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Foreword

This report highlights principal findings of the seventh forest survey of the Piedmont of North Carolina. Field work began in August of 2000 and was completed in December of 2002. Six previous surveys, completed in 1937, 1956, 1964, 1975, 1984, and 1990, provide statistics for measuring changes and trends over the past 65 years. This report primarily emphasizes changes and trends since 1990. It discusses the extent and condition of forest land, associated timber volumes, and rates of timber growth, mortality, and removals.

Periodic surveys of forest resources 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 U.S. Department of Agriculture, Forest Service. In the Southern United States, the Forest Inventory and Analysis Research Work Unit (FIA) at the Southern Research Station conducts these surveys in 13 Southern States and the Commonwealth of Puerto Rico. The FIA unit operates from its headquarters in Knoxville, TN, and offices in Asheville, NC, and Starkville, MS. The primary objective of these surveys 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.

Additional information about any aspect of this survey may be obtained from:

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^a All tables in this report are available in Microsoft® Excel workbook files. Upon request, these files will be supplied on 3½-inch diskettes.

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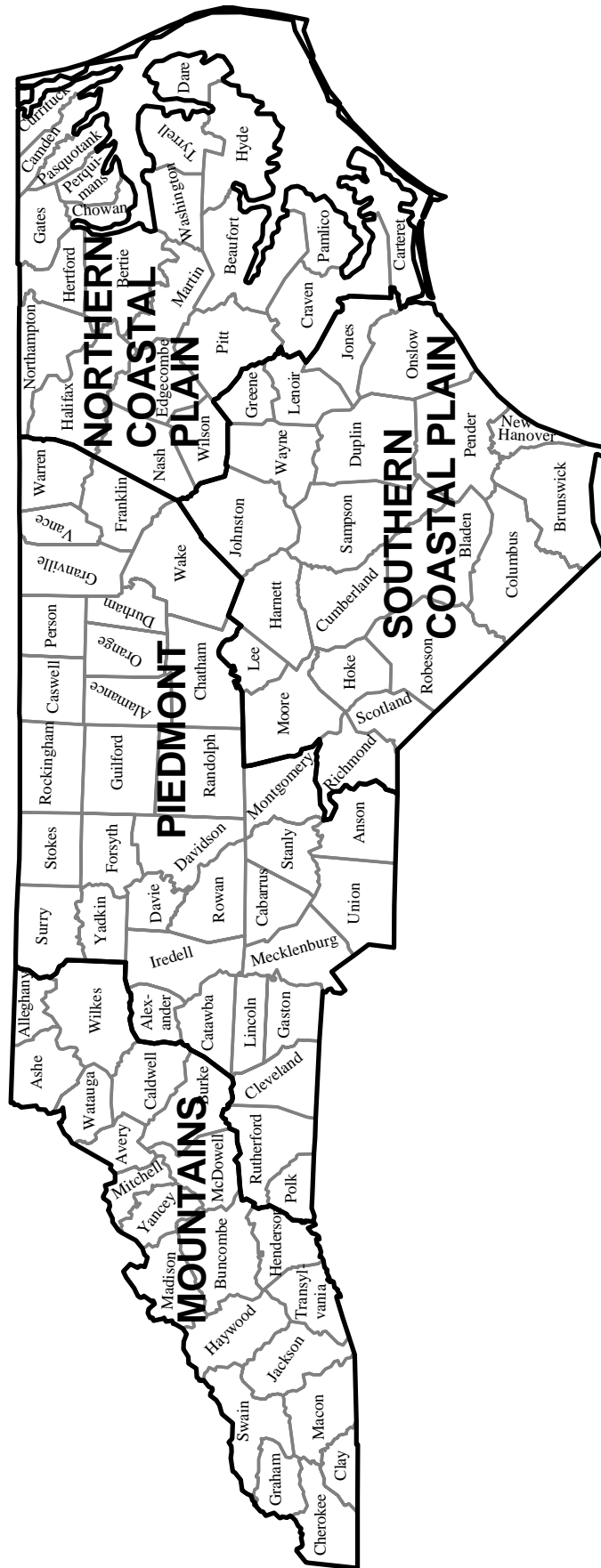


Figure 1—Forest survey regions in North Carolina.

Forest Statistics for the Piedmont of North Carolina, 2002

Mark J. Brown and Raymond M. Sheffield

Highlights

This report summarizes results from a 2002 inventory of the forest resources of the Piedmont of North Carolina (fig. 1). Current estimates of forest area, timberland area, related classifications such as ownership and forest type, and timber volumes are presented and compared with previous values. It summarizes the average annual rates of growth, removals, and mortality since 1990. Although the previous and current inventories are similar in scope, they differ in sampling design and intensity, standards and definitions, and in methods used to determine key attributes such as stocking, forest type, and stand-size class. Many of the changes in methods, plot design, and sampling intensity were necessary to increase national consistency between Forest Inventory and Analysis (FIA) Research Work Units. These changes complicate the comparison of data between surveys and make detection of genuine resource trends difficult. However, some general comparisons are possible where differences between inventories can be reconciled or are considered minimal. Resource data are presented in 49 tables and 9 graphs. A summary of major findings follows.

Forest land area—Since 1990, forest cover has decreased 7 percent. In 2002, forests covered 5.4 million acres, or 52 percent of the land area compared with 5.8 million acres and 55 percent previously. Fewer than 1 percent, or 42,000 acres, of these forests were classified as reserved timberland, mostly located in the State parks and a national forest wilderness area. Ninety-nine percent, or not quite 5.4 million acres, of the forests in the region were classified as timberland. Since 1990, the area of timberland in this 35-county region has declined by 390,000 acres. Urban and other land uses followed by agriculture were the leading causes of the net loss.

Ownership—Nonindustrial private forest (NIPF) landowners continue to dominate ownership of timberland, despite a 7-percent reduction in area. NIPF owners accounted for 93 percent, or almost 5.0 million acres, of the timberland in the region. The NIPF owner group is composed of individual and corporate timberland owners. Individual ownership decreased 9 percent since 1990, from 4.8 million acres to 4.4 million acres. Timberland under corporate ownership increased 5 percent to 610,000 acres. Public ownership increased by 117,000 acres to 280,000 acres.

State owned lands accounted for 35 percent of the public timberland, county and municipal holdings made up 28 percent, and miscellaneous Federal lands made up 23 percent. National forest lands comprised 14 percent of the public timberland in the Piedmont. Timberland owned by forest industry declined 48 percent, from 223,000 acres in 1990 to 115,000 acres in 2002.

Forest type—Hardwood forest types accounted for about 74 percent of the timberland area. Overall, area of hardwoods increased 2 percent to nearly 4.0 million acres. Area of oak-hickory, the predominant forest-type group, declined 3 percent to 2.7 million acres in 2002. Area of oak-pine increased 31 percent to nearly 1.1 million acres. Area of oak-gum-cypress dropped 28 percent to 151,000 acres. Softwood forest types accounted for 25 percent of the timberland in the Piedmont, and nonstocked areas accounted for the remaining fraction of a percent. Area of softwood forest type declined 25 percent, or by 466,000 acres, to less than 1.4 million acres in 2002. Loblolly pine was the predominant softwood type with 798,000 acres, down 6 percent. Virginia pine was the second most-abundant softwood type with 404,000 acres, although down 30 percent in area. Shortleaf pine forest type remained the third most-abundant softwood type with 132,000 acres, despite a decline of 63 percent. Shortleaf pine type lost the most acreage, 225,000, of any forest type in the Piedmont. Planted stands occupied 12 percent of the total area of timberland in the Piedmont of North Carolina as of 2002. The 640,000 planted acres were comprised of 473,000 acres in pine plantations and 167,000 acres classified as oak-pine stands.

Stand-size—Sawtimber-size stands continued to dominate the Piedmont. Although the area of sawtimber stands decreased by 235,000 acres to less than 2.5 million acres, they still accounted for 46 percent of the timberland in this region. Poletimber-size stands decreased as well, by 491,000 acres to 1.2 million acres. Poletimber-size stands accounted for 22 percent of the timberland in the region. In contrast, area of sapling-seedling size stands rose by 353,000 acres to 1.7 million acres. Sapling-seedling stands accounted for 31 percent of the timberland. Area of nonstocked stands decreased and remain below 1 percent of the total timberland in the region.

Stand treatment—The predominant type of cutting in the Piedmont was final harvest. Final harvests averaged 68,000 acres annually, down from an average of 72,000 acres annually between 1984 and 1989. Partial harvest occurred on an average of 19,000 acres annually since 1990, down slightly from an average of 20,000 during the 1984 to 1989 period. Thinning and other stand improvement occurred on 12,000 acres annually, also down slightly from 13,000 acres previously. New stands were established, both artificially and naturally, on 93,000 acres each year through reforestation and afforestation. Reforestation of existing forest land accounted for 67,000 acres and afforestation of former non-forest land accounted for more than 26,000 acres. Area of new stands exceeded area of final harvest by 38 percent. Artificial regeneration averaged 27,000 acres annually, up from 22,000 acres between 1984 and 1989. Natural regeneration averaged 66,000 acres annually, down from 82,000 between 1984 and 1989. Natural disturbances damaged many acres annually; the greatest of these was weather, followed by insects and fire. Weather damage averaged 13,000 acres annually since 1990. Insect damage averaged 9,000 acres annually and fire 4,000 acres annually.

Softwood volume—Merchantable volume of softwood live trees declined from 3.9 billion cubic feet in 1990 to 3.3 billion cubic feet in 2002, a drop of 15 percent. Loblolly pine remained the predominant softwood species and accounted for 51 percent of the total softwood volume. Volume of loblolly pine increased by 7 percent to 1.7 billion cubic feet. However, other yellow pine species declined in volume. Virginia pine volume decreased 23 percent to 884 million cubic feet and was second in softwood abundance. Shortleaf pine decreased by 45 percent to 591 million cubic feet and was third in softwood abundance. NIPF lands accounted for 89 percent of softwood volume, down 17 percent to 3.0 billion cubic feet. Public lands had 7 percent of the softwood volume, up by 30 percent to 243 million cubic feet. Forest industry had 4 percent, down 17 percent to 140 million cubic feet.

Hardwood volume—Hardwood live-tree volume increased 7 percent—from 6.8 billion cubic feet in 1990 to 7.2 billion cubic feet in 2002. Hardwoods made up 68 percent of all volume in the Piedmont. Yellow-poplar was the predominant individual hardwood species, followed by sweetgum, and then soft maple. Volume of yellow-poplar increased 19 percent to 1.7 billion cubic feet. Volume of sweetgum rose 28 percent to 931 million cubic feet. Soft maple rose 13 percent to 714 million cubic feet. Collectively, select white oaks accounted for 1.0 billion cubic feet, equal to their amount in 1990. Collectively, other red oaks accounted for 759 million cubic feet, down 8 percent. NIPF lands accounted for 92 percent of the hardwood inventory.

Hardwood inventory on NIPF lands rose by 5 percent to 6.7 billion cubic feet. Public lands had 7 percent of the hardwood volume and nearly doubled to 528 million cubic feet.

Growth—Total net growth of all live trees averaged 391 million cubic feet annually in the Piedmont. Hardwood net growth accounted for 65 percent of all growth. Net annual growth of hardwood live trees increased 23 percent to 254 million cubic feet. NIPF lands accounted for 94 percent of hardwood net growth and increased 22 percent to 238 million cubic feet annually. Public lands accounted for 6 percent of hardwood growth and more than doubled to 15 million cubic feet annually. Net annual growth of softwood live trees decreased 7 percent to 137 million cubic feet annually. NIPF lands accounted for 88 percent of softwood net growth. NIPF softwood net growth was down 8 percent to 120 million cubic feet per year. Public lands accounted for 6 percent of softwood net growth and industry 7 percent. Softwood net growth increased on public lands, but decreased on forest industry timberlands.

Mortality—Total mortality of all live trees averaged 126 million cubic feet annually since 1990. Mortality was almost equally divided between softwoods and hardwoods. Hardwood live-tree mortality in the region increased 18 percent to 62 million cubic feet per year. Mortality for all oak species combined, amounted to 24 million cubic feet per year, or 38 percent of the total hardwood mortality. NIPF land accounted for 90 percent of the hardwood mortality and increased 15 percent to 56 million cubic feet annually. Softwood live-tree mortality increased 24 percent to 64 million cubic feet annually. Virginia pine alone accounted for 33 million cubic feet or 51 percent of the softwood mortality. NIPF lands accounted for 88 percent of the total softwood mortality and increased 16 percent to 56 million cubic feet.

Removals—Total removals of all live trees averaged 375 million cubic feet annually. Hardwoods made up 47 percent of the removals. Removals of hardwood live trees increased 26 percent to 174 million cubic feet per year. Between 1990 and 2001, annual hardwood growth exceeded the level of hardwood removals by 46 percent or 80 million cubic feet. NIPF owners provided 98 percent of the hardwood removals. Softwoods made up 53 percent of the total annual removals in the Piedmont. Annual removals of softwood live trees increased 42 percent to 200 million cubic feet. Between 1990 and 2001, annual softwood removals exceeded annual softwood growth by 47 percent or 64 million cubic feet. Ninety-four percent of the softwood removals came from NIPF lands, 4 percent from forest industry, and just 2 percent from public timberlands.

Inventory Methods

The Southern Research Station, FIA unit secured data on forest acreage and timber volume using a three-step process. A forest-nonforest classification using aerial photographs was accomplished using points representing approximately 232 acres. These photo classifications were adjusted based on ground observations at sample locations representing approximately 4,179 acres. Finally, field measurements were made at each of the sample locations where the plot design sampled forest land.

The plot installed at each ground sample location was a cluster of four points spaced 120 feet apart. Each point served as the center of a 1/24-acre circular subplot used to sample trees 5.0 inches diameter at breast height (d.b.h.) and larger. A 1/300-acre microplot, located at the subplot center, was used to sample trees 1.0 to 4.9 inches d.b.h. and seedlings (trees less than 1.0 inch d.b.h.). These fixed radius sample plots were established without regard to land use or land cover. Forest and nonforest condition classes were delineated and recorded. Condition classes were defined by six attributes: land use, forest type, stand origin, stand size, forest density, and major ownership class. All trees tallied were assigned to their respective condition class.

The cluster of four fixed plots sampled timberland at 1,186 ground sample locations in this unit. Estimates of timber volume and forest classifications were derived from tree measurements and classifications made at these locations. Volumes for individual tally trees were computed using equations for each of the major species in the survey unit. The equations were developed from detailed measurements collected from standing trees throughout the region.

Estimates of growth, removals, and mortality were determined from the remeasurement of 881 permanent sample plots established in the previous inventory. The plot design for the previous inventory was based on a cluster of 10 points. Variable plots were systematically spaced within a single forest condition at three to five points. At each point, trees 5.0 inches d.b.h. and larger were selected for measurement on a variable-radius plot defined by a 37.5-factor prism. Trees less than 5.0 inches d.b.h. were tallied on a fixed-radius plot around points 1 through 3.

Statistical Reliability

FIA inventories employ sampling methods designed to achieve reliable statistics at the survey unit and State levels. A measure of reliability of inventory statistics is provided by sampling errors. These sampling errors mean that the

chances are two out of three that the true population value is within the limits indicated by a confidence interval. Sampling errors (in percent) and associated confidence intervals around the sample estimates for timberland area, inventory volumes, and components of change are presented in the following table.

Item	Sample estimate and confidence interval		Sampling error
	Percent		
Timberland (1,000 acres)	5,361.2 ±	35.9	0.67
All live ($M ft^3$)			
Inventory	10,576.8 ±	269.1	2.54
Net annual growth	390.9 ±	14.1	3.60
Annual removals	374.7 ±	24.0	6.40
Annual mortality	126.0 ±	7.9	6.30
Growing stock ($M ft^3$)			
Inventory	9,801.4 ±	82.3	0.84
Net annual growth	368.3 ±	13.8	3.76
Annual removals	362.8 ±	23.4	6.45
Annual mortality	113.2 ±	7.7	6.77
Sawtimber ($M fbm$)			
Inventory	33,763.0 ±	1,205.4	3.57
Net annual growth	1,505.5 ±	59.2	3.93
Annual removals	1,211.6 ±	88.9	7.33
Annual mortality	331.3 ±	27.6	8.33

Sampling error increases as the area or volume considered decreases in magnitude. Sampling errors and associated confidence intervals are often unacceptably high for small components of the total resource. Statistical confidence may be computed for any subdivision of survey unit or State totals using the following formula. Sampling errors obtained from this method are only approximations of reliability because this process assumes constant variance across all subdivisions of totals.

$$SE_s = SE_t \frac{\sqrt{X_t}}{\sqrt{X_s}}$$

where

SE_s = sampling error for subdivision of survey unit or State total,

SE_t = sampling error for survey unit or State total,

X_s = sum of values for the variable of interest (area or volume) for subdivision of survey unit or State,

X_t = total area or volume for survey unit or State.

For example, the estimate of sampling error for softwood live-tree volume on NIPF land is computed as:

$$SE_s = 2.54 \frac{\sqrt{10,576.8}}{\sqrt{2,963.8}} = 4.80 .$$

Thus, the sampling error is 4.80 percent, and the resulting confidence interval (two times out of three) for softwood

live-tree inventory on NIPF land is $2,963.8 \pm 142.2$ million cubic feet.

County statistics are provided, but users are cautioned that the accuracy of individual county data is highly variable. Individual county statistics are provided so any combination of counties may be added together until the totals are large enough to meet the desired degree of reliability. Sampling errors for key resource items for individual counties are provided in the following table.

Sampling errors^a by counties and survey unit for timberland, live trees, growing stock, and sawtimber, Piedmont of North Carolina, 2002

Counties and survey unit	Timberland area	Live trees			Growing stock			Sawtimber		
		Volume	Growth	Removals	Volume	Growth	Removals	Volume	Growth	Removals
<i>Percent</i>										
Alamance	4.6	13.7	16.6	55.7	13.9	19.1	55.2	18.0	18.4	56.9
Alexander	4.1	14.5	63.7	51.7	14.3	78.4	50.7	20.9	39.5	60.4
Anson	4.2	15.5	20.3	30.2	15.9	20.4	30.7	19.6	20.5	36.5
Cabarrus	4.8	15.6	20.3	52.7	16.2	23.0	53.5	24.6	19.6	53.5
Caswell	4.1	11.9	15.9	41.1	12.4	15.9	41.7	16.3	16.8	45.2
Catawba	5.6	20.3	24.5	40.3	20.4	26.6	39.7	28.8	29.3	43.1
Chatham	3.4	13.7	15.7	20.1	13.9	16.5	20.3	18.4	18.6	20.1
Cleveland	3.9	19.5	20.5	48.2	20.9	23.3	46.9	31.9	26.8	55.9
Davidson	3.2	12.0	14.9	47.1	12.7	16.0	47.0	18.3	16.0	57.5
Davie	2.7	14.9	12.9	46.9	14.9	13.4	47.8	22.0	19.9	49.7
Durham	5.2	19.9	15.4	37.2	21.3	13.7	37.3	25.4	13.7	39.6
Forsyth	3.9	11.7	35.5	100.1	12.5	39.7	100.1	16.4	18.4	100.1
Franklin	3.5	16.3	17.5	31.7	16.6	17.8	31.6	26.3	27.5	33.5
Gaston	4.3	17.0	33.1	40.4	17.5	34.0	40.3	25.4	30.8	42.1
Granville	3.4	14.6	17.1	26.2	15.2	17.6	26.4	21.1	20.7	29.2
Guilford	2.6	9.6	12.9	43.0	10.2	13.8	43.1	12.4	16.4	47.4
Iredell	3.6	14.2	22.4	56.0	15.1	25.1	56.6	20.6	37.9	67.1
Lincoln	4.1	20.8	21.8	46.9	21.7	21.8	46.9	28.7	21.3	49.6
Mecklenburg	3.4	19.9	26.8	27.6	18.9	25.0	28.2	27.5	23.7	29.5
Montgomery	2.7	10.4	15.7	32.4	10.8	17.0	31.6	16.1	20.0	34.0
Orange	3.9	15.6	14.0	30.2	16.4	15.0	30.0	19.8	17.5	33.6
Person	6.2	16.4	18.3	36.0	16.5	18.6	36.3	19.1	27.6	42.6
Polk	5.5	21.5	20.8	36.6	21.7	21.9	36.6	25.9	29.6	59.0
Randolph	2.6	11.1	9.1	41.9	11.3	10.6	41.7	15.7	13.6	48.9
Rockingham	4.3	11.2	15.9	34.4	11.8	16.4	35.0	16.0	14.2	34.9
Rowan	3.5	17.9	24.2	57.2	18.5	23.8	56.2	24.2	21.0	61.7
Rutherford	3.3	11.9	43.4	41.3	12.3	44.4	41.3	15.0	56.8	49.8
Stanly	3.6	17.4	25.7	44.5	18.5	28.6	46.0	25.2	34.6	56.6
Stokes	5.7	11.5	16.1	47.4	11.7	16.7	47.2	15.1	19.1	51.9
Surry	3.2	9.3	14.9	40.7	9.6	14.9	40.4	12.5	12.7	39.5
Union	3.0	10.3	33.9	46.0	11.1	37.7	44.6	14.2	37.7	56.7
Vance	6.3	22.7	26.4	35.9	23.2	25.9	35.9	31.0	30.7	44.6
Wake	3.6	15.8	25.0	16.8	16.4	24.4	17.5	21.5	19.9	21.8
Warren	3.3	17.6	18.9	21.8	18.2	17.5	22.0	26.9	21.4	27.2
Yadkin	5.8	26.9	28.5	45.8	30.1	35.0	45.8	39.2	32.7	49.7
Total	0.7	2.5	3.6	6.4	0.8	3.8	6.4	3.6	3.9	7.3

^a By random-sampling formula.

Definitions

Afforestation. Area of land previously classified as non-forest that is converted to forest by planting trees or by natural reversion to forest.

Average annual mortality. Average annual volume of trees 5.0 inches d.b.h. and larger that died from natural causes during the intersurvey period.

Average annual removals. Average annual volume of trees 5.0 inches d.b.h. and larger removed from the inventory by harvesting, cultural operations (such as timber-stand improvement), land clearing, or changes in land use during the intersurvey period.

Average net annual growth. Average annual net change in volume of trees 5.0 inches d.b.h. and larger in the absence of cutting (gross growth minus mortality) during the intersurvey period.

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 in square feet per acre.

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

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

Census water. Streams, sloughs, estuaries, canals, and other moving bodies of water 200 feet wide and greater, and lakes, reservoirs, ponds, and other permanent bodies of water 4.5 acres in area and greater.

Commercial species. Tree species currently or potentially suitable for industrial wood products.

D.b.h. Tree diameter in inches (outside bark) at breast height (4.5 feet aboveground).

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.

D.o.b. (diameter outside bark). Stem diameter including bark.

Forest land. Land at least 10 percent stocked by forest trees of any size, or formerly having had such tree cover, and not currently developed for nonforest use. The minimum area considered for classification is 1 acre. Forested strips must be at least 120 feet wide.

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

Pine plantation. Stands that (a) have been artificially regenerated by planting or direct seeding, (b) are classed as a pine or other softwood forest type, and (c) have at least 10 percent stocking.

Natural pine. Stands that (a) have not been artificially regenerated, (b) are classed as a pine or other softwood forest type, and (c) have at least 10 percent stocking.

Oak-pine. Stands that have at least 10 percent stocking and classed as a forest type of oak-pine.

Upland hardwood. Stands that have at least 10 percent stocking and classed as an oak-hickory or maple-beech-birch forest type.

Lowland hardwood. Stands that have at least 10 percent stocking with a forest type of oak-gum-cypress, elm-ash-cottonwood, palm, or other tropical.

Nonstocked stands. Stands less than 10 percent stocked with live trees.

Forest type. A classification of forest land based on the species forming a plurality of live-tree stocking. Major eastern forest-type groups are:

White-red-jack pine. 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).

Nonstocked stands. Stands less than 10 percent stocked with live trees.

Forested tract size. The area of forest within the contiguous tract containing each Forest Inventory and Analysis sample plot.

Fresh weight. Mass of tree component at time of cutting.

Gross growth. Annual increase in volume of trees 5.0 inches d.b.h. and larger in the absence of cutting and mortality. (Gross growth includes survivor growth, ingrowth,

growth on ingrowth, growth on removals before removal, and growth on mortality before death).

Growing-stock trees. Living trees of commercial species classified as sawtimber, poletimber, saplings, and seedlings. Trees must contain at least one 12-foot or two 8-foot logs in the saw-log portion, currently or potentially (if too small to qualify), to be classed as growing stock. The log(s) must meet dimension and merchantability standards to qualify. Trees must also have, currently or potentially, one-third of the gross board-foot volume in sound wood.

Growing-stock volume. The cubic-foot volume of sound wood in growing-stock trees at least 5.0 inches d.b.h. from a 1-foot stump to a minimum 4.0-inch top d.o.b. of the central stem.

Hardwoods. Dicotyledonous trees, usually broadleaf and deciduous.

Soft hardwoods. Hardwood species with an average specific gravity of 0.50 or less, such as gums, yellow-poplar, cottonwoods, red maple, basswoods, and willows.

Hard hardwoods. Hardwood species with an average specific gravity greater than 0.50 such as oaks, hard maples, hickories, and beech.

Industrial wood. All roundwood products except fuelwood.

Land area. The area of dry land and land temporarily or partly covered by water, such as marshes, swamps, and river floodplains (omitting tidal flats below mean high tide), streams, sloughs, estuaries, and canals less than 200 feet wide, and lakes, reservoirs, and ponds less than 4.5 acres in area.

Live trees. All living trees. All size classes, all tree classes, and both commercial and noncommercial species are included.

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

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

Net annual change. Increase or decrease in volume of live trees at least 5.0 inches d.b.h. Net annual change is equal to net annual growth minus average annual removals.

Noncommercial species. Tree species of typically small size, poor form, or inferior quality that 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.

Nonstocked stands. Stands less than 10 percent stocked with live trees.

Other forest land. Forest land other than timberland and productive reserved forest land. It includes available and reserved forest land which is incapable of producing annually 20 cubic feet per acre of industrial wood under natural conditions, because of adverse site conditions such as sterile soils, dry climate, poor drainage, high elevation, steepness, or rockiness.

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, resulting in the removal of the trees from timberland.

Ownership. The property owned by one ownership unit, including all parcels of land in the United States.

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.

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

Nonindustrial private forest (NIPF) land. Privately owned land excluding forest industry land.

Corporate. Owned by corporations, including incorporated farm ownerships.

Individual. All lands owned by individuals, including farm operators.

Other public. An ownership class that includes all public lands except national forests.

Miscellaneous Federal land. Federal land other than national forests.

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.

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, suitable for chipping.

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

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

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

Poletimber-size trees. Softwoods 5.0 to 8.9 inches d.b.h. and hardwoods 5.0 to 10.9 inches d.b.h.

Primary wood-using plants. Industries receiving roundwood or chips from roundwood for the manufacture of products, such as veneer, pulp, and lumber.

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

Reforestation. Area of land previously classified as forest that is regenerated by planting trees or natural regeneration.

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

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

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

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

Salvable dead trees. Standing or downed dead trees that were formerly growing stock and considered merchantable. Trees must be at least 5.0 inches d.b.h. to qualify.

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, with a minimum diameter inside bark for softwoods of 6 inches (8 inches for hardwoods).

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

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 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. Trees less than 1.0 inch d.b.h. and greater than 1 foot tall for hardwoods, greater than 6 inches tall for softwood, and greater than 0.5 inch in diameter at ground level for longleaf pine.

Select red oaks. A group of several red oak species composed of cherrybark, Shumard, and northern red oaks. Other red oak species are included in the "other red oaks" group.

Select white oaks. A group of several white oak species composed of white, swamp chestnut, swamp white, chinkapin, Durand, and bur oaks. Other white oak species are included in the "other white oaks" group.

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

Softwoods. Coniferous trees, usually evergreen, having leaves that are needles or scalelike.

Yellow pines. Loblolly, longleaf, slash, pond, shortleaf, pitch, Virginia, sand, spruce, and Table Mountain pines.

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

Stand age. The average age of dominant and codominant trees in the stand.

Stand origin. A classification of forest stands describing their means of origin.

Planted. Planted or artificially seeded.

Natural. No evidence of artificial regeneration.

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 10 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 10 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 10 percent stocked with live trees of which more than half of total stocking is saplings and seedlings.

Nonstocked stands. Stands less than 10 percent stocked with live trees.

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.

Density of trees and basal area per acre required for full stocking

D.b.h. class	Trees per acre for full stocking	Basal area per acre
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

Timberland. Forest land capable of producing 20 cubic feet of industrial wood per acre per year and not withdrawn from timber utilization.

Timber products. Roundwood products and byproducts.

Tree. Woody plants having one erect perennial stem or trunk at least 3 inches d.b.h., a more or less definitely formed crown of foliage, and a height of at least 13 feet (at maturity).

Tree grade. A classification of the saw-log portion of saw-timber trees based on: (1) the grade of the butt log or (2) the ability to produce at least one 12-foot or two 8-foot logs in the upper section of the saw-log portion. Tree grade is an indicator of quality; grade 1 is the best quality.

Upper-stem portion. The 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.

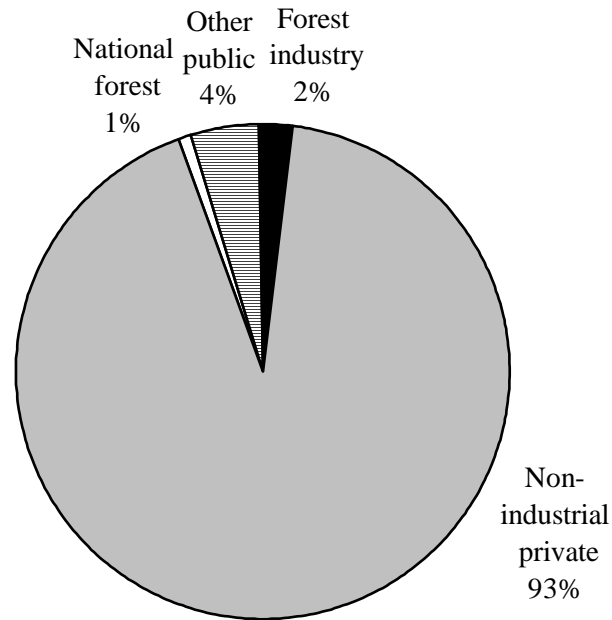
Volume of live trees. The cubic-foot volume of sound wood in live trees at least 5.0 inches d.b.h. from a 1-foot stump to a minimum 4.0-inch top d.o.b. of the central stem.

Volume of saw-log portion of sawtimber trees. The cubic-foot volume of sound wood in the saw-log portion of saw-timber trees. Volume is the net result after deductions for rot, sweep, and other defects that affect use for lumber.

Metric Equivalents

1 acre = 4,046.86 square meters or 0.404686 hectare
1 cubic foot = 0.028317 cubic meter
1 inch = 2.54 centimeters or 0.0254 meter
Breast height = 1.4 meters above the ground
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

Graphs



5.4 Million acres

Figure 2—Distribution of timberland by ownership class, Piedmont of North Carolina, 2002.

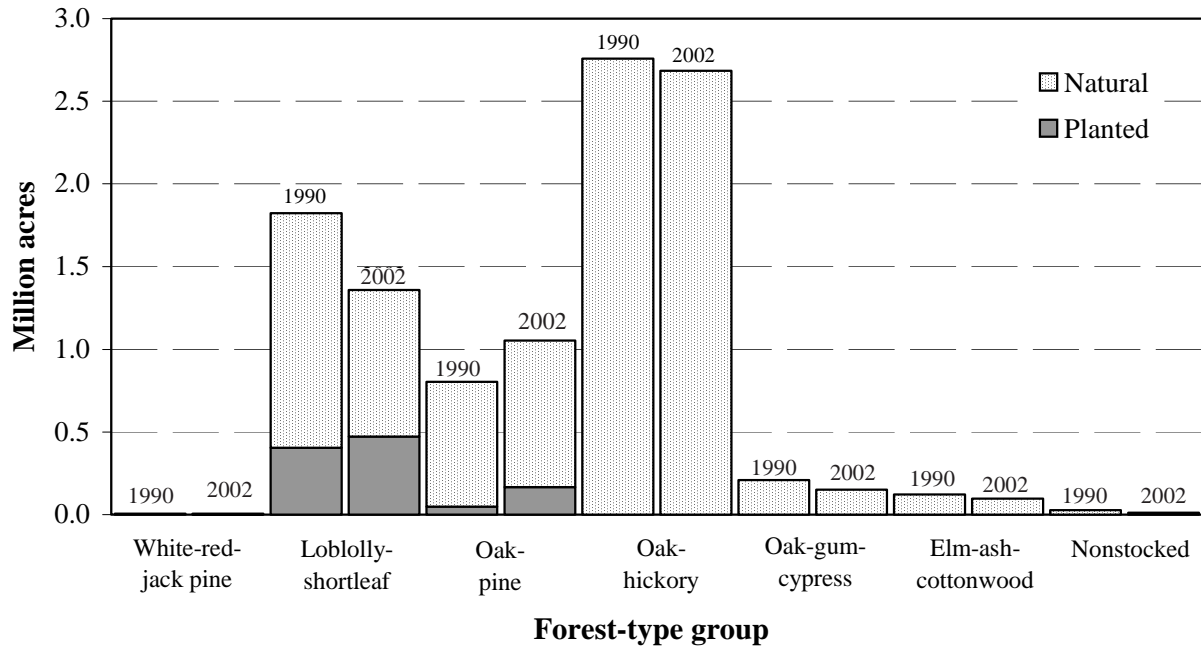


Figure 3—Area of timberland by forest-type group and stand origin, Piedmont of North Carolina, 1990 and 2002.

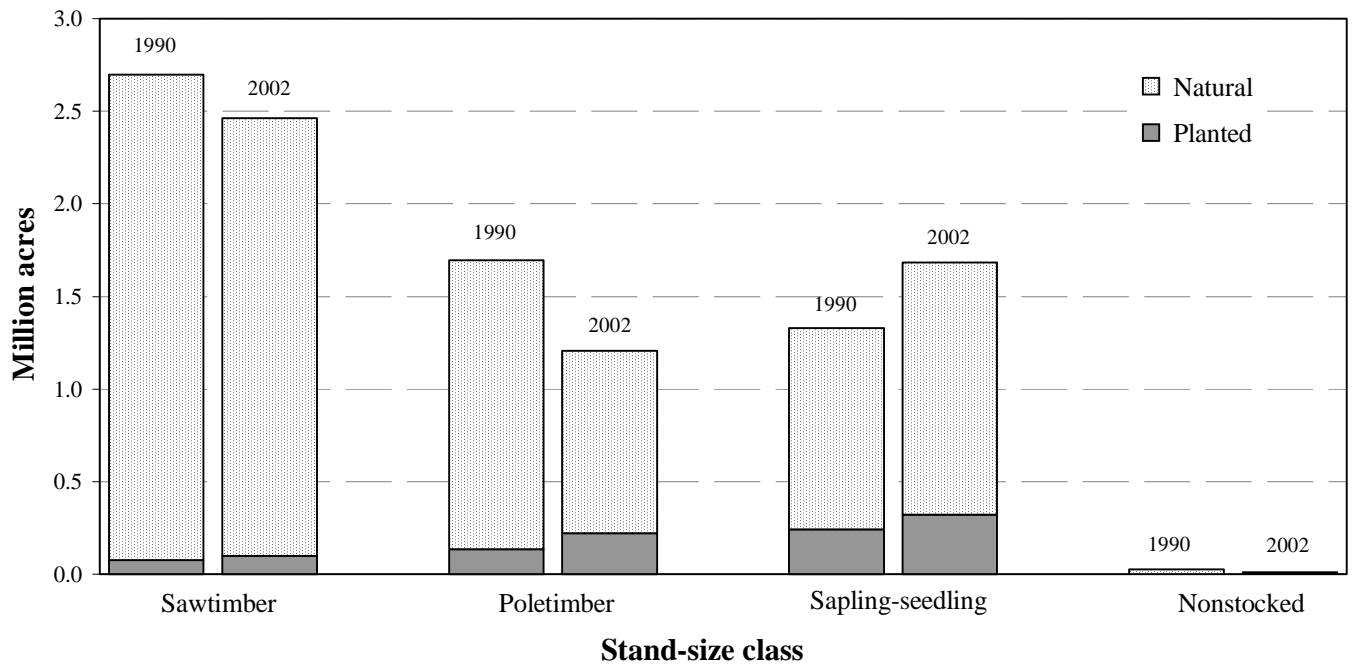


Figure 4—Area of timberland by stand-size class and stand origin, Piedmont of North Carolina, 1990 and 2002.

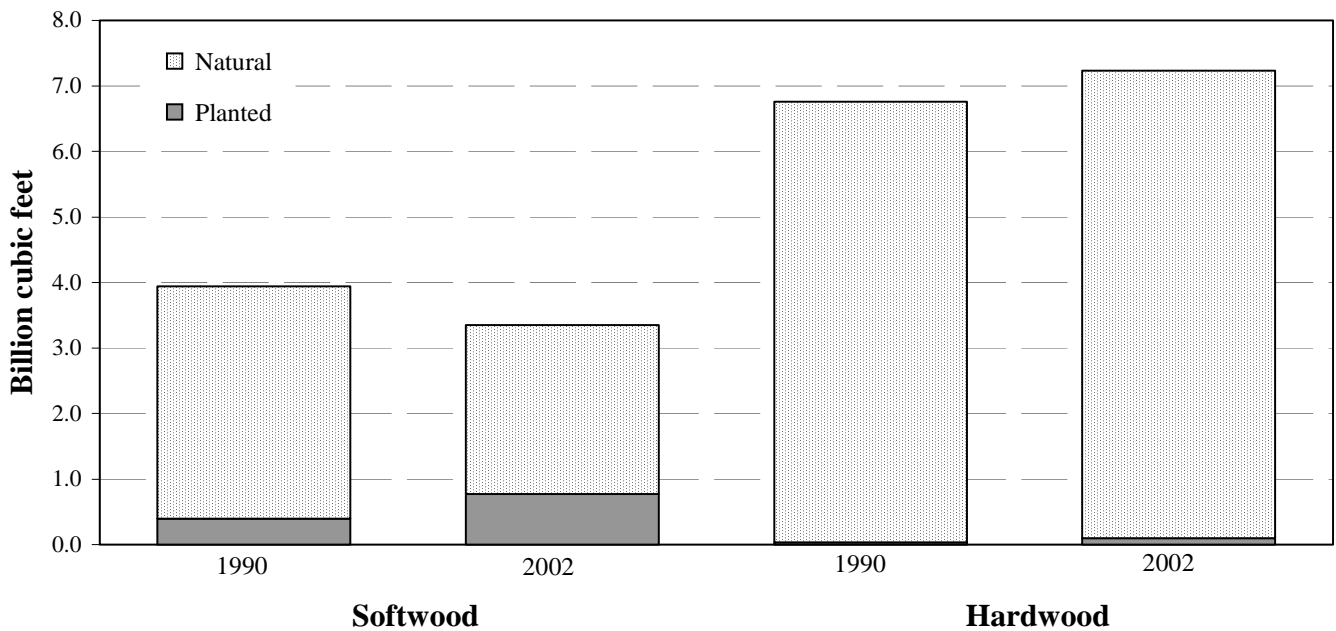
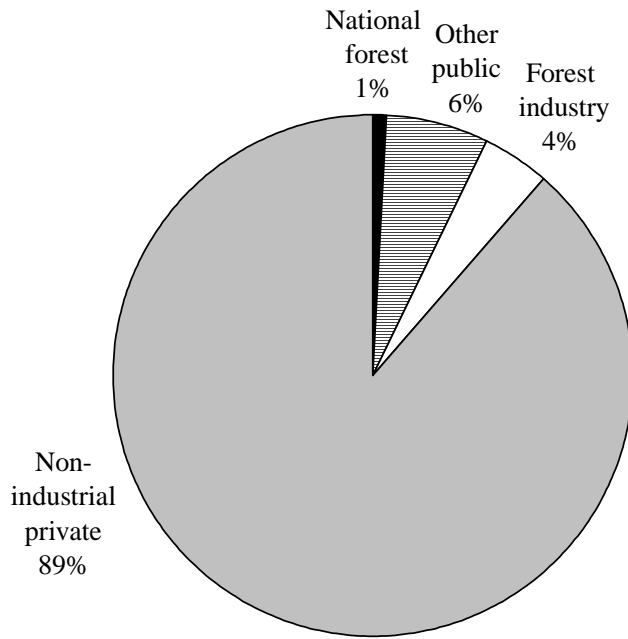
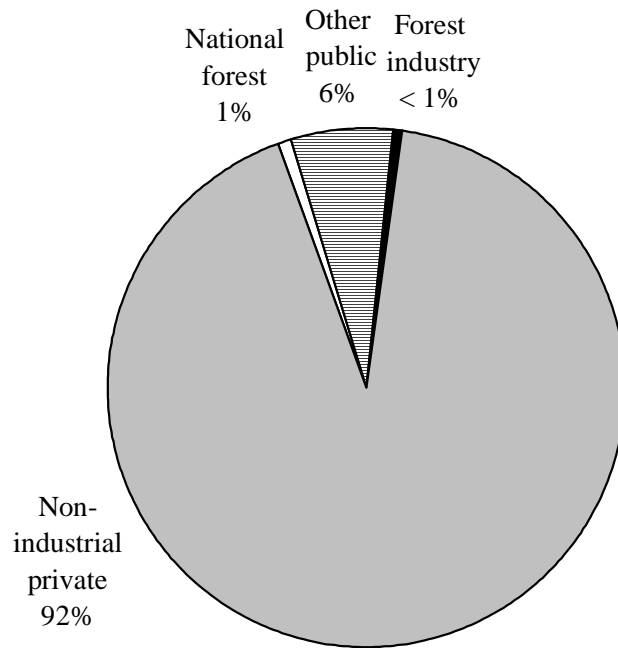


Figure 5—Volume of live trees on timberland by species group and stand origin, Piedmont of North Carolina, 1990 and 2002.



3.3 Billion cubic feet

Figure 6—Distribution of softwood live-tree volume by ownership class, Piedmont of North Carolina, 2002.



7.2 Billion cubic feet

Figure 7—Distribution of hardwood live-tree volume by ownership class, Piedmont of North Carolina, 2002.

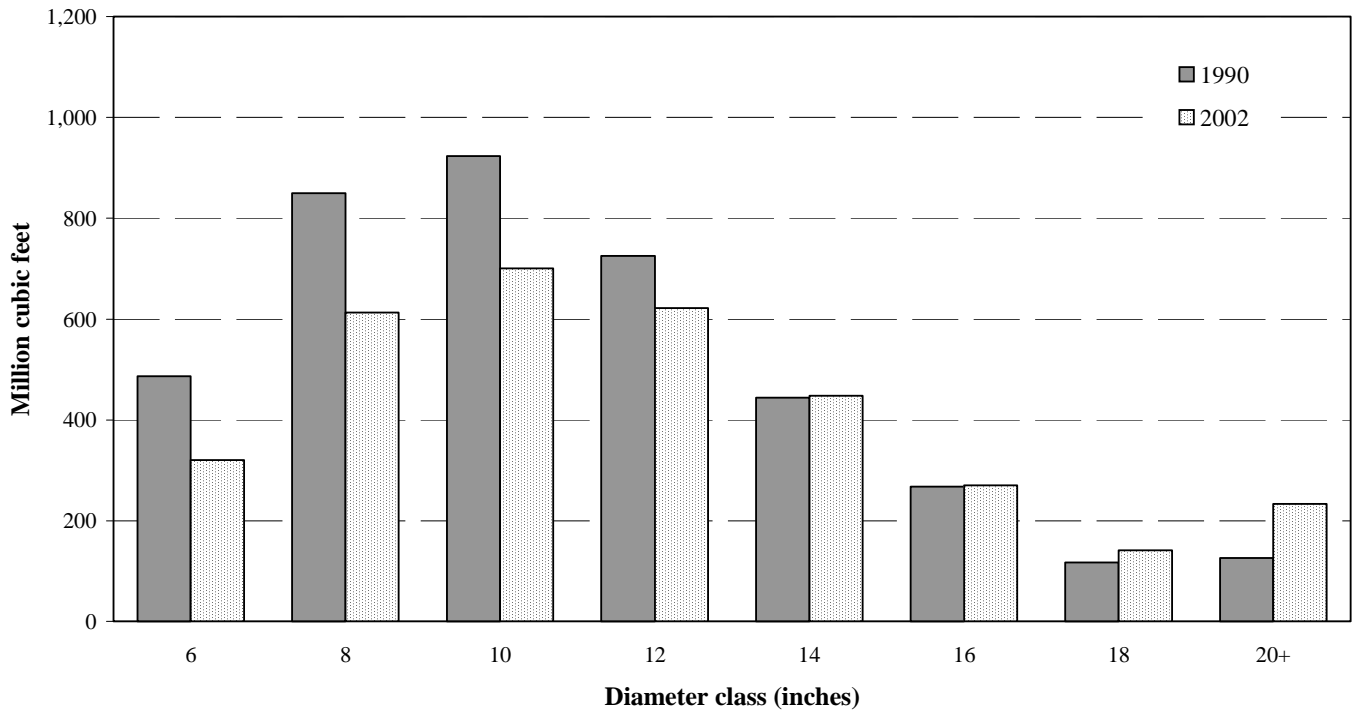


Figure 8—Volume of softwood live trees on timberland by diameter class, Piedmont of North Carolina, 1990 and 2002.

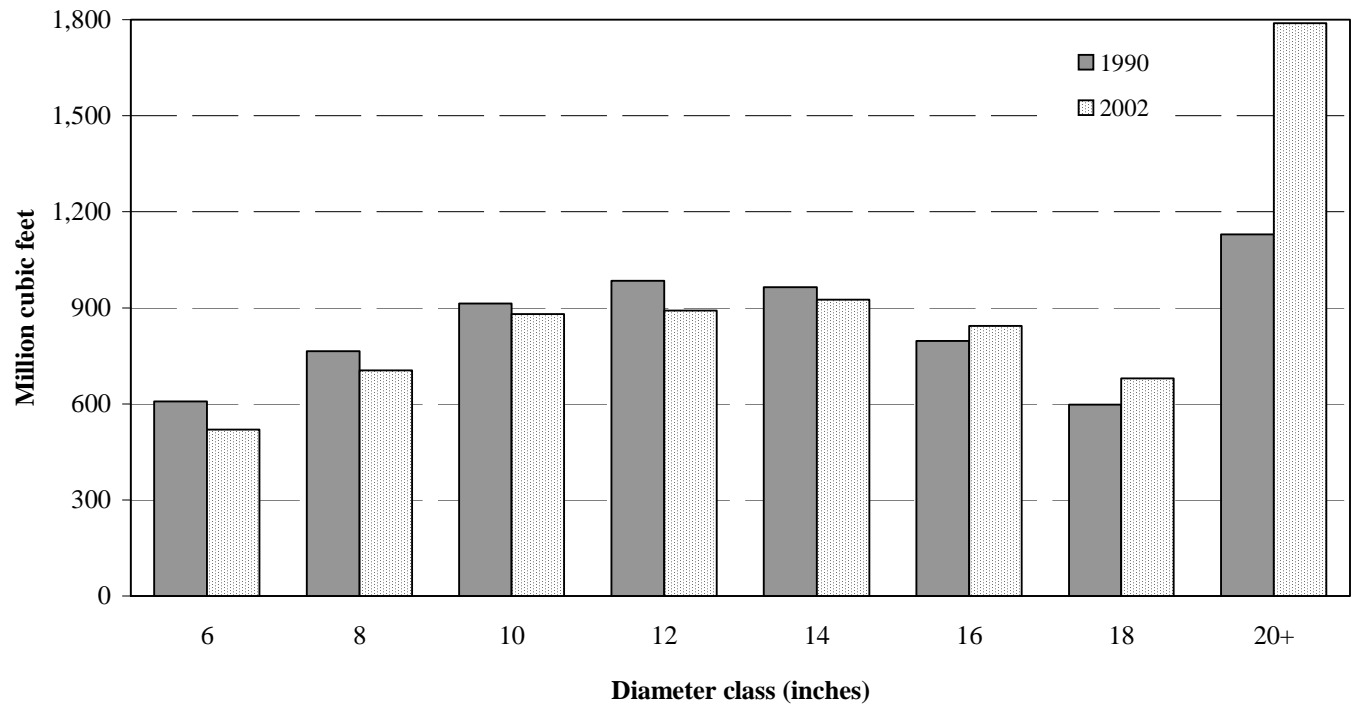


Figure 9—Volume of hardwood live trees on timberland by diameter class, Piedmont of North Carolina, 1990 and 2002.

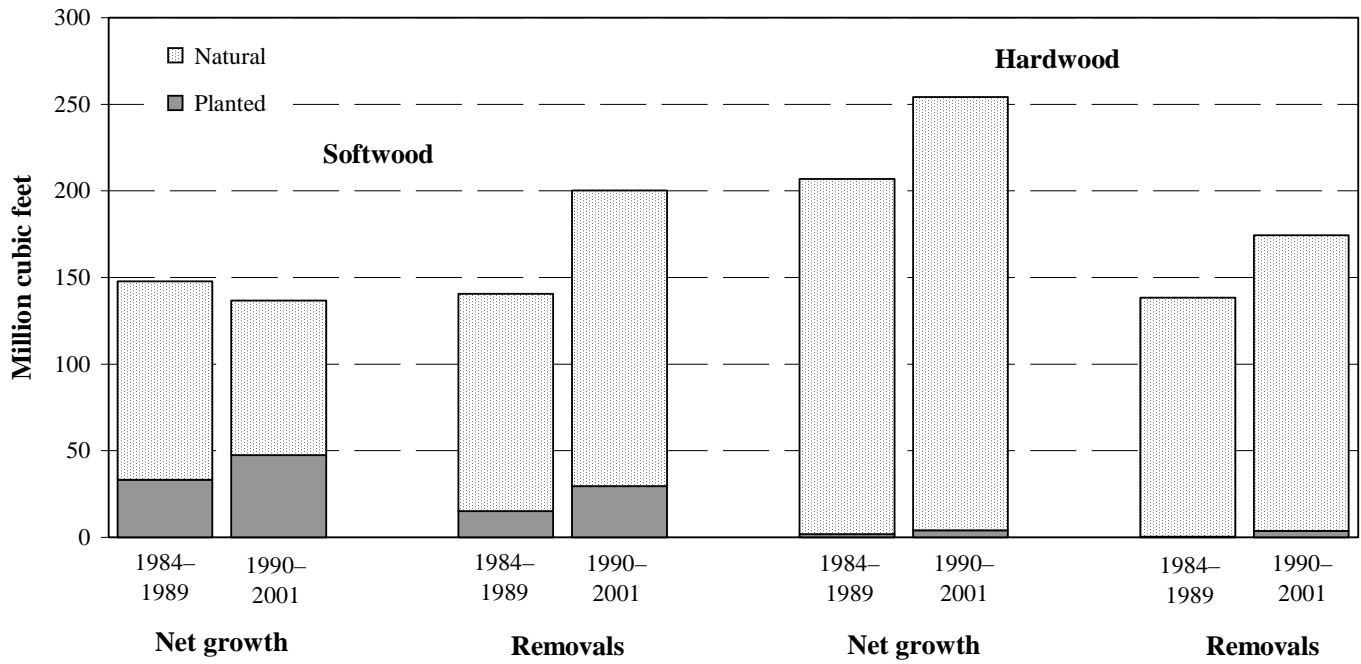


Figure 10—Average net annual growth and removals of live trees on timberland by species group and stand origin, Piedmont of North Carolina, 1984–1989 and 1990–2001.

Cross Reference of Eastern Core Tables

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5	6	18	32, 34
6	7	19	35, 37
7	8	20	38
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9	11	22	40
10	17	23	41
11	18	24	43
12	20	25	23
13	21		

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Table 1—Land area by county and land class, Piedmont of North Carolina, 2002

County	Total land area ^a	Forest land			Other land ^b	
		Total forest	Timberland	Productive reserved		Other
<i>Thousand acres</i>						
Alamance	275.6	129.8	129.8	—	—	145.9
Alexander	166.6	87.8	87.7	0.0	—	78.9
Anson	340.2	257.6	257.6	—	—	82.6
Cabarrus	233.2	86.6	86.6	—	—	146.6
Caswell	272.5	181.8	181.8	—	—	90.6
Catawba	256.0	119.5	119.5	—	—	136.5
Chatham	437.2	288.4	284.4	3.9	—	148.8
Cleveland	297.2	133.7	133.7	—	—	163.4
Davidson	353.4	196.5	196.4	0.1	—	156.9
Davie	169.7	70.4	70.4	—	—	99.4
Durham	186.0	84.0	82.1	1.9	—	102.0
Forsyth	262.2	88.0	88.0	—	—	174.2
Franklin	314.6	192.3	192.3	—	—	122.4
Gaston	228.2	98.2	95.2	3.0	—	130.0
Granville	339.9	188.4	188.2	0.3	—	151.5
Guilford	416.1	170.3	170.2	0.1	—	245.8
Iredell	367.6	135.9	134.4	1.5	—	231.7
Lincoln	191.2	76.4	76.4	0.0	—	114.8
Mecklenburg	337.5	85.8	85.8	—	—	251.7
Montgomery	314.3	256.1	255.8	0.2	—	58.2
Orange	255.9	152.2	150.4	1.8	—	103.7
Person	251.1	145.4	145.4	—	—	105.7
Polk	152.2	98.7	98.7	—	—	53.6
Randolph	504.0	310.7	304.6	6.2	—	193.2
Rockingham	362.5	215.5	215.5	—	—	147.0
Rowan	327.3	125.3	125.3	—	—	202.0
Rutherford	361.1	235.1	235.1	—	—	126.0
Stanly	248.2	105.7	105.7	—	—	142.4
Stokes	289.2	187.6	181.1	6.5	—	101.6
Surry	343.4	187.1	182.8	4.3	—	156.3
Union	407.9	146.2	146.2	—	—	261.8
Vance	162.3	88.2	86.2	2.1	—	74.0
Wake	533.7	177.3	167.5	9.8	—	356.4
Warren	274.4	218.5	218.5	—	—	55.9
Yadkin	214.8	82.2	81.9	0.3	—	132.6
Total	10,447.4	5,403.3	5,361.2	42.1	—	5,044.1

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of >0.0 but <0.05 for the cell.

^a From the U.S. Bureau of the Census, 1990.

^b Includes 76.6 thousand acres of water according to Forest Inventory and Analysis standards of area classification, but defined by the Bureau of Census as land.

Table 2—Area of forest land by forest-type group and ownership class, Piedmont of North Carolina, 2002

Forest-type group	All classes	Ownership class					
		National forest	Miscellaneous Federal	State	County and municipal	Forest industry	Nonindustrial private
<i>Thousand acres</i>							
White-red-jack pine	6.2	—	—	—	—	—	6.2
Loblolly-shortleaf pine	1,358.2	8.9	5.2	21.8	18.1	57.1	1,247.1
Oak-pine	1,071.3	9.5	11.6	38.5	7.4	37.1	967.2
Oak-hickory	2,708.5	27.5	41.6	72.4	40.1	16.1	2,510.9
Oak-gum-cypress	150.9	—	6.9	—	—	—	144.0
Elm-ash-cottonwood	97.0	—	—	—	13.1	—	83.9
Nonstocked	11.2	—	—	—	—	5.2	6.0
Total	5,403.3	45.9	65.2	132.8	78.6	115.4	4,965.4

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

Table 3—Area of timberland by county and ownership class, Piedmont of North Carolina, 2002

County	All classes	Ownership class						Nonindustrial private	
		National forest	Miscellaneous Federal	State	County and municipal	Forest industry	Corporate	Individual	
<i>Thousand acres</i>									
Alamance	129.8	—	—	—	4.5	—	1.2	124.0	
Alexander	87.7	—	—	—	—	4.7	7.0	76.1	
Anson	257.6	—	13.8	—	—	32.7	30.5	180.7	
Cabarrus	86.6	—	—	—	—	—	12.6	74.1	
Caswell	181.8	—	—	15.3	—	—	10.9	155.6	
Catawba	119.5	—	—	—	—	—	12.0	107.5	
Chatham	284.4	—	8.7	1.5	—	22.5	22.8	228.9	
Cleveland	133.7	—	—	5.7	—	—	14.7	113.3	
Davidson	196.4	1.0	—	—	5.8	11.7	15.3	162.6	
Davie	70.4	—	—	—	—	—	13.3	57.0	
Durham	82.1	—	5.3	5.3	5.3	—	9.3	56.9	
Forsyth	88.0	—	—	—	4.5	—	4.3	79.2	
Franklin	192.3	—	—	—	—	5.7	—	186.5	
Gaston	95.2	—	—	—	—	—	18.2	77.0	
Granville	188.2	—	5.1	3.8	5.1	—	10.2	164.0	
Guilford	170.2	—	—	3.2	14.1	—	35.4	117.5	
Iredell	134.4	—	—	—	—	—	17.4	117.0	
Lincoln	76.4	—	—	—	—	—	11.6	64.8	
Mecklenburg	85.8	—	—	—	19.1	—	22.6	44.1	
Montgomery	255.8	35.5	—	6.3	—	9.1	41.0	164.0	
Orange	150.4	—	—	13.7	—	—	6.9	129.8	
Person	145.4	—	—	—	—	—	26.7	118.7	
Polk	98.7	—	—	8.0	—	—	31.1	59.5	
Randolph	304.6	4.3	6.5	—	4.9	—	28.7	260.2	
Rockingham	215.5	—	—	—	—	0.3	12.0	203.3	
Rowan	125.3	—	—	—	6.5	—	8.4	110.4	
Rutherford	235.1	—	—	12.9	—	6.5	54.4	161.3	
Stanly	105.7	—	—	—	—	—	7.6	98.1	
Stokes	181.1	—	—	5.4	—	5.4	9.4	160.9	
Surry	182.8	—	3.6	—	—	—	20.9	158.3	
Union	146.2	—	—	—	—	—	15.4	130.8	
Vance	86.2	—	14.3	—	—	10.4	10.4	51.2	
Wake	167.5	—	7.0	15.7	8.7	—	31.3	104.9	
Warren	218.5	—	—	—	—	6.5	36.5	175.6	
Yadkin	81.9	—	—	—	—	—	—	81.9	
Total	5,361.2	40.7	64.2	96.9	78.6	115.4	609.9	4,355.5	

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

Table 4—Area of timberland by county and forest-type group, Piedmont of North Carolina, 2002

County	All groups	Forest-type group						Nonstocked
		White-red-jack pine	Loblolly-shortleaf	Oak-pine	Oak-hickory	Oak-gum-cypress	Elm-ash-cottonwood	
<i>Thousand acres</i>								
Alamance	129.8	—	40.3	9.4	74.8	3.3	2.0	—
Alexander	87.7	3.5	20.9	11.4	50.8	—	—	1.2
Anson	257.6	—	100.0	41.5	60.2	50.8	—	5.2
Cabarrus	86.6	—	22.0	9.4	48.2	7.0	—	—
Caswell	181.8	—	47.1	16.7	99.1	14.7	4.2	—
Catawba	119.5	—	27.7	17.1	67.8	—	6.8	—
Chatham	284.4	—	91.0	77.9	111.1	4.5	—	—
Cleveland	133.7	—	28.6	20.3	84.8	—	—	—
Davidson	196.4	—	50.1	30.3	107.1	3.2	5.8	—
Davie	70.4	—	14.9	2.1	48.2	—	5.3	—
Durham	82.1	—	10.9	25.4	42.7	3.1	—	—
Forsyth	88.0	—	13.3	24.4	50.3	—	—	—
Franklin	192.3	—	70.5	58.6	53.1	5.7	4.3	—
Gaston	95.2	—	16.4	22.6	51.8	—	4.4	—
Granville	188.2	—	73.7	50.9	63.6	—	—	—
Guilford	170.2	—	35.5	16.2	113.0	2.9	2.6	—
Iredell	134.4	—	4.8	19.2	104.0	—	6.4	—
Lincoln	76.4	—	18.1	5.2	51.5	—	1.7	—
Mecklenburg	85.8	—	10.1	22.6	49.7	—	3.5	—
Montgomery	255.8	—	103.4	74.0	78.4	—	—	—
Orange	150.4	—	49.0	41.4	60.0	—	—	—
Person	145.4	—	28.9	47.9	62.3	6.4	—	—
Polk	98.7	1.6	33.4	16.7	46.9	—	—	—
Randolph	304.6	—	42.1	36.6	219.3	6.5	—	—
Rockingham	215.5	1.1	66.1	31.2	107.0	—	10.2	—
Rowan	125.3	—	16.9	40.6	67.7	—	—	—
Rutherford	235.1	—	62.3	49.8	103.5	6.5	12.9	—
Stanly	105.7	—	34.6	22.3	48.9	—	—	—
Stokes	181.1	—	26.5	48.3	106.3	—	—	—
Surry	182.8	—	39.1	16.8	121.0	—	5.9	—
Union	146.2	—	8.1	30.8	77.7	25.6	4.0	—
Vance	86.2	—	27.9	19.4	35.7	3.1	—	—
Wake	167.5	—	40.4	40.5	74.4	5.2	7.0	—
Warren	218.5	—	68.0	50.1	86.6	2.3	6.5	4.9
Yadkin	81.9	—	15.7	5.6	57.0	—	3.6	—
Total	5,361.2	6.2	1,358.2	1,053.1	2,684.6	150.9	97.0	11.2

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of >0.0 but <0.05 for the cell.

Table 5—Area of timberland by county and stand-size class, Piedmont of North Carolina, 2002

County	All classes	Stand-size class			
		Sawtimber	Poletimber	Sapling-seedling	Nonstocked
<i>Thousand acres</i>					
Alamance	129.8	67.9	23.7	38.1	—
Alexander	87.7	38.2	30.1	18.2	1.2
Anson	257.6	76.0	53.4	123.1	5.2
Cabarrus	86.6	47.9	32.5	6.3	—
Caswell	181.8	101.5	45.7	34.6	—
Catawba	119.5	57.7	31.1	30.7	—
Chatham	284.4	88.2	43.4	152.9	—
Cleveland	133.7	48.1	43.4	42.2	—
Davidson	196.4	96.2	40.8	59.4	—
Davie	70.4	32.1	29.9	8.4	—
Durham	82.1	54.7	6.6	20.8	—
Forsyth	88.0	50.3	25.7	12.0	—
Franklin	192.3	47.4	51.9	93.0	—
Gaston	95.2	56.3	16.9	22.0	—
Granville	188.2	67.7	45.7	74.8	—
Guilford	170.2	107.5	6.8	55.9	—
Iredell	134.4	80.5	11.3	42.7	—
Lincoln	76.4	42.9	11.4	22.1	—
Mecklenburg	85.8	43.1	23.9	18.9	—
Montgomery	255.8	78.4	85.5	91.9	—
Orange	150.4	75.3	17.1	57.9	—
Person	145.4	69.3	32.5	43.6	—
Polk	98.7	68.4	9.6	20.6	—
Randolph	304.6	121.4	83.2	99.9	—
Rockingham	215.5	106.5	54.2	54.8	—
Rowan	125.3	87.4	5.1	32.8	—
Rutherford	235.1	100.2	61.2	73.8	—
Stanly	105.7	50.1	30.1	25.6	—
Stokes	181.1	93.2	53.6	34.3	—
Surry	182.8	113.6	37.0	32.2	—
Union	146.2	83.3	35.9	27.0	—
Vance	86.2	31.9	15.6	38.7	—
Wake	167.5	94.7	42.8	30.0	—
Warren	218.5	51.3	48.7	113.6	4.9
Yadkin	81.9	33.4	19.5	29.0	—
Total	5,361.2	2,462.5	1,205.5	1,681.9	11.2

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of >0.0 but <0.05 for the cell.

Table 6—Area of timberland by county and site class, Piedmont of North Carolina, 2002

County	All classes	Site class (<i>cubic feet/acre/year</i>)				
		20–49	50–84	85–119	120–164	>165
<i>Thousand acres</i>						
Alamance	129.8	23.5	52.2	41.8	5.5	6.8
Alexander	87.7	15.4	27.7	27.8	7.9	8.9
Anson	257.6	58.5	125.1	52.4	19.5	2.2
Cabarrus	86.6	1.6	66.4	18.7	—	—
Caswell	181.8	22.9	49.5	65.4	38.6	5.6
Catawba	119.5	5.2	58.6	47.2	3.4	5.1
Chatham	284.4	8.4	39.6	156.9	79.5	—
Cleveland	133.7	15.7	37.1	46.0	26.5	8.5
Davidson	196.4	7.8	89.3	73.3	24.2	1.8
Davie	70.4	7.1	27.5	26.1	4.1	5.5
Durham	82.1	3.1	10.6	57.1	6.0	5.3
Forsyth	88.0	1.1	25.8	40.1	14.3	6.6
Franklin	192.3	5.7	54.5	107.6	12.9	11.5
Gaston	95.2	7.3	27.7	43.0	17.2	—
Granville	188.2	6.4	65.9	82.6	28.2	5.1
Guilford	170.2	9.7	66.4	59.0	25.5	9.7
Iredell	134.4	23.2	39.1	65.6	6.4	—
Lincoln	76.4	5.2	25.8	29.9	15.5	—
Mecklenburg	85.8	13.8	43.3	24.0	3.5	1.3
Montgomery	255.8	34.5	104.1	108.5	8.8	—
Orange	150.4	5.1	53.1	54.2	36.1	1.7
Person	145.4	16.8	81.7	46.7	0.2	—
Polk	98.7	14.4	22.9	47.0	6.4	8.0
Randolph	304.6	75.0	167.7	39.4	19.2	3.3
Rockingham	215.5	18.1	73.6	65.0	25.6	33.2
Rowan	125.3	4.1	44.3	33.4	33.7	9.8
Rutherford	235.1	36.1	81.8	81.5	25.2	10.6
Stanly	105.7	26.7	35.7	34.6	4.8	4.0
Stokes	181.1	3.4	35.8	88.1	36.5	17.3
Surry	182.8	26.6	78.5	50.9	19.2	7.6
Union	146.2	30.0	84.8	26.2	5.2	—
Vance	86.2	5.2	33.8	36.8	10.4	—
Wake	167.5	22.2	52.2	62.1	31.0	—
Warren	218.5	—	120.0	80.7	17.9	—
Yadkin	81.9	11.5	32.6	34.5	3.3	—
Total	5,361.2	571.4	2,034.6	1,953.8	622.1	179.4

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

Table 7—Area of timberland by county and stocking class of growing-stock trees, Piedmont of North Carolina, 2002

County	All classes	Stocking class (percent)				
		<16.7	16.7–59	60–99	100–130	>130
<i>Thousand acres</i>						
Alamance	129.8	0.2	4.5	44.8	57.5	22.7
Alexander	87.7	1.2	4.3	35.6	30.3	16.4
Anson	257.6	5.2	27.9	51.1	90.4	83.0
Cabarrus	86.6	—	14.1	33.3	20.8	18.5
Caswell	181.8	1.4	17.2	51.1	72.6	39.5
Catawba	119.5	8.0	18.1	24.3	52.1	17.1
Chatham	284.4	2.0	44.7	53.0	135.5	49.3
Cleveland	133.7	5.4	22.6	43.8	38.8	23.1
Davidson	196.4	1.0	14.1	78.1	75.1	28.2
Davie	70.4	—	5.4	30.4	26.7	7.8
Durham	82.1	—	15.1	24.3	29.3	13.4
Forsyth	88.0	1.1	20.6	26.7	33.7	5.8
Franklin	192.3	—	—	24.4	97.3	70.5
Gaston	95.2	—	5.9	26.3	45.9	17.1
Granville	188.2	1.3	6.4	47.2	101.5	31.8
Guilford	170.2	2.6	3.5	35.2	70.6	58.3
Iredell	134.4	1.4	9.8	72.7	36.1	14.4
Lincoln	76.4	—	5.2	26.4	34.5	10.3
Mecklenburg	85.8	—	11.3	18.2	36.2	20.1
Montgomery	255.8	12.3	15.0	88.9	66.1	73.6
Orange	150.4	1.7	14.0	49.0	63.0	22.6
Person	145.4	0.5	8.4	38.3	83.3	14.9
Polk	98.7	2.8	20.8	48.1	21.9	5.0
Randolph	304.6	8.0	22.0	111.1	104.1	59.4
Rockingham	215.5	2.3	22.2	69.5	83.2	38.4
Rowan	125.3	—	6.2	40.5	64.9	13.7
Rutherford	235.1	3.8	18.6	95.2	82.1	35.5
Stanly	105.7	6.3	10.5	40.4	16.8	31.7
Stokes	181.1	1.4	40.3	63.1	48.9	27.5
Surry	182.8	1.7	15.9	71.8	71.1	22.2
Union	146.2	1.6	21.1	78.5	40.2	4.8
Vance	86.2	1.3	8.3	28.9	29.5	18.1
Wake	167.5	—	22.6	40.5	62.3	42.2
Warren	218.5	11.4	15.1	47.9	84.0	60.1
Yadkin	81.9	9.8	16.8	26.8	25.3	3.3
Total	5,361.2	95.4	528.6	1,685.2	2,031.8	1,020.2

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of >0.0 but <0.05 for the cell.

Table 8—Area of timberland by forest-type group, stand origin, and ownership class, Piedmont of North Carolina, 2002

Forest-type group and stand origin	All classes	Ownership class			
		National forest	Other public	Forest industry	Nonindustrial private
<i>Thousand acres</i>					
Softwood types					
White-red-jack pine					
Planted	1.1	—	—	—	1.1
Natural	5.1	—	—	—	5.1
Total	6.2	—	—	—	6.2
Loblolly-shortleaf pine					
Planted	471.7	6.0	8.9	51.8	405.0
Natural	886.5	2.9	36.2	5.3	842.1
Total	1,358.2	8.9	45.1	57.1	1,247.1
Total softwoods	1,364.4	8.9	45.1	57.1	1,253.2
Hardwood types					
Oak-pine					
Planted	167.5	1.6	5.3	29.8	130.8
Natural	885.6	7.9	34.0	7.2	836.4
Total	1,053.1	9.5	39.3	37.1	967.2
Oak-hickory	2,684.6	22.3	135.3	16.1	2,510.9
Oak-gum-cypress	150.9	—	6.9	—	144.0
Elm-ash-cottonwood	97.0	—	13.1	—	83.9
Total hardwoods	3,985.6	31.8	194.6	53.1	3,706.1
Nonstocked	11.2	—	—	5.2	6.0
All groups	5,361.2	40.7	239.7	115.4	4,965.4

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of >0.0 but <0.05 for the cell.

Table 9—Area of timberland by forest-type group, detailed forest type, and ownership class, Piedmont of North Carolina, 2002

Forest-type group and detailed forest type	All classes	Ownership class			
		National forest	Other public	Forest industry	Nonindustrial private
<i>Thousand acres</i>					
Softwood types					
White-red-jack pine					
White pine	4.6	—	—	—	4.6
Hemlock	1.6	—	—	—	1.6
Total	6.2	—	—	—	6.2
Loblolly-shortleaf					
Loblolly pine	797.7	7.3	26.8	45.8	717.7
Shortleaf pine	132.4	1.6	—	4.7	126.1
Virginia pine	403.9	—	15.4	6.7	381.8
Eastern redcedar	14.6	—	2.9	—	11.7
Pitch pine	8.3	—	—	—	8.3
Table Mountain pine	1.4	—	—	—	1.4
Total	1,358.2	8.9	45.1	57.1	1,247.1
Total softwoods	1,364.4	8.9	45.1	57.1	1,253.2
Hardwood types					
Oak-pine					
White pine-n. red oak-white ash	12.9	—	—	—	12.9
Eastern redcedar-hardwood	38.3	—	5.0	—	33.2
Longleaf pine-scrub oak	0.4	0.4	—	—	—
Shortleaf pine-oak	163.0	2.4	0.6	—	160.0
Virginia pine-s. red oak	220.9	1.2	—	5.4	214.3
Loblolly pine-hardwood	552.3	2.8	28.1	31.6	489.8
Other oak-pine	65.4	2.8	5.6	—	57.0
Total	1,053.1	9.5	39.3	37.1	967.2
Oak-hickory					
Post oak-black oak	15.8	—	—	—	15.8
Chestnut oak	113.2	3.1	1.4	—	108.7
White oak-red oak-hickory	426.5	7.7	12.0	—	406.8
White oak	17.7	—	—	—	17.7
N. red oak	2.8	—	—	—	2.8
Yellow-poplar-white oak-n. red oak	657.3	6.7	37.4	7.6	605.6
Sweetgum-yellow-poplar	554.8	0.8	26.2	8.5	519.3
Mixed hardwood	896.6	3.9	58.4	—	834.2
Total	2,684.6	22.3	135.3	16.1	2,510.9
Oak-gum-cypress					
Sweetgum-water oak-willow oak	38.1	—	6.9	—	31.2
Sugarberry-elm-green ash	72.0	—	—	—	72.0
Sweetbay-blackgum-red maple	40.8	—	—	—	40.8
Total	150.9	—	6.9	—	144.0
Elm-ash-cottonwood					
River birch-sycamore	83.4	—	9.6	—	73.8
Sycamore-pecan-elm	13.6	—	3.5	—	10.1
Total	97.0	—	13.1	—	83.9
Total hardwoods	3,985.6	31.8	194.6	53.1	3,706.1
Nonstocked	11.2	—	—	5.2	6.0
All groups	5,361.2	40.7	239.7	115.4	4,965.4

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

Table 10—Area of timberland by ownership and stocking class of growing-stock trees, Piedmont of North Carolina, 2002

Ownership class	All classes	Stocking class (<i>percent</i>)				
		<16.7	16.7–59	60–99	100–130	>130
<i>Thousand acres</i>						
National forest	40.7	—	2.0	14.9	15.4	8.4
Other public	239.7	1.5	16.7	55.2	103.5	62.8
Forest industry	115.4	6.1	12.9	15.8	40.8	39.9
Nonindustrial private	4,965.4	87.8	497.1	1,599.2	1,872.1	909.2
All ownerships	5,361.2	95.4	528.6	1,685.2	2,031.8	1,020.2

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of >0.0 but <0.05 for the cell.

Table 11—Area of timberland by forest-type group, stand origin, and stand-size class, Piedmont of North Carolina, 2002

Forest-type group and stand origin	All classes	Stand-size class			
		Sawtimber	Poletimber	Sapling- seedling	Nonstocked
<i>Thousand acres</i>					
Softwood types					
White-red-jack pine					
Planted	1.1	1.1	—	—	—
Natural	5.1	1.6	3.5	—	—
Total	6.2	2.7	3.5	—	—
Spruce-fir					
Planted	—	—	—	—	—
Natural	—	—	—	—	—
Total	—	—	—	—	—
Loblolly-shortleaf pine					
Planted	471.7	87.1	212.1	172.5	—
Natural	886.5	384.7	222.6	279.3	—
Total	1,358.2	471.8	434.6	451.8	—
Total softwoods	1,364.4	474.4	438.1	451.8	—
Hardwood types					
Oak-pine					
Planted	167.5	9.7	8.8	149.0	—
Natural	885.6	368.4	171.5	345.7	—
Total	1,053.1	378.1	180.3	494.7	—
Oak-hickory	2,684.6	1,467.9	532.4	684.2	—
Oak-gum-cypress	150.9	74.9	25.5	50.5	—
Elm-ash-cottonwood	97.0	67.2	29.2	0.7	—
Maple-beech-birch	—	—	—	—	—
Tropical hardwood	—	—	—	—	—
Total hardwoods	3,985.6	1,988.1	767.4	1,230.2	—
Nonstocked	11.2	—	—	—	11.2
All groups	5,361.2	2,462.5	1,205.5	1,681.9	11.2

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

Table 12—Area of timberland by stand-age class and forest management type, all ownerships, Piedmont of North Carolina, 2002

Stand-age class	All types	Forest management type					
		Pine plantation	Natural pine	Oak-pine	Upland hardwood	Lowland hardwood	Nonstocked
<i>Years</i>		<i>Thousand acres</i>					
0–10	1,084.5	134.0	167.7	310.8	420.0	40.7	11.2
11–20	560.6	143.6	108.9	135.6	164.5	8.0	—
21–30	558.8	132.6	119.4	74.9	210.3	21.6	—
31–40	607.9	45.7	147.3	134.0	265.7	15.1	—
41–50	611.8	10.5	147.8	89.3	327.5	36.7	—
51–60	669.3	6.3	91.2	105.4	440.6	25.8	—
61–70	499.5	—	67.4	89.7	309.7	32.7	—
71–80	350.4	—	27.1	58.8	221.9	42.7	—
81+	418.4	—	14.9	54.7	324.3	24.6	—
All classes	5,361.2	472.8	891.6	1,053.1	2,684.6	247.9	11.2

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

Table 13—Area of timberland by stand-age class and forest management type, public ownerships, Piedmont of North Carolina, 2002

Stand-age class	All types	Forest management type					
		Pine plantation	Natural pine	Oak-pine	Upland hardwood	Lowland hardwood	Nonstocked
<i>Years</i>		<i>Thousand acres</i>					
0–10	18.2	1.5	—	7.1	9.6	—	—
11–20	17.8	8.8	—	1.6	7.4	—	—
21–30	13.9	1.8	4.3	7.7	—	—	—
31–40	25.7	2.8	4.6	5.1	13.3	—	—
41–50	42.2	—	18.9	2.7	20.5	—	—
51–60	55.5	—	9.5	—	39.0	7.0	—
61–70	41.5	—	1.7	8.0	24.9	6.9	—
71–80	22.1	—	—	9.3	12.8	—	—
81+	43.6	—	—	7.3	30.1	6.1	—
All classes	280.4	14.9	39.1	48.8	157.6	20.0	—

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

Table 14—Area of timberland by stand-age class and forest management type, forest industry ownerships, Piedmont of North Carolina, 2002

Stand-age class	All types	Forest management type					
		Pine plantation	Natural pine	Oak-pine	Upland hardwood	Lowland hardwood	Nonstocked
<i>Years</i>		<i>Thousand acres</i>					
0–10	61.4	21.5	—	22.4	12.3	—	5.2
11–20	13.5	—	0.6	12.9	—	—	—
21–30	23.4	23.4	—	—	—	—	—
31–40	6.9	6.9	—	—	—	—	—
41–50	2.0	—	—	—	2.0	—	—
51–60	—	—	—	—	—	—	—
61–70	1.8	—	—	1.8	—	—	—
71–80	6.4	—	4.7	—	1.7	—	—
81+	—	—	—	—	—	—	—
All classes	115.4	51.8	5.3	37.1	16.1	—	5.2

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of >0.0 but <0.05 for the cell.

Table 15—Area of timberland by stand-age class and forest management type, nonindustrial private ownerships, Piedmont of North Carolina, 2002

Stand-age class	All types	Forest management type					
		Pine plantation	Natural pine	Oak-pine	Upland hardwood	Lowland hardwood	Nonstocked
<i>Years</i>		<i>Thousand acres</i>					
0–10	1,004.9	111.0	167.7	281.4	398.1	40.7	6.0
11–20	529.2	134.8	108.2	121.1	157.1	8.0	—
21–30	521.5	107.4	115.0	67.2	210.3	21.6	—
31–40	575.3	36.1	142.7	129.0	252.4	15.1	—
41–50	567.6	10.5	128.8	86.6	305.0	36.7	—
51–60	613.9	6.3	81.7	105.4	401.6	18.8	—
61–70	456.1	—	65.7	79.9	284.8	25.8	—
71–80	322.0	—	22.5	49.5	207.3	42.7	—
81+	374.9	—	14.9	47.3	294.2	18.5	—
All classes	4,965.4	406.0	847.2	967.2	2,510.9	228.0	6.0

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of >0.0 but <0.05 for the cell.

Table 16—Area of nonindustrial private timberland by ownership, forested tract-size class, and forest management type, Piedmont of North Carolina, 2002

Ownership and forested tract-size class	All types	Forest management type					Nonstocked
		Pine plantation	Natural pine	Oak-pine	Upland hardwood	Lowland hardwood	
<i>Acres</i>		<i>Thousand acres</i>					
Individual							
≤10	614.7	11.8	113.9	133.5	347.4	8.0	—
11–50	1,442.5	101.8	287.9	312.0	683.9	51.8	4.9
51–100	1,054.9	94.5	138.6	227.6	547.6	46.6	—
101–200	720.4	46.2	121.2	134.8	385.0	33.3	—
201–500	379.2	52.6	55.6	51.9	180.0	39.1	—
≥501	143.9	14.8	38.0	9.0	79.4	2.7	—
Total	4,355.5	321.7	755.3	868.8	2,223.3	181.5	4.9
Corporate							
≤10	45.7	—	5.2	6.1	29.3	5.2	—
11–50	95.2	1.4	10.4	11.3	65.8	6.3	—
51–100	108.9	25.5	16.2	12.9	41.5	12.8	—
101–200	78.8	9.8	6.5	19.8	41.5	—	1.2
201–500	147.3	39.2	20.8	33.1	41.4	12.8	—
≥501	134.0	8.5	32.7	15.2	68.1	9.4	—
Total	609.9	84.3	91.9	98.4	287.6	46.5	1.2
All nonindustrial private							
≤10	660.4	11.8	119.2	139.6	376.7	13.2	—
11–50	1,537.7	103.2	298.4	323.4	749.8	58.2	4.9
51–100	1,163.8	120.0	154.8	240.4	589.1	59.4	—
101–200	799.2	56.0	127.7	154.6	426.4	33.3	1.2
201–500	526.5	91.8	76.4	85.0	221.4	51.9	—
≥501	277.8	23.3	70.7	24.2	147.6	12.1	—
Total	4,965.4	406.0	847.2	967.2	2,510.9	228.0	6.0

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of >0.0 but <0.05 for the cell.

Table 17—Number of live trees on timberland by species and diameter class, Piedmont of North Carolina, 2002

Species	Diameter class (inches at breast height)												
	All classes	1.0–2.9	3.0–4.9	5.0–6.9	7.0–8.9	9.0–10.9	11.0–12.9	13.0–14.9	15.0–16.9	17.0–18.9	19.0–20.9	21.0–28.9	29.0 and larger
<i>Thousand trees</i>													
Softwood													
Longleaf pine	469	397	—	9	18	36	9	—	—	—	—	—	—
Shortleaf pine	84,430	28,178	13,414	10,357	11,190	9,772	6,402	3,434	957	567	79	80	—
Loblolly pine	537,243	240,508	119,592	71,032	53,960	26,596	11,848	6,649	3,724	1,445	969	879	41
Virginia pine	302,644	162,594	57,363	28,654	22,401	16,704	9,699	3,772	1,159	195	—	103	—
Pitch pine	1,720	—	414	218	275	66	377	132	99	66	—	73	—
Table Mountain pine	693	—	—	198	132	198	132	33	—	—	—	—	—
Eastern white pine	9,190	4,571	1,550	1,100	697	385	381	196	94	41	106	69	—
Eastern hemlock	412	—	—	117	78	67	78	33	—	—	39	—	—
Redcedars	145,918	99,216	30,589	8,662	4,430	1,666	939	227	189	—	—	—	—
Total softwoods	1,082,719	535,464	222,922	120,347	93,181	55,490	29,865	14,476	6,222	2,314	1,193	1,204	41
Hardwood													
Select white oaks	158,788	78,692	27,232	14,045	10,160	8,381	5,377	4,679	4,404	2,320	1,482	1,893	123
Select red oaks	44,233	20,056	9,916	3,986	2,605	2,305	1,116	1,289	973	763	475	652	97
Other white oaks	58,434	22,623	10,796	6,601	5,925	4,326	3,441	2,057	1,337	613	288	388	39
Other red oaks	179,944	120,376	16,696	12,242	8,136	7,488	5,097	3,530	2,371	1,339	1,110	1,276	283
Hickory	123,791	79,393	13,799	9,825	6,781	5,060	3,766	2,395	1,142	1,024	352	254	—
Hard maple	16,488	11,465	2,740	1,012	523	324	167	143	114	—	—	—	—
Soft maple	529,939	378,112	77,691	31,758	17,313	10,514	6,269	3,095	2,013	1,565	772	781	56
Beech	49,495	35,371	7,312	2,201	767	1,134	709	610	688	205	163	257	78
Sweetgum	533,660	358,865	97,617	31,511	18,760	10,665	6,079	4,582	2,507	1,402	770	826	76
Tupelo and blackgum	109,881	85,252	13,415	5,261	2,597	1,634	828	561	75	79	—	140	39
Ash	76,084	51,356	11,508	4,794	2,711	2,459	1,407	668	411	316	397	57	—
Basswood	1,026	924	—	34	29	39	—	—	—	—	—	—	—
Yellow-poplar	359,778	228,256	49,501	23,008	17,863	12,225	8,802	7,047	4,482	2,923	2,608	2,733	330
Bay and magnolia	4,656	3,117	1,242	157	41	66	—	—	33	—	—	—	—
Black cherry	159,060	119,927	28,435	6,460	2,449	1,094	378	212	105	—	—	—	—
Black walnut	7,390	3,029	768	1,122	695	497	533	294	167	118	105	62	—
Sycamore	9,171	3,735	1,198	832	905	836	373	393	244	142	262	251	—
Black locust	10,403	5,023	3,366	665	516	253	302	150	128	—	—	—	—
Elm	104,361	67,249	20,389	8,568	3,923	1,988	1,258	511	204	167	36	30	38
Other Eastern hardwoods	775,988	583,498	131,982	38,642	12,097	5,151	2,290	737	633	393	321	244	—
Total hardwoods	3,312,570	2,256,319	525,603	202,724	114,796	76,439	48,192	32,953	22,031	13,369	9,141	9,844	1,159
All species	4,395,289	2,791,783	748,525	323,071	207,977	131,929	78,057	47,429	28,253	15,683	10,334	11,048	1,200

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell.

Table 18—Number of growing-stock trees on timberland by species and diameter class, Piedmont of North Carolina, 2002

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
<i>Thousand trees</i>													
Softwood													
Longleaf pine	469	397	—	9	18	36	9	—	—	—	—	—	—
Shortleaf pine	73,203	18,891	12,548	9,821	10,888	9,630	6,402	3,400	897	567	79	80	—
Loblolly pine	415,873	135,547	106,049	69,666	53,262	26,168	11,620	6,649	3,661	1,404	969	837	41
Virginia pine	227,265	103,045	47,001	25,824	21,446	15,929	9,149	3,566	1,039	195	—	71	—
Pitch pine	1,688	—	414	218	243	66	377	132	99	66	—	73	—
Table Mountain pine	660	—	—	198	99	198	132	33	—	—	—	—	—
Eastern white pine	7,658	3,795	1,071	1,005	630	325	354	196	66	41	106	69	—
Eastern hemlock	412	—	—	117	78	67	78	33	—	—	39	—	—
Redcedars	94,355	58,013	23,562	6,875	3,600	1,227	751	172	155	—	—	—	—
Total softwoods	821,583	319,688	190,645	113,733	90,264	53,646	28,872	14,181	5,917	2,273	1,193	1,130	41
Hardwood													
Select white oaks	97,673	27,079	21,295	12,316	9,531	8,097	5,181	4,534	4,230	2,248	1,406	1,699	57
Select red oaks	23,684	5,344	5,163	3,409	2,440	2,168	984	1,289	939	724	475	652	97
Other white oaks	36,934	7,941	6,639	5,694	5,420	3,908	3,302	1,748	1,094	604	247	298	39
Other red oaks	92,445	41,001	12,101	10,668	7,369	6,973	4,668	3,495	2,362	1,238	1,110	1,213	247
Hickory	69,992	31,593	10,419	8,290	6,356	4,937	3,596	2,264	1,069	933	281	254	—
Hard maple	4,175	1,640	1,217	602	334	155	72	41	114	—	—	—	—
Soft maple	151,221	67,901	35,376	19,141	11,182	7,704	3,914	2,190	1,530	1,103	614	540	26
Beech	14,809	5,170	4,606	1,418	632	913	463	469	525	205	133	197	78
Sweetgum	345,051	202,265	74,183	26,475	16,965	9,565	5,646	4,477	2,431	1,372	770	826	76
Tupelo and blackgum	29,989	17,337	3,766	3,773	2,237	1,470	616	527	44	79	—	101	39
Ash	24,384	8,627	5,611	2,958	2,146	2,121	1,243	634	344	280	363	57	—
Yellow-poplar	267,141	146,195	44,006	20,829	16,770	11,525	8,323	6,724	4,381	2,889	2,508	2,694	297
Bay and magnolia	1,483	406	893	77	41	33	—	—	33	—	—	—	—
Black cherry	42,739	27,215	9,633	3,529	1,173	702	289	93	105	—	—	—	—
Black walnut	2,726	362	—	647	371	425	390	259	136	76	31	29	—
Sycamore	5,679	1,248	834	655	753	731	338	393	175	112	228	212	—
Black locust	4,449	1,624	1,470	353	349	184	224	117	128	—	—	—	—
Elm	41,966	16,014	12,994	6,295	3,191	1,650	1,020	390	141	167	36	30	38
Other Eastern hardwoods	120,902	68,110	30,388	11,387	5,127	2,704	1,399	537	457	284	295	214	—
Total hardwoods	1,377,442	677,072	280,594	138,516	92,387	65,965	41,668	30,181	20,238	12,314	8,497	9,016	994
All species	2,199,025	996,760	471,239	252,249	182,651	119,611	70,540	44,362	26,155	14,587	9,690	10,146	1,035

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell.

Table 19—Volume of live trees on timberland by species and diameter class, Piedmont of North Carolina, 2002

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
<i>Million cubic feet</i>											
Softwood											
Longleaf pine	0.9	0.0	0.2	0.5	0.2	—	—	—	—	—	—
Shortleaf pine	591.5	30.2	82.7	134.6	141.1	106.3	43.0	36.8	7.5	9.4	—
Loblolly pine	1,700.4	165.6	326.4	311.4	244.9	211.7	169.9	87.7	75.5	99.5	7.7
Virginia pine	883.8	97.8	173.3	229.4	203.1	114.8	45.8	10.6	—	8.9	—
Pitch pine	27.4	0.7	1.9	0.8	7.9	3.4	3.5	3.0	—	6.1	—
Table Mountain pine	8.8	0.9	1.0	3.2	2.9	0.9	—	—	—	—	—
Eastern white pine	46.2	2.9	4.4	4.5	7.2	5.4	2.8	2.5	7.4	9.1	—
Eastern hemlock	4.9	0.3	0.5	0.6	1.0	0.6	—	—	1.9	—	—
Redcedars	83.0	21.3	22.4	15.9	13.4	4.9	5.1	—	—	—	—
Total softwoods	3,346.9	319.8	612.8	701.0	621.7	447.9	270.2	140.5	92.3	133.1	7.7
Hardwood											
Select white oaks	1,039.0	37.0	63.5	101.6	104.7	134.3	174.4	121.9	98.7	183.2	19.6
Select red oaks	318.4	12.7	18.6	29.6	21.7	34.9	36.4	40.4	31.1	67.9	25.2
Other white oaks	325.6	17.2	35.8	46.3	57.9	49.0	43.9	25.2	15.5	29.2	5.6
Other red oaks	758.8	33.3	50.4	83.7	93.1	94.4	86.3	62.0	70.5	117.3	67.8
Hickory	412.8	24.2	42.7	60.6	70.6	71.0	43.8	52.6	23.6	23.8	—
Hard maple	19.3	2.6	3.0	3.7	2.5	3.5	4.0	—	—	—	—
Soft maple	714.4	93.0	104.8	108.8	97.3	73.5	62.1	65.0	41.7	61.0	7.3
Beech	134.8	6.2	4.6	13.1	12.3	16.0	25.4	11.0	10.4	23.2	12.6
Sweetgum	931.3	73.0	117.9	130.8	123.8	142.2	105.6	79.8	55.3	87.4	15.5
Tupelo and blackgum	98.6	13.1	15.8	17.7	13.8	14.3	1.7	3.8	—	11.4	7.1
Ash	171.2	13.3	18.1	30.2	28.5	19.1	14.7	15.8	28.3	3.3	—
Basswood	0.8	0.1	0.1	0.6	—	—	—	—	—	—	—
Yellow-poplar	1,653.2	66.7	122.4	154.5	182.4	217.7	194.9	165.6	188.5	290.5	70.2
Bay and magnolia	2.7	0.4	0.2	0.9	—	—	1.3	—	—	—	—
Black cherry	56.3	16.3	13.7	11.4	6.7	4.4	3.8	—	—	—	—
Black walnut	43.5	3.1	3.8	5.1	8.9	7.1	5.3	3.4	4.5	2.3	—
Sycamore	99.2	3.1	6.9	11.0	7.6	11.3	9.0	7.3	17.2	25.7	—
Black locust	18.7	1.4	3.0	2.9	3.5	3.5	4.5	—	—	—	—
Elm	124.3	21.9	22.6	20.3	21.5	13.1	6.5	8.4	1.8	2.7	5.5
Other Eastern hardwoods	307.1	81.2	56.1	47.1	34.7	16.3	19.6	16.9	18.1	17.1	—
Total hardwoods	7,229.9	519.6	703.7	879.9	891.5	925.4	843.2	679.0	605.2	946.1	236.3
All species	10,576.8	839.4	1,316.5	1,580.8	1,513.2	1,373.3	1,113.4	819.5	697.5	1,079.2	244.0

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of >0.0 but <0.05 for the cell.

Table 20—Volume of growing-stock trees on timberland by species and diameter class, Piedmont of North Carolina, 2002

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
<i>Million cubic feet</i>											
Softwood											
Longleaf pine	0.9	0.0	0.2	0.5	0.2	—	—	—	—	—	—
Shortleaf pine	584.4	29.2	81.0	133.1	141.1	105.5	40.8	36.8	7.5	9.4	—
Loblolly pine	1,678.6	163.0	322.8	306.4	241.1	211.7	167.8	86.2	75.5	96.4	7.7
Virginia pine	839.1	91.3	167.4	220.3	193.3	108.8	41.3	10.6	—	6.2	—
Pitch pine	27.3	0.7	1.8	0.8	7.9	3.4	3.5	3.0	—	6.1	—
Table Mountain pine	8.6	0.9	0.7	3.2	2.9	0.9	—	—	—	—	—
Eastern white pine	44.2	2.7	4.0	3.9	6.8	5.4	2.3	2.5	7.4	9.1	—
Eastern hemlock	4.9	0.3	0.5	0.6	1.0	0.6	—	—	1.9	—	—
Redcedars	67.1	17.2	18.5	12.1	11.2	3.9	4.2	—	—	—	—
Total softwoods	3,255.0	305.3	597.0	680.8	605.4	440.1	260.0	139.1	92.3	127.3	7.7
Hardwood											
Select white oaks	983.6	33.3	60.1	98.7	101.6	130.7	168.4	118.3	93.5	169.4	9.6
Select red oaks	308.6	11.0	17.6	28.0	19.3	34.9	35.7	37.9	31.1	67.9	25.2
Other white oaks	295.3	15.3	33.4	42.1	56.4	42.5	37.3	24.9	12.5	25.2	5.6
Other red oaks	722.3	29.8	46.6	79.3	87.2	93.6	86.0	58.2	70.5	113.7	57.3
Hickory	394.0	21.7	40.8	59.3	67.7	67.9	41.6	50.3	20.9	23.8	—
Hard maple	11.9	1.8	1.8	1.8	1.6	0.8	4.0	—	—	—	—
Soft maple	522.2	60.0	71.3	83.9	66.4	55.3	51.3	49.7	33.9	45.6	4.8
Beech	112.3	4.2	3.9	11.0	8.3	12.7	20.8	11.0	9.2	18.7	12.6
Sweetgum	889.6	63.5	109.0	120.2	116.3	139.4	103.8	79.1	55.3	87.4	15.5
Tupelo and blackgum	84.7	10.0	13.6	15.7	10.9	13.4	1.3	3.8	—	8.8	7.1
Ash	153.2	9.0	15.2	27.1	25.7	18.3	13.2	14.6	26.7	3.3	—
Yellow-poplar	1,607.5	61.2	116.2	147.2	175.2	209.8	192.8	165.0	183.6	288.0	68.5
Bay and magnolia	2.2	0.2	0.2	0.5	—	—	1.3	—	—	—	—
Black cherry	35.5	9.2	7.2	7.5	5.2	2.5	3.8	—	—	—	—
Black walnut	33.4	2.0	2.1	4.4	7.0	6.7	4.3	3.0	1.9	2.1	—
Sycamore	86.3	2.5	5.8	9.5	7.2	11.3	6.6	5.6	15.3	22.4	—
Black locust	15.3	0.9	2.2	2.1	2.9	2.7	4.5	—	—	—	—
Elm	105.5	16.7	18.9	17.5	18.2	10.5	5.2	8.4	1.8	2.7	5.5
Other Eastern hardwoods	183.4	29.7	28.0	28.1	23.3	13.3	15.7	13.0	17.1	15.1	—
Total hardwoods	6,546.4	381.9	594.0	784.1	800.2	866.2	797.8	643.0	573.3	894.2	211.7
All species	9,801.4	687.2	1,191.0	1,464.9	1,405.7	1,306.3	1,057.8	782.0	665.6	1,021.5	219.4

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

Table 21—Volume in the saw-log portion of sawtimber trees on timberland by species and diameter class, Piedmont of North Carolina, 2002

Species	All classes	Diameter class (<i>inches at breast height</i>)							
		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
<i>Million cubic feet</i>									
Softwood									
Longleaf pine	0.6	0.4	0.2	—	—	—	—	—	—
Shortleaf pine	429.4	107.7	128.5	100.5	39.8	36.3	7.4	9.4	—
Loblolly pine	1,078.9	236.6	216.3	200.5	162.7	84.9	74.8	95.5	7.6
Virginia pine	507.3	177.2	173.1	101.5	39.3	10.2	—	6.0	—
Pitch pine	23.3	0.7	7.1	3.2	3.4	2.9	—	6.0	—
Table Mountain pine	6.3	2.7	2.8	0.8	—	—	—	—	—
Eastern white pine	34.7	3.1	6.0	5.0	2.2	2.4	7.1	8.9	—
Eastern hemlock	3.6	0.4	0.9	0.5	—	—	1.8	—	—
Redcedars	27.4	9.7	10.0	3.6	4.0	—	—	—	—
Total softwoods	2,111.5	538.6	544.9	415.6	251.4	136.6	91.1	125.7	7.6
Hardwood									
Select white oaks	692.2	—	72.8	107.6	147.9	107.3	86.7	160.7	9.3
Select red oaks	216.8	—	13.8	27.7	30.1	32.8	27.4	60.8	24.2
Other white oaks	171.5	—	41.0	34.9	32.7	22.3	11.5	23.7	5.3
Other red oaks	495.8	—	62.4	76.8	75.3	52.7	65.3	108.0	55.3
Hickory	228.4	—	48.9	56.3	36.3	45.4	19.3	22.2	—
Hard maple	5.3	—	1.2	0.7	3.5	—	—	—	—
Soft maple	253.7	—	45.7	43.9	43.5	43.8	30.4	41.9	4.5
Beech	80.3	—	5.9	10.3	17.7	9.6	8.2	17.0	11.6
Sweetgum	515.0	—	81.9	114.9	92.4	73.3	52.5	84.6	15.3
Tupelo and blackgum	37.8	—	7.6	10.7	1.1	3.4	—	8.2	6.7
Ash	85.7	—	18.0	15.1	11.4	13.2	24.8	3.2	—
Yellow-poplar	1,140.2	—	122.3	172.8	171.1	152.6	173.8	279.7	67.8
Bay and magnolia	1.1	—	—	—	1.1	—	—	—	—
Black cherry	9.2	—	3.9	2.0	3.3	—	—	—	—
Black walnut	20.2	—	5.1	5.3	3.6	2.7	1.7	1.8	—
Sycamore	58.7	—	4.7	8.7	5.6	4.9	13.8	21.0	—
Black locust	8.0	—	2.1	2.1	3.8	—	—	—	—
Elm	42.2	—	12.8	8.4	4.5	7.4	1.6	2.4	5.1
Other Eastern hardwoods	77.7	—	15.3	9.8	13.3	11.3	15.5	12.6	—
Total hardwoods	4,139.9	—	565.1	708.1	698.2	582.7	532.4	848.0	205.2
All species	6,251.4	538.6	1,110.0	1,123.7	949.6	719.3	623.5	973.7	212.9

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of >0.0 but <0.05 for the cell.

Table 22—Volume of sawtimber on timberland by species and diameter class, Piedmont of North Carolina, 2002

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
<i>Million board feet</i>									
Softwood									
Longleaf pine	2.8	1.9	0.9	—	—	—	—	—	—
Shortleaf pine	2,243.6	500.8	643.9	541.6	229.2	218.3	46.9	62.9	—
Loblolly pine	5,938.1	1,096.9	1,088.5	1,098.7	947.8	522.1	478.7	649.6	55.7
Virginia pine	2,435.1	799.6	822.7	512.3	208.1	56.7	—	35.6	—
Pitch pine	131.0	2.9	34.5	16.8	19.3	17.4	—	40.1	—
Table Mountain pine	30.8	12.5	13.9	4.4	—	—	—	—	—
Eastern white pine	199.1	14.3	29.6	26.4	12.3	13.8	44.1	58.6	—
Eastern hemlock	18.8	1.9	4.0	2.6	—	—	10.3	—	—
Redcedars	145.9	49.0	52.9	20.1	23.9	—	—	—	—
Total softwoods	11,145.2	2,479.8	2,691.0	2,223.0	1,440.5	828.3	580.1	846.8	55.7
Hardwood									
Select white oaks	3,624.2	—	346.8	521.4	746.6	562.0	470.3	919.7	57.5
Select red oaks	1,169.1	—	64.8	132.8	151.2	170.8	146.4	341.7	161.4
Other white oaks	868.9	—	191.5	167.7	164.7	114.6	62.3	136.9	31.2
Other red oaks	2,744.9	—	306.5	384.3	390.6	285.1	361.8	642.1	374.5
Hickory	1,183.0	—	233.3	279.3	186.9	244.7	108.5	130.3	—
Hard maple	26.4	—	6.0	3.3	17.1	—	—	—	—
Soft maple	1,294.4	—	218.3	210.8	216.3	226.7	161.4	233.7	27.1
Beech	371.3	—	30.2	48.2	80.8	43.5	37.3	77.6	53.8
Sweetgum	2,865.1	—	416.8	595.3	502.0	416.1	309.3	523.1	102.4
Tupelo and blackgum	196.5	—	35.2	50.8	5.6	17.8	—	46.6	40.5
Ash	432.0	—	84.0	72.4	56.2	68.5	133.3	17.5	—
Yellow-poplar	6,704.9	—	630.6	912.7	949.1	887.4	1,048.9	1,793.4	482.8
Bay and magnolia	5.5	—	—	—	5.5	—	—	—	—
Black cherry	45.7	—	18.4	10.0	17.2	—	—	—	—
Black walnut	92.8	—	23.9	24.2	16.4	12.1	7.7	8.5	—
Sycamore	320.4	—	22.7	42.7	28.5	26.1	76.3	124.2	—
Black locust	37.2	—	10.2	9.8	17.1	—	—	—	—
Elm	216.3	—	62.4	41.0	22.6	38.4	8.7	13.2	30.1
Other Eastern hardwoods	419.1	—	79.6	53.2	65.7	61.0	81.6	78.0	—
Total hardwoods	22,617.7	—	2,781.2	3,559.9	3,640.2	3,174.9	3,013.8	5,086.4	1,361.3
All species	33,763.0	2,479.8	5,472.2	5,782.9	5,080.8	4,003.2	3,593.9	5,933.2	1,417.0

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of >0.0 but <0.05 for the cell.

Table 23—Volume of sawtimber on timberland by species, size class, and tree grade, Piedmont of North Carolina, 2002

Species	All size classes						Trees < 15.0 inches d.b.h.					
	All grades	Tree grade					All grades	Tree grade				
		1	2	3	4	5		1	2	3	4	5
<i>Million board feet</i>												
Softwood												
Longleaf pine	2.8	2.3	—	0.5	—	—	—	—	—	—	—	—
Shortleaf pine	2,243.6	1,061.7	438.1	742.4	—	1.3	557.3	310.1	52.6	194.6	—	—
Loblolly pine	5,938.1	3,016.6	872.8	2,048.7	—	—	2,654.0	1,857.9	332.5	463.6	—	—
Virginia pine	2,435.1	174.6	150.2	2,091.1	—	19.3	300.4	40.6	21.8	238.0	—	—
Pitch pine	131.0	11.4	40.1	79.5	—	—	76.7	11.4	40.1	25.2	—	—
Table Mountain pine	30.8	2.7	—	28.1	—	—	—	—	—	—	—	—
Eastern white pine	199.1	75.8	63.7	32.7	26.9	—	128.9	75.8	18.4	17.8	16.9	—
Eastern hemlock	18.8	13.3	1.8	3.7	—	—	10.3	10.3	—	—	—	—
Redcedars	145.9	3.0	15.7	127.3	—	—	23.9	—	—	23.9	—	—
Total softwoods	11,145.2	4,361.5	1,582.3	5,153.9	26.9	20.6	3,751.4	2,306.2	465.2	963.1	16.9	—
Hardwood												
Select white oaks	3,624.2	1,049.5	1,056.4	984.5	327.1	206.7	2,756.0	1,049.5	870.8	495.9	144.5	195.2
Select red oaks	1,169.1	463.8	290.4	233.3	147.5	34.1	971.5	463.8	258.3	119.0	96.7	33.7
Other white oaks	868.9	144.1	179.1	285.5	219.5	40.7	509.7	144.1	117.7	96.2	128.0	23.8
Other red oaks	2,744.9	618.6	728.1	820.2	462.3	115.7	2,054.1	618.6	622.0	444.5	264.7	104.3
Hickory	1,183.0	168.8	224.5	473.0	282.1	34.6	670.4	168.8	125.3	209.0	139.5	27.8
Hard maple	26.4	—	—	23.9	—	2.5	17.1	—	—	17.1	—	—
Soft maple	1,294.4	132.8	177.4	399.7	439.3	145.2	865.2	132.8	137.3	196.6	274.7	123.9
Beech	371.3	—	97.6	84.7	149.2	39.8	292.9	—	92.8	60.2	100.2	39.8
Sweetgum	2,865.1	771.1	728.3	860.9	324.8	180.0	1,853.0	771.1	453.9	311.7	186.3	129.9
Tupelo and blackgum	196.5	63.4	40.7	53.7	10.1	28.5	110.6	63.4	14.6	8.1	—	24.4
Ash	432.0	77.7	158.8	131.2	16.4	48.0	275.7	77.7	121.2	44.6	—	32.2
Yellow-poplar	6,704.9	2,450.7	1,690.0	1,361.1	845.0	358.1	5,161.6	2,450.7	1,235.5	651.2	520.6	303.6
Bay and magnolia	5.5	—	—	5.5	—	—	5.5	—	—	5.5	—	—
Black cherry	45.7	—	11.0	25.4	1.4	7.8	17.2	—	4.4	6.7	—	6.2
Black walnut	92.8	12.0	15.9	50.4	2.7	11.8	44.7	12.0	4.7	16.2	—	11.8
Sycamore	320.4	162.9	67.8	68.5	3.2	18.0	255.0	162.9	53.4	28.0	—	10.7
Black locust	37.2	—	12.7	8.8	15.7	—	17.1	—	6.0	2.7	8.4	—
Elm	216.3	44.3	20.3	99.6	47.7	4.4	113.0	44.3	12.4	30.1	21.8	4.4
Other Eastern hardwoods	419.1	63.6	84.0	197.7	48.5	25.3	286.3	63.6	77.9	92.3	30.4	22.1
Total hardwoods	22,617.7	6,223.2	5,583.2	6,167.8	3,342.4	1,301.1	16,276.6	6,223.2	4,208.1	2,835.5	1,915.8	1,093.9
All species	33,763.0	10,584.7	7,165.5	11,321.7	3,369.3	1,321.7	20,028.1	8,529.4	4,673.3	3,798.6	1,932.7	1,093.9

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of >0.0 but <0.05 for the cell.

Table 24—Volume of growing stock on timberland by county and species group, Piedmont of North Carolina, 2002

County	All species	Softwoods			Hardwoods		
		All softwood	Yellow pine	Other softwood	All hardwood	Soft hardwood	Hard hardwood
<i>Million cubic feet</i>							
Alamance	242.0	70.8	68.5	2.3	171.2	72.5	98.7
Alexander	153.5	38.1	37.9	0.2	115.4	55.4	60.0
Anson	372.2	186.8	182.7	4.0	185.4	106.5	79.0
Cabarrus	184.8	49.3	45.1	4.2	135.5	75.9	59.7
Caswell	366.1	101.5	99.3	2.1	264.7	136.4	128.3
Catawba	216.4	53.6	53.6	—	162.8	62.5	100.4
Chatham	439.2	210.0	206.5	3.5	229.2	153.7	75.5
Cleveland	200.7	58.9	58.4	0.5	141.8	77.0	64.8
Davidson	387.8	139.3	133.2	6.1	248.5	155.4	93.1
Davie	161.5	24.7	23.2	1.5	136.8	77.0	59.8
Durham	193.8	87.8	87.7	0.1	106.0	66.7	39.3
Forsyth	203.0	46.8	45.7	1.1	156.2	81.6	74.6
Franklin	343.9	181.8	181.8	—	162.1	96.9	65.2
Gaston	230.3	75.4	74.6	0.8	155.0	102.1	52.8
Granville	293.8	168.3	165.5	2.8	125.6	83.0	42.5
Guilford	457.4	108.6	105.8	2.7	348.8	205.4	143.4
Iredell	259.6	29.9	28.5	1.3	229.7	152.1	77.6
Lincoln	164.3	36.9	36.7	0.3	127.3	63.8	63.5
Mecklenburg	161.2	42.0	35.7	6.2	119.2	63.8	55.4
Montgomery	366.9	189.1	187.7	1.5	177.8	79.5	98.3
Orange	244.6	96.2	92.1	4.1	148.3	105.5	42.9
Person	226.9	59.5	59.0	0.5	167.4	91.4	76.0
Polk	182.3	50.7	46.6	4.0	131.6	43.0	88.6
Randolph	591.1	105.9	100.3	5.5	485.2	228.3	256.9
Rockingham	446.6	152.4	152.0	0.4	294.2	168.4	125.8
Rowan	322.4	101.0	91.2	9.8	221.4	128.0	93.4
Rutherford	395.4	136.6	135.5	1.2	258.8	132.1	126.7
Stanly	155.3	66.1	63.7	2.5	89.2	40.5	48.6
Stokes	369.5	98.1	98.1	—	271.4	154.5	116.9
Surry	381.3	107.3	106.7	0.6	274.0	119.0	155.1
Union	217.0	33.4	32.1	1.3	183.5	88.7	94.8
Vance	165.3	72.7	72.6	0.1	92.6	56.4	36.2
Wake	326.1	129.5	129.4	0.1	196.6	119.5	77.1
Warren	244.5	124.2	123.9	0.3	120.3	89.2	31.1
Yadkin	134.8	21.9	21.8	0.1	112.8	73.5	39.3
Total	9,801.4	3,255.0	3,183.1	71.9	6,546.4	3,605.2	2,941.2

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of >0.0 but <0.05 for the cell.

Table 25—Volume of live trees on timberland by county and species group, Piedmont of North Carolina, 2002

County	All species	Softwoods			Hardwoods		
		All softwood	Yellow pine	Other softwood	All hardwood	Soft hardwood	Hard hardwood
<i>Million cubic feet</i>							
Alamance	268.6	72.9	70.3	2.6	195.7	89.8	106.0
Alexander	165.7	39.2	39.0	0.3	126.4	60.2	66.3
Anson	388.7	188.2	183.3	4.9	200.5	115.8	84.7
Cabarrus	197.0	51.2	45.6	5.6	145.8	83.5	62.3
Caswell	394.1	103.2	100.6	2.6	290.9	154.8	136.1
Catawba	231.1	54.2	54.1	0.1	176.8	68.1	108.7
Chatham	476.2	214.4	209.3	5.0	261.8	167.4	94.4
Cleveland	218.8	63.0	61.9	1.1	155.8	82.9	72.9
Davidson	439.7	144.8	138.1	6.7	294.9	181.9	113.0
Davie	172.2	25.3	23.8	1.5	146.9	83.5	63.4
Durham	209.7	93.4	93.3	0.1	116.3	75.5	40.8
Forsyth	229.2	48.5	47.0	1.5	180.7	93.5	87.1
Franklin	362.5	184.0	184.0	—	178.5	108.9	69.6
Gaston	246.0	75.6	74.6	1.0	170.4	112.0	58.4
Granville	320.9	171.2	168.3	3.0	149.7	96.7	53.0
Guilford	484.6	112.9	108.1	4.7	371.7	220.4	151.3
Iredell	286.7	31.8	30.0	1.8	254.9	163.2	91.7
Lincoln	169.8	40.3	40.0	0.3	129.5	64.8	64.8
Mecklenburg	176.1	43.7	37.4	6.3	132.4	70.5	62.0
Montgomery	393.6	191.0	189.3	1.7	202.6	93.0	109.6
Orange	279.0	105.0	100.5	4.5	173.9	121.1	52.9
Person	246.0	63.6	62.9	0.7	182.4	101.8	80.6
Polk	204.8	51.3	47.3	4.0	153.5	52.3	101.2
Randolph	631.8	107.2	100.7	6.5	524.6	249.4	275.2
Rockingham	476.7	154.7	154.1	0.6	322.0	184.8	137.2
Rowan	329.9	101.8	91.3	10.5	228.1	131.6	96.5
Rutherford	421.2	138.7	137.5	1.3	282.5	143.5	139.0
Stanly	164.4	67.6	64.6	3.1	96.8	43.7	53.0
Stokes	399.8	103.7	103.7	—	296.1	167.9	128.2
Surry	409.5	109.3	108.7	0.6	300.2	128.7	171.6
Union	243.9	35.1	32.4	2.7	208.8	107.0	101.8
Vance	173.3	73.2	73.1	0.1	100.1	61.7	38.3
Wake	345.1	132.8	132.6	0.1	212.3	130.3	82.0
Warren	264.3	126.3	126.0	0.3	138.1	103.1	34.9
Yadkin	156.0	27.8	25.7	2.1	128.2	81.6	46.6
Total	10,576.8	3,346.9	3,259.0	87.8	7,229.9	3,994.8	3,235.1

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

Table 26—Volume of sawtimber on timberland by county and species group, Piedmont of North Carolina, 2002

County	All species	Softwoods			Hardwoods		
		All softwood	Yellow pine	Other softwood	All hardwood	Soft hardwood	Hard hardwood
<i>Million board feet</i>							
Alamance	893.6	261.1	258.0	3.1	632.5	243.2	389.3
Alexander	479.6	130.8	129.9	0.8	348.9	181.7	167.2
Anson	1,237.4	649.3	634.6	14.7	588.2	323.0	265.1
Cabarrus	595.3	156.2	144.7	11.5	439.1	263.1	176.0
Caswell	1,230.2	298.7	297.5	1.2	931.5	470.8	460.6
Catawba	814.2	198.9	198.9	—	615.2	224.1	391.2
Chatham	1,424.4	669.8	663.0	6.9	754.6	502.0	252.6
Cleveland	715.5	151.6	150.2	1.3	563.9	344.9	219.0
Davidson	1,317.0	380.2	371.5	8.7	936.8	598.6	338.2
Davie	528.6	79.3	74.5	4.9	449.2	232.2	217.0
Durham	788.6	396.9	396.9	—	391.7	266.2	125.5
Forsyth	756.0	146.2	145.3	0.8	609.9	304.1	305.7
Franklin	1,164.2	567.0	567.0	—	597.2	358.0	239.2
Gaston	869.5	301.3	301.3	—	568.2	381.5	186.6
Granville	1,005.0	631.8	630.5	1.3	373.2	250.4	122.7
Guilford	1,723.6	345.3	341.9	3.4	1,378.2	797.6	580.6
Iredell	940.8	110.2	108.6	1.6	830.6	569.9	260.7
Lincoln	656.1	130.9	130.9	—	525.2	287.7	237.5
Mecklenburg	516.2	145.6	132.9	12.7	370.7	201.3	169.3
Montgomery	1,106.7	586.3	581.7	4.6	520.4	219.1	301.3
Orange	966.5	441.2	430.7	10.5	525.3	385.1	140.2
Person	707.3	216.8	216.8	—	490.5	250.7	239.8
Polk	681.8	201.4	186.0	15.4	480.4	152.5	327.9
Randolph	2,044.8	369.8	356.4	13.5	1,674.9	714.7	960.2
Rockingham	1,385.4	460.5	460.5	—	924.9	526.4	398.5
Rowan	1,277.4	414.8	381.6	33.2	862.6	510.8	351.8
Rutherford	1,222.8	389.0	387.7	1.4	833.8	484.6	349.2
Stanly	496.3	189.3	181.2	8.1	307.0	132.4	174.6
Stokes	1,088.5	237.5	237.5	—	851.0	478.6	372.4
Surry	1,279.0	390.3	387.7	2.6	888.7	368.6	520.1
Union	701.1	116.0	113.5	2.5	585.1	249.3	335.9
Vance	603.5	286.5	286.5	—	317.0	171.5	145.6
Wake	1,256.3	618.3	618.3	—	638.0	400.2	237.8
Warren	746.6	413.3	413.3	—	333.3	269.6	63.7
Yadkin	543.3	63.2	63.2	—	480.2	332.1	148.0
Total	33,763.0	11,145.2	10,980.5	164.8	22,617.7	12,446.5	10,171.3

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

Table 27—Volume of timber on timberland by class of timber and species group, Piedmont of North Carolina, 2002

Class of timber	All species	Softwoods			Hardwoods		
		All softwood	Yellow pine	Other softwood	All hardwood	Soft hardwood	Hard hardwood
<i>Million cubic feet</i>							
Sawtimber trees							
Saw-log portion	6,251.4	2,111.5	2,080.5	31.0	4,139.9	2,212.7	1,927.1
Upper-stem portion ^a	887.7	241.2	236.8	4.4	646.5	338.7	307.8
Total	7,139.1	2,352.7	2,317.3	35.4	4,786.4	2,551.4	2,235.0
Poletimber trees							
	2,662.3	902.3	865.8	36.5	1,760.0	1,053.8	706.2
All growing-stock trees	9,801.4	3,255.0	3,183.1	71.9	6,546.4	3,605.2	2,941.2
Rough trees							
Sawtimber size	367.5	58.0	50.1	7.9	309.5	169.1	140.4
Poletimber size	366.9	30.3	22.2	8.0	336.7	199.4	137.2
Total	734.4	88.3	72.4	15.9	646.1	368.5	277.6
Rotten trees							
Sawtimber size	34.5	3.6	3.6	—	30.9	17.7	13.2
Poletimber size	6.5	0.0	0.0	—	6.5	3.4	3.1
Total	41.0	3.6	3.6	—	37.4	21.1	16.3
Salvable dead trees							
Sawtimber size	42.9	26.3	26.3	—	16.6	6.6	9.9
Poletimber size	14.8	10.4	9.2	1.2	4.4	2.7	1.7
Total	57.7	36.7	35.5	1.2	21.0	9.3	11.7
All classes	10,634.4	3,383.6	3,294.6	89.0	7,250.9	4,004.1	3,246.8

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of >0.0 but <0.05 for the cell.

^a Includes cull sections in the saw-log portion.

Table 28—Volume of live and growing-stock trees on timberland by ownership class and species group, Piedmont of North Carolina, 2002

Ownership class	All species	Softwoods			Hardwoods		
		All softwood	Yellow pine	Other softwood	All hardwood	Soft hardwood	Hard hardwood
Live trees (million cubic feet)							
National forest	88.7	31.9	31.8	0.1	56.9	17.9	39.0
Other public	682.6	211.0	203.5	7.5	471.6	308.6	163.0
Forest industry	166.8	140.2	139.1	1.2	26.6	16.1	10.5
Nonindustrial private	9,638.6	2,963.8	2,884.7	79.1	6,674.8	3,652.3	3,022.5
All classes	10,576.8	3,346.9	3,259.0	87.8	7,229.9	3,994.8	3,235.1
Growing-stock trees (million cubic feet)							
National forest	83.9	31.7	31.6	0.1	52.2	16.6	35.5
Other public	649.6	207.2	199.9	7.3	442.4	289.0	153.4
Forest industry	165.1	139.3	138.1	1.2	25.8	15.6	10.2
Nonindustrial private	8,902.9	2,876.8	2,813.4	63.4	6,026.1	3,284.0	2,742.1
All classes	9,801.4	3,255.0	3,183.1	71.9	6,546.4	3,605.2	2,941.2

Numbers in rows and columns may not sum to totals due to rounding.

Table 29—Volume of sawtimber on timberland by ownership class, species group, and size class, Piedmont of North Carolina, 2002

Ownership class	All species	Softwoods			Hardwoods		
		All softwood	Yellow pine	Other softwood	All hardwood	Soft hardwood	Hard hardwood
All size classes (million board feet)							
National forest	286.4	120.2	120.2	—	166.2	44.5	121.7
Other public	2,556.2	939.2	918.4	20.8	1,617.0	1,048.6	568.4
Forest industry	388.8	325.2	319.7	5.5	63.6	41.9	21.7
Nonindustrial private	30,531.6	9,760.7	9,622.3	138.4	20,770.9	11,311.4	9,459.5
All classes	33,763.0	11,145.2	10,980.5	164.8	22,617.7	12,446.5	10,171.3
Trees ≥ 15.0 inches d.b.h. (million board feet)							
National forest	142.8	32.2	32.2	—	110.6	28.3	82.2
Other public	1,671.9	517.7	517.7	—	1,154.2	756.1	398.0
Forest industry	156.7	122.7	122.7	—	34.0	17.1	16.8
Nonindustrial private	18,056.8	3,078.8	3,044.6	34.2	14,977.9	8,128.0	6,850.0
All classes	20,028.1	3,751.4	3,717.2	34.2	16,276.6	8,929.6	7,347.0

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of >0.0 but <0.05 for the cell.

Table 30—Volume of growing stock on timberland by forest-type group, stand origin, and species group, Piedmont of North Carolina, 2002

Forest-type group and stand origin	All species	Softwoods			Hardwoods		
		All softwood	Yellow pine	Other softwood	All hardwood	Soft hardwood	Hard hardwood
<i>Million cubic feet</i>							
Softwood types							
White-red-jack pine							
Planted	4.3	4.3	4.3	—	—	—	—
Natural	11.2	5.6	1.6	4.0	5.6	—	5.6
Total	15.5	9.9	5.9	4.0	5.6	—	5.6
Loblolly-shortleaf pine							
Planted	758.9	705.8	705.5	0.3	53.1	40.8	12.3
Natural	1,732.7	1,368.8	1,348.0	20.9	363.9	245.2	118.7
Total	2,491.6	2,074.6	2,053.5	21.1	417.0	286.0	131.0
Total softwoods	2,507.1	2,084.6	2,059.4	25.2	422.6	286.0	136.6
Hardwood types							
Oak-pine							
Planted	76.1	50.0	48.4	1.5	26.1	19.3	6.8
Natural	1,470.0	727.0	707.7	19.2	743.0	395.5	347.5
Total	1,546.1	776.9	756.2	20.8	769.1	414.8	354.3
Oak-hickory	5,263.7	377.7	353.1	24.6	4,886.0	2,530.9	2,355.0
Oak-gum-cypress	226.1	15.4	14.4	1.0	210.7	143.9	66.8
Elm-ash-cottonwood	258.4	0.4	—	0.4	258.0	229.4	28.5
Total hardwoods	7,294.2	1,170.4	1,123.7	46.7	6,123.8	3,319.2	2,804.6
Nonstocked	—	—	—	—	—	—	—
All groups	9,801.4	3,255.0	3,183.1	71.9	6,546.4	3,605.2	2,941.2

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of >0.0 but <0.05 for the cell.

Table 31—Average basal area of live trees per acre on timberland by ownership class, species group, and d.b.h., Piedmont of North Carolina, 2002

Ownership class and species group	All tree sizes	D.b.h. (inches)			
		1.0–4.9	5.0–10.9	11.0–14.9	≥15.0
<i>Square feet/acre</i>					
National forest					
Softwood	36.8	4.0	18.7	10.8	3.2
Hardwood	82.9	20.2	25.4	15.6	21.7
Total	119.7	24.2	44.2	26.4	24.9
Other public					
Softwood	42.3	2.5	16.1	11.7	12.0
Hardwood	85.8	12.0	25.6	19.3	29.0
Total	128.1	14.5	41.7	31.0	41.0
Forest industry					
Softwood	57.4	8.3	36.5	5.2	7.4
Hardwood	24.8	9.5	7.3	3.6	4.4
Total	82.2	17.8	43.9	8.7	11.8
Nonindustrial private					
Softwood	32.6	5.2	15.8	8.3	3.4
Hardwood	74.3	14.7	23.2	14.1	22.3
Total	106.9	19.9	39.0	22.3	25.7
All classes					
Softwood	33.5	5.1	16.2	8.4	3.8
Hardwood	74.2	14.7	23.1	14.2	22.3
Total	107.8	19.7	39.3	22.6	26.2

Numbers in rows and columns may not sum to totals due to rounding.

Table 32—Average net annual growth of growing stock on timberland by county and species group, Piedmont of North Carolina, 1990–2001

County	All species	Softwoods			Hardwoods		
		All softwood	Yellow pine	Other softwood	All hardwood	Soft hardwood	Hard hardwood
<i>Million cubic feet</i>							
Alamance	8.2	3.1	3.1	—	5.1	2.4	2.7
Alexander	2.6	-2.4	-2.4	—	5.1	3.1	1.9
Anson	16.1	10.5	10.4	0.1	5.6	3.0	2.6
Cabarrus	5.3	1.8	1.6	0.2	3.5	1.9	1.6
Caswell	11.5	1.7	1.7	0.0	9.8	5.8	4.0
Catawba	10.2	3.7	3.7	—	6.5	3.3	3.1
Chatham	24.0	15.9	15.5	0.4	8.0	6.0	2.0
Cleveland	6.0	1.5	1.5	-0.0	4.6	2.3	2.3
Davidson	13.3	4.9	4.5	0.4	8.4	5.2	3.2
Davie	6.0	1.4	1.4	0.1	4.6	2.3	2.2
Durham	8.0	3.8	3.8	0.0	4.2	2.7	1.5
Forsyth	5.5	-0.7	-0.7	-0.0	6.3	4.1	2.2
Franklin	19.0	14.4	14.5	-0.1	4.7	2.0	2.6
Gaston	5.4	1.6	1.6	0.0	3.9	2.1	1.8
Granville	22.0	9.9	9.8	0.0	12.1	9.6	2.5
Guilford	11.9	1.3	1.1	0.2	10.5	7.9	2.6
Iredell	11.6	-0.1	-0.2	0.1	11.8	7.2	4.6
Lincoln	8.9	3.0	3.0	0.0	5.9	2.4	3.5
Mecklenburg	4.8	1.2	0.6	0.6	3.7	2.7	0.9
Montgomery	12.0	6.8	6.7	0.1	5.2	2.4	2.8
Orange	11.6	4.0	4.0	0.0	7.6	5.2	2.4
Person	11.7	4.7	4.6	0.1	7.1	3.9	3.2
Polk	5.4	2.3	2.3	—	3.1	1.4	1.7
Randolph	13.6	2.1	2.0	0.1	11.5	5.8	5.7
Rockingham	16.9	6.9	6.9	—	10.1	6.3	3.8
Rowan	13.7	1.5	1.2	0.3	12.2	7.1	5.1
Rutherford	8.5	2.0	2.0	—	6.5	2.9	3.5
Stanly	5.4	3.6	3.5	0.0	1.8	0.8	1.0
Stokes	15.4	3.2	3.2	—	12.2	8.2	4.0
Surry	10.9	1.0	1.0	0.0	9.9	5.2	4.7
Union	4.8	-0.4	-0.3	-0.0	5.1	1.9	3.2
Vance	7.2	4.4	4.4	—	2.8	2.2	0.6
Wake	10.0	5.8	5.8	—	4.3	2.5	1.8
Warren	14.8	7.0	6.9	0.0	7.8	5.4	2.4
Yadkin	5.9	1.9	1.8	0.2	4.0	2.5	1.6
Total	368.3	133.2	130.4	2.7	235.1	139.5	95.6

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of >0.0 but <0.05 for the cell.

Table 33—Average net annual growth of live trees on timberland by county and species group, Piedmont of North Carolina, 1990–2001

County	All species	Softwoods			Hardwoods		
		All softwood	Yellow pine	Other softwood	All hardwood	Soft hardwood	Hard hardwood
<i>Million cubic feet</i>							
Alamance	8.9	3.1	3.1	—	5.8	2.8	3.0
Alexander	3.3	-2.3	-2.3	—	5.6	3.1	2.5
Anson	16.4	10.5	10.4	0.1	5.9	3.2	2.7
Cabarrus	5.8	1.9	1.6	0.3	3.9	2.3	1.7
Caswell	12.0	1.6	1.6	0.0	10.4	6.4	3.9
Catawba	11.8	4.6	4.6	0.0	7.2	3.9	3.3
Chatham	25.5	16.1	15.7	0.4	9.5	7.2	2.2
Cleveland	6.6	1.7	1.8	-0.0	4.9	2.3	2.6
Davidson	14.6	5.0	4.5	0.4	9.6	6.2	3.5
Davie	6.4	1.5	1.4	0.1	4.9	2.5	2.4
Durham	7.9	4.0	4.0	0.0	3.9	2.5	1.4
Forsyth	6.2	-0.7	-0.7	-0.0	6.9	4.2	2.7
Franklin	19.4	14.5	14.5	-0.1	4.9	2.4	2.5
Gaston	5.9	1.5	1.5	0.0	4.4	2.5	1.9
Granville	22.7	10.0	10.0	0.1	12.7	9.9	2.8
Guilford	12.2	1.4	1.2	0.2	10.8	7.9	3.0
Iredell	12.7	-0.1	-0.2	0.1	12.8	7.8	5.1
Lincoln	9.0	3.0	3.0	0.0	5.9	2.3	3.7
Mecklenburg	4.9	1.2	0.7	0.5	3.6	2.9	0.8
Montgomery	13.0	6.9	6.9	0.1	6.1	2.7	3.4
Orange	13.2	4.2	4.1	0.0	9.0	6.4	2.6
Person	11.8	4.7	4.6	0.1	7.1	3.9	3.2
Polk	5.5	2.3	2.3	—	3.2	1.5	1.7
Randolph	14.8	1.9	1.8	0.1	12.9	7.2	5.8
Rockingham	17.6	6.9	6.9	—	10.7	6.6	4.2
Rowan	13.4	1.5	1.2	0.3	11.8	6.8	5.0
Rutherford	8.7	2.0	2.0	—	6.6	2.8	3.8
Stanly	5.8	3.6	3.5	0.0	2.3	1.2	1.1
Stokes	16.8	3.4	3.4	—	13.4	8.9	4.5
Surry	11.8	1.0	1.0	0.0	10.8	5.5	5.3
Union	5.4	-0.3	-0.3	0.1	5.7	2.2	3.5
Vance	7.6	4.4	4.4	—	3.2	2.3	0.9
Wake	10.3	5.8	5.8	—	4.4	2.6	1.8
Warren	15.0	7.0	6.9	0.0	8.1	5.3	2.8
Yadkin	8.1	2.8	1.9	0.9	5.3	3.0	2.3
Total	390.9	136.7	132.9	3.8	254.3	150.8	103.4

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of >0.0 but <0.05 for the cell.

Table 34—Average net annual growth of sawtimber on timberland by county and species group, Piedmont of North Carolina, 1990–2001

County	All species	Softwoods			Hardwoods		
		All softwood	Yellow pine	Other softwood	All hardwood	Soft hardwood	Hard hardwood
<i>Million board feet</i>							
Alamance	26.2	8.3	8.3	—	17.9	8.7	9.3
Alexander	15.0	-2.2	-2.2	—	17.2	10.2	7.0
Anson	69.2	52.5	52.5	—	16.7	8.2	8.5
Cabarrus	22.6	9.5	8.7	0.9	13.0	6.0	7.0
Caswell	57.9	11.6	11.5	0.1	46.2	26.4	19.8
Catawba	27.0	8.6	8.6	—	18.4	9.2	9.3
Chatham	86.4	63.8	62.8	1.0	22.6	16.2	6.4
Cleveland	27.7	5.6	5.4	0.2	22.1	12.4	9.7
Davidson	51.5	17.0	17.0	—	34.5	22.2	12.2
Davie	27.4	7.0	6.8	0.2	20.3	13.0	7.4
Durham	40.3	20.3	20.2	0.1	20.0	12.4	7.6
Forsyth	39.0	7.2	7.2	—	31.8	20.7	11.0
Franklin	61.5	44.9	44.9	—	16.5	5.9	10.6
Gaston	26.2	9.4	9.4	—	16.8	11.6	5.2
Granville	69.6	38.5	38.5	—	31.1	22.9	8.2
Guilford	56.4	6.4	6.4	—	50.0	39.3	10.7
Iredell	36.6	-1.3	-1.3	—	37.9	23.7	14.2
Lincoln	38.4	13.5	13.5	—	24.8	12.7	12.1
Mecklenburg	19.2	3.3	0.8	2.5	15.9	12.1	3.8
Montgomery	51.0	29.6	29.6	—	21.4	9.6	11.8
Orange	53.6	24.4	24.4	—	29.2	21.2	8.1
Person	42.5	23.2	22.9	0.2	19.3	10.5	8.8
Polk	17.5	6.2	6.2	—	11.3	5.6	5.6
Randolph	52.9	6.1	5.4	0.7	46.8	20.2	26.6
Rockingham	72.0	34.7	34.7	—	37.3	22.0	15.3
Rowan	69.2	11.5	10.8	0.7	57.7	30.2	27.5
Rutherford	24.2	-2.9	-2.9	—	27.2	16.3	10.8
Stanly	10.7	4.5	4.2	0.3	6.2	1.3	4.9
Stokes	57.5	9.8	9.8	—	47.8	30.2	17.6
Surry	63.2	6.9	6.8	0.1	56.3	27.1	29.2
Union	22.0	0.0	0.0	—	22.0	4.6	17.4
Vance	29.5	17.1	17.1	—	12.5	10.2	2.2
Wake	50.9	23.7	23.7	—	27.2	15.6	11.6
Warren	57.7	27.5	27.5	—	30.2	20.8	9.3
Yadkin	33.0	9.2	9.2	—	23.8	15.6	8.2
Total	1,505.5	555.7	548.6	7.1	949.8	555.0	394.8

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of >0.0 but <0.05 for the cell.

Table 35—Average annual removals of growing stock on timberland by county and species group, Piedmont of North Carolina, 1990–2001

County	All species	Softwoods			Hardwoods		
		All softwood	Yellow pine	Other softwood	All hardwood	Soft hardwood	Hard hardwood
<i>Million cubic feet</i>							
Alamance	4.1	0.2	0.2	—	4.0	2.6	1.4
Alexander	2.7	1.2	1.2	—	1.5	0.6	0.9
Anson	28.6	22.8	22.7	0.2	5.8	2.2	3.6
Cabarrus	7.1	5.6	5.6	—	1.5	0.6	0.9
Caswell	7.4	2.5	2.3	0.2	4.9	3.5	1.4
Catawba	7.6	4.0	4.0	—	3.6	1.6	2.0
Chatham	24.6	11.8	11.5	0.3	12.9	7.6	5.2
Cleveland	4.0	2.4	2.4	—	1.6	0.2	1.4
Davidson	2.0	0.8	0.8	—	1.3	0.8	0.4
Davie	2.5	2.0	1.7	0.3	0.5	0.2	0.4
Durham	13.6	10.1	10.0	0.1	3.4	1.5	2.0
Forsyth	2.8	2.0	2.0	—	0.8	0.8	—
Franklin	17.5	12.0	12.0	—	5.5	1.8	3.7
Gaston	8.1	5.0	4.9	0.1	3.2	2.2	0.9
Granville	20.8	11.0	10.9	0.1	9.9	5.2	4.7
Guilford	8.1	2.9	2.9	—	5.1	4.7	0.5
Iredell	6.4	0.4	0.4	—	6.1	2.4	3.7
Lincoln	5.1	2.8	2.7	0.1	2.3	0.7	1.6
Mecklenburg	14.1	5.3	5.2	0.1	8.8	6.9	1.9
Montgomery	10.9	5.5	5.5	—	5.3	2.6	2.7
Orange	17.9	8.3	8.3	—	9.5	7.0	2.5
Person	14.3	8.6	8.0	0.6	5.7	3.3	2.4
Polk	8.9	8.2	8.2	—	0.6	—	0.6
Randolph	6.0	1.6	1.6	—	4.4	1.3	3.1
Rockingham	14.8	12.5	12.5	—	2.3	0.4	1.9
Rowan	6.4	2.6	2.6	—	3.8	2.7	1.1
Rutherford	9.4	4.6	4.6	—	4.8	2.6	2.2
Stanly	4.6	3.4	3.4	—	1.2	0.1	1.1
Stokes	9.9	4.7	4.7	—	5.2	2.3	2.9
Surry	6.6	3.4	3.4	—	3.2	1.1	2.1
Union	3.2	1.0	1.0	—	2.2	0.4	1.8
Vance	8.6	4.9	4.9	—	3.7	2.3	1.4
Wake	25.6	14.0	14.0	—	11.6	8.6	3.0
Warren	23.6	10.7	10.7	—	12.9	7.8	5.1
Yadkin	5.1	1.0	1.0	—	4.1	0.6	3.5
Total	362.8	199.7	197.8	1.9	163.1	89.1	73.9

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of > 0.0 but < 0.05 for the cell.

Table 36—Average annual removals of live trees on timberland by county and species group, Piedmont of North Carolina, 1990–2001

County	All species	Softwoods			Hardwoods		
		All softwood	Yellow pine	Other softwood	All hardwood	Soft hardwood	Hard hardwood
<i>Million cubic feet</i>							
Alamance	4.3	0.2	0.2	—	4.2	2.6	1.6
Alexander	2.9	1.2	1.2	—	1.6	0.6	1.1
Anson	29.2	22.8	22.7	0.2	6.4	2.3	4.1
Cabarrus	7.3	5.6	5.6	—	1.7	0.7	1.0
Caswell	7.7	2.5	2.3	0.2	5.2	3.8	1.4
Catawba	8.2	4.2	4.2	—	4.0	1.9	2.1
Chatham	25.7	11.9	11.6	0.3	13.8	8.2	5.7
Cleveland	4.2	2.4	2.4	—	1.8	0.3	1.5
Davidson	2.1	0.8	0.8	—	1.3	0.8	0.5
Davie	2.6	2.0	1.7	0.3	0.6	0.2	0.5
Durham	14.1	10.1	10.0	0.1	3.9	1.6	2.3
Forsyth	2.9	2.0	2.0	—	0.9	0.8	0.1
Franklin	17.6	12.0	12.0	—	5.7	1.8	3.8
Gaston	8.3	5.1	5.0	0.1	3.2	2.3	1.0
Granville	21.2	11.1	11.0	0.1	10.1	5.4	4.8
Guilford	8.1	2.9	2.9	—	5.2	4.7	0.5
Iredell	6.6	0.4	0.4	—	6.2	2.5	3.7
Lincoln	5.1	2.8	2.7	0.1	2.3	0.7	1.6
Mecklenburg	14.9	5.3	5.2	0.1	9.7	7.7	2.0
Montgomery	11.5	5.5	5.5	—	6.0	3.1	2.9
Orange	18.0	8.3	8.3	—	9.7	7.1	2.6
Person	14.6	8.6	8.0	0.6	6.0	3.5	2.5
Polk	8.9	8.2	8.2	—	0.6	—	0.6
Randolph	6.2	1.6	1.6	—	4.5	1.3	3.2
Rockingham	15.2	12.5	12.5	—	2.7	0.5	2.2
Rowan	6.8	2.6	2.6	—	4.2	2.7	1.4
Rutherford	9.4	4.6	4.6	—	4.8	2.6	2.2
Stanly	5.1	3.4	3.4	—	1.7	0.3	1.3
Stokes	10.0	4.7	4.7	—	5.3	2.3	3.1
Surry	6.9	3.4	3.4	—	3.4	1.3	2.2
Union	3.7	1.0	1.0	—	2.6	0.6	2.1
Vance	8.9	4.9	4.9	—	4.0	2.4	1.5
Wake	27.2	14.0	14.0	—	13.2	9.3	3.9
Warren	24.1	10.7	10.7	—	13.4	7.9	5.6
Yadkin	5.4	1.0	1.0	—	4.5	0.6	3.8
Total	374.7	200.3	198.4	1.9	174.5	94.3	80.2

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of >0.0 but <0.05 for the cell.

Table 37—Average annual removals of sawtimber on timberland by county and species group, Piedmont of North Carolina, 1990–2001

County	All species	Softwoods			Hardwoods		
		All softwood	Yellow pine	Other softwood	All hardwood	Soft hardwood	Hard hardwood
<i>Million board feet</i>							
Alamance	16.2	0.6	0.6	—	15.6	9.6	6.0
Alexander	9.3	4.1	4.1	—	5.2	1.8	3.4
Anson	97.5	89.3	89.3	—	8.2	2.3	5.8
Cabarrus	24.6	20.6	20.6	—	4.0	1.4	2.5
Caswell	22.5	8.4	8.1	0.3	14.0	10.4	3.7
Catawba	18.7	7.2	7.2	—	11.4	5.9	5.6
Chatham	86.6	44.0	43.4	0.6	42.6	26.6	16.0
Cleveland	13.4	8.4	8.4	—	5.0	1.0	4.1
Davidson	4.0	0.4	0.4	—	3.7	2.7	0.9
Davie	10.0	7.1	6.3	0.8	2.9	1.1	1.8
Durham	46.9	35.0	34.4	0.6	11.9	3.2	8.7
Forsyth	11.7	9.2	9.2	—	2.4	2.4	—
Franklin	54.3	39.4	39.4	—	14.9	5.5	9.5
Gaston	30.6	18.8	18.8	—	11.8	7.7	4.0
Granville	73.1	44.4	44.4	—	28.8	15.6	13.1
Guilford	37.4	13.4	13.4	—	23.9	22.5	1.4
Iredell	15.0	1.6	1.6	—	13.3	5.7	7.7
Lincoln	16.7	9.3	9.3	—	7.4	2.0	5.4
Mecklenburg	40.0	11.7	11.7	—	28.3	22.6	5.7
Montgomery	37.9	24.6	24.6	—	13.3	4.9	8.4
Orange	80.3	43.2	43.2	—	37.1	27.8	9.3
Person	43.7	29.4	27.3	2.1	14.3	6.5	7.8
Polk	15.7	15.7	15.7	—	—	—	—
Randolph	18.9	6.1	6.1	—	12.8	1.7	11.1
Rockingham	34.7	28.4	28.4	—	6.3	0.5	5.8
Rowan	26.1	12.9	12.9	—	13.2	10.9	2.3
Rutherford	23.6	10.5	10.5	—	13.1	7.2	6.0
Stanly	8.2	5.1	5.1	—	3.1	—	3.1
Stokes	31.8	13.6	13.6	—	18.2	9.2	9.1
Surry	25.9	13.5	13.5	—	12.3	4.2	8.1
Union	7.1	1.9	1.9	—	5.2	0.7	4.5
Vance	31.0	16.7	16.7	—	14.3	11.1	3.2
Wake	97.7	54.7	54.7	—	43.0	35.8	7.2
Warren	81.5	42.0	42.0	—	39.5	23.3	16.2
Yadkin	19.2	3.1	3.1	—	16.1	2.3	13.8
Total	1,211.6	694.3	689.9	4.4	517.3	296.1	221.2

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of >0.0 but <0.05 for the cell.

Table 38—Average net annual growth and average annual removals of live trees, growing stock, and sawtimber on timberland by species, Piedmont of North Carolina, 1990–2001

Species	Live trees		Growing stock		Sawtimber	
	Net annual growth	Annual removals	Net annual growth	Annual removals	Net annual growth	Annual removals
	<i>Million cubic feet</i>				<i>Million board feet</i>	
Softwood						
Longleaf pine	0.2	0.2	0.2	0.2	1.0	—
Shortleaf pine	8.3	40.2	8.3	40.1	51.3	138.0
Loblolly pine	102.9	111.2	102.4	111.0	390.7	429.3
Virginia pine	21.1	46.1	19.2	45.8	100.8	119.1
Pitch pine	-1.2	—	-1.2	—	-3.7	—
Table Mountain pine	-0.1	—	-0.1	—	0.7	—
Eastern white pine	1.7	0.5	1.5	0.5	8.0	3.5
Eastern hemlock	0.0	—	0.0	—	0.1	—
Redcedars	3.7	1.9	2.7	1.9	7.0	4.4
Total softwoods	136.7	200.3	133.2	199.7	555.7	694.3
Hardwood						
Select white oaks	34.0	27.9	33.0	27.6	155.4	89.4
Select red oaks	12.0	5.9	12.0	5.9	46.7	16.5
Other white oaks	10.9	7.4	10.0	7.0	33.3	16.9
Other red oaks	25.9	22.7	24.7	21.7	111.8	69.9
Hickory	10.0	8.9	9.6	8.5	28.6	20.1
Yellow birch	0.0	0.1	0.0	0.1	—	—
Hard maple	1.2	0.1	0.7	0.1	0.5	—
Soft maple	23.8	15.9	18.6	13.6	39.4	31.2
Beech	4.1	2.0	3.6	2.0	15.0	6.2
Sweetgum	24.6	21.0	23.8	20.2	83.7	52.7
Tupelo and blackgum	2.6	2.0	2.7	1.9	6.0	3.7
Ash	6.4	3.8	5.3	3.3	21.5	6.5
Basswood	0.0	—	0.0	—	0.1	—
Yellow-poplar	85.1	45.8	82.5	45.3	393.2	191.1
Bay and magnolia	0.3	0.1	0.2	0.1	0.4	—
Black cherry	1.8	1.0	1.0	0.6	1.1	0.4
Black walnut	0.7	0.2	0.7	0.2	3.0	0.7
Sycamore	2.1	1.1	2.2	1.0	8.3	3.0
Black locust	-0.3	0.4	-0.4	0.2	-0.2	0.3
Elm	3.3	2.5	2.7	2.2	-0.0	4.3
Other Eastern hardwoods	5.9	5.6	2.0	1.6	1.9	4.3
Total hardwoods	254.3	174.5	235.1	163.1	949.8	517.3
All species	390.9	374.7	368.3	362.8	1,505.5	1,211.6

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of >0.0 but <0.05 for the cell.

Table 39—Average annual removals of growing stock on timberland by species and diameter class, Piedmont of North Carolina, 1990–2001

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
<i>Million cubic feet</i>											
Softwood											
Longleaf pine	0.2	—	0.2	—	—	—	—	—	—	—	—
Shortleaf pine	40.1	2.6	7.7	10.2	8.9	4.6	3.7	1.7	0.3	0.4	—
Loblolly pine	111.0	9.1	15.4	20.1	18.4	20.4	12.3	6.4	4.7	4.2	—
Virginia pine	45.8	7.3	9.6	13.3	9.5	3.9	1.9	0.4	0.1	—	—
Eastern white pine	0.5	—	—	—	—	—	—	—	0.2	0.4	—
Redcedars	1.9	0.3	0.6	0.4	0.3	0.3	—	—	—	—	—
Total softwoods	199.7	19.3	33.6	43.9	37.1	29.2	17.8	8.5	5.3	5.0	—
Hardwood											
Select white oaks	27.6	2.0	1.6	3.2	4.5	5.6	3.9	2.5	2.6	1.4	0.2
Select red oaks	5.9	0.3	1.2	0.6	0.1	1.1	1.1	0.4	0.5	0.5	—
Other white oaks	7.0	1.4	0.5	0.9	1.2	1.7	0.9	0.4	—	—	—
Other red oaks	21.7	1.9	1.7	2.7	2.2	4.0	2.4	2.4	1.7	2.1	0.6
Hickory	8.5	1.3	1.1	1.4	1.2	0.8	1.5	0.6	0.6	—	—
Yellow birch	0.1	0.1	—	—	—	—	—	—	—	—	—
Hard maple	0.1	—	0.1	—	—	—	—	—	—	—	—
Soft maple	13.6	1.6	2.4	2.2	2.1	0.9	1.1	1.4	0.6	1.1	0.3
Beech	2.0	—	0.3	0.2	0.3	0.2	0.4	0.2	—	0.4	—
Sweetgum	20.2	2.5	2.9	3.7	2.6	2.4	2.6	1.0	0.9	1.5	0.2
Tupelo and blackgum	1.9	0.1	0.5	0.5	0.2	0.1	0.1	—	—	0.2	0.1
Ash	3.3	0.4	0.5	0.7	0.7	0.4	—	0.4	0.1	—	—
Yellow-poplar	45.3	2.2	2.3	3.4	6.0	6.2	6.1	5.7	4.3	7.7	1.4
Bay and magnolia	0.1	0.1	—	—	—	—	—	—	—	—	—
Black cherry	0.6	—	0.2	0.3	0.1	—	—	—	—	—	—
Black walnut	0.2	—	—	—	—	—	0.1	0.1	—	—	—
Sycamore	1.0	—	—	0.3	0.2	—	0.4	0.1	—	—	—
Black locust	0.2	0.1	—	—	0.1	—	—	—	—	—	—
Elm	2.2	0.5	0.2	0.3	0.5	0.1	0.2	0.1	—	0.2	—
Other Eastern hardwoods	1.6	0.2	0.2	0.2	0.2	—	0.5	—	—	0.3	—
Total hardwoods	163.1	14.7	16.0	20.5	22.1	23.6	21.3	15.4	11.5	15.4	2.7
All species	362.8	33.9	49.6	64.4	59.2	52.8	39.0	23.9	16.8	20.4	2.7

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of >0.0 but <0.05 for the cell.

Table 40—Average annual mortality of live trees, growing stock, and sawtimber on timberland by species, Piedmont of North Carolina, 1990–2001

Species	Live trees	Growing stock	Sawtimber
	<i>Million cubic feet</i>		<i>Million board feet</i>
Softwood			
Shortleaf pine	15.4	14.9	49.0
Loblolly pine	12.4	12.3	37.2
Virginia pine	32.7	32.5	78.2
Pitch pine	1.4	1.4	4.7
Table Mountain pine	0.4	0.3	0.5
Eastern white pine	0.6	0.6	1.5
Redcedars	0.6	0.5	—
Total softwoods	63.6	62.6	171.1
Hardwood			
Select white oaks	7.1	6.7	20.2
Select red oaks	3.2	2.9	9.4
Other white oaks	1.7	1.6	5.3
Other red oaks	11.8	11.0	41.0
Hickory	4.6	4.2	15.2
Hard maple	0.1	0.1	—
Soft maple	6.1	3.5	10.0
Beech	0.7	0.5	1.3
Sweetgum	5.4	4.6	11.0
Tupelo and blackgum	0.9	0.2	0.4
Ash	1.2	1.1	0.6
Yellow-poplar	7.6	7.3	25.5
Black cherry	1.0	0.5	—
Black walnut	0.2	0.2	0.4
Sycamore	1.2	0.9	2.4
Black locust	1.1	1.0	3.2
Elm	2.1	1.9	6.6
Other Eastern hardwoods	6.3	2.6	7.5
Total hardwoods	62.4	50.6	160.2
All species	126.0	113.2	331.3

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of >0.0 but <0.05 for the cell.

Table 41—Average net annual growth and average annual removals of growing stock on timberland by ownership class and species group, Piedmont of North Carolina, 1990–2001

Ownership class	All species	Softwoods			Hardwoods		
		All softwood	Yellow pine	Other softwood	All hardwood	Soft hardwood	Hard hardwood
Average net annual growth (million cubic feet)							
National forest	7.3	4.3	4.2	0.1	3.0	0.8	2.1
Other public	14.3	3.1	3.1	0.1	11.2	7.5	3.7
Forest industry	10.4	9.3	9.3	0.1	1.0	0.2	0.9
Nonindustrial private	336.3	116.4	113.9	2.5	219.9	131.1	88.9
All classes	368.3	133.2	130.4	2.7	235.1	139.5	95.6
Average annual removals (million cubic feet)							
National forest	0.8	0.1	0.1	—	0.7	0.2	0.6
Other public	3.5	3.2	3.2	—	0.3	0.2	0.1
Forest industry	10.2	7.9	7.7	0.2	2.3	0.4	1.9
Nonindustrial private	348.2	188.5	186.7	1.7	159.8	88.4	71.4
All classes	362.8	199.7	197.8	1.9	163.1	89.1	73.9

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of >0.0 but <0.05 for the cell.

Table 42—Average net annual growth and average annual removals of live trees on timberland by ownership class and species group, Piedmont of North Carolina, 1990–2001

Ownership class	All species	Softwoods			Hardwoods		
		All softwood	Yellow pine	Other softwood	All hardwood	Soft hardwood	Hard hardwood
Average net annual growth (million cubic feet)							
National forest	7.8	4.3	4.2	0.1	3.5	1.0	2.5
Other public	14.8	3.3	3.2	0.1	11.5	7.8	3.7
Forest industry	10.4	9.3	9.3	0.1	1.1	0.3	0.8
Nonindustrial private	357.9	119.8	116.2	3.5	238.1	141.7	96.5
All classes	390.9	136.7	132.9	3.8	254.3	150.8	103.4
Average annual removals (million cubic feet)							
National forest	0.9	0.1	0.1	—	0.8	0.2	0.7
Other public	3.7	3.2	3.2	—	0.5	0.4	0.1
Forest industry	10.3	7.9	7.7	0.2	2.4	0.5	1.9
Nonindustrial private	359.8	189.0	187.3	1.7	170.8	93.2	77.6
All classes	374.7	200.3	198.4	1.9	174.5	94.3	80.2

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of >0.0 but <0.05 for the cell.

Table 43—Average net annual growth and average annual removals of sawtimber on timberland by ownership class and species group, Piedmont of North Carolina, 1990–2001

Ownership class	All species	Softwoods			Hardwoods		
		All softwood	Yellow pine	Other softwood	All hardwood	Soft hardwood	Hard hardwood
Average net annual growth (million board feet)							
National forest	33.1	18.6	18.6	—	14.4	5.4	9.0
Other public	81.6	25.3	25.1	0.2	56.3	36.0	20.2
Forest industry	19.1	17.6	17.6	—	1.5	0.8	0.6
Nonindustrial private	1,371.8	494.1	487.2	6.9	877.7	512.7	365.0
All classes	1,505.5	555.7	548.6	7.1	949.8	555.0	394.8
Average annual removals (million board feet)							
National forest	3.5	0.6	0.6	—	2.9	0.5	2.4
Other public	9.3	9.3	9.3	—	—	—	—
Forest industry	20.1	16.3	16.3	—	3.8	1.8	2.0
Nonindustrial private	1,178.7	668.2	663.7	4.4	510.6	293.8	216.8
All classes	1,211.6	694.3	689.9	4.4	517.3	296.1	221.2

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of >0.0 but <0.05 for the cell.

Table 44—Average net annual growth of growing stock on timberland by forest-type group, stand origin, and species group, Piedmont of North Carolina, 1990–2001

Forest-type group and stand origin ^a	All species	Softwoods			Hardwoods		
		All softwood	Yellow pine	Other softwood	All hardwood	Soft hardwood	Hard hardwood
<i>Million cubic feet</i>							
Softwood types							
White-red-jack pine							
Planted	—	—	—	—	—	—	—
Natural	0.3	—	—	—	0.3	0.1	0.2
Total	0.3	—	—	—	0.3	0.1	0.2
Loblolly-shortleaf pine							
Planted	49.0	46.4	46.4	—	2.6	1.4	1.2
Natural	87.5	64.2	63.1	1.1	23.3	16.4	6.8
Total	136.5	110.6	109.5	1.1	25.9	17.8	8.0
Total softwoods	136.8	110.6	109.5	1.1	26.1	17.9	8.3
Hardwood types							
Oak-pine							
Planted	1.5	0.5	0.4	0.1	1.0	0.7	0.3
Natural	44.3	16.3	15.7	0.7	27.9	15.5	12.4
Total	45.8	16.8	16.1	0.8	28.9	16.3	12.7
Oak-hickory	170.8	5.0	4.2	0.8	165.8	94.4	71.3
Oak-gum-cypress	9.6	0.7	0.6	0.1	8.9	6.2	2.7
Elm-ash-cottonwood	5.4	—	—	—	5.4	4.7	0.7
Total hardwoods	231.5	22.6	20.9	1.7	209.0	121.6	87.3
Nonstocked	—	—	—	—	—	—	—
All groups	368.3	133.2	130.4	2.7	235.1	139.5	95.6

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of >0.0 but <0.05 for the cell.

^a Classifications at the beginning of the remeasurement period.

Table 45—Average annual removals of growing stock on timberland by forest-type group, stand origin, and species group, Piedmont of North Carolina, 1990–2001

Forest-type group and stand origin ^a	All species	Softwoods			Hardwoods		
		All softwood	Yellow pine	Other softwood	All hardwood	Soft hardwood	Hard hardwood
<i>Million cubic feet</i>							
Softwood types							
White-red-jack pine							
Planted	—	—	—	—	—	—	—
Natural	0.2	—	—	—	0.2	0.2	—
Total	0.2	—	—	—	0.2	0.2	—
Loblolly-shortleaf pine							
Planted	31.7	28.8	28.8	—	2.9	0.7	2.2
Natural	154.0	135.1	134.0	1.1	18.8	13.0	5.9
Total	185.6	163.9	162.8	1.1	21.7	13.6	8.1
Total softwoods	185.8	163.9	162.8	1.1	21.9	13.8	8.1
Hardwood types							
Oak-pine							
Planted	1.2	0.6	0.6	—	0.6	0.6	—
Natural	47.1	23.7	23.5	0.1	23.5	10.3	13.1
Total	48.3	24.3	24.1	0.1	24.1	10.9	13.1
Oak-hickory	117.6	11.3	10.7	0.6	106.3	54.4	51.9
Oak-gum-cypress	7.4	0.2	0.2	—	7.2	6.9	0.3
Elm-ash-cottonwood	3.7	—	—	—	3.7	3.1	0.6
Total hardwoods	177.0	35.8	35.0	0.8	141.2	75.3	65.9
Nonstocked							
	—	—	—	—	—	—	—
All groups	362.8	199.7	197.8	1.9	163.1	89.1	73.9

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of >0.0 but <0.05 for the cell.

^a Classifications at the beginning of the remeasurement period.

Table 46—Fresh weight of live trees on timberland by ownership class, species group, and tree component, Piedmont of North Carolina, 2002

Ownership class and species group	All components	All live saplings	Component					
			Growing-stock trees			Cull trees		
			Total	Boles	Stumps, tops, and limbs	Total	Boles	Stumps, tops, and limbs
<i>Thousand tons</i>								
National forest								
Softwood	1,393.0	38.8	1,344.1	1,152.7	191.5	10.1	7.9	2.2
Hardwood	3,366.6	470.5	2,648.5	2,147.9	500.6	247.6	188.0	59.7
Total	4,759.6	509.3	3,992.6	3,300.6	692.1	257.7	195.9	61.9
Other public								
Softwood	9,144.4	223.8	8,752.3	7,575.2	1,177.1	168.3	140.7	27.6
Hardwood	24,339.9	1,693.0	21,184.7	17,622.9	3,561.8	1,462.2	1,125.9	336.3
Total	33,484.2	1,916.8	29,937.0	25,198.1	4,738.9	1,630.5	1,266.6	363.9
Forest industry								
Softwood	6,565.7	429.1	6,096.0	5,063.9	1,032.1	40.6	31.3	9.3
Hardwood	1,915.5	639.7	1,238.0	1,011.3	226.8	37.8	29.2	8.6
Total	8,481.2	1,068.8	7,334.0	6,075.2	1,258.9	78.4	60.5	17.9
Nonindustrial private								
Softwood	140,151.4	11,541.8	124,642.1	105,687.4	18,954.8	3,967.5	3,271.0	696.5
Hardwood	367,806.8	41,073.1	293,954.1	242,611.3	51,342.8	32,779.6	25,471.9	7,307.7
Total	507,958.1	52,614.9	418,596.2	348,298.7	70,297.5	36,747.1	28,742.9	8,004.2
All ownerships								
Softwood	157,254.4	12,233.5	140,834.5	119,479.1	21,355.4	4,186.5	3,450.9	735.6
Hardwood	397,428.7	43,876.2	319,025.3	263,393.4	55,631.9	34,527.2	26,815.0	7,712.3
Total	554,683.0	56,109.7	459,859.7	382,872.4	76,987.3	38,713.7	30,265.9	8,447.8

Numbers in rows and columns may not sum to totals due to rounding.

Table 47—Area of timberland treated or disturbed annually and retained in timberland by treatment or disturbance and ownership class, Piedmont of North Carolina, 1990 to 2002

Treatment or disturbance	All classes	Ownership class		
		Public	Forest industry	Nonindustrial private
<i>Thousand acres</i>				
Final harvest	67.6	0.8	3.5	63.3
Partial harvest ^a	18.7	0.7	—	17.9
Seed tree/shelterwood	0.8	—	—	0.8
Commercial thinning	6.0	—	0.5	5.5
Other stand improvement	5.6	0.3	0.5	4.7
Site preparation	12.0	0.1	3.2	8.7
Artificial regeneration ^b	27.0	1.1	3.4	22.5
Natural regeneration ^b	66.3	0.4	—	65.9
Other treatment	11.6	0.7	—	10.9
Natural disturbance				
Disease	0.6	—	—	0.6
Insects	9.0	0.4	—	8.5
Fire	3.9	0.6	0.1	3.2
Weather	12.5	1.8	—	10.7
Animals	2.4	—	—	2.4
Other disturbances				
Grazing	4.0	—	—	4.0
Other human-caused disturbance	10.2	—	—	10.2

Since some acres experience more than one treatment or disturbance, there are no column totals. Numbers in rows may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of >0.0 but <0.05 for the cell.

^a Includes high-grading and some selective cutting.

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

Table 48—Area of timberland treated or disturbed annually and retained in timberland by treatment or disturbance and forest management type, Piedmont of North Carolina, 1990 to 2002

Treatment or disturbance	All types	Forest management type ^a					
		Pine plantation	Natural pine	Oak-pine	Upland hardwood	Lowland hardwood	Nonstocked
<i>Thousand acres</i>							
Final harvest	67.6	3.8	24.3	11.5	26.2	1.7	—
Partial harvest ^b	18.7	0.8	5.1	3.7	8.6	0.5	—
Seed tree/shelterwood	0.8	—	—	0.3	0.5	—	—
Commercial thinning	6.0	3.3	2.7	—	—	—	—
Other stand improvement	5.6	1.4	3.0	1.1	0.1	—	—
Site preparation	12.0	1.2	3.3	3.8	3.3	—	0.4
Other treatment	11.6	0.9	3.9	0.8	5.6	0.4	—
Natural disturbance							
Disease	0.6	—	—	—	0.6	—	—
Insects	9.0	—	6.0	1.9	1.0	—	—
Fire	3.9	0.6	0.7	1.2	1.4	—	—
Weather	12.5	—	4.1	3.2	3.6	1.6	—
Animals	2.4	—	0.4	0.1	0.8	1.0	—
Other disturbances							
Grazing	4.0	—	0.1	0.0	3.7	0.1	—
Other human-caused disturbance	10.2	0.4	3.8	1.9	3.4	0.8	—

Since some acres experience more than one treatment or disturbance, there are no column totals. Numbers in rows may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of >0.0 but <0.05 for the cell.

^a Classification before treatment or disturbance.

^b Includes high-grading and some selective cutting.

Table 49—Area of timberland regenerated annually by type of regeneration and forest management type, Piedmont of North Carolina, 1990 to 2002

Type of regeneration	All types	Forest management type ^a					
		Pine plantation	Natural pine	Oak-pine	Upland hardwood	Lowland hardwood	Nonstocked
<i>Thousand acres</i>							
Artificial regeneration following harvest	18.1	7.3	—	8.6	2.1	0.2	—
Natural regeneration following harvest	39.2	—	10.1	11.4	15.7	2.1	—
Other artificial regeneration on forest land	3.8	3.2	—	0.0	0.5	—	—
Other natural regeneration on forest land	5.6	—	1.3	0.4	3.6	0.4	—
Artificial regeneration on former nonforest land	5.9	5.0	—	1.0	—	—	—
Natural reversion of former nonforest land	20.7	—	5.0	5.4	9.9	0.4	—
Total	93.4	15.5	16.4	26.7	31.8	3.0	—

Numbers in rows and columns may not sum to totals due to rounding.

A dash (—) indicates no sample for the cell; 0.0 indicates a value of >0.0 but <0.05 for the cell.

^a Classification after regeneration.



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This report summarizes a 2002 inventory of the forest resources of a 35-county area of North Carolina. Major findings are highlighted in text and graphics; detailed data are presented in 49 tables.

Keywords: Forest ownership, timberland, timber growth, timber removals, timber volume.

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