 46 million cubic feet.

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

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