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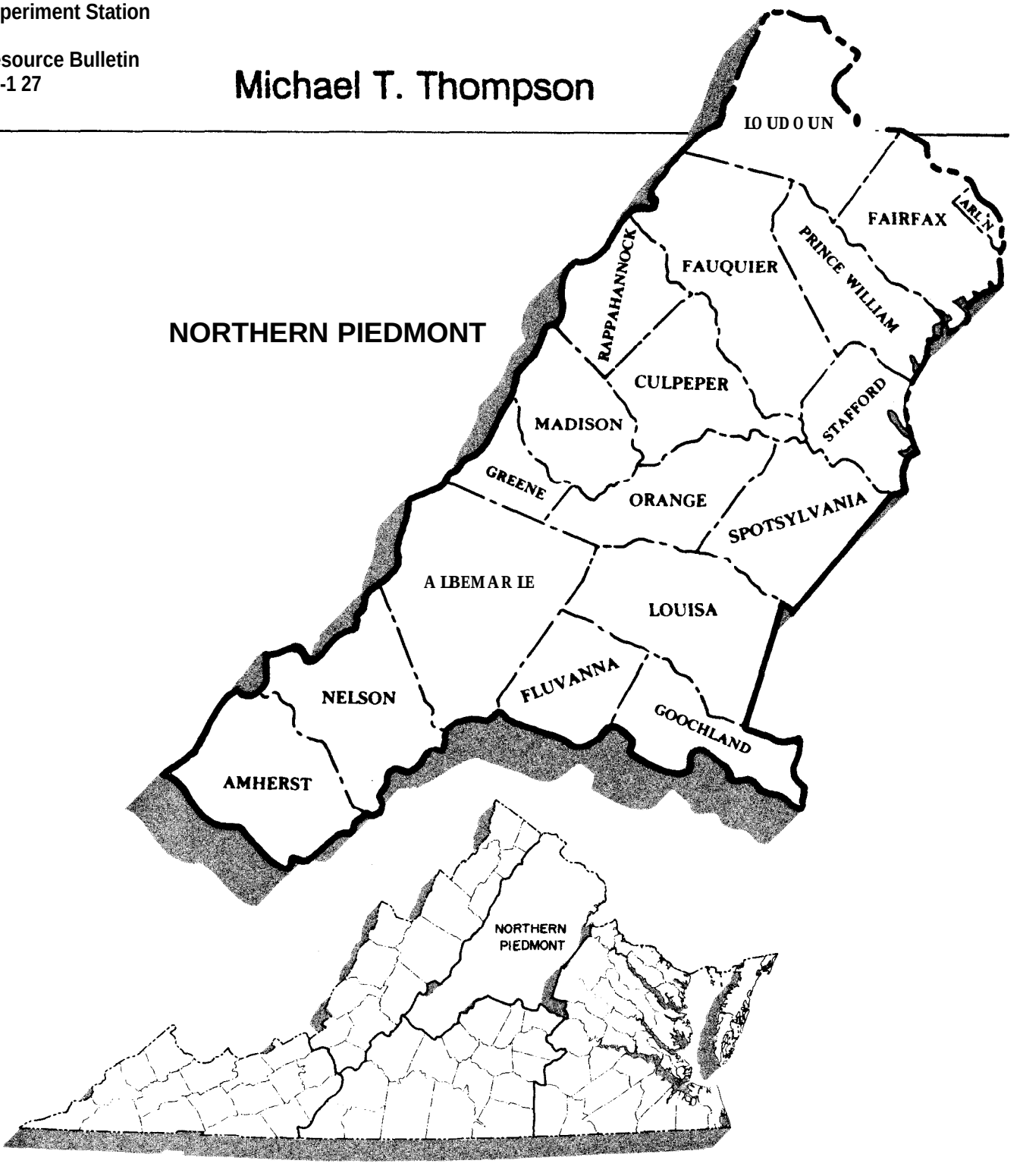
Forest Statistics for the Northern Piedmont of Virginia, 1992

Michael T. Thompson



March 1992

Southeastern Forest Experiment Station
P.O. Box 2680
Asheville, North Carolina 28802

Forest Statistics for the Northern Piedmont of Virginia, 1992

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Asheville, North Carolina

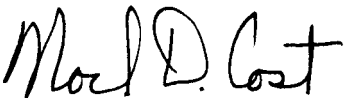
Foreword

This report highlights the principal findings of the sixth forest survey of the Northern Piedmont of Virginia. Field work began in June 1991 and was completed in September 1991. Five previous surveys, completed in 1940, 1957, 1965, 1976, and 1986, provide statistics for measuring changes and trends over the past 52 years. The primary emphasis in this report is on the changes and trends since 1986. 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 land, associated timber volumes, and rates of timber growth and removals.

The 18-county area covered by this report is one of five survey units in Virginia. Similar reports, USDA Forest Service Resource Bulletins SE-122 and SE-124 have been issued for the Coastal Plain and Southern Piedmont units, Comparable reports for the other two units will be issued as the statewide inventory progresses. When completed, the inventory will provide updated statistics on the timber resource for all of Virginia.

The Southeastern Station gratefully acknowledges the cooperation and assistance provided by the Virginia Division of Forestry 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.



Noel D. Cost
Project Leader

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Trends in timberland area since 1986, as shown in this report, reflect a 2.7-percent upward adjustment in the acreage of timberland estimated for 1986. The underestimate for 1986 was caused by incomplete and poor-quality aerial photography available for the 1986 survey and to the associated difficulties in photo interpretation of land use. For those desiring more information about the changes, please contact the FIA staff at:

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Since 1986 in the Northern Piedmont of Virginia--

0 area of timberland decreased by 38,000 acres, or by over 1 percent. Timberland currently totals 2.4 million acres and accounts for 55 percent of the total land area in this 18-county region. Land use changes occurred on nearly 107,000 acres. Almost 73,000 acres were diverted to other land uses, while 34,000 acres were added to the timberland base. Nearly all of the additions were the result of natural seeding and tree planting on former agricultural land. Forest clearing for urban development accounted for 84 percent of the diversions. Timberland reclassified to a reserved status accounted for 8 percent of the diversions, and the remainder resulted from clearing for agriculture.

• area of timberland held by nonindustrial private forest (NIPF) landowners remained stable at 2.1 million acres. NIPF owners presently control 87 percent of the timberland in the region. Within the NIPF category, area of farmer-owned timberland dropped 12 percent to 582,000 acres. This decline was offset by a 34-percent increase in timberland owned by corporations that do not manufacture forest products. Timberland controlled by individuals who do not farm increased by less than 1 percent to 1.2 million acres. Forest industry holdings declined 27 percent and now total 155,000 acres. Timberland held by public agencies increased by 7 percent to 167,000 acres and now accounts for 7 percent of the timberland in the region.

• area of timberland classified as a hardwood forest type declined by over 61,000 acres, or by more than 3 percent. Hardwood types presently occupy 1.7 million acres, 70 percent of the timberland in the region. Area of oak-hickory--the predominant forest-type group in the region--declined by 9 percent to 1.5 million acres. Acreage in pine and oak-pine forest types combined increased by 23,000 acres, or by 3 percent. The area of Virginia pine--the dominant softwood forest type in the region--fell 22 percent to 211,000 acres. However, most of this decline can be attributed to disturbances and transitory changes that resulted in a shift to the oak-pine forest-type group. Area of loblolly pine, which accounts for nearly all the planted pine acreage in the region, increased by 7 percent to 173,000 acres. Pine plantations currently account for 37 percent of all pine stands in this region.

• more than 17,000 acres were harvested annually and retained in timberland. This harvest rate is 31 percent lower than the acreage harvested between 1976 and 1986. Of the acreage harvested, 67 percent was on NIPF land; 27 percent was on forest industry land; and 6 percent occurred on land controlled by public agencies. Hardwood stands accounted for 50 percent of the acreage harvested annually, while natural and planted pine stands together made up 40 percent, and oak-pine stands 10 percent. In addition to final havests, some form of partial harvest or intermediate cutting occurred on 8,000 acres annually. Natural disturbances such as fire, insects, disease, and weather damaged some 30,000 acres annually.

- artificial and natural regeneration declined 9 percent from an average of 22,000 to 20,000 acres annually. By ownership, 78 percent of the regeneration occurred on NIPF land, 19 percent on forest industry land, and the remaining 3 percent on public land. Artificially regenerated acreage was down 15 percent to over 7,000 acres per year, or about 36 percent of all regeneration. Over three-fourths of the artificially regenerated acreage supported enough pines to be classified as pine forest type. The remainder supported sufficient hardwood stocking to be classified as an oak-pine forest type. Natural regeneration was down 5 percent to 13,000 acres annually, and mostly resulted in new hardwood stands. Altogether, naturally and artificially regenerated acreage in the region exceeded the area of timberland harvested by 17 percent.

- average basal area of live trees 5.0 inches d.b.h. and larger increased from 79 to 85 square feet per acre. Merchantable net volume per acre of softwoods and hardwoods combined currently averages 1,900 cubic feet per acre and includes 6,000 board feet of sawtimber. Acreage classified as fully stocked increased by 6 percent to 971,000 acres, whereas acreage in medium-stocked stands declined by an equal rate to 1.1 million acres. Together, fully stocked and medium-stocked stands make up 87 percent of the total timberland area. Area in poorly stocked stands declined 7 percent to 326,000 acres, 13 percent of the timberland area.

- volume of hardwood growing stock increased 10 percent from 3.3 to 3.7 billion cubic feet. All of the major hardwood species in the region registered significant gains in volume. The collective volume of all oaks, which acccount for 49 percent of the hardwood volume, increased 5 percent to 1.8 billion cubic feet. Yellow-poplar volume increased by over 15 percent to 804 million cubic feet and remains the single most dominant species in the region in terms of hardwood volume. By ownership, the inventory of hardwood growing stock was up by 10 percent to 3.2 billion cubic feet on NIPF land. This ownership category now accounts for 88 percent of the hardwood inventory in the region. Hardwood volume on forest industry land declined 11 percent to 101 million cubic feet, while hardwood volume on public land increased 20 percent to 322 million cubic feet. With the exception of the 6-, 8-, and 14-inch diameter classes, the volume of hardwood growing stock increased in all size categories. Volume in trees 15.0 inches d.b.h. and larger increased by 24 percent to 1.7 billion cubic feet and currently represents 47 percent of the hardwood growing stock. Volume of hardwood sawtimber rose 17 percent to 12.4 billion board feet.

- volume of softwood growing stock increased by 6 percent from 877 to 930 million cubic feet. Volume of Virginia pine--the predominant softwood species accounting for 55 percent of the softwood volume--decreased 9 percent to 514 million cubic feet. Volume of loblolly pine increased 67 percent to 234 million cubic feet and accounted for 79 percent of the increase in softwood inventory. The volume of softwood growing stock remained stable on NIPF land at 725 million cubic feet, whereas softwood volume increased by 45 percent to 132 million cubic feet on forest industry land. Softwood volume was up by 18 percent to 73 million cubic feet on public land. The volume of softwood growing stock in the 6-, 12-, and 14-inch d.b.h. classes increased by 15, 13, and 29 percent, respectively. These three diameter classes account for 78 percent of the increase in softwood volume. Volume of softwood sawtimber rose 9 percent to 2.2 billion board feet.

- net annual growth of hardwood growing stock declined by more than 5 percent from 98 to 93 million cubic feet. Hardwood growth decreased across all ownership categories, dropping by 4 percent on NIPF land, 14 percent on public land, and 17 percent on forest industry land.

Across all ownerships, hardwood net growth exceeded removals by a margin of 2.3 ***to 1.*** Net annual growth of softwood growing stock increased by 51 percent to 41 million cubic feet. Sixty-two percent of the softwood growth occurred on NIPF land, where softwood growth increased 29 percent to 26 million cubic feet. Softwood net growth more than doubled on land controlled by forest industry to 14 million cubic feet. Most of this increase is attributable to rapidly developing pine plantations. Net annual growth of softwoods was up 28 percent on public land to almost 2 million cubic feet. Across all ownerships, softwood growth exceeded removals by 27 percent. Mean net growth per acre for softwoods and hardwoods combined increased 6 percent to 56 cubic feet per acre. Net annual growth for softwoods and hardwoods included 552 million board feet of sawtimber.

• annual removals of hardwood growing stock at 40 million cubic feet, about the same level as in the previous period. By ownership, 92 percent of hardwood removals came from NIPF land; nearly all the remainder came from public land. Softwood growing-stock removals increased 43 percent to 33 million cubic feet. Softwood removals were up 36 percent on NIPF land to 26 million cubic feet, while removals of softwoods increased 78 percent on forest industry land. Almost 79 percent of the softwood removals occurred on NIPF land, while the remaining 21 percent came from forest industry land. Annual removals for both softwoods and hardwoods included 224 million board feet of sawtimber.

. annual mortality of hardwood growing stock increased 49 percent from 14 to 21 million cubic feet. Eighty-nine percent of the hardwood mortality occurred on NIPF land. Hardwood mortality reduced gross growth by 19 percent. In contrast to hardwood mortality, annual mortality of softwood growing stock declined 16 percent to 9 million cubic feet. Declines in softwood mortality were recorded on all ownership categories. Ninety-one percent of the softwood mortality occurred on NIPF land. Softwood mortality reduced gross growth by 19 percent. Annual mortality for both softwoods and hardwoods included 81 million board feet of sawtimber.

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 14,088 sample clusters systematically spaced on the latest aerial photographs available. A subsample of 1,214 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 misclassification.

2. Estimates of timber volume and forest classification were based on measurements recorded at 648 ground sample locations systematically distributed on timberland. The plot design at each location was based on a cluster of 10 points. In most cases, variable plots, established by using a basal-area factor of 37.5 square feet per acre, were systematically spaced within a single forest condition at 5 of the 10 cluster points. Trees less than 5 inches d.b.h. were tallied on a fixed-radius plot around each point center.

3. Equations prepared from detailed measurements collected on standing trees in this Survey 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 required to construct volume equations.

4. Felled trees were measured at 11 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 from 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 670 permanent sample plots established in the fifth survey.

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

7. All field data were sent to Asheville for editing and were entered into disk and magnetic-tape storage for processing. Final estimates were based on statistical summaries of the data.

Reliability of the Data

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

	Percent
Per million acres of timberland	1.09
Per billion cubic feet of growing stock.	5.55
Per billion cubic feet of net annual growth.	1.09
Per billion cubic feet of annual removals.	3.55

Sampling errors for county and unit totals,[a] in terms of one standard error, Northern Piedmont of Virginia, 1992

County	Timberland area	Cubic-foot volume of growing stock		
		Inventory	Growth	Removals
		Sampling error[b]		
Albemarle	1.91	7.61	9.46	37.32
Amherst	1.58	7.67	9.35	31.62
Arlington	0.00	0.00	0.00	0.00
Culpeper	4.33	11.21	11.44	73.87
Fairfax	6.66	13.52	13.10	56.41
Fauquier	3.15	8.97	8.69	34.87
Fluvanna	2.24	12.46	14.93	58.55
Goochland	2.63	9.14	9.04	52.41
Greene	3.52	10.15	10.11	.00
Loudoun	2.34	12.99	14.72	73.65
Louisa	1.55	9.28	11.35	59.82
Madison	3.47	11.68	13.58	78.67
Nelson	1.46	9.24	9.52	45.33
Orange	3.15	14.06	13.68	46.45
Prince William	4.72	11.93	11.91	47.90
Rappahannock	4.82	14.32	14.60	69.64
Spotsylvania	2.52	9.72	9.32	39.15
Stafford	2.49	9.91	10.85	83.98
Total	.66	2.57	2.97	13.16

[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 l-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.

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 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 tropicals. 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 l/4-inch rule) between a l-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 l-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 floodplains (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.

Log grade. A classification of logs based on external characteristics as indicators of quality or value.

Logging residues. The unused merchantable portion of growing-stock trees cut or destroyed during logging operations.

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 l-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 and 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 l-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 live trees in the stand.

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

Poletimber stands. Stands at least 16.7 percent stocked with live 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 live 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.

Tree grade. A classification of sawtimber trees based on the log grade of the butt log in the tree.

Unproductive forest land. (see: Woodland).

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

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

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

Stocking Standard

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

Conversion factors

Cubic feet of wood per average cord
(excluding bark)

D.b.h. class	All species	Pine	Other softwood	Hardwood
6	60.7	61.0	68.2	60.0
8	68.5	68.1	76.0	68.4
10	73.4	73.1	81.4	73.4
12	76.6	76.7	85.2	76.4
14	78.6	79.4	88.2	78.4
16	80.0	81.6	90.4	79.8
18	81.0	83.3	92.3	80.8
20	81.9	84.8	93.8	81.5
22	82.5	86.0	95.1	82.1
24+	83.4	87.0	97.2	83.0
Average	75.3	70.2	82.7	76.2

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 (4.5 feet) = 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 5.

Table l--Area, by county and land class, Northern Piedmont of Virginia, 1992

County	All land[a]	Forest land				Nonforest land[b]
		Total	Timberland	Woodland	Reserved timberland	
				Acres		
Albemarle	470,829	293,436	278,205	--	15,231	177,393
Amherst	306,246	226,454	224,549	--	1,905	79,792
Arlington	16,614	--	--	--	--	16,614
Culpeper	244,480	114,304	114,304	--	--	130,176
Fairfax	266,592	92,614	68,538	--	24,076	173,978
Fauquier	416,570	175,188	174,154	--	1,034	241,382
Fluvanna	185,510	137,348	137,348	--	--	48,162
Goochland	180,032	130,505	130,505	--	--	49,527
Greene	100,371	68,858	53,599	--	15,259	31,513
Loudoun	333,498	118,338	117,248	--	1,090	215,160
Louisa	317,805	228,537	228,537	--	--	89,268
Madison	205,913	120,511	88,259	--	32,252	85,402
Nelson	303,590	233,316	231,868	--	1,448	70,274
Orange	218,822	125,848	125,448	--	400	92,974
Prince William	223,591	114,923	94,125	--	20,798	108,668
Rappahannock	170,970	103,499	71,760	--	31,739	67,471
Spotsylvania	262,471	175,636	169,148	--	6,488	86,835
Stafford	173,510	118,956	118,956	--	--	54,554
Total	4,397,414	2,578,271	2,426,551	--	151,720	1,819,143

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

[b] Includes 6,673 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, Northern Piedmont of Virginia, 1992

County	All ownerships	Ownership class							
		National forest	Miscellaneous Federal	State	County and municipal	Forest industry[a]	Other private		
							Farmer	Corporate	Individual
					Acres				
Albemarle	278,205	--	35	a49	2,152	10,127	83,299	49,222	132,521
Amherst	224,549	57,589	--	50	1,075	16,326	47,571	16,990	84,948
Arlington	I-	--	--	--	--	--	--	--	--
Culpeper	114,304	--	10	343	476	7,647	40,464	12,450	52,914
Fairfax	68,538	--	7,838	2,813	1,974	--	--	26,312	29,601
Fauquier	174,154	--	3,933	7,866	975	1,855	65,260	21,753	72,512
Fluvanna	137,348	--	--	900	90	18,089	35,043	21,902	61,324
Goochland	130,505	--	--	10	185	13,063	27,588	3,448	86,211
Greene	53,599	--	--	1,051	76	490	11,139	7,426	33,417
Loudoun	117,248	--	5,979	a3	1,785	--	12,623	33,662	63,116
Louisa	228,537	--	--	244	551	21,054	46,975	23,487	136,226
Madison	88,259	--	--	7,485	200	345	48,137	4,011	28,081
Nelson	231,868	15,507	--	976	111	24,873	48,613	16,204	125,584
Orange	125,448	--	--	20	194	12,523	45,789	10,567	56,355
Prince William	94,125	--	12,674	801	4,291	--	8,038	24,113	44,208
Rappahannock	71,760	--	--	--	--	150	30,690	3,410	37,510
Spotsylvania	169,148	--	--	--	2,522	28,381	25,135	12,568	100,542
Stafford	118,956	--	21,973	120	1,303	307	6,569	26,277	62,407
Total	2,426,551	73,096	52,442	23,611	17,960	155,230	582,933	313,802	1,207,477

[a]Includes 0 acres of other private land under long-term lease.

Table 3--Area of timberland, by county and forest-type group, Northern Piedmont of Virginia, 1992

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					
Albemarle	278,205	--	--	--	44,238	37,864	192,316	3,787	--	--
Amherst	224,549	13,793	--	--	22,146	38,462	150,148	--	--	--
Arlington	--	--	--	--	--	--	--	--	--	--
Culpeper	114,304	--		--	20,106	9,814	78,159	3,113	3,112	--
Fairfax	68,538				9,867	1,974	48,859	--	7,838	--
Fauquier	174,154	--		--	31,475	18,128	119,950	--	4,601	
Fluvanna	137,348	--	--	--	38,430	38,059	51,198	4,381	5,280	
Goochland	130,505	--	--	--	34,122	24,138	65,339	3,448	3,458	
Greene	53,599	--	--	--	11,705	3,713	38,181	--	--	--
Loudoun	117,248	--	--		16,832	5,993	90,216		4,207	--
Louisa	228,537	--		--	49,066	16,558	157,972		4,941	
Madison	88,259	--		--	8,368	16,246	63,645		--	--
Nelson	231,868	--	--	--	31,895	12,153	183,769	--	4,051	--
Orange	125,448	--		--	25,961	21,134	71,309	--	7,044	--
Prince William	94,125	--		--	19,244	4,019	66,843	4,019	--	--
Rappahannock	71,760	--	--	--	150	6,820	64,790	--	—	
Spotsylvania	169,148	--	--	--	54,554	20,947	72,701	16,757	4,189	--
Stafford	118,956	--	--	--	17,862	13,138	87,956	—	--	--
Total	2,426,551	13,793	--	--	436,021	289,160	1,603,351	35,505	48,721	--

Table 4--Area of timberland, by county and stand-size class, Northern Piedmont of Virginia, 1992

County	All stands	Stand-size class			Nonstocked areas
		Sawtimber	Poletimber	Sapling-seedling	
			Acres		
Albemarle	278,205	171,264	74,496	32,445	--
Amherst	224,549	139,892	38,714	42,545	3,398
Arlington	--	--	--		--
Culpeper	114,304	62,737	25,243	26,324	--
Fairfax	68,538	50,119	15,130	3,289	--
Fauquier	174,154	106,731	51,067	16,356	--
Fluvanna	137,348	42,529	50,733	44,086	--
Goochland	130,505	72,055	41,390	17,060	--
Greene	53,599	41,970	7,426	4,203	--
Loudoun	117,248	73,385	22,823	21,040	--
Louisa	228,537	103,025	80,274	45,238	--
Madison	88,259	71,867	12,035	4,357	--
Nelson	231,868	143,965	39,006	48,897	--
Orange	125,448	49,330	54,792	21,326	--
Prince William	94,125	58,534	24,113	11,478	--
Rappahannock	71,760	54,560	17,050	150	--
Spotsylvania	169,148	57,611	85,951	25,586	--
Stafford	118,956	77,932	19,705	21,319	--
Total	2,426,551	1,377,506	659,948	385,699	3,398

Table 5--Area of timberland, by county and site class,
Northern Piedmont of Virginia, 1992

County	All classes	Site class (cubic feet per acre per year)				
		>164	120-164	85-119	50-84	20-49
				Acres		
Albemarle	278,205	--	3,786	83,335	168,368	22,716
Amherst	224,549	--	6,796	55,171	112,244	50,338
Arlington	--	--	--	--	--	--
Culpeper	114,304		3,113	34,246	70,720	6,225
Fairfax	68,538	3,289	--	11,127	52,148	1,974
Fauquier	174,154	--	7,251	25,993	126,408	14,502
Fluvanna	137,348	--	3,015	13,141	99,202	21,990
Goochland	130,505		--	20,327	103,281	6,897
Greene	53,599	--	3,713	18,565	23,819	7,502
Loudoun	117,248	--	--	25,329	85,926	5,993
Louisa	228,537		--	27,316	180,516	20,705
Madison	88,259		8,022	26,565	40,659	13,013
Nelson	231,868	4,051	4,051	91,670	115,779	16,317
Orange	125,448	--	--	24,655	97,251	3,542
Prince William	94,125		4,019	7,989	70,061	12,056
Rappahannock	71,760	--	3,410	6,820	47,890	13,640
Spotsylvania	169,148	8,380	4,189	39,821	109,416	7,342
Stafford	118,956	8,777	13,139	42,877	50,878	3,285
Total	2,426,551	24,497	64,504	554,947	1,554,566	228,037

Table 6--Area of timberlgnd, by county and stocking class of growing-stock trees, Northern Piedmont of Virginia, 1992

County	All classes	Stocking class (percent)[a]				
		>130	100-130	60-99	16.7-59	<16.7
				Acres		
Albemarle	278,205	8,885	81,639	132,521	47,587	7,573
Amherst	224,549	4,081	77,438	97,237	31,518	14,275
Arlington	--	--	--	--	--	--
Culpeper	114,304	3,122	35,659	65,842	9,681	--
Fairfax	68,538	2,813	28,286	30,861	6,578	--
Fauquier	174,154	3,626	56,547	70,475	39,881	3,625
Fluvanna	137,348	8,761	52,938	62,974	12,675	--
Goochland	130,505	6,898	55,172	64,976	3,459	--
Greene	53,599	3,713	27,608	18,565	3,713	--
Loudoun	117,248	--	27,029	64,973	25,246	--
Louisa	228,537	3,828	115,698	104,070	4,941	--
Madison	88,259	2,495	32,438	41,292	12,034	--
Nelson	231,868	3,109	64,353	125,731	34,624	4,051
Orange	125,448	3,522	33,004	64,268	24,654	--
Prince William	94,125	--	29,600	52,468	12,057	--
Rappahannock	71,760	3,410	3,560	44,330	13,640	6,820
Spotsylvania	169,148	23,064	94,327	47,568	4,189	--
Stafford	118,956	18,631	56,202	40,839	3,284	--
Total	2,426,551	99,958	871,498	1,128,990	289,761	36,344

[a]See stocking standards on page 13.

Table 7--Volume of growing stock and sawtimber on timberland, by county and species group, Northern Piedmont of Virginia, 1992

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				
Albemarle	494,599	76,035	16,416	119,620	282,528	1,667,590	169,809	65,502	487,333	944,946
Amherst	400,046	57,478	26,875	120,479	195,214	1,259,387	133,874	117,533	443,145	567,835
Arlington	--	--	--	--	--	--	--	--	--	--
Culpeper	216,041	52,702	1,564	62,174	99,601	653,732	156,772	2,079	184,649	310,232
Fairfax	187,033	9,752	2,087	43,305	131,889	741,413	33,955	1,730	169,774	535,954
Fauquier	321,265	53,650	5,082	88,099	174,434	1,038,338	162,911	6,333	325,194	543,900
Fluvanna	193,777	64,580	467	40,866	87,864	442,244	156,291	--	86,474	199,479
Goochland	276,142	78,051	1,517	80,046	116,528	779,303	134,005	--	285,038	360,260
Greene	128,355	28,301	1,806	41,097	57,151	457,211	55,836	--	184,200	217,175
Loudoun	181,094	2,567	2,794	32,580	143,153	648,708	3,179	2,287	148,483	494,759
Louisa	371,099	96,042	4,928	80,684	189,445	899,612	198,482	9,702	243,923	447,505
Madison	200,218	14,566	10,316	54,056	121,280	781,140	35,496	53,447	222,197	470,000
Nelson	449,610	35,191	18,421	148,809	247,189	1,636,417	63,848	79,275	609,634	883,660
Orange	178,427	35,251	6,976	49,898	86,302	521,113	34,814	25,328	204,202	256,769
Prince William	213,956	45,444	1,655	43,677	123,180	709,457	94,965	--	165,043	449,449
Rappahannock	130,294	4,577	2,083	56,200	67,434	519,667	19,397	13,015	244,830	242,425
Spotsylvania	347,322	122,935	2,203	98,246	123,938	841,444	225,903	8,958	242,012	364,571
Stafford	303,053	47,473	666	119,725	135,189	1,017,342	130,391	--	373,611	513,340
Total	4,592,331	824,595	105,856	1,279,561	2,382,319	14,614,118	1,806,928	385,189	4,619,742	7,802,259

[a] Factors for converting to cords are shown on page 13.

Table 8--Average net annual growth of growing stock and sawtimber on timberland, by county and species group, Northern Piedmont of Virginia, 1986-1991

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				
Albemarle	15,462	4,321	604	3,866	6,671	75,809	18,386	2,612	20,069	34,742
Amherst	11,170	2,420	780	3,555	4,415	52,944	12,415	3,689	17,443	19,397
Arlington	--	--	--	--	--	--	--	--	--	--
Culpeper	4,981	1,071	45	1,864	2,001	24,820	6,183	28	7,200	11,409
Fairfax	3,062	191	85	916	1,870	15,102	732	386	4,731	9,253
Fauquier	7,764	1,231	211	2,499	3,823	37,111	5,040	260	12,716	19,095
Fluvanna	8,700	3,973	13	1,668	3,046	25,635	10,548	--	6,050	9,037
Goochland	8,320	2,784	56	2,419	3,061	37,099	7,888	--	13,141	16,070
Greene	2,913	768	88	998	1,059	15,516	4,274	351	4,650	6,241
Loudoun	4,126	270	169	871	2,816	15,052	8	94	4,530	10,420
Louisa	15,572	6,505	274	2,726	6,067	42,470	9,078	148	12,886	20,358
Madison	4,118	358	285	1,247	2,228	23,894	1,234	1,559	9,391	11,710
Nelson	11,843	2,502	476	4,129	4,736	53,783	2,824	2,315	25,322	23,322
Orange	7,029	2,857	173	1,434	2,565	23,313	4,254	584	7,477	10,998
Prince William	4,312	902	89	918	2,403	20,926	3,780	398	5,370	11,378
Rappahannock	3,060	92	52	1,528	1,388	15,561	438	310	9,014	5,799
Spotsylvania	13,910	6,863	35	3,426	3,586	41,391	17,311	173	12,530	11,377
Stafford	8,140	745	93	4,600	2,702	31,687	3,854	--	14,515	13,318
Total	134,482	37,853	3,528	38,664	54,437	552,113	108,247	12,907	187,035	243,924

Table 9--Average annual removals of growing stock and sawtimber on timber land, by county and species group, Northern Piedmont of Virginia, 1986-1991

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				
Albemarle	9,237	4,739	288	2,622	1,588	39,857	18,602	1,427	13,697	6,131
Amherst	7,787	2,897	120	1,128	3,642	15,111	4,030	331	733	10,017
Arlington	--	--	--	--	--	--	--	--	--	--
Culpeper	2,598	1,616	47	286	649	7,189	3,142	--	1,075	2,972
Fairfax	3,051	61	142	740	2,108	10,131	--	--	2,879	7,252
Fauquier	4,754	1,388	--	250	3,116	16,491	5,319	--	--	11,172
Fluvanna	4,765	3,409	77	136	1,143	15,784	12,347	--	--	3,437
Goochland	1,545	224	--	499	822	5,989	1,250	--	1,264	3,475
Greene	--	--	--	--	--	--	--	--	--	--
Loudoun	1,870	619	--	435	816	3,808	1,195	--	1,135	1,478
Louisa	5,904	2,715	--	339	2,850	14,446	5,933	--	380	8,133
Madison	3,690	2,067	--	248	1,375	11,012	7,392	--	467	3,153
Nelson	3,794	268	--	1,296	2,230	13,057	562	--	5,295	7,200
Orange	4,445	302	--	534	3,609	16,563	596	--	2,216	13,751
Prince William	4,230	1,048	58	565	2,559	15,891	3,943	--	1,782	10,166
Rappahannock	1,679	933	--	--	746	6,713	3,320	--	--	3,393
Spotsylvania	10,194	6,835	--	1,885	1,474	23,928	17,537	--	4,569	1,822
Stafford	3,262	2,729	--	397	136	7,915	5,395	--	1,973	547
Total	72,805	31,850	732	11,360	28,863	223,885	90,563	1,758	37,465	94,099

Table 10--Area of timberland, by forest type and ownership class, Northern Piedmont of Virginia, 1992

Forest type	All ownerships	Ownership class				
		National forest	Other public	Forest industry	Forest industry-leased	Other private
				Acres		
Softwood types						
White pine-hemlock	13,793	3,599	--	--	--	10,194
Spruce-fir	--	--	--	--	--	--
Longleaf pine	--	--	--	--	--	--
Slash pine	--	--	--	--	--	--
Loblolly pine	173,438	--	--	98,110	--	75,328
Shortleaf pine	12,495	--	--	--	--	12,495
Virginia pine	210,600	--	24,393	9,197	--	177,010
Sand pine	--	--	--	--	--	--
Eastern redcedar	35,436	--	--	--	--	35,436
Pond pine	--	--	--	--	--	--
Spruce pine	--	--	--	--	--	--
Pitch pine	4,052	--	--	--	--	4,052
Table Mountain pine	--	--	--	--	--	--
Total	449,814	3,599	24,393	107,307	--	314,515
Hardwood types						
Oak-pine	289,160	7,198	4,986	9,011	--	267,965
Oak-hickory	1,461,255	44,302	51,854	35,802	--	1,329,297
Chestnut oak	142,096	17,997	2,813	3,110	--	118,176
Southern scrub oak	--	--	--	--	--	--
Oak-gum-cypress	35,505	--	--	--	--	35,505
Elm-ash-cottonwood	48,721	--	9,967	--	--	38,754
Maple-beech-birch	--	--	--	--	--	--
Total	1,976,737	69,497	69,620	47,923	--	1,789,697
All types	2,426,551	73,096	94,013	155,230	--	2,104,212

Table 11--Area of timberland, by ownership and stocking classes of growing-stock trees, Northern Piedmont of Virginia, 1992

Ownership class	All classes	Stocking class (percent)[a]				
		>130	100-130	60-99	16.7-59	c16.7
				Acres		
National forest	73,096	--	31,007	36,274	5,815	--
Other public	94,013	10,846	37,905	41,563	3,699	--
Forest industry	155,230	22,388	72,264	49,400	7,097	4,081
Forest industry-leased	--	--	--	--	--	--
Other private	2,104,212	66,724	730,322	1,001,753	273,150	32,263
All ownerships	2,426,551	99,958	871,498	1,128,990	289,761	36,344

[a]See stocking standards on page 13.

Table 12--Area of timberland, by forest type and stand-she class, Northern Piedmont of Virginia, 1992

Forest type	All stands	Stand-size class			Nonstocked areas
		Sawtimber	Poletimber	Sapling-seedling	
			Acres		
Softvood types					
White pine-hemlock	13,793	6,997	--	6,796	--
Spruce-fir	--	--	--	--	--
Longleaf pine	--	--	--	--	--
Slash pine	--		--	--	--
Loblolly pine	173,438	33,930	79,708	59,800	--
Shortleaf pine	12,495	12,495	--		--
Virginia pine	210,600	95,778	95,110	19,712	--
Sand pine	--	--	--		--
Eastern redcedar	35,436	3,522	7,413	24,501	--
Pond pine	--	--	--	--	--
Spruce pine	--		--	--	--
Pitch pine	4,052		--	4,052	--
Table Mountain pine	--		--		--
Total	449,814	152,722	182,231	114,861	--
Hardvood types					
Oak-pine	289,160	106,006	106,324	76,830	--
Oak-hickory	1,461,255	954,429	325,224	178,204	3,398
Chestnut oak	142,096	115,133	26,963	--	--
Southern scrub oak	--	--	--	--	--
Oak-gum-cypress	35,505	12,589	14,940	7,976	--
Elm-ash-cottonwood	48,721	36,627	4,266	7,828	--
Maple-beech-birch	--	--	--	--	--
Total	1,976,737	1,224,784	477,717	270,838	3,398
All types	2,426,551	1,377,506	659,948	385,699	3,398

Table 13--Area of timberland, by stand-age and broad management classes, all ownerships, Northern Piedmont of Virginia, 1992

Stand-age class (years)	All classes	Broad management class				
		Pine plantation	Natural pine	Oak-pine	Upland hardwood	Lowland hardwood
			Acres			
0-10	175,929	51,385	11,076	40,239	69,781	3,448
11-20	183,285	41,262	42,395	26,136	65,516	7,976
21-30	217,737	56,050	69,435	18,539	73,713	--
31-40	185,127	19,824	44,250	19,444	98,497	3,112
41-50	201,048	--	45,488	33,788	109,444	12,328
51-60	328,397	--	40,819	61,954	217,986	7,638
61-70	334,565	--	20,445	34,694	267,592	11,834
71-80	239,742	--	3,786	6,681	224,894	4,381
81+	297,032	--	3,599	14,908	266,480	12,045
No manageable stand	263,689	--	--	32,777	209,448	21,464
All classes	2,426,551	168,521	281,293	289,160	1,603,351	84,226

Table 14--Area of timberland, by stand-age and broad management classes, public ownerships, Northern Piedmont of Virginia, 1992

Stand-age class (years)	All classes	Broad management class				
		Pine plantation	Natural pine	Oak-pine	Upland hardwood	Lowland hardwood
			Acres			
0-10	4,291	--	--	--	4,291	--
11-20	10,366	--	--	3,599	6,767	--
21-30	4,204	--	--	--	4,204	--
31-40	17,388	--	13,946	1,227	2,215	--
41-50	10,723	--	3,933	--	5,815	975
51-60	22,821	--	--	3,759	19,062	--
61-70	25,020	--	6,514	3,599	14,907	--
71-80	21,975	--	--	--	21,975	--
81+	40,807	--	3,599	--	29,370	7,838
No manageable stand	9,514	--	--	--	8,360	1,154
All classes	167,109	--	27,992	12,184	116,966	9,967

Table 15--Area of timberland, by stand-age and broad management classes, forest industry,[a] Northern Piedmont of Virginia, 1992

Stand-age class (years)	All classes	Broad management class				
		Pine plantation	Natural pine	Oak-pine	Upland hardwood	Lowland hardwood
			Acres			
0-10	34,019	31,004	--	3,015	--	--
11-20	41,044	33,042	6,088	--	1,914	--
21-30	34,064	34,064	--	--	--	--
31-40	5,023	3,109	--	1,914	--	--
41-50	5,996	--	--	--	5,996	--
51-60	4,929	--	--	--	4,929	--
61-70	7,327	--	--	--	7,327	--
71-80	3,109	--	--	--	3,109	--
81+	9,642	--	--	--	9,642	--
No manageable stand	10,077	--	--	4,082	5,995	--
All classes	155,230	101,219	6,088	9,011	38,912	--

[a]Includes 0 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] Northern Piedmont of Virginia, 1992

Stand-age class (years)	All classes	Broad management class				
		Pine plantation	Natural pine	Oak-pine	Upland hardwood	Lowland hardwood
			Acres			
0-10	137,619	20,381	11,076	37,224	65,490	3,448
11-20	131,875	8,220	36,307	22,537	56,835	7,976
21-30	179,469	21,986	69,435	18,539	69,509	--
31-40	162,716	16,715	30,304	16,303	96,282	3,112
41-50	184,329	--	41,555	33,788	97,633	11,353
51-60	300,647	--	40,819	58,195	193,995	7,638
61-70	302,218	--	13,931	31,095	245,358	11,834
71-80	214,658	--	3,786	6,681	199,810	4,381
81+	246,583	--	--	14,908	227,468	4,207
No manageable stand	244,098	--	--	28,695	195,093	20,310
All classes	2,104,212	67,302	247,213	267,965	1,447,473	74,259

[a]Excludes 0 acres of other private land under long-term lease to forest industry.

Table 17--Area of timberland, by broad management and stand-volume classes, Northern Piedmont of Virginia, 1992

Broad management class	All classes	Stand-volume class (cubic feet of growing stock per acre>				
		o-499	500-999	1000-1499	1500-1999	2000+
		Acres				
Pine plantation	168,521	64,408	20,398	19,717	23,697	40,301
Natural pine	281,293	45,156	34,615	27,455	29,742	144,325
Oak-pine	289,160	73,181	37,487	38,713	45,769	94,010
Upland hardwood	1,603,351	165,531	144,502	214,248	242,737	836,333
Lowland hardwood	84,226	15,391	13,308	8,378	19,414	27,735
All classes	2,426,551	363,667	250,310	308,511	361,359	1,142,704

Table 18--Volume of growing stock on timberland, by broad management class, species group, and stand-age class, Northern Piedmont of Virginia, 1992

Broad management class and species group	All classes	Nonmanageable 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	213,427	--	4,165	36,281	112,259	60,722	--	--	--	--	--
Hardwood	8,004	--	--	359	5,306	2,339	--	--	--	--	--
Total	221,431	--	4,165	36,640	117,565	63,061	--	--	--	--	--
Natural pine											
Softwood	432,024	--	503	16,106	82,210	93,748	87,010	94,075	48,920	5,967	3,485
Hardwood	90,861	--	686	2,249	15,535	15,835	16,268	24,947	10,715	2,300	2,326
Total	522,885	--	1,189	18,355	97,745	109,583	103,278	119,022	59,635	8,267	5,811
Oak-pine											
Softwood	172,804	3,717	--	7,880	6,194	13,617	20,556	48,393	38,954	6,121	27,372
Hardwood	262,428	11,675	838	6,051	12,340	22,105	33,899	82,553	45,802	16,164	31,001
Total	435,232	15,392	838	13,931	18,534	35,722	54,455	130,946	84,756	22,285	58,373
Upland hardwood											
Softwood	106,509	4,783	947	4,922	6,375	8,204	8,951	13,822	23,377	21,143	13,985
Hardwood	3,181,292	152,908	15,352	33,416	92,103	154,265	191,414	581,216	667,928	539,710	752,980
Total	3,287,801	157,691	16,299	38,338	98,478	162,469	200,365	595,038	691,305	560,853	766,965
Lowland hardwood											
Softwood	5,687	876	--	--	--	--	2,788	--	2,023	--	--
Hardwood	119,295	13,615	629	2,507	--	6,387	22,905	20,959	29,558	7,413	15,322
Total	124,982	14,491	629	2,507	--	6,387	25,693	20,959	31,581	7,413	15,322
All types											
Softwood	930,451	9,376	5,615	65,189	207,038	176,291	119,305	156,290	113,274	33,231	44,842
Hardwood	3,661,880	178,198	17,505	44,582	125,284	200,931	264,486	709,675	754,003	565,587	801,629
Total	4,592,331	187,574	23,120	109,771	332,322	377,222	383,791	865,965	867,277	598,818	846,471

Table 19--Average net annual growth of growing stock on timberland, by broad management class, species group, and stand-age class, Northern Piedmont of Virginia, 1986-1991

Broad management class[a] and species group	All classes	NO manageable stand	Stand-age class[a] (years)								
			O-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81+
			Thousand cubic feet								
Pine plantation											
Softwood	19,863	--	1,603	7,296	8,388	2,576	--	--	--	--	--
Hardwood	1,253	--	--	40	562	651	--	--	--	--	--
Total	21,116	--	1,603	7,336	8,950	3,227	--	--	--	--	--
Natural pine											
Softwood	13,348	--	12	1,432	3,976	2,732	2,080	1,991	900	171	54
Hardwood	3,774	--	15	156	973	790	599	767	412	26	36
Total	17,122	--	27	1,588	4,949	3,522	2,679	2,758	1,312	197	90
Oak-pine											
Softwood	5,588	389	37	821	441	708	643	1,152	779	59	559
Hardwood	8,552	423	32	337	530	1,083	1,353	2,353	1,392	396	653
Total	14,140	812	69	1,158	971	1,791	1,996	3,505	2,171	455	1,212
Upland hardwood											
Softwood	2,449	117	8	175	237	478	178	231	329	357	339
Hardwood	75,669	4,665	758	2,161	3,587	6,074	6,535	14,384	14,845	10,711	11,949
Total	78,118	4,782	766	2,336	3,824	6,552	6,713	14,615	15,174	11,068	12,288
Lowland hardwood											
Softwood	133	49	--	--	--	--	60	--	24	--	--
Hardwood	3,853	383	383	202	--	212	812	607	870	215	169
Total	3,986	432	383	202	--	212	872	607	894	215	169
All types											
Softwood	41,381	555	1,660	9,724	13,042	6,494	2,961	3,374	2,032	587	952
Hardwood	93,101	5,471	1,188	2,896	5,652	8,810	9,299	18,111	17,519	11,348	12,807
Total	134,482	6,026	2,848	12,620	18,694	15,304	12,260	21,485	19,551	11,935	13,759

[a]Classifications at the end of the remeasurement period.

Table 20--Average annual removals of growing stock on timberland, by broad management class, species group, and stand-age class, Northern Piedmont of Virginia, 1986-1991

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	3,973	--	--	574	2,369	1,030	--	--	--	--	--
Hardwood	391	--	--	--	391	--	--	--	--	--	--
Total	4,364	--	--	574	2,760	1,030	--	--	--	--	--
Natural pine											
Softwood	26,160	51	--	362	2,232	6,612	13,371	224	2,860	448	--
Hardwood	4,015	--	--	--	--	691	1,861	420	963	80	--
Total	30,175	51	--	362	2,232	7,303	15,232	644	3,823	528	--
Oak-pine											
Softwood	1,379	--	213	--	--	460	300	406	--	--	--
Hardwood	3,726	--	a5	--	--	935	555	521	--	943	687
Total	5,105	--	298	--	--	1,395	855	927	--	943	687
Upland hardwood											
Softwood	1,070	--	--	--	120	--	176	340	--	167	267
Hardwood	31.477	911	284	129	2.309	2.326	1.124	5.844	7.273	4.272	7.005
Total	32,547	911	284	129	2,429	2,326	1,300	6,184	7,213	4,439	7,272
Lowland hardwood											
Softwood	--	--	--	--	--	--	--	--	--	--	--
Hardwood	614	513	--	--	--	--	--	--	101	--	--
Total	614	513	--	--	--	--	--	--	101	--	--
All types											
Softwood	32,582	51	213	936	4,721	8,102	13,847	970	2,860	615	267
Hardwood	40,223	1,424	369	129	2,700	3,952	3,540	6,785	8,337	5,295	7,692
Total	72,805	1,475	582	1,065	7,421	12,054	17,387	7,755	11,197	5,910	7,959

[a] Classifications before timber removals.

Table 21--Merchantable volume of live trees and growing stock on timberland, by forest-type and species groups, Northern Piedmont of Virginia, 1992

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	18,223	4,672	7,197	1,100	5,254	17,095	4,672	7,197	1,100	4,126
Spruce-fir	--	--	--	--	--	--	--	--	--	--
Longleaf-slash pine	--	--	--	--	--	--	--	--	--	--
Loblolly-shortleaf pine	750,451	625,993	16,541	55,403	52,514	727,221	617,041	16,541	51,086	42,553
Oak-pine	459,624	124,661	51,284	98,248	185,431	435,232	123,477	49,327	89,007	173,421
Oak-hickory	3,571,349	78,249	30,657	1,161,391	2,301,052	3,287,801	76,031	30,478	1,070,121	2,111,171
Oak-gum-cypress	73,216	2,923	1,745	36,591	31,957	66,099	2,923	1,528	33,470	28,178
Elm-ash-cottonwood	71,812	451	785	43,126	27,450	58,883	451	785	34,777	22,870
Maple-beech-birch	--	--	--	--	--	--	--	--	--	--
All types	4,944,675	836,949	108,209	1,395,859	2,603,658	4,592,331	824,595	105,856	1,279,561	2,382,319

Table 22--Area of timberland treated or disturbed annually and retained in timberland, by treatment or disturbance and ownership class, Northern Piedmont of Virginia, 1986 to 1992

Treatment or disturbance	All ownerships	Ownership class			
		Public	Forest industry	Forest industry-leased	Other private
			Acres[a]		
Final harvest	17,291	1,034	4,608	--	11,649
Partial harvestb	6,234	352	--	--	5,882
Commercial thinning	1,791		--	--	1,791
Other stand improvement	—			--	--
Site preparation	8,143	--	4,445	--	3,698
Artificial regenerationc	7,313	--	3,765	--	3,548
Natural regenerationc	12,948	692	--	--	12,256
Other treatment	11,445	1,552	--	--	9,893
Natural disturbance	29,645	908	1,006	—	27,731

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

[b]Includes high grading and some selective cutting.

'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, Northern Piedmont of Virginia, 1986 to 1992

Treatment or disturbance	All classes	Broad management class[a]				
		Pine plantation	Natural pine	Oak-pine	Upland hardwood	Lowland hardwood
				Acres[b]		
Final harvest	17,291	319	6,621	1,710	8,641	--
Partial harvestc	6,234	--	--	--	6,234	--
Commercial thinning	1,791	1,253	—	--	538	--
Other stand improvement	--	--	--	--	--	--
Site preparation	8,143	319	1,559	1,083	5,182	--
Other treatment	11,445	—	1,728	730	8,339	648
Natural disturbance	29,645	1,623	4,640	4,151	17,349	1,882

[a]Classification before treatment or disturbance.

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

'Includes high grading and some selective cutting.

Table 24--Area of timberland regenerated annually, by type of regeneration and broad management class, Northern Piedmont of Virginia, 1986 to 1992

Type of regeneration	All classes	Broad management class[a]				
		Pine plantation	Natural pine	Oak-pine	Upland hardwood	Lowland hardwood
	Acres					
Artificial regeneration following harvest	4,919	4,380	--	539	—	--
Natural regeneration following harvest	6,573	--	—	2,455	4,118	--
Other artificial regeneration on forest land	1,875	1,300	—	575	--	--
Other natural regeneration on forest land	3,227	—	643	--	1,322	1,262
Artificial regeneration on nonforest land	519	--	—	519	—	--
Natural reversion of nonforest land	3,148	—	—	730	2,418	--
Total	20,261	5,680	643	4,818	7,858	1,262

[a]Classification after regeneration.

Table 25--Area of timberland, by treatment opportunity and broad management classes, Northern Piedmont of Virginia, 1986 to 1992

Treatment opportunity class	All classes	Broad management class				
		Pine plantation	Natural pine	Oak-pine	Upland hardwood	Lowland hardwood
	Acres					
Salvage	15,644	--	--	--	11,263	4,381
Harvest	241,907	--	17,918	26,761	185,183	12,045
Commercial thinning	119,479	49,014	53,201	4,189	13,075	--
Other stand improvement	154,545	15,105	18,725	22,261	94,667	3,787
Stand conversion	3,522	—	3,522	--	--	--
Regeneration	229,820	—	--	32,777	179,101	17,942
Stands in relatively good condition	1,418,840	104,402	183,875	195,149	892,865	42,549
Adverse sites[a]	242,794	—	4,052	8,023	227,197	3,522
All classes	2,426,551	168,521	281,293	289,160	1,603,351	84,226

[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, Northern Piedmont of Virginia, 1992

Treatment opportunity class	All ownerships	Ownership class			
		Public	Forest industry	Forest industry-leased	Other private
			Acres		
Salvage	15,644	--	--	--	15,644
Harvest	241,907	26,263	6,532	--	209,112
Commercial thinning	119,479	6,428	30,955	--	82,096
Other stand improvement	154,545	10,366	6,218	--	137,961
Stand conversion	3,522	--	--	--	3,522
Regeneration	229,820	5,914	10,077	--	213,829
Stands in relatively good condition	1,418,840	84,886	91,055	--	1,242,899
Adverse sites[a]	242,794	33,252	10,393	--	199,149
All classes	2,426,551	167,109	155,230	--	2,104,212

[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, Northern Piedmont of Virginia, 1992

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	181,429	3,690	9,120	49,553	119,066	165,408	3,690	9,120	48,100	104,498
Other public	254,669	61,811	--	82,466	110,392	230,287	60,626	--	75,473	94,188
Forest industry	239,657	128,463	4,058	41,936	65,200	233,051	127,588	4,058	39,109	62,296
Forest industry-leased	--	--	--	--	--	--	--	--	--	--
Other private	4,268,920	642,985	95,031	1,221,904	2,309,000	3,963,585	632,691	92,678	1,116,879	2,121,337
All ownerships	4,944,675	836,949	108,209	1,395,859	2,603,658	4,592,331	824,595	105,856	1,279,561	2,382,319

Table 28--Volume of sawtimber on timberland, by ownership class and species group, Northern Piedmont of Virginia, 1992

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	182,067	7,691	15,035	61,603	97,738	367,713	--	19,992	133,035	214,686
Other public	280,384	131,155	--	85,220	64,009	548,186	13,750	--	243,069	291,367
Forest industry	185,663	86,307	5,221	52,358	41,777	239,061	--	--	72,499	166,562
Forest industry-leased	--	--	--	--	--	--	--	--	--	--
Other private	4,831,902	1,418,042	98,346	1,127,448	2,188,066	7,979,142	149,983	246,595	2,844,510	4,738,054
All ownerships	5,480,016	1,643,195	118,602	1,326,629	2,391,590	9,134,102	163,733	266,587	3,293,113	5,410,669

[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--Average net annual growth and removals of growing stock on timberland, by ownership class and species group, Northern Piedmont of Virginia, 1986-1991

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	3,278	57	241	1,270	1,710	1,061	--	--	443	618
Other public	4,754	1,430	14	1,783	1,527	1,478	--	--	119	1,359
Forest industry	17,017	13,607	151	1,515	1,744	7,800	6,889	77	229	605
Forest industry-leased	--	--	--	--	--	--	--	--	--	--
Other private	109,433	22,759	3,122	34,096	49,456	62,466	24,961	655	10,569	26,281
All ownerships	134,482	37,853	3,528	38,664	54,437	72,805	31,850	732	11,360	28,863

Table 30-Average net annual growth and removals of sawtimber on timberland, by ownership class and species group, Northern Piedmont of Virginia, 1986-1991

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	15,845	114	663	6,707	8,361	3,412	--	--	1,639	1,773
Other public	23,650	8,151	--	8,801	6,698	4,995	--	--	471	4,524
Forest industry	30,969	18,377	193	6,683	5,716	15,692	15,246	--	--	446
Forest industry-leased	--	--	--	--	--	--	--	--	--	--
Other private	481,649	81,605	12,051	164,844	223,149	199,786	75,317	1,758	35,355	87,356
All ownerships	552,113	108,247	12,907	187,035	243,924	223,885	90,563	1,758	37,465	94,099

Table 31--Volume of timber on timberland, by class of timber and species group, Northern Piedmont of Virginia, 1992

Class of timber	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
			Thousand cubic feet		
Sawtimber trees					
Saw-log portion	2,781,409	373,461	67,161	824,501	1,516,286
Upper-stem portion[a]	458,018	59,312	5,634	130,418	262,654
Total	3,239,427	432,773	72,795	954,919	1,778,940
Poletimber trees	1,352,904	391,822	33,061	324,642	603,379
All growing-stock trees	4,592,331	824,595	105,856	1,279,561	2,382,319
Rough trees					
Sawtimber size	138,986	6,218	1,050	46,167	85,551
Poletimber size	173,590	6,136	1,303	51,823	114,328
Total	312,576	12,354	2,353	97,990	199,879
Rotten trees					
Sawtimber size	33,962	--	--	16,319	17,643
Poletimber size	5,806	--	--	1,989	3,817
Total	39,768	--	--	18,308	21,460
Salvable dead trees					
Sawtimber size	6,759	356	10	998	5,395
Poletimber size	3,835	392	48	1,033	2,362
Total	10,594	748	58	2,031	7,757
Total, all timber	4,955,269	837,697	108,267	1,397,890	2.611.415

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

Table 32--Number of live trees on timberland, by species and diameter class, Northern Piedmont of Virginia, 1992

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	9,124	1,270	1,332	2,120	1,798	1,468	863	231	42	--	--	--	--
Loblolly pine	77,963	15,356	21,367	22,621	12,517	3,523	1,916	501	99	53	--	10	--
Pond pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Virginia pine	141,554	47,834	32,227	28,939	16,615	9,390	4,601	1,560	275	100	13	--	--
Pitch pine	1,474	612	204	101	198	176	58	51	19	32	14	9	--
Table Mountain pine	523	221	--	173	62	42	--	25	--	--	--	--	--
Spruce pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Sand pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Eastern white pine	13,803	8,766	2,133	1,327	258	234	365	123	180	125	135	141	16
Eastern hemlock	3,602	1,556	204	1,144	233	224	38	53	76	--	36	38	--
Spruce and fir	202	202	--	--	--	--	--	--	--		--	--	
Baldcypress	--	--	--	--	--	--	--	--	--	--	--		--
Pondcypress	--	--	--	--	--	--	--	--	--	--	--	--	--
Cedars	75,612	47,233	18,290	7,352	1,743	739	222	54	39	--	--	--	--
Total softwoods	323,917	123,050	75,757	63,777	33,424	15,796	8,063	2,598	730	310	198	198	16
Hardwood													
Select white oaks	106,681	51,700	19,147	9,402	6,653	7,147	4,203	2,942	2,405	1,366	801	881	34
Select red oaks	30,512	11,756	6,843	3,526	1,654	1,248	1,528	1,290	978	599	401	601	88
Chestnut oak	45,208	15,226	5,977	4,960	4,882	4,573	3,159	2,337	1,482	1,076	701	717	118
Other white oaks	14,912	9,814	2,908	564	424	451	218	242	177	48	35	22	9
Other red oaks	97,083	48,121	16,968	11,027	6,160	5,643	3,301	2,144	1,768	827	435	661	28
Hickory	84,824	49,445	12,679	7,792	5,235	3,818	2,682	1,320	993	425	185	244	6
Yellow birch	--	--	--	--	--	--	--	--	--	--	--	--	--
Hard maple	808	218	460	--	65	--	--	42	--	--	14	9	--
Soft maple	214,140	156,367	29,386	12,022	6,805	4,057	2,634	1,438	638	383	162	217	31
Beech	32,069	22,654	4,334	1,487	1,318	871	535	167	317	182	101	103	--
Sweetgum	61,132	41,909	9,164	4,248	2,682	1,596	761	379	246	52	59	30	6
Tupelo and blackgum	104,184	83,434	12,831	3,699	1,275	1,402	645	435	288	67	38	65	5
Ash	37,782	20,708	9,384	2,660	1,987	1,129	756	525	301	125	95	100	12
Cottonwood	32	--	--	--	--	--	32	--	--	--	--	--	--
Basswood	3,259	1,335	451	724	141	154	166	158	76	31	14	9	--
Yellow-poplar	114,848	55,835	22,873	8,873	6,202	5,013	4,244	3,804	3,241	2,197	1,321	1,121	124
Bay and magnolia	1,326	1,326	--	--	--	--	--	--	--	--	--	--	--
Black cherry	27,621	19,699	5,269	902	731	498	312	112	36	17	--	45	--
Black walnut	5,263	1,375	1,098	539	442	892	325	286	143	29	87	47	--
Sycamore	6,467	2,828	2,206	--	396	89	271	127	296	137	53	47	17
Black locust	13,982	5,836	1,103	2,855	679	1,704	840	615	221	83	40	6	--
Elm	14,287	7,920	2,355	2,777	538	206	238	114	84	47	--	8	--
Other eastern hardwoods	358,916	286,892	45,578	13,788	7,187	2,841	1,451	580	339	99	66	88	7
Total hardwoods	1,375,336	894,398	211,014	91,845	55,456	43,332	28,301	19,057	14,029	7,790	4,608	5,021	485
All species	1,699,253	1,017,448	286,771	155,622	88,880	59,128	36,364	21,655	14,759	8,100	4,806	5,219	501

Table 33--Number of growing-stock trees on timberland, by species and diameter class, Northern Piedmont of Virginia, 1992

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	8,444	726	1,332	2,120	1,720	1,410	863	231	42	--	--	--	--
Loblolly pine	75,782	14,230	20,487	22,621	12,342	3,523	1,916	501	99	53	--	10	--
Pond pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Virginia pine	131,347	41,709	30,027	28,160	15,996	9,184	4,323	1,560	275	100	13	--	--
Pitch pine	1,474	612	204	101	198	176	58	51	19	32	14	9	--
Table Mountain pine	523	221		173	62	42	--	25	--	--	--	--	--
Spruce pine	--	--	--	--	--	--	--	--					
Sand pine	--	--	--	--		--	--	--	--	--	--	--	--
Eastern white pine	12,870	7,849	2,133	1,327	258	234	365	123	180	125	135	125	16
Eastern hemlock	3,602	1,556	204	1,144	233	224	38	53	76	--	36	38	--
Spruce and fir	202	202	--	--	--	--	--	--	--	--	--	--	--
Baldcypress	--	--		--				--					
Pondcypress	--	--	--	--	--	--	--	--	--	--	--	--	--
Cedars	62,899	37,899	15,760	6,534	1,652	739	222	54	39	--	--	--	--
Total softwoods	297,143	105,004	70,147	62,180	32,461	15,532	7,785	2,598	730	310	198	182	16
Hardwood													
Select white oaks	87,594	35,196	17,540	8,945	6,573	6,918	4,132	2,917	2,405	1,334	801	813	20
Select red oaks	25,136	9,546	4,785	2,942	1,489	1,138	1,452	1,216	978	584	389	554	63
Chestnut oak	33,889	7,951	4,640	4,289	4,145	4,025	2,839	2,217	1,400	995	635	668	85
Other white oaks	12,601	7,841	2,908	404	424	340	218	214	142	48	35	22	5
Other red oaks	80,943	34,579	15,388	10,529	5,912	5,530	3,268	2,144	1,746	759	435	635	18
Hickory	60,800	27,799	11,776	7,125	4,801	3,622	2,574	1,320	950	409	185	233	6
Yellow birch	--	--	--	--	--	--	--	--	--	--	--	--	--
Hard maple	348	218	--	--	65		--	42		--	14	9	--
Soft maple	102,644	66,921	15,019	7,984	5,314	3,024	2,206	1,051	570	280	110	151	14
Beech	20,861	13,711	2,781	1,309	1,244	604	375	167	296	182	89	103	--
Sweetgum	45,904	28,151	8,228	3,899	2,497	1,596	761	379	246	52	59	30	6
Tupelo and blackgum	40,470	25,824	8,175	3,035	959	1,132	534	409	268	67	38	29	--
Ash	17,072	7,546	3,851	1,614	1,462	870	716	407	281	125	95	100	5
Cottonwood	--	--	--	--	--	--	--	--	--	--	--	--	--
Basswood	1,464	--	--	724	141	154	166	158	76	31	14	--	--
Yellow-poplar	103,245	48,676	19,930	8,466	5,846	4,724	4,143	3,747	3,181	2,120	1,259	1,057	96
Bay and magnolia	--	--	--	--	--	--	--	--	--	--	--	--	--
Black cherry	12,812	10,001	1,923	255	167	199	214	24	--	17	--	12	--
Black walnut	2,956	222	863	293	170	727	189	259	105	13	87	28	--
Sycamore	4,264	1,090	1,766	--	396	89	271	102	296	137	53	47	17
Black locust	6,570	2,405	229	1,164	546	1,026	589	331	183	65	26	6	--
Elm	6,280	2,785	937	1,691	464	--	199	85	64	47	--	8	--
Other eastern hardwoods	13,998	5,890	1,758	2,831	1,315	964	562	270	178	81	66	76	7
Total hardwoods	679,851	336,352	122,497	67,499	43,930	36,682	25,408	17,459	13,365	7,346	4,390	4,581	342
All species	976,994	441,356	192,644	129,679	76,391	52,214	33,193	20,057	14,095	7,656	4,588	4,763	358

Table 34--Merchantable volume of live trees on timberland, by species and diameter class, Northern Piedmont of Virginia, 1992

Species	All classes	Diameter class (inches at breast height)									
		5.0-6.9	7.0-a.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										
Softvood											
Longleaf pine	--	--		--				--	--	--	--
Slash pine	--	--	--	--	--	--	--	--	--	--	--
Shortleaf pine	66,461	6,923	14,798	18,180	18,112	6,630	1,818	--	--	--	--
Loblolly pine	234,325	60,594	75,392	39,485	38,499	13,277	4,093	2,190	--	795	—
Pond pine	--	--	--	—	--	--	--	--	--	--	--
Virginia pine	524,915	103,963	134,224	128,423	93,446	47,283	11,232	5,573	771	--	—
Pitch pine	9,566	413	919	1,806	1,467	1,330	414	1,623	944	650	—
Table Mountain pine	1,682	276	456	433	--	517	--	--	--	--	--
Spruce pine	--	--	--	--	--	—	--				
Sand pine	--	--	--	--	—	—	--	--	--	--	--
Eastern white pine	54,017	3,601	1,914	2,781	6,844	3,461	6,490	6,035	a,472	12,093	2,326
Eastern hemlock	17,199	2,454	1,258	2,652	423	911	3,401	--	2,463	3,631	—
Spruce and fir		--	--	--	—	—	--	—	—	--	--
Baldcypress	--		--								
Pondcypress			--	--			--	--	--	--	--
Cedars	36,993	16,606	8,531	6,517	3,123	a47	1,369				
Total softwoods	945,158	194,830	237,492	200,277	161,914	74,256	28,817	15,421	12,650	17,175	2,326
Hardvood											
Select white oaks	658,149	28,150	44,081	87,587	82,420	88,526	100,604	75,973	55,049	88,623	7,136
Select red oaks	284,426	10,546	12,322	14,615	31,850	38,224	39,325	30,897	27,420	64,375	14,852
Chestnut oak	446,193	11,910	31,700	52,006	58,361	62,335	54,754	51,566	42,159	62,189	19,213
Other white oaks	32,857	1,520	2,959	5,543	3,730	5,574	6,191	2,366	2,125	1,592	1,257
Other red oaks	461,550	30,181	40,368	66,845	60,621	60,326	66,001	41,771	29,470	62,676	3,291
Hickory	291,258	18,396	31,108	44,058	53,778	39,775	39,457	23,798	13,379	26,221	1,288
Yellow birch	--	—	—	—	--	--	--	—	--	--	--
Hard maple	3,125	--	460	--	—	1,087	--	--	860	718	--
Soft maple	278,859	37,985	44,404	46,795	45,308	35,812	21,162	15,922	9,234	18,472	3,765
Beech	75,701	4,456	8,687	10,146	10,205	4,442	12,619	9,202	6,170	9,774	--
Sweetgum	95,942	11,041	17,989	19,264	15,286	11,317	10,498	2,772	3,860	2,935	980
Tupelo and blackgum	75,597	9,112	7,800	15,494	11,269	11,022	10,653	2,992	2,136	4,630	489
Ash	92,852	6,080	12,161	13,420	13,919	14,374	10,131	6,489	5,866	8,651	1,762
Cottonwood	796	--	--	—	796	—	—	--	--	—	--
Basswood	19,662	1,692	1,030	2,054	3,675	4,806	3,388	1,899	860	258	--
Yellow-poplar	825,808	29,915	41,315	62,309	89,361	116,104	137,048	121,807	91,296	112,177	24,476
Bay and magnolia	--	--	—	--		—	—	--	--	—	--
Black cherry	22,441	2,155	3,465	4,223	5,158	2,274	901	724	--	3,541	--
Black walnut	39,512	1,177	2,019	a,766	5,874	7,337	4,344	989	5,893	3,113	--
Sycamore	41,811	--	3,252	1,459	5,017	3,315	10,315	6,625	3,291	5,051	3,486
Black locust	63,194	6,139	3,702	15,107	12,464	12,715	6,824	3,446	2,103	694	--
Elm	24,513	5,169	3,933	1,833	3,797	3,320	3,124	2,077	—	1,260	--
Other eastern hardwoods	165,271	32,269	37,665	30,141	25,090	13,259	9,839	5,275	3,907	6,867	959
Total hardwoods	3,999,517	247,893	350,420	501,665	537,979	535,944	547,178	406,590	305,078	483,817	82,953
All species	4,944,675	442,723	587,912	701,942	699,893	610,200	575,995	422,011	317,728	500,992	85,279

Table 35--Volume of growing stock on timberland, by species and diameter class, Northern Piedmont of Virginia, 1992

Species	All classes	Diameter class (inches at breast height)									
		5.0-6.9	7.0-a.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-la.9	19.0-20.9	21.0-28.9	29.0 and larger
	Thousand cubic feet										
Softwood											
Longleaf pine	--	--	--	--	--	--	--	--	--	--	--
Slash pine	--	--	--	--	--	--	--	--	--	--	--
Shortleaf pine	65,381	6,923	14,253	17,645	18,112	6,630	1,818	--	--	--	--
Loblolly pine	233,760	60,594	74,827	39,485	38,499	13,277	4,093	2,190	--	795	--
Pond pine	--	--	--	--	--	--	--	--	--	--	--
Virginia pine	514,206	102,461	130,700	126,225	89,961	47,283	11,232	5,573	771	--	--
Pitch pine	9,566	413	919	1,806	1,467	1,330	414	1,623	944	650	--
Table Mountain pine	1,682	276	456	433	--	517	--	--	--	--	--
Spruce pine	--	--	--	--	--	--	--	--	--	--	--
Sand pine	--	--	--	--	--	--	--	--	--	--	--
Eastern white pine	52,967	3,601	1,914	2,781	6,844	3,461	6,490	6,035	8,472	11,043	2,326
Eastern hemlock	17,199	2,454	1,258	2,652	423	911	3,401	--	2,463	3,637	--
Spruce and fir	--	--	--	--	--	--	--	--	--	--	--
Baldcypress	--	--	--	--	--	--	--	--	--	--	--
Pondcypress	--	--	--	--	--	--	--	--	--	--	--
Cedars	35,690	15,567	8,267	6,517	3,123	847	1,369	--	--	--	--
Total softwoods	930,451	192,289	232,594	197,544	158,429	74,256	28,817	15,421	12,650	16,125	2,326
Hardwood											
Select white oaks	643,881	27,063	43,781	85,401	81,519	87,809	100,604	74,601	55,049	83,559	4,495
Select red oaks	269,163	8,719	11,427	14,037	30,278	36,013	39,325	30,194	26,757	60,811	11,602
Chestnut oak	415,736	10,964	27,929	47,071	53,351	59,632	52,912	47,803	40,454	58,624	16,996
Other white oaks	29,551	1,233	2,959	4,473	3,730	5,044	5,434	2,366	2,125	1,592	595
Other red oaks	452,265	28,663	39,450	66,146	60,032	60,326	65,423	39,533	29,470	60,802	2,420
Hickory	282,475	17,060	29,024	42,599	52,341	39,775	38,804	22,882	13,379	25,323	1,288
Yellow birch	--	--	--	--	--	--	--	--	--	--	--
Hard maple	3,125	--	460	--	--	1,087	--	--	860	718	--
Soft maple	221,989	26,678	36,636	37,109	38,276	27,303	19,824	13,317	6,647	13,729	2,470
Beech	68,245	4,215	7,775	7,439	7,733	4,442	11,959	9,202	5,706	9,174	--
Sweetgum	94,555	10,361	17,282	19,264	15,286	11,317	10,498	2,772	3,860	2,935	980
Tupelo and blackgum	63,577	7,531	5,940	12,952	9,287	10,485	9,824	2,992	2,136	2,430	--
Ash	80,952	3,916	9,405	10,816	13,338	11,423	10,073	6,489	5,866	8,651	975
Cottonwood	--	--	--	--	--	--	--	--	--	--	--
Basswood	19,404	1,692	1,030	2,054	3,675	4,806	3,388	1,899	860	--	--
Yellow-poplar	803,688	28,434	39,394	60,763	87,752	114,995	135,711	118,370	89,353	108,54a	20,368
Bay and magnolia	--	--	--	--	--	--	--	--	--	--	--
Black cherry	9,484	695	966	1,944	3,706	560	--	724	--	a89	--
Black walnut	31,915	569	804	7,894	3,764	6,704	3,265	690	5,893	2,332	--
Sycamore	41,095	--	3,252	1,459	5,017	2,599	10,315	6,625	3,291	5,051	3,486
Black locust	45,760	2,862	3,167	10,275	9,518	8,666	6,222	2,906	1,450	694	--
Elm	18,220	3,107	3,434	--	3,268	2,688	2,386	2,077	--	1,260	--
Other eastern hardwoods	66,800	9,212	7,639	11,597	10,575	6,774	5,679	4,271	3,907	6,187	959
Total hardwoods	3,661,880	192,974	291,754	443,293	492,446	502,448	531,646	389,713	297,063	453,909	66,634
All species	4,592,331	385,263	524,348	640,837	650,875	576,704	560,463	405,134	309,713	470,034	68,960

Table 36--Volume of sawtimber on timberland, by species and diameter class, Northern Piedmont of Virginia, 1992

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	190,034	64,562	81,886	33,415	10,171	--	--	--	—
Loblolly pine	420,533	138,649	171,998	67,935	23,468	13,081	—	5,402	—
Pond pine	--	--	--	--	--	--	--	--	--
Virginia pine	1,151,058	457,021	381,866	222,268	56,180	29,439	4,284	--	—
Pitch pine	40,810	5,965	6,708	6,429	2,225	9,494	5,783	4,206	--
Table Mountain pine	4,493	1,824	--	2,669	—	—	--	--	—
Spruce pine	—	—	--	--	--	—	—	--	--
Sand pine	--	--	—	--	--	—	—	--	--
Eastern white pine	263,650	10,280	30,456	17,376	34,932	34,149	50,563	69,975	15,919
Eastern hemlock	67,816	8,617	1,652	4,274	17,586	—	14,097	21,590	--
Spruce and fir	--	—	—	--		--	--	—	—
Baldcypress	--	--	--	--	--	--	--	--	--
Pondcypress	--	--			--	--	--	--	--
Cedars	53,723	26,786	14,774	4,387	7,776	—	—	—	—
Total softwoods	2,192,117	713,704	689,340	358,753	152,338	86,163	74,727	101,173	15,919
Hardwood									
Select white oaks	2,178,891	--	275,672	349,410	443,746	354,503	276,861	451,343	27,356
Select red oaks	1,041,205	--	102,419	139,025	165,656	135,771	125,952	309,079	63,303
Chestnut oak	1,440,595	--	175,718	228,753	225,268	217,365	194,226	301,570	97,695
Other white oaks	96,410	--	13,545	21,221	25,828	11,971	11,363	8,765	3,717
Other red oaks	1,421,281	--	205,367	243,315	290,806	189,380	149,954	328,138	14,321
Hickory	847,112	--	181,278	161,738	175,437	111,935	68,678	140,157	7,889
Yellow birch	—	--	--	--	--	--	--	--	—
Hard maple	12,091	--	—	4,561	--	--	3,993	3,537	—
Soft maple	489,821		124,214	103,274	83,436	60,607	31,910	71,707	14,673
Beech	191,474	--	28,254	16,802	46,541	36,461	23,081	40,335	—
Sweetgum	213,254	--	55,251	48,488	50,516	14,079	21,210	17,299	6,411
Tupelo and blackgum	147,429	--	30,007	39,706	41,181	13,588	10,297	12,650	—
Ash	242,116		42,667	44,505	43,253	30,568	29,096	46,262	5,765
Cottonwood	--		—	—	—	—	--	--	--
Basswood	59,825	--	13,073	19,055	14,756	8,790	4,151	--	--
Yellow-poplar	3,449,687		318,700	503,942	668,321	634,340	509,343	673,191	141,850
Bay and magnolia	—	--	—	—	--	--	—		--
Black cherry	23,719	--	12,940	2,293	—	3,545	--	4,941	—
Black walnut	86,484	--	12,992	24,353	12,339	2,785	24,134	9,881	—
Sycamore	167,416		16,465	9,999	44,033	30,998	16,354	28,285	21,282
Black locust	108,517	--	33,556	31,712	23,489	11,241	5,674	2,845	—
Elm	47,823	--	10,820	10,677	10,150	9,486	--	6,690	--
Other eastern hardwoods	156,851		36,523	25,929	24,151	18,851	18,000	28,668	4,729
Total hardwoods	12,422,001	--	1,689,461	2,028,758	2,388,907	1,896,264	1,524,277	2,485,343	408,991
All species	14,614,118	713,704	2,378,801	2,387,511	2,541,245	1,982,427	1,599,004	2,586,516	424,910

Table 37--Volume of sawtimber on timberland, by species, size class, and tree grade, Northern Piedmont of Virginia, 1992

Species	All size classes					Trees 15.0 inches d.b.h. and larger				
	All grades	Tree grade				All grades	Tree grade			
		1	2	3	4		1	2	3	4
	Thousand board feet									
Softvood										
Yellow pines[a]	1,806,928	58,804	357,275	1,390,849	--	163,733	15,889	49,104	98,740	--
Eastern white ine[b]	263,650	30,217	51,504	181,929	--	205,538	30,217	42,137	133,184	--
Spruce and fir[g]	--	--	--	--	--	--	--	--	--	--
Cypress[c]	--	--	--	--	--	--	--	--	--	--
Other eastern softwoods[b]	121,539	6,116	4,430	85,147	25,846	61,049	6,116	4,430	37,652	12,851
Total	2,192,117	95,137	413,209	1,657,925	25,846	430,320	52,222	95,671	269,576	12,851
Hardwood[c]										
Select white and red oaks	3,220,096	602,586	1,138,307	1,315,578	163,625	2,353,570	602,586	981,483	711,695	57,806
Other white and red oaks	2,958,286	372,571	841,702	1,482,739	261,274	2,070,367	372,571	737,682	819,886	140,228
Hickory	847,112	118,100	200,403	483,187	45,422	504,096	118,100	154,303	210,833	20,860
Yellow birch	--	--	--	--	--	--	--	--	--	--
Hard maple	12,091	3,993	--	8,098	--	7,530	3,993	--	3,537	--
Sweetgum	213,254	31,096	80,842	95,322	5,994	109,515	31,096	66,180	12,239	--
Ash, walnut, and black cherry	352,319	23,952	98,269	198,028	32,070	212,569	23,952	75,327	98,146	15,144
Yellow-poplar	3,449,687	927,741	1,325,414	1,104,156	92,376	2,627,045	927,741	1,101,652	560,976	36,676
Other eastern hardwoods	1,369,156	78,486	344,851	754,570	191,249	819,090	78,486	308,687	339,051	92,866
Total	12,422,001	2,158,525	4,029,788	5,441,678	792,010	8,703,782	2,158,525	3,425,314	2,756,363	363,580
All species	14,614,118	2,253,662	4,442,997	7,099,603	817,856	9,134,102	2,210,747	3,520,985	3,025,939	376,431

[a]For yellow pines, tree grade is based on "Southern Pine Tree Grades for Yard and Structural Lumber," Research Paper SE-40, published by the Southeastern Forest Experiment Station, Asheville, NC, 1968. Tree grade 4 does not apply to yellow pine.

[b]For other softwoods (excluding cypress), tree grade is based on "Tree Grades for Eastern White Pine," Research Paper NE-214, published by the Northeastern Forest Experiment Station, Radnor, PA, 1971.

[c]For hardwoods and cypress, tree grades 1, 2, and 3 are based on "Hardwood Tree Grades for Factory Lumber," Research Paper NE-333, published by the Northeastern Forest Experiment Station, Radnor, PA, 1976. Grade 4 trees are sawtimber trees not qualifying as tree grades 1, 2, or 3. The butt log of these trees qualify as construction (tie and timber) logs based on "A Guide to Hardwood Log Grading (revised)," General Technical Report NE-l, published by the Northeastern Forest Experiment Station, Radnor, PA, 1971.

Table 38--Cubic volume in the merchantable saw-log portion of sawtimber trees on timberland, by species and diameter class, Northern Piedmont of Virginia, 1992

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	38,401	13,930	16,424	6,276	1,771	--		--	--
Loblolly pine	84,031	30,138	34,444	12,526	3,985	2,151	--	787	--
Pond pine	--	--	--	--	--	--	--		
Virginia pine	242,605	101,298	80,467	44,078	10,660	5,355	747	--	--
Pitch pine	1,534	1,442	1,345	1,237	394	1,565	916	635	--
Table Mountain pine	890	389	--	501	--	--	--	--	--
Spruce pine	--	--	--	--	--	--		--	--
Sand pine	--	--	--	--	--	--	--	--	--
Eastern white pine	44,755	2,259	6,130	3,227	6,156	5,780	8,182	10,742	2,279
Eastern hemlock	12,205	1,943	359	836	3,201	--	2,362	3,504	--
Spruce and fir	--	--	--	--	--	--	--	--	--
Baldcypress	--	--							
Pondcypress	--	--	--	--	--	--	--	--	--
Cedars	10.201	5.302	2.802	790	1.307	--	--		
Total softwoods	440,622	156,701	141,971	69,471	27,474	14,851	12,207	15,668	2,279
Hardwood									
Select white oaks	420,238	--	57,804	72,170	88,091	67,659	51,027	79,124	4,363
Select red oaks	198,661	--	21,835	28,874	33,109	26,141	23,540	54,599	10,563
Chestnut oak	284,632	--	38,517	48,988	46,157	42,933	37,055	54,754	16,228
Other white oaks	17,932	--	2,721	4,176	4,829	2,159	1,978	1,494	575
Other red oaks	271,177		41,999	49,406	57,092	35,786	27,282	57,251	2,361
Hickory	162,600		37,938	32,778	33,905	20,680	12,296	23,769	1,234
Yellow birch	--	--	--	--	--	--	--	--	
Hard maple	2,394	--	--	923	--	--	791	680	--
Soft maple	97,034	--	25,931	21,550	16,803	11,731	5,985	12,680	2,354
Beech	41,342		5,602	3,570	10,171	8,032	5,096	8,871	--
Sweetgum	39,507	--	10,861	9,352	9,326	2,531	3,638	2,830	969
Tupelo and blackgum	30,053	--	6,479	8,381	8,361	2,646	1,934	2,252	--
Ash	47,670	--	9,119	9,338	8,749	5,890	5,431	8,198	945
Cottonwood	--		--	--	--	--	--	--	
Basswood	12,233	--	2,785	3,976	2,970	1,713	789	--	--
Yellow-poplar	596,759	--	61,797	95,141	120,469	109,338	84,520	105,331	20,163
Bay and magnolia	--	--	--	--	--	--	--	--	--
Black cherry	4,662	--	2,729	461	--	647	--	825	--
Black walnut	18,872	--	2,797	5,375	2,736	609	5,245	2,110	--
Sycamore	30,924	--	3,345	2,023	8,645	5,840	2,978	4,753	3,340
Black locust	23,093	--	6,710	6,810	5,186	2,499	1,263	625	--
Elm	9,383	--	2,204	2,176	2,021	1,821	--	1,161	--
Other eastern hardwoods	31,621		7,153	5,306	4,885	3,883	3,641	5,827	926
Total hardwoods	2,340,787	--	348,326	410,774	463,505	352,538	274,489	427,134	64,021
All species	2,781,409	156,701	490,297	480,245	490,979	367,389	286,696	442,802	66,300

Table 39--Total volume of live trees on timberland, by species and diameter class, Northern Piedmont of Virginia, 1992

Species	All classes	Diameter class (inches at breast height)											
		1.0-2.9	3.0-4.9	5.0-6.9	7.0-a.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	80,765	452	1,802	9,405	17,705	21,134	20,697	7,521	2,049	--		--	--
Loblolly pine	318,185	3,682	23,137	85,961	92,182	46,130	44,078	15,057	4,609	2,461		888	--
Pond pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Virginia pine	684,683	13,391	41,826	136,788	160,677	149,831	107,832	54,250	12,849	6,361	878	--	--
Pitch pine	11,350	114	139	507	1,102	2,108	1,692	1,531	475	1,859	1,080	743	--
Table Mountain pine	2,071	81	--	375	530	497	--	588	--	--	--	--	--
Spruce pine	--	--	--	--		-	--	--	--	--	-	--	--
Sand pine	-	--	--	--					--	--	--	--	--
Eastern white pine	68,173	2,206	2,803	4,791	2,287	3,274	7,974	4,009	7,505	6,959	9,755	13,929	2,681
Eastern hemlock	21,048	373	129	3,468	1,532	3,149	493	1,049	3,905	--	2,812	4,138	--
Spruce and fir	49	49	--	--	--	--	--	--	--		--	--	--
Baldcypress	--					--	--	--	--			--	--
Pondcypress	--	--	--	--	--	--	--	--	--		--	--	--
Cedars	80,045	10,868	18,146	25,575	11,006	8,022	3,781	1,017	1,630	--	--	--	--
Total softwoods	1,266,369	31,216	87,982	266,870	287,021	234,145	186,547	85,022	33,022	17,640	14,525	19,698	2,681
Hardwood													
Select white oaks	866,755	11,309	27,115	41,598	57,714	111,094	103) 066	109,916	124,514	94,137	67,839	109,379	9,074
Select red oaks	368,067	2,725	11,039	14,830	15,767	18,366	39,537	47,239	48,480	38,066	33,760	79,523	18,735
Chestnut oak	562,592	2,974	9,497	17,170	40,347	64,593	71,623	76,114	66,771	62,776	51,345	75,564	23,818
Other white oaks	47,716	2,195	3,490	2,228	3,941	7,137	4,736	7,003	7,837	2,950	2,645	1,980	1,574
Other red oaks	626,553	13,305	27,923	47,684	53,258	84,419	75,595	74,399	81,112	51,480	36,072	76,998	4,308
Hickory	388,973	9,898	13,235	29,048	41,192	55,354	66,178	48,367	47,887	28,742	16,060	31,475	1,537
Yellow birch	--	--	--	--	--	--	--	--		--	--	--	--
Hard maple	4,426	23	636	--	573	--	--	1,308	--	--	1,029	857	
Soft maple	429,098	37,707	44,688	53,863	55,899	57,205	54,680	43,043	25,273	19,178	11,040	21,978	4,544
Beech	105,687	4,456	5,229	6,671	11,465	12,925	12,770	5,509	15,626	11,370	7,670	11,996	--
Sweetgum	137,069	10,092	11,245	16,148	22,300	22,713	17,687	12,986	11,960	3,150	4,371	3,314	1,103
Tupelo and blackgum	123,549	15,983	15,410	12,725	9,716	18,691	13,351	13,013	12,464	3,490	2,511	5,577	618
Ash	126,311	4,975	11,413	8,804	14,976	15,898	16,158	16,510	11,657	7,391	6,675	9,826	2,028
Cottonwood	932	--	--	--	--	--	932	--	--	--	--	--	
Basswood	23,578	275	318	2,235	1,214	2,387	4,225	5,505	3,872	2,167	980	400	
Yellow-poplar	989,707	12,784	34,956	39,522	49,411	71,962	101,717	131,261	154,508	137,027	102,817	126,031	27,711
Bay and magnolia	232	232	--	--	--	--	--	--	--	--		--	--
Black cherry	40,317	6,021	7,037	2,936	4,302	5,113	6,106	2,706	1,084	862	--	4,150	
Black walnut	49,654	276	1,331	1,673	2,568	10,797	7,028	8,735	5,233	1,258	6,965	3,790	--
Sycamore	52,325	782	2,804	--	3,963	1,723	5,868	3,865	11,998	7,669	3,803	5,834	4,016
Black locust	81,475	1,523	1,009	8,662	4,676	18,726	15,295	15,707	8,300	4,192	2,539	846	--
Elm	35,448	2,072	2,642	7,622	4,890	2,217	4,525	3,910	3,664	2,429	--	1,477	
Other eastern hardwoods	327,111	57,640	54,510	47,383	49,218	37,813	31,184	16,508	12,121	6.418	4,769	8,378	1,169
Total hardwoods	5,387,575	197,247	285,527	360,802	447,390	619,133	652,261	643,604	654,361	484,752	362,890	579,373	100,235
All species	6,653,944	228,463	373,509	627,672	734,411	853,278	838,808	728,626	687,383	502,392	377,415	599,071	102,916

Table 40--Green weight of forest biomass on timberland, by species and diameter class, Northern Piedmont of Virginia, 1992

Species	All classes	Diameter class (inches at breast height) 1.0-2.9	3.0-4.9	5.0-6.9	7.0-a.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	55,62a	272	1,085	5,638	12,078	14,927	14,765	5,390	1,473				
Loblolly pine	226,562	1,880	13,620	59,935	67,935	34,012	32,106	11,169	3,377	1,864		664	--
Pond pine					--	--	--	--	--	--			
Virginia pine	510,282	11,795	34,251	103,860	117,786	109,575	79,125	39,429	9,284	4,531	646		
Pitch pine	7,658	81	129	335	770	1,447	1,102	1,014	353	1,221	701	505	--
Table Mountain pine	1,263	73	--	183	315	309		383	--	--	--	--	
Spruce pine	--				--		--	--					
Sand pine	--			--	--	--	--	--					
Eastern white pine	42,142	905	1,268	3,274	1,566	2,194	5,306	2,596	4,804	4,340	5,980	8,359	1,550
Eastern hemlock	15,636	216	a5	2,808	1,330	2,393	434	921	2,733	--	1,955	2,761	--
Spruce and fir	29	29			--	--	--	--	--		--	--	--
Baldcypress													
Pondcypress	--												
Cedars	55,987	6,614	11,651	18,677	8,307	6,019	2,781	797	1,141				
Total softwoods	915,187	21,865	62,089	194,710	210,087	170,876	135,619	61,699	23,165	11,956	9,282	12,289	1,550
Hardwood													
Select white oaks	697,682	8,840	19,895	29,137	45,317	88,473	83,107	88,994	101,554	76,823	56,423	91,190	7,929
Select red oaks	295,482	2,301	8,182	10,783	12,559	15,169	32,045	38,490	39,432	31,005	27,119	63,338	15,059
Chestnut oak	440,041	2,742	7,302	12,183	30,413	49,258	55,013	59,347	52,416	49,604	40,878	61,138	19,747
Other white oaks	38,349	1,570	2,439	1,642	2,895	5,616	3,843	5,884	6,563	2,463	2,257	1,693	1,484
Other red oaks	515,910	10,333	20,456	31,882	42,695	70,433	63,746	62,966	69,540	43,749	30,698	65,533	3,879
Hickory	312,678	8,586	11,720	20,331	31,394	43,353	52,630	39,103	39,655	24,013	13,497	27,021	1,375
Yellow birch	--	--	--				--				--		--
Hard maple	3,816	14	537		474	--	--	1 144			a72	775	--
Soft maple	312,977	28,606	31,803	36,982	41,934	41,950	40,541	31 685	18,686	13,931	7,925	15,685	3,249
Beech	83,659	3,605	4,434	4,143	8,506	10,224	10,118	4,483	12,513	9,201	6,442	9,990	--
Sweetgum	97,929	6,819	7,483	10,519	15,602	16,678	13,040	9,677	8 951	2,352	3,361	2,562	885
Tupelo and blackgum	84,038	12,504	11,406	7,168	5,981	11,786	8,851	8,866	8,636	2,480	1,798	4,085	477
Ash	79,205	2,967	7,227	6,850	10,658	10,268	10,073	9,995	6,928	4,170	3,721	5,335	1,013
Cottonwood	637					--	637				--		--
Basswood	15,775	179	229	1,394	817	1,530	2,867	3,737	2,619	1,440	687	276	
Yellow-poplar	702,163	9,473	23,095	24,042	33,386	50,059	71,581	93,663	110,772	98,886	74,422	92,249	20,535
Bay and magnolia	130	130					--	--	--	--	--	--	--
Black cherry	26,311	2,704	4,716	1,788	2,916	3,542	4,208	1,891	807	613		3,126	--
Black walnut	43,153	224	1,124	1,438	2,273	9,146	6,206	7,605	4,594	1,111	6,023	3,409	--
Sycamore	38,724	533	1,958		2,347	1,090	4,165	2,822	9,009	5,857	2,937	4,702	3,304
Black locust	79,533	1,296	857	7,469	4,530	18,689	15,206	15,571	8,292	4,201	2,556	866	--
Elm	23,463	1,528	1,871	4,953	3,018	1,546	2,951	2,528	2,427	1,697		944	--
Other eastern hardwoods	251,607	48,974	45,292	33,683	35,651	26,353	22,123	12,124	9,650	4,958	4,077	7,632	1,090
Total hardwoods	4,143,262	153,928	212,026	246,387	333,366	475,163	502,951	500,575	513,044	378,554	285,693	461,549	80,026
All species	5,058,449	175,793	274,115	441,097	543,453	646,039	638,570	562,274	536,209	390,510	294,975	473,838	81,576

Table 41--Average net annual growth and removals of live timber and growing stock on timberland, by species, Northern Piedmont of Virginia, 1986-1991

Species	Live timber[a]		Growing stock	
	Net annual growth	Annual timber removals	Net annual growth	Annual timber removals
	Thousand cubic feet			
Softwood				
Yellow pines	38,008	32,401	37,853	31,850
Eastern white pine	1,493	408	1,488	408
Spruce and fir	--	--	--	--
Cypress	--	--	--	--
Other eastern softwoods	2,078	324	2,040	324
Total softwoods	41,579	33,133	41,381	32,582
Hardwood				
Select white and red oaks	20,998	15,515	20,670	15,219
Other white and red oaks	22,548	10,613	22,180	10,145
Hickory	4,950	2,024	4,910	1,746
Yellow birch	--	--	--	--
Hard maple	91	--	88	--
Sweetgum	3,077	1,354	3,051	1,287
Ash, walnut, and black cherry	3,739	1,164	3,264	1,115
Yellow-poplar	25,658	7,558	25,345	7,360
Tupelo and blackgum	1,132	980	1,044	688
Bay and magnolia	--	--	--	--
Other eastern hardwoods	15,876	3,371	12,549	2,663
Total hardwoods	98,069	42,579	93,101	40,223
All species	139,648	75,712	134,482	72,805

[a] Merchantable portion only.

Table 42--Average net annual growth and removals of sawtimber on timberland, by species, Northern Piedmont of Virginia, 1986-1991

Species	Net annual growth	Annual timber removals
	Thousand board feet	
Softwood		
Yellow pines	108,247	90,563
Eastern white pine	7,939	1,758
Spruce and fir	--	--
Cypress	--	--
Other eastern softwoods	4,968	--
Total softwoods	121,154	92,321
Hardwood		
Select white and red oaks	92,749	54,453
Other white and red oaks	101,134	32,530
Hickory	22,719	4,267
Yellow birch	--	--
Hard maple	388	--
Sweetgum	12,135	1,104
Ash, walnut, and black cherry	13,223	1,639
Yellow-poplar	137,341	29,867
Tupelo and blackgum	2,894	1,856
Bay and magnolia	--	--
Other eastern hardwoods	48,376	5,848
Total hardwoods	430,959	131,564
All species	552,113	223,885

Table 43--Average annual removals of growing stock on timberland, by species and diameter class, Northern Piedmont of Virginia, 1986-1991

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	31,850	2,657	8,189	9,322	6,817	3,569	829	467	--	--	--
Eastern white pine	408	52	--	--	205	--	151	--	--	--	--
Spruce and fir											
Cypress	--	--	--	--	--	--	--	--	--	--	--
Other eastern softwoods	324	193	131	--	--	--	--	--	--	--	--
Total softwoods	32,582	2,902	8,320	9,322	7,022	3,569	980	467	--	--	--
Hardwood											
Select white and red oaks	15,219	821	828	1,309	1,314	1,866	3,355	2,407	1,064	2,057	198
Other white and red oaks	10,145	598	584	1,408	1,416	1,629	1,435	1,216	1,082	777	--
Hickory	1,746	140	170	351	505	277	149	154	--	--	--
Yellow birch	--	--	--	--	--	--	--	--	--	--	--
Hard maple	--	--	--	--	--	--	--	--	--	--	--
Sweetgum	1,287	257	291	486	123	--	130	--	--	--	--
Ash, walnut, and black cherry	1,115	204	182	316	--	301	112	--	--	--	--
Yellow-poplar	7,360	381	445	571	932	1,072	1,271	626	905	968	189
Tupelo and blackgum	688	123	81	--	121	107	256	--	--	--	--
Bay and magnolia	--	--	--	--	--	--	--	--	--	--	--
Other eastern hardwoods	2,663	479	449	299	526	371	--	--	397	142	--
Total hardwoods	40,223	3,003	3,030	4,740	4,937	5,623	6,708	4,403	3,448	3,944	387
All species	72,805	5,905	11,350	14,062	11,959	9,192	7,688	4,870	3,448	3,944	387

Table 44--Average annual mortality of live timber, growing stock, and sawtimber on timberland, by species, Northern Piedmont of Virginia, 1986-1991

Species	Live timber[a]	Growing stock	Sawtimber
	Thousand cubic feet		Thousand board feet
Softwood			
Yellow pines	9,444	8,796	18,664
Eastern white pine	197	197	--
Spruce and fir	--	--	--
Cypress	--	--	--
Other eastern softwoods	478	478	613
Total softwoods	10,119	9,471	19,277
Hardwood			
Select white and red oaks	6,122	5,223	17,362
Other white and red oaks	9,451	8,331	25,279
Hickory	1,486	1,206	3,873
Yellow birch	--	--	--
Hard maple	--	--	--
Sweetgum	292	292	--
Ash, walnut, and black cherry	1,137	681	2,049
Yellow-poplar	1,741	1,631	2,310
Tupelo and blackgum	158	158	--
Bay and magnolia	--	--	--
Other eastern hardwoods	7,852	3,757	10,866
Total hardwoods	28,239	21,279	61,739
All species	38,358	30,750	81,016

[a] Merchantable portion only.

Table 45--Change in number of live trees on timberland, by species group, survey completion date, and diameter class, Northern Piedmont 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									
1986	247,760	87,351	55,608	49,294	32,061	14,572	6,451	1,807	616
1992	230,638	65,293	55,130	53,954	31,190	14,599	7,438	2,368	666
Change	-17,122	-22,058	-478	+4,660	-871	+27	+987	+561	+50
Other softwood									
1986	87,864	59,410	16,014	8,085	1,942	1,153	408	208	644
1992	93,279	57,757	20,627	9,823	2,234	1,197	625	230	786
Change	+5,415	-1,653	+4,613	+1,738	+292	+44	+217	+22	+142
Hardwood									
1986	1,390,622	913,807	210,918	95,467	59,849	39,691	25,940	18,468	26,482
1992	1,375,336	894,398	211,014	91,845	55,456	43,332	28,301	19,057	31,933
Change	-15,286	-19,409	+96	-3,622	-4,393	+3,641	+2,361	+589	+5,451

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

Land use class	Survey completion date			Change 1986-1992
	1976	1986	1992	
		Acres		
Forest land				
Timberland:				
Pine and oak-pine types	831,813	715,925	738,974	+23,049
Hardwood types	1,734,584	1,749,026	1,687,577	-61,449
Total	2,566,397	2,464,951	2,426,551	-38,400
Reserved timberland	130,918	146,131	151,720	+5,589
Woodland	--	--	--	--
Total forest land	2,697,315	2,611,082	2,578,271	-32,811
Nonforest land				
Cropland	506,627	576,859	543,254	-33,605
Pasture and range	794,071	677,641	655,652	-21,989
Other	400,455	530,797	613,564	+82,767
Total	1,701,153	1,785,297	1,812,470	+27,173
All land[a]	4,398,468	4,396,379	4,390,741	-5,638

[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, Northern Piedmont of Virginia

Species group and year	All classes	Diameter class (inches at breast height)								
		5.0-6.9	7.0-a.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-la.9	19.0-20.9	21.0 and larger
					SAWTIMBER (in thousand board feet)					
Softwood										
1976	1,820,321	--	--	720,092	547,753	283,338	115,774	78,142	40,166	35,056
1986	2,016,000	--	--	768,832	618,271	282,824	164,297	79,066	37,829	64,881
1992	2,192,117	--	--	713,704	689,340	358,753	152,338	86,163	74,727	117,092
Hardwood										
1976	8,875,182	--		--	1,546,764	1,841,128	1,717,169	1,305,925	876,520	1,587,676
1986	10,594,718	--	--	--	1,571,328	2,047,396	2,063,696	1,628,159	1,144,398	2,139,741
1992	12,422,001	--		__	1,689,461	2,028,758	2,388,907	1,896,264	1,524,277	2,894,334
					GROWING STOCK (in thousand cubic feet)					
Softwood										
1976	821,730	158,298	238,691	195,002	124,437	57,854	21,727	13,519	6,732	5,470
1986	877,081	167,371	242,337	208,177	140,473	57,744	30,835	13,679	6,341	10,124
1992	930,451	192,289	232,594	197,544	158,429	74,256	28,817	15,421	12,650	18,451
Hardwood										
1976	3,020,208	231,804	336,049	431,788	453,683	456,038	382,261	268,153	172,441	287,991
1986	3,339,442	208,945	328,629	426,961	460,827	507,171	459,371	334,303	225,126	388,109
1992	3,661,880	192,974	291,754	443,293	492,446	502,448	531,646	389,713	297,063	520,543
					LIVE TIMBER[b] (in thousand cubic feet)					
Softwood										
1976	845,216	166,122	245,185	198,810	126,204	60,080	21,727	13,519	7,441	6,128
1986	901,943	175,843	248,733	212,215	142,406	59,954	30,835	13,679	6,988	11,290
1992	945,158	194,830	237,492	200,277	161,914	74,256	28,817	15,421	12,650	19,501
Hardwood										
1976	3,375,341	309,835	407,830	488,475	504,035	479,766	402,211)	278,731	182,078	322,373
1986	3,709,882	279,266	399,228	482,944	511,903	533,597	483,385	347,422	237,720	434,417
1992	3,999,517	247,893	350,420	501,665	537,979	535,944	547,178	406,590	305,078	566,770

[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.

Thompson, Michael T. 1992. Forest statistics for the Northern Piedmont of Virginia, 1992. Resour. Bull. SE-127. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southeastern Forest Experiment Station. 53 pp.

Since 1986 the area of timberland decreased by over 1 percent and currently totals 2.4 million acres. Nonindustrial private forest landowners control 87 percent of the timberland in the region. More than 17,000 acres were harvested annually, while 20,000 acres were regenerated by artificial and natural means. Volume of hardwood growing stock increased 10 percent to 3.7 billion cubic feet. Volume of softwood growing stock increased by 6 percent to 930 million cubic feet. Net annual growth of hardwood growing stock declined by more than 5 percent to 93 million cubic feet. Net annual growth of softwoods increased by 51 percent to 41 million cubic feet. Annual removals of hardwoods remained stable at 40 million cubic feet. Annual removals of softwoods increased 36 percent to 26 million cubic feet. Annual mortality of hardwoods increased 49 percent to 21 million cubic feet.

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

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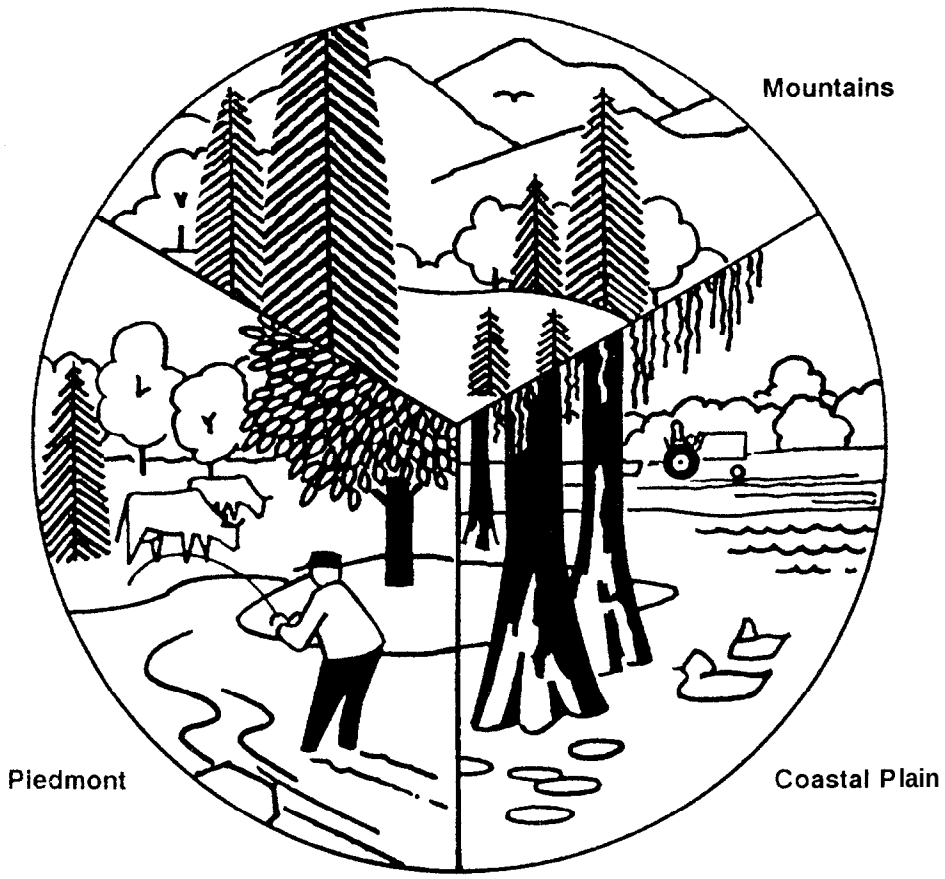
The Forest Service, U.S. Department of Agriculture, is dediied to the principle of multiple use management of the Nation's forest resources for sustained yields of wood, water, forage, wildlife, and recreation. Through forestry research, cooperation with the States and private forest owners, and management of the National Forests and National Grasslands, it strives-as directed by Congress-to provide increasingly greater service to a growing Nation.



Southeastern Forest Experiment Station

Established 1921

The Southeastern Forest Experiment Station, headquartered in Asheville, North Carolina, is one of the eight regional Experiment Stations, and the Forest Products Laboratory, that make up the Forest Service research organization.

RESEARCH MISSION:

To acquire the knowledge, develop the technology, and disseminate the research findings required to manage the Southeast's forest resources in ways that satisfy demands of goods and services while maintaining a quality environment.

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