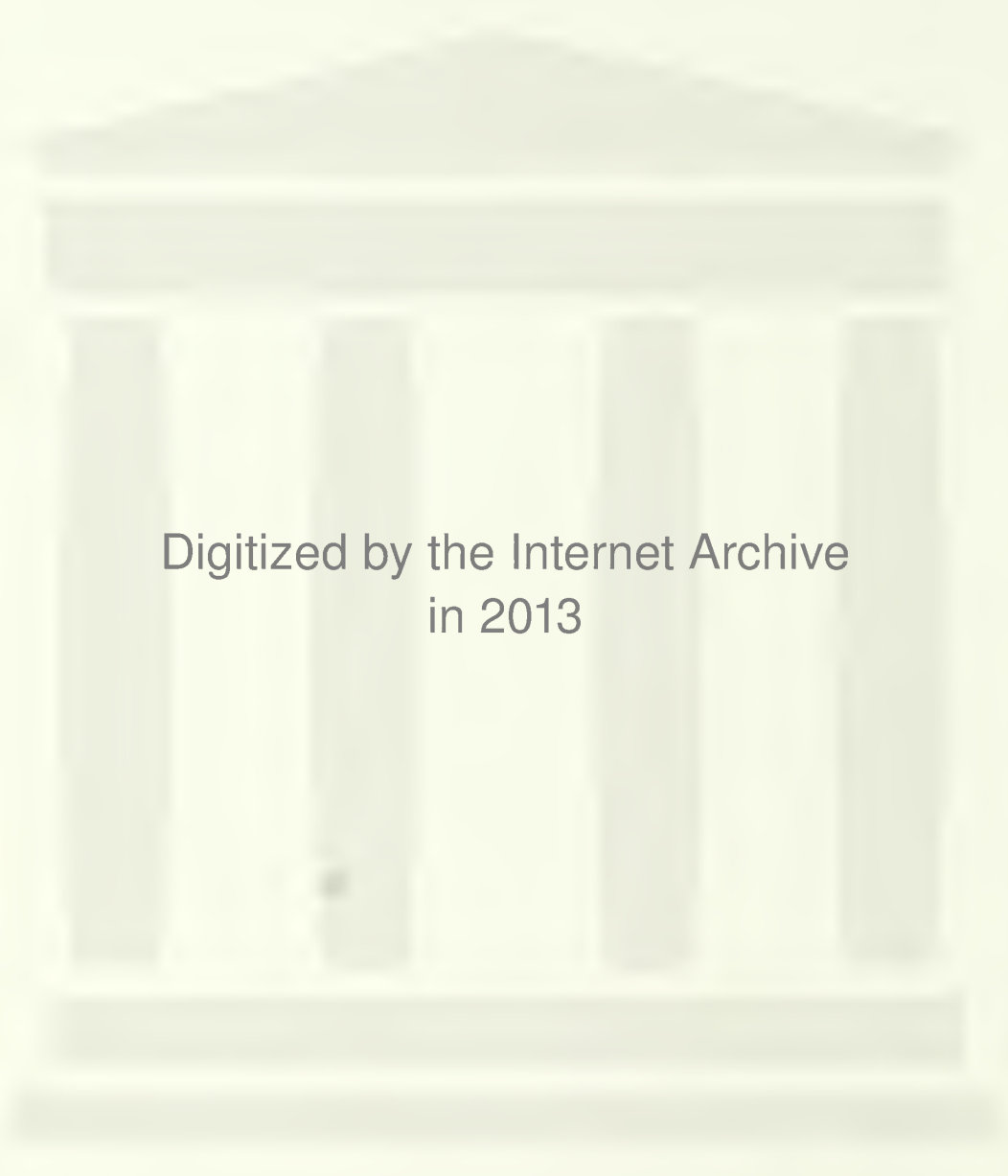




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FOREST STATISTICS FOR SOUTHWEST GEORGIA, 1981

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FOREWORD

This report highlights the principal findings of the fifth forest survey of Southwest Georgia. Fieldwork began in May 1980 and was completed in November 1980. Four previous surveys, completed in 1934, 1951, 1960, and 1971, provide statistics for measuring changes and trends over the past 47 years. The primary emphasis in this report is on the changes and trends since 1971. Previously reported figures have been adjusted to provide the best estimate of change.

Periodic surveys of the forest resource are authorized by the Forest and Rangeland Renewable Resources Research Act of 1978. These surveys are a continuing, nationwide undertaking by the regional experiment stations of the Forest Service, USDA. In Florida, Georgia, North Carolina, South Carolina, and Virginia, these surveys are administered by the Renewable Resources Evaluation Research Work Unit at the Southeastern Forest Experiment Station, with headquarters in Asheville, North Carolina. The primary objective of the survey is to periodically inventory and evaluate all forest and related resources. These multiresource data help provide a basis for formulating forest policies and programs and for the orderly development and use of the resources. This report deals only with the extent and condition of forest lands, associated timber volumes, and rates of timber growth and removals.

The 22-county area covered by this report is one of five survey units in Georgia. Comparable reports for the other four units will be issued as the Statewide survey progresses. When completed, this survey will provide updated statistics on the forest resource for all of Georgia.

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


JOE P. McCLURE
Project Leader

November 1981
Southeastern Forest Experiment Station
Asheville, North Carolina

**FOREST STATISTICS
FOR
SOUTHWEST GEORGIA,
1981**

by

**Raymond M. Sheffield, Resource Analyst
Asheville, North Carolina**

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HIGHLIGHTS

Since 1971 in Southwest Georgia

- *area of commercial forest land has declined by over 247,000 acres, or by about 9 percent.* Over 286,000 acres of commercial forests were diverted to other land uses, while only 39,000 acres of new forest were added. Nearly 85 percent of the diverted acreage was cleared for agricultural uses and 14 percent for urban development; the remaining 1 percent was diverted to noncommercial forest. Area of commercial forest land now totals 2.6 million acres, about 47 percent of the land area in these 22 counties.

- *area of commercial forest land owned by farmers has continued to decline but at a much slower rate than occurred between 1960 and 1971.* Farmers now own 1.5 million acres, 13 percent less than in 1971. Most of the decline is attributed to land clearing; some portion of this decline is due to a shift in ownership to the miscellaneous private and other ownership classes. Miscellaneous private owners presently hold 848,000 acres, a decline of 4 percent since 1971. Collectively, farmers and miscellaneous private owners hold 89 percent of the commercial forest. Forest industry acreage has increased by 6 percent to 266,000 acres. Public agencies control only 1 percent of the commercial forest.

- *two-thirds of the commercial forest land has been treated or significantly disturbed.* About 454,000 acres were harvested and retained in commercial forest land; thinning and other intermediate cuttings have occurred on 408,000 acres. Altogether, about 96,000 acres were artificially regenerated and are adequately stocked with suitable species. Two-thirds of the planting occurred on lands owned or leased by forest industry. Other miscellaneous treatments—primarily prescribed burning and grazing—occurred on 556,000 acres. Diseases, weather, insects, and wildfires caused significant damage to 302,000 acres of commercial forest land.

- *about 94 percent of the decline in acreage of commercial forest land occurred in pine forest types.* Area of commercial forest land classified as pine types has declined by 17 percent and now totals 1.2 million acres. Area of oak-pine type dropped by 5 percent, while the area of hardwood types increased by 1 percent. About 36 percent of the pine-type loss occurred following a harvest of pine stands; only 52 percent of the harvested pine stands remained in pine types. Land clearing accounted for another 35 percent of the pine-type loss, while the remaining 29 percent was due to intermediate cutting, other miscellaneous treatments, and natural succession. All pine forest types lost acreage since 1971. Area of slash pine type declined by 135,000 acres, or by 16 percent, while longleaf pine type declined by 62,000 acres, or by 22 percent, and loblolly pine type declined by 8,000 acres, or 4 percent. Both oak-hickory and oak-gum-cypress types increased in acreage, while the southern scrub oak type declined by 66 percent.

- *average basal area of all live trees 5.0 inches d.b.h. and larger has increased from 52 to 66 square feet per acre of commercial forest land.* Acreage in stands classified as fully stocked with growing-stock trees has increased by 54 percent, medium-stocked stands have declined by 21 percent, and poorly stocked stands have declined by 32 percent. About 23 percent of the commercial forest is currently classed as poorly stocked or nonstocked with growing-stock trees.

- *the number of softwood trees in the three smallest diameter classes has dropped substantially.* Two-inch softwoods plummeted by 53 percent, 4-inch softwoods by 35 percent, and 6-inch softwoods by 12 percent. These declines are due to fewer acres of pine stands in the youngest age classes, compared to 1971. Rather large acreages of pine plantations and natural pine stands were established during the late 1950's and early 1960's. The rate of planting and natural reversion dropped substantially after that period; this slowdown in the rate of establishment of pine stands is now causing the large declines in the number of small softwood trees.

- *volume of softwood growing stock has increased from less than 1.9 to 2.1 billion cubic feet, an increase of 15 percent.* Slash pine volume rose by nearly 29 percent and accounted for about three-fourths of the total softwood-volume increase. Cypress and loblolly pine accounted for most of the remaining increase. Volume of longleaf pine declined by 10 percent. The softwood-volume increase extended across all but one diameter class—the 6-inch class. Softwood volume in this diameter class dropped by 12 percent. The current inventory of softwood growing stock includes nearly 7.8 billion board feet of sawtimber, 20 percent more than in 1971.

- *volume of hardwood growing stock has increased from 1.1 to 1.3 billion cubic feet, or by 20 percent.* All major hardwood species increased in volume. The red oak species accounted for 57 percent of the increase. Volume of tupelo and blackgum, the leading species in the region, increased by only 5 percent. The hardwood-volume increase was distributed across the entire range of diameter classes. The current inventory of hardwood growing stock includes 3.4 billion board feet of sawtimber, up by 23 percent.

In 1980

- *net annual growth of growing stock totaled 225 million cubic feet, an average of nearly 86 cubic feet per acre of commercial forest land.* Yellow pines accounted for 71 percent of this growth. Net growth exceeded removals by 28 percent for softwoods and by 98 percent for hardwoods. Net growth also exceeded removals by healthy margins on all ownerships. The high growth rate in this 22-county region is attributed to the continuing development of the large acreage of pine stands—both plantation and

natural—established during the 1950's and 1960's. Almost one-half of all pine stands are currently between 20 and 39 years old, a period of rather high growth. Only 17 percent of all pine stands are presently between 0 and 19 years old; thus the high growth rate in this region will not likely be sustained past another 10-year period.

• *removals of growing stock totaled 160 million cubic feet and included 593 million board feet of sawtimber.* Yellow pines accounted for 81 percent of growing-stock removals. Yellow pine removals have increased by nearly 42

percent since the previous inventory while hardwood removals have increased by 12 percent. About 64 percent of the removals came from farm woodlands, 22 percent from miscellaneous private forests, and 14 percent from forest lands owned or leased by forest industry.

• *mortality of growing stock totaled 33 million cubic feet and included 104 million board feet of sawtimber.* Softwoods made up about 62 percent of the mortality. Diseases, insects, weather, and suppression were the leading identifiable causes of death. Mortality reduced gross growth by 13 percent.

HOW THE INVENTORY IS MADE

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

1. Initial estimates of forest and nonforest areas were based on the classification of 19,038 sample clusters systematically spaced on the latest aerial photographs available. A subsample of 2,082 of the 16-point clusters was ground checked, and a linear regression was fitted to the data to develop the relationship between the photo and ground classification of the subsample. This procedure provides a means for adjusting the initial estimates of area for change in land use since date of photography and for photo misclassifications.

2. Estimates of timber volume and forest classifications were based on measurements recorded at 907 ground sample locations systematically distributed within the commercial forest land. The plot design at each location was based on a cluster of 10 points. In most cases, variable plots, using a basal-area factor of 37.5 square feet per acre, were systematically spaced within a single forest condition at 5 of the 10 cluster points. Trees less than 5 inches d.b.h. were tallied on a fixed-radius plot around each point center.

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

4. Felled trees were measured at 22 active cutting operations. These data will be pooled with similar measurements taken in the State to supplement the standing-tree volume data and to generate utilization factors for product and species groups that will be analyzed at the State level.

5. Estimates of growth, removals, and mortality were determined from the remeasurement of 832 permanent sample plots established in the fourth survey.

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

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

RELIABILITY OF THE DATA

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

	<i>Percent</i>
Per million acres of commercial forest land	1.30
Per billion cubic feet of growing stock	5.45
Per billion cubic feet of net annual growth	1.42
Per billion cubic feet of annual removals	2.71

SAMPLING ERRORS FOR COUNTY AND UNIT TOTALS,¹ IN TERMS OF ONE STANDARD ERROR

COUNTY	COMMERCIAL FOREST AREA	CUBIC-FOOT VOLUME OF GROWING STOCK		
		INVENTORY	GROWTH	REMOVALS
- - - - - <i>SAMPLING ERROR²</i> - - - - -				
BAKER	4.92	14.63	17.47	34.66
BEN HILL	3.06	16.08	16.30	32.12
BERRIEN	2.43	9.68	9.80	33.84
BROOKS	3.84	14.25	14.14	31.95
COLOUITT	3.02	12.26	15.22	33.01
COOK	4.31	16.01	15.82	30.90
CRISP	5.25	14.86	18.07	48.78
DECATUR	3.22	11.13	9.88	20.52
DOOLY	5.04	15.17	14.28	29.62
EARLY	3.52	12.91	10.31	27.45
GRADY	2.86	11.59	11.05	27.64
IRWIN	4.73	13.31	12.57	35.87
LANIER	2.42	19.75	18.29	31.37
LOWNDES	2.27	11.41	9.71	20.58
MILLER	5.36	19.13	18.69	60.14
MITCHELL	5.51	15.63	20.11	30.81
SEMINOLE	5.78	35.39	34.06	40.57
THOMAS	2.92	8.54	9.82	27.56
TIFT	4.41	15.68	19.17	38.31
TURNER	4.53	22.80	13.50	42.66
WILCOX	2.70	13.67	12.92	29.13
WORTH	3.08	9.93	11.53	25.10
UNIT TOTAL	0.80	2.95	2.98	6.78

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

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

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

SE = SPECIFIED SAMPLING ERROR IN TABLE.

² BY RANDOM-SAMPLING FORMULA (IN PERCENT).

DEFINITIONS OF TERMS

Acceptable trees.—Growing-stock trees of commercial species that meet specified standards of size and quality, but not qualifying as desirable trees.

Basal area.—The area in square feet of the cross section at breast height of a single tree or of all the trees in a stand, usually expressed as square feet of basal area per acre.

Commercial forest land.—Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization.

Commercial species.—Tree species presently or prospectively suitable for industrial wood products.

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

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

Diameter class.—A classification of trees based on diameter outside bark, measured at breast height (4½ feet above the ground). D.b.h. is the common abbreviation for “diameter at breast height.” Two-inch diameter classes are commonly used in Renewable Resources Evaluation, with the even inch the approximate midpoint for a class. For example, the 6-inch class includes trees 5.0 through 6.9 inches d.b.h., inclusive.

Farm.—Lands on which agriculture operations are being conducted and sale of agriculture products totaled \$1,000 or more during the year.

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

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

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

Forest land.—Land at least 16.7 percent stocked by forest trees of any size, or formerly having had such tree cover, and not currently developed for nonforest use.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Industrial wood.—All roundwood products except fuelwood.

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

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

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

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

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

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

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

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

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

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

Noncommercial species.—Tree species of typically small size, poor form, or inferior quality which normally do not develop into trees suitable for industrial wood products.

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

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

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

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

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

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

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

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

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

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

Salvable dead trees.—Standing or down dead trees that are considered merchantable by Renewable Resources Evaluation standards.

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

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

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

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

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

Sawtimber volume.—Net volume of the saw-log portion of live sawtimber in board-foot International $\frac{1}{4}$ -inch rule.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Stocking.—The degree of occupancy of land by trees, measured by basal area or the number of trees in a stand and spacing in the stand, compared to a minimum standard, depending on tree size, to fully utilize the growth potential of the land. (See page 7.)

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

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

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

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

STOCKING STANDARD

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

' STOCKING PERCENTAGES BASED ON TALLY AT ALL 10 POINTS OF A 10-POINT CLUSTER OF PLOTS. TREES LESS THAN 5 INCHES D.B.H. WERE TALLIED ON CIRCULAR, 1/300-ACRE PLOTS AT EACH POINT. TREES 5.0 INCHES D.B.H. AND LARGER WERE TALLIED ON VARIABLE PLOTS USING A BASAL AREA FACTOR OF 37.5 AT EACH SAMPLE POINT.

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

CUBIC FEET OF WOOD PER AVERAGE CORD (EXCLUDING BARK)

D.B.H. CLASS	ALL SPECIES	PINE	OTHER SOFTWOOD	HARDWOOD
6	61.0	61.0	68.2	60.0
8	68.6	68.1	76.0	68.4
10	73.7	73.1	81.4	73.4
12	77.1	76.7	85.2	76.4
14	79.6	79.4	88.2	78.4
16	81.4	81.6	90.4	79.8
18	82.6	83.3	92.3	80.8
20	83.6	84.8	93.8	81.5
22	83.9	86.0	95.1	82.1
24+	84.9	87.8	98.9	83.1
AVERAGE	74.7	74.4	83.0	74.1

COUNTY TABLES

THE COUNTY TABLES ARE INTENDED FOR USE IN COMPILING FOREST RESOURCE ESTIMATES FOR GROUPS OF COUNTIES. BECAUSE THE SAMPLING PROCEDURE USED BY THE FOREST SURVEY WAS INTENDED PRIMARILY TO FURNISH INVENTORY DATA FOR THE SURVEY UNIT AS A WHOLE, INDIVIDUAL COUNTY ESTIMATES HAVE LIMITED AND VARIABLE ACCURACY. AS COUNTY TOTALS ARE BROKEN DOWN BY VARIOUS SUBDIVISIONS, THE POSSIBILITY OF ERROR INCREASES AND IS GREATEST FOR THE SMALLEST ITEMS. THE ORDER OF THIS INCREASE CAN BE COMPUTED WITH THE FORMULA ON PAGE 3.

TABLE 1. --AREA, BY LAND CLASS AND COUNTY, 1981

COUNTY	ALL LAND ¹	FOREST LAND			NONFOREST LAND ²
		TOTAL	COMMERCIAL FOREST	UNPRODUCTIVE FOREST	
ACRES					
BAKER	227,200	112,966	112,966	--	114,234
BEN HILL	163,200	95,278	95,278	--	67,922
BERRIEN	299,520	181,290	181,290	--	118,230
BROOKS	314,494	142,780	142,780	--	171,714
COLOUITT	360,320	135,885	135,152	--	224,435
COOK	149,120	70,083	69,612	--	79,037
CRISP	188,409	73,317	72,117	--	115,092
DECATUR	375,841	191,911	191,911	--	183,930
DOOLY	252,800	87,727	87,702	--	165,073
EARLY	335,360	153,618	152,434	--	181,742
GRADY	298,240	156,537	153,624	--	141,703
IRWIN	238,080	107,357	107,357	--	130,723
LANIER	116,079	87,323	87,323	--	28,756
LOWNDES	325,120	211,169	211,169	--	113,951
MILLER	183,680	60,038	60,038	--	123,642
MITCHELL	326,400	101,738	101,738	--	224,662
SEMINOLE	165,440	51,298	50,967	--	114,142
THOMAS	346,240	179,048	179,048	--	167,192
TIFT	170,240	58,464	58,464	--	111,776
TURNER	187,520	82,436	82,436	--	105,084
WILCOX	245,120	146,711	146,691	--	98,409
WORTH	370,560	156,223	156,223	--	214,337
TOTAL	5,638,983	2,643,197	2,636,320	-	2,995,786

¹ FROM U. S. BUREAU OF THE CENSUS, LAND AND WATER AREA OF THE UNITED STATES, 1970

² INCLUDES 41,866 ACRES OF WATER ACCORDING TO SURVEY STANDARDS OF AREA CLASSIFICATION, BUT DEFINED BY THE BUREAU OF THE CENSUS AS LAND.

TABLE 2. -- AREA OF COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND COUNTY, 1981

COUNTY	ALL OWNERSHIPS	OWNERSHIP CLASS						MISCELLANEOUS PRIVATE	
		NATIONAL FOREST	MISCELLANEOUS FEDERAL	STATE	COUNTY AND MUNICIPAL	FOREST INDUSTRY ¹	FARMER		
								CORPORATE	INDIVIDUAL
					ACRES				
BAKER	112,966	--	--	--	5	17,886	35,910	10,756	48,409
BEN HILL	95,278	--	--	3	185	6,644	57,808	18,720	11,918
BERRIEN	181,290	--	--	2,468	88	21,008	88,899	2,868	65,959
BROOKS	142,780	--	--	--	304	21,051	75,965	8,440	37,020
COLOUITT	135,152	--	--	--	546	3,082	88,779	13,152	29,593
COOK	69,612	--	--	--	327	6,151	54,731	2,737	5,666
CRISP	72,117	--	--	--	258	288	64,364	--	7,207
DECATUR	191,911	--	6,720	370	574	33,921	78,171	12,025	60,130
DOOLY	87,702	4,106	--	--	26	4,298	53,003	3,117	23,152
EARLY	152,434	--	354	245	25	10,409	108,280	--	33,121
GRADY	153,624	--	--	--	170	7,765	116,856	3,247	25,586
IRWIN	107,357	--	--	--	59	9,594	69,462	6,014	22,228
LANIER	87,323	--	--	--	--	14,797	33,872	7,259	24,865
LOWNDES	211,169	--	6,530	136	1,191	61,415	85,236	15,320	46,003
MILLER	60,038	--	1,868	--	32	10,233	36,306	2,694	10,773
MITCHELL	101,738	--	--	3	117	4,329	67,361	11,227	18,711
SEMINOLE	50,967	--	3,561	--	--	3,327	25,712	3,673	14,694
THOMAS	179,048	--	--	20	527	5,225	74,042	30,850	68,384
TIFT	58,464	--	--	581	292	--	49,364	2,743	5,484
TURNER	82,436	--	--	57	81	4,171	50,027	--	28,157
WILCOX	146,691	--	--	47	26	16,118	71,339	12,516	46,635
WORTH	156,223	--	--	47	68	3,969	105,140	2,628	44,371
TOTAL	2,636,320	4,106	19,033	3,930	4,901	265,671	1,490,627	169,986	678,066
'NOT INCLUDING 101,859 ACRES OF FARMER-OWNED AND MISCELLANEOUS PRIVATE LANDS LEASED TO FOREST INDUSTRY.'									

¹ NOT INCLUDING 101,859 ACRES OF FARMER-OWNED AND MISCELLANEOUS PRIVATE LANDS LEASED TO FOREST INDUSTRY.

TABLE 3. --AREA OF COMMERCIAL FOREST LAND, BY FOREST-TYPE GROUP AND COUNTY, 1981

COUNTY	ALL TYPE GROUPS	FOREST-TYPE GROUP							OAK-GUM-CYPRESS	ELM-ASH-COTTONWOOD	MAPLE-BEECH-BIRCH
		WHITE PINE-HEMLOCK	SPRUCE-FIR	LONGLEAF-SLASH	LOBLOLLY-SHORTLEAF	OAK-PINE	OAK-HICKORY	ACRES			
BAKER	112,966	--	--	34,097	5,379	16,140	37,197	20,153	--	--	
BEN HILL	95,278	--	--	48,786	18,720	11,532	5,536	10,704	--	--	
BERRIEN	181,290	--	--	71,095	15,760	27,145	14,339	52,951	--	--	
BROOKS	142,780	--	--	26,399	20,140	11,255	33,955	48,218	2,813	--	
COLOUETT	135,152	--	--	66,101	9,441	16,441	9,864	32,882	--	--	
COOK	69,612	--	--	16,940	5,473	8,209	2,737	36,253	--	--	
CRISP	72,117	--	--	28,950	2,681	9,046	8,046	24,394	--	--	
DECATUR	191,911	--	--	69,195	32,172	17,859	42,093	27,765	2,827	--	
DOOLY	87,702	--	--	21,845	9,353	11,502	21,825	23,177	--	--	
EARLY	152,434	--	--	42,255	16,305	8,547	40,004	45,323	--	--	
GRADY	153,624	--	--	18,771	30,773	23,359	35,707	45,614	--	--	
IRWIN	107,357	--	--	46,552	8,337	16,669	11,115	24,684	--	--	
LANIER	87,323	--	--	29,417	14,704	4,840	4,838	33,524	--	--	
LOWNDES	211,169	--	--	68,510	9,192	28,561	36,951	67,955	--	--	
MILLER	60,038	--	--	15,890	--	10,773	15,922	17,453	3,742	--	
MITCHELL	101,738	--	--	49,346	11,227	11,227	18,712	7,484	--	--	
SEMINOLE	50,967	--	--	14,693	--	10,673	11,020	14,581	--	--	
THOMAS	179,048	--	--	41,848	30,870	33,936	36,205	36,189	--	--	
TIFT	58,464	--	--	28,297	2,743	8,228	2,743	16,453	--	--	
TURNER	82,436	--	--	50,790	--	10,005	6,672	17,969	--	--	
WILCOX	146,691	--	--	89,564	5,481	10,632	8,917	47,097	--	--	
WORTH	156,223	--	--	89,625	14,842	10,514	12,281	28,961	--	--	
TOTAL	2,636,320	--	--	946,366	264,016	323,093	416,679	676,784	9,382	--	

TABLE 4. --AREA OF COMMERCIAL FOREST LAND, BY STAND-SIZE CLASS AND COUNTY, 1981

COUNTY	ALL STANDS	STAND-SIZE CLASS			NONSTOCKED AREAS
		SAWTIMBER	POLETIMBER	SAPLING-SEEDLING	
- - - - - ACRES - - - - -					
BAKER	112,966	61,450	25,078	15,682	10,756
BEN HILL	95,278	32,102	40,295	14,853	8,028
BERRIEN	181,290	78,252	50,851	43,584	8,603
BROOKS	142,780	65,401	31,977	39,775	5,627
COLQUITT	135,152	59,524	42,746	32,882	--
COOK	69,612	27,365	22,752	16,758	2,737
CRISP	72,117	37,547	18,221	13,668	2,681
DECATUR	191,911	79,916	48,296	60,692	3,007
DOOLY	87,702	45,729	30,471	5,267	6,235
EARLY	152,434	42,331	71,248	36,006	2,849
GRADY	153,624	94,941	38,952	19,731	--
IRWIN	107,357	49,689	35,820	16,292	5,556
LANIER	87,323	14,610	35,611	32,264	4,838
LOWNDES	211,169	68,171	77,624	59,750	5,624
MILLER	60,038	26,665	14,790	15,889	2,694
MITCHELL	101,738	44,908	34,376	22,454	--
SEMINOLE	50,967	12,800	14,693	12,454	11,020
THOMAS	179,048	104,060	28,711	46,277	--
TIFT	58,464	39,266	10,970	8,228	--
TURNER	82,436	40,022	20,850	21,564	--
WILCOX	146,691	59,532	46,863	37,323	2,973
WORTH	156,223	56,639	53,358	39,268	6,958
TOTAL	2,636,320	1,140,920	794,553	610,661	90,186

TABLE 5. --AREA OF COMMERCIAL FOREST LAND, BY SITE CLASS AND COUNTY, 1981

COUNTY	ALL CLASSES	SITE CLASS				
		1	2	3	4	5
- - - - - ACRES - - - - -						
BAKER	112,966	--	--	31,362	65,470	16,134
BEN HILL	95,278	--	2,675	23,062	64,190	5,351
BERRIEN	181,290	--	7,835	49,008	108,008	16,439
BROOKS	142,780	2,814	8,442	48,518	68,939	14,067
COLQUITT	135,152	--	6,576	49,867	62,267	16,442
COOK	69,612	--	2,737	27,561	36,251	3,063
CRISP	72,117	--	5,364	21,454	42,360	2,939
DECATUR	191,911	2,827	11,666	65,603	100,150	11,665
DOOLY	87,702	--	--	49,083	35,501	3,118
EARLY	152,434	--	--	36,011	105,027	11,396
GRADY	153,624	6,492	8,434	58,852	79,846	--
IRWIN	107,357	--	7,956	38,577	52,489	8,335
LANIER	87,323	--	2,467	12,191	53,702	18,963
LOWNDES	211,169	--	5,118	61,859	130,386	13,806
MILLER	60,038	--	5,117	13,465	38,762	2,694
MITCHELL	101,738	3,743	7,484	11,803	63,738	14,970
SEMINOLE	50,967	--	--	9,126	27,148	14,693
THOMAS	179,048	--	33,935	71,375	63,445	10,293
TIFT	58,464	--	2,742	19,489	36,233	--
TURNER	82,436	--	3,336	31,645	37,450	10,005
WILCOX	146,691	--	83	69,733	68,243	8,632
WORTH	156,223	--	4,328	46,076	90,046	15,773
TOTAL	2,636,320	15,876	126,295	845,720	1,429,651	218,778

TABLE 6. --AREA OF COMMERCIAL FOREST LAND, BY STOCKING CLASSES OF GROWING-STOCK TREES, BY COUNTY, 1981

COUNTY	ALL CLASSES	STOCKING PERCENTAGE ¹				
		OVER 130	100-130	60-99	16.7-59	LESS THAN 16.7
- - - - - ACRES - - - - -						
BAKER	112,966	7,160	20,153	48,453	26,444	10,756
BEN HILL	95,278	5,351	17,882	54,973	9,044	8,028
BERRIEN	181,290	19,764	78,560	57,922	16,441	8,603
BROOKS	142,780	14,069	40,609	54,341	28,134	5,627
COLOUITT	135,152	13,152	26,851	55,898	39,251	--
COOK	69,612	--	25,162	33,165	8,548	2,737
CRISP	72,117	10,728	25,980	21,712	11,016	2,681
DECATUR	191,911	2,826	71,423	84,591	30,064	3,007
DOOLY	87,702	3,144	16,769	30,114	31,440	6,235
EARLY	152,434	5,699	60,181	75,132	8,573	2,849
GRADY	153,624	--	37,817	74,913	40,894	--
IRWIN	107,357	16,289	25,085	44,137	16,290	5,556
LANIER	87,323	4,885	22,205	43,252	12,143	4,838
LOWNDES	211,169	9,192	62,870	89,865	43,618	5,624
MILLER	60,038	--	15,891	22,839	18,614	2,694
MITCHELL	101,738	8,061	26,317	29,936	37,424	--
SEMINOLE	50,967	--	9,126	14,693	16,128	11,020
THOMAS	179,048	--	32,593	88,672	57,783	--
TIFT	58,464	8,228	27,423	11,843	10,970	--
TURNER	82,436	10,006	29,068	26,687	16,675	--
WILCOX	146,691	11,889	47,233	58,703	25,893	2,973
WORTH	156,223	4,020	52,431	71,742	21,072	6,958
TOTAL	2,636,320	154,463	771,629	1,093,583	526,459	90,186

¹ SEE STOCKING STANDARDS ON PAGE 7.

TABLE 7. -- VOLUME OF SAWTIMBER AND GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES GROUP AND COUNTY, 1981

COUNTY	SAWTIMBER				GROWING STOCK					
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
	-- -- -- THOUSAND BOARD FEET -- -- --				-- -- -- THOUSAND CUBIC FEET -- -- --					
BAKER	496,136	258,707	32,106	26,253	179,070	139,299	66,912	11,174	8,952	52,261
BEN HILL	324,681	268,181	7,059	34,505	14,936	98,299	80,905	2,658	9,788	4,948
BERRIEN	738,179	559,508	65,672	90,006	22,993	260,177	161,017	28,530	61,758	8,872
BROOKS	621,010	322,755	56,872	162,526	78,957	188,000	78,188	21,656	57,611	30,545
COLOUETT	509,261	411,379	-	50,296	47,586	165,161	124,275	6,169	22,172	12,545
COOK	306,838	195,653	14,936	39,761	56,488	100,983	51,368	4,468	25,547	19,600
CRISP	385,463	261,319	16,606	51,991	55,547	123,820	77,181	4,337	21,490	20,812
DECATUR	818,392	600,785	28,859	86,435	102,313	238,796	152,944	5,988	41,960	37,904
DOOLY	399,090	180,133	62,032	99,099	57,829	115,692	46,826	13,615	35,193	20,058
EARLY	540,698	147,656	20,487	166,299	206,356	193,327	58,002	9,260	62,088	63,977
GRADY	871,815	567,034	-	122,405	182,376	216,681	121,476	-	43,138	52,067
IRWIN	569,084	403,306	51,337	98,944	15,497	175,658	113,432	14,925	42,016	4,985
LANIER	191,032	125,380	45,331	17,243	3,078	72,466	38,705	14,041	18,267	1,453
LOWNDES	649,151	252,952	72,513	186,324	137,362	219,929	79,995	20,271	77,342	42,321
MILLER	251,618	110,812	9,794	43,796	87,216	69,127	27,147	4,510	16,889	20,581
MITCHELL	357,344	263,858	17,054	41,150	35,282	119,103	79,652	3,709	19,121	16,621
SEMINOLE	153,475	104,418	11,393	17,400	18,244	41,391	22,450	2,677	8,786	7,478
THOMAS	1,088,405	822,128	-	77,119	189,158	247,091	166,981	-	30,931	49,179
TIFT	339,358	239,003	20,475	56,822	23,058	106,653	61,679	6,446	31,870	6,658
TURNER	453,319	305,482	90,101	51,099	6,637	124,485	77,418	23,451	19,547	4,079
WILCOX	541,085	205,759	64,735	149,997	120,594	194,480	89,884	14,650	55,981	33,965
WORTH	579,076	432,214	24,663	82,211	39,988	184,945	134,648	5,196	27,989	17,112
TOTAL	11,182,510	7,038,422	712,025	1,751,678	1,680,385	3,395,273	1,911,085	217,731	738,436	528,021

'FACTORS FOR CONVERTING TO CORDS ARE SHOWN ON PAGE 7

TABLE 8. --NET ANNUAL GROWTH OF SAWTIMBER AND GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES GROUP AND COUNTY, 1980

COUNTY	SAWTIMBER				GROWING STOCK						
	ALL SPECIES	PINE	OTHER SOFTWOOD	THOUSAND BOARD FEET	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
											THOUSAND CUBIC FEET
BAKER	35,362	994	916	1,033	9,419	8,178	4,865	304	303	2,706	
BEN HILL	27,502	23,582	245	2,742	1,933	9,235	8,364	90	357	4,424	
BERRIEN	68,373	58,393	4,011	4,606	1,363	17,699	13,579	1,005	2,466	649	
BROOKS	41,576	35,922	2,100	6,131	7,423	9,899	15,439	573	1,785	1,950	
COLOUITT	42,464	38,770	121	1,385	2,188	13,578	11,538	93	1,743	1,724	
COOK	29,962	22,388	348	3,659	3,567	8,680	6,743	110	1,090	1,484	
CRISP	46,637	37,027	562	4,320	4,528	14,881	10,679	233	1,941	1,865	
DECATUR	61,785	49,084	1,307	5,744	5,500	17,575	14,215	283	1,406	2,028	
DOOLY	24,158	14,108	1,431	5,499	3,120	13,085	6,720	354	2,475	1,671	
EARLY	40,077	22,233	1,316	6,994	9,483	12,790	8,076	-	1,903	3,536	
GRADY	63,415	43,201	-	8,157	12,025	11,553	9,545	-	1,371	2,811	
IRWIN	45,248	39,233	1,957	3,417	1,673	5,285	4,006	362	1,852	2,275	
LANIER	16,515	12,833	1,737	1,821	1,24	11,553	4,021	340	3,139	1,967	
LOWNDES	48,644	28,978	2,415	7,164	10,087	13,618	8,021	491	3,550	1,715	
MILLER	15,659	9,974	361	1,848	3,606	10,023	8,281	253	667	1,052	
MITCHELL	29,484	23,340	391	1,091	3,344	13,124	8,255	71	511	2,287	
SEMINOLE	11,299	6,526	370	2,091	2,402	13,152	9,216	-	1,500	2,395	
THOMAS	60,041	48,548	-	3,806	1,186	6,793	4,816	148	1,434	2,436	
TIFT	27,184	22,568	624	3,378	1,479	8,018	6,157	487	1,892	482	
TURNER	29,389	22,915	2,617	3,378	5,050	13,372	9,352	535	1,964	1,521	
WILCOX	52,306	35,375	2,945	8,926	5,050	15,158	12,393	176	1,198	1,391	
WORTH	60,963	51,879	2,784	6,146	2,154	15,158	12,393	-	-	-	
TOTAL	878,043	660,922	26,558	92,645	97,918	225,451	159,782	6,704	29,509	29,456	

TABLE 9. --ANNUAL REMOVALS OF SAWTIMBER AND GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES GROUP AND COUNTY, 1980

COUNTY	SAWTIMBER				GROWING STOCK			
	ALL SPECIES	PINE	OTHER SOFTWOOD	THOUSAND BOARD FEET	ALL SPECIES	PINE	OTHER SOFTWOOD	THOUSAND CUBIC FEET
BAKER	8,159	7,173	--	--	3,517	2,716	175	--
BEN HILL	21,854	21,854	--	--	5,925	5,925	--	626
BERRIEN	28,440	27,927	--	--	5,020	7,700	--	--
BROOKS	15,623	13,155	--	513	5,141	2,883	108	93
COLQUITT	36,992	33,576	--	--	8,678	7,863	--	2,258
COOK	21,272	18,784	--	1,601	6,225	5,150	--	2,495
CRISP	16,968	14,296	--	2,488	3,734	2,997	--	253
DECATUR	66,627	51,200	--	9,213	17,063	13,484	--	305
DOOLY	18,750	13,960	--	6,991	6,052	3,877	--	1,972
EARLY	30,339	19,254	--	6,649	8,869	5,769	--	1,386
GRADY	33,387	29,908	--	1,162	8,173	6,221	--	1,300
IRWIN	22,350	20,528	--	1,822	5,294	4,436	--	1,412
LANIER	19,408	17,837	1,571	--	4,737	4,137	388	--
LOWNDES	48,633	38,994	--	8,916	12,583	10,293	--	212
MILLER	11,299	10,160	--	569	3,376	3,067	--	284
MITCHELL	22,349	22,349	--	--	8,048	7,083	--	170
SEMINOLE	13,624	10,791	--	--	4,676	3,729	--	965
THOMAS	30,143	19,544	--	5,714	9,205	6,004	--	1,895
TIFT	12,474	10,893	--	--	3,031	2,368	--	1,663
TURNER	20,509	17,941	--	2,533	7,296	1,743	--	--
WILCOX	20,509	20,509	--	--	7,788	7,684	--	--
WORTH	83,698	74,607	344	5,393	17,828	15,350	265	991
TOTAL	593,141	505,240	1,915	48,430	160,259	129,479	936	16,227

TABLE 10. --AREA OF COMMERCIAL FOREST LAND, BY FOREST TYPE AND OWNERSHIP CLASS, 1981

FOREST TYPE	ALL OWNERSHIPS	OWNERSHIP CLASS				
		NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY	FARMER	MISC. PRIVATE
- - - - - ACRES - - - - -						
SOFTWOOD TYPES:						
WHITE PINE-HEMLOCK	--	--	--	--	--	--
SPRUCE-FIR	--	--	--	--	--	--
LONGLEAF PINE	214,681	--	1,868	20,966	120,488	71,359
SLASH PINE	731,685	4,106	5,799	122,382	384,136	215,262
LOBLOLLY PINE	209,409	--	353	23,742	107,572	77,742
SHORTLEAF PINE	22,872	--	--	8,480	11,307	3,085
VIRGINIA PINE	--	--	--	--	--	--
SAND PINE	--	--	--	--	--	--
EASTERN REDCEDAR	--	--	--	--	--	--
POND PINE	31,735	--	--	--	15,301	16,434
SPRUCE PINE	--	--	--	--	--	--
PITCH PINE	--	--	--	--	--	--
TABLE MOUNTAIN PINE	--	--	--	--	--	--
TOTAL	1,210,382	4,106	8,020	175,570	638,804	383,882
HARDWOOD TYPES:						
OAK-PINE	323,093	--	88	27,582	184,018	111,405
OAK-HICKORY	394,338	--	2,382	17,219	237,825	136,912
CHESTNUT OAK	--	--	--	--	--	--
SOUTHERN SCRUB OAK	22,341	--	--	--	3,742	18,599
OAK-GUM-CYPRESS	676,784	--	17,374	42,473	419,683	197,254
ELM-ASH-COTTONWOOD	9,382	--	--	2,827	6,555	--
MAPLE-BEECH-BIRCH	--	--	--	--	--	--
TOTAL	1,425,938	--	19,844	90,101	851,823	464,170
ALL TYPES	2,636,320	4,106	27,864	265,671	1,490,627	848,052

TABLE 11. --AREA OF COMMERCIAL FOREST LAND, BY OWNERSHIP AND STOCKING CLASSES OF GROWING-STOCK TREES, 1981

OWNERSHIP CLASSES	ALL CLASSES	STOCKING PERCENTAGE ¹				
		OVER 130	100-130	60-99	16.7-59	LESS THAN 16.7
- - - - - ACRES - - - - -						
NATIONAL FOREST	4,106	--	--	2,053	2,053	--
OTHER PUBL C	27,864	2,650	10,018	11,927	3,269	--
FOREST INDUSTRY	265,671	17,802	120,587	70,148	54,575	2,559
FARMER	1,490,627	102,027	411,535	621,327	300,899	54,839
MISC. PRIVATE	848,052	31,984	229,489	388,128	165,663	32,788
ALL OWNERSHIPS	2,636,320	154,463	771,629	1,093,583	526,459	90,186

¹ SEE STOCKING STANDARDS ON PAGE 7.

TABLE 12.--VOLUME OF TIMBER ON COMMERCIAL FOREST LAND, BY CLASS AND SPECIES GROUP, 1981

CLASS OF TIMBER	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
- - - - - THOUSAND CUBIC FEET - - - - -					
SAWTIMBER TREES:					
SAW-LOG PORTION	2,150,472	1,325,336	156,363	365,830	302,943
UPPER-STEM PORTION	212,289	101,291	11,950	54,181	44,867
TOTAL	2,362,761	1,426,627	168,313	420,011	347,810
POLETIMBER TREES	1,032,512	484,458	49,418	318,425	180,211
ALL GROWING-STOCK TREES	3,395,273	1,911,085	217,731	738,436	528,021
ROUGH TREES:					
SAWTIMBER-SIZE TREES	131,493	8,024	1,453	42,989	79,027
POLETIMBER-SIZE TREES	108,476	2,495	1,094	66,857	38,030
TOTAL	239,969	10,519	2,547	109,846	117,057
ROTTEN TREES:					
SAWTIMBER-SIZE TREES	32,140	--	2,328	13,279	16,533
POLETIMBER-SIZE TREES	3,515	--	222	2,115	1,178
TOTAL	35,655	--	2,550	15,394	17,711
SALVABLE DEAD TREES:					
SAWTIMBER-SIZE TREES	12,693	7,824	--	3,403	1,466
POLETIMBER-SIZE TREES	7,254	4,537	101	1,413	1,203
TOTAL	19,947	12,361	101	4,816	2,669
TOTAL, ALL TIMBER	3,690,844	1,933,965	222,929	868,492	665,458

TABLE 13. NUMBER OF GROWING STOCK TREES ON COMMERCIAL FOREST LAND, BY SPECIES AND DIAMETER CLASS, 1981

SPECIES	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)											29.0 AND LARGER
		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			
SOFTWOOD:													
THOUSAND TREES													
LONGLEAF PINE	23,044	5,910	5,308	4,587	3,317	2,178	1,220	377	49	98			
SLASH PINE	127,424	58,093	34,584	18,704	9,339	3,997	1,470	696	362	170		9	
SHORTLEAF PINE	3,955	1,491	1,105	451	332	275	150	105	32	14			
LOBLOLLY PINE	26,244	7,043	6,219	4,723	3,103	2,001	1,561	723	429	423		19	
POND PINE	4,090	1,856	720	472	470	259	227	35	31	20			
VIRGINIA PINE													
PITCH PINE													
TABLE MOUNTAIN PINE													
SPRUCE PINE	820	215	128	45	132	168	31	24	48	24		5	
SAND PINE													
EASTERN WHITE PINE													
EASTERN HEMLOCK													
SPRUCE AND FIR													
BALDCYPRESS	1,028	140	58	123	178	184	221	40	31	28		25	
POND CYPRESS	22,637	10,620	4,153	3,673	2,077	1,247	512	237	76	42			
CEDARS	172	88			84								
TOTAL SOFTWOODS	209,414	85,456	52,275	32,778	19,032	10,309	5,392	2,237	1,058	819		58	
HARDWOOD:													
SELECT WHITE OAKS	2,594	1,044	583	332	277	192	59	26	20	61		6	
SELECT RED OAKS	85				57	22							
CHESTNUT OAK													
OTHER WHITE OAKS	2,735	783	518	390	383	300	125	115	29	77		15	
OTHER RED OAKS	35,060	14,501	7,711	5,186	2,787	1,906	1,020	685	439	710		115	
HICKORY	2,168	275	768	411	328	167	45	64	69	37		4	
YELLOW BIRCH													
HARD MAPLE	249		190	33	26								
SOFT MAPLE	7,822	3,586	2,026	835	433	435	303	61	72	61			
BEECH	11,229	4,977	2,711	42	32		29	47		8			
SWEETGUM	11,481	4,977	2,743	1,680	1,044	529	265	152	43	48			
TUPELO AND BLACKGUM	47,463	20,343	10,267	6,774	5,012	2,599	1,443	552	240	222		11	
ASH	1,229	59	59	229	185	120	14	56	9	24			
COTTONWOOD	160	101											
BASSWOOD	86			86									
YELLOW-POPLAR	4,975	1,612	991	701	685	387	341	131	80	43		4	
BAY AND MAGNOLIA	8,882	3,963	2,432	887	827	352	250	99	28	39		5	
BLACK CHERRY	569	326	49	116	58	20							
BLACK WALNUT													
SYCAMORE						22	17			8			
BLACK LOCUST	47												
ELM	1,079	466	465	37	28	45	29		9				
OTHER EASTERN HARDWOODS	601	216	201	49	33	63		28		8		3	
TOTAL HARDWOODS	127,514	52,193	29,666	17,788	12,205	7,159	3,940	2,016	1,038	1,346		163	
ALL SPECIES	336,928	137,649	81,941	50,566	31,237	17,468	9,332	4,253	2,096	2,165		221	

TABLE 14. -- VOLUME OF ALL LIVE TREES ON COMMERCIAL FOREST LAND, BY SPECIES AND DIAMETER CLASS, 1981

SPECIES	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)										21.0- 28.9		29.0 AND LARGER	
		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						
THOUSAND CUBIC FEET															
SOFTWOOD:															
LONGLEAF PINE	327,852	15,173	32,704	57,718	69,220	67,016	50,394	21,810	3,539	10,278					
SLASH PINE	1,053,155	152,218	210,065	231,752	193,803	122,026	63,639	39,092	23,968	14,758				1,834	
SHORTLEAF PINE	48,991	3,439	6,497	4,956	8,017	9,541	6,449	6,186	2,231	1,675					
LOBLOLLY PINE	431,658	17,752	39,430	57,842	64,123	61,777	68,308	44,299	31,897	43,090				3,140	
PONOPINE	41,509	4,727	3,558	4,732	8,494	6,625	8,269	1,691	1,540	1,873					
VIRGINIA PINE															
PITCH PINE															
TABLE MOUNTAIN PINE															
SPRUCE PINE	18,439	595	795	715	2,320	4,952	1,308	1,413	3,459	2,092				790	
SANO PINE															
EASTERN WHITE PINE															
EASTERN HEMLOCK															
SPRUCE AND FIR															
BALDOCYPRESS	30,519	350	282	1,521	3,012	4,784	7,947	1,769	1,871	2,793				6,190	
PONOCYPRESS	190,546	26,060	23,599	41,010	35,069	31,431	16,070	9,630	3,962	3,505				6,210	
CEARS	1,763	443			1,320										
TOTAL SOFTWOODS	2,144,432	220,757	316,930	400,246	385,378	308,152	222,384	125,890	72,467	80,064	12,164				
HARWOOD:															
SELECT WHITE OAKS	32,123	3,353	3,594	4,011	5,128	4,530	2,159	1,698	1,229	6,421				1,708	
SELECT RED OAKS	3,322				1,101	513									
CHESTNUT OAK															
OTHER WHITE OAKS	99,044	3,868	6,181	5,872	9,413	13,788	9,761	9,887	4,583	22,743				12,948	
OTHER RED OAKS	431,238	43,463	51,856	54,945	47,003	48,765	38,412	31,795	25,576	65,760				23,663	
HICKORY	32,868	769	4,544	4,067	5,675	4,561	1,593	3,060	4,155	3,681				763	
YELLOW BIRCH															
HARD MAPLE	2,088		1,276	415	397										
SOFT MAPLE	104,540	20,674	19,633	12,029	9,059	15,758	12,340	4,708	4,719	5,620					
BEECH	6,366	263	360	895	451		1,249	2,407		741					
SWEETGUM	110,547	13,734	20,798	19,125	19,875	13,073	9,619	7,611	2,588	4,124					
TUPELO AND BLACKGUM	473,260	61,381	73,805	74,765	89,001	65,408	49,084	25,650	12,783	19,850				1,533	
ASH	22,975	568	5,664	2,604	3,545	3,001	898	2,952	835	2,908					
COTTONWOOD	950	414	536												
BASSWOOD	974			974											
YELLOW-POPLAR	68,601	4,898	6,891	8,003	12,302	10,382	11,856	5,658	4,228	3,496				887	
BAY AND MAGNOLIA	85,580	13,089	15,970	10,847	15,102	9,595	9,310	4,646	1,981	4,077				963	
BLACK CHERRY	5,635	1,058	1,046	1,342	1,231	531				427					
BLACK WALNUT															
SYCAMORE															
BLACK LOCUST	1,857					580	666			611					
ELM															
OTHER EASTERN HARWOODS	35,624	10,264	8,176	3,613	4,906	3,876	1,271	918	606	184				848	
TOTAL HARWOODS	1,526,465	178,706	223,843	204,267	224,668	195,675	149,325	100,990	64,229	141,449	43,313				
ALL SPECIES	3,670,897	399,463	540,773	604,513	610,046	503,827	371,709	226,880	136,696	221,513	55,477				

TABLE 15. --- VOLUME OF GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES AND DIAMETER CLASS, 1981

SPECIES	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)											29.0 AND LARGER
		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			
THOUSAND CUBIC FEET													
SOFTWOOD:													
LONGLEAF PINE	327,386	15,173	32,596	57,718	68,862	67,016	50,394	21,810	3,539	10,278	--	--	
SLASH PINE	1,051,103	151,866	210,065	231,271	192,584	122,026	63,639	39,092	23,968	14,758	1,834	--	
SHORTLEAF PINE	48,865	3,439	6,371	4,956	8,017	9,541	6,449	6,186	2,231	1,675	--	--	
LOBLOLLY PINE	424,712	17,242	38,410	57,042	63,440	60,304	67,541	43,499	31,897	42,197	3,140	--	
POND PINE	40,580	4,348	3,558	4,732	8,494	6,625	7,719	1,691	1,540	1,873	--	--	
VIRGINIA PINE	--	--	--	--	--	--	--	--	--	--	--	--	
PITCH PINE	--	--	--	--	--	--	--	--	--	--	--	--	
TABLE MOUNTAIN PINE	--	--	--	--	--	--	--	--	--	--	--	--	
SPRUCE PINE	18,439	595	795	715	2,320	4,952	1,308	1,413	3,459	2,092	790	--	
SAND PINE	--	--	--	--	--	--	--	--	--	--	--	--	
EASTERN WHITE PINE	--	--	--	--	--	--	--	--	--	--	--	--	
EASTERN HEMLOCK	--	--	--	--	--	--	--	--	--	--	--	--	
SPRUCE AND FIR	--	--	--	--	--	--	--	--	--	--	--	--	
BALDCYPRESS	29,520	350	282	1,521	3,012	4,784	7,947	1,769	1,871	2,526	5,458	--	
POND CYPRESS	186,448	25,767	22,576	40,580	35,069	30,168	15,739	9,630	3,730	3,189	--	--	
CEDARS	1,763	443	--	--	1,320	--	--	--	--	--	--	--	
TOTAL SOFTWOODS	2,128,816	219,223	314,653	398,535	383,118	305,416	220,736	125,090	72,235	78,588	11,222	--	
HARDWOOD:													
SELECT WHITE OAKS	31,340	3,086	3,594	4,011	5,128	4,530	2,159	1,182	1,229	6,421	1,708	--	
SELECT RED OAKS	3,322	--	--	--	1,101	513	--	--	--	--	--	--	
CHESTNUT OAK	--	--	--	--	--	--	--	--	--	--	--	--	
OTHER WHITE OAKS	37,156	1,712	2,575	3,420	4,666	6,452	4,097	4,544	1,425	5,814	2,451	--	
OTHER RED OAKS	392,735	40,523	49,765	51,901	44,928	45,551	32,776	28,292	22,537	59,114	17,348	--	
HICKORY	31,908	769	4,300	3,747	5,675	4,165	1,593	3,060	4,155	3,681	763	--	
YELLOW BIRCH	--	--	--	--	--	--	--	--	--	--	--	--	
HARD MAPLE	2,088	--	1,276	415	397	--	--	--	--	--	--	--	
SOFT MAPLE	65,785	10,502	11,471	7,728	7,085	9,953	9,310	2,447	3,084	4,205	--	--	
BEECH	5,664	--	360	456	451	--	1,249	2,407	--	741	--	--	
SWEETGUM	104,003	10,994	18,231	18,827	19,359	13,073	9,619	7,611	2,588	3,701	--	--	
TUPELO AND BLACKGUM	410,219	50,856	60,657	66,600	79,251	58,234	44,315	21,992	11,340	15,724	1,250	--	
ASH	20,318	--	4,516	2,604	3,351	3,001	607	2,952	1,582	2,705	--	--	
COTTONWOOD	950	414	536	--	--	--	--	--	--	--	--	--	
BASSWOOD	974	--	--	974	--	--	--	--	--	--	--	--	
YELLOW-POPLAR	67,140	4,393	6,891	8,003	11,691	10,382	11,856	5,658	4,228	3,496	542	--	
BAY AND MAGNOLIA	73,107	10,053	14,143	9,482	13,583	8,653	8,190	4,064	1,509	2,725	705	--	
BLACK CHERRY	4,605	1,058	443	1,342	1,231	531	--	--	--	--	--	--	
BLACK WALNUT	--	--	--	--	--	--	--	--	--	--	--	--	
SYCAMORE	1,857	--	--	--	--	580	666	--	--	611	--	--	
BLACK LOCUST	--	--	--	--	--	--	--	--	--	--	--	--	
ELM	7,660	910	2,813	431	479	1,314	1,107	--	606	--	--	--	
OTHER EASTERN HARDWOODS	5,626	472	1,010	372	412	1,407	--	902	--	606	445	--	
TOTAL HARDWOODS	1,266,457	135,742	182,581	180,313	198,788	168,339	127,544	85,111	53,283	109,544	25,212	--	
ALL SPECIES	3,395,273	354,965	497,234	578,848	581,906	473,755	348,280	210,201	125,518	188,132	36,434	--	

TABLE 16. -- VOLUME OF SANTIMBER ON COMMERCIAL FOREST LAND, BY SPECIES AND DIAMETER CLASS, 1981

SPECIES	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)								21.0-28.9	29.0 AND LARGER
		9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9				
-- THOUSAND BOARD FEET --											
SOFTWOOD:											
LONGLEAF PINE	1,438,552	232,763	332,085	359,640	289,543	132,776	22,602	69,143			
SLASH PINE	3,238,045	860,565	884,385	632,307	362,022	235,624	151,256	98,612			13,274
SHORTLEAF PINE	200,347	18,068	37,129	48,631	35,577	36,244	13,665	11,033			
LOBLOLLY PINE	1,914,307	200,454	279,850	304,830	373,005	257,305	198,716	277,883			22,264
POND PINE	162,050	17,552	37,727	33,320	42,137	9,896	9,313	12,105			
VIRGINIA PINE	--	--	--	--	--	--	--	--			
PITCH PINE	--	--	--	--	--	--	--	--			
TABLE MOUNTAIN PINE	--	--	--	--	--	--	--	--			
SPRUCE PINE	85,121	3,153	10,693	24,070	6,547	7,249	18,053	11,054			4,302
SAND PINE	--	--	--	--	--	--	--	--			
EASTERN WHITE PINE	--	--	--	--	--	--	--	--			
EASTERN HEMLOCK	--	--	--	--	--	--	--	--			
SPRUCE AND FIR	--	--	--	--	--	--	--	--			
BALDCYPRESS	143,963	4,255	10,950	20,664	38,289	8,973	10,191	14,903			35,738
POND CYPRESS	561,848	125,952	136,767	133,934	76,016	50,103	20,369	18,707			
CEDARS	6,214	--	6,214	--	--	--	--	--			
TOTAL SOFTWOODS	7,750,447	1,462,762	1,735,800	1,557,396	1,223,136	738,170	444,165	513,440			75,578
HARDWOOD:											
SELECT WHITE OAKS	91,831	--	16,409	17,946	9,498	5,776	6,479	35,723			11,868
SELECT RED OAKS	17,895	--	3,945	2,082	--	--	--	--			
CHESTNUT OAK	--	--	--	--	--	--	--	--			
OTHER WHITE OAKS	141,783	--	16,318	26,972	19,262	22,733	7,555	33,334			15,609
OTHER RED OAKS	1,236,803	--	167,995	196,602	156,712	143,854	119,844	342,914			108,882
HICKORY	105,496	--	19,549	16,742	7,278	15,010	21,727	20,470			4,720
YELLOW BIRCH	--	--	--	--	--	--	--	--			
HARD MAPLE	1,484	--	1,484	--	--	--	--	--			
SOFT MAPLE	144,410	--	22,200	36,771	38,516	11,094	14,450	21,379			
BEECH	19,189	--	1,631	--	4,902	9,606	--	3,050			
SWEETGUM	246,316	--	69,267	54,335	46,444	39,920	14,404	21,946			
TUPELO AND BLACKGUM	935,918	--	249,381	226,846	196,555	106,958	58,819	89,106			8,253
ASH	56,715	--	11,029	11,460	2,639	13,922	2,922	14,743			
COTTONWOOD	--	--	--	--	--	--	--	--			
BASSWOOD	--	--	--	--	--	--	--	--			
YELLOW-POPLAR	222,399	--	41,212	44,866	57,838	29,585	23,926	21,353			3,619
BAY AND MAGNOLIA	166,735	--	44,281	34,461	37,639	20,611	8,201	16,043			5,499
BLACK CHERRY	6,453	--	4,378	2,075	--	--	--	--			
BLACK WALNUT	--	--	--	--	--	--	--	--			
SYCAMORE	8,141	--	--	2,133	2,790	--	--	3,218			
BLACK LOCUST	--	--	--	--	--	--	--	--			
ELM	14,382	--	1,555	5,179	4,750	--	2,898	--			
OTHER EASTERN HARDWOODS	16,113	--	814	5,385	--	3,804	--	--			3,080
TOTAL HARDWOODS	3,432,063	--	671,448	683,855	584,823	422,873	281,225	626,309			161,530
ALL SPECIES	11,182,510	1,462,762	2,407,248	2,241,251	1,807,959	1,161,043	725,390	1,139,749			237,108

TABLE 17. --NET ANNUAL GROWTH AND REMOVALS OF GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES, 1980

SPECIES	NET ANNUAL GROWTH	ANNUAL TIMBER REMOVALS
- - THOUSAND CUBIC FEET - -		
SOFTWOOD:		
YELLOW PINES	159,782	129,479
EASTERN WHITE PINE	--	--
SPRUCE AND FIR	--	--
CYPRESS	6,612	936
OTHER EASTERN SOFTWOODS	92	--
TOTAL SOFTWOODS	166,486	130,415
HARDWOOD:		
SELECT WHITE AND RED OAKS	1,128	1,089
OTHER WHITE AND RED OAKS	25,304	14,253
HICKORY	1,590	190
YELLOW BIRCH	--	--
HARD MAPLE	40	--
SWEETGUM	6,406	2,707
ASH, WALNUT, AND BLACK CHERRY	1,364	506
YELLOW-POPLAR	5,056	2,624
TUPELO AND BLACKGUM	10,757	4,453
BAY AND MAGNOLIA	2,428	1,423
OTHER EASTERN HARDWOODS	4,892	2,599
TOTAL HARDWOODS	58,965	29,844
ALL SPECIES	225,451	160,259

TABLE 18. --NET ANNUAL GROWTH AND REMOVALS OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY SPECIES, 1980

SPECIES	NET ANNUAL GROWTH	ANNUAL TIMBER REMOVALS
- - - THOUSAND BOARD FEET - - -		
SOFTWOOD:		
YELLOW PINES	660,922	505,240
EASTERN WHITE PINE	--	--
SPRUCE AND FIR	--	--
CYPRESS	26,217	1,915
OTHER EASTERN SOFTWOODS	341	--
TOTAL SOFTWOODS	687,480	507,155
HARDWOOD:		
SELECT WHITE AND RED OAKS	4,482	4,657
OTHER WHITE AND RED OAKS	83,189	30,225
HICKORY	5,346	607
YELLOW BIRCH	--	--
HARD MAPLE	160	--
SWEETGUM	25,224	3,617
ASH, WALNUT, AND BLACK CHERRY	4,747	1,628
YELLOW-POPLAR	20,038	13,548
TUPELO AND BLACKGUM	32,353	18,672
BAY AND MAGNOLIA	6,111	5,157
OTHER EASTERN HARDWOODS	8,913	7,875
TOTAL HARDWOODS	190,563	85,986
ALL SPECIES	878,043	593,141

TABLE 19. --MORTALITY OF GROWING STOCK AND SAWTIMBER ON COMMERCIAL
FOREST LAND, BY SPECIES, 1980

SPECIES	GROWING STOCK	SAWTIMBER
	THOUSAND CUBIC FEET	THOUSAND BOARD FEET
SOFTWOOD:		
YELLOW PINES	20,166	65,981
EASTERN WHITE PINE	--	--
SPRUCE AND FIR	--	--
CYPRESS	165	--
OTHER EASTERN SOFTWOODS	--	--
TOTAL SOFTWOODS	20,331	65,981
HARDWOOD:		
SELECT WHITE AND RED OAKS	129	--
OTHER WHITE AND RED OAKS	3,816	11,479
HICKORY	--	--
YELLOW BIRCH	--	--
HARD MAPLE	125	611
SWEETGUM	3,950	12,252
ASH, WALNUT, AND BLACK CHERRY	101	--
YELLOW-POPLAR	1,303	3,325
TUPELO AND BLACKGUM	1,346	5,330
BAY AND MAGNOLIA	373	1,147
OTHER EASTERN HARDWOODS	1,542	3,680
TOTAL HARDWOODS	12,685	37,824
ALL SPECIES	33,016	103,805

TABLE 20. --VOLUME OF ALL LIVE TREES AND GROWING STOCK ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1981

OWNERSHIP CLASS	ALL LIVE TREES				GROWING STOCK					
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARWOOD	HARD HARWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARWOOD	HARD HARWOOD
						THOUSAND CUBIC FEET				
NATIONAL FOREST	6,650	5,987	--	663	--	6,380	5,987	--	393	--
OTHER PUBLIC	35,574	18,010	1,829	6,342	9,393	32,659	18,010	1,829	5,551	7,269
FOREST INDUSTRY	378,510	259,711	11,668	51,600	55,531	362,663	259,359	11,668	44,447	47,189
FARMER	2,232,230	1,117,771	133,982	592,794	387,703	2,054,012	1,110,828	131,781	505,054	306,349
MISCELLANEOUS PRIVATE	1,017,933	520,125	75,369	212,277	210,162	939,559	516,901	72,453	182,991	167,214
ALL OWNERSHIPS	3,670,897	1,921,604	222,828	863,676	662,789	3,395,273	1,911,085	217,731	738,436	528,021

TABLE 21. --VOLUME OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1981

OWNERSHIP CLASS	SMALL SAWTIMBER ¹					LARGE SAWTIMBER ²				
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
					THOUSAND BOARD FEET					
NATIONAL FOREST	11,096	9,834	--	1,262	--	12,531	12,531	--	--	--
OTHER PUBLIC	60,575	44,326	3,838	2,572	9,839	30,372	9,968	3,449	9,468	7,487
FOREST INDUSTRY	638,410	534,019	15,016	35,760	53,615	423,260	249,889	31,794	57,899	83,678
FARMER	3,855,224	2,661,760	289,368	611,121	292,975	2,949,807	1,641,711	109,748	582,913	615,435
MISCELLANEOUS PRIVATE	1,545,956	1,067,283	130,514	189,039	159,120	1,655,279	807,101	128,298	261,644	458,236
ALL OWNERSHIPS	6,111,261	4,317,222	438,736	839,754	515,549	5,071,249	2,721,200	273,289	911,924	1,164,836

¹ VOLUME OF SAWTIMBER TREES LESS THAN 15.0 INCHES AT 0.8 H.² VOLUME OF SAWTIMBER TREES 15.0 INCHES AND LARGER AT 0.8 H.

TABLE 22. --NET ANNUAL GROWTH AND REMOVALS OF GROWING STOCK ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1980

OWNERSHIP CLASS	NET ANNUAL GROWTH				ANNUAL TIMBER REMOVALS					
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
THOUSAND CUBIC FEET										
NATIONAL FOREST	444	429	--	15	--	--	--	--	--	--
OTHER PUBLIC	2,230	1,516	56	329	329	180	--	--	--	180
FOREST INDUSTRY	30,660	25,867	268	2,069	2,456	13,192	11,979	--	374	839
FARMER	129,983	87,887	4,242	19,661	18,193	102,664	80,567	440	10,282	11,375
MISCELLANEOUS PRIVATE	62,134	44,083	2,138	7,435	8,478	44,223	36,933	496	2,961	3,833
ALL OWNERSHIPS	225,451	159,782	6,704	29,509	29,456	160,259	129,479	936	13,617	16,227

TABLE 23. --NET ANNUAL GROWTH AND REMOVALS OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1980

OWNERSHIP CLASS	NET ANNUAL GROWTH				ANNUAL TIMBER REMOVALS					
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
THOUSAND BOARD FEET										
NATIONAL FOREST	2,326	2,254	--	72	--	--	--	--	--	--
OTHER PUBLIC	13,768	9,529	301	1,008	2,930	836	--	--	--	836
FOREST INDUSTRY	107,954	91,541	1,193	4,754	10,466	38,778	37,297	--	--	1,481
FARMER	527,469	389,407	15,301	68,366	54,395	396,940	335,461	344	35,986	25,149
MISCELLANEOUS PRIVATE	226,526	168,191	9,763	18,445	30,127	156,587	132,482	1,571	12,444	10,090
ALL OWNERSHIPS	878,043	660,922	26,558	92,645	97,918	593,141	505,240	1,915	48,430	37,556

TABLE 24. --AVERAGE NET VOLUME PER ACRE OF SAWTIMBER, GROWING STOCK, AND OTHER LIVE TIMBER ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS, MAJOR FOREST TYPE, AND SPECIES GROUP, 1981

FOREST TYPE, SPECIES GROUP, AND CLASS OF MATERIAL	ALL OWNERSHIPS		OWNERSHIP CLASS									
	NATIONAL FOREST		OTHER PUBLIC		FOREST INDUSTRY		FARMER		MISC. PRIVATE			
	BOARD FEET	CUBIC FEET	BOARD FEET	CUBIC FEET	BOARD FEET	CUBIC FEET	BOARD FEET	CUBIC FEET	BOARD FEET	CUBIC FEET	BOARD FEET	CUBIC FEET
PINE TYPES:												
GROWING STOCK:												
SOFTWOOD	4,399	1,279	3,443	922	5,495	1,914	3,023	1,091	5,277	1,437	3,651	1,102
HARDWOOD	167	70	194	60	--	29	59	28	221	93	137	56
TOTAL	4,566	1,349	3,637	982	5,495	1,943	3,082	1,119	5,498	1,530	3,788	1,158
OTHER TIMBER:												
SOFTWOOD	--	6	--	--	--	--	--	2	--	7	--	7
HARDWOOD	--	16	--	42	--	--	--	4	--	21	--	13
TOTAL	--	22	--	42	--	--	--	6	--	28	--	20
OAK-PINE TYPES:												
GROWING STOCK:												
SOFTWOOD	3,095	709	--	--	--	--	3,138	655	3,017	708	3,214	727
HARDWOOD	833	358	--	--	--	--	1,479	495	691	340	863	343
TOTAL	3,928	1,067	--	--	--	--	4,617	1,150	3,708	1,048	4,077	1,070
OTHER TIMBER:												
SOFTWOOD	--	11	--	--	--	--	--	--	--	15	--	10
HARDWOOD	--	103	--	--	--	--	--	67	--	125	--	80
TOTAL	--	114	--	--	--	--	--	67	--	140	--	90
UPLAND HARDWOOD TYPES:												
GROWING STOCK:												
SOFTWOOD	542	113	--	--	--	--	128	47	601	115	507	120
HARDWOOD	1,813	610	--	--	1,761	564	1,012	540	1,977	706	1,646	466
TOTAL	2,355	723	--	--	1,761	564	1,140	587	2,578	821	2,153	586
OTHER TIMBER:												
SOFTWOOD	--	2	--	--	--	--	--	--	--	4	--	--
HARDWOOD	--	176	--	--	--	633	--	154	--	204	--	125
TOTAL	--	178	--	--	--	633	--	154	--	208	--	125
BOTTOMLAND HARDWOOD TYPES:												
GROWING STOCK:												
SOFTWOOD	1,683	424	--	--	820	179	1,626	354	1,558	410	2,053	496
HARDWOOD	3,271	1,202	--	--	1,615	727	2,933	1,160	3,213	1,228	3,627	1,193
TOTAL	4,954	1,626	--	--	2,435	906	4,559	1,514	4,771	1,638	5,680	1,689
OTHER TIMBER:												
SOFTWOOD	--	6	--	--	--	--	--	--	--	3	--	14
HARDWOOD	--	199	--	--	--	72	--	191	--	198	--	214
TOTAL	--	205	--	--	--	72	--	191	--	201	--	228
ALL TYPES:												
GROWING STOCK:												
SOFTWOOD	2,940	807	3,443	922	2,290	738	2,651	865	3,176	839	2,637	729
HARDWOOD	1,302	480	194	60	1,092	477	737	292	1,420	548	1,320	433
TOTAL	4,242	1,287	3,637	982	3,382	1,215	3,388	1,157	4,596	1,387	3,957	1,162
OTHER TIMBER:												
SOFTWOOD	--	6	--	--	--	--	--	1	--	6	--	8
HARDWOOD	--	99	--	42	--	108	--	49	--	114	--	89
TOTAL	--	105	--	42	--	108	--	50	--	120	--	97

TABLE 25. --LAND AREA, BY CLASS, MAJOR FOREST TYPE, AND SURVEY COMPLETION DATE, 1960, 1971, AND 1981

LAND USE CLASS	SURVEY COMPLETION DATE			CHANGE 1971-1981
	1960	1971	1981	
- - - - - ACRES - - - - -				
FOREST LAND:				
COMMERCIAL FOREST LAND:				
PINE AND OAK-PINE TYPES	1,988,900	1,789,378	1,536,374	-253,004
HARDWOOD TYPES	1,075,600	1,094,453	1,099,946	+ 5,493
TOTAL	3,064,500	2,883,831	2,636,320	-247,511
NONCOMMERCIAL FOREST LAND:				
PRODUCTIVE-RESERVED	--	5,500	6,877	+ 1,377
UNPRODUCTIVE	--	7,309	--	- 7,309
TOTAL	--	12,809	6,877	- 5,932
NONFOREST LAND:				
CROPLAND	1,985,800	1,917,014	2,224,066	+307,052
PASTURE AND RANGE	396,900	445,694	387,249	- 58,445
OTHER	168,500	337,769	342,605	+ 4,836
TOTAL	2,551,200	2,700,477	2,953,920	+253,443
ALL LAND ¹	5,615,700	5,597,117	5,597,117	--

¹ EXCLUDES ALL WATER AREAS.

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

SPECIES GROUP	YEAR	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)								
			5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0 AND LARGER
SAWTIMBER (IN THOUSAND BOARD FEET)											
SOFTWOOD	1960	4,828,806	-	-	1,083,413	1,165,196	1,032,955	621,794	451,745	235,956	237,747
	1971	6,439,288	-	-	1,165,574	1,509,965	1,466,870	999,269	609,479	300,612	387,519
	1981	7,750,447	-	-	1,462,762	1,735,800	1,557,396	1,223,136	738,170	444,165	589,018
HARDWOOD	1960	2,455,116	-	-	-	571,078	562,384	376,827	310,430	217,279	417,118
	1971	2,797,710	-	-	-	557,319	554,938	480,274	322,592	273,358	609,229
	1981	3,432,063	-	-	-	671,448	683,855	584,823	422,873	281,225	787,839
GROWING STOCK (IN THOUSAND CUBIC FEET)											
SOFTWOOD	1960	1,356,847	131,949	206,552	295,208	257,161	202,580	112,217	76,554	38,373	36,253
	1971	1,854,594	250,218	274,247	317,595	333,252	287,678	180,341	103,284	48,888	59,091
	1981	2,128,816	219,223	314,653	398,535	383,118	305,416	220,736	125,090	72,235	89,810
HARDWOOD	1960	952,427	92,391	136,210	159,127	169,058	138,450	82,187	62,486	41,167	71,351
	1971	1,059,501	106,618	157,046	168,547	164,985	136,617	104,749	64,934	51,792	104,213
	1981	1,266,457	135,742	182,581	180,313	198,788	168,339	127,544	85,111	53,283	134,756
ALL LIVE TIMBER (IN THOUSAND CUBIC FEET)											
SOFTWOOD	1960	1,365,748	132,460	207,937	296,350	258,739	204,397	113,061	77,017	38,511	37,276
	1971	1,866,984	251,185	276,085	318,821	335,291	290,240	181,674	103,937	49,038	60,713
	1981	2,144,432	220,757	316,930	400,246	385,378	308,152	222,384	125,890	72,467	92,228
HARDWOOD	1960	1,138,714	121,677	167,002	180,119	191,102	160,946	96,226	74,168	49,653	97,821
	1971	1,274,113	140,417	192,542	190,789	186,501	158,811	122,631	77,072	62,451	142,899
	1981	1,526,465	178,706	223,843	204,267	224,668	195,675	149,325	100,990	64,229	184,762

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

Sheffield, Raymond M.

Forest statistics for Southwest Georgia, 1981. Resour. Bull. SE-61. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southeastern Forest Experiment Station; 1981. 28 p.

Since the fourth inventory of the forest resources of Southwest Georgia in 1971, the area of commercial forest land has declined by over 247,000 acres, or by 9 percent. Commercial forests now occupy 2.6 million acres, or 47 percent of the land area. Nonindustrial private landowners hold 89 percent of the commercial forest land. The inventory of softwood and hardwood growing stock increased by 15 and 20 percent, respectively. Softwood species comprise 63 percent of the current inventory; slash pine is the predominant softwood species. The number of softwood trees in the 2-, 4-, and 6-inch diameter classes declined by 53, 35, and 12 percent, respectively, since 1971. Net annual growth of growing stock totaled 225 million cubic feet, an average of nearly 86 cubic feet per acre of commercial forest land. Annual timber removals totaled 160 million cubic feet.

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

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



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

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62

FLORIDA'S FORESTS



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February 1982
Southeastern Forest Experiment Station
Asheville, North Carolina

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Photos courtesy of Division of Forestry, Florida Department of
Agriculture and Consumer Services

Foreword

In accordance with the Forest and Rangeland Renewable Resources Planning Act (RPA) of 1974, the fifth inventory of Florida's forests was expanded to accommodate both timber and nontimber valuations. This report presents the principal findings of the timber evaluation. The nontimber evaluations will be published separately.

In this fifth inventory, fieldwork began in September 1978 and was completed in May 1980. Four previous statewide inventories, completed in 1936, 1949, 1959, and 1970, provide reference points for measuring changes and trends over the past 44 years. This analysis focuses mainly on changes since 1970.

RPA and the Forest and Rangeland Renewable Resources Research Act of 1978 authorize these forest inventories and evaluations. The Southeastern Forest Experiment Station, headquartered in Asheville, North Carolina, administers these forest evaluations in Florida, Georgia, North Carolina, South Carolina, and Virginia. The primary objective of these periodic evaluations is to develop and maintain the resource information needed for formulating sound forest policies and programs.

The combined efforts of many people have gone into this inventory of Florida's forest resources. Appreciation is expressed to all Station personnel who participated in the field and office work. The Southeastern Station gratefully acknowledges the cooperation and assistance provided by the Division of Forestry, Florida Department of Agriculture and Consumer Services, and special support provided by the Department of Defense for the inventory of land on Eglin Air Force Base. Appreciation is also expressed for the cooperation of other public agencies, forest industries, and private landowners in providing information and allowing access to the sample locations.

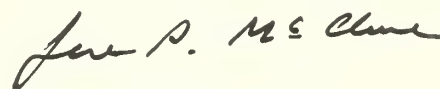
For inventory purposes and analyses, Florida is divided into four areas called Survey Units. A report highlighting the inventory findings and containing breakdowns of the data has already been published for each of the Survey Units. A preliminary State statistical report, a compilation of statistics from all Unit Reports, has also been published. Copies of these reports may be obtained free of charge from the Southeastern Station.

Information contained in these reports includes the most commonly used resources evaluation statistics. A Forest Information Retrieval (FIR) service is available for the custom compilation of similar forest resource data for any area within the five Southeastern States. Those requesting custom compilations or additional information that can be provided from the raw inventory data are expected to pay the retrieval costs, which vary with the complexity of the request. Costs may range from less than \$100, for a relatively simple request, up to several thousand dollars for a complex retrieval involving the services of a programmer. Although we strive to serve each request promptly, other work will sometimes delay attention to requests of this kind.

Requests for information may be directed to:

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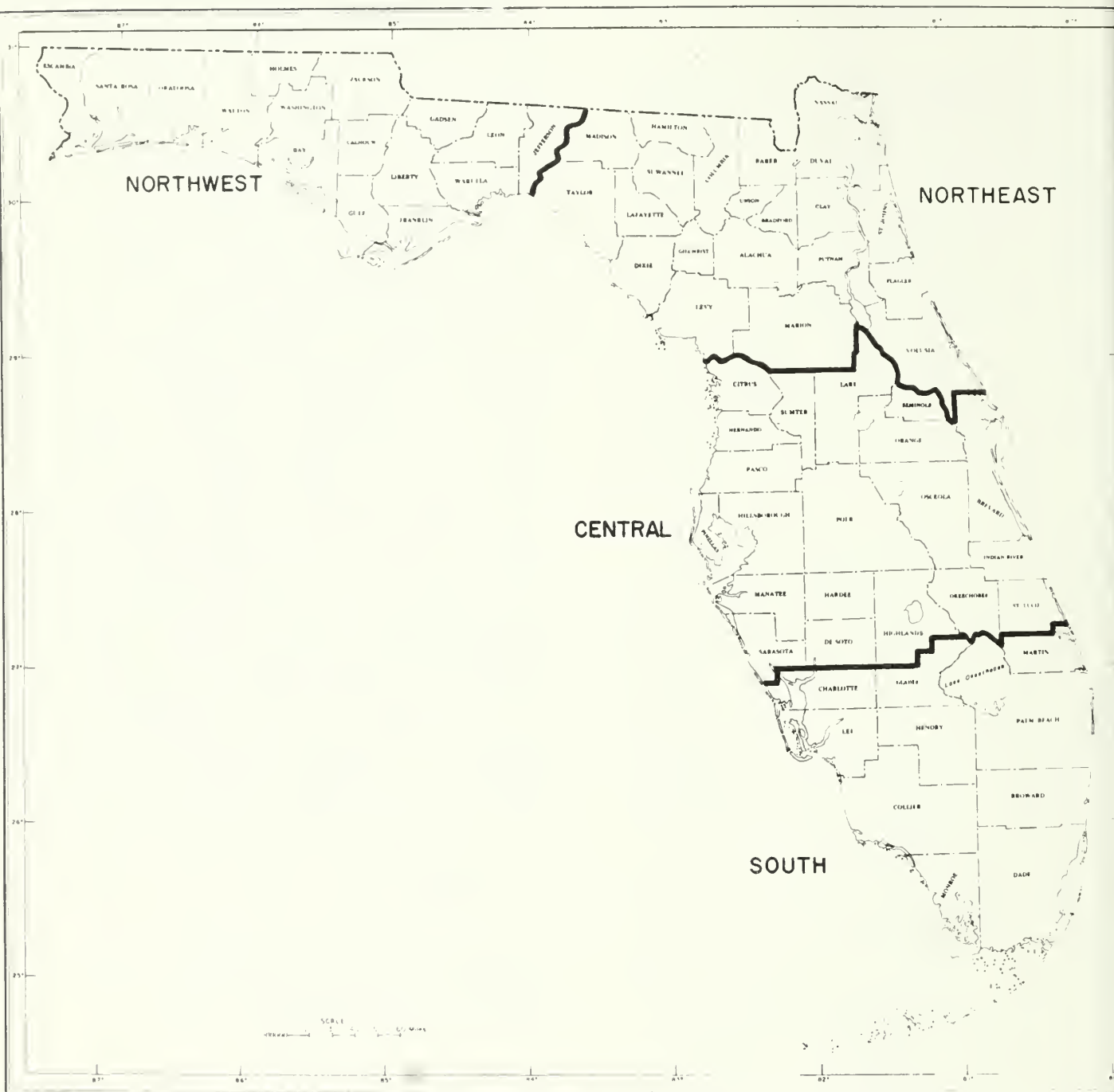


Figure 1.--Forest Survey Units in Florida.

FLORIDA'S FORESTS

by

William A. Bechtold, Resource Analyst

and

Herbert A. Knight, Resource Analyst

Forest Resources in the Southeast

Asheville, North Carolina

HIGHLIGHTS

Since the fourth inventory of Florida's forest resources was completed in 1970

- area of commercial forest land has declined by 597,000 acres, or by 4 percent. This decrease masked land use changes on nearly 2 million acres. Statewide, 1.3 million acres were diverted from forest to some other land use, while nearly 0.7 million acres were added to the commercial forestland base. Of the diversions, 42 percent went to urban, 35 percent to agriculture, 22 percent to noncommercial forest, and less than 1 percent to water. Of the additions, 0.3 million acres reverted from nonforest to timberland, and 0.4 million acres were reclassified from noncommercial to commercial forest. Almost 83 percent of the reclassification occurred in South Florida. Altogether, these changes reduced the commercial forest base to 15.7 million acres, or 45 percent of the total land. Decreases were measured in all Survey Units except South Florida.

- area of commercial forest land owned by farmers and miscellaneous private individuals has decreased. The majority of the decrease in these ownership categories was due to land clearing and a shift of acreage to miscellaneous private corporate owners. Farmer-owned forest land has declined

by 984,000 acres, or 33 percent. Commercial forest land owned by miscellaneous private individuals has declined by 670,000 acres, or 15 percent. Holdings by private corporations other than forest industry have increased by 906,000 acres, or 44 percent. Land acquisitions by forest industry have increased their holdings by 117,000 acres. Forest industry now owns 4.7 million acres, and controls another 740,000 acres under long-term lease agreements. The commercial forest acreage in public holdings has remained relatively constant. Referrals to forest industry land in this report will include land leased from other owners.

- total acreage in the slash pine forest type has changed by less than 1 percent. The slash pine forest type occupies 34 percent of Florida's timberland and is the dominant forest type in the two northern Units. The oak-gum-cypress forest type covers 27 percent of Florida's commercial forest and is the dominant forest type in Central and South Florida. The long-leaf pine type has continued its extended decline and now accounts for only 8 percent of Florida's commercial forest. Area occupied by all pine forest types has decreased by 241,000 acres, or 3 percent, while area occupied by hardwood and oak-pine types has decreased by 356,000 acres, or 4 percent.

- nonstocked forest acreage has declined by 0.6 million acres, or 22 percent. The reduction of nonstocked forest acreage is largely due to higher rates of land clearing and higher rates of planting on nonstocked areas than on commercial forest as a whole. Net changes in the amount of acreage assigned to sawtimber, poletimber, and sapling-seedling stands come to less than 1 percent.

- within forest types, distribution of stand-size classes has changed significantly. Pine poletimber stands have increased by 4 percent, while hardwood poletimber stands decreased by 7 percent. In the sapling-seedling stand-size class, area of pine stands decreased by 14 percent, while hardwood stands increased by 39 percent. Because of recent reductions in tree planting, the number of softwood saplings has decreased by 15 percent, and the number of hardwood saplings has increased by 15 percent.

- volume of growing stock on commercial forest has increased from 11.6 to 13.6 billion cubic feet, or by 18 percent. Softwood growing stock makes up 64 percent of the total, and has increased by 20 percent. Volume of hardwood growing stock has increased by 15 percent. The current inventory of growing stock includes 39.9 billion board feet of sawtimber. Growing-stock volume increases were measured in all Survey Units, but 78 percent of the total increase occurred in the two northern Units. Slash pine is the dominant species in the State, with 28 percent of the total growing-stock volume. Slash pine growing-stock volume has increased by 35 percent since the fourth survey; it has increased more than the volume of any other major species. Over 52 percent of the total growing-stock volume occurs on nonindustrial private forest (NIPF) land. The NIPF ownership class includes farmers and miscellaneous private individuals, not including lands leased to forest industry, and miscellaneous private corporations other than forest industry.

- the average rate of net annual growth has increased from 33 to 50

cubic feet per acre of commercial forest. Net annual growth across all commercial forest stands averaged 39 cubic feet per acre for softwoods and 11 cubic feet per acre for hardwoods. By Survey Unit, average growth per acre ranged from 63 cubic feet in the Northeast to 25 cubic feet in the South. By ownership class, average growth ranged from 60 cubic feet on National Forests to 44 cubic feet on other public land. Net annual growth was 57 cubic feet per acre on forest industry land and 45 cubic feet per acre on NIPF land.

- 542 million cubic feet of growing stock were removed from Florida's forests in 1979. This volume represents a 56 percent increase over 1969 levels. Softwoods provided a disproportionate share of growing-stock removals. Softwood growing stock made up 64 percent of the inventory and 77 percent of net growth, but provided 84 percent of the total removals. Of the total growing-stock removals, 72 percent were used for timber products, 7 percent remained in the woods as logging residues, and 21 percent resulted from cultural practices, land clearing, or other actions where trees were removed from commercial forests but not used.

Annual removals from growing stock in 1979 included 1.8 billion board feet of sawtimber.

- pulpwood has remained the leading forest product. Pulpwood accounted for 64 percent of the total timber product output in 1979. Between 1969 and 1979 annual pulpwood production rose from 3.4 to 3.8 million cords, or by 11 percent. Saw-log production more than doubled between 1969 and 1979. Annual output of saw logs in 1979 was 733 million board feet. Production of hardwood veneer logs fell by 65 percent. Veneer production shifted from a market previously dominated by hardwoods to a market now dominated by softwoods.

- the number of acres planted annually to pine has declined by 24 percent. Vast planting efforts on NIPF land diminished following the termination of the Conservation Reserve Soil Bank Program in the early 1960's. Al-

ternate expansion of planting on forest industry land was insufficient to offset the NIPF decline. Average annual acreage planted between 1970 and 1980, compared to planting between 1959 and 1970, reflects this net decline.

- 1 acre was planted for every 2 acres harvested. About 2.6 million acres were harvested and retained in forest since the fourth survey. During the same period, 1.4 million acres were artificially regenerated. Due largely to efforts on the part of forest industry, the ratio of total planting to total harvesting in Florida was the highest in the Southeast. Forest industry and public owners planted about 2 acres for every 3 acres harvested. NIPF owners planted only 1 acre for every 4 harvested. In addition to acres planted, natural regeneration followed a harvest on 245,000 acres. Another 227,000 acres reverted naturally to forest from old fields and other nonforest. Thus, some 1.8 million acres were regenerated to a stocking level of at least 16.7 percent. However, only 1.4 million of these acres supported a manageable stand. For every 2 acres harvested, about 1 acre was replaced, either naturally or artificially, by a manageable stand.

- the overall outlook for prospective timber supplies has improved, but attention to management opportunities can further increase future supplies. If certain basic assumptions hold true, historic trends indicate that total growing-stock inventory will increase by 24 percent, growth by 18 percent, and growing-stock removals by 55 percent over the next 30 years. However, much of this increase will be supported by trees planted over 10 years ago. If attention is given to present management opportunities, the potential growth could exceed the prospective by 12 percent, and potential growing-stock removals could exceed the prospective by 24 percent on a sustained basis.

- management opportunities have been identified on 7.3 million acres. Conditions on 47 percent of Florida's commercial forests were inadequate for optimum timber production. NIPF owners have the most opportunities for improving their lands. The most important opportunity lies in the prompt regeneration of stands following a final harvest. Of the 2.6 million acres harvested and retained in forest, only 33 percent were subsequently artificially regenerated.

berland. Between 1970 and 1980, acreage classified as commercial forest decreased from 16.3 to 15.7 million acres, or by almost 4 percent. This 0.6-million-acre decrease masked land-use changes and reclassifications affecting some 2 million acres (table I). Statewide, 1.3 million acres of commercial forest were diverted to other land uses, while 0.7 million acres were added to the commercial forest land base. Of the diversions, 42 percent went to urban, 35 percent to agriculture, 22 percent to noncommercial forest, and less than 1 percent to water.

though Northwest Florida experienced considerable land use changes affecting the forests between 1959 and 1970, there was actually a small net increase in acreage of timberland during this period. Reversions of nonforest land back to forest land compensated for the diversions of timberland to other uses. During the most recent remeasurement period, increased agricultural activity, urban development, and the reclassification of some 41,000 acres to noncommercial forest resulted in a 5 percent decrease of commercial forest land in Northwest Florida.

Table I.—Changes in area of commercial forest land, by Survey Unit, Florida, 1970–1980

Survey Unit	Area of commercial forest land in—		Net change	Changes							
	1970 ^a	1980		Total gain	Additions from:		Total loss	Diversions to—			
					Non-forest	Noncommercial forest		Noncommercial forest	Agriculture	Urban and other	Water
						Thousand acres					
Northeast	7,082.4	6,844.5	-237.9	84.9	66.5	18.4	322.8	35.9	136.4	147.7	2.8
Northwest	5,778.3	5,512.1	-266.2	60.1	55.4	4.7	326.3	40.9	171.2	114.2	—
Central	2,675.9	2,473.7	-202.2	196.8	154.6	42.2	399.0	50.3	99.0	249.1	.6
South	724.6	833.9	+109.3	347.1	38.9	^b 308.2	237.8	157.8	44.7	35.3	—
State	16,261.2	15,664.2	-597.0	688.9	315.4	373.5	1,285.9	284.9	451.3	546.3	3.4

^aThese figures differ slightly from previously reported figures because of revisions in the estimates of land area.

^bMost of this acreage was classified as either rangeland or unproductive forest in the 1970 inventory.

Except for the reversion of 0.3 million acres of nonforest to timberland and the reclassification of 0.4 million acres from noncommercial to commercial forest, the decrease in timberland would have been much greater. Of the 0.7 million acres added to commercial forest for the State, 45 percent was due to the reclassification of unproductive forest and rangeland in South Florida.

Northeast Florida is heavily forested, with commercial forests occupying 70 percent of the land. This area experienced a 2 percent loss of timberland between 1959 and 1970. Between 1970 and 1980, this downward trend accelerated to 3 percent. In addition to urban development, extensive acreages of timberland in Northeast Florida have been cleared for pasture over the past 20 years. In this part of the State, pasture now exceeds cropland.

The most heavily forested Unit is the Northwest, where commercial forests occupy 75 percent of the land. Al-

Central Florida has experienced the largest percentage loss of commercial forest in the State. Timberland has decreased by about 8 percent in this area since 1970. Commercial forests now occupy about 25 percent of the total land area in Central Florida. Aside from the reclassification of forest to rangeland, diversion of forest land to agricultural uses was the leading cause of the commercial forest decline between 1959 and 1970. Since 1970, diversions of timberland to urban uses have outpaced those to agriculture in Central Florida. Agricultural and urban land diversions continue to erode the commercial forest-land base in this part of the State, but the latest survey shows the rate to be slowing.

In Central and South Florida, the classification of land use is difficult. In these areas, it is especially hard to separate nonstocked forest from rangeland, and commercial forest from unproductive forest. In the 1970 inventory, some 2.2 million acres in

These two Units were reclassified from nonstocked forest to rangeland. Where there had been no change in tree stocking, this reclassification was retained in the 1980 inventory.

In South Florida, over 0.8 million acres are now classified as commercial forest. This acreage represents a 15 percent increase over the 1970 figure. South Florida was the only Unit to show a net increase of commercial forest land. Although this trend is not unreasonable, it is only fair to state that a portion of this increase may be attributed to difficulties in land classification and to a different method of obtaining land use breakdowns than that used in the 1970 inventory. Notably, the increase of timberland in South Florida was realized despite the establishment of the Big Cypress National Preserve, within which all acres formerly classified as commercial forest were shifted to the productive-reserved category. In 1970, 0.4 million acres in South Florida were reclassified from commercial to unproductive forest. In the 1980 survey, a smaller portion of these acres in South Florida was classified as unproductive. Had all these acres remained in the unproductive category in the 1980 inventory, South Florida would have shown a net decrease of commercial forest acreage.

The increase of timberland realized in South Florida does not offset the decreases experienced in other areas of the State, because much of the timberland in this area is marginal. Although drainage has allowed forests to invade some formerly unproductive sites, timber producers in South Florida are few, and local timber markets are almost nonexistent.

Corporate Ownership Increases

Area of commercial forest land owned by farmers and miscellaneous private individuals has decreased substantially since the 1970 inventory. Farmer-owned timberland has declined by 984,000 acres, or 33 percent. Commercial forest owned by miscellaneous private individuals has declined by

670,000 acres, or 15 percent. Farmers and miscellaneous private individuals now own 12 percent and 25 percent, respectively, of Florida's timberlands. The majority of the decrease in these two categories is due to land clearing and to a shift of acreage to miscellaneous private corporate owners. Land acquisitions by companies with primary wood-using plants (forest industry) account for only a small portion of this decline. Holdings by other types of private corporations increased by 906,000 acres, or by 44 percent. The other private corporate class includes utility companies, realty and development firms, banks and trust companies, agribusiness, and all corporations other than those classified as forest industry. A portion of the transfer of farmer-owned timberlands to corporate ownerships is attributed to the incorporation of family farms for business and tax purposes. Miscellaneous private corporations now own about 19 percent of the State's commercial forests.

Commercial forest acreage owned by forest industry was overestimated in 1970 due to difficulties involving the separation of forest industry fee-simple holdings from lands leased to forest industry in Northeast Florida. Forest industry acreages have been adjusted accordingly, and this report reflects those adjustments. Since 1970, forest industry fee-simple acreage has increased by 117,000 acres, or by 3 percent over the State. Forest industry now owns 4.7 million acres and controls another 740,000 acres under long-term lease agreements. About 30 percent of Florida's timberland is owned by forest industry; 99 percent of this acreage is in the two northern Units.

Public ownership of commercial forest has remained relatively constant, with slight losses in National Forest and miscellaneous Federal ownerships and slight gains in State, county, and municipal ownerships. About 14 percent of Florida's timberland is held by various public agencies. About 1.0 million acres, or half of the public forest land in Florida, are in National Forests.

Slash Pine Acreage Remains Constant

The amount of acreage in the slash pine forest type has changed by less than 1 percent in the last 10 years. In an environment where the forest-land base has been consistently shrinking, slash pine has held its own. As the primary species featured in timber management in Florida, slash pine dominates all other forest types in the two northern Units. The slash pine type makes up 34 percent of Florida's timberlands.

The longleaf pine forest type has not fared as well. Since 1970, the longleaf type has declined by 257,000 acres, or by 17 percent. This decline is an extension of past trends, as forestry practices have favored slash pine over longleaf. The longleaf type now makes up about 8 percent of Florida's timberlands--down from 45 percent in 1936.

Most other pine forest types increased slightly in acreage. Pond pine was one exception, declining by 99,000 acres. Pond pine acreage, like longleaf, has been consistently waning over the years.

Oak-gum-cypress is the second leading forest type in the State, making up 27 percent of Florida's commercial forests. Oak-gum-cypress is the dominant forest type in Central and South Florida. Since 1970, this forest type has increased by about 2 percent. Most of the increase occurred in South Florida, where some formerly unproductive sites have reverted to oak-gum-cypress forests as a result of drainage.

The oak-hickory type, excluding scrub oaks, made the largest acreage gain of all forest types, increasing by 13 percent since 1970. The large gain in the oak-hickory type is likely related to inadequate regeneration efforts following the harvest of pine stands.

Acreage in the southern scrub oak type has declined by about 395,000 acres, or 28 percent. This decline is attributed to the relative ease of land clearing and site preparation of the

scrub oak type as compared to other forest types.

Acreage of oak-pine, another important timber type in Florida, has decreased by 134,000 acres. Generally, the oak-pine type results from harvesting pine stands and leaving a residual of nonmerchantable hardwoods and pines. In this type, pines make up at least 25 but not more than 50 percent of the stocking. Reductions of this type are not as large as suggested when the 1980 estimate is compared with that reported for 1970. In 1970, sample plots were allowed to straddle two or more conditions. If one portion of the plot was in an oak-hickory stand and the other in a pine stand, the area was often typed as oak-pine. That practice was eliminated in the 1980 survey.

The highest amount of type change occurred on lands where a final timber harvest had taken place. Between 1970 and 1980, 1.7 million acres of pine types were harvested and retained in commercial forest, excluding thinnings and other intermediate cuttings. At time of remeasurement, hardwood stocking exceeded pine on 26 percent of this acreage. The pine-to-hardwood type change was most prevalent on those harvested acres where no evidence of site preparation or artificial regeneration was found. This condition occurs most frequently on NIPF land.

On the whole, the ratio of pine types to hardwood (including oak-pine) types has remained about the same over the State since 1970. Excluding additions to and removals from the commercial forest-land base, treatments and disturbances occurring on all forest types increased the acreage occupied by pine forest types by 90,000 acres and reduced hardwood acreage by the same amount. When commercial forest additions and removals are considered, the net result is a 3 percent decrease in pine-type acreage and a 4 percent decrease in hardwood acreage since 1970.

Nonstocked Acreage Declines

Sawtimber stands now occupy 32 percent of Florida's timberland, pole-

timber 26 percent, and sapling-seedling stands 29 percent. Net changes in the acreage assigned to each of these three classes since 1970 amount to less than 1 percent.

At slightly over 2 million acres, Florida has proportionately more nonstocked acreage than any other Southeastern State. However, nonstocked acreage has declined by 22 percent since the fourth survey. This reduction of nonstocked forest is largely due to higher rates of land clearing and higher rates of planting on these acres, as compared to average rates for all commercial forest in the State.

By ownership, NIPF owners hold the highest proportions of sawtimber, poletimber, and nonstocked stands. About 44 percent of all nonstocked acres in the State fall in this ownership class. Forest industry holds the highest proportion of sapling-seedling stands. Of the total pine acreage under forest industry control, 12 percent is in sawtimber stands, 34 percent in poletimber stands, and 46 percent in sapling-seedling stands. The breakdown for NIPF land is 32 percent in sawtimber, 31 percent in poletimber, and 29 percent in sapling-seedling stands. If one compares the relatively low proportion of sawtimber stands and the high proportion of sapling-seedling stands on forest industry land to the same proportions on NIPF land, it is evident that forest industry has liquidated its older stands and replanted them to pine at a higher rate than NIPF owners.

Whereas little change has taken place in the total proportions of pine timber types to hardwood types or in the amount of acreage assigned to each stand-size class, significant rearrangement of forest types has taken place among the stand-size classes. Pine poletimber stands have increased by 4 percent, while hardwood poletimber stands have decreased by 7 percent. All of the gain in the pine poletimber category was in the slash pine type. Declines in hardwood poletimber occurred in all hardwood types except the oak-gum-cypress type. In the sapling-seedling stand-size class, pine stands decreased by 14 percent, while hardwood stands increased by 39

percent. Most of the decrease in the pine sapling-seedling category was due to a 21 percent decline for slash pine. The hardwood sapling-seedling increase occurred across all hardwood forest types. The reduction of pine sapling-seedling stands is directly related to reduced planting since the fourth survey.

More Acres Are Fully Stocked

In 1970, 14 percent of all commercial forest acreage was classed as fully stocked, 36 percent as medium stocked, and 50 percent as poorly stocked with growing-stock trees. The breakdown now is 27 percent fully stocked, 33 percent medium stocked, and 40 percent poorly stocked. Stocking is best on land controlled by forest industry. About 35 percent of these acres are fully stocked and 29 percent poorly stocked. Timberland held by NIPF owners is in somewhat poorer condition. Only 23 percent of these lands are fully stocked, and 47 percent are poorly stocked. Although stocking has improved significantly since 1970, there is still progress to be made, since 2 out of every 5 acres are poorly stocked. Opportunities to improve stocking are greatest on NIPF timberland. About 60 percent of all poorly stocked forest in the State is controlled by these owners.

In the past 10 years, the average basal area of all live trees 5.0 inches d.b.h. and larger has increased from 43 to 53 square feet per acre of commercial forest land. Rough and rotten trees now make up 16 percent of the total basal area--as opposed to 19 percent in 1970.

2-Inch Slash Pines Decline

The average number of saplings per acre has increased from 369 to 402. Hardwoods accounted for all of the increase; softwoods declined from 153 to 140 per acre. Since 1970, the number of all live softwoods has decreased by 4 percent in the 4-inch diameter class and by 22 percent in the 2-inch diameter class. A reduction of acreage

planted to pine since the fourth survey is a major contributing factor to the overall softwood sapling decline. The number of 2-inch slash pine saplings (the most widely planted species in the State) has fallen by 31 percent since 1970. On the other hand, the number of hardwood saplings has increased by 15 percent.

Growing-Stock Volume Is up 18 Percent

Since 1970, the volume of growing stock on commercial forest land has increased from 11.6 to 13.6 billion cubic feet, or by 18 percent. Softwood growing stock makes up 64 percent of the total growing-stock volume and has increased by 20 percent. The volume of hardwood growing stock has increased from 4.3 to 4.9 billion cubic feet, or by 15 percent. The current inventory of growing stock includes 39.9 billion board feet of sawtimber. Softwood

growing stock now includes over 25.6 billion board feet of sawtimber, and hardwood growing stock over 14.2 billion board feet--increases of 20 percent and 17 percent, respectively.

In addition, the 1980 inventory measured 1.8 billion cubic feet of timber in trees failing to qualify as growing stock because of species, poor form, or excessive internal rot. Although these trees are presently or prospectively unsuitable for saw logs, they contain 12 percent of the volume of all live trees 5.0 inches d.b.h. and larger. About 91 percent of this timber is hardwood, much of which can be used for pulpwood, other fiber products, and fuelwood.

Many acres planted in the late 1950's and early 1960's have developed into poletimber and sawtimber stands and have boosted softwood volume. The rapid growth of these plantations has outpaced a sharp upturn in softwood removals (fig. 2). The hard-

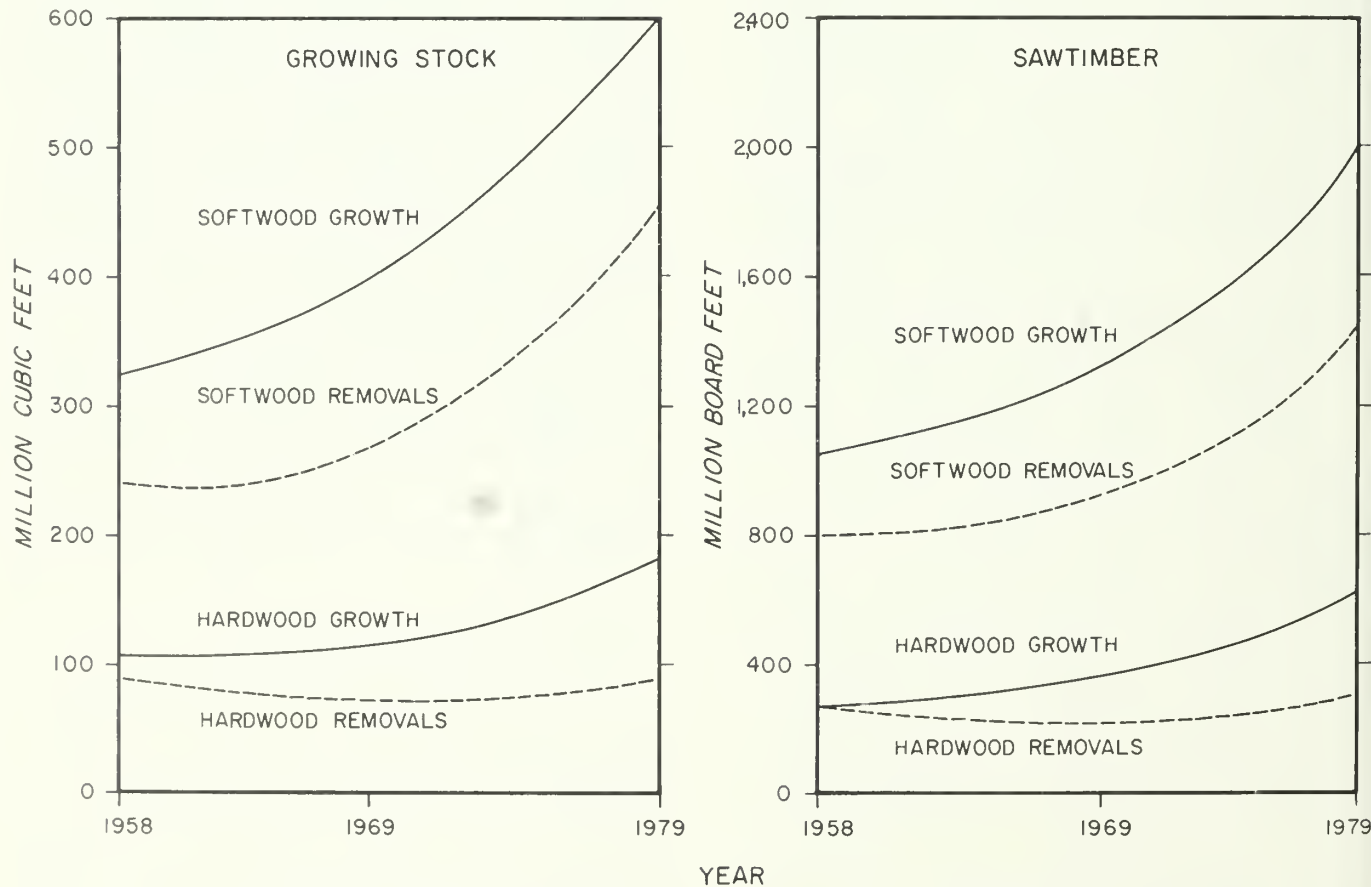


Figure 2.--Trends in net growth and timber removals in Florida since 1958.

wood volume increase reflects a widening gap between hardwood growth and removals. Softwood growth exceeds removals by 34 percent, and hardwood growth exceeds removals by 104 percent.

Growing-stock volume increases were measured in all Survey Units, but 78 percent of the total increase is confined to the two northern Units. Almost three-fourths of the volume increase in those Units is softwood.

By ownership, 52 percent of the total growing-stock volume occurs on NIPF land, 32 percent on forest industry land, and the remaining 16 percent on public land.

Volume increases range across all diameter classes for both softwoods and hardwoods. Plotting the volume over diameter class for the three most recent inventories brings several important trends to light. First, the rate of increase in the 6-inch softwood diameter class has declined from 36 percent between 1959 and 1970 to 20 percent between 1970 and 1980 (fig. 3). This rate will continue to decline, at least in the short run, because fewer softwood saplings are available to move into this class. Unless there is a substantial decline in historic mortality rates, the ingrowth into the 6-inch and 8-inch diameter classes is not likely to replace the outgrowth from these classes. Second, large acreages planted in the late 1950's and early 1960's are feeding trees into the 8-inch diameter class. Softwood volume now peaks in the 8-inch class, whereas in the past it peaked in the 10-inch class. Third, the rate of volume increase in most diameter classes above 8 inches has tapered off. This development suggests that Florida's older pine stands are being more heavily cut.

Approximately half of the softwood volume on forest industry land is now in sawtimber. In contrast, about two-thirds of the total softwood volume on NIPF land is in sawtimber. Indications are that wood-using companies are liquidating their older stands and converting them to plantations at a much higher rate than NIPF owners. In the future, forest industry will need to rely more heavily on farmers and other

nonindustrial private owners for sawtimber until more trees on industry land are allowed to grow into the larger diameter classes.

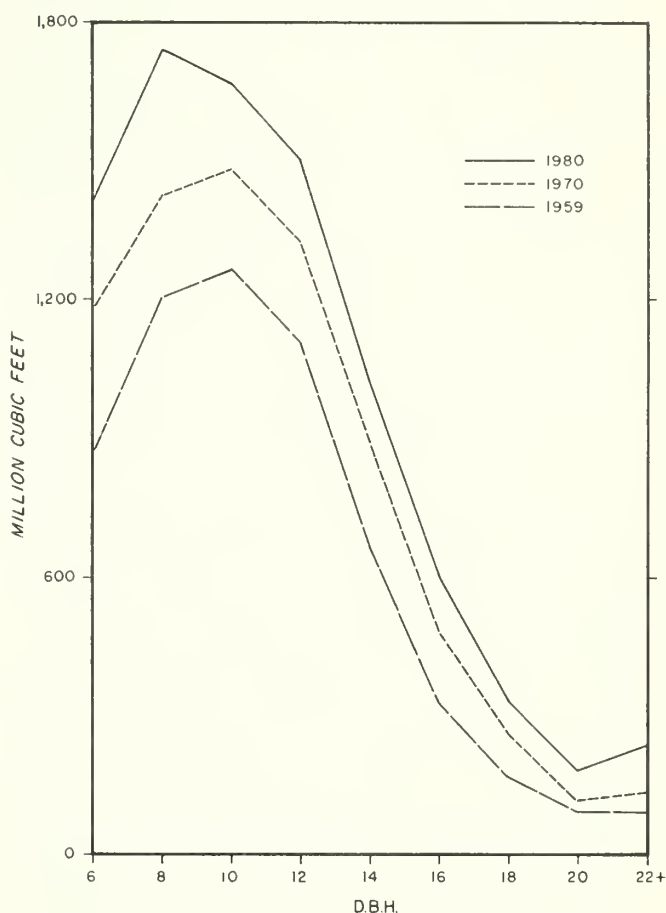


Figure 3.--Volume of softwood growing stock, by tree diameter, 1959, 1970, and 1980.

Changes in hardwood growing-stock volume are more consistent across the range of diameters (fig. 4). Volume in 6-inch hardwood growing stock has increased by 15 percent since 1970, as opposed to 7 percent for the previous decade. The volume increase in 6-inch hardwoods reflects the declining rate of increase in 6-inch softwoods. Advanced hardwood reproduction in the understory of pine stands often precludes the reestablishment of pines once a pine stand is harvested--unless site preparation measures are taken.

There is now more volume in hardwood growing-stock trees in all diameter classes than at any time since the original 1936 survey, yet the hardwood industry is having problems procuring quality hardwoods. These

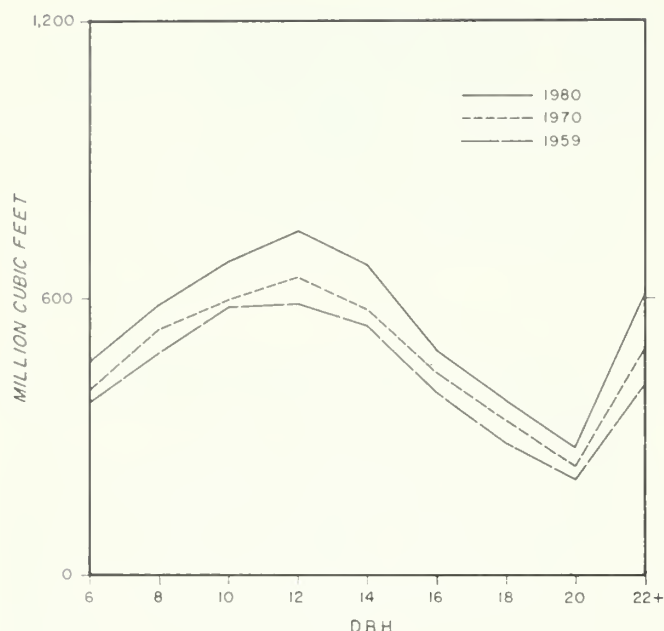


Figure 4.--Volume of hardwood growing stock, by tree diameter, 1959, 1970, and 1980.

tree sizes, and grades can lead to procurement problems. Most hardwood stands contain a mixture of species, tree sizes, and grades. Markets may exist for only a small part of the total volume within a stand. If the prospective timber buyer cannot use the species, sizes, and grades growing in association with the timber he needs and the landowner is unwilling to allow the buyer to high-grade the stand, the preferred timber is essentially unavailable.

Slash Pine Dominates the Growing Stock

Since 1970, slash pine growing-stock volume has increased from 2.8 to 3.8 billion cubic feet, or by 35 percent (fig. 5). Slash pine now makes up 28 percent of Florida's total growing-stock volume and 43 percent of the total softwood volume. It is responsible for over 63 percent of the total softwood volume increase in the State. In the two northern Units, slash pine is the dominant species. Over 58 percent of its volume increase occurred in Northeast Florida alone, which attests to the success of intensive forest management in this area.

Across the State, cypress is second in terms of total growing-stock

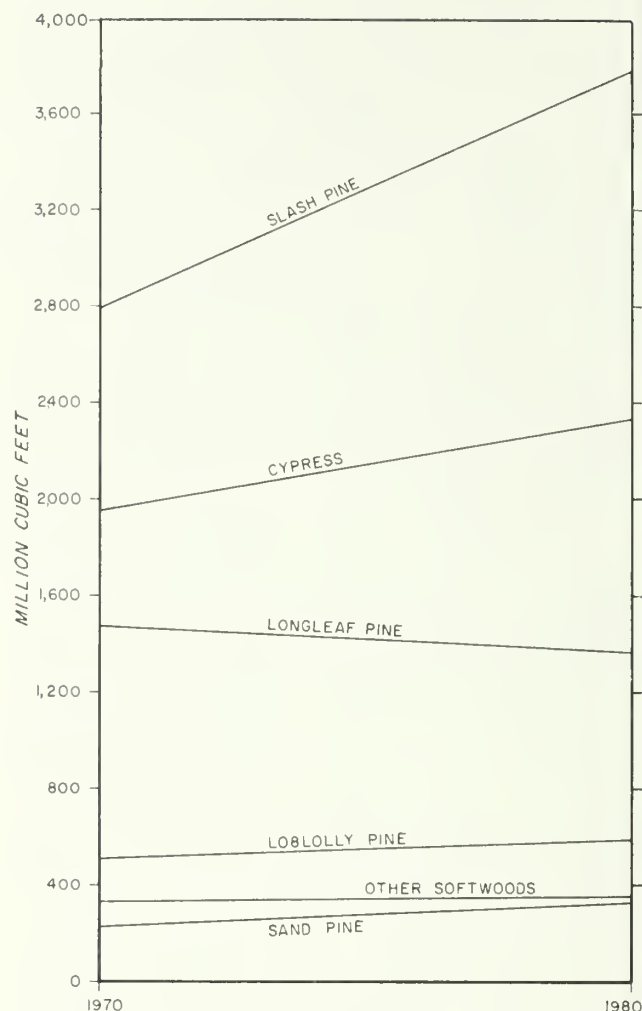


Figure 5.--Change in volume of softwood growing stock, by species, 1970-1980.

volume and is the dominant species in the two southern Units. Cypress accounts for 24 percent of the softwood volume increase and contributes 27 percent to total softwood volume.

In contrast to the overall softwood volume increase, longleaf pine growing-stock volume declined by 112 million cubic feet, or by about 8 percent. Over 96 percent of this decline took place in Northeast Florida. Longleaf pine now makes up only 16 percent of the total softwood volume but is still an important species to Florida's timber industry.

Tupelo and blackgum, a variety of red oaks, bay and magnolia, and sweetgum make up 70 percent of Florida's hardwood growing-stock volume (fig. 6). Tupelo and blackgum are the dominant hardwood species; they contribute 27 percent of the total hardwood volume.

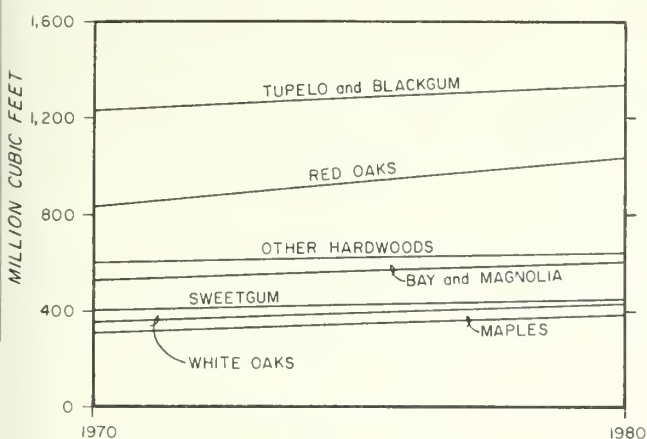


Figure 6.--Change in volume of hardwood growing stock, by species, 1970-1980.

Volume of these species has increased from 1.2 to 1.3 billion cubic feet. Red oaks contain 21 percent, bay and magnolia 12 percent, and sweetgum 9 percent of the total hardwood growing-stock volume.

Annual Growth Averages 50 Cubic Feet Per Acre

In 1979, net annual growth of growing stock totaled 785 million cubic feet and averaged 50 cubic feet per acre of commercial forest. The average net annual growth across all commercial forest stands was 39 cubic feet per acre for softwood species and 11 cubic feet per acre for hardwood species. In comparison, net annual growth in 1969 averaged 33 cubic feet per acre--26 cubic feet for softwoods and 7 cubic feet for hardwoods.

By Survey Unit, average annual growth was highest in Northeast Florida. Net annual growth on commercial forests averaged 63 cubic feet per acre in Northeast Florida, 43 in Northwest Florida, 39 in Central Florida, and 25 in South Florida.

By ownership, average annual growth ranged from a high of 60 cubic feet per acre on National Forest land to a low of 44 cubic feet per acre on other public land. Net annual growth was 57 cubic feet per acre on forest industry land and 45 cubic feet per acre on NIPF land.

Future softwood growth increases on forest industry land are likely because large numbers of sapling-seedling plantations on this land will boost softwood growth as they enter the 6-inch d.b.h. class and are included in volume estimates. In the short run, softwood growth on nonindustrial private land is also likely to increase. Large concentrations of pine stands on these ownerships range between 10 and 30 years of age. However, unless planting efforts on NIPF land are increased, softwood growth will decline as pine stands now 10 to 30 years old are harvested. These observations are based on analyses of the age distributions of stands in each ownership class. Over time, changes in rates of harvesting and regeneration can alter this outlook.

A more detailed breakdown of gross growth into its various components by Survey Unit and species group, along with the distribution of mortality and removals, provides a better understanding of annual change in timber volume (table II). Survivor growth, the volume increment on growing-stock trees 5.0 inches d.b.h. and larger in the inventory at the beginning of the year and surviving to its end, accounted for 79 percent of gross growth. Ingrowth, the net volume of growing-stock trees reaching 5.0 inches d.b.h. during the year, and the subsequent growth on these trees, accounted for another 18 percent. Growth on removals before removal and growth on mortality before death made up the remaining 3 percent.

In 1979, mortality of growing stock totaled 105 million cubic feet and reduced gross growth by about 12 percent. Softwoods made up about 58 percent of the total growing-stock mortality. When compared to the mortality estimates in 1969, softwood mortality more than doubled while hardwood mortality was up by less than 10 percent. The 1979 mortality losses included 304 million board feet of sawtimber, 54 percent of which were softwoods. Weather was the primary identifiable cause of death for both softwood and hardwood sawtimber. In the smaller

Table II.—Annual components of change in the volume of growing stock on commercial forest land, by Survey Unit and by softwood and hardwood, Florida, 1979

Survey Unit and species group	Gross growth	Components of growth					Mortality	Net growth	Removals	Net change
		Survivor growth	Ingrowth	Growth on ingrowth	Growth on removals	Growth on mortality				
..... Million cubic feet										
Northeast:										
Softwood	365.9	280.3	67.9	5.2	11.6	0.9	21.5	344.4	274.7	+69.7
Hardwood	102.5	84.1	15.6	1.3	1.1	.4	15.4	87.1	39.9	+47.2
Total	468.4	364.4	83.5	6.5	12.7	1.3	36.9	431.5	314.6	+116.9
Northwest:										
Softwood	196.6	159.8	28.4	2.3	5.4	.7	17.1	179.5	134.2	+45.3
Hardwood	73.9	62.1	9.8	.7	.9	.4	17.0	56.9	30.9	+26.0
Total	270.5	221.9	38.2	3.0	6.3	1.1	34.1	236.4	165.1	+71.3
Central:										
Softwood	77.1	61.0	13.2	1.1	1.3	.5	12.5	64.6	35.9	+28.7
Hardwood	42.8	36.1	5.7	.4	.3	.3	11.1	31.7	9.7	+22.0
Total	119.9	97.1	18.9	1.5	1.6	.8	23.6	96.3	45.6	+50.7
South:										
Softwood	27.0	21.3	4.7	.3	.4	.3	9.7	17.3	8.8	+8.5
Hardwood	4.7	4.0	.4	—	.3	—	.7	4.0	7.6	-3.6
Total	31.7	25.3	5.1	.3	.7	.3	10.4	21.3	16.4	+4.9
State:										
Softwood	666.6	522.4	114.2	8.9	18.7	2.4	60.8	605.8	453.6	+152.2
Hardwood	223.9	186.3	31.5	2.4	2.6	1.1	44.2	179.7	88.1	+91.6
Total	890.5	708.7	145.7	11.3	21.3	3.5	105.0	785.5	541.7	+243.8

diameter classes, the major identifiable cause of death was fire for softwoods and weather for hardwoods.

Fire was responsible for 21 percent of the total softwood growing-stock mortality in the State, as compared with 26 percent in 1969.

Since 1970, the area under fire protection burned annually has averaged 271,000 acres (table III). Wildfires have been contained and suppressed at an average size of about 30 acres. In 1972, all commercial forest land in the State came under fire protection.

Table III.—Area under fire protection, protected area burned, number of fires, and average size of fires, Florida, 1969-1979^a

Year	Area protected ^b		Protected area burned		Fires	Average size of fires
	<i>M acres</i>	<i>Percent</i>	<i>M acres</i>	<i>Percent</i>		
1969	19,319	93	66	0.34	5,029	13
1970	19,314	93	84	.43	5,984	14
1971	26,701	95	686	2.57	9,822	70
1972	28,226	100	115	.41	7,341	16
1973	28,252	100	224	.79	7,453	30
1974	28,227	100	533	1.89	10,825	49
1975	28,313	100	296	1.05	7,479	40
1976	28,316	100	155	.55	8,845	17
1977	28,316	100	255	.90	11,326	22
1978	28,317	100	90	.32	7,068	13
1979	28,328	100	128	.45	7,185	18

^aSource: U.S. Department of Agriculture, Forest Service, Wildfire Statistics, 1969-1979.

^bIncludes forest and nonforested watershed lands.



TIMBER PRODUCTS OUTPUT

Timber products from Florida's forests contribute significantly to the State's economy. According to U.S. Department of Commerce statistics for fiscal year 1979, 1,482 firms in the State were directly linked to the forest products industry.³ These firms employed over 43,000 people and generated an annual payroll of \$562 million. In addition to providing timber for consumptive purposes, Florida's forests provide wildlife habitat, outdoor recreation, and esthetic values and enhance the quality of soil, water, and air.

All timber products output and residue disposal information contained in this report is for calendar year 1979. These estimates were obtained by merging information from three sources: (1) permanent sample locations were re-measured to provide estimates of total removals, (2) felled trees were measured at a sample of active harvesting operations to develop utilization information for each of the roundwood products, and (3) all primary wood-using plants were canvassed to obtain information on wood receipts, product output, and disposal of residues. Some 148 primary wood-using plants operated in the State in 1979 (fig. 7).

Altogether, 542 million cubic feet of growing-stock timber were removed from Florida's forests in 1979. Removals were 56 percent higher than in 1969. Since 1969, softwood growing-stock removals increased by 63 percent and hardwood removals by 27 percent. Annual timber removals averaged 75 percent of net annual growth for softwoods and 49 percent for hardwoods. Softwoods provided a disproportionate share of growing-stock removals. Softwood growing stock made up 64 percent of the inventory and 77 percent of the net growth but provided 84 percent of the removals. By ownership, 12 percent of

all removals were from public lands, 45 percent from lands controlled by forest industry, 12 percent from farmer-owned lands, and 31 percent from miscellaneous private individuals and corporations. Annual removals of growing stock included 1.8 billion board feet of sawtimber. Of the total growing-stock removals, 392 million cubic feet, or 72 percent, were used for timber products; 7 percent were left in the woods as logging residues; 21 percent were removed from commercial forests but not used. Included in this last category is timber removed due to cultural practices and land clearing. About two-fifths of the unused removals on cleared acreages are still standing, but in nonforest conditions such as agricultural and urban settings.

In addition to the 392 million cubic feet of growing stock cut for timber products, 25 million cubic feet of nongrowing-stock timber were cut for products. Over and above the 417 million cubic feet of roundwood cut for all products (including fuelwood), the estimate of total output includes 48 million cubic feet of mill byproducts. In all, some 465 million cubic feet of timber products were produced in 1979.

About 414 million cubic feet of roundwood destined for industrial products were removed from Florida's timberland in 1979. Of this, 50 million cubic feet were exported to other states. Another 128 million cubic feet were imported to Florida from other states. Net imports of roundwood used for industrial products totaled 78 million cubic feet--69 million cubic feet of softwoods and 9 million cubic feet of hardwoods. Consumption of roundwood by Florida mills for all industrial products approached 492 million cubic feet. In effect, Florida's timberland produced 84 percent of the total roundwood utilized by Florida mills for industrial products. The margin of growth over removals (see figure 2) suggests that Florida's timberland could have supplied all the needs of Florida's mills if the equivalent of all net roundwood imports to the State

³ U.S. Department of the Census. County business patterns, 1979, Florida. CBP-79-11. Washington, DC: 1981. 156 p.

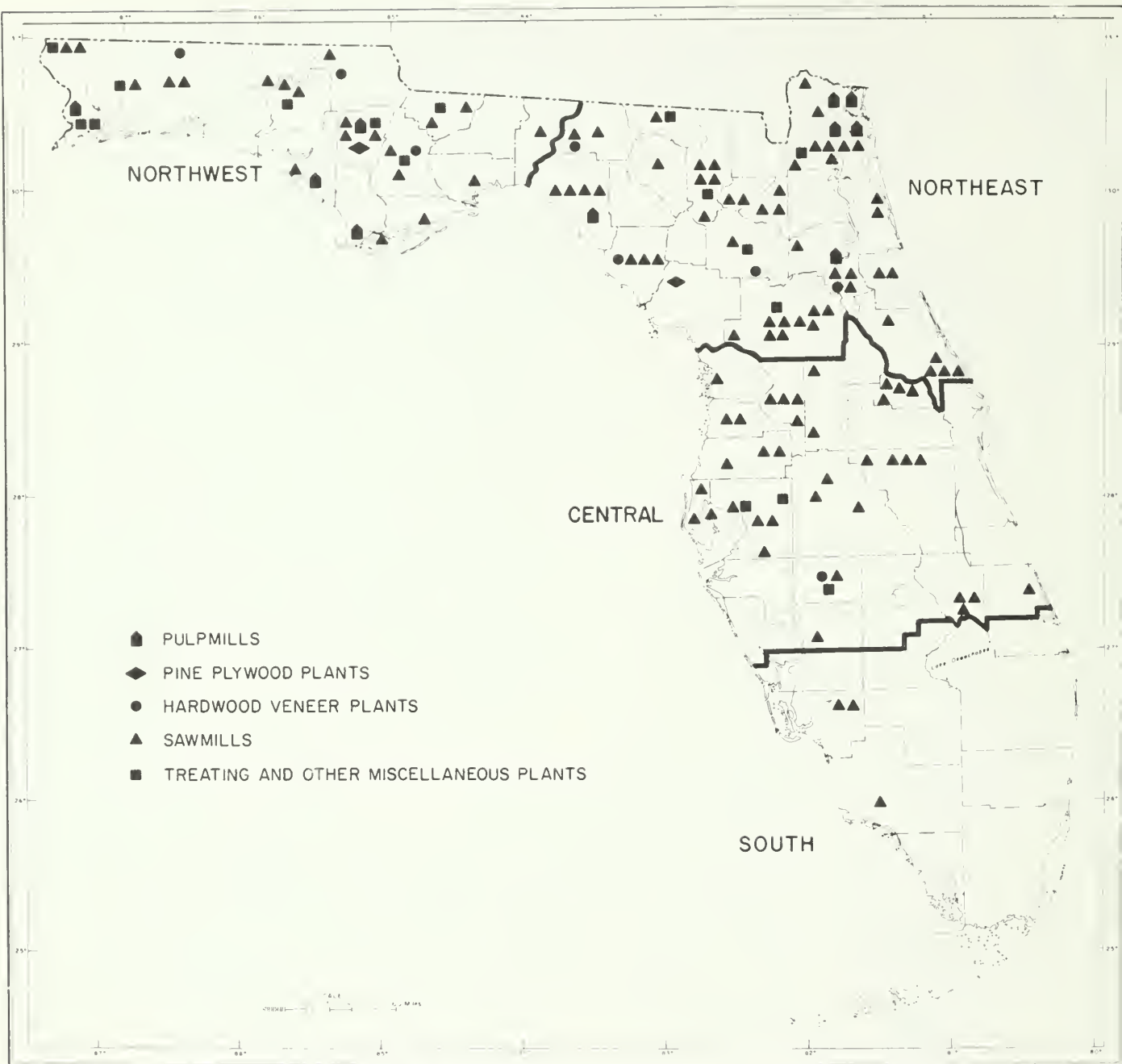


Figure 7.--Location of primary wood-using industries in Florida, 1979.

had been cut from Florida's growing-stock trees.

About 262 million cubic feet, or 63 percent, of Florida's total industrial roundwood output came from Northeast Florida. This proportion is consistent with the high concentration of forest industry and the intense management of commercial forest in this area. Even though heavy demands were made on the timberland in Northeast

Florida, growth still exceeded removals by a large margin. About 135 million cubic feet of roundwood came from Northwest Florida, 16 million cubic feet from Central Florida, and 1 million cubic feet from South Florida.

Pulpwood Is the Leading Timber Product

In 1979, pulpwood production in Florida reached a record high. Except

for a slight downturn during the economic recession of the midseventies, pulpwood production has historically been increasing (fig. 8). Between 1969 and 1979, annual production rose from 3.4 to 3.8 million cords, up by 11 percent. About 81 percent of the total increase was attributed to softwoods. Altogether, pulpwood accounted for 64 percent of the total product output and 62 percent of the roundwood output of the State.

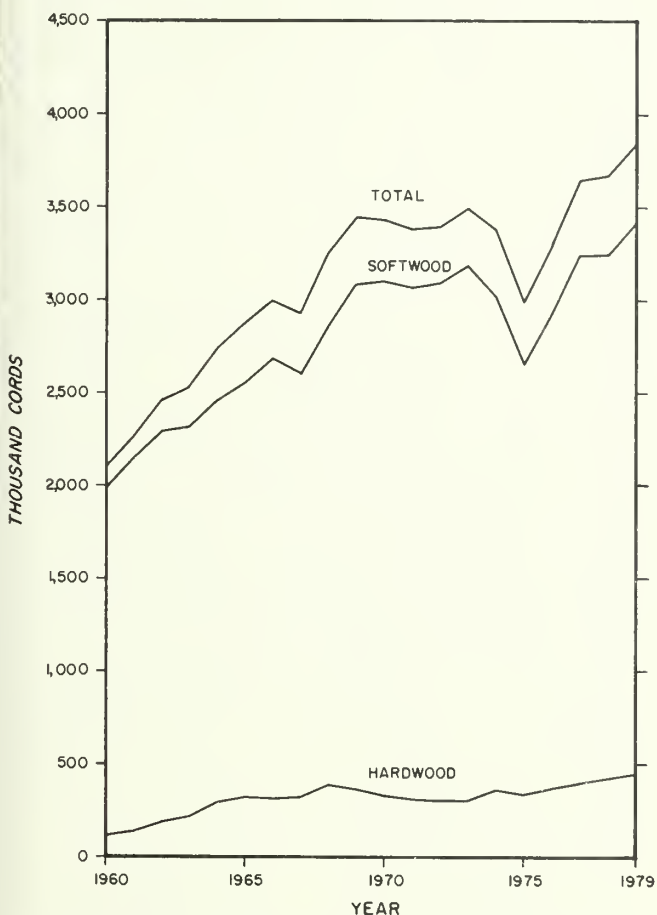


Figure 8.--Pulpwood production in Florida, 1960-1979.

Over the remeasurement period, expansion of existing facilities and the addition of a new pulpmill boosted the State's daily pulping capacity from 9,048 to 10,716 tons per day, or by 18 percent. Florida is a net importer of both roundwood and mill byproducts used in the production of fiber products. Some 3.3 million cords of round pulpwood were produced in Florida in 1979. Of these, 545,000 cords were exported to other states. Another 1.5 million

cords were imported to Florida from other states. Total roundwood consumption by Florida's pulp industry approached 4.3 million cords. The combined total consumption of roundwood and mill byproducts by the pulp industry neared 5.6 million cords. The volume of roundwood cut from the State's forests added to that of mill residues utilized for fiber products (including exports to other states), totals 3.8 million cords. Thus, the equivalent of 31 percent of the total receipts of Florida's pulpmills originated in other states.

Development of portable chipping installations has made it increasingly difficult to distinguish between roundwood chips and byproduct chips utilized in the pulping process. Although 1979 Florida pulpwood production figures agree with those previously published in "Southern Pulpwood Production, 1979," differences are acknowledged in estimates of the volumes of roundwood and byproducts. A more refined byproduct figure was obtained from the Statewide industry canvass. The canvass yielded a higher but more accurate volume of roundwood chipped.

Of the total volume of pulpwood produced, 80 percent originated from growing stock, 13 percent from mill byproducts, and the remainder from nongrowing-stock roundwood. A 20 percent increase in the use of mill byproducts attests to improved utilization within the industry. This improved utilization, however, was not enough to offset increased demand for fiber products. The 11 percent increase in pulpwood production was accompanied by a 20 percent increase in growing-stock removals destined for fiber products.

A stronger demand for softwood saw logs has caused a shift of pulpwood supply sources. In 1979, 470 million board feet of sawtimber were used for fiber products--12 percent less than in 1969. Also, since 1969 the use of cull and other nongrowing-stock trees for pulp products fell by 6 percent. Increased utilization of mill byproducts partly compensated for the loss of these sources, but most of the increase in Florida pulpwood production came

from poletimber growing-stock trees.

By Survey Unit, 65 percent of the total roundwood pulp production came from Northeast Florida, 33 percent from Northwest, 2 percent from Central, and less than 1 percent from South Florida. This distribution reflects the relatively intense management of commercial forests in the northern half of the State as well as the high concentration of pulpmills in this region.

Saw-Log Production Increases Sharply

Total annual output of saw logs from Florida's forests increased from 313 million board feet in 1969 to 733 million board feet in 1979, or by 134 percent. Saw logs accounted for 29 percent of the total product output and 32 percent of the roundwood output in 1979. Most of the recent boom in saw-log production came between 1975 and 1979. All of the increase was in softwood species. Over the remeasurement period, softwood saw-log production skyrocketed by 170 percent. On the other hand, hardwood production fell by 14 percent.

In contrast to the high proportion of pulpwood imported to the State, effectively 96 percent of the logs processed in Florida sawmills were grown in Florida. Total saw-log output from roundwood was 732 million board feet. Of this, about 31 million board feet were exported to other states. An additional 58 million board feet were imported from other states. Net imports of saw logs totaled about 27 million board feet. Total consumption of saw logs processed by Florida's sawmills was nearly 760 million board feet.

Saw logs accounted for 34 percent of the total growing-stock removals in 1979. Of the total volume of saw logs produced, over 99 percent came from growing-stock sources. Less than 1 percent originated from cull or salvable dead trees and from mill by-products such as veneer cores. Over 93 percent of the total saw-log output came from sawtimber trees.

By Survey Unit, 60 percent of the total saw-log production came from

Northeast Florida, 34 percent from Northwest, 6 percent from Central, and less than 1 percent from South Florida.

Veneer Market Shifts to Softwoods

Production of veneer logs declined slightly between 1969 and 1979. Production fell from 88 million board feet to 83 million board feet during this period. All of the decline was in hardwoods. Of significance is the shift from a market previously dominated by hardwoods to a market now dominated by softwoods. Increased production of pine plywood was largely responsible for this turnaround. Since 1969, production of pine peeler logs increased from 26 million board feet to 62 million board feet, or by 139 percent. Production of hardwood peeler logs fell by 65 percent--from 62 million board feet to 22 million board feet. Softwoods now constitute 74 percent of the veneer market.

In 1979, veneer logs accounted for 3 percent of the total product output and 4 percent of the roundwood output. About 4 percent of the total growing-stock removals went into veneer logs. Of the total volume produced, 97 percent came from growing-stock trees, most of them sawtimber trees.

About 7 million board feet of peeler logs produced in Florida were exported to other states. Another 2 million board feet were imported from other states. Total consumption of veneer logs by Florida mills approached 78 million cubic feet.

By Survey Unit, 74 percent of total production came from Northeast Florida, 21 percent from Northwest, 4 percent from Central, and 1 percent from South Florida. Over 86 percent of the softwood veneer production came from forests in Northeast Florida. Most of the hardwood veneer production was split between the two northern Units.

Output of Other Industrial Products Doubles

The combined roundwood output from poles, piling, posts, particleboard

furnish, and other miscellaneous products was up from 6.8 to 14.4 million cubic feet, or by 110 percent. Most of this increase was due to byproducts going into particleboard and to the output of roundwood for fenceposts. Altogether, these products accounted for 3 percent of the total output, 2 percent of the roundwood output, and less than 2 percent of the removals from growing stock. Softwood species were the source of 95 percent of these products.

Domestic Fuelwood Output Triples

The combined output of mill byproducts and roundwood used for household fuel rose from 1.5 million cubic feet to 4.5 million cubic feet, or by 206 percent. The use of mill byproducts such as slabs and edgings for household fuel increased from 0.3 to 1.2 million cubic feet, and the use of roundwood increased from 1.2 to 3.3 million cubic feet. The increase in fuelwood output reverses a long-term trend in Florida; this change was expected in light of rising costs of other sources of fuel since 1969.

Excluding industrial fuel, fuelwood accounted for about 1 percent of the total product output, 0.8 percent of the roundwood output, but only 0.3 percent of the growing-stock removals in 1979. Over 99 percent of all roundwood cut for domestic fuel was hardwood.

Net Decline in Timber Utilization

A 43 percent increase in product output between 1969 and 1979 was accompanied by a 46 percent increase in removals from growing-stock trees. Although utilization has improved in some areas, the net result was a reduction in the utilization of timber removed from Florida's forests.

The use of mill byproducts at primary wood-using plants has increased significantly. These byproducts include slabs, edgings, chips, cores, shavings, and sawdust. In 1979, about 96 percent of these byproducts were used, compared with 78 percent used in 1969. These estimates do not include those byproducts used for litter and

mulch because figures are not available for both periods. The majority of these byproducts were used in the production of fiber products by the pulp industry and for industrial fuel by all types of mills. The use of wood byproducts for fuel is a prudent step toward total utilization of timber removals. In addition to wood used for household fuel, approximately 12.6 million cubic feet of mill byproducts were used for industrial fuel. This amount represented a 96 percent increase over the amount of wood byproducts used for fuel by industry in 1969. Another 41 million cubic feet of bark were also used for fuel by industry in 1979.

The proportion of growing-stock material left in the woods as logging residue has remained unchanged. In both 1969 and 1979, about 7 percent of all growing-stock trees harvested remained in the woods as logging residue. Hopefully, rising timber prices and the increased deployment of portable chipper will make the recovery of this last 7 percent more economical in the future.

The use of nongrowing-stock timber such as cull trees, salvable dead trees, tops and limbs has declined. In 1969, 9 percent of the total roundwood harvested and used for products came from nongrowing-stock material. In 1979, only 6 percent of all products from roundwood originated from nongrowing-stock material. Much of this material is suitable for use by the pulp industry. Increased utilization of nongrowing-stock material would extend the existing growing-stock supplies.

A serious form of underutilization falls in the "other removal" category. Other removals are those trees destroyed by man or removed from commercial forest but not used for products. This situation arises frequently when forest land is cleared and put to some nonforest-land use without utilizing the timber. Many of these cleared tracts are on NIPF land and are too small for economical harvest by a logger. In 1969, 15 percent of all growing-stock removals fell in this category. In 1979, this figure rose to 21 percent.



TIMBER SUPPLY OUTLOOK

Except for possible gains from improved utilization and protection, timber supplies over the next decade or longer have already been determined by foregone actions. In this section, we appraise the 30-year outlook for timber supplies in Florida. Timber harvesting and regeneration constitute the most important factors regarding future supply, therefore we begin our evaluation with a review of these trends.

Most Young Pine Stands Are Plantations

Within 30 years, over three-fourths of Florida's softwood timber supplies will likely come from plantations. Pine plantations make up over

88 percent of all pine stands less than 10 years old and 85 percent of all pine stands less than 20 years old. About 95 percent of all pine stands less than 20 years old on land controlled by forest industry are manageable pine plantations. On public land, plantations account for 81 percent of all pine stands less than 20 years old. The proportion for NIPF land is 67 percent.

Two independent estimates of plantation acreage are presented in this analysis. First, based on annual reports of forest planting and seeding compiled by the U.S. Department of Agriculture Forest Service, an average of 161,000 acres was planted annually during the remeasurement period (table IV). Second, based upon our field

Table IV.—Acres of forest planting,^a by ownership class, Florida, 1959-1979

Fiscal year	Ownership class				All ownerships	Accumulative total
	National Forest	Other public	Forest industry	Other private		
..... Acres						
						^b 1,063,299
1959	7,173	4,391	55,572	137,017	204,153	1,267,452
1960	4,970	4,265	57,418	132,310	198,963	1,466,415
1961	4,323	4,884	99,189	71,532	179,928	1,646,343
1962	3,330	8,610	82,776	53,813	148,529	1,794,872
1963	2,580	12,407	84,445	41,151	140,583	1,935,455
1964	4,881	10,462	72,363	56,457	144,163	2,079,618
1965	5,933	10,295	81,641	42,233	140,102	2,219,720
1966	6,905	14,894	80,580	44,609	146,988	2,366,708
1967	8,228	11,650	89,511	48,447	157,836	2,524,544
1968	10,144	10,184	105,958	43,986	170,272	2,694,816
1969	13,221	10,021	112,909	25,694	161,845	2,856,661
1970	12,418	12,135	106,253	29,931	160,737	3,017,398
1971	15,003	9,966	138,419	14,101	177,489	3,194,887
1972	13,915	9,777	109,409	38,331	171,432	3,366,319
1973	14,599	10,808	96,907	31,815	154,129	3,520,448
1974	13,544	9,811	81,428	51,390	156,173	3,676,621
1975	13,549	6,246	139,323	37,455	196,573	3,873,194
1976	9,679	6,210	112,241	31,005	159,135	4,032,329
1977	11,766	6,484	117,697	24,150	160,097	4,192,426
1978	11,919	5,096	119,101	18,455	154,571	4,346,997
1979	12,430	6,699	84,424	18,116	121,669	4,468,666

^aIncludes acres of planting by direct seeding. Source: U.S. Department of Agriculture, Forest Service, "Forest Planting, Seeding, and Silvical Treatments in the United States."

^bAccumulative total prior to FY 1959.

crews' determination of stand origin at each sample location visited in this latest inventory, an average of 143,000 acres was planted annually (table V). Since some planting efforts fail because of poor survival and inadequate site preparation, the first estimate can logically be reduced. This estimate also includes an undetermined amount of replanting. Alternately, the second estimate is probably conservative since some planted stands are difficult to recognize on the ground. The average of the two estimates, 152,000 acres, is probably very close to the rate of successful plantation establishment.

Over 3 Million Acres Are in Pine Plantations

Altogether, nearly 3.5 million acres, or 22 percent of Florida's commercial timberlands, show evidence of artificial regeneration (table V). About 59 percent of this acreage occurs in Northeast Florida, 36 percent in Northwest Florida, 4 percent in Central

Florida, and 1 percent in South Florida. Within Units, 30 percent of all timberlands in Northeast Florida, 22 percent in Northwest, 6 percent in Central, and 5 percent of all commercial timberland in South Florida show evidence of artificial regeneration. Although regeneration efforts were undertaken on these acres, they did not, in some cases, result in a stocked pine forest type. Table VI shows that of the 3.5 million acres on which regeneration efforts were evident, only 3.3 million acres resulted in a pine type which was at least 16.7 percent stocked with trees of acceptable quality. On the remaining 207,000 acres, regeneration efforts either culminated in a nonstocked condition or hardwood growing stock made up more than 50 percent of the total stocking. An undetermined but relatively small number of these acres were planted to hardwoods.

Of the 3.3 million acres in stocked pine plantations, 64 percent occurs on forest industry land, 27 percent on NIPF land, and 9 percent on public land (table VI).

Table V.—Area of commercial forest land, by stand origin and Survey Unit, Florida, 1980

Stand origin	State		Survey Unit							
			Northeast		Northwest		Central		South	
	<i>M acres</i>	<i>Percent</i>	<i>M acres</i>	<i>Percent</i>	<i>M acres</i>	<i>Percent</i>	<i>M acres</i>	<i>Percent</i>	<i>M acres</i>	<i>Percent</i>
Natural stands	12,189.6	77.8	4,788.5	70.0	4,271.9	77.5	2,334.0	94.4	795.2	95.3
Stands originating wholly or in part from artificial regeneration since previous inventory	1,434.5	9.2	833.8	12.2	530.5	9.6	55.4	2.2	14.8	1.8
Stands originating wholly or in part from artificial regeneration prior to the previous inventory	2,040.1	13.0	1,222.2	17.8	709.6	12.9	84.3	3.4	24.0	2.9
All stands	15,664.2	100.0	6,844.5	100.0	5,512.0	100.0	2,473.7	100.0	834.0	100.0

Table VI.—Area of commercial forest land, by broad management, ownership, and past treatment or disturbance classes, Florida, 1980

Broad management and ownership classes ^a	Total area	Primary treatment or disturbance between 1970 and 1980							
		Harvesting w/artificial regeneration	Harvesting w/natural regeneration	Other harvesting	Intermediate cutting	Artificial planting	Natural disturbance	Other ^b	None
..... <i>Thousand acres</i>									
Nonstocked forest:									
Public	257.4	—	—	62.4	2.0	2.5	18.2	82.8	89.5
Forest industry	458.5	—	—	238.5	1.8	—	3.7	41.9	172.6
Other private	1,295.1	—	—	222.4	—	9.1	114.7	396.8	552.1
Total	2,011.0	—	—	523.3	3.8	11.6	136.6	521.5	814.2
Pine plantations:									
Public	293.1	59.2	—	3.6	23.7	64.1	13.0	53.6	75.9
Forest industry	2,093.1	679.2	6.4	34.8	46.0	261.8	139.7	360.7	564.5
Other private	881.1	71.1	—	9.3	147.1	131.2	93.0	141.5	287.9
Total	3,267.3	809.5	6.4	47.7	216.8	457.1	245.7	555.8	928.3
Natural pine stands:									
Public	987.1	—	11.6	26.4	99.3	—	51.9	406.2	391.7
Forest industry	988.6	—	15.6	56.8	37.4	—	57.0	190.4	631.4
Other private	1,944.1	—	22.4	131.9	147.8	—	192.5	600.6	848.9
Total	3,919.8	—	49.6	215.1	284.5	—	301.4	1,197.2	1,872.0
Oak-pine stands:									
Public	186.4	3.0	—	5.0	10.0	2.5	5.5	62.7	97.7
Forest industry	351.1	42.7	3.9	42.3	12.7	7.0	13.6	30.6	198.3
Other private	781.9	3.8	10.4	101.1	21.2	2.7	44.1	165.4	433.2
Total	1,319.4	49.5	14.3	148.4	43.9	12.2	63.2	258.7	729.2
Upland hardwood stands:									
Public	88.9	2.5	3.0	17.6	6.2	—	—	26.2	33.4
Forest industry	202.7	3.1	24.8	46.5	19.5	—	—	20.0	88.8
Other private	948.0	—	56.8	154.3	60.6	—	44.7	145.9	485.7
Total	1,239.6	5.6	84.6	218.4	86.3	—	44.7	192.1	607.9
Bottomland hardwood stands:									
Public	365.3	—	2.7	5.0	15.7	—	17.1	12.1	312.7
Forest industry	1,343.1	—	63.6	171.1	76.6	—	54.5	45.0	932.3
Other private	2,198.7	—	23.7	156.6	93.7	5.9	108.0	297.9	1,512.9
Total	3,907.1	—	90.0	332.7	186.0	5.9	179.6	355.0	2,757.9
All classes:									
Public	2,178.2	64.7	17.3	120.0	156.9	69.1	105.7	643.6	1,000.9
Forest industry	5,437.1	725.0	114.3	590.0	194.0	268.8	268.5	688.6	2,587.9
Other private	8,048.9	74.9	113.3	775.6	470.4	148.9	597.0	1,748.1	4,120.7
Total	15,664.2	864.6	244.9	1,485.6	821.3	486.8	971.2	3,080.3	7,709.5

^aForest industry includes lands under long-term lease.

^bIncludes grazing, draining, prescribed burning, site preparation, and other miscellaneous treatments.

Annual Planting Declines

Between 1970 and 1980, over 1.4 million acres originated wholly, or in part, from artificial regeneration (see table V). Between 1959 and 1970, 2.1 million acres fell in this category. Comparing average annual planting rates between these two periods indicates a 24 percent decline in planting since the fourth survey. In support of this development are the decline in numbers of slash pine saplings and the overall decline in the pine sapling-seedling stand-size class.

Under the Conservation Reserve Soil Bank Program, a large amount of acreage on NIPF land was planted during the late 1950's and early 1960's. Also during the Soil Bank era, extensive acreages of idle cropland were available to revert naturally to pine stands. Increases in pine growth and inventory measured during the fifth survey can be attributed to the large acreage of pine stands established during this period. After the Soil Bank era, planting efforts on NIPF land were reduced by nearly half and have generally been declining until the present. This decline on NIPF land was partially countered by increased regeneration efforts on forest industry land. Although increased efforts on the part of forest industry have been substantial, they have not been adequate to offset NIPF planting declines. The net result has been an overall decline in the number of acres planted since the Soil Bank era.

Timber planted on NIPF land during the Soil Bank years has now developed to merchantable size and will support a higher rate of growth over the next two decades or so. Beyond that time, there likely will be a reduction in softwood supplies on NIPF land, along with an increase in softwood supplies on forest industry land. A net downturn in future softwood supplies may begin in about 20 years.

Timber Is Removed From 465,000 Acres Annually

Table VI summarizes the most significant treatments or disturbances

evidenced at each sample location over the remeasurement period. For the State as a whole, the remeasurement period averaged 10.1 years. In this summary, the broad management and ownership classes apply to the stand at the end of the remeasurement period rather than at the beginning.

On the 8 million acres that were significantly treated or disturbed, timber harvesting was the most common forestry activity observed. On the average, 257,000 acres were harvested annually and retained in commercial forest, exclusive of intermediate cuttings and diversion of forest to some other land use. Over the period, thinnings and other intermediate cuttings occurred on an average of 81,000 acres annually.

An additional 127,000 acres were diverted from commercial forest to some other land use each year. Some timber was also harvested from these acres. When the estimates of harvesting, intermediate cutting, and diversions are grouped, they suggest that timber was removed from about 465,000 acres each year.

When average annual rates of final harvest over the remeasurement period are expressed in percent of the total commercial forest in each ownership class, significant differences result (table VI). These rates indicate that slightly less than 1 percent of the public forest is harvested each year. At the other extreme, 2.6 percent of the timberland owned or leased by forest industry is harvested annually. On NIPF forest, the rate is 1.2 percent. By broad ownership class, the annual rates of intermediate cutting are average 0.7 percent on public forest, 0.4 percent on lands owned or leased by forest industry, and 0.6 percent on NIPF land.

About 1.4 million acres were artificially regenerated since the fourth survey. Nearly 64 percent of this reforestation occurred on forest where a final harvest took place. Another 29 percent of the planting effort was on the backlog of acreage needing regeneration. The remaining 7 percent was on old fields and other nonforest land.

s of pine and hardwood regenerated, either naturally, to a stocking at least 16.7 percent. How- .4 million acres, or ef- percent of the regenerated a manageable stand (fig.

tion to the acreage har- generated, other forestry intentional disturbances affected the conditions llion acres over the re- period. These practices nces include prescribed preparation, forest graz- , and other miscellaneous ally, natural disturbances ct infestation, disease, weather significantly af- conditions on almost 1 that were otherwise un-

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PINE FOREST

HARDWOOD FOREST TYPES

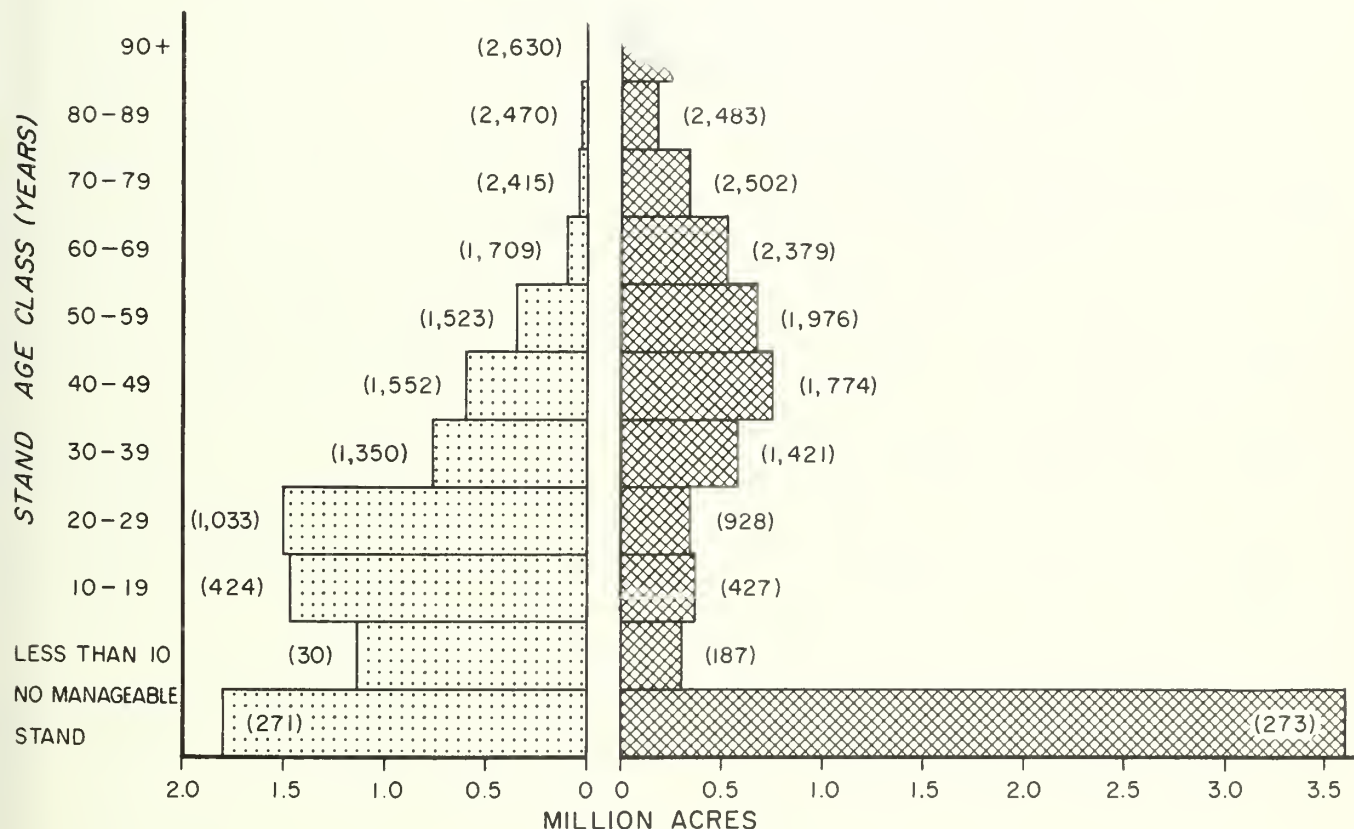


Figure 9.--Profile of area of commercial forest land, by stand age class, by pine and hardwood forest types, with average volume of growing stock per acre (in parentheses), Florida, 1980.

treated during the remeasurement period. No evidence of significant treatment or disturbance during the remeasurement period was found on 7.7 million acres, or 49 percent of the land classified as commercial forest in the new inventory.

Stand Age Distribution Reflects Decrease in Pine Regeneration

The distribution of commercial forest acreage by stand age class and major forest type provides another indicator of future timber supplies. A stand age profile of Florida's timberland clearly shows a decrease in the rate of pine establishment over the past decade (fig. 9). The largest concentration of pine stands, nearly 1.5 million acres, is in the 20- to 29-year age class. The concentration of pine stands in the 10- to 19-year age class follows close behind. If these stands are harvested and not adequately regenerated, pine acreage can be expected to decline, because there are fewer acres in the 0- to 9-year age class to replace them.

Over the last decade, final harvests took place on 1.7 million acres of pine forest types. Figure 9 shows that only 1.1 million acres of pine forest types are presently in the 0- to 9-year age class. In effect, this means that about 2 out of every 3 acres of pine forest harvested and retained in forest are being replaced by manageable pine stands. Under a regulated, even-aged management scheme, an additional 0.6 million acres of pine in the 0- to 9-year age class would be required to indefinitely sustain the rate of pine acres harvested and retained in forest during the past decade.

Many Hardwood Stands Are Poorly Stocked

In general, stocking levels have improved on Florida's timberland since the fourth survey, as has the overall hardwood outlook. Even so, 46 percent of all acres assigned a hardwood type are inadequately stocked with growing-

stock trees. These acres are displayed in figure 9 as having no manageable stand. Growing-stock volume averages 273 cubic feet per acre on these areas. Some of these acres support substantial additional volumes in rough and rotten trees. Conditions on some of these acres will improve, but most will require treatment before they can contribute to future timber supplies.

The largest concentration of the better stocked hardwood stands falls in the 40- to 49-year age class. Here again, as these stands develop and are harvested, the stand age profile suggests they will not be fully replaced, because the acreage in the next lower age class is smaller.

Although we stated earlier that there were increases in hardwood regeneration over the past decade, this increase is not evident in the 0- to 9-year age class of figure 9. This apparent discrepancy indicates that most of the stands on acres where additional hardwood regeneration occurred were inadequately stocked with acceptable trees, and therefore not manageable.

Approximately 0.9 million acres of hardwood forest types experienced a final harvest over the past 10 years and remained in forest. Only 0.3 million acres of manageable hardwoods were reestablished. This situation effectually means that about 1 out of every 3 hardwood stands harvested and retained in commercial forest is being replaced by a stand of manageable hardwoods. An additional 0.6 million acres of hardwoods in the 0- to 9-year age class would be required to indefinitely sustain the rate of hardwood acres harvested during the past decade under a regulated, even-aged management scheme.

When both hardwoods and softwoods are taken together, 55 percent of all stands harvested and retained in commercial forest are being replaced by manageable stands. This percentage includes regeneration by both natural and artificial means.

Average volume per acre shown for each condition or age class in figure 9 excludes the volume in rough and rotten trees and all trees less than 5.0 inches d.b.h. Mortality, thinnings,

and other types of intermediate cutting also removed undetermined amounts of volume from some of the stands. The average volumes demonstrate the minimum performance of reasonably well-stocked stands across the range of sites. The correlations between average volume per acre and age lend considerable credibility to the age classifications.

Timber Supply Projections

Equipped with historical background information as a starting point, it becomes our task to project what bearing these latest trends could likely have on future timber supplies. The primary objective is to provide two future estimates. The first projection is an estimate of prospective net annual removals, net annual growth, and inventory if past trends are extrapolated for 30 years. The second projection is an estimate of potential net annual removals, net annual growth, and inventory attainable through improved timber management. Management opportunities are discussed in the next section.

These projections are made by using the Timber Resource Analysis System (TRAS) computer model. The results obtained from the TRAS model are highly sensitive to a set of basic assumptions. These results should not be misinterpreted as bold forecasts; they are reasonable estimates if the stated assumptions hold true.

Prospective Timber Supply Assumptions

Estimates of prospective timber supplies are based on the following assumptions:

1. Area of commercial timberland will continue to decline.--Commercial forest acreage has been declining in Florida since the first survey in 1936. The continuation of this trend in future years seems likely in light of the current influx of people and business interests into the State. An extrapolation of the trends measured between

1949 and 1979, weighted by the trend exhibited over the past 10 years, yields a 1.3-million-acre reduction of timberland over the next 30 years.

2. Declines in 2-inch softwoods will continue in the short run.--The number of all live softwoods in the 4-inch diameter class has decreased by 4 percent, and the number of softwoods in the 2-inch diameter class has decreased by 22 percent. More specifically, the number of 4-inch slash pines has increased by only 2 percent, and the number of 2-inch slash pines has actually declined by more than 31 percent. These findings indicate a recent slowdown in regeneration efforts. To assume that these trends will continue over the next 30 years would be unrealistic. If allowed to continue, reduced ingrowth into larger diameter classes would eventually deplete the softwood inventory. Therefore, we assume that the rate of decline in the number of 2-inch softwoods and the rate of increase of 2-inch hardwoods experienced between 1969 and 1979 will slow down and eventually reverse before the year 2010.

3. Softwood growth will continue to increase over the short run.--The increased softwood growth measured since 1970, largely due to a buildup in softwood inventory brought about by past regeneration efforts, will support future growth increases for awhile. However, as this current buildup is harvested, growth will continue to increase only to the point when softwood ingrowth becomes insufficient to replace it.

4. Softwood removals will increase.--Softwood removals, as a percentage of softwood growth, will continue to increase at about the same rate experienced between 1969 and 1979.

5. Hardwood growth will increase over the long run.--Due to the increased hardwood ingrowth measured over the past 10 years, it is reasonable to assume that hardwood growth will accelerate over the next 30 years. This

assumption is further supported by relatively low rates of hardwood removals in the past.

6. The gap between hardwood growth and removals will remain at 1979 levels.--Hardwood removals, as a percentage of hardwood growth, have been on the decline for the past 30 years. The hardwood industry in Florida has never developed to its full potential. Because of the projected hardwood growth increase, we think it is unrealistic to project a continuing decline in hardwood removals. On the other hand, unless new hardwood markets develop as a result of events such as the energy crisis, we foresee no significant upturn in the level of hardwood removals. We therefore assume that hardwood removals, as a percentage

of hardwood growth, will remain at 1979 levels.

TRAS Prospective Results

Prospective projections, based on these assumptions, are displayed in figures 10 and 11. Softwood growing stock growth will continue to increase until around the year 2000, peaking at about 650 million cubic feet per year. At this point, ingrowth into large diameter classes becomes insufficient to offset increased removals. Growth of softwood sawtimber continues to increase because reduced ingrowth has not yet fully passed into the sawtimber size class. The extrapolation of past softwood cutting trends brings softwood removals nearly into balance with

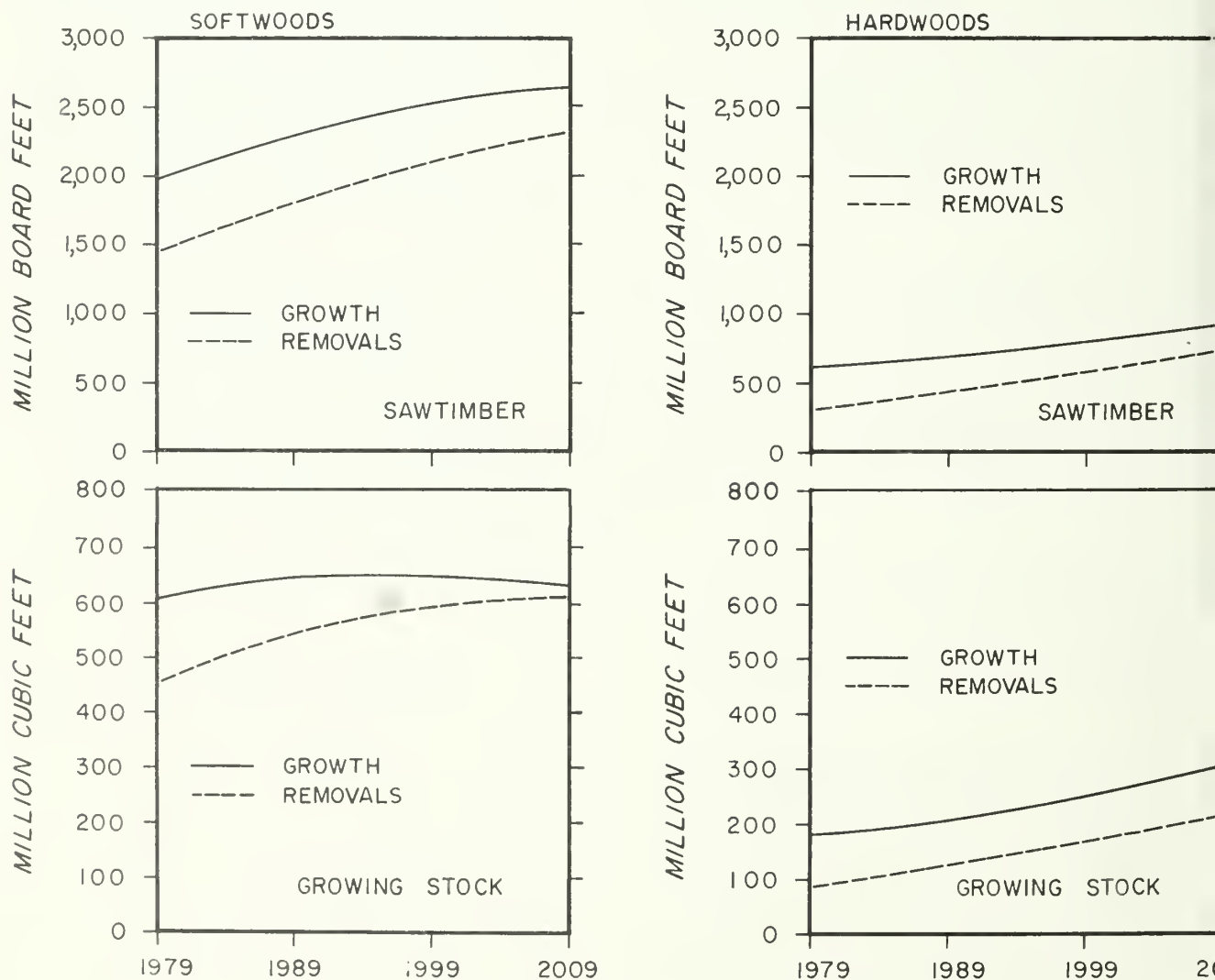


Figure 10.--Prospective growth and removals, Florida, 1980.

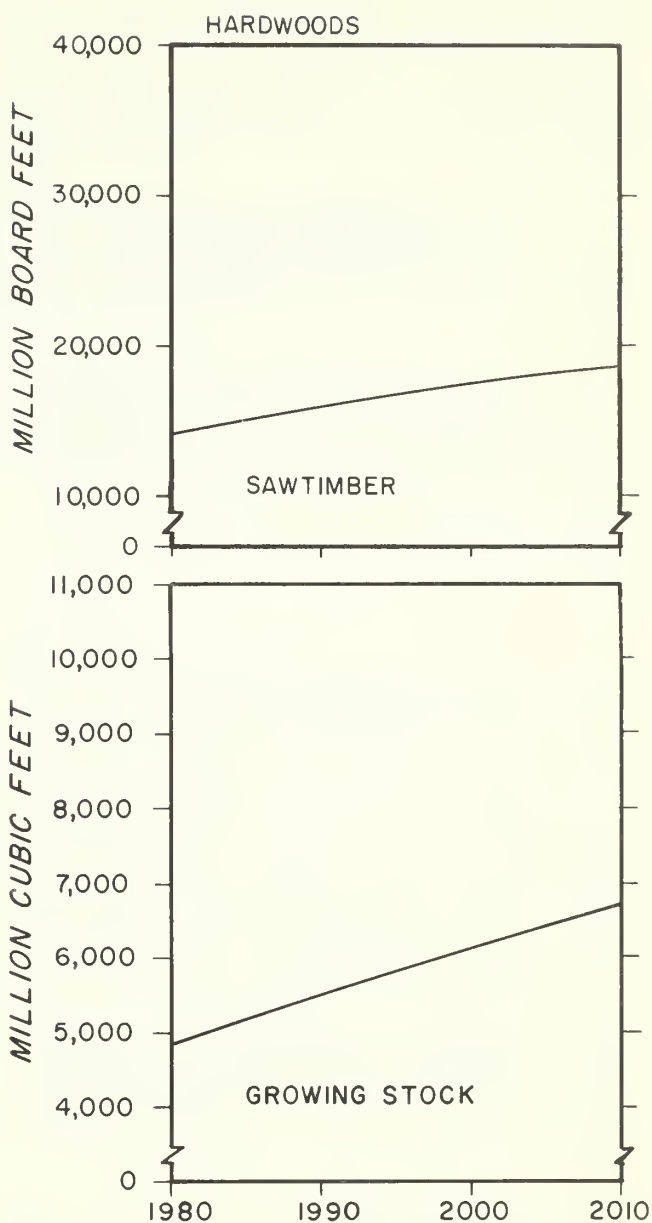
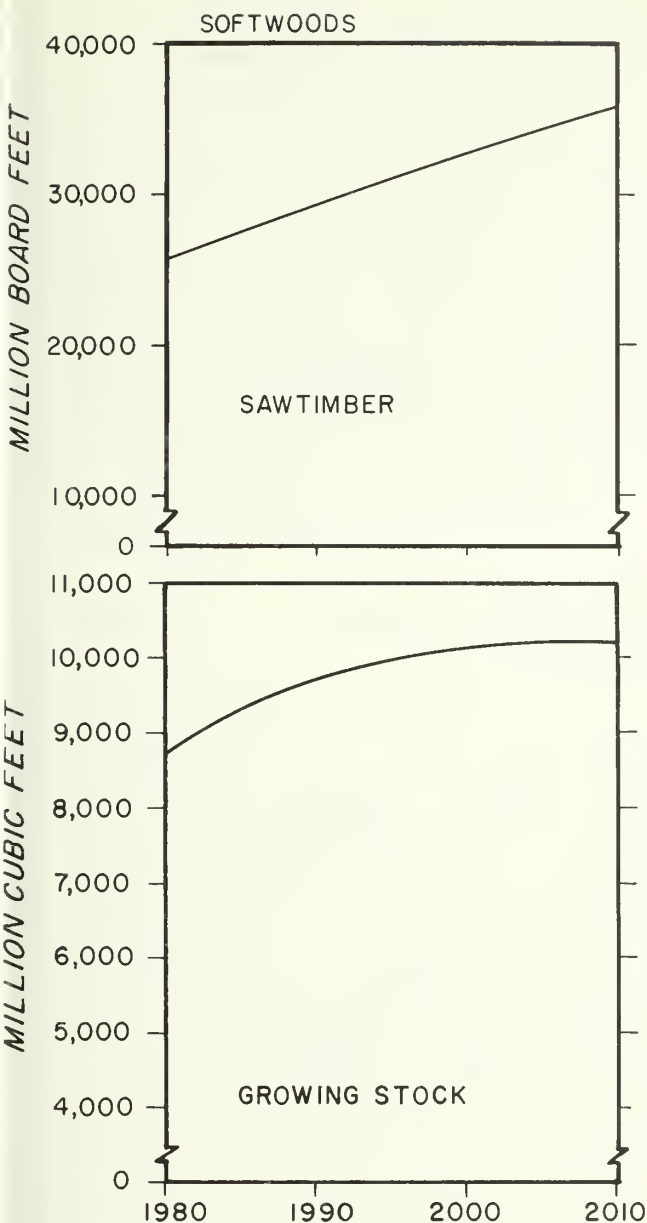


Figure 11.--Prospective inventory, Florida, 1980.

growth by the year 2009. However, a wide gap between softwood sawtimber growth and removals still exists because of increased sawtimber growth. By 2010, the inventory resulting from this combination of growth and removals will reach approximately 10.2 billion cubic feet of softwood growing stock and 35.7 billion board feet of softwood sawtimber, increases of 17 and 39 percent from the present inventory (fig. 11).

Fueled by increased ingrowth into the larger diameter classes, hardwood growth will continue to accelerate throughout the projection period (see

figure 10). Hardwood sawtimber growth does not increase as much as growing-stock growth because increased ingrowth has not fully filtered into the larger sawtimber-size classes. As stated in the assumptions, the gap between hardwood growth and removals is held constant at 1979 levels. At the end of the projection period, the inventory yielded by this combination of growth and removals will reach approximately 6.7 billion cubic feet of hardwood growing stock and 18.6 billion board feet of hardwood sawtimber, increases of 38 and 31 percent above present levels.

assumption is further supported by relatively low rates of hardwood removals in the past.

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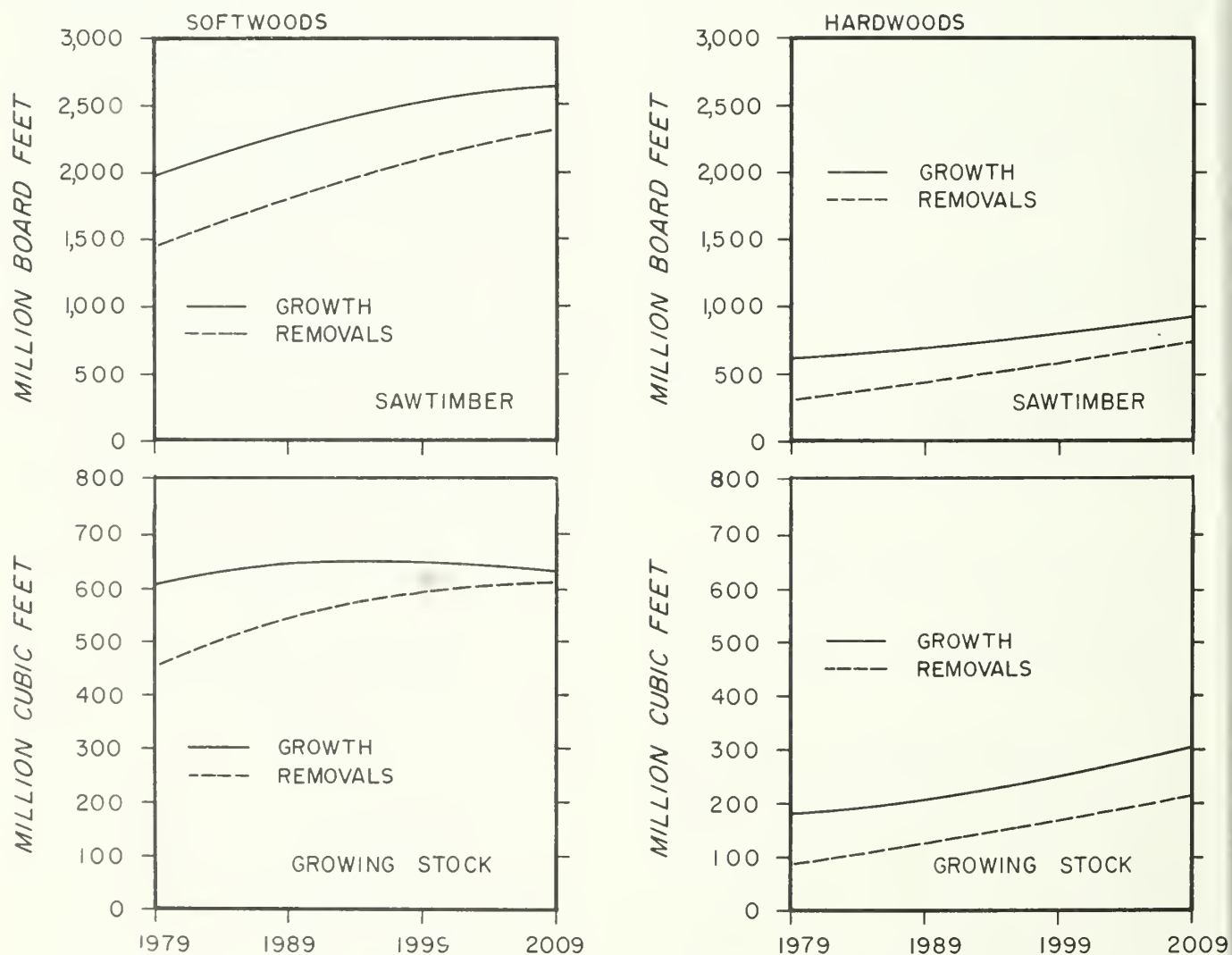


Figure 10.--Prospective growth and removals, Florida, 1980.

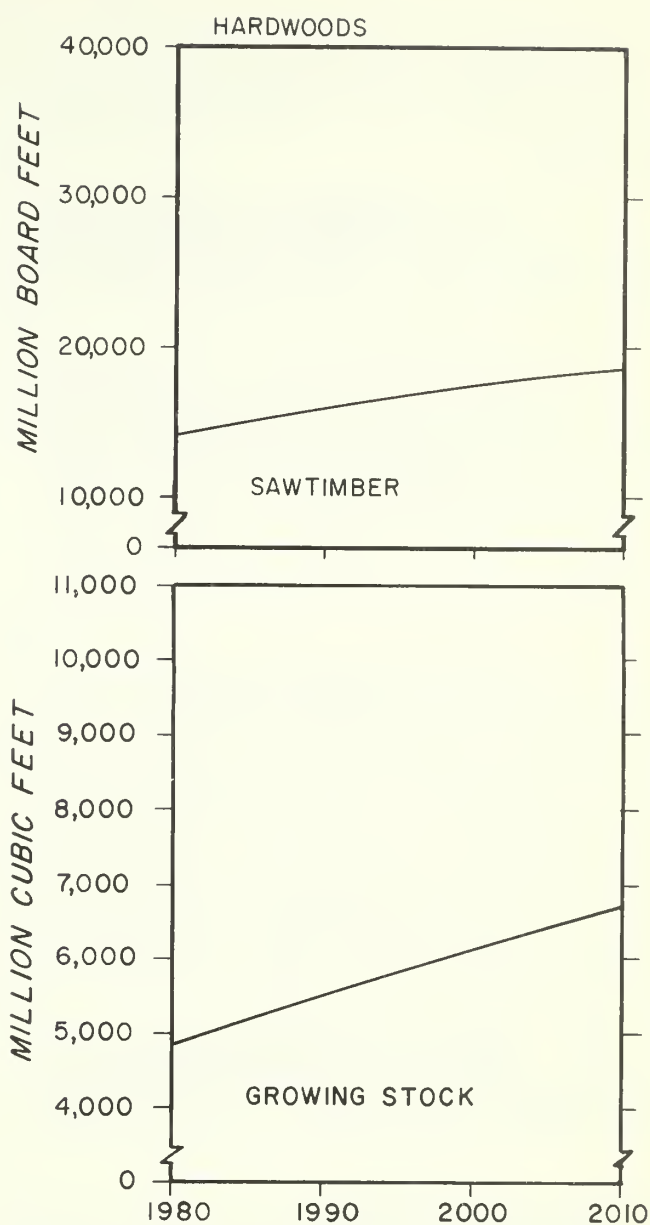
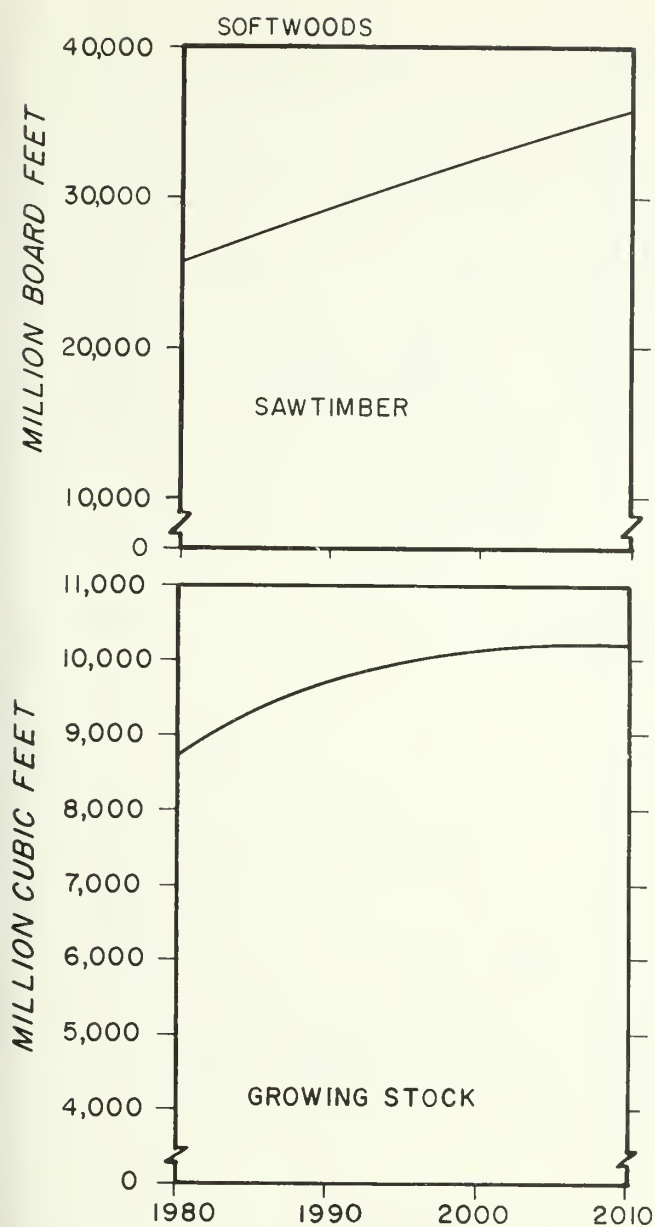


Figure 11.--Prospective inventory, Florida, 1980.

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Potential Timber Supply Assumptions

Estimates of the potential timber supplies are based on the following assumptions:

1. Area of commercial forest land will decline by 1.3 million acres.-- This assumption is the same as that used in the prospective model.

2. The number of 2-inch softwoods will gradually increase, and the number of 2-inch hardwoods will gradually decrease.-- If increased planting efforts are undertaken soon, the effects of decreased softwood ingrowth into the larger diameter classes can be minimized.

3. Increased ingrowth will more than offset any acreage reduction.-- Reduced mortality rates and increased growth due to improved management will boost growth per acre slightly above the possible biological potential (based on site class) when all timberlands are fully stocked with natural stands. This assumption is certainly realistic because Florida has so much acreage in pine plantations.

4. Growth and removals will be brought into balance for both softwoods and hardwoods by 2009.

TRAS Potential Results

Based on the above assumptions, potential projections obtained from the TRAS model are displayed in figures 12 and 13. Both softwood growing-stock and sawtimber growth will increase throughout the projection period. Growing-stock growth will accelerate at a slightly lesser rate than sawtimber because of present depressed planting levels. Removals increase throughout the remeasurement period until 2009, when they come into balance with growth. At this point, a sustained inventory of 10.7 billion cubic feet of softwood growing stock and 38.6 billion board feet of softwood sawtimber is attained (fig. 13). The resulting inventory represents a 22 percent in-

crease of softwood growing stock, and 50 percent increase of softwood sawtimber from present levels.

Growth of hardwood growing stock and sawtimber will continue to increase through the potential projection period. Present high levels of hardwood seedlings account for the accelerating hardwood growing-stock growth. Reduced mortality brought about by increased sawtimber removals helps to maintain increased hardwood sawtimber growth. Removals increase until they balance with growth by the year 2009. At this time, a sustained inventory of 6.1 billion cubic feet of growing stock and 16.3 billion board feet of sawtimber is achieved.

Comparison of Prospective and Potential Supplies

The potential softwood growing-stock growth exceeds the prospective by nearly 18 percent. Potential softwood growing-stock inventory by the year 2010 surpasses the prospective by 5 percent. Moreover, these increases in softwood growth and inventory would be available on a sustained basis despite a 20 percent higher cutting rate. The potential softwood sawtimber outlook exhibits similar improvements over the prospective. Softwood sawtimber growth and inventory could be increased by 7 and 8 percent over the prospective, and sawtimber removals could be increased by 21 percent if timber management is further intensified now.

Under the potential model, the hardwood growing-stock inventory would be reduced. This reduction would not necessarily inhibit any foreseeable expansion of the hardwood industry, because cutting rates can be increased on a sustained basis. If all stated assumptions hold true, hardwoods will comprise 40 percent of the total prospective growing-stock inventory but only 36 percent of the total potential inventory by 2010. The potential hardwood growing-stock growth is almost 5 percent less than the prospective, and the potential hardwood inventory is 9 percent less than the prospective. However, hardwood cutting rates under the potential model would be 37 percent higher than the prospective, and on a

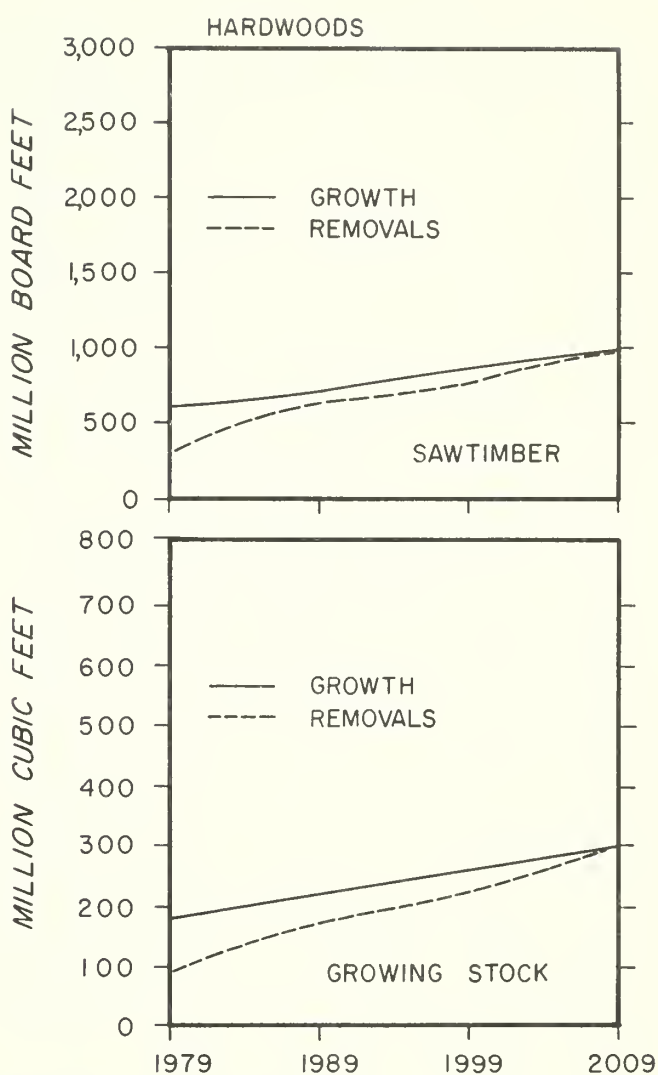
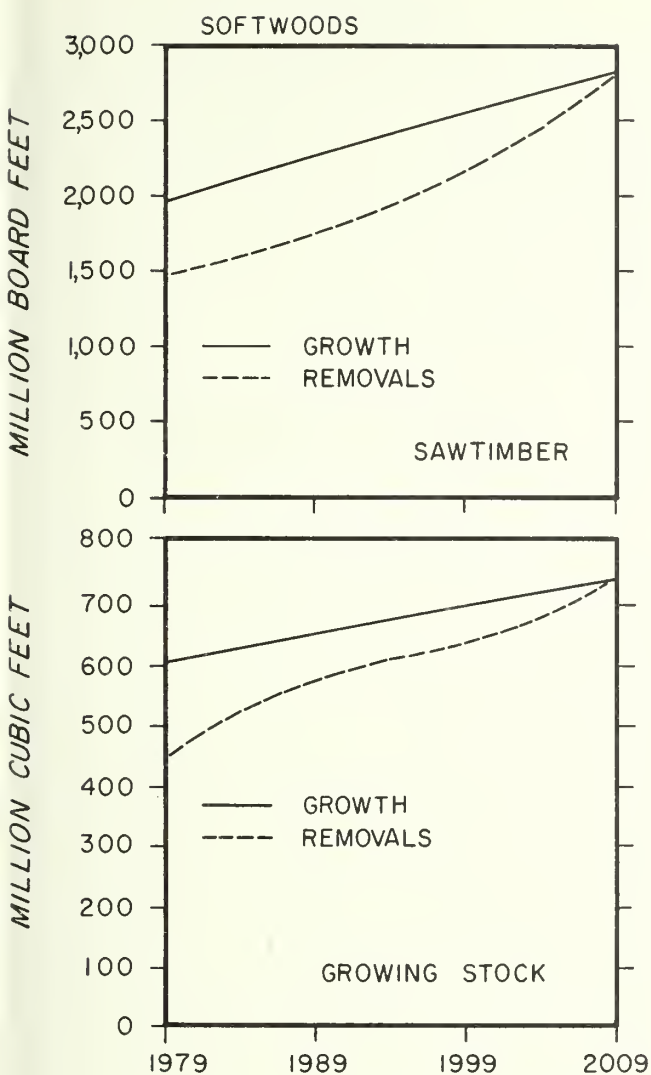


Figure 12.--Potential growth and removals, Florida, 1980.

sustained basis. Comparing the two models for hardwood sawtimber shows that the potential growth of hardwood sawtimber can be increased by 11 per-

cent, potential inventory reduced by 13 percent, and potential hardwood sawtimber removals increased by 40 percent over the prospective.

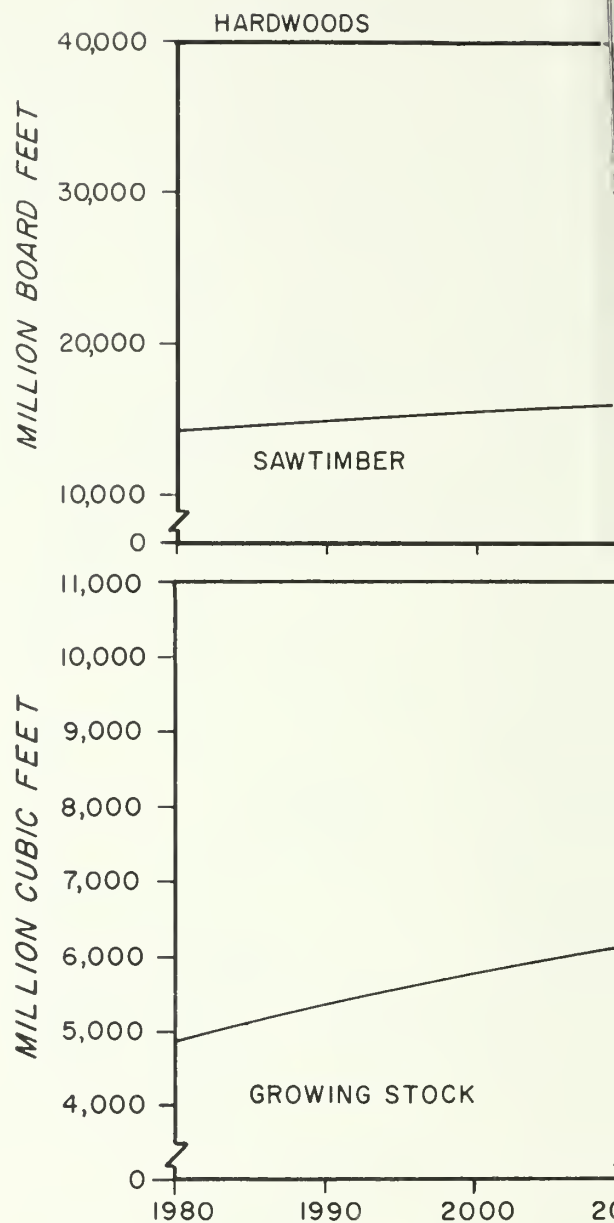
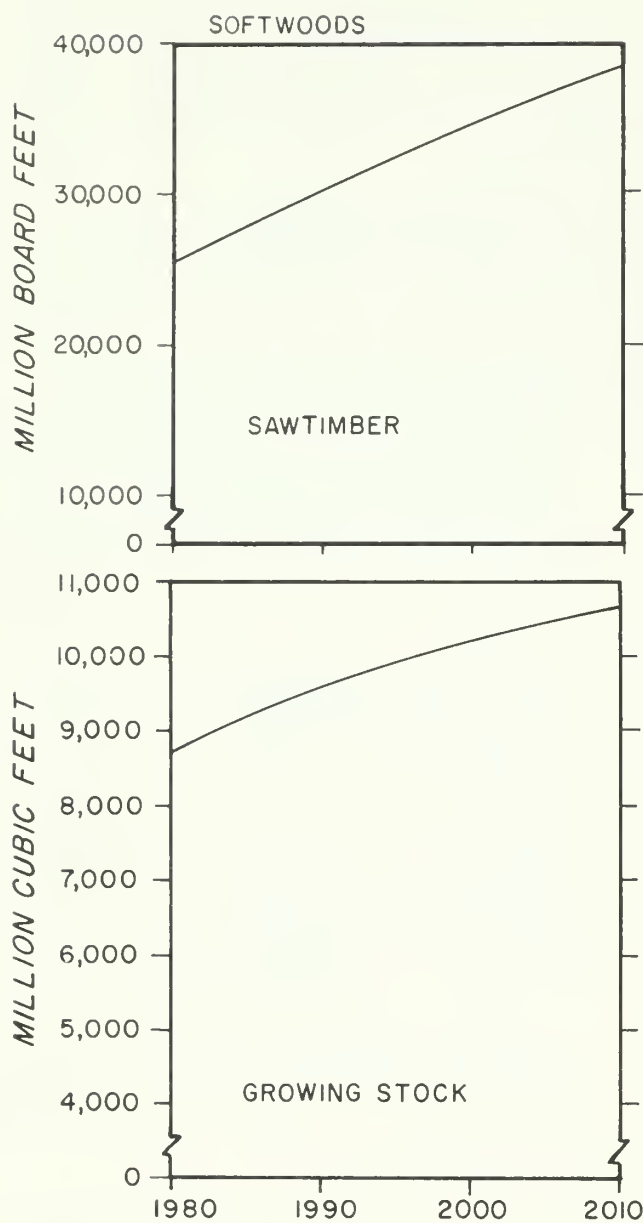


Figure 13.--Potential inventory, Florida, 1980.



MANAGEMENT OPPORTUNITIES

In the latest analysis of the timber situation in the United States, demand for roundwood timber in the country is projected to increase by over 89 percent between 1976 and 2010.⁴ As old-growth stands in the Western United States are harvested, forestry interests are focusing more attention on the South as an increasingly important source of timber. Rising demands on a diminishing forest-land base are certain to place heavy strains on Florida's forest resources. If these challenges are to be met, available opportunities to increase yields must be identified and implemented. Table VII provides a breakdown of various management opportunities in terms of acres by broad ownership classes.

Adverse Sites Limit Opportunities on 1.1 Million Acres

Adverse sites limit management on 1.1 million acres, or about 7 percent, of Florida's commercial forests. Most of these sites are limited by year-round water problems. Since 1970, only 15 percent of these sites have experienced any cutting or treatment. Most of these sites support bottom-land hardwood stands. For practical purposes, adverse sites have been excluded from the management opportunities in table VII.

Proportionately, the largest concentration of these sites is in Central Florida, where opportunities are limited on 17 percent of the total timberland. By ownership, the proportion of adverse sites on forest industry land is just slightly less than on public or NIPF land.

⁴ U.S. Department of Agriculture, Forest Service. An analysis of the timber situation in the United States, 1952-2030. Review draft. Washington, DC: U.S. Department of Agriculture, Forest Service; 1980. 789 p.

Over 7.2 Million Acres Are in Good Condition

More than 7.2 million acres, or 46 percent of the commercial forest land, support stands in relatively good condition. These stands are at least 50 to 60 percent stocked with trees of acceptable quality and are free from significant damage or competition. Pine plantations occupy 38 percent of this acreage, natural pine stands 32 percent, and hardwood stands (including oak-pine) 30 percent. Excluding adverse sites, 84 percent of all pine plantations are in good shape, 59 percent of all natural pine stands are in good condition, and 40 percent of all hardwood stands (including oak-pine) are in good condition. Protection and the prompt regeneration of harvested areas should sustain a high rate of timber growth on these lands.

By ownership class, 62 percent of the stands under forest industry control and suitable for management are in good condition, compared to 52 percent on public lands and 41 percent on other private holdings. By Survey Unit, 55 percent and 53 percent of all stands in Northeast Florida and Northwest Florida suitable for management are in good condition, compared to 32 percent and 31 percent in Central and South Florida.

Opportunities Exist on 7.3 Million Acres

Conditions on 7.3 million acres, or 47 percent, of Florida's timberland are inadequate for optimum timber production. Without treatment, these acres will contribute far below their potential yields. This evaluation identifies six management opportunities.

1. Salvage and regenerate seriously damaged stands on 80,000 acres.-- These stands contain substantial volume of merchantable timber which has been seriously damaged by fire, insects, disease, wind, ice, or other destruc-

Table VII.—Area of idle cropland and commercial forest land, by broad management, ownership, and treatment opportunity classes, Florida, 1980

Broad management and ownership classes ^a	Total area	Broad treatment opportunity classes							
		Salvage	Harvest	Commercial thinning	Other stand improvement	Stand conversion ^b	Regeneration	Stands in relatively good condition	Adverse sites or conditions ^c
..... Thousand acres									
Idle cropland:									
Public	—	—	—	—	—	—	—	—	—
Forest industry	—	—	—	—	—	—	—	—	—
Other private	593.5	—	—	—	—	—	593.5	—	—
Total	593.5	—	—	—	—	—	593.5	—	—
Nonstocked forest:									
Public	257.4	—	—	—	—	—	254.3	—	3.1
Forest industry	458.5	—	—	—	—	—	430.3	—	28.2
Other private	1,295.1	—	—	—	—	—	1,254.8	—	40.3
Total	2,011.0	—	—	—	—	—	1,939.4	—	71.6
Pine plantations:									
Public	293.1	—	—	10.1	15.7	—	6.3	261.0	—
Forest industry	2,093.1	9.3	—	138.8	65.1	—	62.3	1,813.9	3.7
Other private	881.1	9.8	—	93.6	50.6	7.6	37.7	681.8	—
Total	3,267.3	19.1	—	242.5	131.4	7.6	106.3	2,756.7	3.7
Natural pine stands:									
Public	987.1	8.4	26.8	32.2	53.8	3.1	223.5	620.7	14.6
Forest industry	988.6	7.7	11.3	46.8	49.3	—	216.2	650.3	7.0
Other private	1,944.1	9.8	46.0	64.7	119.6	—	664.4	1,025.9	13.7
Total	3,919.8	25.9	84.1	147.7	222.7	3.1	1,104.1	2,296.9	35.3
Oak-pine stands:									
Public	186.4	—	12.1	—	15.5	—	125.4	28.5	4.9
Forest industry	351.1	—	16.0	6.6	37.3	—	114.8	153.8	22.6
Other private	781.9	4.2	7.5	10.6	83.1	2.9	383.9	258.7	31.0
Total	1,319.4	4.2	35.6	17.2	135.9	2.9	624.1	441.0	58.5
Upland hardwood stands:									
Public	88.9	—	.3	—	5.0	2.1	62.4	19.1	—
Forest industry	202.7	—	3.5	—	25.3	12.2	78.3	79.9	3.5
Other private	948.0	—	35.8	3.3	78.3	32.1	442.7	351.4	4.4
Total	1,239.6	—	39.6	3.3	108.6	46.4	583.4	450.4	7.9
Bottomland hardwood stands:									
Public	365.3	5.9	34.5	—	15.3	2.7	47.5	115.7	143.7
Forest industry	1,343.1	7.1	115.7	43.9	138.9	14.8	285.5	484.5	252.7
Other private	2,198.7	18.2	182.5	55.4	168.8	15.6	503.1	687.9	567.2
Total	3,907.1	31.2	332.7	99.3	323.0	33.1	836.1	1,288.1	963.6
All classes:									
Public	2,178.2	14.3	73.7	46.3	105.3	7.9	719.4	1,045.0	166.3
Forest industry	5,437.1	24.1	146.5	236.1	315.9	27.0	1,187.4	3,182.4	317.7
Other private	8,642.4	42.0	271.8	227.6	500.4	58.2	3,880.1	3,005.7	656.6
Total	16,257.7	80.4	492.0	510.0	921.6	93.1	5,786.9	7,233.1	1,140.6

^aForest industry includes lands under long-term lease.

^bAreas occupied with species unsuitable for the site from the standpoint of timber production.

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

tive agents. Risk of mortality for trees within these stands is high. The highest proportion of stands in need of salvage is found on NIPF land.

2. Harvest and regenerate mature and overmature stands on 492,000 acres.--These acres support old, high-risk stands with low growth and high mortality. The highest proportion of harvest opportunities is found on NIPF land.

3. Thin young, immature stands densely stocked with merchantable-size trees on 511,000 acres.--These acres support immature stands so heavily stocked that trees are receiving considerable competition from one another. Some of the future growth potential is likely to be lost to suppression mortality. Pine stands account for 76 percent of the commercial thinning opportunity. Because of dense planting during the Soil Bank era, high percentages of both NIPF and forest industry land are included in the thinning opportunity.

4. Remove undesirable trees and competing vegetation from other immature stands on 922,000 acres.--These acres support immature stands receiving serious competition from rough trees and other inhibiting vegetation. Some type of cleaning and release would enhance the future quality and growth of these stands. Oak-pine and other hardwood stands account for 62 percent of this timber stand improvement opportunity. The highest proportion of this opportunity is on NIPF land.

5. Convert stands with species obviously unsuitable for the site, from the standpoint of timber production, to more suitable species on 93,000 acres.--These acres support a manageable stand but will contribute very little net annual growth unless converted to species more suitable to the sites. About 85 percent of these acres support either upland or bottom-land hardwood stands. Many of these stands are on sites where low-grade hardwoods have replaced pines following a harvest.

Some pine stands were included in this opportunity where the existing species has been particularly susceptible to damage or disease. The highest proportion of conversion opportunity is on NIPF land.

6. Regenerate 5.2 million acres too poorly stocked with acceptable trees to manage for timber production.--These acres represent the backlog of needed regeneration on manageable sites in Florida. The addition of acres classified as idle cropland would add some 594,000 acres to this opportunity. Over 67 percent of all acres in this category occur on NIPF land.

Regenerate Acreage Harvested

NIPF land has the most opportunities for improvement of Florida's forests. Of the various treatment opportunities identified on 7.3 million acres of commercial forest, 60 percent occur on land controlled by private, nonindustrial owners. About 27 percent of the treatment opportunities on all manageable sites in commercial forest occur on forest industry land, and 13 percent occur on public land.

While examining opportunities available for increasing timber supplies, forestry interests in Florida should focus on the prompt regeneration of stands following final harvest. Altogether, recent rates of harvesting in Florida indicate a need to regenerate some 2.6 million acres to either manageable pine or hardwood each decade. Based on acreage identified as having no manageable stand, there is a backlog of 5.4 million acres in need of regeneration. Yet, only 1.4 million acres were adequately regenerated to either pine or hardwood over the last decade (see figure 9).

Of the 2.6 million acres harvested and retained in forest, only 33 percent were subsequently artificially regenerated. On forest industry land, about 51 percent of the final acres harvested and retained in forest were subsequently artificially regenerated. On public land, 32 percent were artificially regenerated. On NIPF land, only

8 percent of all commercial forest acres harvested and retained in forest were subsequently artificially regenerated. Failure to promptly regenerate harvested stands is the major cause of poor stocking. Corrective actions taken several years after the harvest are more costly and do not attack the source of the problem. Every year of delay results in substantial growth loss. If the landowner is to control the species composition and condition of his forest, it is vital that he exercise this control at the time of harvest.

Plant Idle Acres

Over and above the acres planted in conjunction with a final harvest, an additional 487,000 acres were planted over the last decade. About 55 percent of these acres were planted on land controlled by forest industry, 31 percent on NIPF land, and 14 percent on public land (see table VI).

Of the 5.4 million acres in need of regeneration, 5.2 million occur on manageable sites. Of the 5.2 million acres on manageable sites, about 191,000 acres could be regenerated with minimum effort. Included in this estimate are acres that had been site-prepared but not yet planted at the time of survey and acres that could be regenerated without any preliminary site preparation.

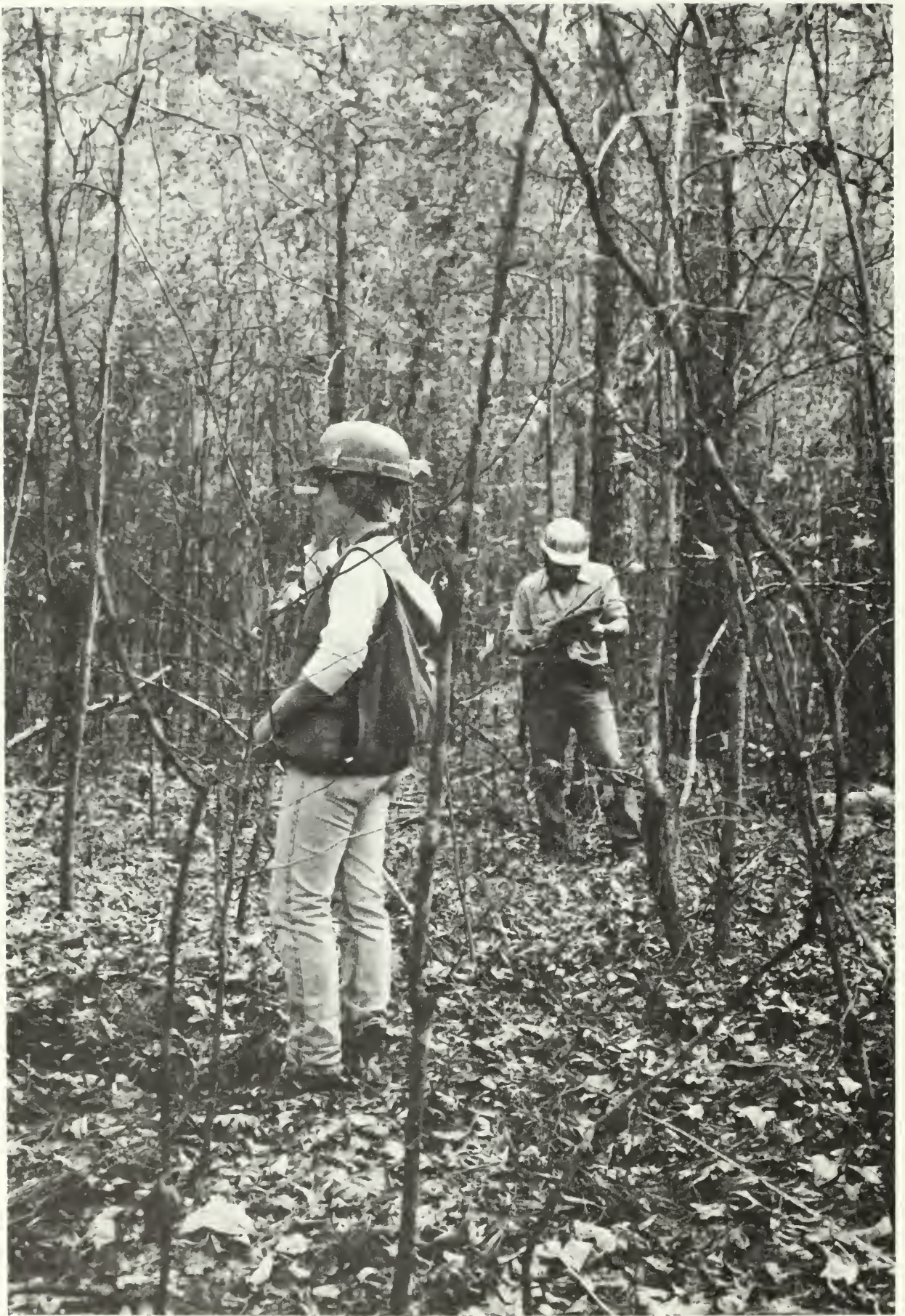
In addition, there are 594,000 acres of idle NIPF cropland that could

easily be planted to trees. In the past, such land has been the primary source of new forest acreage. Owners receptive to the idea of planting trees on these acres should be encouraged to do so. Site preparation and planting costs are considerably less on these acres than on cutover or poorly stocked forest land.

Help for NIPF Owners

The inventory findings clearly show that a disproportionately high percentage of NIPF land is in need of some forestry treatment. Of most concern is the high percentage of harvesting without regeneration. If Florida is to meet future demands on its timber resources, NIPF land must be managed more productively.

Since 1974, the Forestry Incentives Program (FIP) has been available to assist small NIPF landowners. Other Federal aid is provided in the form of tax incentives as outlined in the Reforestation Tax Credit Bill, approved in late 1980. Professional advice and services are also available to NIPF landowners through forestry consultants, the Division of Forestry, Florida Department of Agriculture and Consumer Services, and the University of Florida Cooperative Extension Service. In addition, some wood-using companies offer landowners technical assistance through various agreements made at the time of harvest.



APPENDIX

PROCEDURE

The procedure used in the fifth Statewide inventory and evaluation of Florida's forest resources included these basic steps:

1. Except for South Florida, initial estimates of forest and non-forest acreages were developed from the classification of 69,766 sample clusters systematically spaced on the latest aerial photographs available. Field crews checked a subsample of 9,566 of these 16-point clusters on the ground. A linear regression was fitted to the data to develop the relationship between the photo and ground classification of the subsample. This procedure provided a means for adjusting the initial acreage estimates for change in land use since date of photography and for photo misclassifications.

2. In South Florida, estimates of forest and nonforest acreages were developed from direct aerial observations along 27 east-west flight lines spaced at 5-mile intervals. The flight lines were selected systematically from a random start and flown perpendicular to the direction of primary drainage. From an altitude of 500 feet above the ground, observers classified the land use at 24,471 sample points along the flight lines. An interval timer was used to determine the sample points. This direct aerial method was not used in the Keys because of their unique geographical layout. Instead, gross area estimates were made by planimeter of the U.S. Geological Survey boundaries as transferred from maps onto aerial photographs. The breakdowns of gross acreage into detailed land use were based upon the ground classification of 45 sample locations.

3. For the entire State, estimates of timber volume and forest classifications were based on measurements recorded at 4,680 ground sample locations systematically distributed within the commercial forest land. The plot

design at each location was based on a cluster of 10 points. In most cases, variable plots were systematically spaced within a single forest condition at 5 of the 10 cluster points using a basal-area factor of 37.5 square feet per acre. Trees less than 5.0 inches d.b.h. were tallied on fixed-radius plots around the point centers.

4. Seedlings, shrubs, vines, grasses, forbs, and other lesser vegetation occurring within a 35-foot radius of selected point centers were identified and recorded at each forest sample location. Each distinctive zone of lesser vegetation was classified based on its height, density, and species composition. When merged with the tree tally, this information provided a vegetative profile of each forest condition sampled. Additional nontimber attributes measured or classified included land use, terrain, soils, erosion, litter, water, snags, and tree-bole cavities.

5. Equations developed from detailed measurements of standing trees in Florida and throughout the Southeast were used to compute volumes of individual tally trees. A mirror caliper and sectional aluminum poles were used to obtain the additional measurements on standing trees required to construct the volume equations. In addition, felled trees were measured at 97 active cutting operations to provide utilization factors for the different timber products and species groups and to supplement the standing-tree volume study.

6. Growth, removals, and mortality were estimated from the remeasurement of 4,614 permanent sample plots established in the 1970 inventory. A 1979 survey of timber products output, conducted by the Division of Forestry, Florida Department of Agriculture and Consumer Services, along with the annual pulpwood production study in the South, provided additional information for breakdowns of removals by product.

7. Ownership information was collected from public records and through correspondence and direct contacts in the field. In those counties where the sample missed a particular ownership class, temporary samples were added and measured to describe forest conditions within the ownership class.

8. The Department of Defense provided special support for the inventory of lands on Eglin Air Force Base. Through a cooperative agreement, an additional 365 forest sample plots were established on Eglin Air Force Base to provide information needed for a special assessment of the Eglin forests.

9. Other special studies conducted in conjunction with this fifth inventory of Florida's forest resources included the sampling of (1) major bio-

mass components, and (2) occurrence of melaleuca. The Division of Forestry, Florida Department of Agriculture and Consumer Services, provided special support for each of these studies.

10. All field data were sent to Asheville to be edited, punched on cards, and stored on magnetic tape for computer processing, sorting, and tabulating. Final estimates were based on statistical summaries of the data. As each of the four Survey Units in Florida was completed, special summaries of the information were added to master data files of forest resource statistics maintained in Asheville for the entire Southeast. A Forest Information Retrieval (FIR) program is available for compiling information for any area of interest as a cooperative service.

RELIABILITY OF THE DATA

Statistical analysis of the data indicates a sampling error of ± 0.70 percent for the estimate of total commercial forest area, 1.75 percent for the total cubic-foot volume, 1.67 percent for total cubic-foot volume growth, and 3.88 percent for total cubic-foot removals. As the totals are

broken down by forest type, species, tree diameter, and other subdivisions, the sampling error increases. If homogeneity of variances is assumed, the order of this increase is suggested in the following tabulation showing the sampling errors in terms of one standard error, or two chances out of three.

Sampling errors for selected areas and volumes ^a

Sampling error ^b (percent)	Commercial forest area	Volume of growing stock			
		Inventory	Net growth	Removals	
	<u>M acres</u>	<u>- - - Million cubic feet - - -</u>			
1	7,675.5	--	--	--	
2	1,918.9	10,427.7	547.7	--	
3	852.8	4,634.5	243.4	--	
4	479.7	2,606.9	136.9	509.7	
5	307.0	1,668.4	87.6	326.2	
10	76.8	417.1	21.9	81.5	
15	34.1	185.4	9.7	36.2	
20	19.2	104.3	5.5	20.4	
25	12.3	66.7	3.5	13.0	

^aSampling error of breakdowns of county and unit totals may be computed with the following formula:

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

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

SE = Specified sampling error in table

^bBy random-sampling formula.

DEFINITIONS OF TERMS

Acceptable trees.—Growing-stock trees of commercial species that meet specified standards of size and quality, but not qualifying as desirable trees.

Available cut.—The volume of timber that would be available for cutting on commercial forest land during a given period under specified assumptions concerning growth, cut, mortality, and forest management practices.

Basal area.—The area in square feet of the cross section at breast height of a single tree or of all the trees in a stand, usually expressed as square feet of basal area per acre.

Commercial forest land.—Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization.

Commercial species.—Tree species suitable for industrial wood products.

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

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

Diameter class.—A classification of trees based on diameter outside bark (d.o.b.), measured at breast height (4½ feet above the ground). D.B.H. is the common abbreviation for "diameter at breast height." Two-inch diameter classes are commonly used in Forest Survey, with the even inch the approximate midpoint for a class. For example, the 6-inch class includes trees 5.00 through 6.99 inches d.b.h., inclusive.

Farm.—Lands on which agricultural operations are being conducted and sale of agricultural products totaled \$1,000 or more during the year.

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

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

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

Forest land.—Land at least 16.7 percent stocked by forest trees of any size, or formerly having had such tree cover, and not currently developed for nonforest use.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Hard hardwoods.—Hard-textured hardwoods such as sugar maple, birch, hickory, dogwood, persimmon (forest grown),

black locust, beech, ash, honeylocust, holly, black walnut, mulberry, and all commercial oaks.

Idle farmland.—Includes former croplands, orchards, improved pastures and farm sites not tended within the past 2 years, and presently less than 16.6 percent stocked with trees.

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

Industrial wood.—All roundwood products except fuelwood.

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

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

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

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

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

Manageable stand.—Commercial forest land at least 40-60 percent stocked with growing-stock trees which can be featured together under a management scheme.

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

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

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

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

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

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

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

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

Noncommercial species.—Tree species of typically small size, poor form, or inferior quality which normally do not develop into trees suitable for industrial wood products.

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

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

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

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

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

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

Plant byproducts.—Wood products such as pulp chips, obtained incidental to production of other manufactured products.

Plant residues.—Wood materials from manufacturing plants not utilized for some product.

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

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

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

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

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

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

Roundwood products.—Logs, bolts, or other round sections cut from trees for industrial or consumer uses.

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

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

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

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

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

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

Sawtimber volume.—Net volume of the saw-log portion of live sawtimber in board-foot International $\frac{1}{4}$ -inch rule.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Fully stocked.—100 percent or more stocking

Medium stocked.—60 to 100 percent stocking

Poorly stocked.—Less than 60 percent stocking

Survivor growth.—The increase in volume of growing-stock trees that survive cutting and mortality for a specified year.

Timber products.—Roundwood products and plant by-products.

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

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

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

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

STOCKING STANDARD

D.b.h. class	Minimum number of trees per acre for full stocking	Minimum basal area per acre for full stocking	Percent stocking assigned each tally tree ^a
Seedlings	600	—	5.0
2	560	—	5.4
4	460	—	6.5
6	340	67	5.8
8	240	84	4.8
10	155	85	4.3
12	115	90	4.0
14	90	96	3.8
16	72	101	3.7
18	60	106	3.5
20	51	111	3.5

^aStocking percentages based on tally at all 10 points of a 10-point cluster of plots. Trees less than 5 inches d.b.h. were tallied on circular, /300-acre plots at each point. Trees 5.0 inches d.b.h. and larger were tallied on variable plots using a basal-area factor of 37.5 at each sample point.

Overstocked—over 130 percent
 Fully stocked—100–130 percent
 Medium stocked—60–99 percent
 Poorly stocked—16.7–59 percent
 Nonstocked—less than 16.7 percent

CONVERSION FACTORS

Cubic feet of wood per average cord (excluding bark)

D.b.h	Pine	Other softwoods	Hardwood
6	61.0	68.2	60.0
8	68.1	76.0	68.4
10	73.1	81.4	73.4
12	76.7	85.2	76.4
14	79.4	88.1	78.4
16	81.6	90.4	79.8
18	83.4	92.3	80.8
20	84.8	93.8	81.5
22	86.0	95.2	82.1
24+	87.5	98.3	83.2
Average	71.9	81.8	74.3

Rough cords per M cubic feet (without bark) = $a + b \left(\frac{1}{d.b.h.} \right) + c \left(\frac{1}{d.b.h.} \right)^2$

Where

	<i>Pine</i>	<i>Other softwoods</i>	<i>Hardwood</i>
a =	10.01850	9.15960	11.68410
b =	34.42135	28.75793	3.74431
c =	22.73994	25.54418	157.39417

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Table 1.—Area by land classes, Florida, 1980

Land class	Area
<i>Acres</i>	
Forest land:	
Commercial	15,664,177
Productive-reserved	411,844
Unproductive	1,057,868
Total	17,133,889
Nonforest land:	
Cropland	3,784,515
Pasture and range	6,991,503
Other ^a	6,622,456
Total	17,398,474
All land ^b	34,532,363

^aIncludes swampland, industrial and urban areas, other non-forest land, and 469,663 acres classed as water by Forest Survey standards but defined by Bureau of Census and Geological Survey as land.

^bFrom U.S. Bureau of Census, Land and Water Area of the United States, 1970, and U.S. Geological Survey.

Table 2.—Area of commercial forest land, by ownership classes, Florida, 1980

Ownership class	Area
<i>Acres</i>	
National Forest	1,005,757
Other Federal:	
Bureau of Land Management	—
Indian	6,305
Miscellaneous Federal	583,901
Total	590,206
State	541,535
County and municipal	40,682
Forest industry ^a	4,696,802
Farmer-owned	1,954,498
Miscellaneous private:	
Individual	3,859,384
Corporate	2,975,313
Total	6,834,697
All ownerships	15,664,177

^aNot including 740,321 acres of farmer-owned and miscellaneous private lands leased to forest industry.

Table 3.—Area of commercial forest land, by stand size and ownership class, Florida, 1980

Stand-size class	All ownerships	National Forest	Other public	Forest industry	Farmer and misc. private
<i>Acres</i>					
Sawtimber	4,966,076	417,085	501,567	1,140,360	2,907,064
Poletimber	4,119,935	234,461	230,594	1,317,045	2,337,835
Sapling and seedling	4,567,087	255,408	281,647	1,830,463	2,199,569
Nonstocked	2,011,079	98,803	158,615	408,934	1,344,727
All classes	15,664,177	1,005,757	1,172,423	4,696,802	8,789,195

Table 4.—Area of commercial forest land, by stand volume and ownership class, Florida, 1980

Stand volume per acre ^a	All ownerships	National Forest	Other public	Forest industry	Farmer and misc. private
<i>Acres</i>					
Less than 1,500 fbm	9,062,092	479,555	609,110	3,040,053	4,933,374
1,500 to 5,000 fbm	3,706,392	289,347	298,455	912,079	2,206,511
More than 5,000 fbm	2,895,693	236,855	264,858	744,670	1,649,310
All classes	15,664,177	1,005,757	1,172,423	4,696,802	8,789,195

^aInternational 1/4-inch rule.

Table 5.—Area of commercial forest land, by stocking class based on selected stand components, Florida, 1980

Stocking percentage	Stocking classified in terms of—					
	All live trees	Growing-stock trees			Rough and rotten trees	Inhibiting vegetation
		Total	Desirable	Acceptable		
			Acres			
160	120,697	39,799	—	21,556	3,442	—
150-159	321,590	120,074	—	71,583	2,568	—
140-149	368,911	217,315	—	123,462	2,301	—
130-139	1,118,912	531,582	—	375,652	18,455	—
120-129	1,165,526	767,307	2,743	604,517	36,483	—
110-119	1,187,669	858,203	2,719	788,505	70,549	—
100-109	2,791,930	1,685,080	257,333	841,725	64,784	—
90-99	1,599,915	1,332,846	66,951	967,080	199,451	160,944
80-89	1,306,484	1,373,092	153,290	1,103,607	208,973	176,263
70-79	1,284,538	1,354,128	148,215	1,206,347	340,301	229,822
60-69	1,079,372	1,125,389	211,722	1,143,992	431,403	268,942
50-59	802,946	1,185,890	349,529	1,280,318	546,083	399,391
40-49	607,590	1,056,864	452,814	1,116,958	718,436	608,079
30-39	572,530	979,745	757,424	1,172,672	988,633	779,330
20-29	418,367	763,794	1,115,933	1,029,322	1,519,984	1,106,025
10-19	368,651	847,861	1,804,892	1,118,885	2,256,366	1,873,182
Less than 10	548,549	1,425,208	10,340,612	2,697,996	8,255,965	10,062,199
Total	15,664,177	15,664,177	15,664,177	15,664,177	15,664,177	15,664,177

Table 6.—Area of commercial forest land, by ownership and stocking class,^a with percent occupancy by selected stand components, Florida, 1980

Ownership and stocking class	Area	Stand components					
		Growing-stock trees			Rough and rotten trees	Inhibiting vegetation	Nonstocked
		Total	Desirable	Acceptable			
Acres							
National Forest:							
Fully stocked	220,228	95.5	14.1	81.4	4.5	—	—
Medium stocked	423,153	76.8	17.4	59.4	10.0	9.6	3.7
Poorly stocked	362,376	31.2	5.2	26.0	20.1	33.8	14.9
All stands	1,005,757	66.1	12.4	53.6	12.0	15.4	6.5
Other public:							
Fully stocked	265,855	95.0	18.6	76.4	5.0	—	—
Medium stocked	347,905	74.3	16.2	58.1	15.1	6.4	4.1
Poorly stocked	558,663	26.9	8.8	18.1	35.7	20.7	16.6
All stands	1,172,423	58.3	13.5	44.8	21.8	11.2	8.7
Forest industry:							
Fully stocked	1,609,516	96.2	17.0	79.2	3.8	—	—
Medium stocked	1,678,834	78.1	18.1	60.0	10.7	7.9	3.3
Poorly stocked	1,408,452	30.1	6.2	23.8	21.8	32.6	15.5
All stands	4,696,802	71.6	14.4	57.2	11.1	11.8	5.4
Farmer & misc. private:							
Fully stocked	2,123,761	95.3	12.7	82.5	4.7	—	—
Medium stocked	2,735,563	76.3	12.3	63.9	14.3	5.7	3.7
Poorly stocked	3,929,871	26.7	6.6	20.1	33.1	24.3	15.9
All stands	8,789,195	60.3	10.0	50.3	19.7	12.1	7.9
All ownerships:							
Fully stocked	4,219,360	95.6	14.9	80.7	4.4	—	—
Medium stocked	5,185,455	76.7	14.9	61.8	12.9	6.8	3.6
Poorly stocked	6,259,362	27.7	6.7	21.0	30.2	26.2	15.8
All stands	15,664,177	63.7	11.8	52.0	16.9	12.1	7.2

^aBased on degree of growing-stock stocking.

Table 7.—Area of commercial forest land, by site and ownership class, Florida, 1980

Site class	All ownerships	National Forest	Other public	Forest industry	Farmer and misc. private
<i>Acres</i>					
65 ft ³ or more	10,344	—	—	3,854	6,490
20–165 ft ³	168,434	2,971	16,025	44,086	105,352
5–120 ft ³	1,918,232	103,798	134,539	652,662	1,027,233
50–85 ft ³	8,886,262	542,421	565,457	2,911,108	4,867,276
Less than 50 ft ³	4,680,905	356,567	456,402	1,085,092	2,782,844
All classes	15,664,177	1,005,757	1,172,423	4,696,802	8,789,195

Table 8.—Area of commercial forest land, by forest type and ownership class, Florida, 1980

Type	All ownerships	Public	Private
<i>Acres</i>			
Softwood types:			
Longleaf pine	1,242,811	447,094	795,717
Slash pine	5,297,588	553,728	4,743,860
Loblolly pine	411,759	17,452	394,307
Shortleaf pine	37,206	744	36,462
Eastern red cedar	—	—	—
Sand pine	537,348	283,848	253,500
Pond pine	233,028	65,867	167,161
Spruce pine	9,784	—	9,784
Total	7,769,524	1,368,733	6,400,791
Hardwood types:			
Oak-pine	1,424,133	212,276	1,211,857
Oak-hickory	1,130,568	58,176	1,072,392
Southern scrub oak	1,002,703	139,570	863,133
Oak-gum-cypress	4,271,148	391,398	3,879,750
Elm-ash-cottonwood	66,101	8,027	58,074
Total	7,894,653	809,447	7,085,206
All types	15,664,177	2,178,180	13,485,997

Table 9.—Area of noncommercial forest land, by forest type, Florida, 1980

Type	All areas	Productive-reserved areas	Unproductive areas
<i>Acres</i>			
Longleaf-slash pine	154,457	100,968	53,489
Loblolly-shortleaf pine	—	—	—
Oak-pine	—	—	—
Oak-hickory	66,365	40,890	25,475
Oak-gum-cypress ^a	1,242,161	269,986	972,175
Elm-ash-cottonwood	6,729	—	6,729
All types	1,469,712	411,844	1,057,868

^aIncludes tropical and other noncommercial forest types.

Table 10.—Number of growing-stock trees on commercial forest land, by species and diameter class, Florida, 1980

Species	All classes	Diameter class (inches at breast height)											29.0 and larger
		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			
Thousand trees													
Softwood:													
Longleaf pine	126,371	35,001	27,965	29,583	20,947	9,142	2,798	613	163	159			
Slash pine	654,324	377,303	165,101	61,310	28,126	13,050	5,920	2,172	834	499	9		
Shortleaf pine	5,473	2,447	1,093	685	588	467	92	54	26	21			
Loblolly pine	44,819	16,338	8,388	6,644	5,480	3,552	2,014	1,228	599	563	13		
Pond pine	24,180	10,053	6,003	3,763	2,561	978	413	221	135	53			
Spruce pine	2,030	478	306	438	306	21	190	176	70	45			
Sand pine	55,280	31,399	13,259	6,977	2,237	962	351	85		10			
Baldcypress	41,152	12,811	9,433	6,434	4,606	3,072	1,811	1,338	749	782	116		
Pondcypress	241,279	99,101	66,065	38,977	19,783	9,954	4,221	1,631	837	659	51		
Cedars	8,309	3,120	1,792	1,323	858	662	350	153	24	27			
Total	1,203,217	588,051	299,405	156,134	85,492	41,860	18,160	7,671	3,437	2,818	189		
Hardwood:													
Select white oaks ^a	2,392	598	563	294	277	357	185	43	61	8	6		
Select red oaks ^b	264	115	—	62	28	31	—	—	12	16	—		
Other white oaks	16,602	4,549	2,348	2,266	1,520	1,641	905	1,008	679	1,325	361		
Other red oaks	97,787	37,568	22,891	15,185	8,690	5,403	3,141	2,003	1,037	1,601	268		
Hickory	10,104	2,908	2,796	1,296	1,213	867	456	316	97	144	11		
Hard maple	793	150	209	96	164	47	55	59	13	—	—		
Soft maple	38,517	14,659	8,935	5,856	4,206	2,473	1,286	590	239	260	13		
Beech	289	—	69	—	102	27	—	29	24	33	5		
Sweetgum	46,903	18,056	12,540	6,740	4,320	2,743	1,340	460	409	274	21		
Tupelo and blackgum	138,808	57,760	30,289	18,825	13,449	8,389	4,484	2,493	1,487	1,502	130		
Ash	33,050	14,978	6,760	4,927	2,550	1,732	906	576	402	211	8		
Cottonwood	117	105	—	—	—	—	—	—	12	—	—		
Basswood	731	114	213	134	114	44	68	25	12	7	—		
Yellow-poplar	3,929	1,205	828	623	675	275	80	100	114	29	—		
Bay and magnolia	77,492	37,483	16,742	10,179	6,314	3,153	1,774	933	546	335	33		
Black cherry	688	264	232	59	82	34	17	—	—	—	—		
Black walnut	52	—	52	—	—	—	—	—	—	—	—		
Sycamore	179	—	69	—	36	—	18	29	12	15	—		
Elm	7,696	3,269	1,850	957	609	548	212	129	60	58	4		
Other eastern hardwoods	6,808	3,022	1,953	755	562	272	127	95	13	9	—		
Total	483,201	196,803	109,339	68,254	44,911	28,036	15,054	8,888	5,229	5,827	860		
All species	1,686,418	784,854	408,744	224,388	130,403	69,896	33,214	16,559	8,666	8,645	1,049		

^aIncludes white, swamp white, swamp chestnut, and chinkapin oaks.
^bIncludes cherrybark, northern red, and shumard oaks.

Table 11.—Volume of timber on commercial forest land, by class of timber, and by softwood and hardwood, Florida, 1980

Class of timber	All species	Softwood	Hardwood
..... <i>Thousand cubic feet</i>			
Sawtimber trees:			
Saw-log portion	7,906,714	5,116,485	2,790,229
Upper-stem portion	826,741	457,028	369,713
Total	8,733,455	5,573,513	3,159,942
Poletimber trees	4,886,433	3,156,585	1,729,848
Net growing-stock trees	13,619,888	8,730,098	4,889,790
Sawtimber trees:			
Sawtimber-size trees	775,498	50,818	724,680
Poletimber-size trees	817,572	70,746	746,826
Total	1,593,070	121,564	1,471,506
Netten trees:			
Sawtimber-size trees	159,535	28,821	130,714
Poletimber-size trees	28,629	3,762	24,867
Total	188,164	32,583	155,581
Net available dead trees:			
Sawtimber-size trees	15,367	12,128	3,239
Poletimber-size trees	11,398	9,811	1,587
Total	26,765	21,939	4,826
Net timber	15,427,887	8,906,184	6,521,703

Table 12.—Volume of growing stock and sawtimber on commercial forest land, by ownership class, and by softwood and hardwood, Florida, 1980

Ownership class	Growing stock			Sawtimber		
	All species	Softwood	Hardwood	All species	Softwood	Hardwood
		Thousand cubic feet			Thousand board feet ^a	
National Forest	1,082,501	893,733	188,768	3,494,336	2,994,096	500,240
Other public	1,068,660	788,019	280,641	3,701,304	2,901,208	800,096
Forest industry	3,751,392	2,321,813	1,429,579	9,871,204	5,839,823	4,031,381
Farmer and misc. private	7,717,335	4,726,533	2,990,802	22,784,588	13,889,161	8,895,427
All ownerships	13,619,888	8,730,098	4,889,790	39,851,432	25,624,288	14,227,144

^aInternational 1/4-inch rule.

Species	All classes	Diameter class (inches at breast height)										29.0 and larger
		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		
..... Thousand cubic feet												
Softwood:												
Longleaf pine	1,363,747	87,305	174,098	337,173	390,041	236,204	91,573	27,882	8,959	10,512	—	—
Slash pine	3,771,997	880,062	953,936	676,314	518,430	343,673	211,998	99,134	48,833	38,229	1,388	—
Shortleaf pine	52,812	7,000	6,858	6,666	11,092	12,390	3,161	2,480	1,736	1,429	—	—
Loblolly pine	587,121	32,019	47,403	72,263	104,101	98,503	78,181	63,342	39,102	50,009	2,198	—
Pond pine	184,585	20,073	28,502	35,746	40,874	22,900	14,604	10,330	7,204	4,352	—	—
Spruce pine	38,157	1,188	1,779	4,239	5,839	459	7,630	9,247	4,378	3,398	—	—
Sand pine	325,894	86,622	86,995	77,631	37,269	22,613	10,364	3,683	—	717	—	—
Baldcypress	554,209	40,521	59,406	70,176	78,209	75,562	58,805	57,008	39,709	56,731	18,082	—
Pondcypress	1,773,899	252,243	373,742	379,557	303,274	210,544	115,091	55,480	36,129	39,898	7,941	—
Cedars	77,677	7,503	9,330	13,601	13,032	14,840	10,400	6,144	1,179	1,648	—	—
Total	8,730,098	1,414,536	1,742,049	1,673,366	1,502,161	1,037,688	601,807	334,730	187,229	206,923	29,609	—
Hardwood:												
Select white oaks ^a	31,731	1,193	2,458	2,872	4,992	7,342	6,208	1,876	3,405	557	828	—
Select red oaks ^b	4,177	386	—	581	687	723	—	—	695	1,105	—	—
Other white oaks	394,887	9,655	11,868	18,198	23,609	37,956	29,155	44,072	36,424	109,500	74,450	—
Other red oaks	1,034,546	92,523	123,344	150,427	138,573	125,646	96,976	83,542	53,699	125,788	44,028	—
Hickory	123,892	5,546	13,661	12,419	19,730	22,615	15,009	15,494	6,573	11,133	1,712	—
Hard maple	13,027	170	1,330	1,078	2,848	1,443	2,289	3,016	853	—	—	—
Soft maple	370,500	35,998	49,172	58,229	68,919	56,856	41,386	24,369	13,218	20,649	1,704	—
Beech	10,534	—	492	—	1,697	770	—	1,586	1,350	3,651	988	—
Sweetgum	453,664	36,672	66,883	71,163	81,492	75,122	48,831	22,612	24,783	22,476	3,630	—
Tupelo and blackgum	1,339,581	139,190	160,201	184,157	222,078	199,110	139,357	100,806	74,332	102,179	18,171	—
Ash	313,323	35,650	38,340	51,632	43,067	43,763	33,972	25,930	22,452	17,690	827	—
Cottonwood	1,036	394	—	—	—	—	—	—	642	—	—	—
Basswood	11,111	282	1,282	1,507	1,975	1,256	2,133	1,180	644	852	—	—
Yellow-poplar	50,623	2,685	5,005	6,750	13,194	6,724	2,587	4,468	6,818	2,392	—	—
Bay and magnolia	604,061	91,453	91,706	102,151	102,012	70,177	53,422	37,583	27,830	23,193	4,534	—
Black cherry	3,922	736	856	436	982	535	377	—	—	—	—	—
Black walnut	182	—	182	—	—	—	—	—	—	—	—	—
Sycamore	5,555	—	686	—	622	—	784	1,295	624	1,544	—	—
Elm	72,141	6,020	10,045	9,893	10,192	13,715	7,113	5,714	3,696	4,758	995	—
Other eastern hardwoods	51,297	5,567	9,600	7,124	10,264	7,133	4,958	4,585	1,105	961	—	—
Total	4,889,790	464,120	587,111	678,617	746,933	670,886	484,557	378,128	279,143	448,428	151,867	—
All species	13,619,888	1,878,656	2,329,160	2,351,983	2,249,094	1,708,574	1,086,364	712,858	466,372	655,351	181,476	—

^aIncludes white, swamp white, and chinquapin oaks.

^bIncludes cherrybark, northern red, and Shumard oaks.

Table 14.—Volume of sawtimber on commercial forest land, by species and diameter class, Florida, 1980

Species	All classes	Diameter class (inches at breast height)							
		9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 28.9	29.0 and larger
..... Thousand board feet									
Softwood:									
Longleaf pine	5,331,988	1,370,921	1,876,651	1,260,688	527,142	169,692	56,876	70,018	—
Slash pine	9,047,785	2,512,239	2,377,267	1,786,018	1,203,196	596,467	308,075	254,349	10,174
Shortleaf pine	189,080	24,655	49,188	63,040	17,581	14,820	10,663	9,133	—
Loblolly pine	2,607,144	254,061	459,636	498,283	433,355	374,358	242,633	329,280	15,538
Pond pine	646,998	133,241	185,771	116,674	80,362	59,747	43,694	27,509	—
Spruce pine	174,252	18,486	27,202	2,259	38,189	47,290	22,779	18,047	—
Sand pine	663,084	289,329	170,732	117,658	58,413	22,265	—	4,687	—
Baldcypress	2,060,355	201,272	290,673	327,463	281,585	293,307	216,151	332,126	117,778
Pondcypress	4,605,232	1,163,223	1,178,346	934,682	558,991	287,786	197,820	232,247	52,137
Cedars	298,370	53,490	59,936	75,338	56,725	35,656	6,976	10,249	—
Total	25,624,288	6,020,917	6,675,402	5,182,103	3,255,539	1,901,388	1,105,667	1,287,645	195,627
Hardwood:									
Select white oaks ^a	108,427	—	16,643	28,352	27,519	9,586	17,229	3,490	5,608
Select red oaks ^b	15,606	—	2,626	2,792	—	—	3,789	6,399	—
Other white oaks	1,925,802	—	84,766	160,205	136,097	222,886	195,013	637,058	489,777
Other red oaks	3,247,371	—	520,024	546,433	459,112	426,297	288,597	727,789	279,119
Hickory	408,605	—	67,037	91,399	67,233	75,730	34,646	62,047	10,513
Hard maple	44,159	—	10,611	5,919	9,957	13,644	4,028	—	—
Soft maple	887,331	—	215,793	212,427	171,206	108,696	62,738	106,920	9,551
Beech	40,222	—	6,207	2,896	—	6,323	5,447	15,173	4,176
Sweetgum	1,258,705	—	287,486	321,959	233,464	118,984	138,145	134,090	24,577
Tupelo and blackgum	3,663,386	—	706,941	766,280	613,548	486,998	384,589	584,695	120,335
Ash	782,153	—	139,323	168,557	146,111	120,130	110,036	93,255	4,741
Cottonwood	3,273	—	—	—	—	—	3,273	—	—
Basswood	34,141	—	7,047	4,945	9,224	5,381	3,029	4,515	—
Yellow-poplar	166,000	—	48,476	28,660	12,382	23,726	38,287	14,469	—
Bay and magnolia	1,312,709	—	329,335	271,101	230,729	178,658	139,918	133,285	29,683
Black cherry	6,862	—	3,218	2,053	1,591	—	—	—	—
Black walnut	—	—	—	—	—	—	—	—	—
Sycamore	23,095	—	1,823	—	3,499	6,042	3,110	8,621	—
Elm	190,952	—	34,131	53,419	30,452	25,758	17,565	23,983	5,644
Other eastern hardwoods	108,345	—	32,056	25,725	20,362	20,269	5,118	4,815	—
Total	14,227,144	—	2,513,543	2,693,122	2,172,486	1,849,108	1,454,557	2,560,604	983,724
All species	39,851,432	6,020,917	9,188,945	7,875,225	5,428,025	3,750,496	2,560,224	3,848,249	1,179,351

^aIncludes white, swamp white, and chinquapin oaks.^bIncludes cherrybark, northern red, and shumard oaks.

Table 15.—Volume of sawtimber on commercial forest land, by species and quality class, Florida, 1980

Species	All grades	Log grade			
		1	2	3	4
..... Thousand board feet					
Softwood:					
Yellow pines ^a	18,660,331	3,881,543	2,527,170	12,251,618	(b)
Cypress ^c	6,665,587	848,076	4,438,622	1,378,889	—
Other eastern softwoods ^c	298,370	60,527	135,119	102,724	—
Total	25,624,288	4,790,146	7,100,911	13,733,231	—
Hardwood: ^d					
Select white and red oaks	124,033	21,921	27,713	64,357	10,042
Other white and red oaks	5,173,173	2,047,380	835,494	2,140,515	149,784
Hickory	408,605	110,074	104,653	185,956	7,922
Hard maple	44,159	4,421	13,474	17,930	8,334
Sweetgum	1,258,705	181,793	391,791	672,534	12,587
Ash, walnut, and black cherry	789,015	316,833	198,635	264,152	9,395
Yellow-poplar	166,000	28,319	30,417	67,004	40,260
Other hardwoods	6,263,454	1,149,865	2,183,972	2,866,983	62,634
Total	14,227,144	3,860,606	3,786,149	6,279,431	300,958
All species	39,851,432	8,650,752	10,887,060	20,012,662	300,958

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

^bNot applicable.

^cBased on the "Trial Log Grades for Eastern White Pine," prepared by the Northeastern Forest Experiment Station in 1960.

^dGraded according to "Hardwood Log Grades for Standard Lumber," published by the U.S. Forest Products Laboratory in 1953. Specifications for the grade 4 tie and timber log are based chiefly on knot size and log soundness.

Table 16.—Net annual growth and removals of growing stock on commercial forest land, by species, Florida, 1979

Species	Net annual growth	Annual timber removals
<i>..... Thousand cubic feet</i>		
Softwood:		
Yellow pines	543,892	426,912
Cypress	58,506	25,332
Other eastern softwoods	3,355	1,381
Total	605,753	453,625
Hardwood:		
Select white and red oaks	787	1,237
Other white and red oaks	60,628	34,942
Hickory	3,960	4,341
Hard maple	489	400
Sweetgum	17,696	12,802
Ash, walnut, and black cherry	8,840	4,514
Yellow-poplar	2,336	1,139
Tupelo and blackgum	34,417	10,302
Bay and magnolia	25,702	8,148
Other eastern hardwoods	24,890	10,262
Total	179,745	88,087
All species	785,498	541,712

Table 17.—Net annual growth and removals of growing stock on commercial forest land, by ownership class, and by softwood and hardwood, Florida, 1979

Ownership class	Net annual growth			Annual timber removals		
	All species	Softwood	Hardwood	All species	Softwood	Hardwood
<i>..... Thousand cubic feet</i>						
National Forest	60,377	53,463	6,914	21,854	20,934	920
Other public	51,920	42,749	9,171	41,569	27,797	13,772
Forest industry	251,656	199,246	52,410	210,551	180,397	30,154
Farmer and misc. private	421,545	310,295	111,250	267,738	224,497	43,241
All ownerships	785,498	605,753	179,745	541,712	453,625	88,087

Table 18.—Net annual growth and removals of sawtimber on commercial forest land, by species, Florida, 1979

Species	Net annual growth	Annual timber removals
<i>..... Thousand board feet</i>		
Softwood:		
Yellow pines	1,711,384	1,362,853
Cypress	250,916	86,361
Other eastern softwoods	15,842	4,707
Total	1,978,142	1,453,921
Hardwood:		
Select white and red oaks	3,431	4,260
Other white and red oaks	242,750	130,161
Hickory	17,658	18,079
Hard maple	2,079	1,246
Sweetgum	64,405	35,987
Ash, walnut, and black cherry	30,204	15,225
Yellow-poplar	11,200	5,073
Tupelo and blackgum	115,490	41,267
Bay and magnolia	59,500	24,044
Other eastern hardwoods	75,594	25,423
Total	622,311	300,765
All species	2,600,453	1,754,686

Table 19.—Net annual growth and removals of sawtimber on commercial forest land, by ownership class, and by softwood and hardwood, Florida, 1979

Ownership class	Net annual growth			Annual timber removals		
	All species	Softwood	Hardwood	All species	Softwood	Hardwood
<i>..... Thousand board feet</i>						
National Forest	242,980	223,167	19,813	63,496	60,331	3,165
Other public	215,051	183,591	31,460	156,590	106,769	49,821
Forest industry	670,848	483,258	187,590	675,707	568,229	107,478
Farmer and misc. private	1,471,574	1,088,126	383,448	858,893	718,592	140,301
All ownerships	2,600,453	1,978,142	622,311	1,754,686	1,453,921	300,765

Table 20.—Mortality of growing stock and sawtimber on commercial forest land, by species, Florida, 1979

Species	Growing stock	Saw-timber
	<i>M cubic feet</i>	<i>M board feet</i>
Softwood:		
Yellow pines	52,112	145,196
Cypress	7,866	14,129
Other eastern softwoods	794	3,366
Total	60,772	162,691
Hardwood:		
Select white and red oaks	376	1,649
Other white and red oaks	12,535	44,990
Hickory	933	4,179
Hard maple	—	—
Sweetgum	4,633	14,992
Ash, walnut, and black cherry	2,480	6,628
Yellow-poplar	169	1,019
Tupelo and blackgum	10,206	30,848
Bay and magnolia	5,570	16,255
Other eastern hardwoods	7,357	20,319
Total	44,259	140,879
All species	105,031	303,570

Table 21.—Mortality of growing stock and sawtimber on commercial forest land, by ownership class, and by softwood and hardwood, Florida, 1979

Ownership class	Growing stock			Sawtimber		
	All species	Softwood	Hardwood	All species	Softwood	Hardwood
	<i>Thousand cubic feet</i>			<i>Thousand board feet</i>		
National Forest	6,584	5,418	1,166	13,942	9,744	4,198
Other public	8,393	4,573	3,820	33,865	19,116	14,749
Forest industry	26,088	13,545	12,543	73,297	31,325	41,972
Farmer and misc. private	63,966	37,236	26,730	182,466	102,506	79,960
All ownerships	105,031	60,772	44,259	303,570	162,691	140,879

Table 22.—Mortality of growing stock and sawtimber on commercial forest land, by cause, and by softwood and hardwood, Florida, 1979

Cause of death	Growing stock			Sawtimber		
	All species	Softwood	Hardwood	All species	Softwood	Hardwood
	<i>Thousand cubic feet</i>			<i>Thousand board feet</i>		
Fire	14,230	12,834	1,396	30,063	28,804	1,259
Insects	8,857	8,857	—	31,129	31,129	—
Disease	9,384	8,283	1,101	19,715	14,536	5,179
Weather	17,514	7,497	10,017	76,692	33,888	42,804
Suppression	11,831	6,821	5,010	6,654	712	5,942
Animals	116	—	116	769	—	769
Undetermined	43,099	16,480	26,619	138,548	53,622	84,926
All causes	105,031	60,772	44,259	303,570	162,691	140,879

Product and species group	Standard units	Total output		Roundwood products		Plant byproducts	
		Number of units	Thousand cubic feet	Number of units	Thousand cubic feet	Number of units	Thousand cubic feet
Saw logs:							
Softwood	M fbm ^a	682,254	124,828	681,396	124,671	858	157
Hardwood	M fbm ^a	51,018	9,625	51,018	9,625	—	—
Total	M fbm ^a	733,272	134,453	732,414	134,296	858	157
Veneer logs and bolts:							
Softwood	M fbm ^a	61,552	12,055	61,552	12,055	—	—
Hardwood	M fbm ^a	21,593	3,749	21,593	3,749	—	—
Total	M fbm ^a	83,145	15,804	83,145	15,804	—	—
Pulpwood ^b							
Softwood	Cords ^c	3,397,419	261,571	2,960,119	227,903	437,300	33,668
Hardwood	Cords ^c	435,541	34,554	362,003	28,720	73,538	5,834
Total	Cords ^c	3,832,960	296,125	3,322,122	256,623	510,838	39,502
Poles and pilings:							
Softwood	M pieces	375	5,822	375	5,822	—	—
Hardwood	M pieces	—	—	—	—	—	—
Total	M pieces	375	5,822	375	5,822	—	—
Posts (round and split):							
Softwood	M pieces	1,458	1,119	1,458	1,119	—	—
Hardwood	M pieces	—	—	—	—	—	—
Total	M pieces	1,458	1,119	1,458	1,119	—	—
Other ^d							
Softwood	M ft ³	6,698	6,698	221	221	6,477	6,477
Hardwood	M ft ³	732	732	—	—	732	732
Total	M ft ³	7,430	7,430	221	221	7,209	7,209
Total industrial products:							
Softwood	—	—	412,093	—	371,791	—	40,302
Hardwood	—	—	48,660	—	42,094	—	6,566
Total	—	—	460,753	—	413,885	—	46,868
Fuelwood ^e							
Softwood	Cords	16,817	1,226	357	26	16,460	1,200
Hardwood	Cords	50,431	3,289	50,385	3,286	46	3
Total	Cords	67,248	4,515	50,742	3,312	16,506	1,203
All products ^f							
Softwood	—	—	413,319	—	371,817	—	41,502
Hardwood	—	—	51,949	—	45,380	—	6,569
Total	—	—	465,268	—	417,197	—	48,071

^aInternational 1/4-inch rule.

^bRoundwood figures include 21,523 thousand cubic feet of roundwood chipped at other primary wood-using plants.

^cRough-wood basis (includes chips converted to equivalent standard cords).

^dIncludes particleboard, charcoal, and specialty products.

^eExcludes approximately 12,597 thousand cubic feet of plant byproducts used for industrial fuel.

^fExcludes 9,650 thousand cubic feet of plant byproducts used for litter and mulch.

Table 24.--Output of roundwood products, by product, by source, and by softwood and hardwood, Florida, 1979

Product and species group	All sources	Growing-stock trees ^a			Cull trees ^a	Salvable dead trees ^a	Other sources ^b
		Total		Poletimber			
Thousand cubic feet							
Saw logs:							
Softwood	124,671	124,472	116,438	8,034	73	—	126
Hardwood	9,625	9,254	8,784	470	146	46	179
Total	134,296	133,726	125,222	8,504	219	46	305
Veneer logs and bolts:							
Softwood	12,055	12,055	11,668	387	—	—	—
Hardwood	3,749	3,329	3,248	81	269	—	151
Total	15,804	15,384	14,916	468	269	—	151
Pulpwood:							
Softwood	227,903	213,005	95,692	117,313	2,137	—	12,761
Hardwood	28,720	22,433	11,073	11,360	3,008	—	3,279
Total	256,623	235,438	106,765	128,673	5,145	—	16,040
Poles and piling:							
Softwood	5,822	5,822	5,822	—	—	—	—
Hardwood	—	—	—	—	—	—	—
Total	5,822	5,822	5,822	—	—	—	—
Posts (round and split):							
Softwood	1,119	163	—	163	—	—	956
Hardwood	—	—	—	—	—	—	—
Total	1,119	163	—	163	—	—	956
Other:							
Softwood	221	221	170	51	—	—	—
Hardwood	—	—	—	—	—	—	—
Total	221	221	170	51	—	—	—
Total industrial products:							
Softwood	371,791	355,738	229,790	125,948	2,210	—	13,843
Hardwood	42,094	35,016	23,105	11,911	3,423	46	3,609
Total	413,885	390,754	252,895	137,859	5,633	46	17,452
Fuelwood:							
Softwood	26	—	—	—	—	—	26
Hardwood	3,286	1,140	505	635	1,156	—	990
Total	3,312	1,140	505	635	1,156	—	1,016
All products:							
Softwood	371,817	355,738	229,790	125,948	2,210	—	13,869
Hardwood	45,380	36,156	23,610	12,546	4,579	46	4,599
Total	417,197	391,894	253,400	138,494	6,789	46	18,468

^aOn commercial forest land.^bIncludes trees less than 5.0 inches in diameter, tree tops and limbs from commercial forest areas, or material from noncommercial forest land or nonforest land such as fence rows or suburban areas.

Table 25.—Annual timber removals from growing stock on commercial forest land, by item, and by softwood and hardwood, Florida, 1979

Item	All species	Softwood	Hardwood
<i>..... Thousand cubic feet</i>			
Roundwood products:			
Saw logs	133,726	124,472	9,254
Veneer logs and bolts	15,384	12,055	3,329
Pulpwood	235,438	213,005	22,433
Poles and piling	5,822	5,822	—
Posts	163	163	—
Other	221	221	—
Fuelwood	1,140	—	1,140
All products	391,894	355,738	36,156
Logging residues	38,081	28,744	9,337
Other removals	111,737	69,143	42,594
Total removals	541,712	453,625	88,087

Table 26.—Annual timber removals from live sawtimber on commercial forest land, by item, and by softwood and hardwood, Florida, 1979

Item	All species	Softwood	Hardwood
<i>..... Thousand board feet</i>			
Roundwood products:			
Saw logs	699,341	650,553	48,788
Veneer logs and bolts	81,052	60,900	20,152
Pulpwood	469,769	413,575	56,194
Poles and piling	32,229	32,229	—
Posts	—	—	—
Other	3,626	908	2,718
Fuelwood	—	—	—
All products	1,286,017	1,158,165	127,852
Logging residues	91,876	74,973	16,903
Other removals	376,793	220,783	156,010
Total removals	1,754,686	1,453,921	300,765

Table 27.—Volume of unused residues at primary manufacturing plants, by industry and type of residue, and by softwood and hardwood, Florida, 1979

Species group and type of residue	All industries	Lumber	Veneer and plywood	Other
..... <i>Thousand cubic feet</i>				
Softwood:				
Coarse ^a	1,327	1,327	—	—
Fine ^b	841	833	8	—
Total	2,168	2,160	8	—
Hardwood:				
Coarse ^a	186	186	—	—
Fine ^b	317	265	52	—
Total	503	451	52	—
All species:				
Coarse ^a	1,513	1,513	—	—
Fine ^b	1,158	1,098	60	—
Total	2,671	2,611	60	—

^aMaterial such as slabs, edgings, and veneer cores.

^bMaterial such as sawdust, shavings, and veneer clippings.

Table 28.—Projection of net annual growth, available cut, and inventory of sawtimber and growing stock on commercial forest land, by softwood and hardwood, Florida, 1979 to 2009^a

Species group	1979	Projected to—		
		1989	1999	2009
GROWING STOCK (in thousand cubic feet)				
Softwood:				
Cut	453,625	543,900	593,700	618,900
Growth	605,753	645,400	649,000	630,300
Inventory ^b	8,730,098	9,674,800	10,161,800	10,208,100
Hardwood:				
Cut	88,087	127,900	171,300	214,900
Growth	179,745	212,300	253,100	295,100
Inventory ^b	4,889,790	5,526,800	6,140,500	6,727,600
Total:				
Cut	541,712	671,800	765,000	833,800
Growth	785,498	857,700	902,100	925,400
Inventory ^b	13,619,888	15,201,600	16,302,300	16,935,700
SAWTIMBER (in thousand board feet)				
Softwood:				
Cut	1,453,921	1,827,400	2,106,800	2,344,300
Growth	1,978,142	2,287,500	2,537,300	2,637,400
Inventory ^b	25,624,288	29,327,800	32,939,000	35,668,200
Hardwood:				
Cut	300,765	447,700	589,900	724,100
Growth	622,311	694,100	799,300	917,200
Inventory ^b	14,227,144	16,022,400	17,448,300	18,647,400
Total:				
Cut	1,754,686	2,275,100	2,696,700	3,068,400
Growth	2,600,453	2,981,600	3,336,600	3,554,600
Inventory ^b	39,851,432	45,350,200	50,387,300	54,315,600

^aAssumptions:

1. Area of commercial forest will decline by 1,270,000 over the next 30 years.
2. The rapid rate of decrease in the number of 2-inch softwoods and the rate of increase of 2-inch hardwoods between 1969 and 1979 will gradually level off by 2010.
3. Softwood growth will continue to increase until about the year 2005, after which it will start to decline.
4. Softwood removals (as a percentage of softwood growth) will continue to increase at about the same rate experienced between 1969 and 1979.
5. Hardwood growth will increase at an accelerated rate.
6. The difference between hardwood growth and removals will remain at the same rate as that measured in 1979.

^bInventory as of January 1 of the following year.

Table 29.—Basal area per acre of growing stock and rough and rotten trees 5.0 inches d.b.h. and larger, by forest type and Survey Unit, Florida, 1980

Forest type	State	Survey Unit			
		Northeast	Northwest	Central	South
..... <i>Square feet</i>					
Longleaf-slash pine:					
Growing stock	38.8	43.2	35.9	33.8	28.6
Rough and rotten trees	1.1	.8	1.2	2.4	1.5
Total	39.9	44.0	37.1	36.2	30.1
Loblolly-shortleaf pine:					
Growing stock	34.6	32.7	38.8	28.3	—
Rough and rotten trees	2.9	1.7	4.2	3.2	—
Total	37.5	34.4	43.0	31.5	—
Oak-pine:					
Growing stock	37.2	43.7	36.0	29.2	20.6
Rough and rotten trees	8.8	8.3	8.6	10.8	1.9
Total	46.0	52.0	44.6	40.0	22.5
Oak-hickory:					
Growing stock	19.7	21.9	22.2	12.2	16.5
Rough and rotten trees	14.2	15.8	8.6	19.5	3.0
Total	33.9	37.7	30.8	31.7	19.5
Oak-gum-cypress:					
Growing stock	72.1	73.9	70.2	76.8	53.4
Rough and rotten trees	18.3	14.5	25.9	17.7	14.1
Total	90.4	88.4	96.1	94.5	67.5
Elm-ash-cottonwood:					
Growing stock	64.7	90.0	87.9	48.3	—
Rough and rotten trees	22.0	37.5	23.6	18.3	12.5
Total	86.7	127.5	111.5	66.6	12.5
All types:					
Growing stock	44.7	46.5	41.4	47.4	41.3
Rough and rotten trees	8.5	6.8	8.3	12.8	8.5
Total	53.2	53.3	49.7	60.2	49.8

Table 30.—Number of growing stock and rough and rotten trees 1.0 to 4.9 inches d.b.h., per acre, by forest type and Survey Unit, Florida, 1980

Forest type	State	Survey Unit			
		Northeast	Northwest	Central	South
..... <i>Number of trees</i>					
longleaf-slash pine:					
Growing stock	213	237	221	122	106
Rough and rotten trees	72	56	102	50	27
Total	285	293	323	172	133
loblolly-shortleaf pine:					
Growing stock	208	197	222	207	—
Rough and rotten trees	166	149	200	124	—
Total	374	346	422	331	—
oak-pine:					
Growing stock	206	276	185	124	127
Rough and rotten trees	252	244	282	214	188
Total	458	520	467	338	315
oak-hickory:					
Growing stock	109	143	111	44	12
Rough and rotten trees	296	269	306	328	432
Total	405	412	417	372	444
oak-gum-cypress:					
Growing stock	313	396	275	273	201
Rough and rotten trees	257	262	333	206	176
Total	570	658	608	479	377
red-bay-cottonwood:					
Growing stock	171	150	86	253	60
Rough and rotten trees	414	270	283	560	300
Total	585	420	369	813	360
all types:					
Growing stock	224	261	212	178	156
Rough and rotten trees	178	157	205	189	128
Total	402	418	417	367	284

Table 31.—Area of commercial forest land, by stand volume (board feet), ownership class, and physiographic class, Florida, 1980

Ownership class and stand volume per acre ^a (board feet)	All classes	Physiographic class								
		Deep swamps	Broad stream margins	Narrow stream margins	Cypress strands & ponds	Flatwoods and dry pocosins	Bays and wet pocosins	Rolling uplands	Sandhills	Other misc. classes
..... Acres										
National Forest:										
Less than 1,500	479,555	—	—	3,061	3,188	149,602	79,642	3,061	229,289	11,712
1,500 to 5,000	289,347	2,441	3,044	25,046	18,637	109,712	58,628	—	64,013	7,826
More than 5,000	236,855	20,004	11,749	8,939	9,564	127,362	33,087	3,150	20,559	2,441
Total	1,005,757	22,445	14,793	37,046	31,389	386,676	171,357	6,211	313,861	21,979
Other public:										
Less than 1,500	609,110	407	7,859	22,429	8,283	155,673	27,606	27,114	334,867	24,872
1,500 to 5,000	298,455	2,033	9,935	20,373	15,446	69,671	12,668	30,863	127,552	9,914
More than 5,000	264,858	23,878	25,599	58,990	16,597	53,061	14,733	51,585	9,466	10,949
Total	1,172,423	26,318	43,393	101,792	40,326	278,405	55,007	109,562	471,885	45,735
Forest industry:										
Less than 1,500	3,040,053	36,964	—	105,765	90,543	1,793,252	372,844	263,083	289,838	87,764
1,500 to 5,000	912,079	50,377	56,127	117,025	75,469	327,073	105,898	72,065	37,415	70,630
More than 5,000	744,670	128,771	46,310	117,251	82,618	180,471	69,429	38,544	3,696	77,580
Total	4,696,802	216,112	102,437	340,041	248,630	2,300,796	548,171	373,692	330,949	235,974
Farmer and misc. private:										
Less than 1,500	4,933,374	18,325	20,557	200,355	162,305	2,408,483	175,520	442,104	1,273,711	232,014
1,500 to 5,000	2,206,511	61,891	52,530	298,720	273,312	792,453	162,440	280,930	181,107	103,128
More than 5,000	1,649,310	193,115	111,031	329,008	231,142	403,964	51,328	222,654	26,393	80,675
Total	8,789,195	273,331	184,118	828,083	666,759	3,604,900	389,288	945,688	1,481,211	415,817
All ownerships:										
Less than 1,500	9,062,092	55,696	28,416	331,610	264,319	4,507,010	655,612	735,362	2,127,705	356,362
1,500 to 5,000	3,706,392	116,742	121,636	461,164	382,864	1,298,909	339,634	383,858	410,087	191,498
More than 5,000	2,895,693	365,768	194,689	514,188	339,921	764,858	168,577	315,933	60,114	171,645
Total	15,664,177	538,206	344,741	1,306,962	987,104	6,570,777	1,163,823	1,435,153	2,597,906	719,505

Ownership class and stand volume per acre ^a (cubic feet)	All classes	Physiographic class								
		Deep swamps	Broad stream margins	Narrow stream margins	Cypress strands & ponds	Flatwoods and dry pocosins	Bays and wet pocosins	Rolling uplands	Sandhills	Other misc. classes
..... Acres										
National Forest:										
Less than 500	405,849	—	3,044	3,061	6,376	138,343	70,827	3,061	172,468	8,669
500 to 1,000	214,345	—	—	6,249	6,376	62,789	43,107	—	84,955	10,869
More than 1,000	385,563	22,445	11,749	27,736	18,637	185,544	57,423	3,150	56,438	2,441
Total	1,005,757	22,445	14,793	37,046	31,389	386,676	171,357	6,211	313,861	21,979
Other public:										
Less than 500	569,820	407	—	22,429	4,020	146,019	26,251	23,734	330,323	16,637
500 to 1,000	223,229	2,033	12,584	5,956	6,297	53,838	6,402	28,287	89,683	18,149
More than 1,000	379,374	23,878	30,809	73,407	30,009	78,548	22,354	57,541	51,879	10,949
Total	1,172,423	26,318	43,393	101,792	40,326	278,405	55,007	109,562	471,885	45,735
Forest industry:										
Less than 500	2,483,178	30,083	4,105	67,013	46,320	1,421,114	355,979	214,420	281,822	62,322
500 to 1,000	782,317	23,538	27,450	75,460	52,539	364,553	97,919	58,321	33,097	49,440
More than 1,000	1,431,307	162,491	70,882	197,568	149,771	515,129	94,273	100,951	16,030	124,212
Total	4,696,802	216,112	102,437	340,041	248,630	2,300,796	548,171	373,692	330,949	235,974
Farmer and misc. private:										
Less than 500	4,257,729	14,120	17,213	172,558	76,784	2,035,614	136,806	343,150	1,248,933	212,551
500 to 1,000	1,546,355	11,653	32,094	150,283	108,295	700,105	96,592	250,856	132,432	64,045
More than 1,000	2,985,111	247,558	134,911	505,242	481,680	869,181	155,890	351,682	99,846	139,221
Total	8,789,195	273,331	184,118	828,083	666,759	3,604,900	389,288	945,688	1,481,211	415,817
All ownerships:										
Less than 500	7,716,576	44,610	24,362	265,061	133,500	3,741,090	589,863	584,365	2,033,546	300,179
500 to 1,000	2,766,246	37,224	72,128	237,948	173,507	1,181,285	244,020	337,464	340,167	142,503
More than 1,000	5,181,355	456,372	248,251	803,953	680,097	1,648,402	329,940	513,324	224,193	276,823
Total	15,664,177	538,206	344,741	1,306,962	987,104	6,570,777	1,163,823	1,435,153	2,597,906	719,505

^aGrowing-stock volume.

Table 33. Average net volume and growth per acre on commercial forest land, by physiographic class, tree class, and species group, Florida, 1980

Physiographic class and tree class	Net volume per acre					Net growth per acre				
	Softwood		Hardwood		Total	Softwood		Hardwood		Total
	Cubic feet	Board feet	Cubic feet	Board feet		Cubic feet	Board feet	Cubic feet	Board feet	
Deep swamps:										
Growing stock	871.3	3,338	1,790.3	5,581	2,661.6	8,919	119	48.2	197	70.8
Rough and rotten trees	30.0	—	433.9	—	463.9	—	—	9.8	—	10.0
Total	901.3	3,338	2,224.2	5,581	3,125.5	8,919	119	58.0	197	80.8
Broad stream margins:										
Growing stock	328.8	1,472	1,662.9	5,809	1,991.7	7,281	69	44.8	230	55.7
Rough and rotten trees	15.8	—	412.6	—	428.4	—	—	8.8	—	9.1
Total	344.6	1,472	2,075.5	5,809	2,420.1	7,281	69	53.6	230	64.8
Narrow stream margins:										
Growing stock	528.1	2,136	951.8	2,568	1,479.9	4,704	119	33.3	112	57.2
Rough and rotten trees	6.6	—	233.8	—	240.4	—	—	6.0	—	6.1
Total	534.7	2,136	1,185.6	2,568	1,720.3	4,704	119	39.3	112	63.3
Cypress strands and ponds:										
Growing stock	1,556.8	3,993	181.1	331	1,737.9	4,324	189	8.4	19	54.1
Rough and rotten trees	62.8	—	47.2	—	110.0	—	—	1.8	—	2.8
Total	1,619.6	3,993	228.3	331	1,847.9	4,324	189	10.2	19	56.9
Flatwoods & dry pocosins:										
Growing stock	559.8	1,464	92.2	285	652.0	1,749	147	4.3	13	56.8
Rough and rotten trees	3.1	—	43.6	—	46.7	—	—	1.1	—	1.3
Total	562.9	1,464	135.8	285	698.7	1,749	147	5.4	13	58.1
Bays and wet pocosins:										
Growing stock	469.4	1,663	304.6	634	774.0	2,297	108	15.3	32	38.9
Rough and rotten trees	11.3	—	84.5	—	95.8	—	—	2.8	—	3.0
Total	480.7	1,663	389.1	634	869.8	2,297	108	18.1	32	41.9
Rolling uplands:										
Growing stock	540.6	1,794	321.9	975	862.5	2,769	157	14.3	46	55.5
Rough and rotten trees	5.4	—	74.6	—	80.0	—	—	1.8	—	2.0
Total	546.0	1,794	396.5	975	942.5	2,769	157	16.1	46	57.5
Sandhills:										
Growing stock	297.3	763	14.4	30	311.7	793	77	.9	2	28.9
Rough and rotten trees	4.8	—	95.4	—	100.2	—	—	3.2	—	3.5
Total	302.1	763	109.8	30	411.9	793	77	4.1	2	32.4
Other misc. classes:										
Growing stock	222.2	780	750.5	2,299	972.7	3,079	42	27.8	120	40.1
Rough and rotten trees	11.5	—	235.6	—	247.1	—	—	6.1	—	6.6
Total	233.7	780	986.1	2,299	1,219.8	3,079	42	33.9	120	46.7
All classes:										
Growing stock	557.3	1,636	312.2	908	869.5	2,544	126	11.5	40	50.2
Rough and rotten trees	9.8	—	103.9	—	113.7	—	—	2.8	—	3.1

Table 34.—Land area, by class, major forest type, and survey completion date, Florida, 1959, 1970, and 1980

Land use class	Survey completion date			Change 1970-1980
	1959	1970 ^a	1980	
..... Acres				
Forest land:				
Commercial:				
Pine and oak-pine types	9,546,500	9,567,984	9,193,657	-374,327
Hardwood types	7,625,500	6,693,255	6,470,520	-222,735
Total	17,172,000	16,261,239	15,664,177	-597,062
Noncommercial:				
Productive-reserved	92,700	94,200	411,844	+317,644
Unproductive	1,785,000	1,590,744	1,057,868	-532,876
Total	1,877,700	1,684,944	1,469,712	-215,232
Nonforest:				
Cropland	3,554,100	3,671,347	3,784,515	+113,168
Pasture and range	5,028,900	6,456,018	6,991,503	+535,485
Other	6,740,200	6,464,601	6,622,456	+157,855
Total	15,323,200	16,591,966	17,398,474	+806,508
Land ^b	34,372,900	34,538,149	34,532,363	-5,786

^aThese figures differ slightly from previously reported figures because of revisions in the estimates of land area.^bExcludes all water areas.

Table 35.—Volume^a of sawtimber, growing stock, and all live timber on commercial forest land, by species group, diameter class, and survey completion date, Florida, 1959, 1970, and 1980

Species group	Year	All classes	Diameter class (inches at breast height)								
			5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0 and larger
			SAWTIMBER (in thousand board feet)								
Softwood	1959	16,635,191	—	—	4,556,355	4,916,137	3,303,158	1,777,636	953,236	547,500	581,169
	1970	21,318,122	—	—	5,337,545	5,881,972	4,440,602	2,621,831	1,494,474	701,341	840,357
	1980	25,624,288	—	—	6,020,917	6,675,402	5,182,103	3,255,539	1,901,388	1,105,667	1,483,272
Hardwood	1959	10,763,188	—	—	—	1,973,443	2,164,137	1,772,136	1,393,506	1,088,852	2,371,114
	1970	12,198,445	—	—	—	2,178,883	2,327,495	1,975,498	1,641,546	1,227,416	2,847,607
	1980	14,227,144	—	—	—	2,513,543	2,693,122	2,172,486	1,849,108	1,454,557	3,544,328
			GROWING STOCK (in thousand cubic feet)								
Softwood	1959	5,795,048	869,376	1,205,946	1,265,176	1,108,117	663,140	328,621	167,991	93,378	93,303
	1970	7,298,292	1,180,012	1,421,858	1,481,678	1,323,259	890,916	484,768	262,849	118,938	134,014
	1980	8,730,098	1,414,536	1,742,049	1,673,366	1,502,161	1,037,688	601,807	334,730	187,229	236,532
Hardwood	1959	3,854,299	377,988	480,096	580,640	586,461	539,017	394,948	284,884	208,927	401,338
	1970	4,257,423	403,709	533,935	599,109	647,386	579,875	440,445	335,556	235,533	481,875
	1980	4,889,790	464,120	587,111	678,617	746,933	670,886	484,557	378,128	279,143	600,295
			ALL LIVE TIMBER (in thousand cubic feet)								
Softwood	1959	5,905,963	904,644	1,232,144	1,285,497	1,118,922	669,061	332,542	168,920	93,933	100,300
	1970	7,428,788	1,216,847	1,452,555	1,505,448	1,335,960	898,689	490,539	264,409	119,767	144,574
	1980	8,884,245	1,453,753	1,777,340	1,699,853	1,517,428	1,047,053	608,891	336,610	188,534	254,783
Hardwood	1959	5,138,493	617,222	693,381	777,793	734,772	655,453	491,008	346,794	266,228	555,842
	1970	5,670,378	651,720	769,437	803,796	809,463	707,388	549,469	408,780	300,417	669,908
	1980	6,516,877	744,647	847,130	909,764	934,285	817,264	606,061	462,249	357,201	838,276

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

Table 36.—Volume of all live timber, by species group and Survey Unit, Florida, 1959, 1970, and 1980

Species group and Survey Unit	1959	1970	Change 1959-1970	1980	Change 1970-1980
	<i>Thousand cubic feet</i>	<i>Thousand cubic feet</i>	<i>Percent</i>	<i>Thousand cubic feet</i>	<i>Percent</i>
Softwood:					
Northeast	2,670,828	3,448,474	+29.1	4,150,047	+20.3
Northwest	1,803,160	2,322,041	+28.8	2,806,520	+20.9
Central	906,226	1,131,970	+24.9	1,346,069	+18.9
South	525,749	526,303	+0.1	581,609	+10.5
All units	5,905,963	7,428,788	+25.8	8,884,245	+19.6
Hardwood:					
Northeast	2,217,145	2,378,412	+7.3	2,695,125	+13.3
Northwest	1,887,286	2,070,309	+9.7	2,334,031	+12.7
Central	913,856	1,117,275	+22.3	1,387,239	+24.2
South	120,206	104,382	-13.2	100,482	-3.7
All units	5,138,493	5,670,378	+10.4	6,516,877	+14.9

Table 37.—Land area and total forest, by county, Florida, 1980

County	All land ^a	Total forest ^b		County	All land ^a	Total forest ^b	
	<i>Acres</i>	<i>Acres</i>	<i>Percent</i>		<i>Acres</i>	<i>Acres</i>	<i>Percent</i>
Ala.	592,947	320,684	54.1	Lake	640,554	269,376	42.1
Alb.	373,733	331,860	88.8	Lee	569,547	171,039	30.0
Ala.	493,392	423,722	85.9	Leon	436,954	292,968	67.0
Ala.	186,561	136,299	73.1	Levy	721,776	480,089	66.5
Ala.	658,846	128,103	19.4	Liberty	536,385	516,581	96.3
Ala.	777,502	32,473	4.2	Madison	457,788	297,382	65.0
Ala.	363,441	301,612	83.0	Manatee	479,858	66,378	13.8
Ala.	458,729	111,561	24.3	Marion	1,035,667	633,423	61.2
Ala.	390,791	236,798	60.6	Martin	349,153	54,645	15.7
Ala.	388,548	316,483	81.5	Monroe	645,715	372,589	57.7
Ala.	1,297,035	743,661	57.3	Nassau	415,037	338,634	81.6
Ala.	511,587	371,622	72.6	Okaloosa	598,961	471,489	78.7
Ala.	1,250,756	209,959	16.8	Okeechobee	495,998	42,120	8.5
Ala.	405,498	51,980	12.8	Orange	584,937	203,638	34.8
Ala.	453,981	395,155	87.0	Osceola	867,706	202,656	23.4
Ala.	496,061	279,380	56.3	Palm Beach	1,254,622	131,765	10.5
Ala.	424,754	275,494	64.9	Pasco	483,683	163,832	33.9
Ala.	315,108	253,582	80.5	Pinellas	180,310	32,054	17.8
Ala.	350,738	316,998	90.4	Polk	1,191,263	271,189	22.8
Ala.	330,251	229,213	69.4	Putnam	469,696	363,307	77.3
Ala.	224,901	141,989	63.1	St. Johns	396,909	292,696	73.7
Ala.	570,440	99,717	17.5	St. Lucie	368,443	53,325	14.5
Ala.	361,423	281,739	78.0	Santa Rosa	653,397	500,681	76.6
Ala.	332,069	242,683	73.1	Sarasota	369,620	65,159	17.6
Ala.	408,445	86,999	21.3	Seminole	199,572	90,968	45.6
Ala.	745,872	120,181	16.1	Sumter	364,897	170,486	46.7
Ala.	313,240	179,228	57.2	Suwannee	440,943	202,759	46.0
Ala.	661,215	101,984	15.4	Taylor	668,092	595,277	89.1
Ala.	670,891	145,958	21.8	Union	158,611	118,107	74.5
Ala.	307,994	188,003	61.0	Volusia	726,145	517,786	71.3
Ala.	320,367	44,071	13.8	Wakulla	395,507	340,201	86.0
Ala.	596,396	300,884	50.4	Walton	683,559	544,768	79.7
Ala.	388,361	279,130	71.9	Washington	387,383	301,899	77.9
Ala.	351,465	285,418	81.2	Total	35,002,026	17,133,889	49.0

^aExcludes inland water.^bIncludes both commercial and noncommercial forest.

Table 38.—Commercial forest land, by county and ownership, Florida, 1980

County	All ownerships	National Forest	Other public	Forest industry	Other private	County	All ownerships	National Forest	Other public	Forest industry	Other private
<i>Acres</i>						<i>Acres</i>					
Alachua	309,353	—	6,049	103,271	200,033	Lake	263,130	64,104	13,816	318	184,892
Baker	331,542	75,507	3,881	127,527	124,627	Lee	120,016	—	—	—	120,016
Bay	421,111	—	27,114	249,761	144,236	Leon	290,981	103,938	8,882	44,590	133,571
Bradford	136,299	—	9,023	62,065	65,211	Levy	466,584	—	742	235,730	230,112
Brevard	119,334	—	22,673	7,200	89,461	Liberty	515,494	255,033	—	173,832	86,622
Broward	—	—	—	—	—	Madison	297,353	—	80	159,207	138,066
Calhoun	301,612	—	64	150,493	151,055	Manatee	55,501	—	88	—	55,413
Charlotte	65,648	—	1,027	—	64,621	Marion	631,402	252,595	29,010	70,898	278,899
Citrus	236,229	—	44,379	—	191,850	Martin	34,201	—	292	—	33,909
Clay	315,100	—	46,614	80,168	188,318	Monroe	—	—	—	—	—
Collier	415,191	—	2,530	—	412,661	Nassau	337,175	—	3,349	174,538	159,288
Columbia	366,138	77,256	373	69,627	218,882	Okaloosa	470,230	—	269,819	44,358	156,053
Dade	—	—	—	—	—	Okeechobee	40,534	—	187	—	40,347
De Soto	51,980	—	892	—	51,088	Orange	179,487	—	1,594	—	177,893
Dixie	395,155	—	290	372,484	22,381	Osceola	193,644	—	6,214	—	187,430
Duval	277,344	—	21,661	44,381	211,302	Palm Beach	—	—	—	—	—
Escambia	268,028	—	3,960	80,006	184,062	Pasco	163,497	—	23,661	29,169	110,667
Flagler	250,483	—	648	52,050	197,785	Pinellas	23,061	—	573	—	22,488
Franklin	313,812	21,969	17,820	247,665	26,358	Polk	254,021	—	34,827	—	219,194
Gadsden	228,519	—	10,094	82,575	135,850	Putnam	363,204	20,689	12,592	71,447	258,476
Gilchrist	141,989	—	288	34,396	107,305	St. Johns	288,592	—	258	74,161	214,173
Glades	88,904	—	220	—	88,684	St. Lucie	51,504	—	234	—	51,270
Gulf	280,001	—	16,272	221,220	42,509	Santa Rosa	500,356	—	180,486	166,743	153,127
Hamilton	241,382	—	55	87,799	153,528	Sarasota	55,277	—	44	—	55,233
Hardee	86,492	—	751	—	85,741	Seminole	89,037	—	1,345	—	87,692
Hendry	110,011	—	6,146	—	103,865	Sumter	164,859	—	53,632	5,360	105,867
Hernando	179,228	—	37,846	—	141,382	Suwannee	200,884	—	496	25,111	175,277
Highlands	95,709	—	23,833	—	71,876	Taylor	588,605	—	381	519,818	68,406
Hillsborough	134,226	—	18,980	—	115,246	Union	118,107	—	5,606	71,833	40,668
Holmes	187,690	—	1,108	55,843	130,739	Volusia	502,361	—	19,013	78,842	404,506
Indian River	36,925	—	963	—	35,962	Wakulla	315,027	134,666	31,852	55,903	92,606
Jackson	298,467	—	6,026	62,896	229,545	Walton	541,959	—	136,364	127,200	278,395
Jefferson	277,030	—	2,548	133,324	141,158	Washington	301,744	—	2,396	53,375	245,973
Lafayette	285,418	—	462	189,618	95,338						
						Total					
						15,664,177 1,005,757 1,172,423 4,696,802 8,789,195					

Table 39.—Commercial forest land, by county and broad forest type, Florida, 1980

County	All types	Planted pine	Natural pine	Oak-pine	Upland hardwood	Lowland hardwood	County	All types	Planted pine	Natural pine	Oak-pine	Upland hardwood	Lowland hardwood
	Acres							Acres					
Alachua	309,353	97,175	54,588	31,446	74,712	51,432	Lake	263,130	30,045	72,166	33,368	25,673	101,878
Baker	331,542	108,968	108,317	12,526	3,644	98,087	Lee	120,016	—	72,009	4,800	4,801	38,406
Bay	421,111	187,321	147,324	28,009	30,315	28,147	Leon	290,981	68,028	105,843	32,978	31,151	52,981
Bradford	136,299	34,620	37,116	25,869	15,524	23,170	Levy	466,584	101,813	88,435	55,698	103,778	116,860
Brevard	119,334	9,668	48,986	—	11,696	48,984	Liberty	515,494	96,284	187,991	31,471	20,906	178,842
Broward	—	—	—	—	—	—	Madison	297,353	77,083	56,957	25,827	54,762	82,724
Calhoun	301,612	91,663	76,281	39,460	34,238	59,970	Manatee	55,501	—	15,393	3,078	9,236	27,794
Charlotte	65,648	3,801	35,239	3,801	—	22,807	Marion	631,402	122,581	235,773	64,730	141,971	66,347
Citrus	236,229	17,652	38,966	42,413	79,472	57,726	Martin	34,201	2,422	12,402	2,423	—	12,110
Clay	315,100	92,073	88,521	15,032	56,810	62,664	Monroe	—	—	—	—	—	—
Collier	415,191	—	79,353	15,872	5,291	314,675	Nassau	337,175	86,435	90,108	39,743	10,808	110,081
Columbia	366,138	100,652	111,597	14,195	50,361	89,333	Okaloosa	470,230	58,230	192,588	87,754	70,768	60,890
Dade	—	—	—	—	—	—	Okeechobee	40,534	6,207	6,208	—	—	28,119
De Soto	51,980	—	10,216	2,554	12,805	26,405	Orange	179,487	3,607	65,462	6,134	15,335	88,949
Dixie	395,155	156,097	36,873	26,231	52,544	123,410	Osceola	193,644	—	39,599	10,559	21,120	122,366
Duval	277,344	66,271	99,639	33,004	37,851	40,579	Palm Beach	—	—	—	—	—	—
Escambia	268,028	62,782	101,430	59,628	15,136	29,052	Pasco	163,497	6,413	22,161	14,177	43,258	77,488
Flagler	250,483	66,508	78,598	28,165	11,081	66,131	Pinellas	23,061	—	9,568	8,996	—	4,497
Franklin	313,812	92,837	124,464	17,430	24,203	54,878	Polk	254,021	14,341	39,639	20,188	32,847	147,006
Gadsden	228,519	39,214	36,764	41,351	58,829	52,361	Putnam	363,204	95,714	119,358	29,957	69,422	48,753
Gilchrist	141,989	59,527	13,068	3,267	46,842	19,285	St. Johns	288,592	68,702	91,543	16,639	17,499	94,209
Glades	88,904	23,648	23,649	2,956	—	38,651	St. Lucie	51,504	—	30,235	3,016	—	18,253
Gulf	280,001	28,322	148,542	16,643	—	86,494	Santa Rosa	500,356	125,187	201,666	68,981	26,322	78,200
Hamilton	241,382	89,158	57,817	22,051	18,884	53,472	Sarasota	55,277	2,301	18,413	2,301	2,301	29,961
Hardee	86,492	—	16,331	8,166	4,834	57,161	Seminole	89,037	—	17,129	19,802	19,801	32,305
Hendry	110,011	—	51,932	5,193	5,239	47,647	Sumter	164,859	12,855	37,140	12,922	34,351	67,591
Hernando	179,228	10,876	39,055	26,292	78,986	24,019	Suwannee	200,884	64,189	25,364	15,789	76,520	19,022
Highlands	95,709	7,500	20,973	7,986	10,486	48,764	Taylor	588,605	251,466	89,992	10,164	38,527	198,456
Hillsborough	134,226	5,360	16,752	16,080	21,442	74,592	Union	118,107	39,796	32,066	2,763	9,964	33,518
Holmes	187,690	41,976	29,552	10,490	41,370	64,302	Volusia	502,361	71,317	196,620	46,101	30,978	157,345
Indian River	36,925	—	15,429	8,991	5,994	6,511	Wakulla	315,027	44,603	156,603	19,670	52,583	41,568
Jackson	298,467	44,780	50,730	20,941	107,382	74,634	Walton	541,959	103,106	197,540	52,749	101,427	87,137
Jefferson	277,030	33,571	57,678	30,458	52,705	102,618	Washington	301,744	69,029	51,439	27,637	62,452	91,187
Lafayette	285,418	88,419	54,141	37,218	31,190	74,450	Total	15,664,177	3,282,193	4,487,331	1,424,133	2,133,271	4,337,249

Table 40.—Volume of all live timber 5.0 inches d.b.h. and larger, by county and species group, Florida, 1980

County	All species	Yellow pine	Other softwood	Soft hardwood	Hard hardwood	County	All species	Yellow pine	Other softwood	Soft hardwood	Hard hardwood
..... Thousand cubic feet						 Thousand cubic feet					
Alachua	298,255	169,906	29,843	41,764	56,742	Lake	264,710	80,712	58,553	77,365	48,080
Baker	384,984	226,056	63,815	92,527	2,586	Lee	61,571	19,230	40,756	—	1,585
Bay	151,646	108,002	9,264	25,238	9,142	Leon	328,888	172,190	4,151	81,077	71,470
Bradford	134,442	92,814	6,899	16,515	18,214	Levy	515,304	201,742	93,862	92,035	127,665
Brevard	104,418	43,290	11,291	19,524	30,313	Liberty	595,869	235,492	102,182	169,986	88,209
Broward	—	—	—	—	—	Madison	331,204	87,152	58,489	124,713	60,850
Calhoun	243,219	138,217	14,096	54,932	35,974	Manatee	46,882	9,276	—	18,579	19,027
Charlotte	49,627	22,887	22,260	376	4,104	Marion	574,810	341,433	17,027	65,528	150,822
Citrus	165,033	38,423	34,400	24,659	67,551	Martin	14,525	9,947	—	—	4,578
Clay	263,602	133,126	19,134	50,152	61,190	Monroe	—	—	—	—	—
Collier	353,662	54,478	250,589	22,660	25,935	Nassau	379,439	171,283	31,825	109,601	66,730
Columbia	387,974	210,874	54,724	86,158	36,218	Okaloosa	363,721	238,942	18,251	58,487	48,041
Dade	—	—	—	—	—	Okeechobee	69,131	11,893	16,820	31,348	9,070
De Soto	54,584	4,967	4,871	15,378	29,368	Orange	184,136	39,912	64,309	59,503	20,412
Dixie	366,634	82,986	78,600	78,620	126,428	Osceola	264,935	41,032	142,123	51,830	29,950
Duval	297,025	145,022	10,475	68,495	73,033	Palm Beach	—	—	—	—	—
Escambia	325,069	175,759	2,846	93,586	52,878	Pasco	240,796	41,239	79,928	44,840	74,789
Flagler	274,638	122,119	76,874	38,232	37,413	Pinellas	17,666	8,449	6,671	2,546	—
Franklin	206,977	66,567	45,947	78,112	16,351	Polk	317,373	48,200	124,687	84,498	59,988
Gadsden	303,480	115,538	—	95,650	92,292	Putnam	369,984	215,280	13,543	72,448	68,713
Gilchrist	124,089	79,421	16,973	3,734	23,961	St. Johns	334,091	148,346	36,853	82,173	66,719
Glades	61,498	19,580	27,474	5,267	9,177	St. Lucie	25,304	15,215	1,583	385	8,121
Gulf	293,127	76,079	51,104	109,023	56,921	Santa Rosa	512,219	318,369	38,121	113,218	42,511
Hamilton	235,339	109,591	30,503	59,411	35,834	Sarasota	34,860	11,838	—	4,401	18,621
Hardee	116,944	33,857	25,055	13,123	44,909	Seminole	70,974	22,496	276	19,690	28,512
Hendry	141,208	36,031	78,377	13,478	13,322	Sumter	241,896	26,287	72,311	54,191	89,107
Hernando	173,024	31,369	4,771	54,319	82,565	Suwannee	161,862	91,817	472	21,774	47,799
Highlands	105,351	20,142	35,122	29,323	20,764	Taylor	547,708	196,648	89,857	110,922	150,281
Hillsborough	198,511	22,418	84,578	34,766	56,749	Union	142,707	79,593	16,596	42,479	4,039
Holmes	185,506	72,246	6,934	76,578	29,748	Volusia	500,921	215,378	143,813	93,035	48,695
Indian River	36,780	15,464	12,241	623	8,452	Wakulla	299,344	155,441	7,651	65,611	70,641
Jackson	332,200	107,605	14,396	96,929	113,270	Walton	421,491	251,494	12,258	115,441	42,298
Jefferson	380,035	130,795	33,398	118,570	97,272	Washington	197,760	53,916	29,269	64,955	49,620
Lafayette	220,160	97,668	41,615	35,281	45,596	Total	15,401,122	6,363,539	2,520,706	3,485,662	3,031,215

Table 41.—Volume of growing stock, by county and species group, Florida, 1980

County	All species	Yellow pine	Other softwood	Soft hardwood	Hard hardwood	County	All species	Yellow pine	Other softwood	Soft hardwood	Hard hardwood
<i>Thousand cubic feet</i>						<i>Thousand cubic feet</i>					
Alachua	275,385	169,151	29,499	34,922	41,813	Lake	227,430	80,141	57,185	62,276	27,828
Bay	370,840	225,237	62,434	81,739	1,430	Lee	55,163	19,230	35,933	—	—
Brevard	136,332	107,229	9,264	14,093	5,746	Leon	306,957	171,043	4,151	75,301	56,462
Calhoun	117,974	92,096	6,165	12,693	7,020	Levy	459,894	201,063	91,213	79,585	88,033
Charlotte	84,622	42,894	11,085	13,493	17,150	Liberty	525,455	234,837	90,427	135,128	65,063
Columbia	—	—	—	—	—	Madison	285,767	85,847	58,033	107,213	34,674
Dade	222,155	137,478	13,215	40,013	31,449	Manatee	29,778	8,993	—	16,361	4,424
DeSoto	44,081	22,887	20,566	—	628	Marion	515,098	340,859	17,027	56,236	100,976
Duval	119,459	38,008	34,400	20,296	26,755	Martin	10,323	9,466	—	—	857
Escambia	239,641	132,894	19,134	47,899	39,714	Monroe	—	—	—	—	—
Fla.	306,776	54,146	225,139	17,816	9,675	Nassau	340,146	171,283	31,825	94,670	42,368
Franklin	359,808	210,250	53,384	69,584	26,590	Okaloosa	315,594	237,564	14,561	41,350	22,119
Gadsden	—	—	—	—	—	Okeechobee	52,896	11,893	16,369	22,474	2,160
Hamilton	27,211	4,705	4,871	12,819	4,816	Orange	169,505	39,688	62,975	54,470	12,372
Hernando	313,114	82,986	78,057	68,974	83,097	Osceola	249,107	41,032	139,337	48,379	20,359
Indian River	266,340	144,818	10,475	63,536	47,511	Palm Beach	—	—	—	—	—
Jefferson	292,966	173,636	2,846	82,357	34,127	Pasco	204,303	41,239	77,159	39,727	46,178
Lake	256,613	121,180	74,973	32,740	27,720	Pinellas	16,934	8,449	6,671	1,814	—
Lauderdale	185,012	66,266	42,123	67,205	9,418	Polk	272,578	47,669	119,688	68,615	36,606
Levy	269,118	112,576	—	83,591	72,951	Putnam	343,468	214,726	12,022	70,246	46,474
Liberty	109,765	78,516	15,511	3,246	12,492	St. Johns	308,412	147,314	33,747	76,739	50,612
Madison	53,799	19,580	27,199	4,825	2,195	St. Lucie	19,668	14,802	1,583	—	3,283
Manatee	232,321	75,433	45,781	85,967	25,140	Santa Rosa	466,973	317,635	36,203	87,358	25,777
Marion	214,096	109,183	30,110	49,430	25,373	Sarasota	19,412	11,838	—	3,664	3,910
Martin	95,509	33,857	25,055	11,641	24,956	Seminole	59,047	22,496	276	17,042	19,233
Monroe	123,451	36,031	71,756	7,543	8,121	Sumter	209,228	26,287	72,311	46,561	64,069
Nassau	132,944	30,442	4,771	50,563	47,168	Suwannee	146,173	91,817	472	19,837	34,047
Okaloosa	90,004	20,142	35,122	27,172	7,568	Taylor	497,741	195,275	87,991	101,190	113,285
Okeechobee	170,325	21,912	84,314	29,620	34,479	Union	133,926	79,120	16,235	34,657	3,914
Orange	154,681	71,222	6,041	56,435	20,983	Volusia	455,615	214,209	138,489	77,530	25,387
Osceola	29,196	14,634	12,241	216	2,105	Wakulla	276,155	153,666	5,336	55,063	62,090
Palm Beach	284,588	105,967	12,366	78,935	87,320	Walton	383,275	248,740	11,533	102,743	20,259
Pasco	336,818	130,275	32,287	100,685	73,571	Washington	154,566	53,223	26,108	44,770	30,465
Pinellas	194,357	97,238	40,741	30,128	26,250	Total	13,619,888	6,324,313	2,405,785	2,941,175	1,948,615

Table 42.—Volume of sawtimber, by county and species group, Florida, 1980

County	All species	Yellow pine	Other softwood	Soft hardwood	Hard hardwood	County	All species	Yellow pine	Other softwood	Soft hardwood	Hard hardwood
<i>Thousand board feet</i>						<i>Thousand board feet</i>					
Alachua	610,058	287,321	100,818	78,505	143,414	Lake	676,479	302,469	127,659	154,184	92,167
Baker	1,127,330	711,959	185,821	226,151	3,399	Lee	107,332	26,443	80,889	—	—
Bay	326,803	249,255	22,837	48,985	5,726	Leon	1,006,439	606,288	9,067	222,187	168,997
Bradford	310,370	239,648	11,460	22,428	36,834	Levy	1,288,180	516,403	261,150	200,721	309,959
Brevard	266,132	103,247	26,908	45,573	90,404	Liberty	1,925,484	850,827	365,545	432,238	276,880
Broward	—	—	—	—	—	Madison	857,038	258,901	178,309	303,487	116,341
Calhoun	696,841	412,367	46,697	130,452	107,325	Manatee	120,573	43,717	—	57,083	19,763
Charlotte	101,750	61,561	40,189	—	—	Marion	1,506,058	931,198	65,653	140,324	368,883
Citrus	427,591	144,670	136,817	60,941	85,163	Martin	33,764	32,810	—	—	954
Clay	632,570	317,316	65,051	127,115	123,088	Monroe	—	—	—	—	—
Collier	793,189	157,103	567,483	39,647	28,956	Nassau	884,704	492,714	87,420	176,352	128,218
Columbia	1,031,563	680,620	163,768	134,936	52,239	Okaloosa	1,149,692	944,741	60,706	73,829	70,416
Dade	—	—	—	—	—	Okeechobee	154,012	28,146	56,287	62,226	7,353
De Soto	87,027	19,565	16,258	31,036	20,168	Orange	468,011	126,876	161,675	141,237	38,220
Dixie	823,221	189,303	218,016	177,123	238,779	Osceola	739,244	189,696	371,212	122,142	56,205
Duval	726,471	389,182	20,659	162,616	154,014	Palm Beach	—	—	—	—	—
Escambia	912,555	513,354	12,151	276,560	110,490	Pasco	590,663	157,638	174,847	94,167	164,011
Flagler	740,089	286,165	222,058	87,206	144,660	Pinellas	52,553	28,287	18,647	5,619	—
Franklin	575,407	193,193	136,187	219,736	26,291	Polk	723,630	186,009	251,158	155,241	131,231
Gadsden	925,157	422,320	—	264,653	238,184	Putnam	935,511	511,228	43,179	206,517	174,587
Gilchrist	200,032	96,963	54,129	10,252	38,688	St. Johns	767,547	328,221	102,906	153,731	182,689
Glades	173,319	65,960	92,480	4,821	10,058	St. Lucie	64,847	55,480	5,411	—	3,956
Gulf	747,784	262,433	142,580	260,541	82,230	Santa Rosa	1,444,564	1,054,809	120,659	198,005	71,091
Hamilton	569,767	340,035	52,576	81,400	95,756	Sarasota	60,617	34,170	—	9,409	17,038
Hardee	378,846	152,193	83,712	30,026	112,915	Seminole	222,054	87,236	—	60,008	74,810
Hendry	391,245	103,586	231,719	23,270	32,670	Sumter	631,638	72,268	199,453	127,262	232,655
Hernando	419,278	93,464	18,852	140,837	166,125	Suwannee	339,596	154,845	2,589	52,200	129,956
Highlands	308,135	73,197	143,774	68,106	23,058	Taylor	1,179,524	350,602	268,567	219,672	340,683
Hillsborough	500,689	82,370	195,441	88,347	134,531	Union	299,422	169,519	39,164	86,757	3,956
Holmes	414,319	209,208	25,802	122,565	56,744	Volusia	1,264,618	635,635	370,413	165,785	92,167
Indian River	121,731	60,914	48,930	—	11,887	Wakulla	963,172	567,157	22,093	158,937	214,993
Jackson	799,921	307,965	45,207	191,567	255,182	Walton	1,135,832	764,907	48,298	275,481	47,152
Jefferson	1,165,322	528,515	115,242	265,767	255,798	Washington	475,897	172,706	112,629	104,516	86,067
Lafayette	478,225	223,433	114,750	40,665	99,377	Total	39,851,432	18,660,331	6,963,957	7,621,144	6,606,000

Table 43.—Net annual change of growing stock on commercial forest land, by species group and county, Florida, 1979

County	Net change	Pine	Other soft-wood	Soft hard-wood	Hard hard-wood	County	Net change	Pine	Other soft-wood	Soft hard-wood	Hard hard-wood
<i>Thousand cubic feet</i>						<i>Thousand cubic feet</i>					
Alachua	+5,949	+8,225	+711	-1,378	-1,609	Lake	+7,028	+3,578	+1,584	+2,135	-269
Albermarle	+3,306	-1,039	+1,480	+2,654	+211	Lee	-317	-849	+532	—	—
Alford	+4,656	+3,812	+332	+169	+343	Leon	+3,438	+1,208	+126	+1,540	+564
Alford	-5,131	-4,719	-856	+491	-47	Levy	+6,864	+4,144	+904	+1,494	+322
Alford	+5,644	+4,776	+255	+224	+389	Liberty	+15,008	+10,561	+1,462	+2,612	+373
Alford	—	—	—	—	—	Madison	-3,289	-6,422	+327	+2,541	+265
Alford	+8,344	+5,627	+217	+1,286	+1,214	Manatee	+801	+319	—	+365	+117
Alford	+1,111	+540	+5,161	—	+55	Marion	+17,015	+11,824	+220	+1,791	+3,180
Alford	+4,222	+2,539	+753	+417	+513	Martin	-53	-113	—	—	+60
Alford	+8,952	+5,732	+471	+1,399	+1,350	Monroe	—	—	—	—	—
Alford	-211	+1,753	+2,917	-1,676	-3,205	Nassau	+17	-3,632	+909	+2,021	+719
Alford	+9,702	+5,579	+1,193	+2,635	+295	Okaloosa	+6,229	+4,782	+373	+1,039	+35
Alford	—	—	—	—	—	Okeechobee	+2,553	+1,438	+424	+634	+57
Alford	+712	+117	+123	+426	+46	Orange	+1,707	+774	-97	+1,369	-339
Alford	-3,053	-6,211	+1,046	+1,400	+712	Osceola	+2,872	+348	+779	+1,537	+208
Alford	+9,690	+6,430	+374	+2,438	+448	Palm Beach	—	—	—	—	—
Alford	+7,542	+4,184	+81	+1,912	+1,365	Pasco	+5,468	+1,123	+1,802	+1,341	+1,202
Alford	-3,747	-4,578	+384	-135	+582	Pinellas	-248	-217	+144	+34	-209
Alford	+1,632	+34	+722	+638	+238	Polk	+3,006	-3,282	+3,245	+2,783	+260
Alford	+3,660	+2,854	—	+507	+299	Putnam	+19,364	+15,130	+360	+2,884	+990
Alford	+5,342	+4,261	+380	+250	+451	St. Johns	+12,726	+8,020	+641	+2,494	+1,571
Alford	+2,284	+1,356	+420	+389	+119	St. Lucie	-161	-401	+39	—	+201
Alford	+203	-1,269	+1,446	-109	+135	Santa Rosa	+15,353	+9,920	+1,510	+2,544	+1,379
Alford	+5,349	+3,302	-895	+1,439	+1,503	Sarasota	-874	-1,101	—	+134	+93
Alford	+3,386	+1,552	+632	+333	+869	Seminole	+358	+381	-281	+104	+154
Alford	+2,049	+1,465	-89	+180	+493	Sumter	+5,090	+1,943	+228	+1,077	+1,842
Alford	+3,884	+1,617	+168	+903	+1,196	Suwannee	+4,453	+3,155	+19	+485	+794
Alford	+2,803	+1,073	+712	+586	+432	Taylor	+415	-5,592	+905	+2,045	+3,057
Alford	+2,626	+210	+1,564	-59	+911	Union	+4,432	+4,266	+57	+759	-650
Alford	-548	-1,193	+86	+28	+531	Volusia	+12,512	+7,568	+1,263	+2,697	+984
Alford	-117	-444	+292	+2	+33	Wakulla	-985	-4,791	+108	+1,335	+2,363
Alford	-3,189	-5,006	+382	+852	+583	Walton	+11,309	+11,067	+147	+513	-418
Alford	+246	-1,667	+366	+1,313	+234	Washington	-1,606	-2,608	+417	-52	+637
Alford	+6,003	+3,527	+818	+933	+725	Total	+243,786	+116,980	+35,148	+60,702	+30,956



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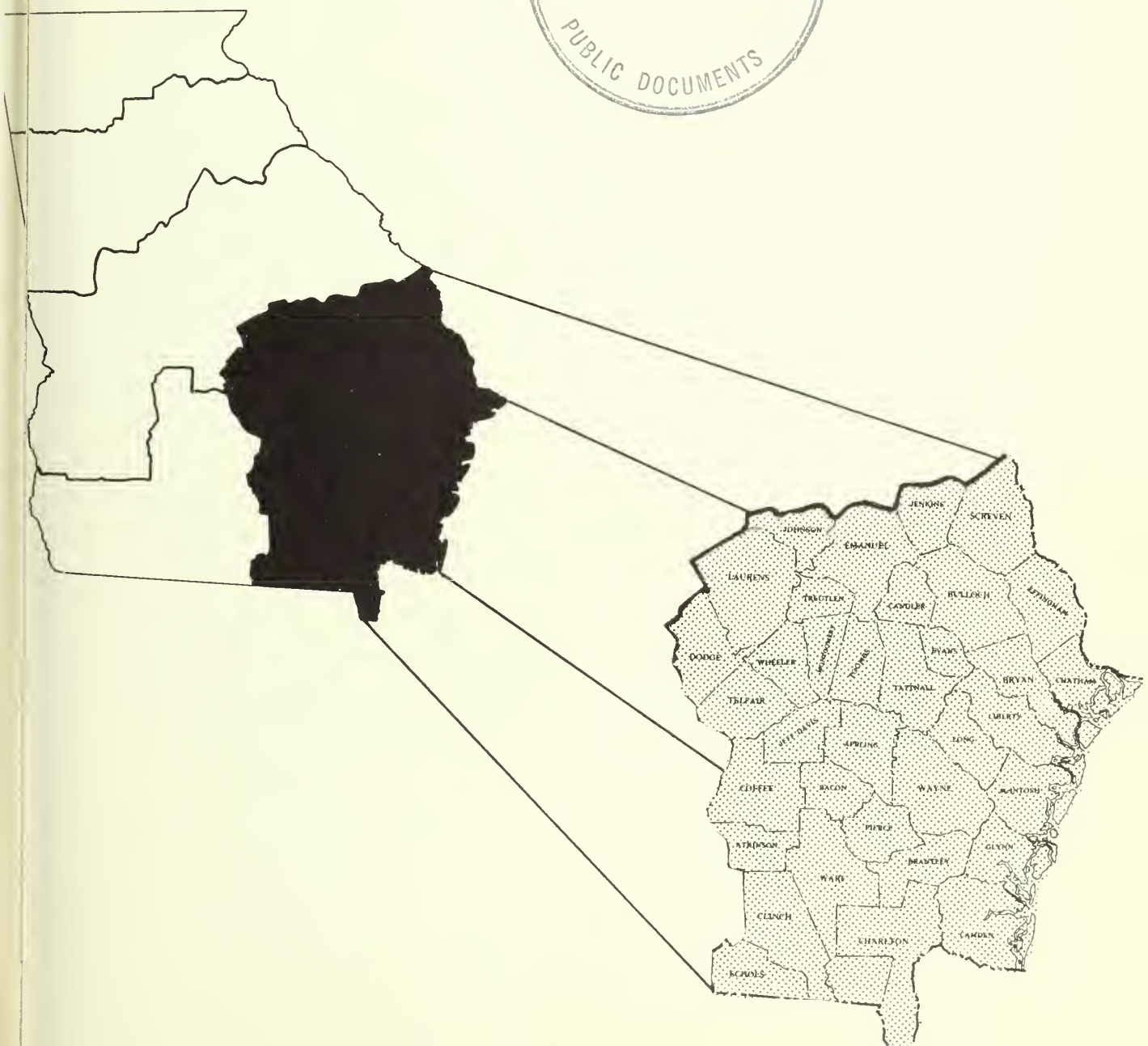
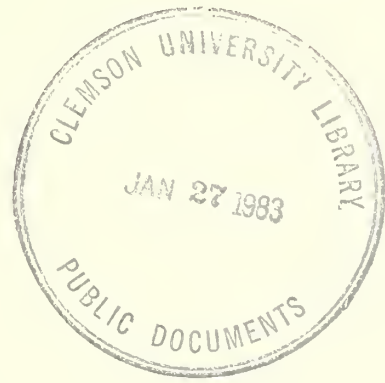
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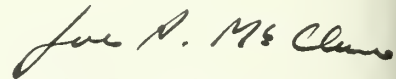
FOREWORD

This report highlights the principal findings of the fifth forest survey of Southeast Georgia. Fieldwork began in November 1980 and was completed in October 1981. Four previous surveys, completed in 1934, 1952, 1960, and 1971, provide statistics for measuring changes and trends over the past 47 years. The primary emphasis in this report is on the changes and trends since 1971. Previously reported figures have been adjusted to provide the best estimate of change.

Periodic surveys of the forest resource are authorized by the Forest and Rangeland Renewable Resources Research Act of 1978. These surveys are a continuing, nationwide undertaking by the regional experiment stations of the Forest Service, USDA. In Florida, Georgia, North Carolina, South Carolina, and Virginia, these surveys are administered by the Renewable Resources Evaluation Research Work Unit at the Southeastern Forest Experiment Station, with headquarters in Asheville, North Carolina. The primary objective of the survey is to periodically inventory and evaluate all forest and related resources. These multiresource data help provide a basis for formulating forest policies and programs and for the orderly development and use of the resources. This report deals only with the extent and condition of forest lands, associated timber volumes, and rates of timber growth and removals.

The 35-county area covered by this report is one of five survey units in Georgia. A similar report, USDA Forest Service Resource Bulletin SE-61, has been issued for Southwest Georgia. Comparable reports for the other three units will be issued as the statewide survey progresses. When completed, this survey will provide updated statistics on the forest resource for all of Georgia.

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


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June 1982
Southeastern Forest Experiment Station
Asheville, North Carolina

**FOREST STATISTICS
FOR
SOUTHEAST GEORGIA,
1981**

by

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HIGHLIGHTS

since 1971 in Southeast Georgia

- area of commercial forest land as declined by 264,000 acres, or less than 4 percent. More than 319,000 acres of commercial forest land were diverted to other land uses, while only 5,000 acres of new forest were added. About 62 percent of the diverted acreage went to agricultural uses, 23 percent to urban and other miscellaneous uses, and the remaining 15 percent to noncommercial forest. Commercial forests now cover 7.2 million acres, or 67 percent of the land in this 35-county area.

- area of commercial forest land owned by nonindustrial private forest (NIPF) landowners has declined from 5.0 to 4.5 million acres, an 11-percent reduction. Forest industries have increased their fee-simple holdings from 1.1 to 2.3 million acres. They have an additional 505,000 acres of NIPF land under long-term lease; thus, about 40 percent of the commercial forest land is under forest industry control. Public agencies control less than 5 percent of the commercial forests.

- almost 1.8 million acres have been harvested. Nearly 42 percent of the harvested acreage was on lands owned or leased by forest industry. An additional 663,000 acres experienced intermediate cuttings. Other significant treatments and disturbances, primarily prescribed burning, occurred on more than 1.1 million acres during the 10-year period. Diseases, insects, wildfire, and other natural destructive agents damaged 725,000 acres.

- about 769,000 acres, or 76,000 acres per year, have been artificially regenerated and are adequately stocked with suitable species. More than 72 percent of this regeneration was on lands owned or leased by forest industry. Between 1960 and 1971 about 13,000 acres per year were artificially regenerated. Stands originating wholly or in part from planting or direct seeding now make up 27 percent of all commercial forest land.

- area of commercial forest land classified as loblolly pine forest type

has increased by 69 percent and now totals nearly 0.7 million acres. In contrast, acreage in the other major pine forest types showed substantial drops. More than 2.9 million acres are currently classified as slash pine forest type, a decline of 7 percent since 1971. Longleaf and pond pine types fell by 22 and 37 percent, respectively. These changes led to a net 3 percent drop in pine forest type acreage. Commercial forests classified as oak-pine type declined by 25 percent during the period. Hardwood types recorded a net 4 percent increase.

- average basal area of all live trees 5.0 inches d.b.h. and larger has increased from 51 to 60 square feet per acre of commercial forest land. Acreage in stands fully stocked with growing-stock trees has increased from 1.8 to 2.5 million acres, or by 38 percent. But current stocking on nearly 1.8 million acres is less than adequate; nearly 70 percent of this acreage is found on NIPF land.

- volume of softwood growing stock has increased from 4.7 to 5.1 billion cubic feet, an increase of almost 10 percent. Volume of both longleaf and pond pine growing stock declined by 21 percent. Loblolly pine accounted for 44 percent of the gain in growing-stock volume. Slash pine, the dominant softwood species in the region, accounted for 40 percent of the gain; cypress made up most of the remaining increase. About 50 percent of the softwood-volume increase occurred in the 6- and 8-inch diameter classes; another 41 percent of the increase occurred in the 16-inch and larger diameter classes. Softwood volume in the 12-inch diameter class dropped by 2 percent, while the 10-inch and 14-inch classes showed modest gains of 2 and 4 percent, respectively. The current inventory of softwood growing stock includes nearly 15.3 billion board feet of sawtimber, up by 9 percent since 1971. Volume of slash pine sawtimber changed little over the period. Loblolly pine was the only major pine species to increase in board-foot volume, accounting for over 69 percent

of the sawtimber gain. Cypress accounted for the remaining increase.

•volume of hardwood growing stock has increased from 2.8 to 3.3 billion cubic feet, an increase of 18 percent. Most of the major hardwood species increased in volume. Tupelo and blackgum and the red oak species group are the major hardwoods in the region. These species made up 57 percent of the hardwood-volume gain. The hardwood-volume increase was distributed across the entire range of diameter classes. The current inventory of hardwood growing stock includes 9.0 billion board feet of sawtimber, up by 23 percent.

•number of 2-inch pine trees has declined by 35 percent, while the number of 4-inch pines has declined by 6 percent. The decline in small pine trees was most severe on NIPF lands (excluding leased), extending into the 6-, 8-, and 10-inch diameter classes. Number of pine trees on NIPF lands declined by 46 percent in the 2-inch diameter class, by 28 percent in the 4-inch class, 21 percent in the 6-inch class, 12 percent in the 8-inch class, and 1 percent in the 10-inch class. Increases in the number of pine trees were recorded in the 12- through the 20-inch diameter classes on NIPF lands. Thus, pine volume has declined in the smaller diameters and increased in the larger diameters on this ownership group since 1971. The situation on forest lands controlled by forest industry is quite different. Large increases in the number of pine trees in the 6- and 8-inch diameter classes on this ownership accounted for almost all the net increase in pine volume in these two diameter classes.

In 1980

•net annual growth of growing stock totaled 555 million cubic feet and included nearly 2.0 billion board feet of sawtimber. Net growth per acre of all growing-stock trees has increased from 56 cubic feet in 1970 to

the present 77 cubic feet. By ownership class, per acre net growth on lands owned or leased by forest industry has increased from 49 cubic feet in 1970 to 81 cubic feet in 1980, an increase of 65 percent. Net growth on NIPF lands (excluding leased) went from 58 to 74 cubic feet per acre of commercial forest land, an increase of 27 percent. About 42 percent of the current net growth occurred on lands owned or leased by forest industry, 28 percent on miscellaneous private ownerships, 25 percent on farm woodlands, and 5 percent on forests controlled by public agencies. Yellow pines accounted for 77 percent of the net growth. Across all ownerships, yellow pine growth exceeded annual removals by less than 4 percent, while hardwood growth was more than double hardwood removals. Yellow pine removals exceeded pine net growth by more than 16 percent on farm ownerships. Pine net growth exceeded removals on all other ownerships.

•removals of growing stock totaled 473 million cubic feet and included 1.7 billion board feet of sawtimber. By ownership class, 41 percent of the growing-stock removals came from lands owned or leased by forest industry, 25 percent from miscellaneous private forests, 29 percent from farmer-owned lands, and 5 percent from public forests. Yellow pines accounted for 88 percent of the removals. Yellow pine removals have increased by 34 percent since the previous inventory, but hardwood removals have declined by 2 percent. More than one-half of the increase in yellow pine removals occurred in the 8- and 10-inch diameter classes.

•mortality of growing stock totaled 66 million cubic feet and included 170 million board feet of sawtimber. Softwood species made up 61 percent of the mortality. Disease suppression, weather, and insects were the leading identifiable causes of death. Mortality reduced gross growth by 11 percent.

HOW THE INVENTORY IS MADE

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

1. Initial estimates of forest and nonforest areas were based on the classification of 30,824 sample clusters systematically spaced on the best aerial photographs available. A subsample of 3,978 of the 16-point clusters was ground checked, and a linear regression was fitted to the data to develop the relationship between the photo and ground classification of the subsample. This procedure provides a means for adjusting the initial estimates of area for change in land use since date of photography and for photo classifications.

2. Estimates of timber volume and forest classifications were based on measurements recorded at 2,603 ground sample locations systematically distributed within the commercial forest land. The plot design at each location was based on a cluster of 10 points. In most cases, variable plots, using a basal-area factor of 37.5 square feet per acre, were systematically spaced within a single forest condition at 5 of the 10 cluster points. Trees less than 5 inches d.b.h. were tallied on a

fixed-radius plot around each point center.

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

4. Felled trees were measured at 27 active cutting operations. These data will be pooled with similar measurements taken in the State to supplement the standing-tree volume data and to generate utilization factors for product and species groups that will be analyzed at the State level.

5. Estimates of growth, removals, and mortality were determined from the remeasurement of 1,986 permanent sample plots established in the fourth survey.

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

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

RELIABILITY OF THE DATA

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

	Percent
Per million acres of commercial forest land	1.07
Per billion cubic feet of growing stock	5.64
Per billion cubic feet of net annual growth	1.43
Per billion cubic feet of annual removals	3.14

SAMPLING ERRORS FOR COUNTY AND UNIT TOTALS,¹ IN TERMS OF ONE STANDARD ERROR

COUNTY	COMMERCIAL FOREST AREA	CUBIC-FOOT VOLUME OF GROWING STOCK		
		INVENTORY	GROWTH	REMOVALS
- - - - - SAMPLING ERROR ² - - - - -				
APPLING	2.10	10.75	10.27	26.31
ATKINSON	2.32	14.56	13.56	33.12
BACON	3.20	15.53	14.67	38.35
BRANTLEY	1.28	12.61	14.03	25.05
BRYAN	1.52	9.18	10.00	26.63
BULLOCH	2.03	7.93	8.32	23.27
CAMDEN	1.88	9.01	9.04	22.35
CANDLER	3.70	21.84	18.98	39.91
CHARLTON	1.28	9.38	8.53	26.83
CHATHAM	4.68	12.66	15.21	39.91
CLINCH	0.82	8.45	8.21	16.20
COFFEE	2.35	11.80	11.12	19.68
DODGE	2.32	10.62	11.79	21.88
ECHOLS	0.91	10.37	11.53	27.31
EFFINGHAM	1.38	9.22	10.11	27.65
EMANUEL	1.50	9.44	8.59	17.96
EVANS	4.81	18.22	14.31	70.88
GLYNN	3.28	17.96	13.70	31.93
JEFF DAVIS	3.24	15.40	14.36	35.60
JENKINS	3.22	14.10	12.27	32.31
JOHNSON	3.36	15.07	14.11	27.41
LAURENS	1.90	7.18	8.70	18.91
LIBERTY	1.74	8.86	10.19	29.30
LONG	0.90	9.88	10.35	33.00
MCINTOSH	6.32	11.69	12.66	33.33
MONTGOMERY	3.30	14.21	14.24	27.07
PIERCE	2.68	12.82	15.20	25.73
SCREVEN	2.66	10.63	9.04	30.79
TATTNALL	2.47	13.64	13.10	26.88
TELFAIR	1.76	10.90	9.92	28.00
TOOMBS	4.05	15.20	15.65	26.95
TREUTLEN	2.58	16.30	16.18	25.60
WARE	1.52	9.55	10.11	18.72
WAYNE	1.19	10.28	10.00	25.73
WHEELER	2.16	12.90	12.06	26.56
UNIT TOTAL	0.40	1.95	1.92	4.56

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

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

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

² BY RANDOM-SAMPLING FORMULA (IN PERCENT).

DEFINITIONS OF TERMS

Acceptable trees.—Growing-stock trees of commercial species that meet specified standards of size and quality, but not qualifying as desirable trees.

Basal area.—The area in square feet of the cross section at least height of a single tree or of all the trees in a stand, usually expressed as square feet of basal area per acre.

Commercial forest land.—Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization.

Commercial species.—Tree species presently or prospectively suitable for industrial wood products.

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

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

Diameter class.—A classification of trees based on diameter outside bark, measured at breast height (4½ feet above the ground). D.b.h. is the common abbreviation for “diameter at breast height.” Two-inch diameter classes are commonly used in Renewable Resources Evaluation, with the even inch as the approximate midpoint for a class. For example, the 6-inch class includes trees 5.0 through 6.9 inches d.b.h., inclusive.

Farm.—Lands on which agriculture operations are being conducted and sale of agriculture products totaled \$1,000 or more during the year.

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

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

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

Forest land.—Land at least 16.7 percent stocked by forest trees of any size, or formerly having had such tree cover, and not currently developed for nonforest use.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Industrial wood.—All roundwood products except fuelwood.

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

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

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

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

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

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

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

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

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

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

Noncommercial species.—Tree species of typically small size, poor form, or inferior quality which normally do not develop into trees suitable for industrial wood products.

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

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

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

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

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

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

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

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

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

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

Available dead trees.—Standing or down dead trees that are considered merchantable by Renewable Resources Evaluation standards.

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

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

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

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

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

Sawtimber volume.—Net volume of the saw-log portion of live sawtimber in board-foot International $\frac{1}{4}$ -inch rule.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Stocking.—The degree of occupancy of land by trees, measured by basal area or the number of trees in a stand and spacing in the stand, compared to a minimum standard, depending on tree size, to fully utilize the growth potential of the land. (See page 7.)

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

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

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

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

STOCKING STANDARD

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

¹ STOCKING PERCENTAGES BASED ON TALLY AT ALL 10 POINTS OF A 10-POINT CLUSTER OF PLOTS. TREES LESS THAN 5 INCHES D.B.H. WERE TALLIED ON CIRCULAR, 1/300-ACRE PLOTS AT EACH POINT. TREES 5.0 INCHES D.B.H. AND LARGER WERE TALLIED ON VARIABLE PLOTS USING A BASAL AREA FACTOR OF 37.5 AT EACH SAMPLE POINT.

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

CUBIC FEET OF WOOD PER AVERAGE CORD (EXCLUDING BARK)

D.B.H. CLASS	ALL SPECIES	PINE	OTHER SOFTWOOD	HARDWOOD
6	60.9	61.0	68.2	60.0
8	68.6	68.1	76.0	68.4
10	73.6	73.1	81.4	73.4
12	77.0	76.7	85.2	76.4
14	79.4	79.4	88.2	78.4
16	81.2	81.6	90.4	79.8
18	82.1	83.3	92.3	80.8
20	83.1	84.8	93.8	81.5
22	83.9	86.0	95.1	82.1
24+	85.0	87.8	98.2	83.2
AVERAGE	73.5	72.1	83.3	74.2

COUNTY TABLES

THE COUNTY TABLES ARE INTENDED FOR USE IN COMPILING FOREST RESOURCE ESTIMATES FOR GROUPS OF COUNTIES. BECAUSE THE SAMPLING PROCEDURE USED BY THE FOREST SURVEY WAS INTENDED PRIMARILY TO FURNISH INVENTORY DATA FOR THE SURVEY UNIT AS A WHOLE, INDIVIDUAL COUNTY ESTIMATES HAVE LIMITED AND VARIABLE ACCURACY. AS COUNTY TOTALS ARE BROKEN DOWN BY VARIOUS SUBDIVISIONS, THE POSSIBILITY OF ERROR INCREASES AND IS GREATEST FOR THE SMALLEST ITEMS. THE ORDER OF TH S INCREASE CAN BE COMPUTED WITH THE FORMULA ON PAGE 4.

TABLE 1. --AREA, BY LAND CLASS AND COUNTY, 1981

COUNTY	ALL LAND ¹	FOREST LAND				NONFOREST LAND ²
		TOTAL	COMMERCIAL FOREST	UNPRODUCTIVE FOREST	PRODUCTIVE-RESERVED	
ACRES						
APPLING	328,320	220,632	220,632	--	--	107,688
ATKINSON	203,520	155,030	155,030	--	--	48,490
BACON	187,520	118,587	118,587	--	--	68,933
BRANTLEY	286,080	255,092	255,092	--	--	30,988
BRYAN	283,520	236,904	236,685	23	196	46,616
BULLOCH	437,760	227,709	227,709	--	--	210,051
CAMDEN	417,920	312,999	298,931	309	13,759	104,921
CANDLER	160,000	81,902	81,902	--	--	78,098
CHARLTON	509,520	488,886	318,444	--	170,442	20,634
CHATHAM	284,800	105,314	100,946	506	3,862	179,486
CLINCH	509,440	484,787	464,955	--	19,832	24,653
COFFEE	391,680	230,514	229,038	--	1,476	161,166
DODGE	318,720	193,151	193,151	--	--	125,569
ECHOLS	272,000	257,509	257,349	160	--	14,491
EFFINGHAM	307,200	240,622	240,622	--	--	66,578
EMANUEL	439,040	285,041	284,136	--	905	153,999
EVANS	119,040	70,827	70,827	--	--	48,213
GLYNN	269,610	157,021	153,208	141	3,672	112,589
JEFF DAVIS	211,840	147,124	147,124	--	--	64,716
JENKINS	224,640	130,457	129,568	--	889	94,183
JOHNSON	200,320	109,097	109,097	--	--	91,223
LAURENS	518,400	313,161	313,161	--	--	205,239
LIBERTY	328,960	255,669	255,627	--	42	73,291
LONG	257,280	235,275	234,556	--	719	22,005
MCINTOSH	272,640	204,204	190,233	2,880	11,091	68,436
MONTGOMERY	151,040	99,387	99,387	--	--	51,653
PIERCE	218,880	142,128	142,128	--	--	76,752
SCREVEN	416,640	239,148	239,148	--	--	177,492
TATTNALL	313,600	185,675	185,510	--	165	127,925
TELFAIR	281,600	197,159	197,059	--	100	84,441
TOOMBS	235,520	118,673	118,673	--	--	116,847
TREUTLEN	124,160	83,840	83,840	--	--	40,320
WARE	583,680	510,174	340,739	14,142	155,293	73,506
WAYNE	412,800	339,280	338,827	--	453	73,520
WHEELER	195,840	134,027	132,995	--	1,032	61,813
TOTAL	10,673,530	7,567,005	7,164,916	18,161	383,928	3,106,525

¹ FROM U. S. BUREAU OF THE CENSUS, LAND AND WATER AREA OF THE UNITED STATES, 1970

² INCLUDES 95,045 ACRES OF WATER ACCORDING TO SURVEY STANDARDS OF AREA CLASSIFICATION, BUT DEFINED BY THE BUREAU OF THE CENSUS AS LAND.

TABLE 2. -- AREA OF COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND COUNTY, 1981

COUNTY	ALL OWNERSHIPS	OWNERSHIP CLASS					FARMER	MISCELLANEOUS PRIVATE	
		NATIONAL FOREST	MISCELLANEOUS FEDERAL	STATE	COUNTY AND MUNICIPAL	FOREST INDUSTRY ¹		CORPORATE INDIVIDUAL	
ACRES									
APPLING	220,632	--	--	25	880	69,590	70,701	6,750	72,686
ATKINSON	155,030	--	--	--	--	61,726	52,482	2,916	37,906
BACON	118,587	--	--	--	2,367	61,726	43,217	2,702	45,630
BRANTLEY	255,092	--	--	6,219	--	158,744	29,404	7,793	52,932
BRYAN	236,685	--	89,394	7,171	115	43,772	42,107	2,885	51,241
BULLOCH	227,709	--	--	125	268	22,760	146,779	5,372	52,405
CAMDEN	298,931	--	6,657	--	--	141,377	146,867	2,867	145,163
CANDLER	81,902	--	--	--	125	9,823	53,966	2,570	15,418
CHARLTON	318,444	--	5,490	--	1,145	180,901	24,947	43,658	62,303
CHATHAM	100,946	--	3,345	--	1,020	31,818	9,225	9,678	41,830
CLINCH	464,955	--	2,410	10,030	110	245,008	23,748	107,944	85,735
COFFEE	229,038	--	--	--	277	12,542	153,726	8,717	53,776
DODGE	193,151	--	--	--	--	24,463	82,509	10,944	75,235
ECHOLS	257,349	--	5,972	--	--	62,806	12,683	124,712	59,748
EFFINGHAM	240,622	--	--	--	254	56,306	63,175	15,167	99,144
EMANUEL	284,136	--	15,858	--	482	70,458	107,314	7,118	27,166
EVANS	70,827	--	1,228	--	178	6,458	24,167	32,930	27,908
GLYNN	153,208	--	--	1,701	965	88,160	40,316	17,379	46,343
JEFF DAVIS	147,124	--	40	--	45	42,843	40,550	--	21,177
JENKINS	129,568	--	--	14	52	46,868	61,424	5,446	27,231
JOHNSON	109,097	--	--	--	1,071	19,185	57,183	1,018	146,075
LAURENS	313,161	--	20	--	264	35,644	129,333	6,696	94,399
LIBERTY	255,627	--	103,221	--	--	51,047	--	--	168,350
LONG	234,556	--	26,406	--	--	115,137	24,663	5,553	50,945
MCINTOSH	190,233	--	26,700	8,000	82	122,177	24,663	--	27,847
MONTGOMERY	99,387	--	--	38	22	14,281	62,199	--	27,950
PIERCE	142,128	--	--	--	75	30,594	81,019	2,490	47,047
SCREVEN	239,148	--	--	--	1,374	58,411	111,733	20,583	49,578
TATNALL	185,510	--	4,667	2,044	--	28,539	95,463	5,219	73,383
TELFAIR	197,059	--	--	--	6	59,066	60,791	3,813	27,033
TOOMBS	118,673	--	--	--	289	23,583	59,561	7,959	30,100
TREUTLEN	83,840	--	--	248	50	9,648	44,042	--	111,101
WARE	340,739	--	3,932	29,678	1,273	162,906	31,849	--	102,762
WAYNE	338,827	--	--	--	373	187,171	48,521	--	73,039
WHEELER	132,995	--	--	80	4	20,193	37,199	2,480	--
TOTAL	7,164,916	--	269,340	65,373	13,175	2,338,296	1,885,639	473,359	2,119,734

¹ NOT INCLUDING 505,013 ACRES OF FARMER-OWNED AND MISCELLANEOUS PRIVATE LANDS LEASED TO FOREST INDUSTRY.

TABLE 3. --AREA OF COMMERCIAL FOREST LAND, BY FOREST-TYPE GROUP AND COUNTY, 1981

COUNTY	ALL TYPE GROUPS	FOREST-TYPE GROUP						ELM-ASH-COTTONWOOD	MAPLE-BEECH-BIRCH
		WHITE PINE-HEMLOCK	SPRUCE-FIR	LONGLEAF-SLASH	LOBLOLLY-SHORTLEAF	OAK-PINE	OAK-HICKORY		
APPLING	220,632	--	--	124,135	16,598	12,395	11,514	55,990	--
ATKINSON	155,030	--	--	96,481	10,769	18,748	11,216	27,816	--
BACON	118,030	--	--	76,621	10,884	16,548	11,204	15,747	--
BRANTLEY	255,925	--	--	126,841	20,365	35,130	10,714	64,042	--
BRYAN	236,685	--	--	84,974	50,720	35,451	8,835	56,705	--
BULLOCH	227,709	--	--	54,175	21,805	47,170	35,076	69,483	--
BULLOCK	298,931	--	--	133,654	33,569	32,238	20,558	72,130	2,437
CAMDEN	268,931	--	--	22,797	2,537	12,848	12,474	23,626	--
CANDLER	81,902	--	--	240,732	7,537	15,075	31,539	42,675	--
CHARLTON	318,444	--	--	21,159	21,234	11,299	14,525	15,278	--
CHATHAM	100,946	--	--	306,908	12,234	20,528	14,563	46,702	--
CLINCH	464,955	--	--	122,145	11,527	34,467	25,398	38,702	--
COFFEE	229,038	--	--	197,044	15,477	21,888	8,374	71,663	4,077
DODGE	193,151	--	--	159,398	5,480	12,410	39,507	41,980	2,986
ECHOLS	257,349	--	--	183,415	57,112	16,055	27,726	60,903	--
EFFINGHAM	240,622	--	--	137,345	32,265	24,116	14,916	32,920	--
EMANUEL	284,136	--	--	19,144	10,838	3,199	19,295	37,056	--
EVANS	70,827	--	--	28,156	56,664	11,416	13,916	22,251	--
GLYNN	153,208	--	--	71,517	12,785	29,365	21,189	38,202	--
JEFF DAVIS	147,124	--	--	39,569	15,167	24,524	16,408	31,602	--
JENKINS	129,568	--	--	27,266	13,097	32,421	57,069	62,922	6,056
JOHNSON	109,097	--	--	102,212	52,481	32,421	46,462	39,176	2,959
LAURENS	313,161	--	--	198,844	29,844	21,768	21,551	68,865	2,776
LIBERTY	255,956	--	--	78,614	27,152	35,415	34,289	37,702	3,570
LONG	234,556	--	--	60,546	28,734	25,786	17,617	97,909	--
MCINTOSH	190,233	--	--	40,892	11,489	12,910	12,449	37,614	--
MONTGOMERY	99,387	--	--	67,582	9,084	15,399	58,331	41,616	2,782
PIERCE	142,128	--	--	49,192	40,690	14,542	29,495	52,829	5,219
SCREVEN	239,148	--	--	81,560	14,006	16,614	27,828	28,483	10,141
TATTNALL	185,510	--	--	94,682	24,500	7,079	24,864	28,236	2,590
TELFAIR	197,059	--	--	40,338	9,760	12,638	3,010	72,546	--
TOOMBS	118,673	--	--	47,307	12,247	12,040	2,546	80,371	--
TREUTLEN	83,840	--	--	232,561	16,936	16,150	13,957	18,918	2,713
WARE	340,739	--	--	174,525	27,695	39,251	13,957	8,999	8,999
WAYNE	338,827	--	--	60,137	9,585	21,399	708,555	1,605,697	57,305
WHEELER	132,995	--	--						--
TOTAL	7,164,916	--	--	3,302,801	772,301	718,257	708,555	1,605,697	--

TABLE 4. -- AREA OF COMMERCIAL FOREST LAND, BY STAND-SIZE CLASS
AND COUNTY, 1981

COUNTY	ALL STANDS	STAND-SIZE CLASS			NONSTOCKED AREAS
		SAWTIMBER	POLETIMBER	SAPLING- SEEDLING	
- - - - - ACRES - - - - -					
APPLING	220,632	60,574	78,326	62,188	19,544
ATKINSON	155,030	28,263	56,763	59,235	10,769
BACON	118,587	20,091	48,282	44,812	5,402
BRANTLEY	255,092	49,445	93,179	100,815	11,653
BRYAN	236,685	119,250	68,529	46,277	2,629
BULLOCH	227,709	128,190	53,527	43,306	2,686
CAMDEN	298,931	98,532	105,933	81,850	12,616
CANDLER	81,902	28,393	15,420	30,380	7,709
CHARLTON	318,444	79,991	132,437	85,399	20,617
CHATHAM	100,946	48,036	40,726	6,451	5,733
CLINCH	464,955	69,928	193,425	186,635	14,967
COFFEE	229,038	43,581	93,439	66,268	25,750
DODGE	193,151	92,969	58,795	31,839	9,548
ECHOLS	257,349	43,979	104,858	102,558	5,954
EFFINGHAM	240,622	105,330	85,204	34,288	15,800
EMANUEL	284,136	91,699	101,158	67,132	24,147
EVANS	70,827	36,200	23,412	11,215	--
GLYNN	153,208	54,494	41,626	46,145	10,943
JEFF DAVIS	147,124	47,153	54,525	45,446	--
JENKINS	129,568	46,746	57,695	25,127	--
JOHNSON	109,097	32,728	38,194	38,175	--
LAURENS	313,161	167,188	77,956	55,902	12,115
LIBERTY	255,627	115,443	56,626	67,685	15,873
LONG	234,556	99,826	59,841	61,005	13,884
MCINTOSH	190,233	72,286	64,166	46,017	7,764
MONTGOMERY	99,387	34,399	44,488	10,819	9,681
PIERCE	142,128	56,465	53,117	20,097	12,449
SCREVEN	239,148	130,568	53,191	55,389	--
TATNALL	185,510	69,481	57,272	45,031	13,726
TELFAIR	197,059	96,391	56,151	37,095	7,422
TOOMBS	118,673	34,980	39,131	28,247	16,315
TREUTLEN	83,840	36,326	24,336	23,178	--
WARE	340,739	71,505	105,791	146,061	17,382
WAYNE	338,827	75,368	113,289	133,327	16,843
WHEELER	132,995	59,233	33,205	38,078	2,479
TOTAL	7,164,916	2,445,031	2,384,013	1,983,472	352,400

TABLE 5. --AREA OF COMMERCIAL FOREST LAND, BY SITE CLASS AND COUNTY, 1981

COUNTY	ALL CLASSES	SITE CLASS				
		1	2	3	4	5
- - - - - ACRES - - - - -						
APPLING	220,632	--	8,838	46,595	148,332	16,867
ATKINSON	155,030	2,916	--	27,372	113,972	10,770
BACON	118,587	--	2,701	39,141	64,155	12,590
BRANTLEY	255,092	--	5,826	34,849	170,683	43,734
BRYAN	236,685	--	12,983	85,066	127,227	11,409
BULLOCH	227,709	2,686	19,202	78,370	127,183	268
CAMDEN	298,931	--	7,311	72,321	208,261	11,038
CANDLER	81,902	--	5,139	15,419	48,371	12,973
CHARLTON	318,444	--	5,631	63,183	235,250	14,380
CHATHAM	100,946	--	20,675	32,389	46,862	1,020
CLINCH	464,955	--	--	60,632	355,086	49,237
COFFEE	229,038	2,905	3,183	46,401	159,117	17,432
DODGE	193,151	--	10,944	72,476	106,996	2,735
ECHOLS	257,349	--	--	36,344	190,569	30,436
EFFINGHAM	240,622	--	10,533	59,386	163,495	7,208
EMANUEL	284,136	--	--	60,929	193,716	29,491
EVANS	70,827	2,643	178	25,562	39,423	3,021
GLYNN	153,208	2,672	2,671	52,776	92,052	3,037
JEFF DAVIS	147,124	--	9	26,867	111,559	8,689
JENKINS	129,568	3,233	2,604	35,074	82,191	6,466
JOHNSON	109,097	--	2,723	49,103	51,807	5,464
LAURENS	313,161	--	11,688	122,158	170,229	9,086
LIBERTY	255,627	--	10,037	102,364	133,025	10,201
LONG	234,556	--	11,383	41,966	152,740	28,467
MCINTOSH	190,233	--	5,552	41,660	129,422	13,599
MONTGOMERY	99,387	--	1,785	38,482	50,881	8,239
PIERCE	142,128	--	4,980	37,525	76,755	22,868
SCREVEN	239,148	5,881	20,422	65,745	135,340	11,760
TATTNALL	185,510	--	14,004	64,957	84,036	22,513
TELFAIR	197,059	6	15,656	76,920	88,618	15,859
TOOMBS	118,673	--	7,418	27,142	78,933	5,180
TREUTLEN	83,840	--	--	33,367	50,473	--
WARE	340,739	--	2,450	56,168	235,973	46,148
WAYNE	338,827	--	5,426	69,515	202,790	61,096
WHEELER	132,995	2,480	4,959	31,318	94,238	--
TOTAL	7,164,916	25,422	236,911	1,829,542	4,519,760	553,281

TABLE 6. --AREA OF COMMERCIAL FOREST LAND, BY STOCKING CLASSES OF GROWING-STOCK TREES, BY COUNTY, 1981

COUNTY	ALL CLASSES	STOCKING PERCENTAGE ¹				
		OVER 130	100-130	60-99	16.7-59	LESS THAN 16.7
- - - - - ACRES - - - - -						
APPLING	220,632	5,623	85,094	76,366	34,005	19,544
ATKINSON	155,030	--	38,139	78,304	27,818	10,769
BACON	118,587	2,242	46,499	38,225	26,219	5,402
BRANTLEY	255,092	2,886	74,618	116,264	49,671	11,653
BRYAN	236,685	8,835	77,344	93,016	54,861	2,629
BULLOCH	227,709	8,217	55,654	113,506	47,646	2,686
CAMDEN	298,931	23,654	113,227	113,162	36,272	12,616
CANDLER	81,902	2,570	22,672	17,989	30,962	7,709
CHARLTON	318,444	14,455	123,081	121,402	38,889	20,617
CHATHAM	100,946	4,779	24,633	44,589	21,212	5,733
CLINCH	464,955	28,260	139,982	183,186	98,560	14,967
COFFEE	229,038	2,905	68,002	58,202	74,179	25,750
DODGE	193,151	2,736	40,986	98,844	41,037	9,548
ECHOLS	257,349	5,481	90,272	108,393	47,249	5,954
EFFINGHAM	240,622	5,267	74,626	79,640	65,289	15,800
EMANUEL	284,136	10,751	52,765	121,430	75,043	24,147
EVANS	70,827	4,795	12,083	27,895	26,054	--
GLYNN	153,208	27,659	37,281	52,333	24,992	10,943
JEFF DAVIS	147,124	5,803	42,945	38,451	59,925	--
JENKINS	129,568	7,812	28,741	64,688	28,327	--
JOHNSON	109,097	8,187	30,007	57,270	13,633	--
LAURENS	313,161	15,581	85,936	152,411	47,118	12,115
LIBERTY	255,627	11,932	89,305	95,184	43,333	15,873
LONG	234,556	16,388	100,821	77,225	26,238	13,884
MCINTOSH	190,233	7,480	90,523	55,733	28,733	7,764
MONTGOMERY	99,387	--	17,943	56,726	15,037	9,681
PIERCE	142,128	4,980	35,048	57,903	31,748	12,449
SCREVEN	239,148	23,205	66,199	106,274	43,470	--
TATTNALL	185,510	26,512	39,549	64,261	41,462	13,726
TELFAIR	197,059	13,953	67,187	69,967	38,530	7,422
TOOMBS	118,673	8,547	22,883	44,852	26,076	16,315
TREUTLEN	83,840	--	23,021	39,337	21,482	--
WARE	340,739	4,511	128,168	132,412	58,266	17,382
WAYNE	338,827	22,126	101,500	133,700	64,658	16,843
WHEELER	132,995	11,478	33,701	62,380	22,957	2,479
TOTAL	7,164,916	349,610	2,180,435	2,851,520	1,430,951	352,400

¹ SEE STOCKING STANDARDS ON PAGE 8

TABLE 7. -- VOLUME OF SAWTIMBER AND GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES GROUP AND COUNTY, 1981

COUNTY	SAWTIMBER				GROWING STOCK						
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	
	THOUSAND BOARD FEET					THOUSAND CUBIC FEET					
APPLING	729,248	457,750	90,505	124,791	56,202	259,966	165,060	18,947	57,740	18,219	
ATKINSON	369,456	266,089	23,047	73,798	6,522	135,961	98,172	9,092	35,469	3,228	
BACON	264,425	190,974	25,756	36,009	11,686	117,976	79,559	9,233	24,260	4,924	
BRANTLEY	449,213	242,515	42,892	125,800	38,006	198,500	110,425	17,486	56,522	13,859	
BRYAN	1,081,817	731,848	11,797	207,971	130,199	339,840	215,561	5,206	80,522	38,791	
BULLOCH	1,065,717	569,770	13,025	353,668	129,254	338,479	156,306	4,476	127,906	39,791	
CAMDEN	1,994,006	421,218	102,751	236,822	233,415	369,004	174,599	24,284	105,140	64,981	
CANDLER	317,805	159,161	11,542	119,823	27,279	104,072	40,115	2,351	49,494	12,112	
CHARLTON	662,254	514,235	59,925	73,585	117,272	291,164	230,415	21,768	33,598	5,383	
CHATHAM	552,997	296,123	17,994	130,865	117,272	397,303	75,038	6,481	55,654	37,851	
CLINCH	768,074	419,332	158,126	158,590	32,026	379,465	228,038	74,128	87,756	12,520	
COFFEE	546,278	381,688	104,042	158,765	32,550	249,807	148,872	9,883	48,672	28,070	
DODGE	762,135	498,974	15,915	104,155	88,363	207,780	108,965	3,913	58,061	66,756	
ECHOLS	378,771	193,646	73,607	100,155	11,363	207,780	177,583	7,071	99,317	27,428	
EFFINGHAM	1,018,114	631,500	27,998	170,994	194,099	330,471	181,483	1,942	42,941	54,237	
EMANUEL	1,955,035	1,425,229	20,898	103,868	35,787	104,106	37,382	5,170	51,126	10,428	
EVANS	297,439	142,522	9,658	122,710	94,099	191,512	74,598	19,722	16,230	12,458	
GLYNN	603,801	459,051	15,262	138,746	187,712	166,950	132,598	4,924	62,590	16,023	
JEFF DAVIS	579,067	207,412	16,297	173,710	166,761	193,174	70,102	7,800	62,318	13,458	
JENKINS	379,634	190,251	--	124,622	64,941	128,174	229,763	--	136,018	92,321	
JOHNSON	1,456,510	806,829	33,026	307,769	309,941	465,645	219,809	8,028	77,327	56,850	
LAURENS	1,288,104	775,100	105,456	233,850	246,128	332,645	133,094	28,425	80,345	56,850	
LIBERTY	1,966,578	403,208	127,978	209,487	248,423	244,559	114,837	19,265	55,247	22,827	
LONG	709,585	308,897	71,327	127,978	207,154	244,559	69,837	37,333	55,482	22,827	
MCINTOSH	388,453	322,655	2,093	86,551	77,986	118,393	106,486	18,398	178,672	81,520	
MONTGOMERY	507,507	418,242	59,649	111,550	263,683	424,236	132,474	31,910	59,219	25,111	
PIERCE	1,549,960	574,345	145,327	596,337	205,512	228,282	180,065	7,029	59,219	25,111	
SCREVEN	507,507	418,242	37,048	155,066	18,739	128,573	69,957	24,363	37,006	3,652	
TATTNALL	969,011	166,578	3,399	98,458	34,739	240,584	184,363	36,884	69,239	13,308	
TELFAIR	303,468	204,794	122,816	161,754	57,369	304,082	184,363	36,884	69,239	13,308	
TOOMBS	221,749	423,802	1,920	185,372	52,526	166,946	94,535	1,246	54,494	16,671	
TREUTLEN	765,741	284,379	--	--	--	--	--	--	--	--	
WARE	524,197	--	--	--	--	--	--	--	--	--	
WAYNE	--	--	--	--	--	--	--	--	--	--	
WHEELER	--	--	--	--	--	--	--	--	--	--	
TOTAL	24,333,629	13,760,415	1,535,375	5,492,474	3,545,365	8,358,183	4,626,479	478,612	2,225,780	1,027,312	

* FACTORS FOR CONVERTING TO CORDS ARE SHOWN ON PAGE 8.

TABLE 8. --NET ANNUAL GROWTH OF SAWTIMBER AND GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES GROUP AND COUNTY, 1980

COUNTY	SAWTIMBER				GROWING STOCK							
	ALL SPECIES	PINE	OTHER SOFTWOOD	THOUSAND BOARD FEET	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	THOUSAND CUBIC FEET	SOFT HARDWOOD	HARD HARDWOOD
APPLING	60,883	51,059	2,252	5,884	1,688	1,688	18,977	16,095	407	1,751	1,751	724
ATKINSON	29,423	26,334	1,742	2,884	1,633	1,633	9,094	7,777	174	911	911	232
BACON	31,189	26,582	1,118	1,950	1,539	1,539	8,804	7,416	349	810	810	229
BRANTLEY	44,623	37,710	1,220	4,193	1,500	1,500	14,366	11,784	550	1,487	1,487	545
BRYAN	82,541	69,656	384	5,803	6,750	6,750	22,520	18,449	108	1,963	1,963	738
BULLOCH	70,185	50,755	384	14,335	7,272	7,272	17,520	11,517	98	3,805	3,805	1,738
CAMDEN	72,888	54,880	3,147	7,589	4,120	4,120	25,006	17,713	646	1,292	1,292	1,924
CANDLER	23,624	17,791	1,823	4,257	1,719	1,719	28,562	26,176	41	1,068	1,068	2,605
CHARLTON	63,704	55,545	1,823	3,057	6,623	6,623	28,928	26,342	185	1,931	1,931	720
CHATHAM	39,388	25,513	6,190	5,474	1,354	1,354	32,416	27,713	2,008	2,715	2,715	1,370
CLINCH	75,388	62,943	814	4,751	1,343	1,343	32,416	27,713	2,008	2,715	2,715	1,370
COFFEE	66,862	59,028	6,227	5,144	1,524	1,524	16,465	12,784	102	2,115	2,115	675
DODGE	74,012	63,022	3,085	4,240	3,844	3,844	16,465	12,784	102	2,115	2,115	675
ECHOLS	33,541	22,372	3,085	4,240	3,844	3,844	16,465	12,784	102	2,115	2,115	675
EFFINGHAM	90,811	69,941	2,220	12,532	13,009	13,009	20,058	14,882	124	3,350	3,350	1,422
EMANUEL	81,671	64,568	2,220	12,532	13,009	13,009	20,058	14,882	124	3,350	3,350	1,422
EVANS	21,324	14,090	3,569	4,940	1,260	1,260	10,936	9,010	83	1,387	1,387	565
GLYNN	47,577	44,495	810	6,427	8,738	8,738	11,265	9,343	731	2,688	2,688	714
JEFF DAVIS	44,495	28,495	439	5,905	9,313	9,313	11,265	9,343	129	1,714	1,714	805
JENKINS	45,750	29,200	810	6,427	9,313	9,313	11,265	9,343	129	1,714	1,714	805
JOHNSON	33,233	23,637	764	14,303	16,170	16,170	27,591	17,824	140	1,426	1,426	4,197
LAURENS	110,083	72,803	3,330	14,303	16,170	16,170	27,591	17,824	140	1,426	1,426	4,197
LIBERTY	89,173	49,395	2,330	6,038	7,364	7,364	27,591	17,824	140	1,426	1,426	4,197
LONG	66,450	40,595	46	5,063	7,364	7,364	27,591	17,824	140	1,426	1,426	4,197
MCINTOSH	55,638	40,595	1,574	5,063	7,364	7,364	27,591	17,824	140	1,426	1,426	4,197
MONTGOMERY	34,078	28,157	3,919	5,063	7,364	7,364	27,591	17,824	140	1,426	1,426	4,197
PIERCE	41,956	35,853	1,574	5,063	7,364	7,364	27,591	17,824	140	1,426	1,426	4,197
SCREVEN	84,733	40,880	3,919	5,063	7,364	7,364	27,591	17,824	140	1,426	1,426	4,197
TATNALL	52,017	22,442	1,101	5,063	7,364	7,364	27,591	17,824	140	1,426	1,426	4,197
TELFAIR	27,979	22,442	1,101	5,063	7,364	7,364	27,591	17,824	140	1,426	1,426	4,197
TOOMBS	24,863	22,395	1,101	5,063	7,364	7,364	27,591	17,824	140	1,426	1,426	4,197
TREUTLEN	65,474	52,594	3,288	5,063	7,364	7,364	27,591	17,824	140	1,426	1,426	4,197
WARE	63,474	52,594	3,288	5,063	7,364	7,364	27,591	17,824	140	1,426	1,426	4,197
WAYNE	41,473	34,513	93	5,063	7,364	7,364	27,591	17,824	140	1,426	1,426	4,197
WHEELER	41,473	34,513	93	5,063	7,364	7,364	27,591	17,824	140	1,426	1,426	4,197
TOTAL	1,963,385	1,541,810	50,644	214,145	156,786	156,786	555,029	430,108	12,463	69,172	69,172	43,286

TABLE 9. --ANNUAL REMOVALS OF SAWTIMBER AND GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES GROUP AND COUNTY, 1980

COUNTY	SAWTIMBER				GROWING STOCK				
	ALL SPECIES	PINE	OTHER SOFTWOOD	HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD

TABLE 10. --AREA OF COMMERCIAL FOREST LAND, BY FOREST TYPE AND OWNERSHIP CLASS, 1981

FOREST TYPE	ALL OWNERSHIPS	OWNERSHIP CLASS				
		NATIONAL FOREST	OTHER PUBLIC	FOREST INDUSTRY	FARMER	MISC. PRIVATE
- - - - - ACRES - - - - -						
SOFTWOOD TYPES:						
WHITE PINE-HEMLOCK	--	--	--	--	--	--
SPRUCE-FIR	--	--	--	--	--	--
LONGLEAF PINE	357,551	--	31,871	33,135	114,176	178,369
SLASH PINE	2,945,250	--	125,441	1,185,332	653,728	980,749
LOBLOLLY PINE	663,880	--	47,818	260,982	125,235	229,845
SHORTLEAF PINE	5,161	--	--	2,438	2,723	--
VIRGINIA PINE	--	--	--	--	--	--
SAND PINE	2,469	--	--	2,469	--	--
EASTERN REDCEDAR	--	--	--	--	--	--
POND PINE	100,791	--	13,172	32,231	13,565	41,823
SPRUCE PINE	--	--	--	--	--	--
PITCH PINE	--	--	--	--	--	--
TABLE-MOUNTAIN PINE	--	--	--	--	--	--
TOTAL	4,075,102	--	218,302	1,516,587	909,427	1,430,786
HARDWOOD TYPES:						
OAK-PINE	718,257	--	46,035	158,619	247,076	266,527
OAK-HICKORY	573,450	--	15,506	137,719	213,256	206,969
CHESTNUT OAK	--	--	--	--	--	--
SOUTHERN SCRUB OAK	135,105	--	3,310	10,113	51,647	70,035
OAK-GUM-CYPRESS	1,605,697	--	61,749	489,311	461,205	593,432
ELM-ASH-COTTONWOOD	57,305	--	2,986	25,947	3,028	25,344
MAPLE-BEECH-BIRCH	--	--	--	--	--	--
TOTAL	3,089,814	--	129,586	821,709	976,212	1,162,307
ALL TYPES	7,164,916	--	347,888	2,338,296	1,885,639	2,593,093

TABLE 11. --AREA OF COMMERCIAL FOREST LAND, BY OWNERSHIP AND STOCKING CLASSES OF GROWING-STOCK TREES, 1981

OWNERSHIP CLASSES	ALL CLASSES	STOCKING PERCENTAGE ¹				
		OVER 130	100-130	60-99	16.7-59	LESS THAN 16.7
- - - - - ACRES - - - - -						
NATIONAL FOREST	--	--	--	--	--	--
OTHER PUBLIC	347,888	13,246	91,680	142,990	90,434	9,538
FOREST INDUSTRY	2,338,296	128,519	876,756	891,634	344,161	97,226
FARMER	1,885,639	83,152	476,491	765,886	461,552	98,558
MISC. PRIVATE	2,593,093	124,693	735,508	1,051,010	534,804	147,078
ALL OWNERSHIPS	7,164,916	349,610	2,180,435	2,851,520	1,430,951	352,400

¹ SEE STOCKING STANDARDS ON PAGE 8.

TABLE 12.--VOLUME OF TIMBER ON COMMERCIAL FOREST LAND, BY CLASS AND SPECIES GROUP, 1981

CLASS OF TIMBER	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
- - - - - THOUSAND CUBIC FEET - - - - -					
SAWTIMBER TREES:					
SAW-LOG PORTION	4,662,302	2,613,456	321,961	1,109,055	617,830
UPPER-STEM PORTION	588,188	277,535	34,191	177,552	98,910
TOTAL	5,250,490	2,890,991	356,152	1,286,607	716,740
POLETIMBER TREES	3,107,693	1,735,488	122,460	939,173	310,572
ALL GROWING-STOCK TREES	8,358,183	4,626,479	478,612	2,225,780	1,027,312
ROUGH TREES:					
SAWTIMBER-SIZE TREES	212,435	5,360	4,510	97,323	105,242
POLETIMBER-SIZE TREES	275,611	6,464	3,065	142,438	123,644
TOTAL	488,046	11,824	7,575	239,761	228,886
ROTTEN TREES:					
SAWTIMBER-SIZE TREES	91,546	--	8,475	52,278	30,793
POLETIMBER-SIZE TREES	17,371	361	269	11,119	5,622
TOTAL	108,917	361	8,744	63,397	36,415
SALVABLE DEAD TREES:					
SAWTIMBER-SIZE TREES	20,133	8,845	315	5,954	5,019
POLETIMBER-SIZE TREES	15,982	11,997	328	2,312	1,345
TOTAL	36,115	20,842	643	8,266	6,364
TOTAL, ALL TIMBER	8,991,261	4,659,506	495,574	2,537,204	1,298,977

TABLE 13. --NUMBER OF GROWING-STOCK TREES ON COMMERCIAL FOREST LAND, BY SPECIES AND DIAMETER CLASS, 1981

SPECIES	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)											29.0 AND LARGER
		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			
SOFTWOODS:													
LONGLEAF PINE	39,576	9,906	9,173	9,153	6,184	3,448	1,151	425	114	22	--		
SLASH PINE	425,485	235,541	108,020	44,729	21,463	9,633	3,816	1,370	614	287	12		
SHORTLEAF PINE	1,012	694	111	40	123	11	14	11	10	9	--		
LOBLOLLY PINE	88,835	35,178	23,367	13,066	7,191	4,605	2,474	1,572	771	583	28		
POND PINE	17,075	6,417	4,457	2,779	1,729	859	536	176	99	23	--		
VIRGINIA PINE	--	--	--	--	--	--	--	--	--	--	--		
PITCH PINE	--	--	--	--	--	--	--	--	--	--	--		
TABLE MOUNTAIN PINE	--	--	--	--	--	--	--	--	--	--	--		
SPRUCE PINE	675	159	120	147	80	137	14	--	--	15	3		
SAND PINE	--	--	--	--	--	--	--	--	--	--	--		
EASTERN WHITE PINE	--	--	--	--	--	--	--	--	--	--	--		
EASTERN HEMLOCK	--	--	--	--	--	--	--	--	--	--	--		
SPRUCE AND FIR	--	--	--	--	--	--	--	--	--	--	--		
BALOCYPRESS	6,215	1,346	1,374	990	860	429	462	214	197	322	21		
PONOCYPRESS	38,586	14,783	9,735	6,137	4,324	1,966	1,055	272	95	169	50		
CEARS	212	137	--	--	--	59	16	--	--	--	--		
TOTAL SOFTWOODS	617,671	304,161	156,357	77,041	41,954	21,136	9,538	4,040	1,900	1,430	114		
HARWOODS:													
SELECT WHITE OAKS	3,088	925	851	450	242	200	156	78	87	86	13		
SELECT RED OAKS	769	356	--	48	109	23	108	54	31	29	11		
CHESTNUT OAK	--	--	--	--	--	--	--	--	--	--	--		
OTHER WHITE OAKS	5,140	1,096	922	993	574	333	312	318	153	322	117		
OTHER RED OAKS	61,458	25,160	13,159	8,787	5,869	3,034	1,973	1,391	778	1,103	204		
HICKORY	4,292	2,028	668	623	334	303	103	79	61	86	7		
YELLOW BIRCH	--	--	--	--	--	--	--	--	--	--	--		
HARD MAPLE	--	--	--	--	--	--	--	--	--	--	--		
SOFT MAPLE	34,748	15,752	7,945	4,811	2,605	1,739	793	514	288	277	24		
BEECH	137	109	--	--	--	--	15	--	--	13	--		
SWEETGUM	41,953	20,373	9,088	4,985	3,195	2,174	978	597	321	234	7		
TUPELO AND BLACKGUM	128,068	53,496	30,877	18,249	11,952	6,606	3,274	1,915	778	834	87		
ASH	5,312	2,218	1,285	824	366	315	109	112	28	46	9		
COTTONWOOD	5,291	154	57	48	24	--	--	--	--	8	--		
BASSWOOD	--	--	--	--	--	--	--	--	--	--	--		
YELLOW-POPLAR	7,535	2,242	1,440	866	1,018	758	500	331	205	152	23		
BAY AND MAGNOLIA	19,826	9,438	4,917	2,466	1,430	729	453	167	159	57	10		
BLACK CHERRY	1,579	728	584	126	120	21	--	--	--	--	--		
BLACK WALNUT	--	--	--	--	--	--	--	--	--	--	--		
SYCAMORE	465	110	188	82	55	--	--	12	10	8	--		
BLACK LOCUST	--	--	--	--	--	--	--	--	--	--	--		
ELM	3,483	1,272	941	546	332	192	94	52	47	7	--		
OTHER EASTERN HARWOODS	3,801	2,271	648	363	334	110	48	--	18	9	--		
TOTAL HARWOODS	321,945	137,729	73,570	44,267	28,559	16,537	8,916	5,620	2,964	3,271	512		
ALL SPECIES	939,616	441,890	229,927	121,308	70,513	37,673	18,454	9,660	4,864	4,701	626		

TABLE 14. --VOLUME OF ALL LIVE TREES ON COMMERCIAL FOREST LAND, BY SPECIES AND DIAMETER CLASS, 1981

SPECIES	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)										29.0 AND LARGER
		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		
THOUSAND CUBIC FEET												
SOFTWOOD:												
LONGLEAF PINE	525,778	28,185	66,931	125,510	131,757	102,492	43,308	20,287	5,860	1,448	--	
SLASH PINE	2,943,646	640,601	721,844	574,668	437,082	281,468	153,634	69,298	39,206	23,900	1,945	
SHORTLEAF PINE	7,130	1,800	750	489	1,974	--	538	401	674	504	--	
LOBLOLLY PINE	988,446	87,330	149,944	165,389	147,029	135,245	104,551	83,710	52,648	57,507	5,093	
POND PINE	162,672	17,186	26,596	32,455	30,422	21,669	18,752	8,222	5,537	1,833	--	
VIRGINIA PINE	--	--	--	--	--	--	--	--	--	--	--	
PITCH PINE	--	--	--	--	--	--	--	--	--	--	--	
TABLE MOUNTAIN PINE	--	--	--	--	--	--	--	--	--	--	--	
SPRUCE PINE	10,992	350	796	2,276	1,587	3,565	552	--	--	1,157	709	
SAND PINE	--	--	--	--	--	--	--	--	--	--	--	
EASTERN WHITE PINE	--	--	--	--	--	--	--	--	--	--	--	
EASTERN HEMLOCK	--	--	--	--	--	--	--	--	--	--	--	
SPRUCE AND FIR	--	--	--	--	--	--	--	--	--	--	--	
BALDCYPRESS	121,051	3,970	7,594	11,688	16,710	11,741	16,185	8,935	10,375	26,094	7,759	
PONDYPRESS	371,262	45,393	68,559	74,686	71,301	45,271	31,053	10,042	4,556	12,389	8,012	
CEDARS	2,618	278	--	313	204	1,413	345	--	--	65	--	
TOTAL SOFTWOODS	5,133,595	825,093	1,043,014	987,474	838,066	602,864	368,918	200,895	118,856	124,897	23,518	
HARDWOOD:												
SELECT WHITE OAKS	46,635	2,987	4,498	5,086	4,245	4,732	5,851	3,388	5,128	7,825	2,895	
SELECT RED OAKS	16,970	831	--	378	2,124	543	4,222	2,383	2,169	2,415	1,905	
CHESTNUT OAK	--	--	--	--	--	--	--	--	--	--	--	
OTHER WHITE OAKS	180,626	4,967	7,920	11,823	13,172	11,204	13,701	18,254	13,561	46,103	39,921	
OTHER RED OAKS	789,291	70,421	81,673	103,457	105,869	84,833	73,416	68,701	48,676	105,244	47,001	
HICKORY	55,119	5,961	3,992	7,930	6,012	8,106	4,160	3,905	4,583	8,770	1,700	
YELLOW BIRCH	--	--	--	--	--	--	--	--	--	--	--	
HARD MAPLE	--	--	--	--	--	--	--	--	--	--	--	
SOFT MAPLE	404,656	58,659	59,545	61,188	54,598	52,566	34,019	28,408	20,741	30,950	3,982	
BEECH	3,466	550	--	389	--	--	601	--	103	1,823	--	
SWEETGUM	397,886	43,506	54,123	60,076	60,949	63,471	39,029	31,141	20,849	23,066	1,676	
TUPELO AND BLACKGUM	1,336,555	165,085	210,331	222,711	224,859	182,077	118,149	88,278	40,967	64,967	19,303	
ASH	60,886	7,020	10,391	10,219	6,375	8,783	4,134	4,918	2,012	4,239	2,795	
COTTONWOOD	2,886	253	473	870	627	--	--	--	--	663	--	
BASSWOOD	--	--	--	--	--	--	--	--	--	--	--	
YELLOW-POPLAR	132,785	6,903	9,371	10,532	19,357	21,238	18,767	16,696	12,565	13,530	3,766	
BAY AND MAGNOLIA	186,083	29,259	34,729	32,240	27,281	23,306	16,625	7,542	8,859	4,741	1,501	
BLACK CHERRY	9,515	1,994	3,816	1,406	1,550	749	--	--	--	--	--	
BLACK WALNUT	--	--	--	--	--	--	--	--	--	--	--	
SYCAMORE	--	--	--	--	--	--	--	--	--	--	--	
BLACK LOCUST	5,709	296	1,467	1,026	1,129	--	--	681	666	444	--	
ELM	--	--	--	--	--	--	--	--	--	--	--	
BLACK LOCUST	37,886	3,806	5,739	6,006	6,310	5,429	4,204	2,919	2,786	687	--	
OTHER EASTERN HARDWOODS	154,597	35,855	34,374	36,376	16,557	9,708	7,676	6,627	4,563	2,861	--	
TOTAL HARDWOODS	3,821,551	438,353	522,442	571,773	551,014	476,745	344,554	283,841	188,228	318,156	126,445	
ALL SPECIES	8,955,146	1,263,446	1,565,456	1,559,247	1,389,080	1,079,609	713,472	484,736	307,084	443,053	149,963	

TABLE 15. -- VOLUME OF GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES AND DIAMETER CLASS, 1981

SPECIES	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)											21.0-28.9	29.0 AND LARGER
		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					
- - - - - THOUSAND CUBIC FEET - - - - -														
SOFTWOOD:														
LONGLEAF PINE	525,173	27,848	66,931	125,510	131,757	102,492	43,040	20,287	5,860	1,448				
SLASH PINE	2,936,838	638,416	719,964	573,963	435,708	281,468	153,634	69,298	38,542	23,900	1,945			
SHORTLEAF PINE	7,130	1,800	1,750	1,489	1,974		538	401	674	504				
LOBLOLLY PINE	985,271	86,756	149,365	164,330	146,528	135,245	104,089	83,710	52,648	57,507	5,093			
POND PINE	161,075	16,080	26,432	32,128	30,422	21,669	18,752	8,222	5,537	1,833				
VIRGINIA PINE														
PITCH PINE														
TABLE MOUNTAIN PINE														
SPRUCE PINE	10,992	350	796	2,276	1,587	3,565	552			1,157	709			
SAND PINE														
EASTERN WHITE PINE														
EASTERN HEMLOCK														
SPRUCE AND FIR														
BALDCYPRESS	114,165	3,730	7,594	11,270	16,393	11,741	16,185	8,935	10,048	24,779	3,490			
PONDCEYPRESS	362,411	43,585	67,273	72,237	70,487	44,905	31,053	9,802	4,556	12,058	6,455			
CEDARS	2,036	278				1,413	345							
TOTAL SOFTWOODS	5,105,091	818,843	1,039,105	982,203	834,856	602,498	368,188	200,655	117,865	123,186	17,692			
HARDWOOD:														
SELECT WHITE OAKS	45,295	2,551	4,498	4,768	4,245	4,732	5,851	3,208	4,959	7,825	2,658			
SELECT RED OAKS	16,970	831		378	2,124	543	4,222	2,383	2,169	2,415	1,905			
CHESTNUT OAK														
OTHER WHITE OAKS	125,773	2,676	4,805	9,646	8,903	8,206	10,974	14,504	9,315	30,646	26,098			
OTHER RED OAKS	722,954	64,419	77,083	94,610	98,712	79,013	68,278	64,229	43,687	95,128	37,795			
HICKORY	50,442	5,084	3,485	6,452	5,191	7,946	4,160	3,905	3,973	8,770	1,476			
YELLOW BIRCH														
HARD MAPLE														
SOFT MAPLE	322,035	42,030	48,568	50,235	45,399	44,475	27,615	23,086	15,827	21,803	2,997			
BEECH	2,099	250					508			1,341				
SWEETGUM	385,873	40,449	52,450	58,316	60,437	62,345	37,305	30,093	20,849	22,393	1,236			
TUPELO AND BLACKGUM	1,161,746	134,537	179,215	192,348	197,801	163,819	106,345	81,018	36,782	56,073	13,808			
ASH	51,502	5,911	7,049	8,624	6,198	8,276	3,723	4,787	1,608	3,950	1,376			
COTTONWOOD	2,405	253	473	389	627					663				
BASSWOOD														
YELLOW-POPLAR	129,378	6,453	9,248	10,592	19,357	20,838	17,878	15,981	12,565	13,083	3,383			
BAY AND MAGNOLIA	161,924	26,346	29,865	27,740	24,485	18,700	15,136	6,761	7,622	3,668	1,501			
BLACK CHERRY	8,341	1,500	3,487	1,406	1,550	398								
BLACK WALNUT														
SYCAMORE	5,709	296	1,467	1,026	1,129			681	666	444				
BLACK LOCUST														
ELM	35,877	3,370	4,875	5,607	6,310	5,429	3,894	2,919	2,786	687				
OTHER EASTERN HARDWOODS	24,769	5,311	4,966	3,707	5,500	2,620	1,478		853	334				
TOTAL HARDWOODS	3,253,092	342,267	431,634	475,844	487,968	427,340	307,367	253,555	163,661	269,223	94,233			
ALL SPECIES	8,358,183	1,161,110	1,470,739	1,458,047	1,322,824	1,029,838	675,555	454,210	281,526	392,409	111,925			

TABLE 16. --VOLUME OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY SPECIES AND DIAMETER CLASS, 1981

SPECIES	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)									
		9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0-28.9	29.0 AND LARGER		
----- THOUSAND BOARD FEET -----											
SOFTWOOD:											
LONGLEAF PINE	2,116,069	511,346	635,494	550,564	248,356	123,339	37,304	9,666			
SLASH PINE	7,292,747	2,126,624	2,001,687	1,462,571	868,924	416,967	243,262	158,785	13,927		
SHORTLEAF PINE	23,196	1,797	8,557	3,057	3,404	2,404	4,188	3,207			
LOBLOLLY PINE	3,717,941	574,587	646,005	683,376	577,034	494,127	326,129	380,060	36,623		
POND PINE	562,880	120,403	138,320	109,128	102,161	47,862	33,392	11,614			
VIRGINIA PINE	--	--	--	--	--	--	--	--	--		
PITCH PINE	--	--	--	--	--	--	--	--	--		
TABLE MOUNTAIN PINE	--	--	--	--	--	--	--	--	--		
SPRUCE PINE	47,582	10,105	7,366	17,265	2,759	--	--	6,138	3,949		
SAND PINE	--	--	--	--	--	--	--	--	--		
EASTERN WHITE PINE	--	--	--	--	--	--	--	--	--		
EASTERN HEMLOCK	--	--	--	--	--	--	--	--	--		
SPRUCE AND FIR	--	--	--	--	--	--	--	--	--		
BALD CYPRESS	489,111	30,734	60,868	50,993	77,715	45,935	54,874	145,299	22,693		
POND CYPRESS	1,036,935	226,243	272,433	198,503	151,569	50,668	24,703	71,369	41,447		
CEDARS	9,329	--	--	7,437	1,892	--	--	--	--		
TOTAL SOFTWOODS	15,295,790	3,601,839	3,770,730	3,079,837	2,033,453	1,181,302	723,852	786,138	118,639		
HARDWOOD:											
SELECT WHITE OAKS	166,666	--	13,955	18,940	26,479	16,160	26,426	46,109	18,597		
SELECT RED OAKS	79,832	--	7,419	2,097	19,658	11,886	11,703	14,349	12,720		
CHESTNUT OAK	--	--	--	--	--	--	--	--	--		
OTHER WHITE OAKS	587,299	--	32,216	34,783	50,824	72,875	49,355	177,566	169,680		
OTHER RED OAKS	2,392,156	--	368,250	343,546	325,599	327,290	235,223	551,515	240,733		
HICKORY	166,778	--	17,040	31,866	19,096	19,276	20,587	49,735	9,178		
YELLOW BIRCH	--	--	--	--	--	--	--	--	--		
HARD MAPLE	--	--	--	--	--	--	--	--	--		
SOFT MAPLE	729,535	--	143,353	165,723	114,362	102,799	75,256	111,289	16,753		
BEECH	7,557	--	--	--	1,978	--	--	5,579	--		
SWEETGUM	1,077,358	--	214,387	265,879	179,078	157,138	116,098	136,467	8,311		
TUPELO AND BLACKGUM	2,737,979	--	626,055	640,075	468,738	392,380	190,178	320,010	100,543		
ASH	126,331	--	20,414	31,829	15,884	21,895	7,923	20,552	7,824		
COTTONWOOD	5,738	--	2,192	--	--	--	--	3,546	--		
BASSWOOD	--	--	--	--	--	--	--	--	--		
YELLOW-POPLAR	500,187	--	69,656	88,272	86,020	83,582	70,387	79,358	22,912		
BAY AND MAGNOLIA	315,057	--	78,674	71,939	65,494	32,208	37,005	21,068	8,669		
BLACK CHERRY	6,814	--	5,276	1,538	--	--	--	--	--		
BLACK WALNUT	--	--	--	--	--	--	--	--	--		
SYCAMORE	12,625	--	3,628	--	--	3,284	3,389	2,324	--		
BLACK LOCUST	--	--	--	--	--	--	--	--	--		
ELM	88,780	--	21,698	20,845	16,414	13,070	13,275	3,478	--		
OTHER EASTERN HARDWOODS	37,147	--	15,642	9,395	6,190	--	4,130	1,790	--		
TOTAL HARDWOODS	9,037,839	--	1,639,855	1,726,727	1,395,814	1,253,843	860,935	1,544,745	615,920		
ALL SPECIES	24,333,629	3,601,839	5,410,585	4,806,564	3,429,267	2,435,145	1,584,787	2,330,883	734,559		

TABLE 17. --NET ANNUAL GROWTH AND REMOVALS OF GROWING STOCK ON COMMERCIAL FOREST LAND, BY SPECIES, 1980

SPECIES	NET ANNUAL GROWTH	ANNUAL TIMBER REMOVALS
- - THOUSAND CUBIC FEET - -		
SOFTWOOD:		
YELLOW PINES	430,108	414,153
EASTERN WHITE PINE	--	--
SPRUCE AND FIR	--	--
CYPRESS	12,424	3,390
OTHER EASTERN SOFTWOODS	39	--
TOTAL SOFTWOODS	442,571	417,543
HARDWOOD:		
SELECT WHITE AND RED OAKS	2,074	2,020
OTHER WHITE AND RED OAKS	37,629	19,269
HICKORY	1,468	1,550
YELLOW BIRCH	--	--
HARD MAPLE	--	--
SWEETGUM	16,080	10,756
ASH, WALNUT, AND BLACK CHERRY	2,231	1,458
YELLOW-POPLAR	8,282	4,208
TUPELO AND BLACKGUM	24,654	10,950
BAY AND MAGNOLIA	4,825	1,509
OTHER EASTERN HARDWOODS	15,215	3,942
TOTAL HARDWOODS	112,458	55,662
ALL SPECIES	555,029	473,205

TABLE 18. --NET ANNUAL GROWTH AND REMOVALS OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY SPECIES, 1980

SPECIES	NET ANNUAL GROWTH	ANNUAL TIMBER REMOVALS
- - - THOUSAND BOARD FEET - - -		
SOFTWOOD:		
YELLOW PINES	1,541,810	1,490,124
EASTERN WHITE PINE	--	--
SPRUCE AND FIR	--	--
CYPRESS	50,445	12,470
OTHER EASTERN SOFTWOODS	199	--
TOTAL SOFTWOODS	1,592,454	1,502,594
HARDWOOD:		
SELECT WHITE AND RED OAKS	9,400	8,040
OTHER WHITE AND RED OAKS	137,256	72,433
HICKORY	4,483	6,830
YELLOW BIRCH	--	--
HARD MAPLE	--	--
SWEETGUM	51,022	31,731
ASH, WALNUT, AND BLACK CHERRY	5,298	6,177
YELLOW-POPLAR	37,625	18,484
TUPELO AND BLACKGUM	72,774	34,783
BAY AND MAGNOLIA	14,753	4,512
OTHER EASTERN HARDWOODS	38,320	11,793
TOTAL HARDWOODS	370,931	194,783
ALL SPECIES	1,963,385	1,697,377

TABLE 19. --MORTALITY OF GROWING STOCK AND SAWTIMBER ON COMMERCIAL
FOREST LAND, BY SPECIES, 1980

SPECIES	GROWING STOCK	SAWTIMBER
	THOUSAND CUBIC FEET	THOUSAND BOARD FEET
SOFTWOOD:		
YELLOW PINES	41,767	80,582
EASTERN WHITE PINE	--	--
SPRUCE AND FIR	--	--
CYPRESS	1,217	2,156
OTHER EASTERN SOFTWOODS	71	378
TOTAL SOFTWOODS	43,055	83,116
HARDWOOD:		
SELECT WHITE AND RED OAKS	523	2,138
OTHER WHITE AND RED OAKS	8,500	38,310
HICKORY	102	530
YELLOW BIRCH	--	--
HARD MAPLE	--	--
SWEETGUM	3,455	13,658
ASH, WALNUT, AND BLACK CHERRY	631	1,749
YELLOW-POPLAR	1,130	5,529
TUPELO AND BLACKGUM	3,574	11,122
BAY AND MAGNOLIA	589	1,157
OTHER EASTERN HARDWOODS	4,609	12,742
TOTAL HARDWOODS	23,113	86,935
ALL SPECIES	66,168	170,051

TABLE 20. --VOLUME OF ALL LIVE TREES AND GROWING STOCK ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1981

OWNERSHIP CLASS	ALL LIVE TREES				GROWING STOCK					
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
-- -- -- -- -- THOUSAND CUBIC FEET -- -- -- -- --										
NATIONAL FOREST	597,380	361,082	17,646	134,351	84,301	547,839	359,812	16,604	117,810	53,613
OTHER PUBLIC	2,674,378	1,307,702	247,100	686,267	433,309	2,501,342	1,302,483	235,947	600,589	362,323
FOREST INDUSTRY	2,505,058	1,291,465	49,167	863,998	300,428	2,348,269	1,289,005	48,910	765,675	244,679
FARMER	3,178,330	1,678,415	181,018	844,322	474,575	2,960,733	1,675,179	177,151	741,706	366,697
MISCELLANEOUS PRIVATE										
ALL OWNERSHIPS	8,955,146	4,638,664	494,931	2,528,938	1,292,613	8,358,183	4,626,479	478,612	2,225,780	1,027,312

TABLE 21. --VOLUME OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1981

OWNERSHIP CLASS	SMALL SAWTIMBER ¹					LARGE SAWTIMBER ²				
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
-- -- -- -- -- THOUSAND BOARD FEET -- -- -- -- --										
NATIONAL FOREST	1,123,577	893,008	37,480	141,296	51,793	855,198	555,369	16,885	145,044	137,900
OTHER PUBLIC	3,240,313	1,871,485	404,575	639,823	324,430	3,133,948	855,230	366,662	907,721	1,004,335
FOREST INDUSTRY	4,317,759	3,117,588	99,952	891,074	209,145	2,828,696	1,330,876	52,948	963,824	481,048
FARMER	5,137,339	3,723,114	305,204	761,605	347,416	3,696,799	1,413,745	251,669	1,042,087	989,298
MISCELLANEOUS PRIVATE										
ALL OWNERSHIPS	13,818,988	9,605,195	847,211	2,433,798	932,784	10,514,641	4,155,220	688,164	3,058,676	2,612,581

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

TABLE 22. --NET ANNUAL GROWTH AND REMOVALS OF GROWING STOCK ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1980

OWNERSHIP CLASS	NET ANNUAL GROWTH				ANNUAL TIMBER REMOVALS					
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
THOUSAND CUBIC FEET										
NATIONAL FOREST	--	--	--	--	--	--	--	--	--	--
OTHER PUBLIC	30,511	24,420	436	3,608	2,047	22,762	18,124	--	2,458	2,180
FOREST INDUSTRY	193,748	154,792	6,291	17,671	14,994	153,281	138,808	2,046	5,233	7,194
FARMER	139,883	101,244	1,012	25,858	11,769	138,039	116,992	318	10,950	9,779
MISCELLANEOUS PRIVATE	190,887	149,652	4,724	22,035	14,476	159,123	140,229	1,026	12,867	5,001
ALL OWNERSHIPS	555,029	430,108	12,463	69,172	43,286	473,205	414,153	3,390	31,508	24,154

TABLE 23. --NET ANNUAL GROWTH AND REMOVALS OF SAWTIMBER ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP, 1980

OWNERSHIP CLASS	NET ANNUAL GROWTH				ANNUAL TIMBER REMOVALS					
	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD	ALL SPECIES	PINE	OTHER SOFTWOOD	SOFT HARDWOOD	HARD HARDWOOD
THOUSAND BOARD FEET										
NATIONAL FOREST	--	--	--	--	--	--	--	--	--	--
OTHER PUBLIC	136,786	118,713	1,499	8,403	8,171	80,583	59,709	--	7,934	12,940
FOREST INDUSTRY	539,247	408,195	25,362	54,801	50,889	514,889	465,680	8,527	14,455	26,227
FARMER	576,234	452,394	4,154	81,863	37,823	513,480	442,083	697	38,697	32,003
MISCELLANEOUS PRIVATE	711,118	562,508	19,629	69,078	59,903	588,425	522,652	3,246	40,540	21,987
ALL OWNERSHIPS	1,963,385	1,541,810	50,644	214,145	156,786	1,697,377	1,490,124	12,470	101,626	93,157

TABLE 24. --AVERAGE NET VOLUME PER ACRE OF SAWTIMBER, GROWING STOCK, AND OTHER LIVE TIMBER ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS, MAJOR FOREST TYPE, AND SPECIES GROUP, 1981

FOREST TYPE, SPECIES GROUP, AND CLASS OF MATERIAL	ALL OWNERSHIPS		OWNERSHIP CLASS									
	NATIONAL FOREST		OTHER PUBLIC		FOREST INDUSTRY		FARMER		MISC. PRIVATE			
	BOARD FEET	CUBIC FEET	BOARD FEET	CUBIC FEET	BOARD FEET	CUBIC FEET	BOARD FEET	CUBIC FEET	BOARD FEET	CUBIC FEET	BOARD FEET	CUBIC FEET
PINE TYPES:												
GROWING STOCK:												
SOFTWOOD	2,739	982	--	--	5,454	1,375	1,345	741	3,945	1,199	3,081	1,049
HARDWOOD	140	63	--	--	333	121	61	32	176	99	174	67
TOTAL	2,879	1,045	--	--	5,787	1,496	1,406	773	4,121	1,298	3,255	1,116
OTHER TIMBER:												
SOFTWOOD	--	3	--	--	--	6	--	3	--	2	--	2
HARDWOOD	--	13	--	--	--	14	--	8	--	23	--	12
TOTAL	--	16	--	--	--	20	--	11	--	25	--	14
OAK-PINE TYPES:												
GROWING STOCK:												
SOFTWOOD	2,396	659	--	--	3,311	812	2,718	795	2,546	659	1,885	546
HARDWOOD	917	388	--	--	552	235	1,028	378	936	462	901	357
TOTAL	3,313	1,047	--	--	3,863	1,047	3,746	1,173	3,482	1,121	2,786	903
OTHER TIMBER:												
SOFTWOOD	--	5	--	--	--	13	--	8	--	--	--	6
HARDWOOD	--	78	--	--	--	160	--	36	--	98	--	72
TOTAL	--	83	--	--	--	173	--	44	--	98	--	78
UPLAND HARDWOOD TYPES:												
GROWING STOCK:												
SOFTWOOD	503	116	--	--	292	65	836	168	413	110	414	97
HARDWOOD	2,200	693	--	--	1,055	288	3,781	1,066	1,450	588	2,101	610
TOTAL	2,703	809	--	--	1,347	353	4,617	1,234	1,863	698	2,515	707
OTHER TIMBER:												
SOFTWOOD	--	2	--	--	--	--	--	--	--	2	--	2
HARDWOOD	--	123	--	--	--	450	--	111	--	97	--	129
TOTAL	--	125	--	--	--	450	--	111	--	99	--	131
BOTTOMLAND HARDWOOD TYPES:												
GROWING STOCK:												
SOFTWOOD	1,224	324	--	--	671	155	1,525	416	902	211	1,266	348
HARDWOOD	3,779	1,345	--	--	4,491	1,617	3,770	1,277	3,987	1,470	3,536	1,277
TOTAL	5,003	1,669	--	--	5,162	1,772	5,295	1,693	4,889	1,681	4,802	1,625
OTHER TIMBER:												
SOFTWOOD	--	8	--	--	--	2	--	19	--	1	--	4
HARDWOOD	--	225	--	--	--	337	--	225	--	190	--	236
TOTAL	--	233	--	--	--	339	--	244	--	191	--	240
ALL TYPES:												
GROWING STOCK:												
SOFTWOOD	2,135	712	--	--	3,914	980	1,446	636	2,515	731	2,249	732
HARDWOOD	1,261	454	--	--	1,240	446	1,189	398	1,391	552	1,240	438
TOTAL	3,396	1,166	--	--	5,154	1,426	2,635	1,034	3,906	1,283	3,489	1,170
OTHER TIMBER:												
SOFTWOOD	--	4	--	--	--	6	--	7	--	1	--	3
HARDWOOD	--	79	--	--	--	123	--	65	--	84	--	83
TOTAL	--	83	--	--	--	129	--	72	--	85	--	86
	2,221	1,249	--	--	5,154	1,555	2,635	1,106	3,906	1,368	3,489	1,256

TABLE 25. --LAND AREA, BY CLASS, MAJOR FOREST TYPE, AND SURVEY COMPLETION DATE, 1960, 1971, AND 1981

LAND USE CLASS	SURVEY COMPLETION DATE			CHANGE 1971-1981
	1960	1971	1981	
- - - - - ACRES - - - - -				
FOREST LAND:				
COMMERCIAL FOREST LAND:				
PINE AND OAK-PINE TYPES	5,702,300	5,155,202	4,793,359	-361,843
HARDWOOD TYPES	2,242,700	2,273,803	2,371,557	+ 97,754
TOTAL	7,945,000	7,429,005	7,164,916	-264,089
NONCOMMERCIAL FOREST LAND:				
PRODUCTIVE-RESERVED	600	335,800	383,928	+ 48,128
UNPRODUCTIVE	22,400	22,766	18,161	- 4,605
TOTAL	23,000	358,566	402,089	+ 43,523
NONFOREST LAND:				
CROPLAND	1,603,500	1,613,848	1,759,674	+145,826
PASTURE AND RANGE	322,100	341,806	307,170	- 34,636
OTHER	725,400	835,260	944,636	+109,376
TOTAL	2,651,000	2,790,914	3,011,480	+220,566
ALL LAND ¹	10,619,000	10,578,485	10,578,485	- -

¹ EXCLUDES ALL WATER AREAS.

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

SPECIES GROUP	YEAR	ALL CLASSES	DIAMETER CLASS (INCHES AT BREAST HEIGHT)									
			5.0- 6.9	7.0- 8.9	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0 AND LARGER	
SAWTIMBER (IN THOUSAND BOARD FEET)												
SOFTWOOD	1960	13,533,578	--	--	3,783,823	3,941,602	2,677,011	1,504,890	725,172	425,878	475,202	
	1971	14,036,576	--	--	3,537,100	3,836,794	2,957,420	1,768,818	879,853	470,063	586,528	
	1981	15,295,790	--	--	3,601,839	3,770,730	3,079,837	2,033,453	1,181,302	723,852	904,777	
HARDWOOD	1960	6,016,582	--	--	--	1,209,100	1,297,201	1,007,884	757,485	523,696	1,221,216	
	1971	7,327,702	--	--	--	1,383,028	1,514,397	1,187,422	919,473	651,493	1,671,889	
	1981	9,037,839	--	--	--	1,639,855	1,726,727	1,395,814	1,253,843	860,935	2,160,665	
GROWING STOCK (IN THOUSAND CUBIC FEET)												
SOFTWOOD	1960	4,403,343	554,051	882,142	1,031,858	872,615	523,672	272,477	123,182	69,350	73,996	
	1971	4,655,526	708,866	916,550	964,576	849,412	578,525	320,264	149,457	76,545	91,331	
	1981	5,105,091	818,843	1,039,105	982,203	834,856	602,498	368,188	200,655	117,865	140,878	
HARDWOOD	1960	2,369,778	274,958	372,557	361,394	359,744	321,010	221,952	153,182	99,562	205,419	
	1971	2,755,190	297,142	391,412	427,872	411,493	374,758	261,489	185,940	123,858	281,226	
	1981	3,253,092	342,267	431,634	475,844	487,968	427,340	307,367	253,555	163,661	363,456	
ALL LIVE TIMBER (IN THOUSAND CUBIC FEET)												
SOFTWOOD	1960	4,425,450	559,646	884,356	1,037,543	875,766	523,863	273,005	123,305	69,964	78,002	
	1971	4,679,945	716,027	918,845	969,887	852,471	578,734	320,896	149,632	77,215	96,238	
	1981	5,133,595	825,093	1,043,014	987,474	838,066	602,864	368,918	200,895	118,856	148,415	
HARDWOOD	1960	2,785,631	350,745	450,346	434,378	406,026	358,085	248,827	171,470	114,466	251,288	
	1971	3,236,630	379,043	473,143	514,276	464,421	418,042	293,176	208,166	142,420	343,943	
	1981	3,821,551	438,353	522,442	571,773	551,014	476,745	344,554	283,841	188,228	444,601	

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

Sheffield, Raymond M.

Forest statistics for Southeast Georgia, 1981. Resour. Bull. SE-63. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southeastern Forest Experiment Station; 1981. 30 p.

Since the fourth inventory of the forest resources of Southeast Georgia in 1971, the area of commercial forest land has declined by 264,000 acres, or by 4 percent. Commercial forests now occupy 7.2 million acres, or 67 percent of the land in these 35 counties. About 40 percent of the commercial forest land is under forest industry control, either by fee-simple ownership or long-term lease agreements. The inventory of softwood growing stock has increased by nearly 10 percent since 1971, while the inventory of hardwood growing stock has increased by 18 percent. Loblolly pine and slash pine accounted for 84 percent of the softwood-volume gain. Net annual growth of growing stock totaled 555 million cubic feet, 17 percent more than annual timber removals. Yellow pine removals exceeded yellow pine growth by more than 16 percent on farm ownerships.

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

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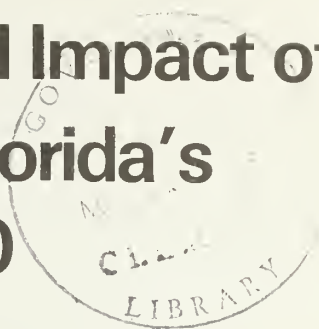


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Incidence and Impact of Damage to Florida's Timber, 1980



May 1983

Southeastern Forest Experiment Station
200 Weaver Blvd., Asheville, NC 28804

Incidence and Impact of Damage to Florida's Timber, 1980

by

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Foreword

This Bulletin reports survey data on agents damaging trees in Florida's forests. Data were collected in 1978, 1979, and 1980 by the Renewable Resources Evaluation Work Unit of the Southeastern Forest Experiment Station. This effort was part of the fifth inventory of the State's forests. Considerably more information was gathered in this than in previous inventories. This additional information makes possible publication of reports on forest resources other than timber, as well as this specialized report on timber damage.

The Southeastern Forest Experiment Station in Asheville, North Carolina, periodically inventories and evaluates forest resources in Florida, Georgia, North Carolina, South Carolina, and Virginia. The Southeastern Area, State and Private Forestry, Forest Pest Management Staff Unit, headquartered in Atlanta, Georgia, provides training and field support and helps evaluate the data on forest insects, diseases, and other damaging agents.

Damage is described here, but appropriate measures for preventing damage are not. Residents of Florida requiring technical assistance with forestry problems on State and private land should contact:

John M. Bethea, Director
Division of Forestry
Florida Dep. of Agric. & Consumer
Serv.
3125 Doyle Conner Blvd.
Tallahassee, Florida 32301

Introduction

During the fifth inventory of Florida's forests in 1978-1980, damage to trees on sample plots was noted. Where possible, a cause or damaging agent was specified. This Bulletin reports and interprets these observations.

Since plots are visited only once a year at all times of the year, it is only possible to keep records on agents that produce symptoms or signs in all seasons. On the basis of these "durable" symptoms and signs, the agents defined on pages 1-6 were recognized.

Prior to the field survey, people from the Southeastern Area, State and Private Forestry, Forest Pest Management, developed a handbook for identifying damage types. During the survey, they field-checked data collected by crews to ensure accuracy and consistency. It should be recognized, however, that the data reported here were not gathered by people with expertise in entomology or pathology. Rather, crew members are trained and experienced in forest inventory. They received training, specimen kits, and forms to help them identify types of damage.

Florida is the fourth Southeastern State to have a damage inventory. Agents selected for the survey were required to be (1) easily identifiable, (2) present year around, and (3) present on trees at least 1 inch in diameter at breast height (d.b.h.). Therefore, small trees with problems such as brown spot and trees of all sizes with damage such as defoliation (which is not apparent in winter) are not accounted for in this report.

Acres of forest types, timber removals, and mortality by species and size class are taken from the Resource Bulletin "Florida's Forests" (Bechtold and Knight 1982). The remaining data were analyzed by Forest Pest Management to develop the tables presented here.

Many damaging agents, such as insects and fusiform rust, are easy to identify; others, such as root rot and littleleaf disease, are sometimes difficult to recognize. Consequently, the data for easily recognizable and persistent damage types are very reliable, whereas the data for damage types that are difficult to recognize are probably underestimated.

Sampling Procedure

The inventory employs a sampling procedure designed to provide reliable statistics primarily for the whole State, for large groups of counties, and for species with relatively large total volumes in the State. Accordingly, the errors associated with relatively minor species, like cottonwood, exceed those for such major species as loblolly pine. Procedures were as follows:

- Except for South Florida, initial estimates of forest and nonforest acreages were developed from the classification of 69,766 sample clusters systematically spaced on the latest aerial photographs available. Field crews checked a subsample of 9,566 of these 16-point clusters on the ground. A linear regression was fitted to the data to develop the relationship between the photo and ground classification of the subsample. This procedure provided a means for adjusting the initial acreage estimates for change in land use since date of photography and for photo misclassifications.

- In South Florida, estimates of forest and nonforest acreages were developed from direct aerial observations along 27 east-west flight lines spaced at 5-mile intervals. The flight lines were selected systematically from a random start and flown perpendicular to the direction of primary drainage. From an altitude of 500 feet above the ground, observers classified the land use at 24,471 sample points along the flight lines. An interval timer was

used to determine the sample points. Because of their unique geographical layout, the Keys were surveyed in a different manner. In the Keys, gross areas were estimated by planimeter on aerial photographs on which U.S. Geological Survey boundaries were transferred from maps. The breakdowns of gross acreage into specific land uses were based upon the ground classification of 45 sample locations.

- For the entire State, estimates of timber volume and forest classifications were based on measurements recorded at 4,680 ground sample locations systematically distributed on commercial forest land. The plot design at each location was based on a cluster of 10 points. In most cases, variable plots were systematically spaced within a single forest condition at 5 of the 10 cluster points using a basal-area factor of 37.5 square feet per acre. Trees less than 5.0 inches d.b.h. were tallied on fixed-radius plots around the point centers.

- Seedlings, shrubs, vines, grasses, forbs, and other lesser vegetation occurring within a 35-foot radius of selected point centers were identified and recorded at each forest sample location.

- Equations developed from detailed measurements of standing trees in Florida and throughout the Southeast were used to compute volumes of individual tally trees. A mirror caliper and sectional aluminum poles were used to measure upper stems of standing trees. In addition, felled trees were measured at 97 active cutting operations to provide utilization factors for the different timber products and species groups and to supplement the standing-tree volume study.

- Growth, removals, and mortality were estimated from the remeasurement of 4,614 permanent sample plots established in the 1970 inventory. A 1979 survey of timber products output, conducted by the

Division of Forestry, Florida Department of Agriculture and Consumer Services, along with the annual pulpwood production study in the South, provided additional information for breakdowns of removals by product.

All field data were sent to Asheville for editing, punched on cards, and stored on magnetic tape for computer processing, sorting, and tabulation. Final estimates were based on statistical summaries of the data. As each of the four Survey Units in Florida was completed, special summaries of the information were added to master data files of forest resource statistics maintained in Asheville for the entire Southeast. A Forest Information Retrieval (FIR) program is available for compiling information for any area of interest as a cooperative service.

Computations

1. Limits on size classes of trees were: saplings, 1.0 to 4.9 inches d.b.h.; softwood poles, 5.0 to 8.9 inches d.b.h.; hardwood poles, 5.0 to 10.9 inches d.b.h.; softwood sawtimber, 9.0 inches and above; and hardwood sawtimber, 11.0 inches and above.

2. Volume equations were based on detailed measurement of standing and felled trees in Florida and similar measurements taken from other trees throughout the Southeast. These were used to compute merchantable and total cubic volume.

3. The symptoms that were used to identify the cause of damage to living trees on the sampled plots are presented on pages 5-6. The percent incidence and cull associated with each damage class were estimated. Percentage of species volume and total volume loss attributable to all agents damaging a species were also estimated. Note that data on percent incidence and cull associated damage do not imply total tree loss. Only a part of the volume in associated

cull would fail to qualify for some commercial use, such as firewood. The volume loss was determined by totaling the volume of cull associated with each test, by species.

4. Quality loss was determined by taking the number of trees that were sufficiently large, but did not qualify as sawtimber trees because of damage. The cubic-foot volume in the saw-log portion of these trees was computed. This volume is taken as the quality loss. Note, however, that the losses in quality in trees that were not damaged enough to be withdrawn from the sawtimber category are excluded.

5. Mortality could not be attributed to damaging agents because it was often impossible to determine the cause of death. In many cases, a tree tallied in the last survey 10 years ago was simply missing. It was possible, however, to determine volume loss to mortality for each tree species on each plot. By using total mortality by tree species, it was possible to arrive at a total volume loss for poles and sawtimber by tree species.

6. Economic impact was determined by multiplying the total wood fiber and quality loss for each tree species by the stumpage value per unit. These dollar estimates were taken from an average of a number of timber sales in Florida in 1980.

Incidence of Damaging Agents and Associated Cull

Detailed tables in this report show numbers of damaged trees and volumes of damaged timber by tree species. In examining these figures, some people may also be interested in the acreages in various forest types and stand-size classes. Table 1 provides these numbers.

Tables 2 and 3 show percentages of trees damaged by size class and tree

species. Overall, hardwoods had more damage than softwoods, and saplings had more damage than poletimber or sawtimber. Pond pine and baldcypress were the most frequently damaged softwood saplings; pond pine and cedar were the most frequently damaged softwood poletimber trees; and loblolly pine and cedar were the most frequently damaged softwood sawtimber trees. Spruce pine and slash pine were the least frequently damaged softwood saplings; baldcypress and slash pine were the least frequently damaged poletimber trees; and baldcypress, longleaf pine, and slash pine were the least frequently damaged softwood sawtimber trees. Cottonwood and black walnut were the most frequently damaged, sapling-size hardwoods; sycamore and hard maple were the most frequently damaged hardwood poles; and beech and ash were the most frequently damaged hardwood sawtimber trees. Select red oaks had the least frequent damage for all size classes. Tables 4 and 5 provide a detailed listing of damage by species and damaging agent.

The most common softwood damage problem was form. Cypress, cedar, pond pine, and shortleaf pine were most commonly affected. The second most common problem was fusiform rust, which was common on all size classes of loblolly pine. Slash pine was affected to a lesser degree. Fusiform rust was recorded only if the gall was on or within 12 inches of the main stem. If galls farther out on limbs had been recorded, occurrence of fusiform would have been higher. Other basal defects contributed to the greatest cull loss, especially on cedar and cypress. A variety of damage types, such as insects, other diseases, animals, sap-suckers, weather, top breakage, fire, and logging, were among damage factors showing the least incidence. With the exception of cypress, suppression and stagnation caused the least cull loss.

In hardwoods, too, form was by far the most frequent cause of damage--especially in the sapling class. This

trend held true for all species except cottonwood, where weather was the most frequently cited source of damage. Nevertheless, the greatest general impact among hardwoods was in the "other basal defects" category, with branch stubs also accounting for significant cull volume. Suppression and stagnation, people damage, beavers, and weather were among the least prevalent sources of hardwood damage across the whole range of species. Sapsucker damage incidence was also minimal except in select white oaks, where 10 percent of poles and 7 percent of sawtimber were affected.

Basal defects, which contributed the most significant cull loss, were probably associated with old logging injuries, fire, and fusiform galls. Form damage seemed to be more damaging in the sapling stage, with a decreasing occurrence in poletimber and sawtimber. This decrease is probably accounted for by sapling trees growing out of the form damage, dying, or becoming suppressed. Branch stubs also caused significant cull loss in most hardwood species. To be classified as a "branch stub", the branch holes or stubs had to exceed four inches in diameter on trees 5 inches and larger d.b.h. Branch holes or stubs on trees smaller than 5 inches d.b.h. had to be at least 1 inch in diameter. This size criteria explains why there was a high degree of associated cull, since branch stubs of that size are normally decayed. These branch stubs are normally associated with thinning operations or storm damage and are more common in understocked stands.

Reported incidence and associated cull due to insect damage were very low. Insect damage, however, is probably significantly underestimated due to the difficulty of diagnosing and evaluating incidence and severity of many types of insect-caused damage, especially among borers.

In reviewing the incidence, we see separate patterns for softwoods and hardwoods. Softwoods of all sizes are affected most often by form damage and

fusiform rust. Basal defects are the cause of greatest loss to cull. Among hardwood saplings, form is clearly the most serious problem, followed by suppression and stagnation, other basal defects, and branch stubs. This trend continues into poletimber, with branch stubs and basal defects beginning to show increased significance. Hardwood sawtimber was frequently damaged by basal defects and branch stubs. Branch stubs and basal defects also caused significant cull loss. These damaging agents are typical of mature and over-mature trees.

Mortality, Associated Cull, and Quality Loss

Table 6 shows estimated volumes of mortality, cull, and quality loss for major species groups in Florida. Annual harvests are also shown to place the volume losses in perspective. The mortality figures (table 6) used in this report are the total for the resource. No discounting has been done for trees whose death represented no economic loss. The accumulated cull is that associated with the damage type and may not have been caused by the damaging agent. The quality loss occurs when a sawtimber tree associated with a damaging agent is dropped from the sawtimber classification.

Annual mortality amounts to about 80.8 million cubic feet of sawtimber and 61.4 million cubic feet of poletimber. Forty-three percent of the sawtimber mortality loss and 47 percent of the poletimber mortality occur in softwoods. Sawtimber mortality is about 21 percent of annual removals, and poletimber is 33 percent (table 6).

Both mortality and cull are heavier in softwoods than in hardwoods. The total accumulated cull of softwood poletimber and sawtimber is only about 1 percent of the softwood sawtimber mortality, while cull in hardwood sawtimber is about 20 percent of the total

hardwood sawtimber mortality. It must be noted that the mortality figures are annual, whereas the cull is the total volume divided by 10. Distributing the cull losses over a 10-year period³ shows a total annual loss of 3,374,000 cubic feet for poles and 16,321,000 cubic feet for sawtimber.

The quality loss is reported when a tree associated with a particular damage shifts from the sawtimber to nonsawtimber category. Distributing the loss over a 10-year period yields a 5,757,000 cubic-foot annual loss for softwoods and 43,734,000 cubic-foot loss for hardwoods.

The greatest economic impact occurs in softwood sawtimber, for which the annual loss is \$21,360,372 (table 7). The loss for hardwood sawtimber is \$21,693,343. In poletimber, the 10,244,850 softwood loss exceeded that of hardwood (\$2,191,505) by more than four times. In all, 57 percent of all economic impact occurs in softwoods. About 82 percent of the total economic impact is in sawtimber-size trees.

Fast Treatment or Disturbance

In stands that have been significantly disturbed since the last survey, the cause of the disturbance and any needed corrective treatment are noted. Table 8 summarizes these observations. Only those disturbances classified as "damage types" are included. Other disturbances, such as thinning, are excluded.

Diseases head the list of damaging disturbances. Of 62 sample stands with significant disease damage, 9 required

³Distributing the loss over a 10-year period is arbitrary. The reader may wish to consider another method for converting total cull to annual cull.

salvage, 12 required thinning, and 8 required cleaning. Grazing and natural damage were the second and third most damaging disturbance types. The relative ranking of nine treatment or disturbance types is shown in table 8. Under treatment needed, grazing and wildfire required the greatest amount and largest variety of treatments.

Definitions

Damaging Agents and Their Symptoms

Insect.--All pines. Loose bark, pine bark beetle galleries in inner bark, exit holes, pitch tubes.

Other diseases.--All species. Damage due to diseases not coded. For example, eastern gall rust, brown spot, and red heart on pines.

Fusiform rust.--Slash, loblolly, pitch, and pond pines. Spindle-shaped galls on stem or within 12 inches of stem; canker on stem with sunken, rotten center encircled by callus ridge; witches' broom; orange fruiting structures in the spring.

Annosus and other root rots.--Pines and redcedar. Diseased trees frequently occur in groups (centers) which usually contain dead or windthrown trees; diseased trees with thin, tufted crowns; windthrown trees exhibit stringy, yellowish root rot; perennial shelflike or flat conks against base of trees in litter or under roots of windthrown trees; conks are rubbery with tan to brown upper surface and white pore-bearing undersurface. Disease more frequent in trees of reduced vigor, in sandy soils, in thinned stands, or following butt or root injury; frequently precedes bark beetles.

Littleleaf disease.--Shortleaf pine. Affected trees occur in groups. Short, yellow needles, reduced shoot growth on trees over 20 years old, large crops of undersized cones, usually occur on heavy soils of poor internal drainage.

Hardwood cankers.--All hardwoods. Dead, sunken area on stem, frequently showing annual callus ridges.

Branch stubs.--All species. Branch holes or stubs greater than 4 inches in diameter on stem (trees 5.0 inches d.b.h. and larger). Branch holes or stubs greater than 1 inch in diameter on stem (trees 1.0-4.9 inches d.b.h.).

Top breakage.--All species. Broken stem greater than 4 inches in diameter in a tree 5.0 inches d.b.h. and larger. Broken stem of any diameter in a tree 1.0-4.9 inches d.b.h.

Other basal defect.--All species. Butt rot due to causes other than fire or logging damage (root rot, parent stump, frost seam, low stubs, butt bulge). Cause of cull is below breast height.

Pitch canker.--All pines. Primarily slash, loblolly, and shortleaf. Flagging at ends of branches; pitch flow from affected area; slight swelling on affected stems and twigs; crooks in main stems; and wilting of current candles.

Fire.--All species. Fire scar usually at base of stem; widespread in stand; usually on uphill side of slope; and charring on reburned stems.

Animal.--All species. Bear, bird, rodent, rabbits, etc.

Beaver.--All species. Teeth marks on bole of tree.

Sapsucker.--All species. Cluster of small holes that encircle tree's bole.

Weather.--All species. Windthrow, lightning strikes, etc.

Suppression and stagnation.--All species. Overtopped trees with poor form.

People.--All species. All people damage, except that related to logging.

Logging and related.--All species. Logging scar on stem; callus ridges within 1 to 2 years after wounding; scattered in stand; no charring; limb breakage or stem scar near crown resulting from tree felling. Skid trails, stumps, or other logging evidence present.

Turpentining.--All pines. Turpentining scars.

Form (damaging).--All species. Deformed due to unknown causes.

Forest Survey Terms

Acceptable trees.--Growing-stock trees of commercial species that meet specified standards of size and quality, but not qualifying as desirable trees.

Accumulated volume loss.--Percentage of trees affected x the percent cull x the volume for the species.

Associated cull.--Percentage of affected trees containing cull associated with the indicated damaging agent.

Associated volume loss from sawtimber to poletimber.--Volume in the sawlog portion of trees sufficiently large to qualify as sawtimber, but unsatisfactory for sawtimber because of damaging agent.

Basal area.--The area 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.

Commercial forest land.--Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization.

Commercial species.--Tree species presently or prospectively suitable for products.

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

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

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

Incidence.--Percentage of susceptible trees affected by the agent.

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

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

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

Sawtimber trees.--Live trees of commercial species containing at least a 2-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, and with at least one-third of the gross board-foot volume between the 1-foot stump and minimum saw-log top being sound. Softwoods must be at least 9.0 inches and hardwoods at least 11.0 inches d.b.h.

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

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

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

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

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

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

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

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

References

This publication reports incidence and impact of damaging agents on Florida's timber. It does not discuss their identification or control. Some of the references listed below are cited in our discussion. Others are provided to assist those desiring additional information on causal agents.

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Table 1.--Area of commercial forest
land, by stand-size class
and forest type

Forest classification	Acres
-----------------------	-------

Stand-size class:

Nonstocked areas	2,011,079
Poletimber	4,119,935
Saplings-seedlings	4,567,087
Sawtimber	<u>4,966,076</u>

All stand sizes 15,664,177

Forest type:

Spruce pine	9,784
Shortleaf pine	37,206
Elm-ash-cottonwood	66,101
Pond pine	233,028
Loblolly pine	411,759
Sand pine	537,348
Southern scrub oak	1,002,703
Oak-hickory	1,130,568
Longleaf pine	1,242,811
Oak-pine	1,424,133
Oak-gum-cypress	4,271,148
Slash pine	<u>5,297,588</u>

All types 15,664,177

Table 2.--Percent of susceptible softwood trees
damaged, by species and size

Host	Total population (thousands)	Trees damaged		
		Saplings	Poletimber	Sawtimber

		Percent		
Spruce pine	7,321	17	19	26
Shortleaf pine	14,002	23	19	15
Cedars	30,201	29	25	29
Pond pine	55,769	30	28	27
Baldcypress	98,188	30	8	11
Loblolly pine	122,315	31	24	31
Sand pine	207,667	20	16	23
Longleaf pine	215,537	18	14	14
Pondcypress	839,003	22	16	21
Slash pine	1,848,988	15	13	14

Table 3.--Percent of susceptible hardwood trees
damaged, by species and size

Host	Total population (thousands)	Trees damaged		
		Saplings	Poletimber	Sawtimber
- - - - - <u>Percent</u> - - - - -				
Black walnut	255	100	0	0
Cottonwood	346	100	0	30
Select red oaks	534	0	0	12
Sycamore	585	50	100	0
Basswood	2,010	66	14	47
Beech	2,420	67	0	53
Hard maple	8,127	56	44	39
Select white oaks	10,193	45	10	21
Yellow-poplar	16,640	9	18	36
Black cherry	19,276	48	11	5
Elm	38,963	49	32	35
Hickory	43,039	53	22	26
Sweetgum	253,800	43	24	26
Soft maple	286,799	59	32	47
Other white oaks	329,297	85	25	35
Ash	354,756	67	32	50
Other eastern hardwoods	367,531	40	32	25
Bay & magnolia	672,309	50	29	45
Tupelo & blackgum	852,712	54	28	36
Other red oaks	1,624,127	21	24	38

Table 4.--Damage incidence and associated cull in Florida softwoods, 1980

Agent	Incidence of damage			Associated cull		Accumulated volume loss		Associated volume loss from sawtimber to poletimber
	Saplings	Poletimber	Sawtimber	Poletimber	Sawtimber	Poletimber	Sawtimber	
----- Percent ----- M ft ³ -----								
LONGLEAF PINE (215,537,000 susceptible trees)								
ect	0	1	3	0	0	0	0	0
r diseases	0	1	1	0	0	0	0	0
orm rust	1	2	1	0	0	0	0	0
rot	0	0	<1	0	0	0	0	0
breakage	<1	0	0	0	0	0	0	0
r basal defect	0	0	<1	0	5	0	21	0
h canker	<1	<1	<1	0	0	0	0	0
	3	3	1	0	<1	0	46	227
al	0	<1	<1	0	0	0	0	0
ucker	<1	1	2	0	<1	0	70	0
her	1	1	1	0	0	0	0	0
ression &								
gnation	5	1	0	0	0	0	0	0
le	0	1	<1	1	2	15	68	0
ing & related	2	1	2	0	0	0	0	0
entining	0	<1	2	1	4	5	1,474	389
	6	2	1	0	0	0	0	0
SHORTLEAF PINE (14,002,000 susceptible trees)								
ect	0	0	2	0	0	0	0	0
r diseases	0	0	1	0	0	0	0	0
orm rust	0	4	0	0	0	0	0	0
leleaf disease	5	0	0	0	0	0	0	0
	0	4	5	0	0	0	0	0
sucker	0	0	3	0	0	0	0	0
ression &								
agnation	5	8	0	0	0	0	0	0
ing & related	0	3	1	0	0	0	0	0
n	13	0	3	0	0	0	0	776
SLASH PINE (1,848,988,000 susceptible trees)								
ect	<1	<1	1	0	0	0	0	0
r diseases	<1	<1	1	0	<1	0	13	0
iform rust	4	7	4	<1	<1	16	26	0
t rot	<1	<1	0	0	0	0	0	0
breakage	<1	<1	<1	11	8	48	71	0
r basal defect	0	<1	<1	5	8	19	239	0
ch canker	1	2	1	0	0	0	0	0
e	1	1	2	<1	<1	14	144	0
mal	<1	0	<1	0	0	0	0	0
sucker	0	<1	<1	0	0	0	0	0
ther	<1	<1	<1	1	<1	37	59	0
ression &								
agnation	4	1	<1	0	0	0	0	0
ple	<1	<1	<1	1	1	28	57	0
ing & related	1	<1	1	0	2	0	239	0
pentining	0	<1	3	0	2	0	1,744	430
m	4	2	1	0	0	0	0	0

Continued

Table 4.--Damage incidence and associated cull in Florida softwoods, 1980--Continued

Agent	Incidence of damage			Associated cull		Accumulated volume loss		Associated volume loss from sawtimber to poletimber
	Saplings	Poletimber	Sawtimber	Poletimber	Sawtimber	Poletimber	Sawtimber	

----- Percent ----- ----- M ft³ -----

LOBLOLLY PINE (122,315,000 susceptible trees)

Insect	0	<1	<1	0	0	0	0	0
Other diseases	1	0	1	0	2	0	175	0
Fusiform rust	17	17	22	0	<1	0	198	1,801
Top breakage	0	0	<1	0	13	0	138	305
Other basal defect	0	1	<1	15	10	24	67	0
Pitch canker	<1	1	1	0	0	0	0	0
Fire	1	<1	1	0	0	0	0	0
Animal	0	<1	<1	0	0	0	0	0
Sapsucker	0	0	1	0	0	0	0	0
Weather	1	0	2	0	<1	0	37	0
Suppression & stagnation	4	1	<1	0	0	0	0	0
People	0	<1	<1	0	0	0	0	0
Logging & related	1	2	1	0	0	0	0	0
Form	6	2	2	0	0	0	0	0

SPRUCE PINE (7,321,000 susceptible trees)

Fusiform rust	4	0	1	0	0	0	0	0
Top breakage	0	0	1	0	10	0	55	0
Beaver	0	0	2	0	0	0	0	0
Logging & related	4	19	5	0	0	0	0	0
Form	9	0	17	0	0	0	0	0

POND PINE (55,769,000 susceptible trees)

Insect	0	0	1	0	0	0	0	0
Other diseases	3	5	7	0	1	0	58	307
Fusiform rust	2	11	8	<1	1	23	123	0
Branch stubs	0	<1	0	5	0	11	0	0
Top breakage	0	1	1	5	21	11	265	568
Pitch canker	1	2	1	0	1	0	12	0
Fire	3	3	1	0	0	0	0	0
Animal	0	1	0	0	0	0	0	0
Sapsucker	0	0	1	0	0	0	0	0
Weather	1	<1	2	0	1	0	34	0
Suppression & stagnation	6	1	1	0	0	0	0	0
Logging & related	0	1	1	0	0	0	0	0
Form	14	3	3	0	0	0	0	0

SAND PINE (207,667,000 susceptible trees)

Insect	<1	<1	1	0	0	0	0	0
Other diseases	5	5	8	0	0	0	0	1,218
Root rot	<1	1	1	0	0	0	0	0
Top breakage	<1	<1	<1	10	5	59	16	0
Pitch canker	<1	<1	1	0	0	0	0	0
Fire	0	0	1	0	0	0	0	0
Sapsucker	0	0	<1	0	0	0	0	0
Weather	2	4	5	0	1	0	57	1,113
Suppression & stagnation	4	<1	0	0	0	0	0	0
People	<1	<1	1	0	0	0	0	0
Logging & related	<1	1	<1	0	0	0	0	0
Form	9	5	5	0	0	0	0	0

Contin

Table 4.--Damage incidence and associated cull in Florida softwoods, 1980--Continued

Agent	Incidence of damage			Associated cull		Accumulated volume loss		Associated volume loss from sawtimber to poletimber
	Saplings	Poletimber	Sawtimber	Poletimber	Sawtimber	Poletimber	Sawtimber	

Percent

M ft³

BALDCYPRESS (98,188,000 susceptible trees)

sect	<1	0	<1	0	0	0	0	0
her diseases	<1	0	1	0	10	0	577	438
branch stubs	0	0	<1	0	20	0	383	772
top breakage	1	1	1	7	42	71	2,652	4,442
her basal defect	1	1	5	5	18	55	5,206	7,287
tree	0	1	1	0	5	0	288	311
limbal	<1	0	0	0	0	0	0	0
psucker	0	0	<1	0	0	0	0	0
weather	0	0	1	0	4	0	171	238
suppression & stagnation	6	2	0	0	0	0	0	
logging & related	1	<1	1	0	1	0	46	0
orm	21	3	1	0	0	0	0	0

POND CYPRESS (839,003,000 susceptible trees)

sect	<1	1	<1	3	0	107	0	1,335
her diseases	<1	1	1	2	6	181	953	1,133
branch stubs	0	<1	1	16	12	287	573	1,687
top breakage	1	1	2	11	19	1,028	3,315	5,481
her basal defect	<1	4	8	11	12	2,174	10,393	16,018
tree	1	3	3	2	4	495	1,099	3,160
limbal	<1	0	0	0	0	0	0	0
psucker	0	<1	<1	0	0	0	0	0
weather	<1	<1	1	0	5	11	554	1,144
suppression & stagnation	7	2	1	0	4	35	376	1,823
people	0	<1	<1	0	5	0	18	0
logging & related	<1	<1	<1	0	1	0	28	419
orm	13	4	4	0	1	24	268	1,480

CEDARS (30,201,000 susceptible trees)

her diseases	0	0	2	0	4	0	49	65
branch stubs	0	0	3	0	9	0	154	631
top breakage	0	0	1	0	10	0	40	0
her basal defect	0	8	12	29	17	233	944	2,033
tree	0	0	1	0	0	0	0	0
limbal	1	0	0	0	0	0	0	0
weather	2	7	5	0	0	0	0	0
suppression & stagnation	6	3	0	0	0	0	0	0
logging & related	2	3	5	0	1	0	28	0
orm	18	4	<1	0	0	0	0	0

Continued

Table 5.--Damage incidence and associated cull in Florida hardwoods, 1980

Agent	Incidence of damage			Associated cull		Accumulated volume loss		Associated volume loss from sawtimber to poletimber
	Saplings	Poletimber	Sawtimber	Poletimber	Sawtimber	Poletimber	Sawtimber	

Percent

M ft³

SELECT WHITE OAKS (10,193,000 susceptible trees)

Top breakage	0	0	2	0	5	0	23	0
Other basal defect	0	0	4	0	11	0	186	491
Sapsucker	0	10	7	0	0	0	0	0
Form	45	0	8	0	0	0	0	0

OTHER WHITE OAKS (329,297,000 susceptible trees)

Insect	0	0	<1	0	0	0	0	561
Other diseases	0	1	<1	18	12	75	979	2,327
Hardwood cankers	0	<1	1	0	3	0	229	2,834
Branch stubs	<1	1	2	8	9	201	1,925	11,900
Top breakage	1	1	1	12	21	167	1,678	5,600
Other basal defect	<1	3	9	15	17	483	11,601	45,830
Pitch canker	0	0	<1	0	25	0	103	410
Fire	1	2	2	6	6	184	547	7,109
Animal	0	<1	<1	0	0	0	0	442
Sapsucker	0	1	2	0	0	0	0	4,785
Weather	0	2	3	4	2	125	243	5,743
Suppression & stagnation	2	2	0	8	0	137	0	1,025
People	0	<1	<1	0	7	0	155	1,085
Logging & related	<1	2	2	0	3	0	338	8,795
Form	81	10	13	0	<1	0	540	13,803
Beaver	0	<1	0	0	0	0	0	0

SELECT RED OAKS (534,000 susceptible trees)

Top breakage	0	0	5	0	25	0	70	0
Other basal defect	0	0	7	0	35	0	132	377

OTHER RED OAKS (1,624,127,000 susceptible trees)

Insect	<1	<1	<1	0	6	0	86	839
Other diseases	<1	1	2	1	7	97	1,379	4,396
Hardwood cankers	<1	1	3	1	1	131	312	5,689
Branch stubs	<1	1	3	11	10	615	3,135	14,327
Top breakage	1	4	6	19	23	3,502	7,802	19,092
Other basal defect	<1	3	12	13	18	2,301	18,767	52,765
Fire	1	2	2	3	6	239	652	4,645
Animal	0	<1	0	0	0	0	0	0
Sapsucker	<1	<1	1	0	<1	0	17	1,116
Weather	<1	1	2	1	6	66	779	5,706
Suppression & stagnation	3	1	<1	0	0	0	0	0
People	<1	<1	<1	4	5	53	24	0
Logging & related	1	2	1	2	4	204	217	402
Form	15	5	6	<1	1	134	527	6,355
Beaver	0	0	<1	0	0	0	0	719

Continued

Table 5.--Damage incidence and associated cull in Florida hardwoods, 1980--Continued

Agent	Incidence of damage			Associated cull		Accumulated volume loss		Associated volume loss from sawtimber to poletimber
	Saplings	Poletimber	Sawtimber	Poletimber	Sawtimber	Poletimber	Sawtimber	

----- Percent ----- ----- M ft³ -----

HICKORY (43,039,000 susceptible trees)

sect	1	0	1	0	0	0	0	0
her diseases	0	0	1	0	0	0	0	0
rdwood cankers	0	0	1	0	2	0	36	0
anch stubs	0	0	1	0	5	0	71	0
p breakage	5	0	1	0	17	0	182	183
her basal defect	1	1	5	5	18	17	783	1,579
re	0	3	2	5	21	48	293	866
osucker	0	1	3	0	0	0	0	744
ather	0	1	1	7	3	20	39	0
ppression &								
agnation	6	0	0	0	0	0	0	0
pple	1	2	<1	3	0	15	0	0
gging & related	1	3	0	0	0	0	0	0
rm	38	11	10	0	0	0	0	0

HARD MAPLE (8,127,000 susceptible trees)

p breakage	3	11	8	38	15	161	99	0
her basal defect	0	18	10	6	5	59	59	0
re	0	4	0	60	0	112	0	0
ather	0	0	4	0	0	0	0	0
ppression &								
agnation	3	0	0	0	0	0	0	0
rm	50	11	17	0	0	0	0	0

SOFT MAPLE (286,799,000 susceptible trees)

sect	0	<1	<1	0	2	0	17	338
her diseases	<1	1	2	10	5	278	272	1,266
isiform rust	<1	0	0	0	0	0	0	0
rdwood cankers	<1	3	3	2	2	121	184	2,882
p breakage	2	4	5	15	22	1,009	1,963	4,229
her basal defect	1	5	10	12	15	963	3,822	12,228
re	<1	<1	1	0	5	0	108	509
osucker	0	<1	3	0	0	0	0	1,429
ather	1	4	7	2	1	152	151	5,725
ppression &								
agnation	4	1	0	0	0	0	0	0
gging & related	1	1	1	2	4	31	141	1,293
rm	50	12	13	<1	1	32	177	1,498
anch stubs	<1	1	2	10	11	134	923	3,611

BEECH (2,420,000 susceptible trees)

breakage	0	0	6	0	14	0	156	418
er basal defect	0	0	30	0	39	0	720	1,861
ple	0	0	4	0	0	0	0	0
n	67	0	13	0	0	0	0	0

Continued

Table 5.--Damage incidence and associated cull in Florida hardwoods, 1980--Continued

Agent	Incidence of damage			Associated cull		Accumulated volume loss		Associated volume loss from sawtimber to poletimber
	Saplings	Poletimber	Sawtimber	Poletimber	Sawtimber	Poletimber	Sawtimber	

----- Percent ----- ----- M ft³ -----

SWEETGUM (253,800,000 susceptible trees)

Insect	0	0	<1	0	0	0	0	0
Other diseases	<1	<1	1	0	3	0	96	572
Hardwood cankers	0	1	2	0	2	0	208	478
Branch stubs	<1	0	1	0	5	0	152	0
Top breakage	2	2	5	14	14	501	2,228	3,372
Other basal defect	<1	2	7	7	13	180	2,665	4,264
Beaver	0	<1	1	0	0	0	0	0
Fire	1	1	0	0	0	0	0	0
Animal	<1	<1	<1	0	0	0	0	0
Sapsucker	<1	<1	2	0	2	0	123	0
Weather	1	2	1	0	1	0	43	0
Suppression & stagnation	7	2	<1	0	0	0	0	0
People	<1	<1	0	0	0	0	0	0
Logging & related	2	6	1	1	1	118	25	409
Form	30	8	5	0	0	0	0	0

TUPELO & BLACKGUM (852,712,000 susceptible trees)

Insect	0	0	<1	0	10	0	41	410
Other diseases	<1	<1	<1	3	9	53	152	278
Hardwood cankers	<1	1	2	<1	<1	18	112	1,845
Branch stubs	<1	1	1	8	8	248	1,550	4,142
Top breakage	3	3	7	11	16	1,900	10,304	18,607
Other basal defect	1	7	13	13	19	4,794	21,077	48,645
Beaver	<1	1	<1	1	0	50	0	0
Fire	<1	1	<1	3	6	75	147	271
Animal	<1	0	<1	0	0	0	0	0
Sapsucker	<1	<1	1	0	0	0	0	1,479
Weather	<1	1	1	1	10	25	884	1,977
Suppression & stagnation	4	1	<1	0	0	0	0	0
People	<1	<1	<1	0	4	0	96	921
Logging & related	1	1	1	3	1	205	69	1,340
Form	44	11	10	<1	<1	41	66	6,985

ASH (354,756,000 susceptible trees)

Other diseases	<1	1	1	8	24	129	193	371
Hardwood cankers	<1	2	2	2	0	55	0	524
Branch stubs	<1	1	2	10	11	286	563	1,653
Top breakage	2	3	7	16	16	775	2,078	3,571
Other basal defect	1	9	19	14	17	2,087	5,294	14,462
Beaver	0	<1	0	0	0	0	0	0
Fire	<1	0	0	0	0	0	0	0
Animal	0	0	<1	0	0	0	0	0
Sapsucker	0	1	6	0	0	0	0	457
Weather	1	1	1	4	3	102	22	204
Suppression & stagnation	5	1	0	0	0	0	0	0
People	<1	0	0	0	0	0	0	0
Logging & related	<1	1	1	0	9	0	181	603
Form	58	12	11	<1	1	79	129	356

Continued

Table 5.--Damage incidence and associated cull in Florida hardwoods, 1980--Continued

Agent	Incidence of damage			Associated cull		Accumulated volume loss		Associated volume loss from sawtimber to poletimber
	Saplings	Poletimber	Sawtimber	Poletimber	Sawtimber	Poletimber	Sawtimber	
----- Percent ----- M ft ³ -----								
COTTONWOOD (346,000 susceptible trees)								
her basal defect	0	0	30	0	5	0	32	0
ather	100	0	0	0	0	0	0	0
BASSWOOD (2,010,000 susceptible trees)								
anch stubs	0	0	6	0	5	0	20	0
her basal defect	0	0	12	0	8	0	127	1,054
psucker	0	0	2	0	0	0	0	0
ather	0	0	6	0	0	0	0	0
rm	66	14	21	1	7	9	91	274
YELLOW-POPLAR (16,640,000 susceptible trees)								
anch stubs	0	0	3	0	5	0	46	0
p breakage	4	0	3	0	5	0	46	0
her basal defect	0	0	8	0	26	0	590	286
psucker	0	0	3	0	0	0	0	0
ather	0	1	6	5	0	22	0	0
ople	0	0	2	0	5	0	33	0
gging & related	0	0	3	0	0	0	0	0
rm	5	17	8	0	0	0	0	0
BAY & MAGNOLIA (672,309,000 susceptible trees)								
ect	<1	<1	<1	0	0	0	0	0
er diseases	<1	1	1	3	11	132	586	1,065
dwood cankers	<1	1	2	1	1	28	86	1,400
nch stubs	<1	1	2	10	9	312	712	1,042
o breakage	1	2	6	20	21	1,239	3,086	5,213
er basal defect	<1	4	21	12	14	2,197	10,623	25,127
ver	0	<1	0	0	0	0	0	0
e	1	1	<1	1	2	42	37	372
mal	<1	0	<1	0	0	0	0	633
sucker	0	1	1	0	0	0	0	947
ther	1	2	3	2	4	118	363	3,039
pression &								
agnation	4	1	0	1	0	12	0	0
ple	0	<1	<1	0	5	0	24	0
gging & related	1	2	<1	2	0	110	0	467
m	42	13	9	<1	<1	25	139	1,958
BLACK CHERRY (19,276,000 susceptible trees)								
ter diseases	1	0	0	0	0	0	0	0
c breakage	1	0	0	0	0	0	0	0
ter basal defect	0	0	5	0	40	0	180	449
urnal	1	0	0	0	0	0	0	0
gging & related	2	0	0	0	0	0	0	0
m	43	11	0	0	0	0	0	0

Continued

Table 5.--Damage incidence and associated cull in Florida hardwoods, 1980--Continued

Agent	Incidence of damage			Associated cull		Accumulated volume loss		Associated volume loss from sawtimber to poletimber
	Saplings	Poletimber	Sawtimber	Poletimber	Sawtimber	Poletimber	Sawtimber	

----- Percent ----- ----- M ft³ -----

BLACK WALNUT (255,000 susceptible trees)

Form	100	0	0	0	0	0	0	0
------	-----	---	---	---	---	---	---	---

SYCAMORE (585,000 susceptible trees)

Form	50	100	0	0	0	0	0	0
------	----	-----	---	---	---	---	---	---

ELM (38,963,000 susceptible trees)

Other diseases	1	2	2	0	8	0	119	0
Hardwood cankers	1	1	1	0	35	0	131	374
Branch stubs	1	0	3	0	5	0	75	0
Top breakage	0	2	0	5	0	32	0	0
Other basal defect	0	4	7	8	16	147	580	1,838
Fire	0	1	0	0	0	0	0	0
Sapsucker	0	1	5	0	0	0	0	0
Weather	0	1	1	0	0	0	0	0
Suppression & stagnation	5	2	0	2	0	15	0	0
People	0	2	0	0	0	0	0	0
Logging & related	0	2	2	0	0	0	0	0
Form	41	14	14	0	<1	0	33	726

OTHER EASTERN HARDWOODS (367,531,000 susceptible trees)

Insect	<1	0	0	0	0	0	0	0
Other diseases	<1	1	1	9	10	52	39	390
Hardwood cankers	<1	0	0	0	0	0	0	0
Branch stubs	<1	2	2	21	10	224	43	431
Top breakage	1	4	4	8	34	203	275	814
Other basal defect	<1	5	6	11	18	177	314	844
Fire	<1	0	0	0	0	0	0	0
Animal	0	0	1	0	0	0	0	0
Weather	<1	4	1	0	0	0	0	275
Suppression & stagnation	5	5	0	0	0	0	0	0
People	0	1	2	5	0	10	0	0
Logging & related	1	2	0	0	0	0	0	0
Form	33	8	8	1	1	39	29	685

Table 6.--Timber removals and wood loss to poletimber and sawtimber

Species	Annual timber removals		Volume loss due to--				Annual quality loss from sawtimber to nonsawtimber
			Annual mortality		Annual accumulated cull		
	Poletimber	Sawtimber	Poletimber	Sawtimber	Poletimber	Sawtimber	

----- M ft³ -----

SOFTWOODS

Longleaf pine	14,353	75,637	1,931	5,606	2	167	61
Slash pine	110,642	152,555	14,297	14,573	16	259	43
Shortleaf pine	331	1,630	588	725	0	0	77
Loblolly pine	6,008	46,122	1,821	4,298	2	61	210
Pond pine	2,617	7,083	492	1,292	4	49	87
Spruce pine	0	586	50	253	0	5	0
Sand pine	4,660	7,067	4,141	3,193	5	7	287
Baldcypress	1,312	9,995	686	1,176	12	932	1,348
Pondcypress	5,302	9,994	4,673	3,079	434	1,757	3,368
Cedar	442	976	91	819	0	0	0
Total	145,667	311,645	28,770	35,014	501	3,362	5,757

HARDWOODS

Select white oaks	112	175	0	368	0	20	49
Select red oaks	130	0	0	0	0	20	37
Chestnut oak	3,309	6,208	1,312	1,841	0	0	0
Other white oaks	10,951	24,150	5,810	12,291	137	1,833	11,224
Other red oaks	0	0	0	0	734	3,369	11,605
Hickory	611	4,188	120	898	10	140	339
Hard maple	3,839	6,219	3,698	4,697	33	15	0
Soft maple	0	0	0	0	272	775	3,500
Beech	0	235	0	369	0	87	227
Sweetgum	7,248	17,317	6,729	11,759	79	554	909
Tupelo & blackgum	0	464	72	254	740	3,449	8,690
Ash	2,013	4,064	2,831	2,094	351	846	2,220
Cottonwood	0	0	0	0	0	3	0
Basswood	136	152	310	246	0	23	132
Yellow-poplar	2,481	6,698	1,540	4,825	2	71	28
Bay & magnolia	1,067	171	1,371	729	421	1,565	4,126
Black cherry	335	0	0	0	0	18	44
Black walnut	0	0	0	0	0	0	0
Sycamore	0	0	0	131	0	0	0
Black locust	0	0	0	0	0	0	0
Elm	6,540	3,372	8,870	4,768	19	93	293
Other eastern hardwoods	0	0	0	423	70	70	343
Total	38,880	74,186	32,663	45,836	2,873	12,959	43,774

Table 7.--Annual economic impact of damage
on the timber resource

Species	Annual volume wood fiber loss	Stumpage value per unit	Annual Loss
	<u>M ft³</u>	- - - - - <u>Dollars</u> - - - -	
Softwoods:			
Sawtimber	44,133	484.00	21,360,372
Poletimber	29,271	350.00	10,244,850
Hardwoods:			
Sawtimber	102,569	211.50	21,693,343
Poletimber	35,536	61.67	2,191,505
All species:			
Sawtimber	146,702		43,053,715
Poletimber	64,807		12,436,355
Total	211,509		55,490,070

Table 8.--Treatment needed as related to past treatment or disturbance, by number of samples

Past treatment or disturbance	None	Salvage	Harvest	Thinning		Cleaning	Stand conversion	Artificial regeneration		Total
				Commer- cial	Pre- comm.			No site prep.	Site prep.	
Significant wildfire	15	1	4	2	1	1	0	0	51	75
Man-caused flooding	1	1	1	0	0	0	0	0	1	4
Grazing, etc.	56	0	8	1	0	5	1	0	65	136
Construction, etc.	17	0	1	1	0	4	0	0	24	47
Salvage cut	2	0	0	1	0	0	0	0	3	6
Significant disease	62	9	0	12	0	8	0	0	10	101
Significant insects	18	2	3	2	1	2	1	0	6	35
Significant natural	29	3	4	1	0	4	1	0	35	77
All others, including none	2,186	9	179	142	23	262	25	0	1,417	4,302
Total of all samples, including temporary plots ^a	2,386	25	200	162	25	286	28	59	1,612	4,783

^aTotal is not the same as the sum of all columns because all damage disturbances are not used in the table.

Anderson, Robert L.; McClure, Joe P.; Cost, Noel D.; Hoffard, William H. Incidence and impact of damage to Florida's timber, 1980. Resour. Bull. SE-64. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southeastern Forest Experiment Station; 1983. 20 p.	Anderson, Robert L.; McClure, Joe P.; Cost, Noel D.; Hoffard, William H. Incidence and impact of damage to Florida's timber, 1980. Resour. Bull. SE-64. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southeastern Forest Experiment Station; 1983. 20 p.
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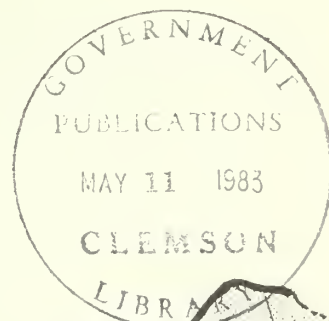


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FOREST STATISTICS FOR CENTRAL GEORGIA, 1982



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165



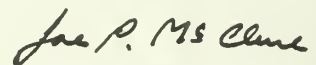
Foreword

This report highlights the principal findings of the fifth forest survey of Central Georgia. Fieldwork began in October 1981 and was completed in June 1982. Four previous surveys, completed in 1936, 1952, 1961, and 1972, provide statistics for measuring changes and trends over the past 46 years. The primary emphasis in this report is on the changes and trends since 1972. Previously reported figures have been adjusted to provide the best estimate of change.

Periodic surveys of the forest resource are authorized by the Forest and Rangeland Renewable Resources Research Act of 1978. These surveys are a continuing, nationwide undertaking by the regional experiment stations of the Forest Service, USDA. In Florida, Georgia, North Carolina, South Carolina, and Virginia, these surveys are administered by the Forest Inventory and Analysis (Forest Survey) Research Work Unit at the Southeastern Forest Experiment Station, with headquarters in Asheville, North Carolina. The primary objective of the survey is to periodically inventory and evaluate all forest and related resources. These multi-resource data help provide a basis for formulating forest policies and programs and for the orderly development and use of the resources. This report deals only with the extent and condition of forest lands, associated timber volumes, and rates of timber growth and removals.

The 49-county area covered by this report is one of five survey units in Georgia. Similar reports, USDA Forest Service Resource Bulletins SE-61 and SE-63, have been issued for Southwest and Southeast Georgia, respectively. Comparable reports for the other two units will be issued as the statewide survey progresses. When completed, this survey will provide updated statistics on the forest resource for all of Georgia.

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



JOE P. McCLURE
Project Leader

November 1982
Southeastern Forest Experiment Station
Asheville, North Carolina

**FOREST STATISTICS
FOR
CENTRAL GEORGIA,
1982**

by

Raymond M. Sheffield, Resource Analyst

and

John B. Tansey, Mensurationist

Forest Inventory and Analysis
Asheville, North Carolina

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since 1972 in Central Georgia

- area of commercial forest land has declined by 301,000 acres, or by 4 percent. More than 439,000 acres of commercial forest land were diverted to other land uses, while only 138,000 acres of new commercial forest were added. Two-thirds of the diverted acreage went to agricultural uses, 21 percent to urban land uses, and most of the remaining 12 percent to water. Commercial forests now cover 7.0 million acres, or 67 percent of the land in this 9-county area.

- area of commercial forest land held by nonindustrial private forest (NIPF) landowners has declined by nearly 592,000 acres, or by 11 percent, and now totals 5.0 million acres. This net change masks contrasting changes in acreage among the three types of owners making up the NIPF group--farmers, miscellaneous private individual, and miscellaneous private corporate. Farmer-owned woodlands declined by 31,000 acres (35 percent), miscellaneous private individual holdings were stable, while miscellaneous private corporate acreage increased by 242,000 acres, or by nearly 79 percent. Forest industries have increased their fee-simple holdings from 1.3 to 1.6 million acres. They have an additional 313,000 acres of NIPF land under long-term lease. Public agencies control 388,000 acres of commercial forest land, about the same as in 1972.

- 2 out of every 5 acres currently classified as commercial forest land have experienced some form of timber cutting. Nearly 1.7 million acres, or 54,000 acres annually, were harvested and retained in commercial forest; more than one-third of the harvesting occurred on land owned or leased by forest industry. An additional 1.1 million acres experienced intermediate cutting. Insects, diseases, and other natural destructive agents damaged nearly 1.5 million acres of commercial forest.

- about 597,000 acres, or 59,000 acres annually, have been artificially

regenerated and are adequately stocked with suitable species. The rate of artificial regeneration has nearly doubled since the period between 1961 and 1972; however, all the increase occurred on land owned or leased by forest industry and on public forests. The current survey also revealed that 36,000 acres annually were sufficiently restocked with natural regeneration. Stands originating wholly or in part from artificial regeneration still make up only 16 percent of the commercial forest land.

- the area of commercial forest land classified as pine or oak-pine forest type has declined by 488,000 acres. Area of pine type dropped by 274,000 acres, or by 8 percent. Shortleaf pine and slash pine forest types accounted for 86 percent of the pine-type loss, declining by 37 and 20 percent, respectively. The acreage classified as loblolly pine type, the major pine type in the region, declined by 1 percent. Acreage of oak-pine forest type has declined by 214,000 acres, or by 19 percent, since 1972. Acreage of commercial forest land classified as hardwood forest types has increased by 187,000 acres, or by 7 percent.

- average basal area of all live trees 5.0 inches d.b.h. and larger has increased from 57 to 62 square feet per acre of commercial forest land. Stands classified as fully or better stocked have increased by 13 percent to 2.4 million acres, but stands classified as medium stocked dropped from 4.0 to 3.2 million acres. Acreage in poorly stocked stands increased from 1.3 to 1.5 million acres.

- volume of softwood growing stock has declined by almost 1 percent and now totals 4.4 billion cubic feet. The decline in softwood volume was caused by increased removals and mortality and a slowdown in softwood growth. The volume of loblolly pine, the predominant species in the region with 71 percent of the softwood inventory, increased by 3 percent. Shortleaf pine and longleaf

In 1981

pine accounted for almost all the net decline in softwood inventory; the volume of shortleaf dropped by 173 million cubic feet, or by 22 percent, while the volume of longleaf dropped by 17 million cubic feet, or by 9 percent. Almost 98 percent of the decline in softwood growing stock occurred in the 6- and 8-inch diameter classes. Softwood volume fell by 33 percent in the 6-inch diameter class, by 10 percent in the 8-inch class, and by 1 percent in the 14-inch diameter class. Large increases in softwood growing-stock volume were recorded for the 16-inch and larger diameter classes. Accordingly, the volume of softwood sawtimber rose from 14.3 to 15.6 billion board feet, an increase of 9 percent.

• volume of hardwood growing stock has increased from 3.7 to 4.3 billion cubic feet, or by 15 percent. Oaks accounted for 43 percent of the hardwood-volume increase, sweetgum and yellow-poplar another 33 percent, and the tupelo and blackgum group about 12 percent. Sweetgum and the red oaks each comprise about 25 percent of the current hardwood inventory. The increase in hardwood volume occurred across the range of diameter classes. The current inventory of hardwood growing stock includes 11.2 billion board feet of sawtimber, 22 percent more than the 1972 inventory.

• number of pine trees in the four smallest diameter classes has declined. Pine numbers declined by 42 percent in the 2-inch class, 32 percent in the 4-inch class, 33 percent in the 6-inch class, and 11 percent in the 8-inch class. The decline in number of small pine trees was most severe on NIPF lands; over 91 percent of the loss was attributed to the NIPF ownership group. Acreage of NIPF land classified as pine poletimber stands has dropped by 445,000, or by 42 percent, and the acreage of pine sapling-seedling stands has dropped by 182,000 acres, or by 28 percent. The acreage classed as pine sawtimber on NIPF land has increased by 74,000 acres, or by 10 percent.

• net annual growth of softwood growing stock totaled 315 million cubic feet, down from 352 million cubic feet in 1971. This softwood growth decline is attributed to: (1) a large increase in softwood mortality, and (2) fewer softwood trees in young stands feeding into the smaller diameter classes. In 1971, ingrowth--the volume of trees growing past the 5-inch threshold--accounted for 20 percent of the softwood growth. In the latest inventory, the ingrowth proportion dropped to 10 percent. For hardwood growing stock, net annual growth totaled 190 million cubic feet, up by 28 percent since 1971. For all growing stock, net annual growth averaged 72 cubic feet per acre of commercial forest land and included a total of 2.1 billion board feet of sawtimber.

• removals of softwood growing stock totaled more than 319 million cubic feet, 1 percent more than softwood net growth. Softwood removals have increased by 45 percent since 1971. About 69 percent of the increase in softwood removals occurred in the 14-inch and larger diameter classes. Softwood removals exceeded softwood net growth on all ownerships except the other public and miscellaneous private categories. Hardwood removals totaled 114 million cubic feet, or about 60 percent of hardwood net growth. Hardwood removals have increased by 66 percent since 1971 and accounted for 26 percent of total growing-stock removals. Removals of total growing stock included 1.7 billion board feet of sawtimber.

• mortality of growing stock totaled 111 million cubic feet and included 320 million board feet of sawtimber. Softwoods made up 67 percent of the mortality. Volume of softwood mortality has increased by 159 percent since 1971. Insect mortality--primarily pine bark beetles--increased more than tenfold and accounts for 56 percent of the current softwood mortality. Disease accounts for another 24 percent. Mortality of all species reduced gross growth by 18 percent.

How the Inventory is Made

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

1. Initial estimates of forest and nonforest areas were based on the classification of 34,140 sample clusters systematically spaced on the latest aerial photographs available. A subsample of 2,870 of the 16-point clusters was ground checked, and a linear regression was fitted to the data to develop the relationship between the photo and ground classification of the subsample. This procedure provides a means for adjusting the initial estimates of area for change in land use since date of photography and for photo misclassifications.

2. Estimates of timber volume and forest classifications were based on measurements recorded at 1,917 ground sample locations systematically distributed within the commercial forest land. The plot design at each location was based on a cluster of 10 points. In most cases, variable plots, using a basal-area factor of 37.5 square feet per acre, were systematically spaced within a single forest condition at 5 of the 10 cluster points. Trees less than

5 inches d.b.h. were tallied on a fixed-radius plot around each point center.

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

4. Felled trees were measured at 31 active cutting operations. These data will be pooled with similar measurements taken in the State to supplement the standing-tree volume data and to generate utilization factors for product and species groups that will be analyzed at the State level.

5. Estimates of growth, removals, and mortality were determined from the remeasurement of 1,842 permanent sample plots established in the fourth survey.

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

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

Reliability of the Data

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

	<u>Percent</u>
Per million acres of commercial forest land . . .	1.01
Per billion cubic feet of growing stock	5.90
Per billion cubic feet of net annual growth	1.36
Per billion cubic feet of annual removals	2.77

County	Commercial forest area			Cubic-foot volume of growing stock			County	Commercial forest area			Cubic-foot volume of growing stock		
	Commercial forest area	Inventory	Growth	Commercial forest area	Inventory	Growth		Commercial forest area	Inventory	Growth	Commercial forest area	Inventory	Growth
	Sampling error ^b			Sampling error ^b				Sampling error ^b			Sampling error ^b		
Morgan	2.17	12.65	13.04	2.39	10.80	10.97	Morgan	2.39	10.80	10.97	2.39	10.80	10.97
Liberty	3.85	20.07	16.34	3.00	18.82	19.35	Muscogee	3.00	18.82	19.35	3.00	18.82	19.35
Blackley	6.57	24.01	20.81	5.68	22.41	25.26	Peach	5.68	22.41	25.26	5.68	22.41	25.26
Curke	2.22	9.60	8.96	2.73	14.40	11.73	Pike	2.73	14.40	11.73	2.73	14.40	11.73
Butts	2.10	20.81	17.10	7.11	22.47	20.13	Pulaski	7.11	22.47	20.13	7.11	22.47	20.13
Walhoun	4.02	16.64	18.67	1.71	17.10	15.49	Putnam	1.71	17.10	15.49	1.71	17.10	15.49
Hattahoochee	1.83	14.58	12.18	2.74	20.75	19.49	Quitman	2.74	20.75	19.49	2.74	20.75	19.49
Way	3.81	19.63	18.21	2.74	10.99	12.37	Randolph	2.74	10.99	12.37	2.74	10.99	12.37
Columbia	2.16	11.85	10.76	3.29	17.43	15.24	Richmond	3.29	17.43	15.24	3.29	17.43	15.24
Browford	1.65	18.39	16.52	4.61	20.86	18.19	Schley	4.61	20.86	18.19	4.61	20.86	18.19
Bourgherty	4.79	19.11	18.14	1.98	13.53	12.64	Stewart	1.98	13.53	12.64	1.98	13.53	12.64
Lascock	2.68	20.77	19.49	4.73	13.34	12.84	Sumter	4.73	13.34	12.84	4.73	13.34	12.84
Greene	1.42	10.43	9.70	1.01	11.76	11.39	Talbot	1.01	11.76	11.39	1.01	11.76	11.39
Hancock	1.23	9.95	9.73	1.40	15.24	14.66	Taliaferro	1.40	15.24	14.66	1.40	15.24	14.66
Harris	2.04	10.66	9.98	1.50	16.31	18.68	Taylor	1.50	16.31	18.68	1.50	16.31	18.68
Louster	4.44	17.70	17.14	3.07	14.70	12.94	Terrell	3.07	14.70	12.94	3.07	14.70	12.94
Asper	1.35	11.13	10.11	1.88	12.48	9.83	Twiggs	1.88	12.48	9.83	1.88	12.48	9.83
Jefferson	2.37	10.30	11.60	1.90	14.14	11.78	Upson	1.90	14.14	11.78	1.90	14.14	11.78
Jones	1.12	7.48	7.67	2.08	10.16	12.46	Warren	2.08	10.16	12.46	2.08	10.16	12.46
Amar	4.54	19.02	18.42	1.96	8.67	8.62	Washington	1.96	8.67	8.62	1.96	8.67	8.62
Lee	3.27	12.35	16.74	5.96	29.95	26.60	Webster	5.96	29.95	26.60	5.96	29.95	26.60
Lincoln	2.81	17.16	16.64	1.56	10.19	8.85	Wilkes	1.56	10.19	8.85	1.56	10.19	8.85
McDuffie	3.11	15.02	15.43	2.31	9.83	9.02	Wilkinson	2.31	9.83	9.02	2.31	9.83	9.02
Macon	4.05	14.59	13.85										
Marion	1.84	15.75	14.77										
Monroe	1.32	10.30	9.47										
Unit total				0.38	2.01	1.92	Unit total	0.38	2.01	1.92	0.38	2.01	1.92
													4.21

^aSampling error of breakdowns of county and unit totals may be computed with the following formula:

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

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

SE = Specified sampling error in table.

^bBy random-sampling formula (in percent).

Acceptable trees.—Growing-stock trees of commercial species that meet specified standards of size and quality, but not qualifying as desirable trees.

Basal area.—The area in square feet of the cross section at breast height of a single tree or of all the trees in a stand, usually expressed as square feet of basal area per acre.

Commercial forest land.—Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization.

Commercial species.—Tree species presently or prospectively suitable for industrial wood products.

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

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

Diameter class.—A classification of trees based on diameter outside bark, measured at breast height (4½ feet above the ground). D.b.h. is the common abbreviation for “diameter at breast height.” Two-inch diameter classes are commonly used in Renewable Resources Evaluation, with the even inch the approximate midpoint for a class. For example, the 6-inch class includes trees 5.0 through 6.9 inches d.b.h., inclusive.

Farm.—Lands on which agriculture operations are being conducted and sale of agriculture products totaled \$1,000 or more during the year.

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

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

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

Forest land.—Land at least 16.7 percent stocked by forest trees of any size, or formerly having had such tree cover, and not currently developed for nonforest use.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Industrial wood.—All roundwood products except fuelwood.

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

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

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

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

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

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

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

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

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

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

Noncommercial species.—Tree species of typically small size, poor form, or inferior quality which normally do not develop into trees suitable for industrial wood products.

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

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

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

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

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

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

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

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

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

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

Definitions of Terms

Salvable dead trees.—Standing or down dead trees that are considered merchantable by Renewable Resources Evaluation standards.

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

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

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

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

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

Sawtimber volume.—Net volume of the saw-log portion of live sawtimber in board-foot International $\frac{1}{4}$ -inch rule.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Stocking.—The degree of occupancy of land by trees, measured by basal area or the number of trees in a stand and spacing in the stand, compared to a minimum standard, depending on tree size, to fully utilize the growth potential of the land. (See page 9.)

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

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

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

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

Stocking Standard

D.b.h. class	: Minimum number of trees per acre for full stocking	: Minimum basal area per acre for full stocking	: Percent stocking assigned each tally tree ^a
Seedlings	600	--	5.0
2	560	--	5.4
4	460	--	6.5
6	340	67	5.8
8	240	84	4.8
10	155	85	4.3
12	115	90	4.0
14	90	96	3.8
16	72	101	3.7
18	60	106	3.5
20	51	111	3.5

^aStocking percentages based on tally at all 10 points of a 10-point cluster of plots. Trees less than 5 inches d.b.h. were tallied on circular, 1/300-acre plots at each point. Trees 5.0 inches d.b.h. and larger were tallied on variable plots using a basal area factor of 37.5 at each sample point.

Overstocked--More than 130 percent

Fully stocked--100-130 percent

Medium stocked--60-99 percent

Poorly stocked--16.7-59 percent

Nonstocked--Less than 16.7 percent

Cubic feet of wood per average cord (excluding bark)

D.b.h. class	: All species	: Pine	: Other softwood	: Hardwood
6	60.5	61.0	68.2	60.0
8	68.3	68.1	76.0	68.4
10	73.2	73.1	81.4	73.4
12	76.6	76.7	85.2	76.4
14	79.0	79.4	88.2	78.4
16	80.8	81.6	90.4	79.8
18	82.1	83.3	92.3	80.8
20	83.2	84.8	93.8	81.5
22	83.5	86.0	95.1	82.1
24+	83.9	87.6	97.6	83.0
Average	74.2	74.3	86.9	73.8

County Tables

The county tables are intended for use in compiling forest resource estimates for groups of counties. Because the sampling procedure used by the forest survey was intended primarily to furnish inventory data for the survey unit as a whole, individual county estimates have limited and variable accuracy. As county totals are broken down by various subdivisions, the possibility of error increases and is greatest for the smallest items. The order of this increase can be computed with the formula on page 5.

Table 1.--Area, by county and land class, Central Georgia, 1982

County	All land ^a	Forest land				Nonforest land ^b
		Total	Commercial forest	Unproductive forest	Productive- reserved	
----- Acres -----						
Baldwin	162,944	117,799	117,799	--	--	45,145
Bibb	160,813	86,891	86,441	--	450	73,922
Bleckley	140,160	61,067	61,067	--	--	79,093
Burke	531,648	281,701	281,701	--	--	249,947
Butts	118,528	82,016	81,625	--	391	36,512
Calhoun	184,832	91,519	91,519	--	--	93,313
Chattahoochee	161,222	134,768	134,768	--	--	26,454
Clay	130,304	78,361	78,016	--	345	51,943
Columbia	185,856	139,829	137,049	--	2,780	46,027
Crawford	201,600	160,022	160,022	--	--	41,578
Dougherty	207,616	88,018	87,878	--	140	119,598
Glascok	91,520	64,365	64,365	--	--	27,155
Greene	247,232	197,155	197,142	--	13	50,077
Hancock	304,576	269,657	269,657	--	--	34,919
Harris	297,382	247,564	242,627	--	4,937	49,818
Houston	242,816	120,568	119,871	--	697	122,248
Jasper	238,464	188,203	188,203	--	--	50,261
Jefferson	339,200	187,730	187,730	--	--	151,470
Jones	257,216	215,326	215,324	--	2	41,890
Lamar	115,584	78,634	78,634	--	--	36,950
Lee	226,880	89,347	89,022	--	325	137,533
Lincoln	123,200	103,690	103,263	--	427	19,510
McDuffie	161,792	113,615	113,555	--	60	48,177
Macon	257,632	115,706	115,487	--	219	141,926
Marion	233,600	186,332	186,332	--	--	47,268
Monroe	254,976	203,744	203,356	--	388	51,232
Morgan	224,922	135,286	129,917	--	5,369	89,636
Muscogee	140,109	96,286	96,228	--	58	43,823
Peach	96,640	39,376	39,376	--	--	57,264
Pike	147,200	82,514	82,514	--	--	64,686
Pulaski	162,112	72,030	71,990	--	40	90,082
Putnam	212,800	178,784	178,396	--	388	34,016
Quitman	99,776	84,886	84,886	--	--	14,890
Randolph	278,726	165,996	165,996	--	--	112,730
Richmond	206,912	117,350	117,350	--	--	89,562
Schley	103,680	70,320	70,320	--	--	33,360
Stewart	289,280	248,407	247,798	--	609	40,873
Sumter	312,576	117,675	117,675	--	--	194,901
Talbot	249,280	225,230	225,230	--	--	24,050
Taliaferro	124,800	108,098	106,959	--	1,139	16,702
Taylor	257,734	185,480	185,480	--	--	72,254
Terrell	210,240	91,348	91,348	--	--	118,892
Twiggs	233,088	188,194	188,194	--	--	44,894
Upson	213,632	158,030	158,030	--	--	55,602
Warren	181,427	125,299	125,299	--	--	56,128
Washington	430,822	292,886	292,360	--	526	137,936
Webster	124,717	78,727	78,727	--	--	45,990
Wilkes	299,712	232,534	232,534	--	--	67,178
Wilkinson	292,634	241,625	241,625	--	--	51,009
Total	10,470,412	7,039,988	7,020,685	--	19,303	3,430,424

^aFrom U.S. Bureau of the Census, 1970 and 1980.^bIncludes 132,855 acres of water according to survey standards of area classification, but defined by the Bureau of Census as land.

Table 2.--Area of commercial forest land, by county and ownership class, Central Georgia, 1982

County	All ownerships	Ownership class							
		National Forest	Miscellaneous Federal	State	County and municipal	Forest industry ^a	Farmer	Miscellaneous private	
								Corporate	Individual
----- Acres -----									
Baldwin	117,799	--	--	5,093	185	16,286	--	--	96,219
Bibb	86,441	--	--	--	--	5,480	7,679	15,360	57,921
Bleckley	61,067	--	--	70	40	20,071	32,072	708	8,100
Burke	281,701	--	--	75	79	77,066	120,451	16,645	67,380
Butts	81,625	--	--	510	20	12,973	5,991	2,217	59,915
Calhoun	91,519	--	--	--	3	9,035	60,417	14,466	7,594
Chattahoochee	134,768	--	84,432	--	4	16,268	--	202	33,862
Clay	78,016	--	2,310	--	21	12,715	6,683	4,952	51,326
Columbia	137,049	--	10,933	78	286	24,697	30,580	8,737	61,730
Crawford	160,022	--	--	--	33	65,574	13,094	9,769	71,555
Dougherty	87,878	--	1,384	100	187	15,326	17,721	26,580	26,580
Glascok	64,365	--	--	--	--	14,688	29,972	3,746	15,955
Greene	197,142	20,110	--	617	153	51,727	29,901	3,597	91,030
Hancock	269,657	--	--	--	280	109,894	28,744	3,475	127,260
Harris	242,627	--	--	30	60	26,763	26,516	26,517	162,740
Houston	119,871	--	2,130	--	410	50,869	29,076	8,308	29,076
Jasper	188,203	23,769	6,092	--	30	34,276	38,259	13,509	72,260
Jefferson	187,730	--	4,198	--	113	36,608	89,403	3,588	53,820
Jones	215,324	20,947	26,517	--	420	51,312	35,771	7,228	73,120
Lamar	78,634	--	--	--	427	12,268	13,784	467	51,680
Lee	89,022	--	--	--	40	3,487	52,684	3,850	28,960
Lincoln	103,263	--	20,721	--	--	10,889	20,332	3,948	47,370
McDuffie	113,555	--	14,353	200	87	14,937	27,252	4,473	52,250
Macon	115,487	--	--	--	747	26,443	49,123	10,341	28,830
Marion	186,332	--	425	--	65	74,581	9,300	--	101,960
Monroe	203,356	--	--	--	180	57,012	24,676	13,575	107,910
Morgan	129,917	281	--	130	121	21,891	38,391	11,517	57,580
Muscogee	96,228	--	39,727	--	1,301	993	--	12,509	41,690
Peach	39,376	--	68	194	--	2,308	24,321	4,053	8,430
Pike	82,514	--	--	35	227	10,303	18,743	6,350	46,850
Pulaski	71,990	--	44	18	--	9,692	31,117	6,223	24,890
Putnam	178,396	31,201	--	12,000	238	48,206	35,276	6,117	45,350
Quitman	84,886	--	758	--	8	12,677	27,852	14,215	29,370
Randolph	165,996	--	--	--	--	31,686	55,874	10,921	67,510
Richmond	117,350	--	40,096	145	170	16,570	10,714	11,035	38,620
Schley	70,320	--	--	--	15	14,747	27,288	--	28,270
Stewart	247,798	--	383	--	97	74,671	41,875	80,862	3,910
Sumter	117,675	--	100	50	200	19,473	32,673	21,891	43,280
Talbot	225,230	--	--	3,599	21	52,673	30,078	14,091	124,760
Taliaferro	106,959	--	--	--	88	40,729	14,153	4,015	47,970
Taylor	185,480	--	60	--	120	43,123	36,099	36,099	69,970
Terrell	91,348	--	--	--	--	3,972	53,659	8,586	25,130
Twiggs	188,194	--	--	--	--	57,828	24,577	17,555	88,230
Upson	158,030	--	--	--	549	46,857	27,257	9,084	74,280
Warren	125,299	--	126	--	14	43,756	35,818	6,056	39,520
Washington	292,360	--	--	--	140	46,175	80,724	26,910	138,410
Webster	78,727	--	--	--	--	35,829	27,628	7,649	7,620
Wilkes	232,534	--	6,518	149	127	74,624	29,211	3,355	118,550
Wilkinson	241,625	--	--	130	240	54,809	28,257	24,979	133,210
Total	7,020,685	96,308	261,375	23,223	7,546	1,614,837	1,531,066	550,330	2,936,000

^aNot including 313,083 acres of farmer-owned and miscellaneous private lands leased to forest industry.

Table 3.--Area of commercial forest land, by county and forest-type group, Central Georgia, 1982

County	All type groups	Forest-type group								
		White pine-hemlock	Spruce-fir	Longleaf-slash	Loblolly-shortleaf	Oak-pine	Oak-hickory	Oak-gum-cypress	Elm-ash-cottonwood	Maple-beech-birch
Acres										
in	117,799	--	--	13,958	61,828	11,007	19,999	4,340	6,667	--
	86,441	--	--	3,840	34,883	11,519	21,939	11,520	2,740	--
ley	61,067	--	--	8,216	15,864	3,563	15,156	18,268	--	--
	281,701	--	--	65,538	39,592	32,934	84,776	45,899	12,962	--
	81,625	--	--	--	41,674	15,475	23,966	510	--	--
un	91,519	--	--	10,662	8,561	--	46,451	22,291	3,554	--
ahoochee	134,768	--	--	8,169	45,906	16,340	53,458	8,171	2,724	--
	78,016	--	--	12,846	23,084	7,839	24,221	10,026	--	--
bia	137,049	--	--	--	72,871	17,552	22,418	4,369	19,839	--
ord	160,022	--	--	3,934	86,245	33,239	31,070	5,534	--	--
erty	87,878	--	--	21,294	17,669	4,430	15,666	8,810	20,009	--
ock	64,365	--	--	7,494	11,239	16,134	17,285	7,492	4,721	--
e	197,142	--	--	--	122,415	27,028	40,505	3,597	3,597	--
ck	269,657	--	--	10,566	153,857	28,150	66,658	10,426	--	--
s	242,627	--	--	11,399	116,741	61,347	41,739	3,788	7,613	--
on	119,871	--	--	--	27,384	7,333	53,280	27,720	4,154	--
r	188,203	--	--	--	103,624	27,953	56,596	30	--	--
erson	187,730	--	--	25,553	39,725	17,939	53,964	50,549	--	--
	215,324	--	--	--	146,401	27,064	31,082	3,556	7,221	--
	78,634	--	--	--	40,729	--	20,675	10,338	6,892	--
	89,022	--	--	22,858	5,255	7,024	39,836	10,537	3,512	--
ln	103,263	--	--	--	57,503	22,073	23,687	--	--	--
fie	113,555	--	--	4,473	66,956	8,947	13,420	19,759	--	--
	115,487	--	--	--	15,629	15,630	49,514	32,128	2,586	--
n	186,332	--	--	11,612	56,599	8,379	83,852	16,758	9,132	--
e	203,356	--	--	2,715	99,696	28,788	61,216	--	10,941	--
n	129,917	--	--	--	57,614	30,523	37,820	3,839	121	--
tee	96,228	--	--	3,612	48,798	16,211	16,772	7,223	3,612	--
	39,376	--	--	4,054	12,422	--	18,846	4,054	--	--
	82,514	--	--	--	30,244	6,248	33,847	5,927	6,248	--
ki	71,990	--	--	14,181	7,958	12,448	15,602	21,801	--	--
a	178,396	--	--	--	102,889	21,563	53,944	--	--	--
an	84,886	--	--	--	48,830	14,049	10,071	11,936	--	--
ph	165,996	--	--	16,955	52,131	14,899	46,754	27,809	7,448	--
ond	117,350	--	--	15,476	29,950	9,441	33,230	22,625	6,628	--
y	70,320	--	--	--	18,037	13,644	27,854	10,785	--	--
t	247,798	--	--	10,781	128,641	25,657	72,690	6,156	3,873	--
	117,675	--	--	27,489	27,757	10,760	18,996	26,732	5,941	--
	225,230	--	--	4,297	117,618	45,960	42,070	8,594	6,691	--
erro	106,959	--	--	--	61,688	31,117	14,154	--	--	--
	185,480	--	--	51,625	29,886	16,014	65,071	22,884	--	--
l	91,348	--	--	7,155	15,829	3,578	14,309	46,900	3,577	--
	188,194	--	--	3,511	73,665	17,555	68,197	10,877	14,389	--
	158,030	--	--	5,207	61,923	11,688	64,921	14,291	--	--
	125,299	--	--	5,470	60,438	14,553	41,797	3,041	--	--
ngton	292,360	--	--	29,678	113,701	41,660	81,178	22,299	3,844	--
r	78,727	--	--	19,377	14,342	3,981	32,138	5,436	3,453	--
	232,534	--	--	3,354	141,924	46,965	25,252	11,684	3,355	--
son	241,625	--	--	12,110	82,088	31,812	61,167	43,559	10,889	--
l	7,020,685	--	--	479,459	2,850,303	898,013	1,909,109	674,868	208,933	--

Table 4.--Area of commercial forest land, by county and stand-size class,
Central Georgia, 1982

County	All stands	Stand-size class			Nonstocked areas
		Sawtimber	Poletimber	Sapling- seedling	
----- Acres -----					
Baldwin	117,799	50,565	49,561	17,673	--
Bibb	86,441	49,145	18,099	19,197	--
Bleckley	61,067	30,458	7,617	22,992	--
Burke	281,701	123,669	81,365	65,194	11,473
Butts	81,625	27,458	24,474	26,677	3,016
Calhoun	91,519	48,619	21,324	21,573	3
Chattahoochee	134,768	51,714	37,508	40,098	5,448
Clay	78,016	34,593	14,194	29,229	--
Columbia	137,049	64,692	42,404	25,584	4,369
Crawford	160,022	34,836	50,740	74,446	--
Dougherty	87,878	51,611	31,650	4,617	--
Glascocock	64,365	33,244	18,733	12,388	--
Greene	197,142	61,290	68,194	67,658	--
Hancock	269,657	106,036	73,611	86,465	3,545
Harris	242,627	72,078	81,603	88,946	--
Houston	119,871	56,079	19,795	40,818	3,179
Jasper	188,203	84,093	56,596	44,398	3,116
Jefferson	187,730	101,217	54,076	28,849	3,588
Jones	215,324	124,164	51,974	32,203	6,983
Lamar	78,634	36,173	21,142	21,319	--
Lee	89,022	57,411	17,562	14,049	--
Lincoln	103,263	51,570	23,193	28,500	--
McDuffie	113,555	58,779	32,441	22,335	--
Macon	115,487	54,534	31,890	18,334	10,729
Marion	186,332	48,219	67,030	46,868	24,215
Monroe	203,356	58,403	93,208	51,745	--
Morgan	129,917	38,610	57,205	34,102	--
Muscogee	96,228	35,947	17,207	39,463	3,611
Peach	39,376	14,537	16,213	8,300	326
Pike	82,514	29,046	40,972	12,496	--
Pulaski	71,990	28,052	18,671	25,249	18
Putnam	178,396	45,256	57,137	76,003	--
Quitman	84,886	30,894	15,823	34,190	3,979
Randolph	165,996	74,006	45,877	46,113	--
Richmond	117,350	44,785	22,658	40,467	9,440
Schley	70,320	24,429	20,481	25,410	--
Stewart	247,798	60,264	73,988	100,413	13,133
Sumter	117,675	54,690	31,600	31,385	--
Talbot	225,230	50,993	101,307	72,930	--
Taliaferro	106,959	44,001	24,423	35,704	2,831
Taylor	185,480	41,904	44,060	73,551	25,965
Terrell	91,348	42,929	32,591	15,828	--
Twiggs	188,194	82,586	57,898	47,710	--
Upson	158,030	58,656	61,043	38,331	0
Warren	125,299	56,743	44,909	17,592	6,055
Washington	292,360	100,320	113,482	74,714	3,844
Webster	78,727	21,248	15,270	34,775	7,434
Wilkes	232,534	105,319	98,871	28,344	--
Wilkinson	241,625	95,792	90,646	51,151	4,036
Total	7,020,685	2,751,657	2,192,316	1,916,376	160,336

Table 5.--Area of commercial forest land, by county and site class,
Central Georgia, 1982

County	All classes	Site class				
		1	2	3	4	5
		Acres				
Baldwin	117,799	--	--	50,059	67,740	--
Bibb	86,441	--	7,679	23,038	55,724	--
Bleckley	61,067	--	4,014	20,856	32,633	3,564
Burke	281,701	--	3,329	84,692	187,023	6,657
Butts	81,625	--	--	14,978	66,647	--
Calhoun	91,519	--	--	15,669	75,850	--
Chattahoochee	134,768	--	12,239	50,469	63,885	8,175
Clay	78,016	--	--	24,547	53,448	21
Columbia	137,049	--	24,206	57,253	51,221	4,369
Crawford	160,022	2,851	13,569	35,039	104,629	3,934
Dougherty	87,878	--	--	42,008	43,681	2,189
Glascock	64,365	--	--	28,524	35,841	--
Greene	197,142	--	7,619	57,868	128,058	3,597
Hancock	269,657	--	14,041	122,159	133,457	--
Harris	242,627	--	15,152	74,536	137,752	15,187
Houston	119,871	--	14,667	52,488	52,716	--
Jasper	188,203	4,251	9,258	95,968	71,359	7,367
Jefferson	187,730	--	3,587	87,157	89,810	7,176
Jones	215,324	--	16,189	139,582	59,553	--
Lamar	78,634	--	--	18,300	60,334	--
Lee	89,022	--	--	21,047	64,463	3,512
Lincoln	103,263	--	--	47,129	56,134	--
McDuffie	113,555	--	7,176	44,437	61,942	--
Macon	115,487	--	--	44,191	47,791	23,505
Marion	186,332	--	--	37,998	102,222	46,112
Monroe	203,356	--	4,113	83,016	112,115	4,112
Morgan	129,917	--	--	38,330	91,587	--
Muscogee	96,228	--	22,786	17,858	47,804	7,780
Peach	39,376	--	--	6,430	32,946	--
Pike	82,514	--	2,575	14,661	58,803	6,475
Pulaski	71,990	--	3,112	17,294	48,473	3,111
Putnam	178,396	--	6,466	96,178	70,713	5,039
Quitman	84,886	--	12,612	30,466	41,808	--
Randolph	165,996	--	--	54,121	108,150	3,725
Richmond	117,350	--	9,145	32,303	69,830	6,072
Schley	70,320	--	3,411	41,484	25,425	--
Stewart	247,798	--	24,741	117,648	99,252	6,157
Sumter	117,675	2,970	17,921	35,446	58,367	2,971
Talbot	225,230	--	--	55,289	154,656	15,285
Taliaferro	106,959	--	10,182	36,320	57,626	2,831
Taylor	185,480	--	--	47,800	72,565	65,115
Terrell	91,348	--	7,154	25,043	59,151	--
Twiggs	188,194	--	3,856	39,999	140,484	3,855
Upson	158,030	--	2,603	37,002	104,798	13,627
Warren	125,299	--	3,027	57,408	64,864	--
Washington	292,360	--	3,844	162,721	125,795	--
Webster	78,727	--	4,908	29,211	44,608	--
Wilkes	232,534	--	6,708	91,065	134,761	--
Wilkinson	241,625	--	4,037	65,332	172,256	--
Total	7,020,685	10,072	305,926	2,522,417	3,900,750	281,520

Table 6.--Area of commercial forest land, by county and stocking classes of growing-stock trees, Central Georgia, 1982

County	All classes	Stocking percentage ^a				
		>130	100-130	60-99	16.7-59	<16.7
		----- Acres -----				
Baldwin	117,799	755	39,558	64,153	13,333	--
Bibb	86,441	7,680	14,586	34,556	29,619	--
Bleckley	61,067	--	19,427	26,337	15,303	--
Burke	281,701	12,962	87,593	117,441	52,232	11,473
Butts	81,625	8,987	24,458	30,185	14,979	3,016
Calhoun	91,519	5,007	33,200	35,539	17,770	3
Chattahoochee	134,768	8,171	18,703	60,871	41,575	5,448
Clay	78,016	--	16,187	33,940	27,889	--
Columbia	137,049	4,368	49,660	57,230	21,422	4,369
Crawford	160,022	3,933	43,174	75,743	37,172	--
Dougherty	87,878	6,669	13,982	38,457	28,770	--
Glascock	64,365	--	14,514	11,239	38,612	--
Greene	197,142	12,214	77,102	89,459	18,367	--
Hancock	269,657	6,951	109,062	118,542	31,557	3,545
Harris	242,627	3,789	74,542	126,414	37,882	--
Houston	119,871	9,539	44,333	45,949	16,871	3,179
Jasper	188,203	14,445	45,338	105,154	20,150	3,116
Jefferson	187,730	7,175	40,044	104,631	32,292	3,588
Jones	215,324	6,317	52,260	124,890	24,874	6,983
Lamar	78,634	--	33,194	17,872	27,568	--
Lee	89,022	--	11,740	56,170	21,112	--
Lincoln	103,263	3,454	42,699	38,489	18,621	--
McDuffie	113,555	5,455	39,962	39,432	28,706	--
Macon	115,487	--	18,215	46,894	39,649	10,729
Marion	186,332	4,650	28,699	79,893	48,875	24,215
Monroe	203,356	--	72,466	103,320	27,570	--
Morgan	129,917	--	41,847	76,622	11,448	--
Muscogee	96,228	7,224	17,329	52,067	15,997	3,611
Peach	39,376	--	4,247	22,643	12,160	326
Pike	82,514	--	25,093	39,774	17,647	--
Pulaski	71,990	3,112	9,336	47,077	12,447	18
Putnam	178,396	3,443	64,729	94,854	15,370	--
Quitman	84,886	--	41,476	28,345	11,086	3,979
Randolph	165,996	3,725	46,753	80,495	35,023	--
Richmond	117,350	--	6,887	58,704	42,319	9,440
Schley	70,320	7,374	21,448	27,854	13,644	--
Stewart	247,798	--	111,109	76,761	46,795	13,133
Sumter	117,675	2,970	41,516	47,575	25,614	--
Talbot	225,230	6,691	107,456	84,319	26,764	--
Taliaferro	106,959	--	57,628	24,995	21,505	2,831
Taylor	185,480	6,928	43,742	68,828	40,017	25,965
Terrell	91,348	3,577	33,714	35,775	18,282	--
Twiggs	188,194	7,366	57,210	90,188	33,430	--
Upson	158,030	2,603	32,397	78,882	44,148	--
Warren	125,299	12,957	32,802	58,919	14,566	6,055
Washington	292,360	10,001	64,959	183,569	29,987	3,844
Webster	78,727	1,455	29,209	29,740	10,889	7,434
Wilkes	232,534	31,697	69,529	102,701	28,607	--
Wilkinson	241,625	7,462	89,321	99,327	41,479	4,036
Total	7,020,685	251,106	2,114,435	3,192,814	1,301,994	160,336

^aSee stocking standards on page 9.

County	Sawtimber						Growing stock					
	All	Pine	Other	Soft	Hard	All	Pine	Other	Soft	Hard	Thousand cubic feet ^a	
	species		softwood	hardwood	hardwood	species		softwood	hardwood	hardwood		
Baldwin	406,125	279,417	--	79,283	47,425	138,651	88,867	303	33,034	16,447		
Bibb	445,061	267,777	--	106,707	70,577	124,081	62,148	--	39,003	22,930		
Bleckley	266,766	26,630	--	112,988	249,054	79,465	7,484	--	39,682	32,299		
Burke	1,078,444	391,963	38,023	399,404	279,054	353,620	113,944	8,476	138,333	92,867		
Butts	309,028	190,818	1,322	62,165	54,723	107,787	60,496	798	20,507	25,986		
Calhoun	375,790	85,916	56,586	85,248	148,040	128,313	24,984	16,365	38,235	48,729		
Chattahoochee	692,752	506,968	--	131,930	53,854	184,194	105,320	--	56,355	22,519		
Clay	183,079	84,336	--	37,293	61,450	66,199	30,684	--	14,298	21,217		
Columbia	881,803	645,386	--	136,550	99,867	238,108	153,253	200	47,970	36,685		
Crawford	247,988	140,415	--	87,657	19,916	103,696	56,704	--	36,314	10,678		
Dougherty	558,651	302,259	112,136	41,413	102,843	158,682	82,482	--	15,255	32,221		
Glascoket	181,096	96,635	--	25,927	58,534	61,650	29,789	--	12,908	18,953		
Greene	635,535	501,533	--	80,109	53,893	236,502	162,150	341	42,965	31,046		
Hancock	1,024,431	782,050	--	148,241	94,140	322,923	223,819	--	57,092	42,012		
Harris	702,471	437,608	1,348	136,474	127,041	243,941	129,593	332	63,052	50,964		
Houston	570,899	172,854	4,261	189,065	204,719	162,839	43,568	748	66,974	51,549		
Jasper	907,978	644,242	3,125	128,958	131,653	270,194	157,848	1,415	54,492	56,439		
Jefferson	776,699	281,642	47,503	288,348	159,206	252,390	76,501	12,896	102,707	60,289		
Jones	1,163,828	935,566	--	133,934	94,328	340,536	243,053	--	58,722	38,761		
Lamar	300,854	133,923	--	89,436	77,495	93,262	37,375	--	27,977	27,910		
Lee	459,936	180,755	15,261	83,416	180,504	129,466	47,762	2,732	24,474	54,498		
Lincoln	435,686	397,035	--	7,681	30,970	124,172	96,733	--	6,046	21,393		
McDuffie	631,043	447,746	--	110,137	73,160	177,429	117,916	--	33,864	25,649		
Macon	439,923	129,412	--	147,932	162,579	132,723	33,147	--	50,156	49,420		
Marion	394,425	154,572	--	135,130	104,723	137,622	44,973	--	48,900	47,749		
Monroe	663,034	333,147	--	113,815	216,072	241,025	106,588	--	61,043	73,394		
Morgan	463,759	325,507	--	90,358	47,894	170,938	99,519	--	47,528	23,891		
Muscogee	535,805	356,465	--	120,038	59,302	137,458	78,917	--	39,647	18,894		
Peach	90,772	54,467	--	27,634	8,671	36,198	18,863	--	10,210	7,125		
Pike	338,761	159,117	--	90,243	89,401	111,289	39,349	--	32,234	39,706		
Pulaski	289,308	72,170	31,882	97,434	87,822	89,245	26,420	--	27,923	29,055		
Putnam	670,524	553,246	1,997	32,987	82,294	206,180	132,704	873	31,674	40,929		
Quitman	363,880	247,261	--	64,165	52,454	110,887	62,816	--	26,835	21,236		
Randolph	747,886	302,403	--	214,298	231,185	228,634	79,380	--	81,185	68,069		
Richmond	377,391	208,631	13,996	113,254	41,510	116,615	51,229	2,852	43,898	18,636		
Schley	246,387	133,765	2,101	65,950	44,571	92,428	38,568	--	34,197	19,219		
Stewart	539,745	318,434	--	74,410	146,901	195,670	104,969	--	34,546	56,155		
Sumter	522,504	290,233	11,016	109,024	112,231	165,948	83,092	1,861	45,769	35,226		
Talbot	546,657	292,888	7,056	137,454	109,259	211,598	104,233	1,275	54,989	51,101		
Taliaferro	416,557	321,619	--	37,164	57,774	147,769	103,914	--	17,699	26,156		
Taylor	402,032	188,830	--	107,384	105,818	149,430	69,940	982	40,785	37,723		
Terrell	366,235	84,651	12,344	216,874	52,366	132,312	21,781	3,419	84,599	22,513		
Twiggs	780,299	298,374	--	276,604	205,321	253,540	96,009	--	85,141	72,390		
Upson	526,376	187,415	--	172,495	166,466	175,054	64,512	--	57,026	53,516		
Warren	462,895	343,392	--	52,270	67,233	168,246	101,408	--	31,751	35,087		
Washington	814,744	463,351	2,067	192,879	156,447	312,729	154,541	497	86,254	71,437		
Webster	250,141	98,121	--	84,949	67,071	69,456	20,276	--	23,912	25,268		
Wilkes	1,358,355	942,504	2,216	202,909	210,726	406,779	247,691	788	86,629	71,671		
Wilkinson	972,072	365,119	96,556	298,300	212,097	322,263	114,011	19,130	116,843	72,279		
Total	26,816,410	15,158,568	460,796	5,978,318	5,218,728	8,620,136	4,251,323	111,298	2,331,632	1,925,883		

^aFactors for converting to cords are shown on page 9.

Table 8.--Net annual growth of sawtimber and growing stock on commercial forest land, by county and species group, Central Georgia, 1981

County	Sawtimber					Growing stock				
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
	Thousand board feet					Thousand cubic feet				
Baldwin	34,610	27,873	--	4,650	2,087	8,796	6,925	16	1,192	663
Bibb	27,434	16,363	--	8,353	2,718	6,585	4,255	--	1,336	994
Bleckley	16,132	3,199	--	7,790	5,143	3,235	523	--	1,363	1,349
Burke	84,397	45,139	2,701	21,244	15,133	19,082	8,397	366	5,501	4,818
Butts	29,589	23,216	58	2,939	3,376	7,775	4,972	57	878	1,868
Calhoun	24,962	7,211	2,500	4,245	11,006	5,968	1,782	803	1,361	2,022
Chattahoochee	36,016	26,006	--	6,740	3,270	7,983	4,968	--	1,895	1,120
Clay	20,283	13,370	--	2,337	4,576	4,051	2,361	--	459	1,231
Columbia	62,372	48,505	52	7,489	6,326	13,412	9,584	6	2,070	1,752
Crawford	24,402	15,238	--	5,900	3,264	8,703	6,521	--	1,679	503
Dougherty	47,544	32,494	4,815	1,809	8,426	8,396	5,457	836	525	1,578
Glascok	17,365	12,373	--	2,618	2,374	3,735	2,448	--	454	833
Greene	77,137	62,422	108	8,742	5,865	16,002	11,788	11	2,464	1,739
Hancock	91,161	75,317	--	8,889	6,955	20,445	15,490	--	2,694	2,261
Harris	60,952	45,109	64	9,267	6,512	16,211	9,866	11	3,559	2,775
Houston	29,446	11,992	199	9,124	8,131	7,526	2,438	30	2,303	2,755
Jasper	68,456	50,217	139	10,002	8,098	16,730	10,452	76	3,106	3,096
Jefferson	55,251	31,451	2,433	13,471	7,896	12,877	5,574	738	3,672	2,893
Jones	99,317	78,971	--	13,622	6,724	19,840	15,554	--	2,578	1,708
Lamar	20,281	13,223	--	3,986	3,072	4,672	2,552	--	1,029	1,091
Lee	33,065	18,428	675	3,554	10,408	6,794	3,478	101	890	2,325
Lincoln	36,161	31,877	--	638	3,646	7,122	5,623	--	1,159	1,188
McDuffie	46,697	36,629	--	7,087	2,981	11,277	8,606	--	1,483	1,231
Macon	24,305	8,988	--	5,949	9,368	5,893	2,179	--	2,093	1,913
Marion	28,811	15,675	--	7,273	5,863	7,552	3,541	--	3,167	3,321
Monroe	61,408	39,502	--	8,332	13,574	15,573	9,085	--	2,111	1,218
Morgan	45,006	33,409	--	6,296	5,301	10,400	7,071	--	1,787	692
Muscogee	32,784	24,613	--	6,389	1,782	7,020	4,541	--	1,714	652
Peach	8,113	6,172	--	1,575	366	2,811	2,924	--	1,258	1,908
Pike	23,747	13,653	--	3,755	6,339	6,090	2,475	--	1,158	1,274
Pulaski	17,885	6,647	1,584	3,971	5,683	5,150	8,117	243	1,625	2,527
Putnam	51,725	41,034	89	4,562	6,040	12,318	3,454	49	1,163	1,130
Quitman	32,244	23,177	--	4,612	4,455	5,747	5,523	--	2,208	2,813
Randolph	46,890	24,100	--	9,539	13,251	10,544	3,278	107	1,548	901
Richmond	26,983	16,002	667	4,671	5,643	5,834	2,770	13	1,964	883
Schley	11,164	11,662	82	3,757	2,663	4,588	8,286	--	1,615	1,821
Stewart	42,385	26,696	--	6,724	8,975	13,156	9,689	63	3,129	3,129
Sumter	49,237	37,638	409	5,315	5,875	15,573	7,356	138	1,445	1,463
Talbot	42,966	30,439	233	7,214	4,025	10,439	6,964	58	1,441	1,976
Taliaferro	36,423	30,455	--	1,943	4,671	9,964	1,595	140	3,038	1,298
Taylor	40,790	30,019	201	5,899	2,814	6,071	8,141	--	2,703	3,202
Terrell	25,616	7,994	677	14,131	12,143	14,046	7,445	--	1,604	2,093
Twigs	50,142	27,729	--	10,270	7,822	11,724	14,086	18	3,276	3,727
Upson	39,891	22,688	--	9,381	7,822	11,422	1,107	--	896	1,360
Warren	51,338	37,739	--	3,638	9,961	21,107	16,998	64	3,604	3,046
Washington	76,494	51,672	108	12,875	11,839	23,712	9,812	604	4,184	3,505
Webster	13,519	4,941	--	5,085	3,493	3,363	--	--	--	--
Wilkes	107,480	81,737	72	14,268	11,403	18,105	--	--	--	--
Wilkinson	77,124	39,734	3,766	19,865	13,759	18,105	--	--	--	--
Total	2,114,500	1,420,728	21,632	351,785	320,355	505,218	310,626	4,548	94,559	95,485

Table 9.--Annual removals of sawtimber and growing stock on commercial forest land, by county and species group, Central Georgia, 1981

County	Sawtimber					Growing stock				
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
	Thousand board feet					Thousand cubic feet				
Baldwin	43,142	41,578	--	--	1,564	9,291	8,774	--	--	517
Bibb	16,840	12,478	--	2,777	1,585	3,915	2,731	--	660	524
Bleckley	19,283	9,900	--	2,337	7,046	7,198	4,013	--	779	2,406
Burke	42,370	32,569	--	5,691	4,110	14,328	10,458	--	1,811	2,059
Butts	27,005	17,040	--	7,381	2,584	7,190	5,114	--	1,567	509
Calhoun	20,097	8,815	--	1,341	9,941	4,947	1,871	--	392	2,684
Chattahoochee	19,869	19,869	--	--	--	3,544	3,229	--	--	315
Clay	8,740	7,597	--	--	1,143	2,414	1,767	--	--	547
Columbia	35,722	17,844	--	7,370	10,508	7,881	3,633	--	1,851	2,397
Crawford	61,697	51,806	--	7,191	2,700	14,895	12,322	--	2,041	532
Dougherty	9,799	9,017	--	--	782	2,942	2,260	--	--	100
Glascok	7,912	2,610	--	4,122	1,180	2,996	1,762	--	716	518
Greene	78,878	63,917	--	12,884	2,077	18,054	13,654	--	3,173	1,227
Hancock	71,673	62,148	--	7,415	2,110	17,321	14,014	--	2,091	1,216
Harris	55,224	44,548	--	9,292	1,384	13,608	10,438	--	2,612	558
Houston	55,319	31,902	--	4,640	18,777	15,652	8,484	--	1,392	5,776
Jasper	46,532	36,444	--	5,469	4,619	10,241	6,673	81	1,243	2,244
Jefferson	39,036	25,948	--	9,197	3,891	10,855	7,285	--	2,131	1,439
Jones	50,612	50,612	--	--	--	10,822	10,720	--	102	--
Lamar	22,103	17,525	--	3,152	1,426	6,463	5,183	--	748	532
Lee	6,375	1,349	--	710	4,316	3,075	1,670	--	577	1,828
Lincoln	24,882	22,632	--	777	1,473	8,932	7,694	--	437	801
McDuffie	18,461	14,524	--	3,437	500	7,756	5,042	--	2,060	654
Macon	34,785	24,280	--	3,555	6,950	7,560	5,407	--	942	1,211
Marion	16,715	14,370	--	2,345	--	5,098	4,164	--	827	107
Monroe	70,028	64,204	--	993	4,831	18,337	15,922	--	1,050	1,365
Morgan	35,390	27,061	--	6,895	1,434	8,413	5,345	--	2,355	713
Muscogee	14,231	11,649	--	2,115	467	3,394	2,721	--	563	110
Peach	6,990	6,990	--	--	--	1,150	1,150	--	--	--
Pike	22,098	17,649	--	4,449	--	5,671	4,125	--	1,435	111
Pulaski	16,438	8,436	--	4,270	3,732	4,111	2,105	--	1,017	989
Putnam	61,370	52,228	--	7,083	2,059	15,669	12,853	--	1,985	831
Quitman	11,032	7,069	--	3,963	--	3,310	2,337	--	839	134
Randolph	46,583	36,949	--	9,196	438	10,403	8,201	--	1,848	354
Richmond	22,889	7,884	974	14,031	--	6,270	2,670	186	3,272	142
Schley	16,621	16,049	--	--	572	4,110	3,974	--	--	136
Stewart	79,326	66,825	491	4,514	7,496	21,074	16,370	120	2,233	2,351
Sumter	17,942	13,724	--	3,605	613	4,813	3,751	--	731	331
Talbot	54,102	45,622	--	4,261	4,219	12,757	10,545	--	1,055	1,157
Taliaferro	39,543	32,278	--	7,265	--	9,683	6,895	--	2,285	503
Taylor	29,688	21,958	--	6,383	1,347	6,962	4,500	--	1,788	674
Terrell	10,219	4,547	--	5,113	559	5,086	3,088	--	1,717	281
Twiggs	48,248	30,925	--	6,945	10,378	9,764	6,222	--	1,415	2,127
Upson	34,426	31,005	--	3,421	--	9,147	8,304	--	558	285
Warren	22,561	19,043	--	697	2,821	5,104	4,027	--	335	742
Washington	57,889	44,175	--	4,659	9,055	16,835	13,368	--	963	2,504
Webster	31,332	24,058	--	1,886	5,388	8,102	6,177	--	707	1,218
Wilkes	54,084	45,001	--	5,699	3,384	12,320	9,417	204	1,512	1,187
Wilkinson	61,315	32,074	--	12,831	16,410	14,194	7,413	--	3,306	3,475
Total	1,697,416	1,308,725	1,465	221,357	165,869	433,657	318,842	591	61,221	53,003

Unit Tables

Table 10.--Area of commercial forest land, by forest type and ownership class, Central Georgia, 1982

Forest type	All ownerships	Ownership class				
		National Forest	Other public	Forest industry	Farmer	Misc. private
----- Acres -----						
Softwood types:						
White pine-hemlock	--	--	--	--	--	--
Spruce-fir	--	--	--	--	--	--
Longleaf pine	98,628	--	13,008	20,972	14,822	49,822
Slash pine	380,831	--	6,524	150,149	66,381	157,777
Loblolly pine	2,519,665	62,463	125,292	678,665	381,050	1,272,191
Shortleaf pine	299,521	--	16,623	63,945	59,843	159,111
Virginia pine	--	--	--	--	--	--
Sand pine	18,866	--	--	8,553	--	10,313
Eastern redcedar	3,329	--	--	--	3,329	--
Pond pine	8,922	--	--	--	3,329	5,593
Spruce pine	--	--	--	--	--	--
Pitch pine	--	--	--	--	--	--
Table Mountain pine	--	--	--	--	--	--
Total	3,329,762	62,463	161,447	922,284	528,754	1,654,811
Hardwood types:						
Oak-pine	898,013	13,986	48,588	162,274	217,977	455,181
Oak-hickory	1,773,787	19,859	31,615	322,672	531,791	867,850
Chestnut oak	--	--	--	--	--	--
Southern scrub oak	135,322	--	16,196	22,211	5,343	91,577
Oak-gum-cypress	674,868	--	23,714	135,484	205,784	309,880
Elm-ash-cottonwood	208,933	--	10,584	49,912	41,417	107,020
Maple-beech-birch	--	--	--	--	--	--
Total	3,690,923	33,845	130,697	692,553	1,002,312	1,831,511
All types	7,020,685	96,308	292,144	1,614,837	1,531,066	3,486,330

Table 11.--Area of commercial forest land, by ownership and stocking classes of growing-stock trees, Central Georgia, 1982

Ownership classes	All classes	Stocking percentage ^a				
		>130	100-130	60-99	16.7-59	<16.7
		----- Acres -----				
National Forest	96,308	9,965	21,404	50,974	6,982	6,983
Other public	292,144	25,806	57,759	146,024	46,773	15,782
Forest industry	1,614,837	98,806	587,905	658,294	233,613	36,219
Farmer	1,531,066	27,868	396,212	761,285	317,180	28,521
Miscellaneous private	3,486,330	88,661	1,051,155	1,576,237	697,446	72,831
All ownerships	7,020,685	251,106	2,114,435	3,192,814	1,301,994	160,336

^aSee stocking standards on page 9.

Table 12.--Volume of timber on commercial forest land, by class and species group, Central Georgia, 1982

Class of timber	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
- - - - - Thousand cubic feet - - - - -					
Sawtimber trees:					
Saw-log portion	5,224,782	2,941,191	89,386	1,181,918	1,012,287
Upper-stem portion	597,000	238,475	7,248	189,217	162,060
Total	5,821,782	3,179,666	96,634	1,371,135	1,174,347
Poletimber trees	2,798,354	1,071,657	14,664	960,497	751,536
All growing-stock trees	8,620,136	4,251,323	111,298	2,331,632	1,925,883
Sawtimber trees:					
Sawtimber size	110,603	4,913	1,158	46,848	57,684
Poletimber size	205,249	9,091	552	66,006	129,600
Total	315,852	14,004	1,710	112,854	187,284
Poletimber trees:					
Sawtimber size	66,190	--	--	31,397	34,793
Poletimber size	10,397	--	--	6,154	4,243
Total	76,587	--	--	37,551	39,036
Salvageable dead trees:					
Sawtimber size	30,044	20,979	256	3,375	5,434
Poletimber size	22,263	16,959	--	2,478	2,826
Total	52,307	37,938	256	5,853	8,260
Total, all timber	9,064,882	4,303,265	113,264	2,487,890	2,160,463

Table 13.--Number of growing-stock trees on commercial forest land, by species and diameter class, Central Georgia, 1982

Species	All classes	Diameter class (inches at breast height)										
		5.0- 6.9	7.0- 8.9	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 28.9	29.0 and larger	
Thousand trees												
Softwood:												
Longleaf pine	12,417	3,448	2,548	2,394	1,516	1,275	769	333	108	26	--	
Slash pine	43,861	16,044	14,634	8,990	3,207	761	131	81	13	--	--	
Shortleaf pine	74,438	31,210	20,558	10,962	7,126	3,176	1,025	266	115	--	--	
Loblolly pine	310,898	121,326	78,974	48,492	28,979	16,894	8,866	4,853	1,526	967	21	
Pond pine	2,615	887	685	587	172	120	101	--	45	18	--	
Virginia pine	--	--	--	--	--	--	--	--	--	--	--	
Pitch pine	--	--	--	--	--	--	--	--	--	--	--	
Table Mountain pine	--	--	--	--	--	--	--	--	--	--	--	
Spruce pine	388	--	--	--	--	--	--	--	--	--	--	
Sand pine	468	468	174	38	76	49	22	--	14	15	--	
Eastern white pine	--	--	--	--	--	--	--	--	--	--	--	
Eastern hemlock	--	--	--	--	--	--	--	--	--	--	--	
Spruce and fir	--	--	--	--	--	--	--	--	--	--	--	
Baldcypress	2,194	895	144	216	67	223	214	107	216	111	1	
Pondcypress	3,426	420	759	659	551	445	312	178	54	43	5	
Cedars	1,666	944	421	146	86	25	44	--	--	--	--	
Total softwoods	452,371	175,642	118,897	72,484	41,780	22,968	11,484	5,818	2,091	1,180	27	
Hardwood:												
Select white oaks	32,284	13,144	8,023	5,246	2,861	1,320	953	345	206	174	12	
Select red oaks	5,568	1,610	1,391	676	656	597	284	104	111	133	6	
Chestnut oak	1,798	1,022	307	53	77	232	79	28	--	--	--	
Other white oaks	11,947	4,628	3,341	1,957	886	478	293	146	102	94	22	
Other red oaks	96,579	39,800	24,608	12,337	8,992	4,840	2,459	1,464	709	1,223	147	
Hickory	27,510	13,375	6,493	2,881	1,879	1,510	701	298	153	214	6	
Yellow birch	--	--	--	--	--	--	--	--	--	--	--	
Hard maple	1,439	957	208	92	65	101	--	16	--	--	--	
Soft maple	17,372	7,884	4,006	2,549	1,286	864	453	135	81	110	4	
Beech	974	278	--	124	175	31	113	98	61	94	--	
Sweetgum	126,781	59,407	30,933	18,055	8,599	5,021	2,485	1,235	583	435	28	
Tupelo and blackgum	47,260	17,717	10,481	7,770	5,908	2,696	1,421	838	189	224	16	
Ash	8,180	1,938	2,309	1,606	1,303	534	224	136	56	69	5	
Cottonwood	296	267	--	--	29	--	--	--	--	--	--	
Basswood	186	--	66	--	68	--	--	--	--	--	--	
Yellow-poplar	23,259	6,569	4,781	3,308	3,385	30	22	--	--	--	--	
Bay and magnolia	9,030	4,137	2,230	1,292	573	1,961	1,548	798	479	416	14	
Black cherry	3,460	2,437	785	93	105	382	222	189	--	--	5	
Black walnut	649	508	69	57	--	23	--	17	--	--	--	
Sycamore	1,214	203	420	110	158	--	--	15	--	--	--	
Black locust	110	110	--	--	--	113	49	79	55	27	--	
Elm	14,197	6,431	4,066	1,683	775	615	231	--	--	106	--	
Other eastern hardwood	16,231	10,853	2,383	1,218	722	457	180	222	67	107	--	

Species	ALL classes	5.0- 6.9	7.0- 8.9	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 28.9	29.0 and larger
Thousand cubic feet											
Softwood:											
Longleaf pine	174,997	9,127	15,981	32,042	29,400	33,889	28,799	16,639	7,103	2,017	--
Slash pine	311,356	42,721	84,208	100,091	57,473	17,992	4,675	3,549	647	--	--
Shortleaf pine	621,192	71,710	120,339	126,760	144,667	94,554	42,334	12,721	8,107	--	--
Loblolly pine	3,122,183	286,172	442,143	552,779	560,448	483,597	354,441	252,840	97,865	88,236	3,662
Pond pine	26,187	1,902	3,856	6,603	3,067	2,917	3,765	--	2,561	1,516	--
Virginia pine	--	--	--	--	--	--	--	--	--	--	--
Pitch pine	--	--	--	--	--	--	--	--	--	--	--
Table Mountain pine	--	--	--	--	--	--	--	--	--	--	--
Spruce pine	8,581	--	1,758	556	1,479	1,732	881	--	655	1,520	--
Sand pine	831	--	--	--	--	--	--	--	--	--	--
Eastern white pine	--	--	--	--	--	--	--	--	--	--	--
Eastern hemlock	--	--	--	--	--	--	--	--	--	--	--
Spruce and fir	--	--	--	--	--	--	--	--	--	--	--
Baldcypress	49,289	3,732	1,127	2,732	1,357	5,841	7,695	4,895	12,497	8,795	618
Pondcypress	54,258	1,163	4,807	6,986	8,317	9,531	9,740	7,157	2,209	3,454	894
Cedars	9,461	2,526	1,861	1,399	1,606	527	1,542	--	--	--	--
Total softwoods	4,378,335	419,884	676,080	829,948	807,814	650,580	453,872	297,801	131,644	105,538	5,174
Hardwood:											
Select white oaks	313,782	37,859	44,814	57,241	51,581	35,657	36,498	16,831	13,326	16,141	3,834
Select red oaks	88,965	5,571	8,305	7,124	11,946	16,769	12,017	5,954	7,180	13,110	989
Chestnut oak	15,633	2,725	2,156	821	913	5,489	2,640	889	--	--	--
Other white oaks	116,289	11,312	18,225	19,104	14,914	13,562	12,380	7,372	6,222	9,497	3,701
Other red oaks	1,024,761	110,430	145,227	130,863	157,434	126,120	89,456	71,215	45,276	115,917	32,823
Hickory	249,988	28,967	35,905	30,487	32,989	40,276	28,232	16,522	11,091	22,954	1,565
Yellow birch	--	--	--	--	--	--	--	--	--	--	--
Hard maple	13,608	2,960	2,984	1,789	976	2,877	300	1,452	5,831	11,927	728
Soft maple	193,022	28,548	30,494	34,175	25,437	28,316	20,400	7,166	4,188	10,071	1,730
Beech	33,832	1,374	--	1,420	3,530	822	4,281	6,416	39,626	41,271	8,329
Sweetgum	1,086,203	124,713	176,501	210,152	165,748	151,871	101,113	66,879	13,073	16,937	4,703
Tupelo and blackgum	512,303	50,817	62,221	88,534	109,539	73,026	53,460	39,993	3,575	7,217	1,023
Ash	113,480	7,788	15,228	18,887	26,021	15,692	10,511	7,538	--	--	--
Cottonwood	1,631	882	--	--	749	--	--	--	--	--	--
Basswood	3,718	--	514	--	1,665	958	581	--	--	--	--
Yellow-poplar	376,872	17,129	28,774	39,192	64,615	54,956	59,542	41,916	30,104	37,217	3,427
Bay and magnolia	84,018	13,305	15,447	13,775	10,282	11,773	8,837	7,697	820	--	--
Black cherry	17,463	7,106	5,697	1,242	1,935	659	--	824	--	--	--
Black walnut	3,057	1,052	515	639	--	--	--	851	--	--	--
Sycamore	21,832	446	2,677	1,393	2,833	3,483	1,592	3,616	3,143	2,649	--
Black locust	339	339	--	--	--	--	--	--	--	--	--
Elm	133,343	16,276	22,286	19,792	16,590	18,515	9,800	11,787	6,573	10,681	1,043
Other eastern hardwood	231,101	77,064	39,682	37,091	23,543	16,294	9,179	11,976	6,814	9,252	206
Total hardwoods	4,634,240	546,663	657,652	713,721	723,240	617,115	460,819	326,894	196,842	325,111	66,183
All species	9,012,575	966,547	1,333,732	1,543,669	1,531,054	1,267,695	914,691	624,695	328,486	430,649	71,357

Table 15.--Volume of growing stock on commercial forest land, by species and diameter class, Central Georgia, 1982

Species	All classes	Diameter class (inches at breast height)														29.0 and larger	
		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	Thousand cubic feet						
Softwood:																	
Longleaf pine	174,211	9,127	15,981	31,256	29,400	33,889	28,799	16,639	7,103	2,017	--	--	--	--	--	--	
Slash pine	309,595	42,437	83,913	99,645	56,737	17,992	4,675	3,549	647	--	--	--	--	--	--	--	
Shortleaf pine	619,772	71,019	119,610	126,760	144,667	94,554	42,334	12,721	8,107	--	--	--	--	--	--	--	
Loblolly pine	3,112,146	283,188	438,035	552,074	559,372	482,433	354,441	252,840	97,865	88,236	--	--	--	--	--	3,662	
Pond pine	26,187	1,902	3,856	6,603	3,067	2,917	3,765	--	2,561	1,516	--	--	--	--	--	--	
Virginia pine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Pitch pine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Table Mountain pine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Spruce pine	8,581	--	1,758	556	1,479	1,732	881	--	655	1,520	--	--	--	--	--	--	
Sand pine	831	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Eastern white pine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Eastern hemlock	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Spruce and fir	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Baldcypress	49,289	3,732	1,127	2,732	1,357	5,841	7,695	4,895	12,497	8,795	--	--	--	--	--	618	
Pondcypress	54,258	1,163	4,807	6,986	8,317	9,531	9,740	7,157	2,209	3,454	--	--	--	--	--	894	
Cedars	7,751	2,174	1,661	1,108	1,137	527	1,144	--	--	--	--	--	--	--	--	--	
Total softwoods	4,362,621	415,573	670,748	827,720	805,533	649,416	453,474	297,801	131,644	105,538	--	--	--	--	--	5,174	
Hardwood:																	
Select white oaks	304,813	36,222	43,947	55,758	50,784	35,657	35,658	16,831	12,569	15,551	--	--	--	--	--	1,836	
Select red oaks	87,383	5,571	8,305	7,124	11,946	16,769	11,026	5,363	7,180	13,110	--	--	--	--	--	989	
Chestnut oak	14,646	2,725	1,490	500	913	5,489	2,640	889	--	--	--	--	--	--	--	--	
Other white oaks	105,074	10,607	17,096	18,847	13,577	11,479	9,968	5,946	5,711	8,196	--	--	--	--	--	3,647	
Other red oaks	973,139	103,227	138,798	128,263	154,636	122,778	85,180	66,377	40,996	107,709	--	--	--	--	--	25,175	
Hickory	240,319	28,760	34,988	30,042	32,761	39,458	27,412	15,990	9,640	20,516	--	--	--	--	--	752	
Yellow birch	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Hard maple	9,918	2,960	929	1,300	976	2,877	--	876	--	--	--	--	--	--	--	--	
Soft maple	147,851	21,283	22,716	25,004	21,012	22,828	15,708	5,931	4,248	8,393	--	--	--	--	--	728	
Beech	26,971	886	--	1,420	3,009	822	4,281	4,601	3,447	8,505	--	--	--	--	--	--	
Sweetgum	1,051,521	117,486	170,615	205,695	162,619	148,341	99,267	64,552	38,081	39,841	--	--	--	--	--	5,024	
Tupelo and blackgum	479,247	46,903	58,504	82,590	105,478	71,525	48,318	37,240	10,714	15,211	--	--	--	--	--	2,764	
Ash	102,870	5,565	13,256	17,650	24,751	15,692	8,923	7,111	3,058	5,841	--	--	--	--	--	1,023	
Cottonwood	1,631	882	--	--	749	--	--	--	--	--	--	--	--	--	--	--	
Basswood	3,613	--	514	--	1,665	853	581	--	--	--	--	--	--	--	--	--	
Yellow-poplar	371,412	16,882	28,005	38,695	64,150	54,956	59,160	41,336	30,104	35,681	--	--	--	--	--	2,443	
Bay and magnolia	73,484	11,827	13,188	13,255	9,683	10,044	7,385	7,697	--	--	--	--	--	--	--	405	
Black cherry	14,155	5,629	4,480	823	1,740	659	--	824	--	--	--	--	--	--	--	--	
Black walnut	3,057	1,052	515	639	--	--	--	851	--	--	--	--	--	--	--	--	
Sycamore	21,251	446	2,677	1,393	2,833	3,483	1,592	3,616	3,143	2,068	--	--	--	--	--	--	
Black locust	339	339	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Elm	120,783	14,243	21,412	17,732	14,670	17,382	7,961	11,787	5,270	10,326	--	--	--	--	--	--	
Other eastern hardwood	104,038	24,467	12,751	13,155	12,469	11,004	6,021	9,869	5,498	8,804	--	--	--	--	--	--	
Total hardwoods	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

Species	All classes	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
Softwood:									
		Thousand board feet							
Longleaf pine	779,270	129,636	142,114	181,777	165,224	101,436	45,446	13,637	--
Slash pine	772,389	369,347	257,720	93,408	26,440	21,316	4,158	--	--
Shorthleaf pine	1,950,942	463,072	649,214	480,795	233,122	74,789	49,950	--	--
Loblolly pine	11,522,458	1,956,234	2,466,557	2,434,341	1,962,647	1,491,381	605,856	579,192	26,250
Pond pine	99,797	25,476	13,822	14,830	20,660	--	15,399	9,610	--
Virginia pine	--	--	--	--	--	--	--	--	--
Pitch pine	--	--	--	--	--	--	--	--	--
Table Mountain pine	--	--	--	--	--	--	--	--	--
Spruce pine	33,712	2,513	6,801	8,505	4,376	--	3,378	8,139	--
Sand pine	--	--	--	--	--	--	--	--	--
Eastern white pine	--	--	--	--	--	--	--	--	--
Eastern hemlock	--	--	--	--	--	--	--	--	--
Spruce and fir	--	--	--	--	--	--	--	--	--
Baldcypress	224,324	7,840	5,140	25,015	37,439	25,313	68,192	50,979	4,406
Pondcypress	217,307	21,547	31,355	42,072	47,349	36,985	11,912	20,437	5,650
Cedars	19,165	4,667	5,226	2,864	6,408	--	--	--	--
Total softwoods	15,619,364	2,980,332	3,577,949	3,283,607	2,503,665	1,751,220	804,291	681,994	36,306
Hardwood:									
Select white oaks	694,169	--	164,679	138,279	155,371	78,370	63,367	82,545	11,558
Select red oaks	279,910	--	38,572	64,324	46,057	24,286	32,546	68,906	5,219
Chestnut oak	38,131	--	2,788	20,514	10,825	4,004	--	--	--
Other white oaks	272,988	--	48,904	48,054	46,471	29,590	30,061	47,356	22,552
Other red oaks	2,809,495	--	565,672	518,940	397,621	333,585	218,295	616,060	159,322
Hickory	641,357	--	111,031	157,209	124,347	78,335	49,920	115,876	4,639
Yellow birch	--	--	--	--	--	--	--	--	--
Hard maple	19,253	--	3,533	11,746	--	3,974	--	--	--
Soft maple	309,766	--	65,994	85,576	64,813	26,764	20,054	42,457	4,108
Beech	98,163	--	11,094	3,084	16,726	18,276	13,951	35,032	--
Sweetgum	2,504,756	--	574,507	630,332	477,992	337,140	212,040	238,762	33,983
Tupelo and blackgum	1,155,739	--	332,007	275,343	210,380	177,734	55,711	86,508	18,056
Ash	263,731	--	80,981	60,134	38,087	33,128	14,837	30,508	6,056
Cottonwood	2,571	--	2,571	--	--	--	--	--	--
Basswood	11,638	--	5,990	3,223	2,425	--	--	--	--
Yellow-poplar	1,367,424	--	225,186	235,023	285,383	217,911	168,929	218,255	16,737
Bay and magnolia	143,397	--	31,067	39,210	32,810	37,137	--	--	3,173
Black cherry	12,745	--	6,144	2,729	--	3,872	--	--	--
Black walnut	3,024	--	--	--	--	3,024	--	--	--
Sycamore	71,950	--	8,373	13,044	6,701	16,935	15,773	11,124	--
Black locust	--	--	--	--	--	--	--	--	--
Elm	281,554	--	49,950	67,225	33,352	53,357	25,064	52,606	--
Other eastern hardwood	215,285	--	37,945	39,925	24,649	43,214	25,259	44,293	--
Total hardwoods	11,197,046	--	2,366,988	2,413,914	1,974,010	1,520,636	945,807	1,690,288	285,403
All species	26,816,410	2,980,332	5,944,937	5,697,521	4,477,675	3,271,856	1,750,098	2,372,282	321,709

Table 17.--Net annual growth and removals of growing stock on commercial forest land, by species, Central Georgia, 1981

Species	Net annual growth	Annual timber removals
- - - Thousand cubic feet - - -		
Softwood:		
Yellow pines	310,626	318,842
Eastern white pine	--	--
Spruce and fir	--	--
Cypress	4,049	186
Other eastern softwoods	499	405
Total softwoods	315,174	319,433
Hardwood:		
Select white and red oaks	19,567	7,729
Other white and red oaks	57,296	34,116
Hickory	9,525	6,246
Yellow birch	--	--
Hard maple	1,096	395
Sweetgum	46,993	32,842
Ash, walnut, and black cherry	5,313	2,860
Yellow-poplar	20,124	14,578
Tupelo and blackgum	11,194	5,667
Bay and magnolia	2,124	414
Other eastern hardwoods	16,812	9,377
Total hardwoods	190,044	114,224
All species	505,218	433,657

Table 18.--Net annual growth and removals of sawtimber on commercial forest land, by species, Central Georgia, 1981

Species	Net annual growth	Annual timber removals
- - - Thousand board feet - - -		
Softwood:		
Yellow pines	1,420,728	1,308,725
Eastern white pine	--	--
Spruce and fir	--	--
Cypress	20,534	974
Other eastern softwoods	1,098	491
Total softwoods	1,442,360	1,310,190
Hardwood:		
Select white and red oaks	69,823	27,385
Other white and red oaks	197,457	107,150
Hickory	29,417	17,139
Yellow birch	--	--
Hard maple	1,673	1,856
Sweetgum	174,250	105,505
Ash, walnut, and black cherry	16,381	6,760
Yellow-poplar	92,923	68,807
Tupelo and blackgum	41,199	21,323
Bay and magnolia	5,925	770
Other eastern hardwoods	43,092	30,531
Total hardwoods	672,140	387,226
All species	2,114,500	1,697,416

Table 19.--Mortality of growing stock and sawtimber on commercial forest land, by species, Central Georgia, 1981

Species	Growing stock	Sawtimber
	Thousand cubic feet	Thousand board feet
Softwood:		
Yellow pines	74,098	207,530
Eastern white pine	--	--
Spruce and fir	--	--
Cypress	176	526
Other eastern softwoods	324	1,646
Total softwoods	74,598	209,702
Hardwood:		
Select white and red oaks	1,840	7,455
Other white and red oaks	12,609	37,426
Hickory	3,216	12,093
Yellow birch	--	--
Hard maple	--	--
Sweetgum	5,901	15,608
Ash, walnut, and black cherry	1,667	4,847
Yellow-poplar	2,117	7,147
Tupelo and blackgum	2,599	7,877
Bay and magnolia	570	2,048
Other eastern hardwoods	5,666	16,203
Total hardwoods	36,185	110,704
All species	110,783	320,406

Table 20.--Volume of all live trees and growing stock on commercial forest land, by ownership class and species group, Central Georgia, 1982

Ownership class	All live trees					Growing stock				
	All species	Pine	Other : softwood	Soft : hardwood	Hard : hardwood	All species	Pine	Other : softwood	Soft : hardwood	Hard : hardwood
	Thousand cubic feet									
National Forest	112,371	81,350	--	12,879	18,142	109,879	81,350	--	11,189	17,340
Other public	615,577	399,155	--	135,383	81,039	598,196	397,519	--	130,620	70,057
Forest industry	1,971,514	998,718	57,323	501,270	414,203	1,907,484	996,256	57,323	476,144	377,761
Farmer	2,008,621	748,158	32,277	661,354	566,832	1,898,408	745,568	31,256	610,996	510,588
Miscellaneous private	4,304,492	2,037,946	23,408	1,171,151	1,071,987	4,106,169	2,030,630	22,719	1,102,683	950,137
All ownerships	9,012,575	4,265,327	113,008	2,482,037	2,152,203	8,620,136	4,251,323	111,298	2,331,632	1,925,883

Table 21.--Volume of sawtimber on commercial forest land, by ownership class and species group, Central Georgia, 1982

Ownership class	Small sawtimber ^a					Large sawtimber ^b				
	All species	Pine	Other : softwood	Soft : hardwood	Hard : hardwood	All species	Pine	Other : softwood	Soft : hardwood	Hard : hardwood
	Thousand board feet									
National Forest	181,436	149,063	--	10,323	22,050	224,747	192,125	--	12,639	19,983
Other public	1,157,368	884,715	--	185,434	87,219	1,216,276	949,707	--	201,128	65,441
Forest industry	3,334,991	2,308,718	70,334	554,105	401,834	2,743,304	933,326	177,561	891,934	740,483
Farmer	3,130,232	1,773,666	54,707	717,888	583,971	2,554,912	923,554	57,703	706,473	867,182
Miscellaneous private	6,818,763	4,580,000	20,685	1,219,211	998,867	5,454,381	2,463,694	79,806	1,479,183	1,431,698
All ownerships	14,622,790	9,696,162	145,726	2,686,961	2,093,941	12,193,620	5,462,406	315,070	3,291,357	3,124,787

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

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

Table 22.--Net annual growth and removals of growing stock on commercial forest land, by ownership class and species group, Central Georgia, 1981

Ownership class	Net annual growth					Annual timber removals				
	All species	Pine	Other : softwood	Soft : hardwood	Hard : hardwood	All species	Pine	Other : softwood	Soft : hardwood	Hard : hardwood
						Thousand cubic feet				
National Forest	6,022	4,576	--	604	842	17,080	15,511	81	698	790
Other public	29,952	21,286	--	4,931	3,735	13,934	13,311	--	409	214
Forest industry	121,543	83,699	1,845	18,920	17,079	126,398	94,627	--	16,218	15,553
Farmer	103,319	51,463	1,730	24,941	25,185	91,759	59,584	--	16,338	15,837
Miscellaneous private	244,382	149,602	973	45,163	48,644	184,486	135,809	510	27,558	20,609
All ownerships	505,218	310,626	4,548	94,559	95,485	433,657	318,842	591	61,221	53,003

Table 23.--Net annual growth and removals of sawtimber on commercial forest land, by ownership class and species group, Central Georgia, 1981

Ownership class	Net annual growth					Annual timber removals				
	All species	Pine	Other : softwood	Soft : hardwood	Hard : hardwood	All species	Pine	Other : softwood	Soft : hardwood	Hard : hardwood
						Thousand board feet				
National Forest	30,050	24,744	--	1,254	4,052	86,114	84,067	--	2,047	--
Other public	152,210	123,651	--	17,329	11,230	70,494	68,358	--	1,669	467
Forest industry	476,647	326,345	11,487	69,940	68,875	489,647	393,114	--	49,624	46,909
Farmer	453,482	255,367	5,284	103,100	89,731	338,398	235,588	--	55,716	47,094
Miscellaneous private	1,002,111	690,621	4,861	160,162	146,467	712,763	527,598	1,465	112,301	71,399
All ownerships	2,114,500	1,420,728	21,632	351,785	320,355	1,697,416	1,308,725	1,465	221,357	165,869

Forest type, species group, and class of material	All ownerships			National Forest			Other public			Forest industry			Farmer			Misc. private		
	Board feet	Cubic feet	Board feet	Board feet	Cubic feet	Board feet	Board feet	Cubic feet	Board feet	Board feet	Cubic feet	Board feet	Board feet	Cubic feet	Board feet	Board feet	Cubic feet	Board feet
Pine types:																		
Growing stock:																		
Softwood	3,709	1,071	5,512	1,290	8,314	1,821	2,863	911	3,759	1,070	3,598	1,073						
Hardwood	230	125	366	175	380	158	198	85	259	148	217	137						
Total	3,939	1,196	5,878	1,465	8,694	1,979	3,061	996	4,018	1,218	3,815	1,210						
Other timber:																		
Softwood	--	4	--	--	--	7	--	2	--	3	--	4						
Hardwood	--	11	--	9	--	12	--	8	--	12	--	13						
Total	--	15	--	9	--	19	--	10	--	15	--	17						
Oak-pine type:																		
Growing stock:																		
Softwood	1,982	511	1,516	296	2,745	624	1,504	394	1,867	493	2,134	555						
Hardwood	997	473	--	56	489	372	788	353	1,306	536	1,005	509						
Total	2,979	984	1,516	352	3,234	996	2,292	747	3,173	1,029	3,139	1,064						
Other timber:																		
Softwood	--	3	--	--	--	6	--	--	--	7	--	2						
Hardwood	--	45	--	57	--	71	--	24	--	38	--	52						
Total	--	48	--	57	--	77	--	24	--	45	--	54						
Upland hardwood types:																		
Growing stock:																		
Softwood	440	106	166	178	1,137	216	360	82	432	102	442	110						
Hardwood	2,494	952	2,788	1,130	2,257	873	2,746	936	2,601	995	2,332	934						
Total	2,934	1,058	2,954	1,308	3,394	1,089	3,106	1,018	3,033	1,097	2,774	1,044						
Other timber:																		
Softwood	--	--	--	--	--	--	--	--	--	--	--	1						
Hardwood	--	87	--	83	--	115	--	58	--	90	--	96						
Total	--	87	--	83	--	115	--	58	--	90	--	97						
Lowland hardwood types:																		
Growing stock:																		
Softwood	813	176	--	--	1,621	260	1,710	374	560	148	501	98						
Hardwood	5,305	1,775	--	--	8,097	2,634	6,682	1,955	3,968	1,469	5,251	1,801						
Total	6,118	1,951	--	--	9,718	2,894	8,392	2,329	4,528	1,617	5,752	1,899						
Other timber:																		
Softwood	--	--	--	--	--	--	--	--	--	--	--	--						
Hardwood	--	147	--	--	--	91	--	153	--	163	--	139						
Total	--	147	--	--	--	91	--	153	--	163	--	139						
All types:																		
Growing stock:																		
Softwood	2,225	621	3,988	951	5,488	1,189	2,049	619	1,796	496	2,143	616						
Hardwood	1,595	606	760	334	1,613	600	1,520	501	1,838	717	1,539	616						
Total	3,820	1,227	4,748	1,285	7,101	1,789	3,569	1,120	3,634	1,213	3,682	1,232						
Other timber:																		
Softwood	--	2	--	--	--	5	--	1	--	2	--	2						
Hardwood	--	54	--	29	--	47	--	36	--	68	--	57						
Total	--	56	--	29	--	52	--	37	--	70	--	59						

Table 25.--Land area, by class, major forest type, and survey completion date, Central Georgia, 1961, 1972, and 1982

Land use class	Survey completion date			Change 1972-1982
	1961	1972	1982	
	----- Acres -----			
Forest land:				
Commercial forest land:				
Pine and oak-pine types	4,805,500	4,715,685	4,227,775	-487,910
Hardwood types	2,611,100	2,606,166	2,792,910	+186,744
Total	7,416,600	7,321,851	7,020,685	-301,166
Noncommercial forest land:				
Productive-reserved	14,700	18,647	19,303	+656
Unproductive	1,000	--	--	--
Total	15,700	18,647	19,303	+656
Nonforest land:				
Cropland	1,819,700	1,809,416	1,826,724	+17,308
Pasture and range	890,300	806,888	810,924	+4,036
Other	352,400	510,556	659,921	+149,365
Total	3,062,400	3,126,860	3,297,569	+170,709
All land ^a	10,494,700	10,467,358	10,337,557	-129,801

^aExcludes all water areas.

Table 26.--Volume^a of sawtimber, growing stock, and all live timber on commercial forest land, by species group, survey completion date, and diameter class, Central Georgia

Species group	Year	All classes	Diameter class (inches at breast height)									
			5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0 and larger	
SAWTIMBER (in thousand board feet)												
Softwood	1961	10,149,528	--	--	2,493,271	2,863,944	2,055,952	1,338,887	736,066	340,064	321,344	
	1972	14,302,644	--	--	2,751,733	3,540,429	3,316,908	2,242,382	1,289,392	595,878	565,922	
	1982	15,619,364	--	--	2,980,332	3,577,949	3,283,607	2,503,665	1,751,220	804,291	718,300	
Hardwood	1961	7,300,086	--	--	--	1,696,959	1,734,409	1,064,004	915,990	724,516	1,164,208	
	1972	9,201,592	--	--	--	2,090,453	2,092,826	1,576,463	1,118,380	725,158	1,598,312	
	1982	11,197,046	--	--	--	2,366,988	2,413,914	1,974,010	1,520,636	945,807	1,975,691	
GROWING STOCK (in thousand cubic feet)												
Softwood	1961	3,211,047	439,185	555,247	692,383	644,742	406,636	242,508	125,160	55,657	49,529	
	1972	4,395,388	620,990	747,018	764,158	797,035	656,034	406,155	219,247	97,525	87,226	
	1982	4,362,621	415,573	670,748	827,720	805,533	649,416	453,474	297,801	131,644	110,712	
Hardwood	1961	2,855,040	328,058	405,646	442,508	495,029	425,413	232,366	185,348	137,636	203,036	
	1972	3,699,043	439,799	543,668	605,351	609,817	513,325	344,281	226,301	137,758	278,743	
	1982	4,257,515	457,962	594,186	659,885	690,421	592,096	431,081	307,687	179,659	344,538	
ALL LIVE TIMBER (in thousand cubic feet)												
Softwood	1961	3,224,685	443,137	560,258	694,363	646,511	407,396	242,674	125,160	55,657	49,529	
	1972	4,413,632	626,578	753,761	766,342	799,241	657,243	406,469	219,247	97,525	87,226	
	1982	4,378,335	419,884	676,080	829,948	807,814	650,580	453,872	297,801	131,644	110,712	
Hardwood	1961	3,035,575	319,888	448,460	478,496	518,527	443,483	248,395	196,943	150,811	230,572	
	1972	4,030,898	525,371	601,044	654,581	638,756	535,126	368,070	240,452	150,927	316,571	
	1982	4,634,240	546,663	657,652	713,721	723,240	617,115	460,819	326,894	196,842	391,294	

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



Sheffield, Raymond M.; Tansey, John B. Forest statistics for Central Georgia, 1982. Resour. Bull. SE-65. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southeastern Forest Experiment Station; 1982. 32 p.	Sheffield, Raymond M.; Tansey, John B. Forest statistics for Central Georgia, 1982. Resour. Bull. SE-65. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southeastern Forest Experiment Station; 1982. 32 p.
Since the fourth inventory of the forest resources of Central Georgia in 1972, the area of commercial forest land has declined by 301,000 acres, or by 4 percent. Commercial forests now occupy 7.0 million acres, or 67 percent of the land in these 49 counties. Nonindustrial private landowners control 71 percent of the commercial forest land. The inventory of softwood growing stock has declined by almost 1 percent, a result of sharp increases in softwood removals and mortality and a slowdown in softwood growth. Volume of hardwood growing stock increased by 15 percent. Net annual growth of softwood growing stock totaled 315 million cubic feet compared to annual softwood removals of 319 million cubic feet. Hardwood net growth totaled 190 million cubic feet, 66 percent more than annual hardwood removals.	Since the fourth inventory of the forest resources of Central Georgia in 1972, the area of commercial forest land has declined by 301,000 acres, or by 4 percent. Commercial forests now occupy 7.0 million acres, or 67 percent of the land in these 49 counties. Nonindustrial private landowners control 71 percent of the commercial forest land. The inventory of softwood growing stock has declined by almost 1 percent, a result of sharp increases in softwood removals and mortality and a slowdown in softwood growth. Volume of hardwood growing stock increased by 15 percent. Net annual growth of softwood growing stock totaled 315 million cubic feet compared to annual softwood removals of 319 million cubic feet. Hardwood net growth totaled 190 million cubic feet, 66 percent more than annual hardwood removals.
KEYWORDS: Forest trends, commercial forest land, forest ownership, timber volume, timber growth, timber removals.	KEYWORDS: Forest trends, commercial forest land, forest ownership, timber volume, timber growth, timber removals.



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Southeastern Forest
Experiment Station

Source Bulletin
-66

Southern Pulpwood Production, 1981

Cecil C. Hutchins, Jr.



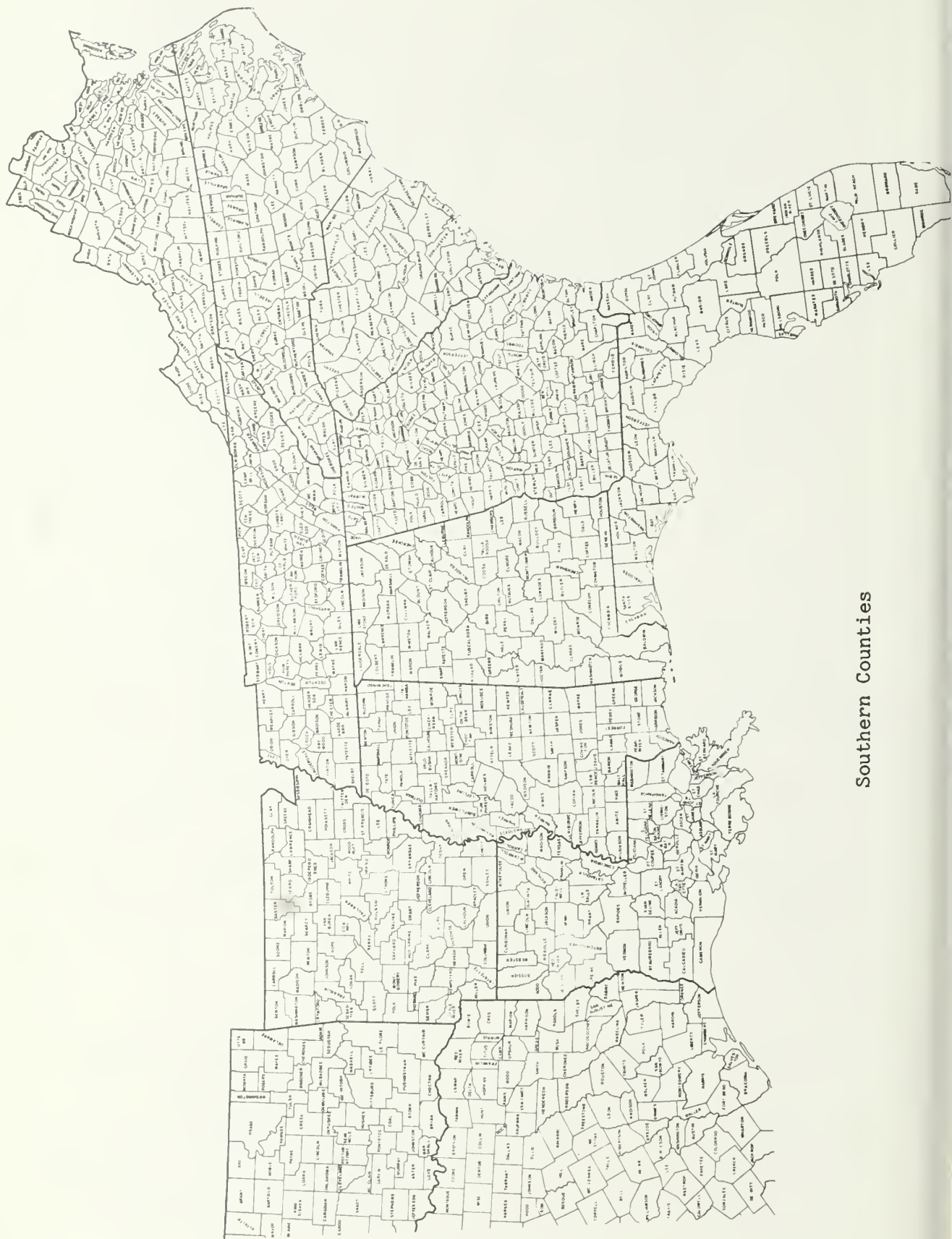
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DECEMBER 1982
SOUTHEASTERN FOREST EXPERIMENT STATION
ASHEVILLE, NORTH CAROLINA

Southern Pulpwood Production, 1981

SOUTHEASTERN FOREST EXPERIMENT STATION
Asheville, North Carolina
and
SOUTHERN FOREST EXPERIMENT STATION
New Orleans, Louisiana
of the
Forest Service, U.S. Department of Agriculture
in cooperation with the
AMERICAN PULPWOOD ASSOCIATION



Southern Counties

SOUTHERN PULPWOOD PRODUCTION, 1981

by

Cecil C. Hutchins, Jr., Forestry Technician
Forest Inventory and Analysis

Southern pulpwood production has remained almost constant for the past 3 years. In 1981, production totaled 54.3 million cords with softwood roundwood accounting for about 50 percent, hardwood roundwood 18 percent, and mill byproducts 32 percent.

Production declined in 7 of the 12 Southern States during 1981, with Oklahoma having the largest percentage loss, 24 percent. Of the States with increases, Tennessee had the largest percentage gain, 9 percent. Georgia continues to produce the most pulpwood, followed by Alabama. These States produced 8,866.8 and 8,644.3 thousand cords, respectively (table 1).

Five of the 12 States had less roundwood production in 1981 than in 1980 (tables 2 and 3); Oklahoma, Texas, and Arkansas were the big losers. Virginia had the greatest increase with 10 percent, while all other States had 5 percent or less. Softwood comprises about 74 percent of the roundwood pulpwood total. Alabama is the leading roundwood producing State with 6,400.0 thousand cords followed by Georgia with 6,143.2. Overall, roundwood production was down by 1 percent in 1981.

A 1 percent increase in wood residues (tables 4 and 5) offset the decline in roundwood production in 1981. Chips make up 90 percent of all residues; 70 percent of the chips are softwood. Georgia leads in use of residues for pulp, but such use declined by 3 percent in 1981.

The Southern Region, which includes the States from Alabama and Tennessee west to Texas and Oklahoma,

had almost a 2 percent decrease in pulpwood production (table 6). The Southeastern Region, consisting of the Atlantic States from Virginia to Florida, had a 1 percent increase overall.

In 1981, Beauregard Parish, Louisiana, produced the most pulpwood roundwood of any parish or county in the South, more than 371,000 cords. Butler County, Alabama, was the only other county to produce more than 300,000 cords (tables 7-18). Five counties produced more than 200,000 cords and 93 produced more than 100,000. Alabama led all States with 26 counties producing more than 100,000 cords of roundwood pulpwood.

During 1981, pulping capacity of the 114 pulpmills operating in the South increased to 114,552 tons per day (table 19). This 2 percent increase in capacity resulted from the addition of one mill and expansion of other mills. Two mills closed during 1981, one in Florida and one in Louisiana. Nine pulpmills from outside the South drew wood from the South (table 20) during 1981. One new pulpmill was under construction (table 21) in 1981 and will begin production in 1982.

During the sixties and seventies, use of plant byproducts for pulp increased almost six times and roundwood use increased almost 80 percent (fig.1). During the past 3 years, production of both roundwood and plant byproducts has leveled off. This slowdown is the result of softening demand for paper and associated products.

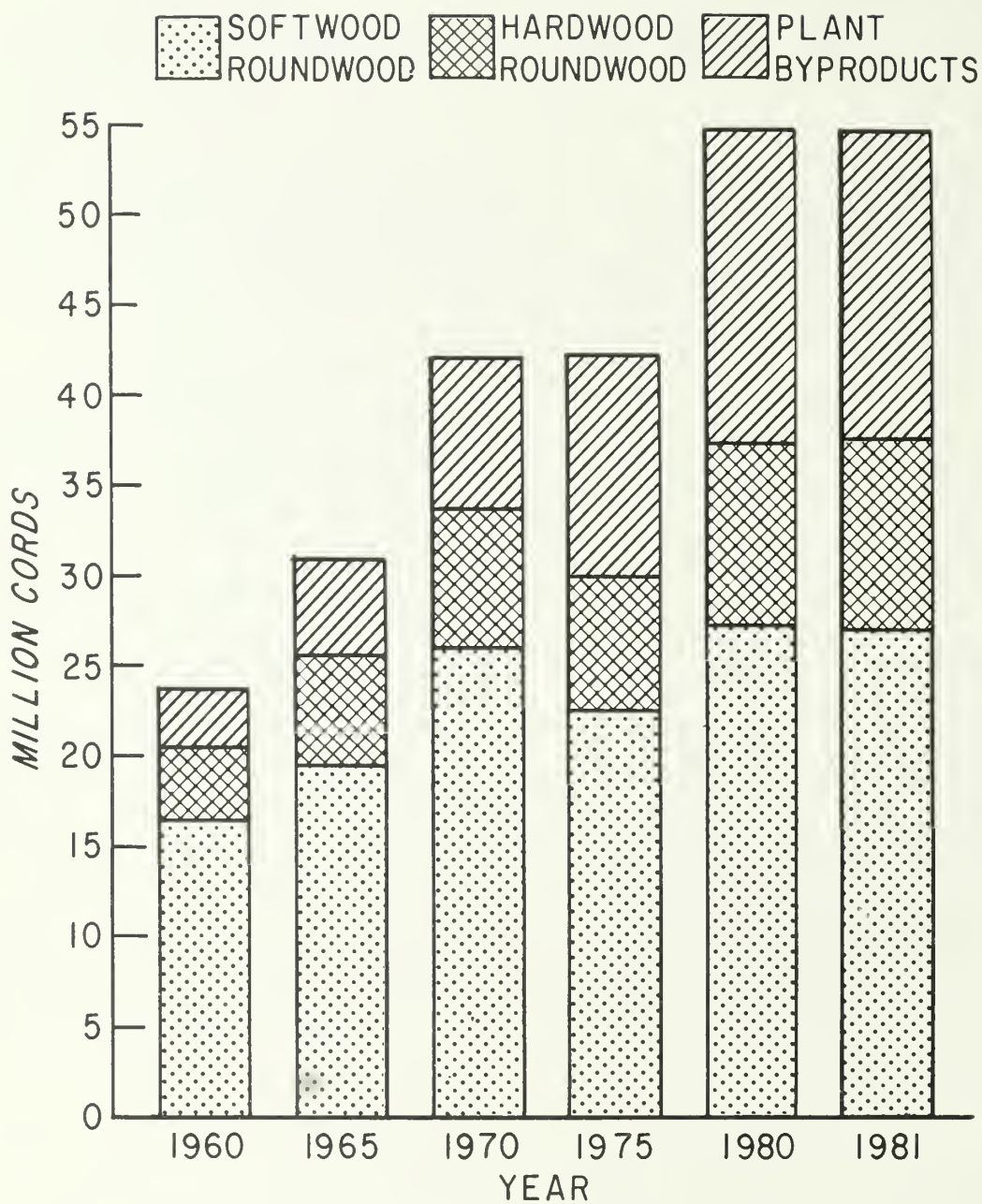


Figure 1.--Pulpwood production, 1960-1981.

Table 1.--Pulpwood production in the South during
1981, and change since 1980

State	Pulpwood	Change
	<u>Thousand cords</u>	<u>Percent</u>
Alabama	8,644.3	-1
Arkansas	4,232.0	-2
Florida	4,057.4	+6
Georgia	8,866.8	+1
Louisiana	4,613.7	-(a)
Mississippi	5,873.3	-2
North Carolina	4,900.4	+1
Oklahoma	425.6	-24
South Carolina	4,102.4	-5
Tennessee	1,344.4	+9
Texas	4,080.8	-3
Virginia	3,163.3	+5
All States	54,304.4	-(a)

^aLess than 0.5 percent.

Table 2.--Roundwood production in the South, by State and species group, 1981

State	All species	Softwood	Hardwood			
			Total	Gums	Oaks	Other hardwoods
----- Thousand cords -----						
Alabama	6,400.0	4,515.9	1,884.1	531.7	901.3	451.1
Arkansas	1,992.9	1,366.2	626.7	152.0	391.4	83.3
Florida	3,113.7	2,774.5	339.2	112.3	166.6	60.3
Georgia	6,143.2	5,394.2	749.0	300.8	316.9	131.3
Louisiana	3,237.4	2,519.7	717.7	196.3	329.3	192.1
Mississippi	3,932.7	2,584.3	1,348.4	304.7	626.1	417.6
North Carolina	3,213.6	1,956.5	1,257.1	553.9	445.4	257.8
Oklahoma	266.9	153.5	113.4	10.9	78.5	24.0
South Carolina	2,814.4	2,181.8	632.6	254.8	276.0	101.8
Tennessee	822.7	405.4	417.3	27.5	288.8	101.0
Texas	2,426.0	2,041.3	384.7	100.1	210.8	73.8
Virginia	2,254.3	1,042.8	1,211.5	91.2	606.4	513.9
All States	36,617.8	26,936.1	9,681.7	2,636.2	4,637.5	2,408.0

Table 3.--Roundwood production in the South, by State and species group, 1981 and 1980

State	:	:	1981			:	1980		
	:	:	:	:	:	:	:	:	
	Change:	:	:	:	:	:	:	:	
	from :	All	Softwood	Hardwood	All	Softwood	Hardwood		
:	1980 :	species :	:	:	species :	:	:		
:	:	:	:	:	:	:	:		
	Percent	- - - - -	Thousand cords			- - - - -			
Alabama	+3	6,400.0	4,515.9	1,884.1	6,224.4	4,288.0	1,936.4		
Arkansas	-12	1,992.9	1,366.2	626.7	2,259.6	1,498.3	761.3		
Florida	+3	3,113.7	2,774.5	339.2	3,012.8	2,701.5	311.3		
Georgia	+2	6,143.2	5,394.2	749.0	6,001.3	5,392.5	608.8		
Louisiana	-3	3,237.4	2519.7	717.7	3,342.7	2,586.5	756.2		
Mississippi	-5	3,932.7	2,584.3	1,348.4	4,129.5	2,606.1	1,523.4		
North Carolina	+2	3,213.6	1,956.5	1,257.1	3,146.7	1,962.5	1,184.2		
Oklahoma	-31	266.9	153.5	113.4	386.4	286.5	99.9		
South Carolina	+2	2,814.4	2,181.8	632.6	2,765.8	2,135.0	630.8		
Tennessee	+5	822.7	405.4	417.3	783.2	354.4	428.8		
Texas	-15	2,426.0	2,041.3	384.7	2,865.8	2,394.0	471.8		
Virginia	+10	2,254.3	1,042.8	1,211.5	2,048.3	1,064.9	983.4		
All States	-1	36,617.8	26,936.1	9,681.7	36,966.5	27,270.2	9,696.3		

Table 4.--Southern output of wood residues for pulp manufacture,
by State and species group, 1981 and 1980

State	:Change:	1981			1980		
	: from :	All	Softwood	Hardwood	All	Softwood	Hardwood
	: 1980 :	species	:	:	species	:	:
	:	:	:	:	:	:	:
<u>Percent</u> - - - - - - - <u>Thousand cords</u> - - - - - - -							
Alabama	-11	2,244.3	1,728.0	516.3	2,531.7	2,057.7	474.0
Arkansas	+9	2,239.2	1,658.8	580.4	2,061.9	1,578.2	483.7
Florida	+16	943.7	775.7	168.0	816.8	698.8	118.0
Georgia	-3	2,723.6	2,349.4	374.2	2,811.2	2,425.6	385.6
Louisiana	+7	1,376.2	774.1	602.1	1,290.7	830.6	460.1
Mississippi	+3	1,940.6	1,496.1	444.5	1,884.2	1,504.0	380.2
North Carolina	-1	1,686.8	1,197.7	489.1	1,703.1	1,255.9	447.2
Oklahoma	-8	158.7	121.2	37.5	172.4	142.3	30.1
South Carolina	-16	1,288.0	1,119.0	169.0	1,530.8	1,244.5	286.3
Tennessee	+15	521.7	53.7	468.0	452.8	67.0	385.8
Texas	+24	1,654.8	1,416.0	238.8	1,329.4	1,153.6	175.8
Virginia	-6	909.0	510.5	398.5	969.0	519.8	449.2
All States	+1	17,686.6	13,200.2	4,486.4	17,554.0	13,478.0	4,076.0

Table 5.--Southern output of wood residues for pulp manufacture,
by State and type of residue, 1981

State	All types	Chips			Other residues ^a		
		All species	Softwood	Hardwood	All species	Softwood	Hardwood
----- <u>Thousand cords</u> -----							
Alabama	2,244.3	2,010.6	1,597.0	413.6	233.7	130.9	102.8
Arkansas	2,239.2	1,957.0	1,429.3	527.7	282.2	229.4	52.8
Florida	943.7	933.1	769.1	164.0	10.6	6.6	4.0
Georgia	2,723.6	2,644.7	2,296.0	348.7	78.9	53.4	25.5
Louisiana	1,376.2	916.4	687.2	229.2	459.8	86.9	372.9
Mississippi	1,940.6	1,797.1	1,381.7	415.4	143.5	114.4	29
North Carolina	1,686.8	1,636.8	1,160.0	476.8	50.0	37.7	12.3
Oklahoma	158.7	137.5	100.0	37.5	21.2	21.2	--
South Carolina	1,288.0	1,223.1	1,054.1	169.0	64.9	64.9	--
Tennessee	521.7	305.6	18.4	287.2	216.1	35.4	180.7
Texas	1,654.8	1,581.7	1,364.1	217.6	73.1	51.9	21.2
Virginia	909.0	855.0	488.9	366.1	54.0	21.6	32.4
All States	17,686.6	15,998.6	12,345.8	3,652.8	1,688.0	854.3	833.7

^aVeneer cores, pole and piling trim, cull material, sawdust, and secondary residues.

Table 6.--Southern pulpwood production by Experiment Station territory, 1981

Station and source of wood	All species	Softwood	Hardwood
- - - - - <u>Standard cords</u> - - - - -			
Southeastern ^a			
Roundwood	17,539,172	13,349,813	4,189,359
Residues	7,551,160	5,952,294	1,598,866
Total	25,090,332	19,302,107	5,788,225
Southern ^b			
Roundwood	19,078,644	13,586,335	5,492,309
Residues	10,135,507	7,247,784	2,887,723
Total	29,214,151	20,834,119	8,380,032
Both Stations			
Roundwood	36,617,816	26,936,148	9,681,668
Residues	17,686,667	13,200,078	4,486,589
Total	54,304,483	40,136,226	14,168,257

^aStates of Florida, Georgia, North Carolina, South Carolina, and Virginia.

^bStates of Alabama, Arkansas, Louisiana, Mississippi, Oklahoma, Tennessee, and Texas.

Table 7.--Round pulpwood production in Alabama, 1981

County ^a	All species	Softwood	Hardwood	County ^a	All species	Softwood	Hardwood
- - - - Standard cords - - - -				- - - - Standard cords - - - -			
Autauga	47,361	29,337	18,024	Jackson	35,720	15,739	19,981
Baldwin	204,071	129,813	74,258	Jefferson	58,829	56,031	2,798
Barbour	73,453	59,934	13,519	Lamar	51,131	44,327	6,804
Bibb	87,224	64,733	22,491	Lauderdale	14,535	7,705	6,830
Blount	62,758	41,107	21,651	Lawrence	26,166	10,970	15,196
Bullock	84,417	69,829	14,588	Lee	82,525	74,477	8,048
Butler	349,314	255,585	93,729	Limestone	9,016	6,115	2,901
Calhoun	73,677	66,233	7,444	Lowndes	88,201	49,219	38,982
Chambers	135,250	109,660	25,590	Macon	62,446	50,035	12,411
Cherokee	74,321	60,419	13,902	Madison	5,027	287	4,740
Chilton	126,136	95,696	30,440	Marengo	165,000	91,370	73,630
Choctaw	246,508	125,516	120,992	Marion	128,109	76,150	51,959
Clarke	199,534	105,054	94,480	Marshall	24,693	15,118	9,575
Clay	95,928	84,486	11,442	Mobile	139,981	98,615	41,366
Cleburne	71,771	68,006	3,765	Monroe	163,632	98,406	65,226
Coffee	94,327	67,162	27,165	Montgomery	72,996	51,461	21,535
Colbert	36,808	10,109	26,699	Morgan	19,591	5,768	13,823
Conecuh	170,856	105,394	65,462	Perry	69,730	36,664	33,066
Coosa	148,508	116,824	31,684	Pickens	72,781	51,585	21,196
Covington	168,670	125,866	42,804	Pike	128,241	93,008	35,233
Crenshaw	146,948	100,436	46,512	Randolph	146,960	126,248	20,712
Cullman	64,095	44,411	19,684	Russell	66,494	62,377	4,117
Dale	57,958	35,561	22,397	St. Clair	106,825	91,148	15,677
Dallas	112,683	51,378	61,305	Shelby	110,632	97,358	13,274
De Kalb	36,182	27,559	8,623	Sumter	67,893	34,471	33,422
Elmore	53,919	43,281	10,638	Talledega	89,965	77,862	12,103
Escambia	120,792	85,112	35,680	Tallapoosa	103,399	89,292	14,107
Etowah	42,857	32,003	10,854	Tuscaloosa	67,263	48,067	19,196
Fayette	113,573	98,111	15,462	Walker	176,632	155,369	21,263
Franklin	38,731	20,831	17,900	Washington	173,977	114,992	58,985
Geneva	23,061	14,265	8,796	Wilcox	154,534	80,084	74,450
Greene	71,778	42,584	29,194	Winston	112,755	96,277	16,478
Hale	40,877	25,511	15,366	All counties	6,400,013	4,515,913	1,884,100
Henry	74,910	58,716	16,194				
Houston	55,078	38,796	16,282				

^aCounties with no pulpwood production are omitted. .

Table 8.--Round pulpwood production in Arkansas, 1981

County ^a	All species	Softwood	Hardwood	County ^a	All species	Softwood	Hardwood
Standard cords				Standard cords			
Arkansas	5	5	--	Miller	42,154	28,525	13,629
Asheley	139,705	91,274	48,431	Montgomery	11,127	6,038	5,089
Bradley	161,757	70,180	91,577	Nevada	66,592	50,288	16,304
Calhoun	89,143	51,092	38,051	Newton	17	11	6
Clark	42,725	23,854	18,871	Ouachita	87,098	65,239	21,859
Leburne	9,357	9,120	237	Perry	3,674	2,678	996
Leveland	43,782	37,155	6,627	Pike	46,918	41,417	5,501
Columbia	113,979	92,687	21,292	Polk	41,135	30,369	10,766
Conway	28,198	18,515	9,683	Pope	24,169	13,353	10,816
Crawford	9	9	--	Prairie	553	--	553
Dallas	93,406	51,668	41,738	Pulaski	15,087	3,942	11,145
Desha	38	29	9	Saline	36,926	17,337	19,589
Drew	130,395	86,552	43,843	Scott	36,913	31,497	5,416
Faulkner	219	219	--	Sebastian	2,166	2,166	--
Franklin	8,551	4,496	4,055	Sevier	28,635	17,425	11,210
Garland	1,412 /	227	1,185	Union	167,184	115,769	51,415
Grant	58,326	45,025	13,301	Van Buren	17,360	12,011	5,349
Hempstead	58,007	49,762	8,245	White	10,832	9,340	1,492
Hot Spring	39,293	29,270	10,023	Woodruff	51	--	51
Howard	58,219	54,556	3,663	Yell	20,528	10,925	9,603
Independence	25,874	25,369	505				
Jard	135	135	--				
Jackson	4	--	4				
Jefferson	52,959	40,986	11,973				
Johnson	13,505	9,365	4,140	All counties	1,992,860	1,366,182	626,678
Lafayette	53,335	35,110	18,225				
Lincoln	26,987	22,606	4,381				
Little River	66,509	44,861	21,648				
Logan	17,523	13,725	3,798				
Monroe	384	--	384				

^aCounties with no pulpwood production are omitted.

Table 9.--Round pulpwood production in Florida, 1981

County ^a	All species	Softwood	Hardwood	County ^a	All species	Softwood	Hardwood
- - - - Standard cords - - - -				- - - - Standard cords - - - -			
Alachua	53,957	52,825	1,132	Lee	76	76	--
Baker	76,777	76,013	764	Leon	46,380	43,055	3,325
Bay	62,052	58,552	3,500	Levy	176,516	112,714	63,802
Bradford	50,446	49,818	628	Liberty	79,888	69,501	10,387
Brevard	130	65	65	Madison	66,831	55,842	10,989
Calhoun	116,702	113,131	3,571	Manatee	217	217	--
Charlotte	14,669	14,669	--	Marion	46,883	46,445	438
Citrus	127	127	--	Nassau	141,454	133,238	8,216
Clay	53,993	53,867	126	Okaloosa	49,857	48,030	1,827
Columbia	65,639	64,421	1,218	Okeechobee	4,890	4,890	--
De Soto	4,508	4,508	--	Osceola	4,751	4,751	--
Dixie	122,965	44,583	78,382	Pasco	10,302	10,180	122
Duval	46,504	44,639	1,865	Polk	21,290	21,290	--
Escambia	52,212	49,719	2,493	Putnam	196,920	169,520	27,400
Flagler	41,656	41,656	--	St. Johns	67,048	67,048	--
Franklin	54,715	54,715	--	Santa Rosa	61,976	60,768	1,208
Gadsden	76,123	49,453	26,670	Seminole	4,996	4,996	--
Gilchrist	33,295	32,462	833	Sumter	26,608	26,608	--
Gulf	43,762	40,426	3,336	Suwannee	178,729	173,983	4,746
Hamilton	56,136	53,758	2,378	Taylor	183,687	180,323	3,364
Hardee	731	731	--	Union	25,676	25,676	--
Hendry	9,825	9,825	--	Volusia	78,657	78,657	--
Highlands	2,483	2,483	--	Wakulla	112,577	109,077	3,500
Hillsborough	5,735	5,735	--	Walton	81,015	66,309	14,706
Holmes	48,631	36,198	12,433	Washington	53,252	37,916	15,336
Jackson	97,657	76,124	21,533				
Jefferson	77,777	76,185	1,592				
Lafayette	123,137	115,839	7,298	All counties	3,113,732	2,774,549	339,183
Lake	912	912	--				

^aCounties with no pulpwood production are omitted.

Table 10.--Round pulpwood production in Georgia, 1981

County ^a	All species	Softwood	Hardwood	County ^a	All species	Softwood	Hardwood
Standard cords				Standard cords			
Appling	114,854	107,639	7,215	Fannin	11,272	9,495	1,777
Atkinson	79,407	77,373	2,034	Fayette	13,554	13,015	539
Bacon	95,483	90,740	4,743	Floyd	67,686	65,872	1,814
Baker	21,248	19,053	2,195	Forsyth	6,636	6,636	--
Baldwin	28,165	26,113	2,052	Franklin	22,372	15,898	6,474
Banks	11,681	11,681	--	Fulton	12,012	11,860	152
Barrow	20,723	20,723	--	Gilmer	6,981	6,952	29
Bartow	43,037	42,224	813	Glascock	1,834	1,834	--
Ben Hill	56,960	48,284	8,676	Glynn	74,784	50,769	24,015
Berrien	63,334	62,805	529	Gordon	45,005	44,310	695
Bibb	19,906	19,906	--	Grady	18,988	15,705	3,283
Bleckley	10,392	10,389	3	Greene	39,329	33,894	5,435
Brantley	94,275	90,110	4,165	Gwinnett	19,538	19,538	--
Brooks	21,111	20,941	170	Habersham	1,822	1,822	--
Bryan	50,007	47,136	2,871	Hall	9,682	9,448	234
Bulloch	21,390	18,317	3,073	Hancock	50,005	38,183	11,822
Burke	78,273	64,583	13,690	Haralson	40,368	39,778	590
Butts	32,660	32,660	--	Harris	13,559	13,093	466
Calhoun	36,322	33,759	2,563	Hart	3,381	3,260	121
Camden	111,954	92,393	19,561	Heard	27,867	26,734	1,133
Candler	2,114	762	1,352	Henry	38,777	38,577	200
Carroll	59,031	58,222	809	Houston	25,482	25,482	--
Catoosa	3,965	3,914	51	Irwin	949	949	--
Charlton	117,540	100,419	17,121	Jackson	22,225	22,103	122
Chatham	21,887	18,108	3,779	Jasper	18,139	18,062	77
Chattahoochee	39,563	15,411	24,152	Jeff Davis	43,821	42,295	1,526
Chattooga	54,627	53,697	930	Jefferson	34,448	31,819	2,629
Cherokee	32,213	31,283	930	Jenkins	25,107	20,633	4,474
Clarke	1,232	1,137	95	Johnson	14,042	13,311	731
Clay	24,529	17,617	6,912	Jones	17,539	17,539	--
Clinch	86,829	82,694	4,135	Lamar	17,478	17,478	--
Cobb	10,562	10,562	--	Lanier	7,032	6,981	51
Coffee	101,400	91,437	9,963	Laurens	171,016	125,662	45,354
Colquitt	38,867	37,689	1,178	Lee	17,836	17,254	582
Columbia	20,244	17,889	2,355	Liberty	75,493	63,673	11,820
Cook	25,471	25,471	--	Lincoln	43,286	31,376	11,910
Coweta	77,082	73,032	4,050	Long	71,440	55,545	15,895
Crawford	226,329	221,247	5,082	Lowndes	80,509	77,948	2,561
Crisp	38,148	37,447	701	Lumpkin	8,630	8,110	520
Dade	1,989	1,957	32	McDuffie	15,874	14,179	1,695
Dawson	5,214	4,742	472	McIntosh	52,697	44,979	7,718
Decatur	45,617	38,272	7,345	Macon	25,525	25,301	224
De Kalb	5,393	5,393	--	Madison	8,158	8,108	50
Dodge	104,088	89,079	15,009	Marion	32,323	28,402	3,921
Dooly	27,663	27,640	23	Meriwether	58,793	56,658	2,135
Dougherty	58,135	31,370	26,765	Miller	21,275	15,681	5,594
Douglas	13,698	13,468	230	Mitchell	66,558	63,600	2,958
Early	51,659	41,541	10,118	Monroe	51,617	50,750	867
Echols	32,307	31,818	489	Montgomery	7,940	7,771	169
Effingham	52,660	42,257	10,403	Morgan	18,089	17,610	479
Elbert	33,278	25,006	8,272	Murray	40,750	39,576	1,174
Emanuel	39,746	35,208	4,538	Muscogee	1,912	1,881	31
Evans	52,598	40,827	11,771				

Continued

Table 10.--Round pulpwood production in Georgia, 1981 -- Continued

County ^a	All species	Softwood	Hardwood	County ^a	All species	Softwood	Hardwood
Standard cords				Standard cords			
Newton	22,100	22,032	68	Taylor	20,194	19,644	550
Oconee	10,461	10,167	294	Telfair	107,947	94,730	13,217
Oglethorpe	66,321	39,792	26,529	Terrell	32,539	25,967	6,572
Paulding	25,193	24,630	563	Thomas	77,453	58,631	18,822
Peach	4,252	4,252	--	Tift	27,599	27,117	482
Pickens	23,197	22,378	819	Toombs	30,927	21,226	9,701
Pierce	63,848	59,255	4,593	Towns	4,110	3,358	752
Pike	45,546	43,338	2,208	Treutlen	25,714	20,373	5,341
Polk	45,837	45,371	466	Troup	102,618	92,539	10,279
Pulaski	56,422	50,899	5,523	Turner	3,666	3,666	--
Putnam	29,196	28,936	260	Twiggs	34,989	18,731	16,258
Quitman	41,348	34,480	6,868	Union	5,039	4,470	569
Rabun	1,558	70	1,488	Upson	27,564	26,209	1,355
Randolph	84,359	60,837	23,522	Walker	18,538	18,361	177
Richmond	20,759	19,310	1,449	Walton	7,878	7,366	512
Schley	31,668	28,003	3,665	Ware	123,417	118,260	5,157
Screven	32,976	24,222	8,754	Warren	47,816	31,521	16,295
Seminole	12,014	10,109	1,905	Washington	26,085	19,489	6,596
Spalding	14,287	14,287	--	Wayne	118,922	104,234	14,688
Stephens	4,913	3,992	921	Webster	29,385	22,512	6,873
Stewart	63,009	57,528	5,481	Wheeler	55,462	53,958	1,504
Sumter	45,324	43,378	1,946	White	5,912	5,912	--
Talbot	46,243	39,652	6,591	Whitfield	23,864	15,148	8,716
Taliaferro	347	286	61	Wilcox	32,447	29,883	2,564
Tattnall	21,846	13,193	8,653	Wilkes	89,912	58,514	31,398
				Wilkinson	36,478	25,277	11,201
				Worth	75,161	65,847	9,314
				All counties	6,143,155	5,394,174	748,981

^aCounties with no pulpwood production are omitted.

Table 11.--Round pulpwood production in Louisiana, 1981

Parish ^a	All species	Softwood	Hardwood	Parish ^a	All species	Softwood	Hardwood
- - - - - Standard cords - - - - -				- - - - - Standard cords - - - - -			
Acadia	3,689	3,679	10	Madison	20,196	60	20,136
Allen	99,255	91,476	7,779	Morehouse	59,655	36,538	23,117
Ascension	3,513	1,189	2,324	Natchitoches	131,463	116,943	14,520
Assumption	328	48	280	Orleans	7	7	--
Avoyelles	14,904	4,577	10,327	Ouachita	71,085	41,889	29,196
Beauregard	371,030	368,695	2,335	Pointe Coupee	26,923	112	26,811
Bienville	210,650	189,131	21,519	Rapides	147,297	123,894	23,403
Bossier	62,406	43,577	18,829	Red River	47,671	34,121	13,550
Caddo	40,630	30,219	10,411	Richland	7,173	2,495	4,678
Calcasieu	17,897	17,743	154	Sabine	169,858	152,922	16,936
Caldwell	60,426	30,975	29,451	St. Charles	345	--	345
Catahoula	32,906	12,724	20,182	St. Helena	42,400	30,809	11,591
Claiborne	111,762	93,608	18,154	St. James	977	163	814
Concordia	41,266	--	41,266	St. John the Baptist	165	--	165
De Soto	138,265	105,417	32,848	St. Landry	8,375	1,010	7,365
East Baton Rouge	11,200	5,326	5,874	St. Martin	39	--	39
East Carroll	9,014	--	9,014	St. Tammany	52,197	50,529	1,668
East Feliciana	31,009	17,805	13,204	Tangipahoa	49,994	37,690	12,304
Evangeline	33,378	25,310	8,068	Tensas	28,364	8	28,356
Franklin	7,970	3,795	4,175	Union	141,092	95,613	45,479
Grant	74,215	49,777	24,438	Vermilion	76	14	62
Iberia	4	4	--	Vernon	202,494	191,127	11,367
Iberville	8,526	138	8,388	Washington	48,705	42,364	6,341
Jackson	111,367	77,542	33,825	Webster	62,807	48,526	14,281
Jefferson Davis	2,058	1,968	90	West Baton Rouge	2,697	265	2,432
Lafourche	105	--	105	West Carroll	2,185	--	2,185
La Salle	109,154	93,76	15,389	West Feliciana	9,398	1,596	7,802
Lincoln	136,286	113,667	22,619	Winn	115,690	90,370	25,320
Livingston	44,890	38,460	6,430				
				All parishes	3,237,431	2,519,680	717,751

^aParishes with no pulpwood production are omitted.

Table 12.--Round pulpwood production in Mississippi, 1981

County ^a	All species	Softwood	Hardwood	County ^a	All species	Softwood	Hardwood
- - - - - Standard cords - - - - -				- - - - - Standard cords - - - - -			
Adams	32,173	729	31,444	Lowndes	17,057	12,918	4,139
Alcorn	23,163	18,645	4,518	Madison	30,844	19,329	11,515
Akron	78,521	51,944	26,577	Marion	36,099	26,008	10,091
Attala	128,613	95,766	32,847	Marshall	9,164	9,071	93
Benton	18,006	14,491	3,515	Monroe	38,905	38,204	701
Bolivar	2,824	5	2,819	Montgomery	43,780	25,973	17,807
Breathitt	40,324	7,357	32,967	Neshoba	68,379	43,929	24,450
Butler	35,621	24,003	11,618	Newton	107,326	58,660	48,666
Calhoun	35,238	29,507	5,731	Noxubee	75,320	39,814	35,506
Carroll	52,631	38,409	14,222	Oktibbeha	45,096	32,282	12,814
Cass	42,622	12,534	30,088	Panola	8,163	5,553	2,610
Catahoula	148,534	78,134	70,400	Pearl River	87,134	82,514	4,620
Chickasaw	34,280	32,602	1,678	Perry	54,744	38,481	16,263
Chilton	116,268	73,117	43,151	Pike	76,707	59,619	17,088
Columbia	48,580	30,963	17,617	Pontotoc	9,225	5,414	3,811
Concord	38	30	8	Prentiss	46,531	34,095	12,436
Covington	25,927	19,096	6,831	Quitman	44	28	16
Crawford	45,303	24,175	21,128	Rankin	115,230	87,478	27,752
Crenshaw	40,717	29,710	11,007	Scott	94,406	69,449	24,957
De Kalb	134,786	91,203	43,583	Sharkey	11,411	835	10,576
De Soto	25,123	15,910	9,213	Simpson	67,619	47,324	20,295
Dallas	52,153	46,779	5,374	Smith	49,324	32,826	16,498
Darlington	49,468	40,122	9,346	Stone	42,651	40,164	2,487
De Witt	43,625	22,148	21,477	Sunflower	12	12	--
Dickinson	101,671	71,677	29,994	Tate	1,406	1,360	46
Dodd	125	91	34	Tippah	37,947	28,316	9,631
Douglas	11,303	677	10,626	Tishomingo	70,638	52,316	18,322
Dryden	38,236	28,858	9,378	Tunica	8,493	2,269	6,224
East Carroll	44,086	35,963	8,123	Union	11,165	10,448	717
East Feliciana	97,582	64,466	33,116	Walthall	22,076	14,493	7,583
East Orleans	58,508	22,578	35,930	Warren	17,126	822	16,304
East St. Louis	39,791	33,890	5,901	Washington	9,321	33	9,288
East Warren	102,033	53,246	48,787	Wayne	122,925	64,045	58,880
Effingham	116,375	75,571	40,804	Webster	42,846	34,816	8,030
Franklin	42,126	31,393	10,733	Wilkinson	49,110	6,661	42,449
Greene	37,716	32,112	5,604	Winston	68,218	54,414	13,804
Greenville	115,426	61,263	54,163	Yalobusha	23,825	16,673	7,152
Jefferson	62,331	52,636	9,695	Yazoo	7,107	2,579	4,528
Jefferson Davis	78,045	53,874	24,171				
Jones	16,816	9,888	6,928				
Leflore	3,962	2,602	1,360				
Lincoln	84,655	56,879	27,776				
				All counties	3,932,699	2,584,268	1,348,431

^aCounties with no pulpwood production are omitted.

Table 13.--Round pulpwood production in North Carolina, 1981

County ^a	All species	Softwood	Hardwood	County ^a	All species	Softwood	Hardwood
- - - - Standard cords - - - -				- - - - Standard cords - - - -			
Alamance	14,207	12,822	1,385	Lee	12,191	3,084	9,107
Alexander	13,461	11,497	1,964	Lenoir	24,446	13,634	10,812
Alleghany	264	9	255	Lincoln	16,935	15,654	1,281
Anson	92,487	60,631	31,856	McDowell	18,584	12,596	5,988
Ashe	131	4	127	Macon	1,470	172	1,298
Avery	2,064	--	2,064	Madison	3,770	989	2,781
Beaufort	131,449	92,177	39,272	Martin	53,628	38,146	15,482
Bertie	103,474	43,773	59,701	Mecklenburg	10,584	9,582	1,002
Bladen	131,837	52,257	79,580	Mitchell	2,058	210	1,848
Brunswick	78,697	66,044	12,653	Montgomery	66,954	57,489	9,465
Buncombe	6,041	1,100	4,941	Moore	44,327	32,530	11,797
Burke	28,266	16,563	11,703	Nash	28,205	9,509	18,696
Cabarrus	12,918	7,129	5,789	New Hanover	7,890	5,453	2,437
Caldwell	10,551	6,839	3,712	Northampton	42,181	16,577	25,604
Camden	14,343	2,759	11,584	Onslow	104,898	91,948	12,950
Carteret	28,788	23,087	5,701	Orange	18,189	13,649	4,540
Caswell	11,143	274	10,869	Pamlico	16,667	10,591	6,076
Catawba	7,207	6,562	645	Pasquotank	33,774	14,494	19,280
Chatham	102,268	73,459	28,809	Pender	58,902	47,792	11,110
Cherokee	23,191	17,938	5,253	Perquimans	28,140	12,833	15,307
Chowan	36,881	6,394	30,487	Person	11,393	6,371	5,022
Clay	2,637	2,330	307	Pitt	45,816	24,392	21,424
Cleveland	18,556	16,093	2,463	Polk	18,696	10,166	8,530
Columbus	88,744	54,659	34,085	Randolph	7,286	6,111	1,175
Craven	149,487	101,285	48,202	Richmond	33,893	21,509	12,384
Cumberland	43,427	30,455	12,972	Robeson	65,236	42,917	22,319
Currituck	18,429	1,982	16,447	Rockingham	12,159	6,502	5,657
Dare	6,681	5,248	1,433	Rowan	13,558	8,868	4,690
Davidson	26,849	12,221	14,628	Rutherford	77,651	52,496	25,155
Davie	13,741	4,318	9,423	Sampson	89,922	51,018	38,904
Duplin	62,957	41,296	21,661	Scotland	12,654	8,879	3,775
Durham	10,796	6,224	4,572	Stanly	41,195	33,825	7,370
Edgecombe	24,525	9,076	15,449	Stokes	5,955	2,918	3,037
Forsyth	1,781	1,342	439	Surry	4,912	3,357	1,555
Franklin	60,976	43,831	17,145	Swain	5,183	3,897	1,286
Gaston	13,793	12,898	895	Transylvania	4,970	208	4,762
Gates	57,133	15,995	41,138	Tyrrell	46,940	28,891	18,049
Graham	1,716	1,321	395	Union	36,153	30,175	5,978
Granville	27,166	17,833	9,333	Vance	14,709	9,119	5,590
Greene	11,720	5,506	6,214	Wake	63,977	45,505	18,472
Guilford	48,979	33,487	15,492	Warren	52,556	42,503	10,053
Halifax	87,831	50,500	37,331	Washington	59,040	8,034	51,006
Harnett	24,918	14,322	10,596	Watauga	201	18	183
Haywood	5,419	1,177	4,242	Wayne	21,585	10,221	11,364
Henderson	3,691	750	2,941	Wilkes	22,596	12,460	10,136
Hertford	28,100	7,835	20,265	Wilson	25,547	12,166	13,381
Hoke	3,916	2,515	1,401	Yadkin	5,439	3,216	2,223
Hyde	35,452	15,141	20,311	All counties	3,213,614	1,956,496	1,257,118
Iredell	15,379	11,611	3,768				
Jackson	4,217	53	4,164				
Johnston	30,604	5,630	24,974				
Jones	41,311	35,570	5,741				

^aCounties with no pulpwood production are omitted.

Table 14.--Round pulpwood production in Oklahoma, 1981

County ^a	All species	Softwood	Hardwood
- - - - Standard cords - - - -			
Choctaw	17,146	9,631	7,515
Creek	2,522	--	2,522
Haskell	744	744	--
Latimer	726	726	--
Le Flore	52,041	31,225	20,816
McCurtain	113,374	63,138	50,236
Pushmataha	80,321	48,060	32,261
All counties	266,874	153,524	113,350

^aCounties with no pulpwood production are omitted.

Table 15.--Round pulpwood production in South Carolina, 1981

County ^a	All species	Softwood	Hardwood	County ^a	All species	Softwood	Hardwood
- - - - Standard cords - - - -				- - - - Standard cords - - - -			
Abbeville	66,361	45,736	20,625	Jasper	73,616	45,680	27,936
Aiken	52,920	40,883	12,037	Kershaw	150,878	131,863	19,015
Allendale	32,850	26,054	6,796	Lancaster	100,223	94,498	5,725
Anderson	41,802	36,271	5,531	Laurens	106,884	78,080	28,804
Bamberg	15,648	8,751	6,897	Lee	8,171	7,889	282
Barnwell	14,160	13,725	435	Lexington	42,264	40,200	2,064
Beaufort	12,762	6,744	6,018	McCormick	102,424	87,174	15,250
Berkeley	86,959	78,265	8,694	Marion	36,228	19,199	17,029
Calhoun	218	8	210	Marlboro	27,339	17,298	10,041
Charleston	21,462	16,356	5,106	Newberry	96,614	74,914	21,700
Cherokee	32,478	29,267	3,211	Oconee	37,302	23,213	14,089
Chester	101,747	94,272	7,475	Orangeburg	120,136	56,450	63,686
Chesterfield	85,100	72,156	12,944	Pickens	64,638	35,523	29,115
Clarendon	7,918	5,116	2,802	Richland	68,990	67,618	1,372
Colleton	104,287	58,849	45,438	Saluda	22,193	17,250	4,943
Darlington	20,175	15,275	4,900	Spartanburg	57,084	53,370	3,714
Dillon	17,628	11,703	5,925	Sumter	31,171	29,467	1,704
Dorchester	88,782	52,117	36,665	Union	76,794	63,057	13,737
Edgefield	75,052	49,808	25,244	Williamsburg	65,281	47,152	18,129
Fairfield	158,865	139,877	18,988	York	102,919	97,821	5,098
Florence	34,269	27,693	6,576	All counties	2,814,384	2,181,811	632,573
Georgetown	93,369	73,327	20,042				
Greenville	12,458	12,121	337				
Greenwood	66,464	55,610	10,854				
Hampton	59,948	40,189	19,759				
Horry	119,553	83,922	35,631				

^aCounties with no pulpwood production are omitted.

Table 16.--Round pulpwood production in Tennessee, 1981

County ^a	All species	Softwood	Hardwood	County ^a	All species	Softwood	Hardwood
- - - - Standard cords - - - -				- - - - Standard cords - - - -			
Anderson	3,876	3,784	92	Knox	7,726	7,279	447
Benton	8,266	646	7,620	Lauderdale	6	6	--
Bledsoe	32,270	10,241	22,029	Lawrence	28,566	17,078	11,488
Blount	4,430	3,680	750	Lewis	17,277	2,265	15,012
Bradley	46,605	41,348	5,257	Lincoln	25	25	--
Campbell	2,307	--	2,307	Loudon	2,972	2,629	343
Carroll	1,615	139	1,476	McMinn	24,490	21,728	2,762
Carter	1,961	--	1,961	McNairy	9,187	8,861	326
Chester	7,055	3,974	3,081	Madison	5,887	4,905	982
Cooke	17,194	3,345	13,849	Marion	22,771	1,274	21,497
Coffee	5,643	5,643	--	Marshall	2,667	2,667	--
Crockett	9	3	6	Maurry	6,213	6,065	148
Cumberland	16,986	16,162	824	Meigs	22,120	19,623	2,497
Decatur	6,819	4,573	2,246	Monroe	31,753	28,034	3,719
Dyer	37	29	8	Montgomery	1,844	1,844	--
Fayette	382	366	16	Morgan	13,406	9,363	4,043
Fentress	10,965	10,873	92	Perry	14,253	110	14,143
Franklin	7,166	--	7,166	Polk	12,457	11,053	1,404
Gibson	40	19	21	Rhea	26,171	16,196	9,975
Giles	32,319	29,818	2,501	Roane	15,238	4,684	10,554
Greene	4,885	2,277	2,608	Scott	15,409	11,316	4,093
Grundy	25,833	3,508	22,325	Sequatchie	6,822	6,653	169
Hamblen	846	176	670	Sevier	788	700	88
Hamilton	14,064	10,259	3,805	Stewart	310	206	104
Hancock	3,042	69	2,973	Sullivan	4,883	--	4,883
Hardeman	16,530	9,938	6,592	Tipton	63	--	63
Hardin	22,036	12,465	9,571	Unicoi	692	--	692
Hawkins	17,560	4,730	12,830	Union	8	8	--
Henderson	20,542	20,542	--	Van Buren	11	--	11
Henry	2,849	1,010	1,839	Washington	1,153	--	1,153
Hickman	31,001	761	30,240	Wayne	115,706	16,893	98,813
Humphreys	40,963	634	40,329	Weakley	3,312	1,914	1,398
Jefferson	1,186	1,053	133				
Johnson	1,274	5	1,269				
				All counties	822,742	405,449	417,293

^aCounties with no pulpwood production are omitted.

Table 17.--Round pulpwood production in Texas, 1981

County ^a	All species	Softwood	Hardwood	County ^a	All species	Softwood	Hardwood
- - - - Standard cords - - - -				- - - - Standard cords - - - -			
Arson	18,739	18,355	384	Nacogdoches	70,128	65,081	5,047
Albina	84,152	73,592	10,560	Newton	122,690	92,353	30,337
Brewster	59,420	41,095	18,325	Orange	17,483	15,818	1,665
Brewster	22,760	19,129	3,631	Panola	76,251	66,010	10,241
Brewster	125,377	96,357	29,020	Polk	207,493	166,571	40,922
Brewster	1,066	1,066	--	Red River	18,232	10,700	7,532
Brewster	80,133	76,731	3,402	Rusk	61,537	53,817	7,720
Brewster	472	425	47	Sabine	53,200	39,329	13,871
Brewster	14,843	13,335	1,508	San Augustine	55,242	37,907	17,335
Brewster	46,924	46,497	427	San Jacinto	46,752	42,371	4,381
Brewster	91,184	70,062	21,122	Shelby	112,785	93,373	19,412
Brewster	5,575	3,888	1,687	Smith	34,552	32,087	2,465
Brewster	90,781	81,865	8,916	Titus	4,417	4,091	326
Brewster	1,277	1,234	43	Trinity	198,686	196,693	1,993
Brewster	69,846	59,723	10,123	Tyler	105,591	80,302	25,289
Brewster	145,313	124,310	21,003	Upshur	94,342	90,954	3,388
Brewster	9,173	6,982	2,191	Walker	75,559	59,452	16,107
Brewster	1,830	1,830	--	Waller	3,065	2,566	499
Brewster	34,020	17,546	16,474	Wood	15,038	14,221	817
Brewster	430	430	--				
Brewster	81,223	61,591	19,632	All counties	2,426,025	2,041,319	384,706
Brewster	51,149	46,170	4,979				
Brewster	17,295	15,410	1,885				

Counties with no pulpwood production are omitted.

Table 18.--Round pulpwood production in Virginia, 1981

County ^a	All species	Softwood	Hardwood	County ^a	All species	Softwood	Hardwood
----- Standard cords -----				----- Standard cords -----			
Accomack	12,504	12,466	38	Lancaster	4,438	3,588	850
Albemarle	56,217	24,281	31,936	Lee	10,931	--	10,931
Alleghany	73,310	13,060	60,250	Loudoun	39	14	25
Amelia	35,888	14,509	21,379	Louisa	38,482	25,588	12,894
Amherst	37,407	13,128	24,279	Lunenburg	56,867	14,159	42,708
Appomattox	74,143	43,188	30,955	Madison	3,029	1,308	1,721
Arlington	270	270	--	Mathews	8,235	4,013	4,222
Augusta	30,581	3,400	27,181	Mecklenburg	49,126	31,674	17,452
Bath	48,114	7,101	41,013	Middlesex	6,801	4,258	2,543
Bedford	66,205	26,900	39,305	Montgomery	5	5	--
Bland	59	59	--	Nelson	57,475	21,063	36,412
Botetourt	38,317	12,517	25,800	New Kent	22,191	14,705	7,486
Brunswick	69,625	41,768	27,857	Newport News	6	3	3
Buchanan	83	18	65	Northampton	2,475	1,459	1,016
Buckingham	137,297	42,392	94,905	Northumberland	5,318	3,385	1,933
Campbell	72,151	48,600	23,551	Nottoway	37,055	21,617	15,438
Caroline	30,127	24,872	5,255	Orange	42,417	20,506	21,911
Carroll	13	--	13	Page	184	149	35
Charles City	11,067	3,985	7,082	Patrick	10,481	1,401	9,080
Charlotte	60,256	27,309	32,947	Pittsylvania	77,634	58,356	19,278
Chesapeake	20	17	3	Powhatan	11,809	6,591	5,218
Chesterfield	9,256	7,374	1,882	Prince Edward	70,992	41,515	29,477
Clarke	1	--	1	Prince George	24,812	8,520	16,292
Craig	32,543	9,129	23,414	Prince William	9,798	7,112	2,686
Culpeper	12,539	7,449	5,090	Pulaski	258	23	235
Cumberland	37,759	24,670	13,089	Rappahannock	106	100	6
Dinwiddie	25,975	15,963	10,012	Richmond	5,340	3,791	1,549
Essex	11,565	9,307	2,258	Roanoke	32	29	3
Fairfax	5,671	4,058	1,613	Rockbridge	57,891	11,020	46,871
Fauquier	2,374	2,093	281	Rockingham	15,052	1,900	13,152
Floyd	509	--	509	Scott	8,787	--	8,787
Fluvanna	42,721	34,337	8,384	Shenandoah	4,197	1,714	2,483
Franklin	44,891	13,981	30,910	Smyth	9,359	--	9,359
Frederick	7,832	6,376	1,456	Southampton	66,985	14,278	52,707
Giles	37	27	10	Spotsylvania	30,936	24,701	6,235
Gloucester	5,201	2,780	2,421	Stafford	2,386	1,228	1,158
Goochland	16,985	14,001	2,984	Suffolk	27,985	10,305	17,680
Greene	1,416	1,409	7	Surry	22,420	8,798	13,622
Greensville	15,545	7,844	7,701	Sussex	58,470	19,749	38,721
Halifax	43,434	22,558	20,876	Tazewell	3,214	--	3,214
Hanover	15,238	12,796	2,442	Warren	1,130	1,088	42
Henrico	1,025	946	79	Washington	2,786	--	2,786
Henry	65,043	39,855	25,188	Westmoreland	4,008	3,576	432
Highland	15,662	373	15,289	Wise	20,830	--	20,830
Isle of Wight	30,845	9,339	21,506	Wythe	1,216	--	1,216
James City	5,359	2,861	2,498	York	468	379	89
King and Queen	38,260	25,451	12,809	All counties	2,254,287	1,042,783	1,211,504
King George	3,187	3,023	164				
King William	15,304	11,275	4,029				

^aCounties with no pulpwood production are omitted.

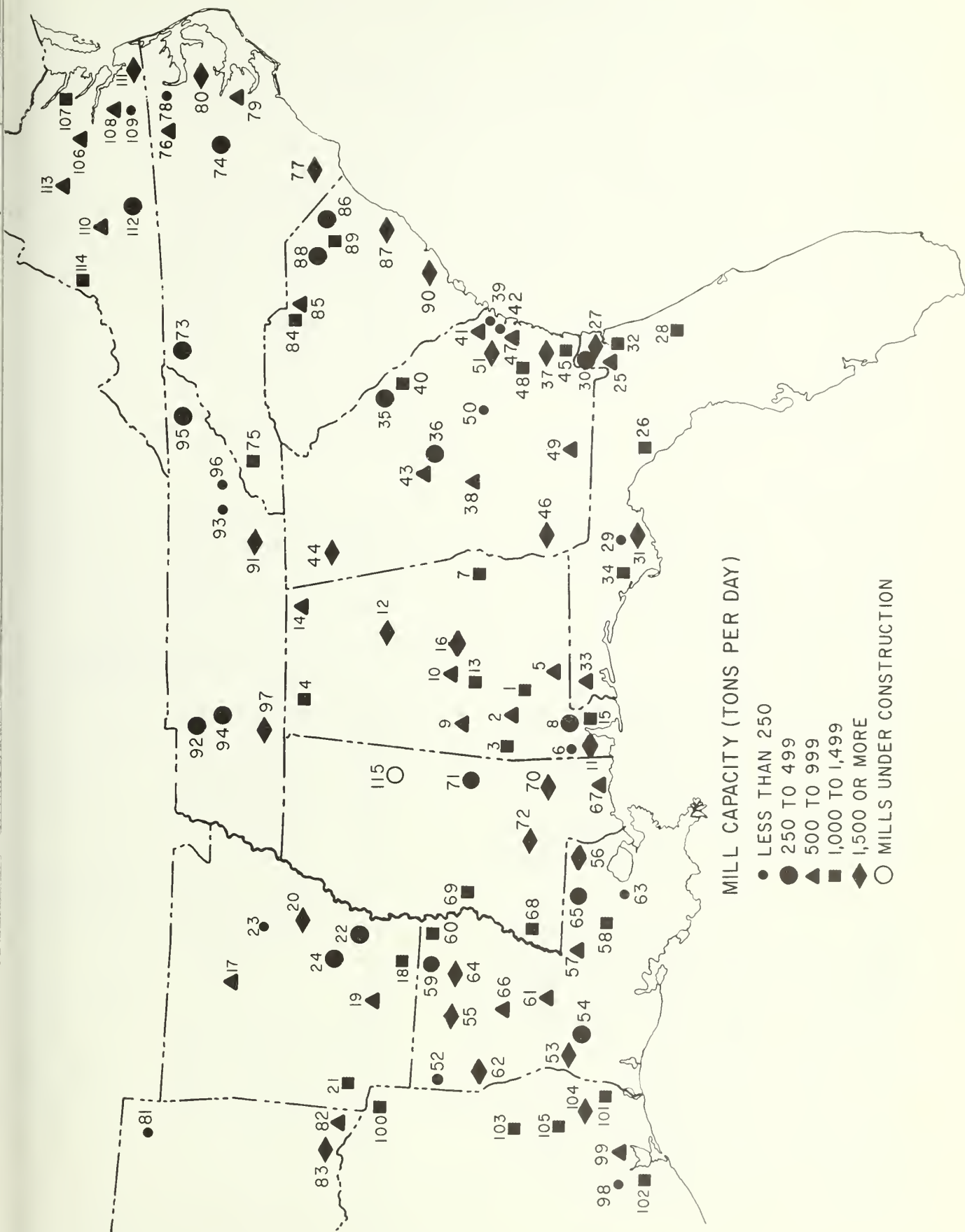


Table 19.--Southern pulpmills, by process and capacity, 1981

Location	Map code ^a	Company	Pulping capacity, 24 hours ^b				
			All processes	Sulfate	Groundwood: and other mechanical	Semi- chemical	Soda and sulfite
----- Tons -----							
ALABAMA							
Claiborne	(1)	Alabama River Pulp Co.	1,000	1,000	--	--	--
Jackson	(2)	Allied Paper Co.	600	600	--	--	--
Naheola	(3)	American Can Co.	1,000	1,000	--	--	--
Courtland	(4)	Champion International Corp.	1,300	1,300	--	--	--
Brewton	(5)	Container Corp. of America	800	800	--	--	--
Mobile	(6)	GAF Corp.	50	--	50	--	--
Mahrt	(7)	Georgia Kraft Co., Alabama Div.	1,000	1,000	--	--	--
Mobile	(8)	Gold Bond Building Products	375	--	200	175	--
Demopolis	(9)	Gulf States Paper Corp.	525	525	--	--	--
Selma	(10)	Hammermill Paper Co.	650	650	--	--	--
Mobile	(11)	International Paper Co.	1,500	1,200	300	--	--
Coosa Pines	(12)	Kimberly-Clark Corp.	1,940	1,000	940	--	--
Pine Hill	(13)	McMillan Bloedel, Inc.	1,100	1,100	--	--	--
Stevenson	(14)	Mead Paperboard	775	--	--	775	--
Mobile	(15)	Scott Paper Co.	1,400	1,400	--	--	--
Montgomery	(16)	Union Camp Corp.	2,300	2,300	--	--	--
Total			16,315	13,875	1,490	950	--
ARKANSAS							
Morrilton	(17)	Arkansas Kraft Corp.	800	800	--	--	--
Crossett	(18)	Georgia-Pacific Corp.	1,400	1,400	--	--	--
Camden	(19)	International Paper Co.	750	750	--	--	--
Pine Bluff	(20)	International Paper Co.	1,700	1,300	400	--	--
Ashdown	(21)	Nekoosa Papers, Inc.	1,345	1,345	--	--	--
McGehee	(22)	Potlatch Corp.	450	450	--	--	--
Little Rock	(23)	Superwood Corp.	140	--	140	--	--
Pine Bluff	(24)	Weyerhaeuser Co.	300	300	--	--	--
Total			6,885	6,345	540	--	--
FLORIDA							
Jacksonville	(25)	Alton Packaging Corp.	700	700	--	--	--
Foley	(26)	The Buckeye Cellulose Corp.	1,148	1,148	--	--	--
Fernandina Beach	(27)	Container Corp. of American	1,700	1,700	--	--	--
Palatka	(28)	Georgia-Pacific Corp.	1,150	1,150	--	--	--
Blountstown	(29)	Goodson Mfg.(closed Oct. 1981)	210	--	210	--	--
Fernandina Beach	(30)	I.T.T. Rayonier Inc.	400	--	--	--	400
Port St. Joe	(31)	St. Joe Paper Co.	1,700	1,700	--	--	--
Jacksonville	(32)	St. Regis Paper Co.	1,400	1,400	--	--	--
Pensacola	(33)	St. Regis Paper Co.	950	950	--	--	--
Panama City	(34)	Southwest Forest Industries, Inc.	1,415	1,415	--	--	--
Total			10,773	10,163	210	--	400
GEORGIA							
Augusta	(35)	Abitibi Southern Corp.	400	--	400	--	--
Macon	(36)	Armstrong World Industries	400	--	400	--	--
Brunswick	(37)	Brunswick Pulp and Paper Co.	1,675	1,675	--	--	--
Oglethorpe	(38)	Buckeye Cellulose Corp.	880	880	--	--	--
Savannah	(39)	Certain-teed Corp.	80	--	--	80	--
Augusta	(40)	Continental Forest Industries	1,200	800	400	--	--
Port Wentworth	(41)	Continental Forest Industries	700	700	--	--	--
Savannah	(42)	GAF Corp.	125	--	125	--	--
Macon	(43)	Georgia Kraft Co., Mead Div.	900	900	--	--	--
Rome	(44)	Georgia Kraft Co., Krannert Div.	1,600	1,600	--	--	--
St. Marys	(45)	Gilman Paper Co.St. Marys Kraft Div.	1,100	1,100	--	--	--
Cedar Springs	(46)	Great Southern Paper Co.	2,520	2,120	--	400	--
Riceboro	(47)	Interstate Paper Corp.	550	550	--	--	--
Jesup	(48)	I.T.T. Rayonier, Inc.	1,266	1,266	--	--	--
Valdosta	(49)	Owens-Illinois, Forest Products Div.	875	875	--	--	--
Dublin	(50)	Southeast Paper Mfg. Co.	70	--	70	--	--
Savannah	(51)	Union Camp Corp.	3,000	2,700	--	300	--
Total			17,341	15,166	1,395	780	--

Table 19.--Southern pulpmills, by process and capacity, 1981 (Continued)

Location	Map code ^a	Company	Pulping capacity, 24 hours ^b				
			All processes	Sulfate	Groundwood: and other mechanical	Semi- chemical	Soda and sulfite
			Tons				
LOUISIANA							
Shreveport	(52)	Bird and Son, Inc.	225	--	--	225	--
DeRidder	(53)	Boise Southern Co.	2,190	1,260	930	--	--
Elizabeth	(54)	Boise Southern Co.	305	305	--	--	--
Hodge	(55)	Continental Forest Industries	1,650	1,400	--	250	--
Bogalusa	(56)	Crown Zellerbach Corp.	1,600	1,300	--	300	--
St. Francisville	(57)	Crown Zellerbach Corp.	550	550	--	--	--
Port Hudson	(58)	Georgia-Pacific Corp.	1,285	1,285	--	--	--
Bastrop	(59)	International Paper Co.(Bastrop)	485	--	--	485	--
Bastrop	(60)	International Paper Co.(Louisiana)	1,100	1,100	--	--	--
Pineville	(61)	International Paper Co.	985	985	--	--	--
Mansfield	(62)	International Paper Co.	1,900	1,400	--	500	--
New Orleans	(63)	Masonite Corp. (Closed Sept. 1981)	110	--	110	--	--
West Monroe	(64)	Manville Forest Products Corp.	1,900	1,650	--	250	--
St. Francisville	(65)	St. Francisville Paper Co.	255	--	255	--	--
Campti	(66)	Willamette Industries, Inc.	800	800	--	--	--
Total			15,340	12,035	1,295	2,010	--
MISSISSIPPI							
Moss Point	(67)	International Paper Co.	700	700	--	--	--
Natchez	(68)	International Paper Co.	1,100	1,100	--	--	--
Vicksburg	(69)	International Paper Co.	1,180	1,180	--	--	--
Laurel	(70)	Masonite Corp.	3,380	--	3,380	--	--
Meridan	(71)	Owens-Corning Fiberglass Corp.	250	--	250	--	--
Monticello	(72)	St. Regis Paper Co.	1,620	1,620	--	--	--
Total			8,230	4,600	3,630	--	--
NORTH CAROLINA							
Roaring River	(73)	Abitibi Corp.	250	--	250	--	--
Goldsboro	(74)	The Celotex Corp.	300	--	200	100	--
Canton	(75)	Champion International Corp.	1,400	1,400	--	--	--
Roanoke Rapids	(76)	Champion International Corp. Hoerner Waldorf Div.	940	940	--	--	--
Riegelwood	(77)	Federal Paper Board Co., Inc.	1,635	1,635	--	--	--
Conway	(78)	Georgia-Pacific Corp.	200	--	200	--	--
New Bern	(79)	Weyerhaeuser Co.	725	725	--	--	--
Plymouth	(80)	Weyerhaeuser Co.	2,050	1,800	--	250	--
Total			7,500	6,500	650	350	--
OKLAHOMA							
Pryor	(81)	Georgia-Pacific Corp.	90	--	90	--	--
Broken Bow	(82)	Weyerhaeuser Co.	920	--	920	--	--
Valliant	(83)	Weyerhaeuser Co.	2,000	1,500	--	500	--
Total			3,010	1,500	1,010	500	--
SOUTH CAROLINA							
Catawba	(84)	Bowaters Carolina Corp.	1,150	1,000	150	--	--
Catawba	(85)	Catawba Newsprint Co.	500	--	500	--	--
Marion	(86)	The Celotex Corp.	360	--	360	--	--
Georgetown	(87)	International Paper Co.	2,010	1,650	--	360	--
Hartsville	(88)	Sonoco Products Co.	280	--	--	280	--
Florence	(89)	Stone Container Corp.	1,400	1,400	--	--	--
Charleston	(90)	Westvaco Corp.	2,000	2,000	--	--	--
Total			7,700	6,050	1,010	640	--

Continued

Table 19.--Southern pulp mills, by process and capacity, 1981 (Continued)

Location	Map code ^a	Company	Pulping capacity, 24 hours ^b				
			All processes	Sulfate	Groundwood: and other mechanical	Semi- chemical	Sod- and sulf
			----- Tons -----				
TENNESSEE							
Calhoun	(91)	Bowaters Southern Paper Corp.	2,230	720	1,300	--	21
Paris	(92)	The Celotex Corp.	300	--	--	300	--
Harriman	(93)	Harriman Paperboard Corp.	190	--	--	190	--
New Johnsonville	(94)	Inland Container Corp.	400	--	--	400	--
Kingsport	(95)	Mead Paper	250	--	--	--	25
Knoxville	(96)	Tamko Asphalt Products, Inc.	120	--	120	--	--
Counce	(97)	Tennessee River Pulp and Paper Co.	1,600	1,600	--	--	--
Total			5,090	2,320	1,420	890	46
TEXAS							
Houston	(98)	The Celotex Corp.	50	--	50	--	--
Pasadena	(99)	Champion International Corp.	750	750	--	--	--
Texarkana	(100)	International Paper Co.	1,200	1,200	--	--	--
Orange	(101)	Owens-Illinois, Inc.	1,200	1,200	--	--	--
Houston	(102)	St. Regis Paper Co.	1,450	650	800	--	--
Lufkin	(103)	St. Regis Paper Co.	1,200	400	800	--	--
Evadale	(104)	Temple-EastTex Inc.	1,500	1,500	--	--	--
Diboll	(105)	Temple-EastTex Inc. Temple Industries Div.	1,430	--	1,430	--	--
Total			8,780	5,700	3,080	--	--
VIRGINIA							
Ashland	(106)	Bear Island Paper Co.	520	--	--	520	--
West Point	(107)	The Chesapeake Corp. of Va.	1,450	1,450	--	--	--
Hopewell	(108)	Continental Forest Industries	874	874	--	--	--
Jarratt	(109)	Georgia-Pacific Corp.	240	--	240	--	--
Big Island	(110)	Owens-Illinois, Forest Products Div.	525	--	--	525	--
Franklin	(111)	Union Camp Corp.	1,800	1,800	--	--	--
Danville	(112)	United States Gypsum Co.	375	--	375	--	--
Riverville	(113)	Virginia Fiber Corp.	500	--	--	500	--
Covington	(114)	Westvaco Corp.	1,304	1,144	--	160	--
Total			7,588	5,268	615	1,705	--
Total South			114,552	89,522	16,345	7,825	86

^aCorresponds to numbers at locations on mill capacity map, page 19.^bSouthern Pulp and Paper Manufacturer, Vol. 43, No. 10A (October 1980); and other sources.

Table 20.--Other mills using southern pulpwood in 1981, by process and capacity

Location	Company	Pulping capacity, 24 hours ^a				
		All	Sulfate	Groundwood	Semi-	Soda
		processes		and other	chemical	and
				mechanical		sulfite
----- Tons -----						
ILLINOIS						
Chicago	Bird and Son, Inc.	42	--	42	--	--
KENTUCKY						
Hawesville	Willamette Ind.	300	--	--	300	--
Wickliffe	Westvaco Corp.	640	640	--	--	--
MARYLAND						
Luke	Westvaco Corp.	756	756	--	--	--
OHIO						
Milan	Certain-teed Corp.	135	90	45	--	--
Franklin	Georgia-Pacific	50		50	--	--
PENNSYLVANIA						
Roaring Springs	Appleton Papers, Inc.	180	180	--	--	--
York	Certain-teed Corp.	60	--	60	--	--
Spring Grove	P.H. Glatfelter Co.	550	550	--	--	--

^aSouthern Pulp and Paper Manufacturer, Vol. 43, No. 10A (October 1980); and other sources.

Table 21.--Pulpmills under construction in the South

Location	Map code ^a	Company	Pulping capacity, 24 hours
----- Tons -----			
MISSISSIPPI			
Columbus	115	Weyerhaeuser Co.	500

^aCorresponds to numbers at location on mill capacity map, page 19.



Hutchins, Cecil C., Jr.

Southern pulpwood production, 1981. Resour. Bull. SE-66. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southeastern Forest Experiment Station; 1982. 24 p.

Pulpwood production in the South was 54.3 million cords in 1981, a decline of less than 0.5 percent from 1980. Roundwood production was down 1 percent, while the use of byproducts was up 1 percent. Pulping capacity was 114,552 tons per day at 114 mills operating in the South in 1981, a 2 percent increase.

KEYWORDS: Pulpwood, roundwood, residues, pulp mills

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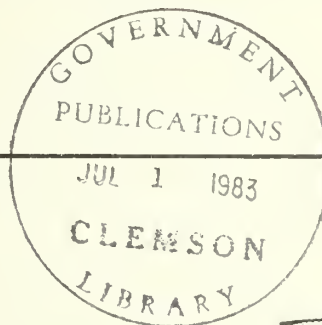
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The Forest Service, U.S. Department of Agriculture, is dedicated to the principle of multiple use management of the Nation's forest resources for sustained yields of wood, water, forage, wildlife, and recreation. Through forestry research, cooperation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

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FOREST STATISTICS FOR NORTH CENTRAL GEORGIA, 1983



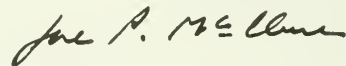
Foreword

This report highlights the principal findings of the fifth forest survey of North Central Georgia. Fieldwork began in May 1982 and was completed in September 1982. Four previous surveys, completed in 1936, 1953, 1961, and 1972, provide statistics for measuring changes and trends over the past 47 years. The primary emphasis in this report is on the changes and trends since 1972. Previously reported figures have been adjusted to provide the best estimate of change.

Periodic surveys of the forest resource are authorized by the Forest and Rangeland Renewable Resources Research Act of 1978. These surveys are a continuing, nationwide undertaking by the regional experiment stations of the Forest Service, USDA. In Florida, Georgia, North Carolina, South Carolina, and Virginia, these surveys are administered by the Forest Inventory and Analysis (Forest Survey) Research Work Unit at the Southeastern Forest Experiment Station, with headquarters in Asheville, North Carolina. The primary objective of the survey is to periodically inventory and evaluate all forest and related resources. These multiresource data help provide a basis for formulating forest policies and programs and for the orderly development and use of the resources. This report deals only with the extent and condition of forest lands, associated timber volumes, and rates of growth and removals.

The 32-county area covered by this report is one of five survey units in Georgia. Similar reports, USDA Forest Service Resource Bulletins SE-61, SE-63, and SE-65 have been issued for Southwest, Southeast, and Central Georgia, respectively. A comparable report for North Georgia will be issued upon final processing of collected data. When completed, this survey will provide updated statistics on the forest resource for all of Georgia.

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



JOE P. McCLURE
Project Leader

April 1983
Southeastern Forest Experiment Station
Asheville, North Carolina

FOREST STATISTICS
FOR
NORTH CENTRAL GEORGIA,

1983

by

John B. Tansey, Forester
Forest Inventory and Analysis
Asheville, North Carolina

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Since 1972 in North Central Georgia

- area of commercial forest land has decreased by 184,000 acres, or about 5 percent. Almost 296,000 acres of commercial forest were diverted to other land uses, while more than 111,500 acres of new commercial forest were added. Approximately 48 percent of the acreage removed from commercial forest was diverted to an urban land use, 37 percent to agricultural land, and about 13 percent to water. Two percent, or about 6,700 acres of the diverted area, was reclassified as productive reserved forest. Commercial forests now cover 3.8 million acres, 62 percent of the land area in these 32 counties.

- area of commercial forest land held by nonindustrial private forest (NIPF) landowners has declined by 289,000 acres, or 8 percent, and now totals 3.2 million acres. The three ownership categories making up the NIPF group, farmer, miscellaneous private individual, and miscellaneous private corporate, account for 85 percent of the commercial forest acreage. Commercial forest area owned by farmers declined by 537,000 acres, a loss of 43 percent. In contrast, miscellaneous private corporate landowners increased their holdings by 171,000 acres, or by 71 percent, while the acreage owned by miscellaneous private individuals increased by 4 percent, a gain of 78,000 acres. Forest industry has increased its holdings by 76,000 acres to 482,000 acres, an increase of 19 percent. Forest industry controls an additional 44,000 acres of commercial forest under long-term lease from the NIPF sector.

- almost 806,000 acres, or 79,000 acres annually, were harvested and retained in commercial forest. This figure represents 21 percent of the total commercial forest area and is an increase of 85 percent in the annual harvest of forest land since the period between 1961 and 1972. Three-fourths of this harvesting occurred on NIPF lands. An additional 380,000 acres, or 10 percent of the total commercial

forest area, experienced some form of intermediate cutting. Again, the majority of this cut, 86 percent, occurred on NIPF land. Insects, disease, and other natural destructive agents significantly damaged the timber on an additional 804,000 acres of commercial forest land.

- about 149,000 acres, or 14,600 acres annually, have been artificially regenerated and are adequately stocked with suitable trees. The rate of artificial regeneration has increased by 50 percent since the period between 1961 and 1972; however, all of this increase has occurred on lands owned or leased by forest industry. Artificial regeneration has decreased by 72 percent on NIPF lands. When all ownerships are included, stands originating wholly or in part from artificial regeneration make up only 8 percent of the commercial forest land.

- average basal area of all live trees 5.0 inches d.b.h. and larger has increased from 63 to 70 square feet per acre of commercial forest land. There are also 552 sapling-size trees per acre, 93 fewer per acre than in 1972. Stands classified as fully stocked have increased by 14 percent to 1.5 million acres, but stands classified as medium stocked dropped from 2.2 million to 1.8 million acres. The acreage of commercial forest considered to be poorly stocked has increased from 490,000 to 509,000 acres.

- volume of softwood growing stock has increased by less than 2 percent and now totals 2.5 billion cubic feet. This increase is small in comparison to that between 1961 and 1972 when the volume of softwood growing stock rose by over 76 percent. All of this increase occurred in sawtimber-size trees, where growing-stock volume increased by 246 million cubic feet, or 16 percent. Poletimber volume, however, declined by 209 million cubic feet, a loss of 22 percent. The volume of loblolly pine, which accounts for 73 percent of the softwood inventory, increased by 167 million cubic feet, or 10 percent. The volume of shortleaf

pine dropped 166 million cubic feet or 23 percent, while the volume of Virginia pine increased 43 million cubic feet, or by more than 92 percent. The current inventory of softwood growing stock includes 8.2 billion board feet of sawtimber.

- volume of hardwood growing stock has increased from about 2.0 billion cubic feet to almost 2.5 billion cubic feet. This increase in volume occurred across the range of diameters, except the 6-inch class in which volume declined by less than 1 percent. Oaks accounted for 52 percent of the increase, and sweetgum, yellow-poplar, hickory, and the soft maples accounted for another 44 percent. Only ash showed a decrease in volume. The current inventory of hardwood growing stock includes 6.7 billion board feet of sawtimber.

- number of pines in the 2-, 4-, 6- and 8-inch diameter classes has declined significantly. The number of pines has dropped 43 percent in the 2-inch class, 47 percent in the 4-inch class, 34 percent in the 6-inch class and 13 percent in the 8-inch class. The acreage of commercial forest land classified as pine sapling-seedling and poletimber stands also declined substantially. The acreage of pine poletimber stands has decreased 425,000 acres, or by 43 percent. The acreage of pine sapling-seedling stands has decreased almost 56,000 acres, or 12 percent. The acreage classified as pine sawtimber has increased 21 percent.

In 1982

- net annual growth of softwood growing stock averaged 45 cubic feet per acre of commercial forest land and totaled 172 million cubic feet. This is a 24 percent decrease from the 226 million cubic feet found in 1971. Part of this reduction in growth can be attributed to a rather large increase in softwood mortality and a decrease in ingrowth (volume added to growing stock as trees in the 2- and 4-inch diameter classes grow into the 6-inch and larger diameter classes). In 1971, ingrowth contributed 66 million cubic feet, or

27 percent of the gross growth. At present, ingrowth is contributing 25 million cubic feet, only 11 percent of the gross growth. An unexplained reduction in the average annual diameter growth of yellow pines has also contributed to the decrease in net annual growth. The reduction is evident in most diameter classes. Reductions range from a low of 6 percent in the 12-inch diameter class to a high of 32 percent in the 4-inch class. The net annual growth of hardwood growing stock has increased by 33 percent since 1971 and now totals 120 million cubic feet. Ingrowth, which is now equivalent to 15.7 million cubic feet, has decreased by 14 percent and now contributes only 11 percent to gross growth as compared to 18 percent in 1971. For all growing stock, net annual growth averaged 77 cubic feet per acre of commercial forest land, and included 1.2 billion board feet of sawtimber.

- mortality of growing stock totaled 68 million cubic feet, and reduced gross growth by 19 percent. Softwood mortality has increased by 170 percent since 1971 and now makes up almost 73 percent of all mortality. Insects, primarily southern pine bark beetles, account for 52 percent of the current softwood mortality. Disease accounts for another 20 percent. Hardwood mortality has increased 84 percent since 1971. Mortality of all species included 186 million board feet of sawtimber.

- removals of softwood growing stock totaled 160 million cubic feet, an increase of 51 percent since 1971. Softwood removals exceeded net growth only on farmer-owned land. Over all ownerships, softwood net growth exceeded removals by 8 percent. Hardwood removals totaled 58 million cubic feet, an increase of 24 percent since 1971. Hardwood net growth exceeded removals by 109 percent. Total net growth exceeded total removals in all ownership categories except forest industry, where removals exceeded net growth by 18 percent. Removals of total growing stock included 809 million board feet of sawtimber.

How the Inventory is Made

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

1. Initial estimates of forest and nonforest areas were based on the classification of 20,746 sample clusters systematically spaced on the latest aerial photographs available. A subsample of 1,699 of the 16-point clusters was ground checked, and a linear regression was fitted to the data to develop the relationship between the photo and ground classification of the subsample. This procedure provides a means for adjusting the initial estimates of area for change in land use since date of photography and for photo misclassifications.

2. Estimates of timber volume and forest classifications were based on measurements recorded at 1,047 ground sample locations systematically distributed within the commercial forest land. The plot design at each location was based on a cluster of 10 points. In most cases, variable plots, using a basal-area factor of 37.5 square feet per acre, were systematically spaced within a single forest condition at 5 of the 10 cluster points. Trees less than 5 inches d.b.h. were tallied on a fixed-radius plot around each point center.

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

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

4. Felled trees were measured at 11 active cutting operations. These data will be pooled with similar measurements taken in the State to supplement the standing-tree volume data and to generate utilization factors for product and species groups that will be analyzed at the State level.

5. Estimates of growth, removals, and mortality were determined from the remeasurement of 909 permanent sample plots established in the fourth survey.

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

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

Reliability of the Data

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

	<u>Percent</u>
Per million acres of	
commercial forest land . . .	0.98
Per billion cubic feet of	
growing stock	5.24
Per billion cubic feet of	
net annual growth	1.24
Per billion cubic feet of	
annual removals	2.96

Sampling errors for county and unit totals,^a in terms of
one standard error, North Central Georgia

County	Commercial forest area	Cubic-foot volume of growing stock		
		Inventory	Growth	Removals
----- Sampling error ^b -----				
Banks	2.49	11.73	10.96	40.63
Barrow	6.82	18.25	20.65	59.35
Carroll	2.13	11.86	11.11	31.16
Clarke	4.91	22.96	14.78	41.54
Clayton	6.00	20.72	19.74	49.24
Cobb	4.30	9.72	10.05	27.87
Coweta	1.43	10.97	10.14	25.30
De Kalb	5.15	11.95	11.83	73.91
Douglas	3.75	12.46	13.52	46.61
Elbert	2.32	13.53	10.74	25.27
Fayette	3.07	17.93	19.67	44.93
Forsyth	3.78	14.48	15.96	69.39
Franklin	2.77	12.50	11.40	45.22
Fulton	2.89	6.94	6.69	51.35
Gwinnett	3.01	9.37	9.91	25.39
Hall	2.36	12.49	13.06	29.11
Haralson	1.98	12.11	12.48	36.58
Hart	2.60	14.56	9.14	47.80
Heard	1.56	15.14	16.81	22.84
Henry	2.79	11.81	12.32	34.22
Jackson	3.78	11.79	11.36	38.56
Madison	2.47	16.09	16.19	39.00
Meriwether	1.82	14.19	14.81	17.53
Newton	2.52	14.29	13.90	50.63
Oconee	3.21	11.46	10.87	64.54
Oglethorpe	1.46	10.73	9.57	17.85
Paulding	1.63	11.43	11.11	30.96
Polk	3.22	11.92	12.41	35.50
Rockdale	8.19	21.40	21.74	100.32
Spalding	3.64	16.16	16.15	34.89
Troup	1.65	10.29	8.52	21.33
Walton	2.84	11.60	10.42	56.13
Unit total	0.51	2.34	2.28	6.35

^aSampling error of breakdowns of county and unit totals may be computed with the following formula:

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

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

SE = Specified sampling error in table.

^bBy random-sampling formula (in percent).

Definitions of Terms

Acceptable trees.—Growing-stock trees of commercial species that meet specified standards of size and quality, but not qualifying as desirable trees.

Basal area.—The area in square feet of the cross section at breast height of a single tree or of all the trees in a stand, usually expressed as square feet of basal area per acre.

Commercial forest land.—Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization.

Commercial species.—Tree species presently or prospectively suitable for industrial wood products.

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

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

Diameter class.—A classification of trees based on diameter outside bark, measured at breast height (4½ feet above the ground). D.b.h. is the common abbreviation for “diameter at breast height.” Two-inch diameter classes are commonly used in Renewable Resources Evaluation, with the even inch the approximate midpoint for a class. For example, the 6-inch class includes trees 5.0 through 6.9 inches d.b.h., inclusive.

Farm.—Lands on which agriculture operations are being conducted and sale of agriculture products totaled \$1,000 or more during the year.

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

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

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

Forest land.—Land at least 16.7 percent stocked by forest trees of any size, or formerly having had such tree cover, and not currently developed for nonforest use.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Industrial wood.—All roundwood products except fuelwood.

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

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

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

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

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

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

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

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

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

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

Noncommercial species.—Tree species of typically small size, poor form, or inferior quality which normally do not develop into trees suitable for industrial wood products.

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

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

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

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

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

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

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

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

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

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

Salvable dead trees.—Standing or down dead trees that are considered merchantable by Renewable Resources Evaluation standards.

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

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

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

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

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

Sawtimber volume.—Net volume of the saw-log portion of live sawtimber in board-foot International $\frac{1}{4}$ -inch rule.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Stocking.—The degree of occupancy of land by trees, measured by basal area or the number of trees in a stand and spacing in the stand, compared to a minimum standard, depending on tree size, to fully utilize the growth potential of the land. (See page 8.)

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

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

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

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

Stocking Standard

D.b.h. class	Minimum number of trees per acre for full stocking	Minimum basal area per acre for full stocking	Percent stocking assigned each tally tree ^a
Seedlings	600	—	5.0
2	560	—	5.4
4	460	—	6.5
6	340	67	5.8
8	240	84	4.8
10	155	85	4.3
12	115	90	4.0
14	90	96	3.8
16	72	101	3.7
18	60	106	3.5
20	51	111	3.5

^aStocking percentages based on tally at all 10 points of a 10-point cluster of plots. Trees less than 5 inches d.b.h. were tallied on circular, 1/300-acre plots at each point. Trees 5.0 inches d.b.h. and larger were tallied on variable plots using a basal area factor of 37.5 at each sample point.

Overstocked—More than 130 percent

Fully stocked—100-130 percent

Medium stocked—60-99 percent

Poorly stocked—16.7-59 percent

Nonstocked—Less than 16.7 percent

Cubic feet of wood per average cord (excluding bark)

D.b.h. class	All species	Pine	Other softwood	Hardwood
6	60.5	61.0	68.2	60.0
8	68.3	68.1	76.0	68.4
10	73.2	73.1	81.4	73.4
12	76.5	76.7	85.3	76.4
14	78.9	79.4	88.2	78.4
16	80.5	81.6	90.4	79.8
18	81.7	83.3	92.3	80.8
20	82.4	84.8	93.8	81.5
22	83.0	86.0	95.1	82.1
24+	83.4	87.3	96.2	83.0
Average	73.8	73.3	75.4	74.2

County Tables

The county tables are intended for use in compiling forest resource estimates for groups of counties. Because the sampling procedure used by the forest survey was intended primarily to furnish inventory data for the survey unit as a whole, individual county estimates have limited and variable accuracy. As county totals are broken down by various subdivisions, the possibility of error increases and is greatest for the smallest items. The order of this increase can be computed with the formula on page 4.

Table 1.—Area, by county and land class, North Central Georgia, 1983

County	All land ^a	Forest land				Nonforest land ^b
		Total	Commercial forest	Unproductive forest	Productive- reserved	
----- Acres -----						
Banks	147,776	103,526	103,526	—	—	44,250
Barrow	109,126	54,411	53,029	—	1,382	54,715
Carroll	315,603	189,722	189,601	—	121	125,881
Clarke	80,000	42,686	42,686	—	—	37,314
Clayton	94,810	46,309	46,309	—	—	48,501
Cobb	221,696	105,362	101,689	—	3,673	116,334
Coweta	283,072	199,020	199,020	—	—	84,052
De Kalb	171,802	67,639	65,834	—	1,805	104,163
Douglas	129,280	95,679	93,979	—	1,700	33,601
Elbert	228,800	156,636	155,962	—	674	72,164
Fayette	127,040	73,865	73,865	—	—	53,175
Forsyth	142,317	83,381	83,288	—	93	58,936
Franklin	170,323	92,139	91,424	—	715	78,184
Fulton	339,200	170,528	168,598	—	1,930	168,672
Gwinnett	278,778	155,019	154,589	—	430	123,759
Hall	241,600	151,111	151,111	—	—	90,489
Haralson	182,099	137,513	137,513	—	—	44,586
Hart	147,712	63,148	63,010	—	138	84,564
Heard	187,277	150,603	150,603	—	—	36,674
Henry	211,526	121,180	121,180	—	—	90,346
Jackson	215,680	119,467	119,467	—	—	96,213
Madison	179,546	100,726	100,685	—	41	78,820
Meriwether	319,066	229,739	229,739	—	—	89,327
Newton	173,632	108,559	108,559	—	—	65,073
Oconee	118,982	69,097	69,097	—	—	49,885
Oglethorpe	278,336	220,825	220,615	—	210	57,511
Paulding	203,270	159,350	158,618	—	732	43,920
Polk	199,642	141,017	141,017	—	—	58,625
Rockdale	81,862	38,918	38,501	—	417	42,944
Spalding	128,314	68,409	68,409	—	—	59,905
Troup	266,170	192,707	192,707	—	—	73,463
Walton	211,200	120,973	120,798	—	175	90,227
Total	6,185,537	3,829,264	3,815,028	—	14,236	2,356,273

^aFrom U.S. Bureau of the Census, 1970 and 1980.

^bIncludes 56,043 acres of water according to Forest Survey standards of area classification, but defined by the Bureau of Census as land.

Table 2.--Area of commercial forest land, by county and ownership class, North Central Georgia, 1983

County	All ownerships	Ownership class						
		National Forest	Miscellaneous Federal	State	County and municipal	Forest industry ^a	Farmer	Miscellaneous private Corporate ; Individual
					Acres			
Banks	103,526	656	--	413	--	10,153	60,198	4,013 28,093
Barrow	53,029	--	--	15	85	--	18,591	3,098 31,240
Carroll	189,601	--	--	140	780	27,633	47,675	6,810 106,563
Clarke	42,686	--	--	1,650	593	840	--	-- 39,603
Clayton	46,309	--	428	35	3,594	--	3,018	21,126 18,108
Cobb	101,689	--	2,597	90	325	--	3,178	25,430 70,069
Coweta	199,020	--	--	--	2,915	25,255	31,382	17,433 122,035
De Kalb	65,834	--	58	222	1,068	--	2,804	28,037 33,645
Douglas	93,979	--	--	--	890	2,222	--	23,355 67,512
Elbert	155,962	--	13,405	--	267	41,467	25,891	11,489 63,443
Fayette	73,865	--	--	--	134	840	10,414	10,412 52,065
Forsyth	83,288	--	5,504	--	35	235	22,024	4,097 51,393
Franklin	91,424	--	964	--	25	5,484	42,420	7,181 35,350
Fulton	168,598	--	--	105	1,480	3,025	10,250	23,914 129,824
Gwinnett	154,589	--	841	100	718	--	17,338	31,207 104,385
Hall	151,111	--	7,915	203	3,018	7,504	30,772	13,188 88,511
Haralson	137,513	--	--	--	510	26,265	45,657	3,512 61,569
Hart	63,010	--	5,704	750	25	3,763	38,377	-- 14,391
Heard	150,603	--	5,381	--	266	51,570	6,908	17,370 69,108
Henry	121,180	--	--	80	285	4,093	47,321	18,927 50,474
Jackson	119,467	--	--	447	202	3,298	28,880	7,220 79,420
Madison	100,685	--	--	--	75	16,094	19,265	10,447 54,804
Meriwether	229,739	--	--	2,905	2,039	56,549	48,133	12,336 107,777
Newton	108,559	--	--	245	721	8,581	14,668	18,338 66,006
Oconee	69,097	160	200	176	34	4,418	8,014	8,014 48,081
Oglethorpe	220,615	3,771	--	300	40	87,077	30,052	10,204 89,171
Paulding	158,618	--	--	--	--	31,930	10,824	3,608 102,201
Polk	141,017	--	--	--	10,055	31,425	28,912	10,842 69,413
Rockdale	38,501	--	--	392	32	1,048	3,703	11,109 22,217
Spalding	68,409	--	--	300	255	1,625	4,412	8,825 52,992
Troup	192,707	--	11,928	--	585	23,885	18,175	25,446 112,688
Walton	120,798	--	--	--	444	5,517	37,597	12,304 64,936
Total	3,815,028	4,587	54,925	8,568	31,920	481,796	716,853	409,292 2,107,087

^aNot including 44,191 acres of farmer-owned and miscellaneous private lands leased to forest industry.

Table 3.--Area of commercial forest land, by county and forest-type group, North Central Georgia, 1983

County	All type groups	Forest-type group									
		White pine- hemlock	Spruce- fir	Longleaf- slash	Loblolly- shortleaf	Oak- pine	Oak- hickory	Oak-gum- cypress	Elm-ash- cottonwood	Maple-beech birch	
		Acres									
Banks	103,526	--	--	--	37,181	25,556	32,762	--	8,027	--	
Barrow	53,029	--	--	--	25,144	12,393	12,394	--	3,098	--	
Carroll	189,601	--	--	--	68,439	30,649	80,248	3,406	6,859	--	
Clarke	42,686	--	--	--	22,842	8,801	6,643	4,400	--	--	
Clayton	46,309	--	--	--	21,589	6,036	15,666	3,018	--	--	
Cobb	101,689	--	--	--	72,991	12,714	12,805	--	3,179	--	
Coweta	199,020	--	--	--	65,676	55,072	60,838	--	17,434	--	
De Kalb	65,834	--	--	--	34,936	8,410	19,685	--	2,803	--	
Douglas	93,979	--	--	--	24,140	15,566	50,047	890	3,336	--	
Elbert	155,962	--	--	--	73,617	33,650	44,087	4,608	--	--	
Fayette	73,865	--	--	--	27,006	10,413	26,032	--	10,414	--	
Forsyth	83,288	--	--	--	35,531	7,377	40,380	--	7,070	--	
Franklin	91,424	--	--	--	37,410	7,095	39,849	--	6,833	--	
Fulton	168,598	--	--	--	89,177	13,770	55,402	3,416	3,468	--	
Gwinnett	154,589	--	--	--	83,326	24,271	43,524	--	--	--	
Hall	151,111	--	--	--	56,416	19,761	73,351	1,583	--	--	
Haralson	137,513	--	--	--	49,941	24,584	52,452	--	10,536	--	
Hart	63,010	--	--	--	21,977	--	41,033	--	--	--	
Heard	150,603	--	--	--	83,101	11,598	52,450	3,454	--	--	
Henry	121,180	--	--	--	58,087	25,237	34,702	--	3,154	--	
Jackson	119,467	--	--	--	71,235	7,220	33,792	--	7,220	--	
Madison	100,685	--	--	--	44,085	19,339	33,409	3,852	--	--	
Meriwether	229,739	--	--	--	109,669	9,026	75,593	32,475	2,976	--	
Newton	108,559	--	--	--	53,394	10,194	37,637	--	7,334	--	
Oconee	69,097	--	--	--	28,852	20,211	12,020	4,007	4,007	--	
Oglethorpe	220,615	--	--	--	110,239	11,812	64,721	8,586	25,257	--	
Paulding	158,618	--	--	--	85,787	14,432	58,399	--	--	--	
Polk	141,017	--	--	--	76,210	14,456	50,351	--	--	--	
Rockdale	38,501	--	--	--	18,907	7,406	12,188	--	--	--	
Spalding	68,409	--	--	--	37,482	13,276	8,826	8,825	--	--	
Troup	192,707	--	--	--	109,262	16,926	58,161	--	8,358	--	
Walton	120,798	--	--	--	59,276	17,089	27,344	17,089	--	--	
Total	3,815,028	--	--	--	1,792,925	514,340	1,266,791	99,609	141,363	--	

Table 4.—Area of commercial forest land, by county and stand-size class,
North Central Georgia, 1983

County	All stands	Stand-size class			Nonstocked areas
		Sawtimber	Poletimber	Sapling- seedling	
----- Acres -----					
Banks	103,526	45,214	37,182	21,130	—
Barrow	53,029	30,998	12,652	6,281	3,098
Carroll	189,601	51,315	79,295	55,586	3,405
Clarke	42,686	18,193	20,093	4,400	—
Clayton	46,309	22,165	12,072	12,072	—
Cobb	101,689	69,904	22,249	9,536	—
Coweta	199,020	72,862	48,244	70,940	6,974
De Kalb	65,834	40,599	22,431	—	2,804
Douglas	93,979	61,731	13,346	18,902	—
Elbert	155,962	32,730	58,404	64,828	—
Fayette	73,865	42,491	20,827	10,547	—
Forsyth	83,288	38,811	33,464	7,342	3,671
Franklin	91,424	36,450	37,299	17,675	—
Fulton	168,598	120,421	37,188	10,989	—
Gwinnett	154,589	92,885	38,985	22,719	—
Hall	151,111	53,103	56,120	28,700	13,188
Haralson	137,513	62,530	52,733	18,738	3,512
Hart	63,010	20,871	35,460	6,679	—
Heard	150,603	38,465	38,465	73,673	—
Henry	121,180	65,506	30,437	25,237	—
Jackson	119,467	64,015	33,792	21,660	—
Madison	100,685	33,407	37,088	30,190	—
Meriwether	229,739	58,387	75,041	87,383	8,928
Newton	108,559	58,587	21,442	28,530	—
Oconee	69,097	32,626	28,047	8,424	—
Oglethorpe	220,615	100,759	64,442	51,120	4,294
Paulding	158,618	42,062	74,534	37,460	4,562
Polk	141,017	50,777	61,573	28,667	—
Rockdale	38,501	25,920	7,830	4,751	—
Spalding	68,409	41,895	13,278	13,236	—
Troup	192,707	78,511	57,998	56,198	—
Walton	120,798	75,190	23,926	18,264	3,418
Total	3,815,028	1,679,380	1,205,937	871,857	57,854

Table 5.—Area of commercial forest land, by county and site class,
North Central Georgia, 1983

County	All classes	Site class				
		1	2	3	4	5
		Acres				
Banks	103,526	—	4,013	24,735	74,778	—
Barrow	53,029	—	—	15,507	37,522	—
Carroll	189,601	—	7,000	52,006	119,330	11,265
Clarke	42,686	—	—	10,233	32,453	—
Clayton	46,309	—	6,036	15,553	18,684	6,036
Cobb	101,689	—	12,133	44,828	44,728	—
Coweta	199,020	—	6,973	102,321	86,239	3,487
De Kalb	65,834	—	—	20,752	45,082	—
Douglas	93,979	—	890	35,586	57,503	—
Elbert	155,962	—	—	33,785	122,177	—
Fayette	73,865	—	16,459	31,372	26,034	—
Forsyth	83,288	—	—	31,435	44,476	7,377
Franklin	91,424	—	—	15,215	76,209	—
Fulton	168,598	—	20,499	95,371	49,312	3,416
Gwinnett	154,589	—	6,934	70,527	77,128	—
Hall	151,111	4,396	8,792	61,951	74,389	1,583
Haralson	137,513	—	—	41,687	92,314	3,512
Hart	63,010	—	—	9,594	53,416	—
Heard	150,603	—	6,909	49,814	89,192	4,688
Henry	121,180	—	—	40,265	80,915	—
Jackson	119,467	—	447	49,330	69,690	—
Madison	100,685	—	3,853	41,188	55,644	—
Meriwether	229,739	—	21,996	103,413	92,297	12,033
Newton	108,559	—	—	46,780	61,779	—
Oconee	69,097	—	—	28,654	40,443	—
Oglethorpe	220,615	—	8,586	87,086	124,943	—
Paulding	158,618	—	—	14,433	123,285	20,900
Polk	141,017	—	3,614	25,176	90,666	21,561
Rockdale	38,501	—	3,703	15,892	18,906	—
Spalding	68,409	—	—	41,894	26,515	—
Troup	192,707	—	13,242	73,173	106,292	—
Walton	120,798	—	3,418	79,341	38,039	—
Total	3,815,028	4,396	155,497	1,408,897	2,150,380	95,858

Table 6.—Area of commercial forest land, by county and stocking classes of growing-stock trees, North Central Georgia, 1983

County	⋮	⋮	Stocking percentage ^a					
	⋮	All	⋮	⋮	⋮	⋮	⋮	
	⋮	classes	⋮	> 130	100-130	60-99	16.7-59	< 16.7
----- Acres -----								
Banks		103,526	—	33,167	53,242	17,117	—	
Barrow		53,029	—	18,949	24,786	6,196	3,098	
Carroll		189,601	3,405	45,431	123,691	13,669	3,405	
Clarke		42,686	—	14,041	23,651	4,994	—	
Clayton		46,309	6,499	12,072	27,738	—	—	
Cobb		101,689	13,041	54,175	34,473	—	—	
Coweta		199,020	—	110,648	67,452	13,946	6,974	
De Kalb		65,834	8,412	26,360	25,454	2,804	2,804	
Douglas		93,979	4,120	26,692	46,485	16,682	—	
Elbert		155,962	—	48,731	85,390	21,841	—	
Fayette		73,865	11,254	15,754	36,444	10,413	—	
Forsyth		83,288	9,409	25,695	26,123	18,390	3,671	
Franklin		91,424	111	12,554	64,619	14,140	—	
Fulton		168,598	13,667	89,282	58,817	6,832	—	
Gwinnett		154,589	14,588	38,143	81,053	20,805	—	
Hall		151,111	8,792	45,258	60,311	23,562	13,188	
Haralson		137,513	3,283	46,377	56,245	28,096	3,512	
Hart		63,010	—	9,594	39,025	14,391	—	
Heard		150,603	—	62,032	77,941	10,630	—	
Henry		121,180	9,542	35,641	63,378	12,619	—	
Jackson		119,467	3,610	50,742	38,745	26,370	—	
Madison		100,685	3,293	30,576	49,454	17,362	—	
Meriwether		229,739	16,951	93,850	81,515	28,495	8,928	
Newton		108,559	3,667	32,198	54,359	18,335	—	
Oconee		69,097	160	20,268	36,472	12,197	—	
Oglethorpe		220,615	7,518	89,799	92,155	26,849	4,294	
Paulding		158,618	7,216	54,547	72,346	19,947	4,562	
Polk		141,017	—	36,826	86,122	18,069	—	
Rockdale		38,501	3,703	11,501	23,297	—	—	
Spalding		68,409	6,038	31,483	30,888	—	—	
Troup		192,707	—	97,822	88,864	6,021	—	
Walton		120,798	6,836	31,491	58,549	20,504	3,418	
Total		3,815,028	165,115	1,351,699	1,789,084	451,276	57,854	

^aSee stocking standards on page 8.

Table 7.--Volume of sawtimber and growing stock on commercial forest land, by county and species group, North Central Georgia, 1983

County	Sawtimber					Growing stock				
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
	Thousand board feet					Thousand cubic feet ^a				
Banks	343,132	153,745	--	74,121	115,266	131,043	56,488	327	28,138	46,090
Barrow	234,683	117,826	--	40,060	76,797	76,540	37,280	--	15,441	23,819
Carroll	485,143	180,347	--	120,283	184,513	201,910	76,583	--	45,102	80,225
Clarke	188,346	79,688	--	71,699	36,959	55,590	23,779	--	19,952	11,859
Clayton	209,034	144,796	--	23,603	40,635	65,837	37,556	--	9,681	18,600
Cobb	734,727	581,659	--	76,463	76,605	205,090	156,015	--	24,630	24,445
Coweta	646,057	264,945	--	202,268	178,844	221,311	84,103	--	67,240	69,968
De Kalb	469,990	278,344	--	44,416	147,230	129,040	72,012	--	13,809	43,219
Douglas	389,872	136,897	--	88,438	164,537	136,270	45,271	--	30,818	60,181
Elbert	396,422	192,513	--	89,253	114,656	144,201	64,513	2,022	25,423	52,243
Fayette	372,912	124,363	--	134,396	114,153	115,048	33,299	--	49,443	32,306
Forsyth	323,848	191,053	--	43,141	89,654	119,963	67,572	--	17,163	35,228
Franklin	300,639	93,147	1,569	51,552	154,371	113,243	36,663	1,310	20,089	55,181
Fulton	1,273,516	664,756	--	249,634	359,126	368,364	186,186	--	77,697	104,481
Gwinnett	807,137	470,341	--	174,703	162,093	239,284	135,079	--	54,905	49,300
Hall	452,927	176,073	--	75,088	201,766	179,614	82,200	--	31,274	66,140
Haralson	534,202	293,294	--	101,260	139,648	176,287	82,120	--	39,680	54,487
Hart	147,462	13,880	--	16,454	117,128	71,088	10,570	--	12,913	47,605
Heard	331,444	208,334	--	88,194	34,916	117,689	72,229	--	27,605	17,855
Henry	484,273	325,556	--	59,648	99,069	169,281	103,030	--	27,999	38,252
Jackson	530,373	333,013	3,126	90,648	103,586	170,011	99,140	533	34,053	36,285
Madison	285,549	178,253	--	43,877	63,419	106,927	59,529	287	27,685	19,426
Meriwether	553,707	292,434	--	110,423	150,850	211,785	106,522	334	54,495	50,434
Newton	494,182	325,535	--	56,969	111,678	150,070	89,289	--	21,642	39,139
Oconee	326,671	196,340	--	70,164	60,167	118,165	55,430	--	29,047	33,688
Oglethorpe	895,062	449,938	--	261,126	173,800	300,614	143,174	2,469	96,277	58,694
Paulding	390,534	173,456	10,198	87,101	129,977	165,006	77,970	--	34,153	52,883
Polk	328,340	184,286	--	22,184	121,870	127,066	69,092	760	7,420	49,794
Rockdale	211,688	167,183	--	29,120	15,385	61,883	44,561	223	8,899	8,200
Spalding	446,727	341,094	--	90,159	15,474	128,530	85,451	--	34,864	8,215
Troup	641,978	397,716	--	148,169	96,093	222,898	123,627	291	52,638	46,342
Walton	642,906	417,100	--	117,479	108,327	184,845	101,053	--	47,574	36,218
Total	14,873,483	8,147,905	14,893	2,952,093	3,758,592	4,984,493	2,517,386	8,556	1,087,749	1,370,802

^aFactors for converting to cords are shown on page 8.

Table 8.--Net annual growth of sawtimber and growing stock on commercial forest land, by county and species group,
North Central Georgia, 1982

County	Sawtimber					Growing stock				
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
	Thousand board feet					Thousand cubic feet				
Banks	30,564	14,670	--	7,846	8,048	6,964	3,234	19	1,655	2,056
Barrow	18,755	9,458	--	3,601	5,696	4,072	2,341	--	818	913
Carroll	47,544	24,288	--	6,694	16,562	12,592	6,719	--	2,121	3,752
Clarke	9,998	4,721	--	3,304	1,973	2,993	1,499	--	926	568
Clayton	16,843	11,225	--	1,537	4,081	4,093	2,226	--	775	1,092
Cobb	62,534	54,909	--	4,820	2,805	12,446	9,946	--	1,596	904
Coweta	51,229	24,731	--	12,352	14,146	12,773	6,018	--	3,254	3,501
De Kalb	27,811	18,514	--	3,249	6,048	6,376	4,134	--	644	1,598
Douglas	29,935	14,928	--	4,542	10,465	7,425	3,125	--	1,609	2,691
Elbert	30,367	15,840	909	5,479	8,139	9,216	4,987	199	1,288	2,742
Fayette	19,921	8,031	--	7,115	4,774	6,515	2,957	--	2,114	1,444
Forsyth	25,556	17,593	--	3,555	4,408	7,322	4,376	--	1,204	1,742
Franklin	24,914	12,021	90	2,497	10,306	5,550	2,063	78	995	2,414
Fulton	94,855	63,617	--	16,315	14,923	20,124	11,776	--	4,479	3,869
Gwinnett	61,889	40,914	--	11,579	9,396	13,403	8,338	--	2,983	2,082
Hall	40,015	23,423	--	5,990	10,602	10,653	6,234	152	1,560	2,707
Haralson	35,981	22,955	--	6,303	6,723	10,320	5,224	--	2,392	2,704
Hart	11,229	1,957	--	1,583	7,689	3,853	1,040	72	586	2,155
Heard	31,514	23,206	--	5,714	2,594	7,529	5,359	--	1,347	823
Henry	44,868	35,420	--	3,655	5,793	10,807	7,338	--	1,473	1,996
Jackson	42,636	28,639	78	5,206	8,713	8,956	5,294	13	1,851	1,798
Madison	25,306	16,964	--	3,779	4,563	6,192	3,717	21	1,601	853
Meriwether	50,499	36,197	--	7,661	6,641	13,319	8,396	22	2,486	2,415
Newton	40,251	29,483	--	4,146	6,622	8,235	5,498	38	921	1,778
Oconee	27,811	12,912	--	3,863	11,036	6,437	2,784	--	1,594	2,059
Oglethorpe	79,701	48,784	401	17,577	12,939	16,978	9,983	100	4,187	2,708
Paulding	39,414	26,242	--	5,383	7,789	12,529	7,649	--	2,340	2,540
Polk	23,378	14,833	--	1,168	7,377	8,605	5,657	156	430	2,362
Rockdale	20,085	16,319	--	1,212	2,554	3,911	3,046	16	444	405
Spalding	37,634	30,529	--	5,023	2,082	8,062	5,657	--	1,884	521
Troup	51,890	35,876	--	8,543	7,471	14,551	9,078	19	2,757	2,697
Walton	44,083	30,283	--	6,343	7,457	9,802	5,573	--	2,413	1,816
Total	1,199,010	769,482	1,478	187,635	240,415	292,603	171,266	905	56,727	63,705

Table 9.--Annual removals of sawtimber and growing stock on commercial forest land, by county and species group, North Central Georgia, 1982

County	Sawtimber					Growing stock				
	All species	Pine	Other : softwood	Soft : hardwood	Hard : hardwood	All species	Pine	Other : softwood	Soft : hardwood	Hard : hardwood
			Thousand board feet				Thousand cubic feet			
Banks	32,983	22,588	--	4,142	6,253	9,002	6,308	--	1,309	1,385
Barrow	11,388	10,169	--	1,219	--	2,346	2,179	--	167	--
Carroll	21,295	13,218	--	3,376	4,701	7,784	4,924	--	942	1,918
Clarke	12,057	12,057	--	--	--	3,057	3,057	--	--	--
Clayton	7,025	7,025	--	--	--	1,255	1,133	--	--	122
Cobb	28,075	24,117	--	975	2,983	7,481	5,614	--	311	1,556
Coweta	41,583	31,787	--	7,478	2,418	12,472	8,985	--	2,746	741
De Kalb	8,400	8,149	--	--	251	1,523	1,397	--	--	126
Douglas	7,639	7,162	--	--	477	2,759	2,605	--	--	154
Elbert	28,214	19,208	--	4,138	4,868	8,931	6,007	64	1,298	1,562
Fayette	30,462	27,702	--	2,760	--	8,218	7,391	--	827	--
Forsyth	15,402	15,402	--	--	--	3,659	3,285	--	374	--
Franklin	22,683	16,309	--	--	6,374	5,651	3,671	--	--	1,980
Fulton	25,414	19,834	--	2,967	2,613	5,452	3,466	--	944	1,042
Gwinnett	38,871	22,979	--	7,764	8,128	8,752	5,270	--	1,758	1,724
Hall	25,728	15,904	--	894	8,930	7,779	5,005	--	266	2,508
Haralson	9,440	6,732	--	1,424	1,284	2,891	2,003	--	629	259
Hart	3,959	2,673	--	--	1,286	1,968	1,091	--	--	877
Heard	68,478	37,265	--	9,312	21,901	19,282	11,038	--	3,066	5,178
Henry	29,142	24,545	--	3,762	835	7,236	6,029	--	742	465
Jackson	6,964	6,015	--	949	--	1,584	1,330	--	254	--
Madison	37,763	13,075	--	23,967	721	9,372	4,679	--	4,379	314
Meriwether	106,010	90,340	--	11,450	4,220	26,853	22,032	81	3,630	1,110
Newton	5,972	5,972	--	--	--	2,495	2,020	--	102	373
Oconee	3,548	2,336	--	--	1,212	806	474	--	73	259
Oglethorpe	64,553	51,590	--	11,229	1,734	17,147	14,035	--	2,321	791
Paulding	26,104	22,214	--	812	3,078	6,926	5,680	--	187	1,059
Polk	18,091	12,503	--	1,041	4,547	5,291	3,765	--	193	1,333
Rockdale	4,851	4,851	--	--	--	826	826	--	--	--
Spalding	8,118	6,675	--	623	820	2,985	2,135	--	567	283
Troup	49,698	42,066	--	3,448	4,184	13,184	10,779	--	778	1,627
Walton	9,304	4,012	--	--	5,292	2,245	1,206	--	--	1,039
Total	809,314	606,474	--	103,730	99,110	217,212	159,419	145	27,863	29,785

Unit Tables

Table 10.—Area of commercial forest land, by forest type and ownership class, North Central Georgia, 1983

Forest type	All ownerships	Ownership class				
		National Forest	Other public	Forest industry	Farmer	Misc. private
----- Acres -----						
Softwood types:						
White pine-hemlock	—	—	—	—	—	—
Spruce-fir	—	—	—	—	—	—
Longleaf pine	—	—	—	—	—	—
Slash pine	—	—	—	—	—	—
Loblolly pine	1,409,583	160	37,513	273,684	181,858	916,368
Shortleaf pine	311,127	—	12,765	26,843	64,365	207,154
Virginia pine	61,751	—	7,187	—	12,805	41,759
Sand pine	—	—	—	—	—	—
Eastern redcedar	10,464	—	—	—	6,850	3,614
Pond pine	—	—	—	—	—	—
Spruce pine	—	—	—	—	—	—
Pitch pine	—	—	—	—	—	—
Table Mountain pine	—	—	—	—	—	—
Total	1,792,925	160	57,465	300,527	265,878	1,168,895
Hardwood types:						
Oak-pine	514,340	—	6,837	50,467	96,670	360,366
Oak-hickory	1,251,926	656	26,252	91,963	287,519	845,536
Chestnut oak	3,671	—	—	—	—	3,671
Southern scrub oak	11,194	—	—	—	3,671	7,523
Oak-gum-cypress	99,609	—	2,473	13,537	31,936	51,663
Elm-ash-cottonwood	141,363	3,771	2,386	25,302	31,179	78,725
Maple-beech-birch	—	—	—	—	—	—
Total	2,022,103	4,427	37,948	181,269	450,975	1,347,484
All types	3,815,028	4,587	95,413	481,796	716,853	2,516,379

Table 11.—Area of commercial forest land, by ownership and stocking classes of growing-stock trees, North Central Georgia, 1983

Ownership class	All classes	Stocking percentage ^a				
		> 130	100-130	60-99	16.7-59	< 16.7
		----- Acres -----				
National Forest	4,587	160	—	4,427	—	—
Other public	95,413	7,165	30,297	45,715	12,236	—
Forest industry	481,796	21,355	232,419	168,862	45,670	13,490
Farmer	716,853	21,424	222,420	339,409	119,619	13,981
Miscellaneous private	2,516,379	115,011	866,563	1,230,671	273,751	30,383
All ownerships	3,815,028	165,115	1,351,699	1,789,084	451,276	57,854

^aSee stocking standards on page 8.

Table 12.—Volume of timber on commercial forest land, by class and species group,
North Central Georgia, 1983

Class of timber	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
----- Thousand cubic feet -----					
Sawtimber trees:					
Saw-log portion	2,918,533	1,620,329	2,744	558,933	736,527
Upper-stem portion	393,983	152,460	258	104,095	137,170
Total	3,312,516	1,772,789	3,002	663,028	873,697
Poletimber trees	1,671,977	744,597	5,554	424,721	497,105
All growing-stock trees	4,984,493	2,517,386	8,556	1,087,749	1,370,802
Rough trees:					
Sawtimber size	58,358	5,634	387	22,719	29,618
Poletimber size	116,659	5,768	366	39,406	71,119
Total	175,017	11,402	753	62,125	100,737
Rotten trees:					
Sawtimber size	22,735	—	—	11,512	11,223
Poletimber size	6,317	—	—	4,355	1,962
Total	29,052	—	—	15,867	13,185
Salvable dead trees:					
Sawtimber size	21,031	14,661	—	2,404	3,966
Poletimber size	16,362	13,186	—	1,423	1,753
Total	37,393	27,847	—	3,827	5,719
Total, all timber	5,225,955	2,556,635	9,309	1,169,568	1,490,443

Table 13.--Number of growing-stock trees on commercial forest land, by species and diameter class, North Central Georgia, 1983

Species	All classes	Diameter class (inches at breast height)										21.0- : 28.9 : 29.0 and larger
		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 :			
Softwood:												
Thousand trees												
Longleaf pine	1,070	--	180	268	245	259	61	49	--	--	8	--
Slash pine	602	124	249	143	40	24	22	--	--	--	--	--
Shortleaf pine	83,277	38,457	23,587	11,771	6,131	2,264	667	311	38	51	--	--
Loblolly pine	212,303	82,221	53,994	37,071	20,060	11,347	4,434	1,962	795	419	--	--
Pond pine	--	--	--	--	--	--	--	--	--	--	--	--
Virginia pine	12,674	4,838	4,255	2,200	996	245	106	34	--	--	--	--
Pitch pine	--	--	--	--	--	--	--	--	--	--	--	--
Table Mountain pine	--	--	--	--	--	--	--	--	--	--	--	--
Spruce pine	--	--	--	--	--	--	--	--	--	--	--	--
Sand pine	--	--	--	--	--	--	--	--	--	--	--	--
Eastern white pine	--	--	--	--	--	--	--	--	--	--	--	--
Eastern hemlock	--	--	--	--	--	--	--	--	--	--	--	--
Spruce and fir	--	--	--	--	--	--	--	--	--	--	--	--
Bald cypress	--	--	--	--	--	--	--	--	--	--	--	--
Pond cypress	--	--	--	--	--	--	--	--	--	--	--	--
Cedars	2,873	2,259	392	160	--	28	19	15	--	--	--	--
Total softwoods	312,799	127,899	82,657	51,613	27,472	14,167	5,309	2,371	833	478	--	--
Hardwood:												
Select white oaks	25,588	9,677	5,053	3,367	2,882	2,127	1,089	737	266	365	25	--
Select red oaks	7,714	2,352	1,445	1,434	951	756	346	193	105	123	9	--
Chestnut oak	3,003	679	625	816	333	306	109	42	27	67	5	--
Other white oaks	11,705	4,729	3,207	1,976	734	490	244	145	68	99	13	--
Other red oaks	50,564	18,869	11,594	8,225	5,476	2,733	1,474	1,127	482	528	56	--
Hickory	22,910	10,420	5,291	3,225	1,543	1,302	724	205	109	91	--	--
Yellow birch	--	--	--	--	--	--	--	--	--	--	--	--
Hard maple	602	201	304	97	--	--	--	--	--	--	--	--
Soft maple	11,481	3,265	4,252	1,569	867	499	601	189	137	97	5	--
Beech	470	--	197	--	65	45	22	42	27	67	5	--
Sweetgum	58,658	27,835	14,461	7,229	4,674	2,403	1,191	502	211	149	3	--
Tupelo and blackgum	5,793	2,593	1,005	968	638	338	119	120	12	--	--	--
Ash	5,395	1,813	1,502	739	403	422	311	8	63	47	8	--
Cottonwood	57	--	--	--	--	--	--	32	13	12	--	--
Basswood	83	--	--	48	--	31	--	--	--	--	4	--
Yellow-poplar	28,387	8,807	5,734	3,986	3,715	2,863	1,570	897	464	337	14	--
Bay and magnolia	640	274	265	--	101	--	--	--	--	--	--	--
Black cherry	4,236	3,328	421	368	95	24	--	15	14	8	--	--
Black walnut	656	456	--	128	35	--	--	43	26	10	--	--
Sycamore	778	131	435	--	--	55	78	43	--	--	--	--
Black locust	30	--	--	--	--	30	--	--	--	--	--	--
Elm	4,446	2,206	1,011	642	95	286	168	30	--	8	--	--
Other eastern hardwoods	7,044	3,781	1,941	482	509	132	63	46	61	29	--	--
Total hardwoods	250,240	101,416	58,743	35,299	23,116	14,842	8,109	4,452	2,100	2,021	142	--
All species	563,039	229,315	141,400	86,912	50,588	29,009	13,418	6,823	2,933	2,499	142	--

Species	All classes	Diameter class (inches at breast height)												29.0 and larger
		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				
Thousand cubic feet														
Softwood:														
Longleaf pine	16,970	--	935	2,263	3,605	5,967	1,835	1,716	--	--	649	--	--	--
Slash pine	5,750	416	1,433	1,761	796	700	644	--	--	--	--	--	--	--
Shortleaf pine	560,306	87,365	133,187	121,710	110,413	60,974	23,782	15,901	2,302	4,672	--	--	--	--
Loblolly pine	1,856,028	186,188	300,407	380,194	352,256	296,819	161,858	94,057	47,401	36,848	--	--	--	--
Pond pine	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Virginia pine	89,734	13,935	26,499	22,503	15,575	5,707	3,626	1,889	--	--	--	--	--	--
Pitch pine	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Table Mountain pine	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Spruce pine	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sand pine	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Eastern white pine	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Eastern hemlock	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Spruce and fir	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Bald cypress	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pond cypress	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cedars	9,309	4,352	1,568	1,261	--	694	514	920	--	--	--	--	--	--
Total softwoods	2,538,097	292,256	464,029	529,692	482,645	370,861	192,259	114,483	49,703	42,169	--	--	--	--
Hardwood:														
Select white oaks	327,788	25,283	29,545	37,222	48,680	54,362	39,162	34,591	15,537	36,943	6,463	--	--	--
Select red oaks	112,068	8,000	10,024	17,508	15,910	19,729	12,457	9,342	6,082	11,249	1,767	--	--	--
Chestnut oak	35,502	2,221	3,627	7,142	5,669	6,044	3,230	1,628	2,086	3,855	--	--	--	--
Other white oaks	101,085	12,442	17,089	19,017	12,559	11,281	7,223	6,144	3,254	10,120	1,956	--	--	--
Other red oaks	525,206	47,300	64,509	85,170	87,636	62,959	46,905	47,479	26,075	46,381	10,792	--	--	--
Hickory	192,162	23,323	27,083	32,609	25,834	32,475	24,785	10,690	6,291	9,072	--	--	--	--
Yellow birch	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hard maple	4,667	715	2,046	1,282	--	--	--	624	--	--	--	--	--	--
Soft maple	141,901	13,428	28,637	20,488	19,538	14,114	18,251	9,308	8,871	7,798	1,468	--	--	--
Beech	19,169	399	1,697	464	1,060	951	711	1,644	2,804	7,310	2,129	--	--	--
Sweetgum	469,562	59,156	79,066	80,525	84,523	65,344	46,159	25,804	13,378	14,765	842	--	--	--
Tupelo and blackgum	55,167	8,642	5,970	12,197	10,757	7,985	3,744	5,102	428	342	--	--	--	--
Ash	66,073	6,284	8,886	6,942	6,632	11,379	10,798	3,931	4,524	5,291	1,406	--	--	--
Cottonwood	4,087	--	--	--	528	--	--	1,737	859	963	--	--	--	--
Basswood	1,748	--	--	627	--	560	--	--	--	--	561	--	--	--
Yellow-poplar	404,003	27,247	36,185	42,953	66,881	72,990	54,066	41,545	26,957	31,197	3,982	--	--	--
Bay and magnolia	4,493	915	1,764	--	1,814	--	--	--	--	--	--	--	--	--
Black cherry	23,351	11,728	4,695	4,869	1,520	539	--	--	--	--	--	--	--	--
Black walnut	5,901	983	--	949	836	675	--	866	626	966	--	--	--	--
Sycamore	11,925	590	3,367	--	--	1,433	2,736	1,811	1,449	539	--	--	--	--
Black locust	583	--	--	--	--	583	--	--	--	--	--	--	--	--
Elm	36,801	5,076	6,147	7,866	1,659	7,940	5,973	1,295	--	845	--	--	--	--
Other eastern hardwoods	107,223	37,513	23,983	15,273	10,105	5,842	4,186	2,370	4,046	3,288	617	--	--	--
Total hardwoods	2,650,465	291,245	354,320	393,103	402,141	377,185	280,386	205,911	123,267	190,924	31,983	--	--	--
All species	5,188,562	583,501	818,349	922,795	884,786	748,046	472,645	320,394	172,970	233,093	31,983	--	--	--

Table 15.--Volume of growing stock on commercial forest land, by species and diameter class, North Central Georgia, 1983

Species	All classes	Diameter class (inches at breast height)											29.0 and larger
		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			
Softwood:													
Thousand cubic feet													
Longleaf pine	16,970	--	935	2,263	3,605	5,967	1,835	1,716	--	649	--		
Slash pine	5,750	416	1,433	1,761	796	700	644	--	--	--	--		
Shortleaf pine	557,992	85,894	133,187	121,710	110,413	60,974	22,939	15,901	2,302	4,672	--		
Loblolly pine	1,847,353	184,755	297,956	378,144	350,912	296,498	161,858	93,450	47,401	36,379	--		
Pond pine	--	--	--	--	--	--	--	--	--	--	--		
Virginia pine	89,321	13,935	26,086	22,503	15,575	5,707	3,626	1,889	--	--	--		
Pitch pine	--	--	--	--	--	--	--	--	--	--	--		
Table Mountain pine	--	--	--	--	--	--	--	--	--	--	--		
Spruce pine	--	--	--	--	--	--	--	--	--	--	--		
Sand pine	--	--	--	--	--	--	--	--	--	--	--		
Eastern white pine	--	--	--	--	--	--	--	--	--	--	--		
Eastern hemlock	--	--	--	--	--	--	--	--	--	--	--		
Spruce and fir	--	--	--	--	--	--	--	--	--	--	--		
Bald cypress	--	--	--	--	--	--	--	--	--	--	--		
Pond cypress	--	--	--	--	--	--	--	--	--	--	--		
Cedars	8,556	3,986	1,568	1,261	--	694	514	533	--	--	--		
Total softwoods	2,525,942	288,986	461,165	527,642	481,301	370,540	191,416	113,489	49,703	41,700	--		
Hardwood:													
Select white oaks	320,747	24,461	29,545	36,849	48,680	53,909	38,759	34,591	14,953	34,480	4,520		
Select red oaks	109,085	8,000	9,483	15,913	15,910	18,882	12,457	9,342	6,082	11,249	1,767		
Chestnut oak	33,476	2,221	3,246	6,577	4,944	6,044	2,875	1,628	2,086	3,855	--		
Other white oaks	93,515	11,612	16,421	18,410	10,388	10,803	6,468	5,972	3,254	8,231	1,956		
Other red oaks	508,772	44,102	62,431	83,833	85,284	62,296	46,010	45,861	25,340	44,199	9,416		
Hickory	186,824	22,449	26,037	32,162	24,312	32,231	24,785	9,874	6,291	8,683	--		
Yellow birch	--	--	--	--	--	--	--	--	--	--	--		
Hard maple	3,794	715	2,046	1,033	--	--	--	--	--	--	--		
Soft maple	113,068	9,642	23,726	14,472	13,426	11,491	17,604	7,894	7,530	6,545	738		
Beech	14,453	--	1,697	--	1,060	951	711	1,644	1,384	6,453	553		
Sweetgum	452,757	56,660	75,780	76,964	82,479	63,698	44,544	25,429	12,688	13,673	842		
Tupelo and blackgum	46,023	6,147	5,240	9,744	9,417	7,096	3,246	4,705	428	--	--		
Ash	61,638	5,233	7,795	6,942	6,632	11,379	10,145	3,931	3,862	4,313	1,406		
Cottonwood	3,559	--	--	--	--	--	--	1,731	859	963	--		
Basswood	1,748	--	--	627	--	560	--	--	--	--	561		
Yellow-poplar	396,922	26,043	34,442	42,953	66,881	72,215	54,066	41,545	26,392	29,612	2,773		
Bay and magnolia	3,730	828	1,425	--	1,477	--	--	--	--	--	--		
Black cherry	16,576	8,149	2,388	3,980	1,520	539	--	--	--	--	--		
Black walnut	5,226	983	--	949	836	--	--	866	626	966	--		
Sycamore	11,925	590	3,367	--	--	1,433	2,736	1,811	1,449	539	--		
Black locust	583	--	--	--	--	583	--	--	--	--	--		
Elm	30,887	4,606	4,077	6,697	1,659	6,538	5,170	1,295	--	845	--		
Other eastern hardwoods	43,243	7,751	10,098	4,285	8,099	2,874	2,182	1,837	3,408	2,709	--		
Total hardwoods	2,458,551	240,192	319,244	362,390	383,004	363,522	271,758	199,962	116,632	177,315	24,532		
All species	4,984,493	529,178	780,409	890,032	864,305	734,062	463,174	313,451	166,335	219,015	24,532		

Species	All classes	Diameter class (inches at breast height)										29.0 and larger
		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				
Softwood:												
Longleaf pine	83,494	8,860	17,579	31,917	10,406	10,393	--	4,339	--	--	--	
Slash pine	17,970	6,997	3,629	3,780	3,564	--	--	--	--	--	--	
Shortleaf pine	1,509,590	443,904	493,536	308,719	126,327	92,808	14,231	30,065	--	--	--	
Loblolly pine	6,341,990	1,324,526	1,547,120	1,491,521	893,431	552,612	294,382	238,398	--	--	--	
Pond pine	--	--	--	--	--	--	--	--	--	--	--	
Virginia pine	194,861	77,959	62,905	26,306	17,843	9,848	--	--	--	--	--	
Pitch pine	--	--	--	--	--	--	--	--	--	--	--	
Table Mountain pine	--	--	--	--	--	--	--	--	--	--	--	
Spruce pine	--	--	--	--	--	--	--	--	--	--	--	
Sand pine	--	--	--	--	--	--	--	--	--	--	--	
Eastern white pine	--	--	--	--	--	--	--	--	--	--	--	
Eastern hemlock	--	--	--	--	--	--	--	--	--	--	--	
Spruce and fir	--	--	--	--	--	--	--	--	--	--	--	
Bald cypress	--	--	--	--	--	--	--	--	--	--	--	
Pond cypress	--	--	--	--	--	--	--	--	--	--	--	
Cedars	14,893	5,185	--	3,634	2,948	3,126	--	--	--	--	--	
Total softwoods	8,162,798	1,867,431	2,124,769	1,865,877	1,054,519	668,787	308,613	272,802	--	--	--	
Hardwood:												
Select white oaks	978,791	--	158,109	207,200	167,445	160,743	73,742	185,147	26,405	--	--	
Select red oaks	309,546	--	50,866	70,144	50,504	43,861	28,079	56,641	9,451	--	--	
Chestnut oak	86,008	--	15,466	21,993	11,850	7,352	9,815	19,532	--	--	--	
Other white oaks	219,681	--	37,358	45,634	29,687	30,104	17,393	47,304	12,201	--	--	
Other red oaks	1,402,315	--	290,659	250,877	206,667	219,791	129,450	246,637	58,234	--	--	
Hickory	451,691	--	80,907	129,515	111,871	48,319	32,578	48,501	--	--	--	
Yellow birch	--	--	--	--	--	--	--	--	--	--	--	
Hard maple	--	--	--	--	--	--	--	--	--	--	--	
Soft maple	265,647	--	42,281	43,195	71,981	35,188	35,755	33,101	4,146	--	--	
Beech	51,603	--	3,939	3,659	2,794	6,571	5,571	26,718	2,351	--	--	
Sweetgum	1,071,653	--	291,972	272,313	215,017	133,844	70,552	82,060	5,895	--	--	
Tupelo and blackgum	93,914	--	29,505	27,220	13,190	21,915	2,084	--	--	--	--	
Ash	176,586	--	21,294	44,058	43,319	18,172	18,794	22,826	8,123	--	--	
Cottonwood	17,627	--	--	--	--	8,257	4,365	5,005	--	--	--	
Basswood	5,295	--	--	2,154	--	--	--	--	3,141	--	--	
Yellow-poplar	1,374,823	--	235,921	310,395	262,241	218,229	147,883	180,441	19,713	--	--	
Bay and magnolia	4,865	--	4,865	--	--	--	--	--	--	--	--	
Black cherry	7,675	--	5,513	2,162	--	--	--	--	--	--	--	
Black walnut	11,683	--	2,893	--	--	3,077	2,233	3,480	--	--	--	
Sycamore	35,796	--	--	5,356	11,757	8,582	7,260	2,841	--	--	--	
Black locust	2,095	--	--	2,095	--	--	--	--	--	--	--	
Elm	62,986	--	5,761	25,220	21,732	5,812	--	4,461	--	--	--	
Other eastern hardwoods	80,405	--	24,652	10,706	8,921	7,873	15,264	12,989	--	--	--	
Total hardwoods	6,710,685	--	1,301,961	1,473,896	1,228,976	977,690	600,818	977,684	149,660	--	--	
All species	14,873,483	1,867,431	3,426,730	3,339,773	2,283,495	1,646,477	909,431	1,250,486	149,660	--	--	

Table 17.—Net annual growth and removals of growing stock on commercial forest land, by species, North Central Georgia, 1982

Species	Net annual growth	Annual timber removals
- - - Thousand cubic feet - - -		
Softwood:		
Yellow pines	171,266	159,419
Eastern white pine	—	—
Spruce and fir	—	—
Cypress	—	—
Other eastern softwoods	905	145
Total softwoods	172,171	159,564
Hardwood:		
Select white and red oaks	19,529	7,812
Other white and red oaks	31,410	16,008
Hickory	6,718	3,932
Yellow birch	—	—
Hard maple	333	—
Sweetgum	21,625	9,379
Ash, walnut, and black cherry	4,440	975
Yellow-poplar	25,236	14,387
Tupelo and blackgum	1,256	1,213
Bay and magnolia	196	—
Other eastern hardwoods	9,689	3,942
Total hardwoods	120,432	57,648
All species	292,603	217,212

Table 18.—Net annual growth and removals of sawtimber on commercial forest land, by species, North Central Georgia, 1982

Species	Net annual growth	Annual timber removals
- - - Thousand board feet - - -		
Softwood:		
Yellow pines	769,482	606,474
Eastern white pine	—	—
Spruce and fir	—	—
Cypress	—	—
Other eastern softwoods	1,478	—
Total softwoods	770,960	606,474
Hardwood:		
Select white and red oaks	84,889	28,477
Other white and red oaks	118,155	50,539
Hickory	20,260	12,491
Yellow birch	—	—
Hard maple	200	—
Sweetgum	59,881	23,646
Ash, walnut, and black cherry	13,772	3,380
Yellow-poplar	99,459	66,628
Tupelo and blackgum	5,349	5,059
Bay and magnolia	244	—
Other eastern hardwoods	25,841	12,620
Total hardwoods	428,050	202,840
All species	1,199,010	809,314

Table 19.—Mortality of growing stock and sawtimber on commercial forest land, by species, North Central Georgia, 1982

Species	⋮ Growing stock ⋮	⋮ Sawtimber ⋮
	<u>Thousand cubic feet</u>	<u>Thousand board feet</u>
Softwood:		
Yellow pines	49,727	129,570
Eastern white pine	—	—
Spruce and fir	—	—
Cypress	—	—
Other eastern softwoods	—	—
Total softwoods	49,727	129,570
Hardwood:		
Select white and red oaks	2,414	6,181
Other white and red oaks	5,995	21,027
Hickory	488	1,245
Yellow birch	—	—
Hard maple	—	—
Sweetgum	2,585	7,839
Ash, walnut, and black cherry	519	1,745
Yellow-poplar	2,546	6,728
Tupelo and blackgum	532	1,872
Bay and magnolia	182	706
Other eastern hardwoods	3,133	8,974
Total hardwoods	18,394	56,317
All species	68,121	185,887

Table 20.—Volume of all live trees and growing stock on commercial forest land, by ownership class and species group, North Central Georgia, 1983

Ownership class	All live trees					Growing stock				
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
----- <u>Thousand cubic feet</u> -----										
National Forest	11,349	—	—	5,358	5,991	11,349	—	—	5,358	5,991
Other public	154,136	77,223	—	32,481	44,432	144,684	77,058	—	28,939	38,687
Forest industry	447,046	274,520	1,223	94,309	76,994	430,562	273,543	1,007	85,944	70,068
Farmer	1,005,157	395,848	2,736	278,291	328,282	957,842	395,438	2,586	260,598	299,220
Miscellaneous private	3,570,874	1,781,197	5,350	755,302	1,029,025	3,440,056	1,771,347	4,963	706,910	956,836
All ownerships	5,188,562	2,528,788	9,309	1,165,741	1,484,724	4,984,493	2,517,386	8,556	1,087,749	1,370,802

Table 21.—Volume of sawtimber on commercial forest land, by ownership class and species group, North Central Georgia, 1983

	Small sawtimber ^a						Large sawtimber ^b					
Ownership class	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood		
National Forest	20,190	—	—	6,364	13,826	11,974	—	—	8,705	3,269		
Other public	261,810	177,997	—	39,133	44,680	174,818	87,764	—	43,065	43,989		
Forest industry	788,652	628,561	1,299	104,840	53,952	330,031	90,472	—	126,650	112,909		
Farmer	1,563,027	941,196	—	288,789	333,042	1,208,848	329,854	—	376,140	502,854		
Miscellaneous private	6,000,255	4,101,504	7,520	876,519	1,014,712	4,513,878	1,790,557	6,074	1,081,888	1,635,359		
All ownerships	8,633,934	5,849,258	8,819	1,315,645	1,460,212	6,239,549	2,298,647	6,074	1,636,448	2,298,380		

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

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

OF GROWING STOCK ON COMMERCIAL FOREST LAND, BY OWNERSHIP CLASS AND SPECIES GROUP,

Ownership class	Net annual growth					Annual timber removals				
	All species	Pine	Other : softwood	Soft : hardwood	Hard : hardwood	All species	Pine	Other : softwood	Soft : hardwood	Hard : hardwood
----- Thousand cubic feet -----										
National Forest	426	—	—	178	248	—	—	—	—	—
Other public	9,215	5,119	152	1,861	2,083	6,180	3,562	—	1,092	1,526
Forest industry	30,146	21,952	107	4,054	4,033	35,636	20,653	—	8,153	6,830
Farmer	53,429	25,807	194	13,107	14,321	49,022	35,159	145	6,784	6,934
Miscellaneous private	199,387	118,388	452	37,527	43,020	126,374	100,045	—	11,834	14,495
All ownerships	292,603	171,266	905	56,727	63,705	217,212	159,419	145	27,863	29,785

Table 23.—Net annual growth and removals of sawtimber on commercial forest land, by ownership class and species group,
North Central Georgia, 1982

Ownership class	Net annual growth					Annual timber removals				
	All species	Pine	Other : softwood	Soft : hardwood	Hard : hardwood	All species	Pine	Other : softwood	Soft : hardwood	Hard : hardwood
----- Thousand board feet -----										
National Forest	2,354	—	—	1,614	740	—	—	—	—	—
Other public	32,727	23,175	—	4,315	5,237	19,165	11,831	—	3,208	4,126
Forest industry	111,908	85,995	69	13,682	12,162	126,457	70,014	—	30,011	26,432
Farmer	223,767	127,493	909	40,453	54,912	181,554	133,632	—	25,788	22,134
Miscellaneous private	828,254	532,819	500	127,571	167,364	482,138	390,997	—	44,723	46,418
All ownerships	1,199,010	769,482	1,478	187,635	240,415	809,314	606,474	—	103,730	99,110

Table 24.--Average net volume per acre of sawtimber, growing stock, and other live timber^a on commercial forest land, by major forest type, species group, and ownership class, North Central Georgia, 1983

Forest type, species group, and class of material	All ownerships			Ownership class					
	National Forest			Other public			Forest industry		
	Board feet	Cubic feet	Board feet	Cubic feet	Board feet	Cubic feet	Board feet	Cubic feet	Misc. private
Pine types:									
Growing stock:									
Softwood	3,692	1,180	--	--	3,538	1,062	2,356	900	1,144
Hardwood	391	181	--	--	356	204	119	72	230
Total	4,083	1,361	--	--	3,894	1,266	2,475	972	1,374
Other timber:									
Softwood	--	6	--	--	--	3	--	4	1
Hardwood	--	18	--	--	--	22	--	4	28
Total	--	24	--	--	--	25	--	8	29
Oak-pine type:									
Growing stock:									
Softwood	1,672	485	--	--	4,028	1,011	480	196	608
Hardwood	1,394	574	--	--	4,051	1,125	458	207	708
Total	3,066	1,059	--	--	8,079	2,136	938	403	1,316
Other timber:									
Softwood	--	--	--	--	--	--	--	--	--
Hardwood	--	50	--	--	--	96	--	28	41
Total	--	50	--	--	--	96	--	28	41
Upland hardwood types:									
Growing stock:									
Softwood	501	124	--	--	403	107	161	49	101
Hardwood	3,112	1,121	--	--	2,089	869	1,324	652	1,119
Total	3,613	1,245	--	--	2,492	976	1,485	701	1,220
Other timber:									
Softwood	--	--	--	--	--	--	--	--	--
Hardwood	--	72	--	--	--	107	--	54	88
Total	--	72	--	--	--	107	--	54	88
Lowland hardwood types:									
Growing stock:									
Softwood	333	57	--	--	--	--	--	--	71
Hardwood	5,438	1,686	8,458	2,984	2,723	1,085	5,492	1,634	4,890
Total	5,771	1,743	8,458	2,984	2,723	1,085	5,492	1,634	5,321
Other timber:									
Softwood	--	--	--	--	--	--	--	--	--
Hardwood	--	174	--	--	--	276	--	197	--
Total	--	174	--	--	--	276	--	197	--
All types:									
Growing stock:									
Softwood	2,140	662	--	--	2,280	661	1,548	590	1,765
Hardwood	1,759	644	8,458	2,984	1,466	580	856	335	2,084
Total	3,899	1,306	8,458	2,984	3,746	1,241	2,404	925	3,849
Other timber:									
Softwood	--	3	--	--	--	1	--	3	--
Hardwood	--	50	--	--	--	80	--	33	--
Total	--	53	--	--	--	81	--	36	--
All timber	3,899	1,360	8,458	2,984	3,746	1,323	2,404	961	3,849
									1,396
									4,190
									1,423

^a Rough and rotten trees.

Table 25.—Land area, by class, major forest type, and survey completion date, North Central Georgia, 1961, 1972, and 1983

Land use class	Survey completion date			Change 1972-1983
	1961	1972	1983	
----- Acres -----				
Forest land:				
Commercial forest land:				
Pine and oak-pine types	2,794,100	2,768,946	2,307,265	-461,681
Hardwood types	1,290,500	1,230,295	1,507,763	+277,468
Total	4,084,600	3,999,241	3,815,028	-184,213
Noncommercial forest land:				
Productive-reserved	5,600	7,502	14,236	+6,734
Unproductive	—	—	—	—
Total	5,600	7,502	14,236	+6,734
Nonforest land:				
Cropland	1,051,200	657,669	669,387	+11,718
Pasture and range	633,800	795,578	601,060	-194,518
Other	419,000	713,895	1,029,783	+315,888
Total	2,104,000	2,167,142	2,300,230	+133,088
All land ^a	6,194,200	6,173,885	6,129,494	-44,391

^aExcludes all water areas.

Table 26.—Volume^a of sawtimber, growing stock, and all live timber on commercial forest land, by species group, survey completion date, and diameter class, North Central Georgia

Species group and year	All classes	Diameter class (inches at breast height)									
		5.0-6.9	7.0-8.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0 and larger	
SAWTIMBER (in thousand board feet)											
Softwood											
1961	3,486,942	—	—	1,141,699	1,072,315	645,927	321,026	119,327	111,886	74,762	
1972	6,983,031	—	—	1,682,200	1,855,104	1,505,940	973,407	507,211	249,714	209,455	
1983	8,162,798	—	—	1,867,431	2,124,769	1,865,877	1,054,519	668,787	308,613	272,802	
Hardwood											
1961	3,646,087	—	—	—	844,597	713,346	582,791	502,477	355,033	647,843	
1972	4,963,227	—	—	—	1,090,100	1,060,535	909,650	617,774	414,254	870,914	
1983	6,710,685	—	—	—	1,301,961	1,473,896	1,228,976	977,690	600,818	1,127,344	
GROWING STOCK (in thousand cubic feet)											
Softwood											
1961	1,407,911	273,498	332,696	322,605	242,880	128,262	58,273	20,249	18,020	11,428	
1972	2,488,367	429,450	529,369	475,332	420,182	299,035	176,694	86,070	40,218	32,017	
1983	2,525,942	288,986	461,165	527,642	481,301	370,540	191,416	113,489	49,703	41,700	
Hardwood											
1961	1,451,563	157,245	197,326	255,969	248,484	175,961	128,879	102,777	68,925	115,997	
1972	2,018,591	241,136	297,906	333,354	320,712	261,602	201,161	126,360	80,422	155,938	
1983	2,458,551	240,192	319,244	362,390	383,004	363,522	271,758	199,962	116,632	201,847	
ALL LIVE TIMBER (in thousand cubic feet)											
Softwood											
1961	1,415,617	276,829	334,551	323,871	243,478	128,324	58,518	20,438	18,020	11,588	
1972	2,501,512	434,678	532,314	477,205	421,229	299,188	177,468	86,800	40,218	32,412	
1983	2,538,097	292,256	464,029	529,692	482,645	370,861	192,259	114,483	49,703	42,169	
Hardwood											
1961	1,570,477	190,821	219,038	277,496	260,845	182,564	132,972	105,815	72,846	128,080	
1972	2,187,648	292,625	330,682	361,384	336,668	271,423	207,564	130,086	85,023	172,193	
1983	2,650,465	291,245	354,320	393,103	402,141	377,185	280,386	205,911	123,267	222,907	

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

Tansey, John B.

Forest statistics for North Central Georgia, 1983. Resour. Bull. SE-67. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southeastern Forest Experiment Station; 1983. 30 p.

Since the fourth inventory of the forest resources of North Central Georgia in 1972, the area of commercial forest land has decreased by 5 percent, or 184,000 acres. Commercial forests now cover 3.8 million acres, 62 percent of the land in these 32 counties. Volume of softwood growing stock has increased 2 percent while volume of hardwood growing stock has increased 22 percent. Net annual growth of softwood growing stock totaled 172 million cubic feet compared to annual softwood removals of 160 million cubic feet. Hardwood net growth totaled 120 million cubic feet compared to annual hardwood removals of 58 million cubic feet.

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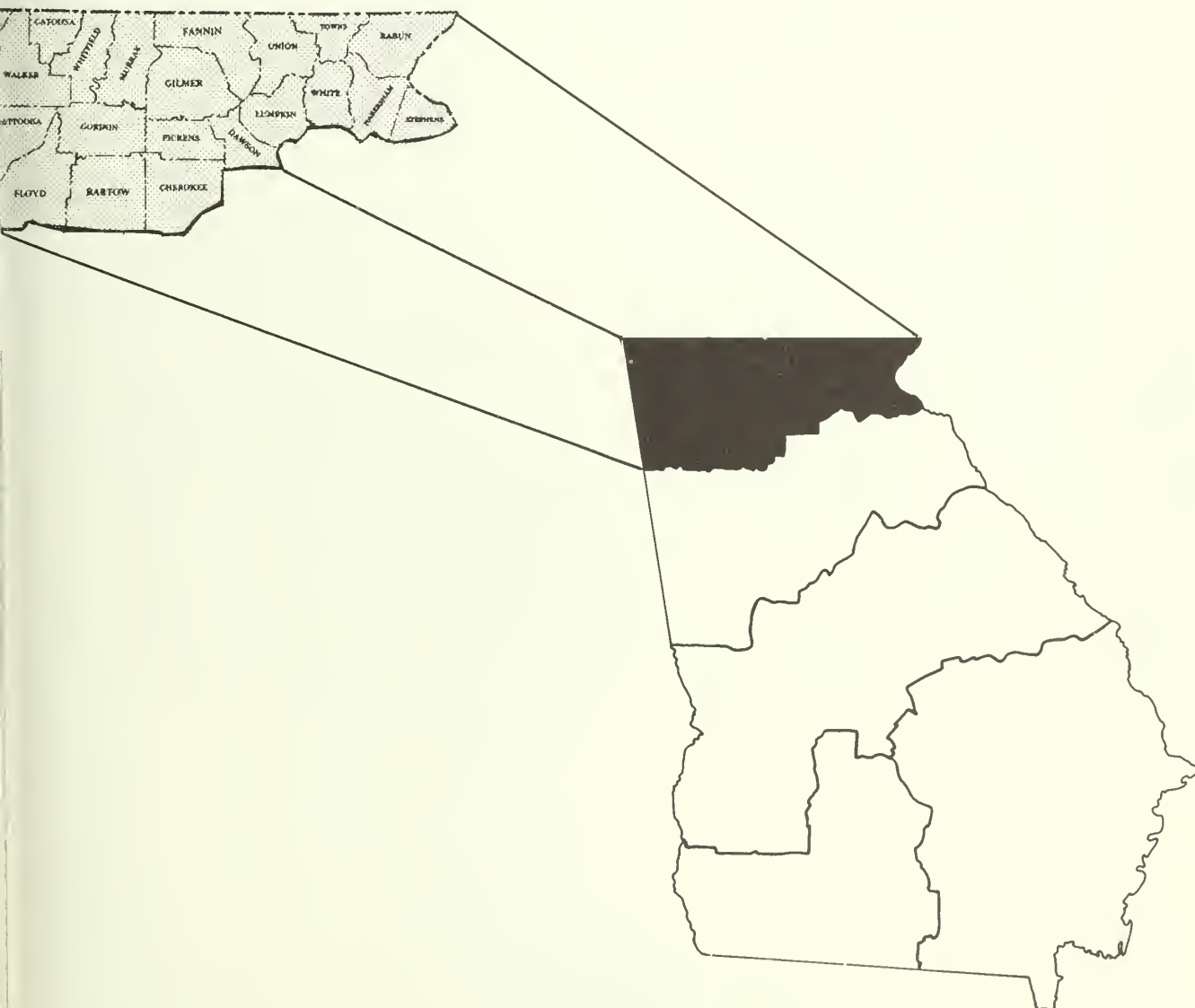
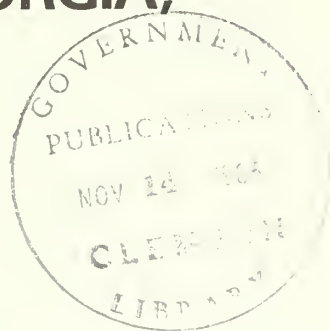


The Forest Service, U.S. Department of Agriculture, is dedicated to the principle of multiple use management of the Nation's forest resources for sustained yields of wood, water, forage, wildlife, and recreation. Through forestry research, cooperation with the States and private forest owners, and management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

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FOREST STATISTICS FOR NORTH GEORGIA, 1983



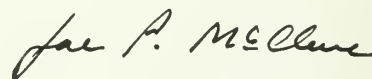
Foreword

This report highlights the principal findings of the fifth forest survey of North Georgia. Fieldwork began in September 1982 and was completed in January 1983. Four previous surveys, completed in 1936, 1953, 1961, and 1972, provide statistics for measuring changes and trends over the past 47 years. The primary emphasis in this report is on the changes and trends since 1972. Previously reported figures have been adjusted to provide the best estimate of change.

Periodic surveys of the forest resource are authorized by the Forest and Rangeland Renewable Resources Research Act of 1978. These surveys are a continuing, nationwide undertaking by the regional experiment stations of the Forest Service, USDA. In Florida, Georgia, North Carolina, South Carolina, and Virginia, these surveys are administered by the Forest Inventory and Analysis (Forest Survey) Research Work Unit at the Southeastern Forest Experiment Station, with headquarters in Asheville, North Carolina. The primary objective of the survey is to periodically inventory and evaluate all forest and related resources. These multiresource data help provide a basis for formulating forest policies and programs and for the orderly development and use of the resources. This report deals only with the extent and condition of forest lands, associated timber volumes, and rates of timber growth and removals.

The 21-county area covered by this report is one of five survey units in Georgia. Similar reports, USDA Forest Service Resource Bulletins SE-61, SE-63, SE-65, and SE-67 have been issued for Southwest, Southeast, Central, and North Central Georgia, respectively. Another report containing many of the State totals is being released with this report. A final State report will present an in-depth analysis of the timber resource and should be available in late 1983.

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



JOE P. McCLURE
Project Leader

April 1983
Southeastern Forest Experiment Station
Asheville, North Carolina

FOREST STATISTICS

FOR

NORTH GEORGIA,

1983

by

John B. Tansey, Forester
Forest Inventory and Analysis
Asheville, North Carolina

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Since 1972 in North Georgia

- area of commercial forest land decreased by almost 96,000 acres, or by 3 percent. Over 120,000 acres of commercial forest were diverted to other land uses, while only 24,000 acres of new commercial forest were added. Forty two percent of the diversions can be attributed to the reclassification of almost 51,000 acres of commercial forest as productive reserved forest. Approximately 28 percent of the diversions was to agricultural uses, 27 percent to urban uses, and 3 percent to water. Commercial forests now cover approximately 3.1 million acres, 74 percent of the land in this 21-county area.

- area of commercial forest land held by the National Forest System decreased by almost 69,000 acres and now totals about 660,000 acres. Some 70 percent of this decrease is attributed to the reclassification of almost 48,000 acres of commercial forest to productive reserved forest. The area of commercial forest held by farmers, miscellaneous private individuals, and miscellaneous private corporations--the three ownership groups comprising the nonindustrial private forest (NIPF) sector--now totals 2.1 million acres, a decrease of about 2 percent. Although this is a relatively small reduction, larger changes occurred within the NIPF group. Farmer-owned commercial forest decreased by over 326,000 acres, or 40 percent. Miscellaneous private corporate lands declined by just under 13,000 acres, while the commercial forest area held by miscellaneous private individuals increased by over 286,500 acres. NIPF lands now account for 68 percent of the commercial forest area. Forest industry increased its holdings by more than 12,000 acres to 263,000 acres. Forest industry also controls an additional 8,000 acres of commercial forest land under long-term lease from the NIPF sector.

- almost 401,000 acres, 40,000 annually, were harvested and retained in commercial forest. This figure represents 13 percent of the total commercial forest area. Sixty-five percent of the

harvest occurred on NIPF lands, and more than 19 percent occurred on lands owned by forest industry. An additional 165,000 acres experienced some form of intermediate cutting. Insects, disease, and other natural destructive agents damaged almost 479,000 acres of commercial forest.

- about 56,000 acres, or 5,500 acres annually, have been artificially regenerated and are adequately stocked with suitable trees. The rate of artificial regeneration has increased by only 4 percent since the period between 1961 and 1972. All of this small increase occurred on forest industry and public lands. Seventy-three percent of all artificial regeneration occurred on forest industry lands. The rate of artificial regeneration on NIPF lands decreased by 57 percent. About 136,000 acres of commercial forest experienced natural regeneration after harvesting, while an additional 24,000 acres of non-forest land were naturally regenerated. Including both natural and artificial, only 216,000 acres were regenerated, slightly more than one-half the acreage harvested.

- average basal area of all live trees 5.0 inches d.b.h. and larger has increased from 66 to 74 square feet per acre of commercial forest land. There are also 607 sapling-size trees per acre, 151 fewer per acre than in 1972. Stands classified as fully stocked have increased by over 63 percent to 948,000 acres, while stands classified as medium stocked have decreased by 8 percent to 1.6 million acres. Stands classified as poorly stocked decreased by almost 39 percent and now total 506,000 acres.

- volume of softwood growing stock has increased by over 10 percent from almost 1.6 billion cubic feet to about 1.8 billion cubic feet. This increase occurred in all sawtimber-size diameter classes, where growing-stock volume increased by 248 million cubic feet, or 26 percent. Poletimber volume declined by 81 million cubic feet, a loss of more than 12 percent. Volume of shortleaf pine, which had been the predominant species in North Georgia, decreased by 44

million cubic feet and now totals 457 million cubic feet. Volume of loblolly pine, which has become the predominant softwood species in North Georgia, increased by 108 million cubic feet, or 24 percent. Volume of Virginia pine has increased 78 million cubic feet, or 19 percent. The current inventory of softwood growing stock includes 5.4 billion board feet of sawtimber, an increase of 29 percent.

- volume of hardwood growing stock has increased by about 297 million cubic feet to 2.5 billion cubic feet. This increase occurred across the range of diameters, except the 8-inch class in which volume declined by less than 1 percent. The current inventory of hardwood growing stock includes 6.6 billion board feet of sawtimber.

- number of southern yellow pine trees in the 2-, 4-, and 6-inch diameter classes declined significantly. The number of yellow pines dropped 64 percent in the 2-inch class, 38 percent in the 4-inch class, and 31 percent in the 6-inch class. The acreage of yellow pine sapling-seedling stands decreased 48,500 acres or 28 percent. The acreage of yellow pine poletimber stands decreased 152,000 acres, or 30 percent. The acreage of yellow pine sawtimber stands increased 41 percent.

In 1982

- net annual growth of softwood growing stock averaged 30 cubic feet per acre of commercial forest land and totaled 93 million cubic feet. This is a 13 percent decrease from the 107 million cubic feet of 1971. Part of this reduction in growth can be attributed to

a large increase in softwood mortality, and part to a decrease in ingrowth. In 1971, ingrowth contributed almost 25 million cubic feet, or 22 percent of the gross growth. At present, ingrowth is contributing 14 million cubic feet, only 12 percent of the gross growth. As in Central and North Central Georgia, an unexplained reduction in the average annual diameter growth of yellow pines also contributed to the decrease in net annual growth. The net annual growth of hardwood growing stock increased by 24 percent since 1971 and now totals 85 million cubic feet. The net annual growth of sawtimber for all species included included 659 million board feet.

- mortality of growing stock totaled 33 million cubic feet and reduced gross growth by 16 percent. Softwood mortality has more than tripled since 1971. Insects, primarily southern pine bark beetles, accounted for 41 percent of the current softwood mortality. Hardwood mortality has increased 14 percent since 1971. Mortality of all species includes 92 million board feet of sawtimber. At the time the inventory was made 17 million cubic feet of wood was available in salvable dead trees.

- annual removals of growing stock totaled 84 million cubic feet and included 282 million board feet of sawtimber. Softwood removals have increased by over 11 percent to almost 60 million cubic feet, while hardwood removals have decreased nearly 32 percent to around 24 million cubic feet. Softwoods provide a disproportionate share of the removals. They make up only 42 percent of the inventory and 52 percent of the net growth, yet provide 71 percent of the removals.

How the Inventory is Made

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

1. Initial estimates of forest and nonforest areas were based on the classification of 13,852 sample clusters systematically spaced on the latest aerial photographs available. A subsample of 874 of the 16-point clusters was ground checked, and a linear regression was fitted to the data to develop the relationship between the photo and ground classification of the subsample. This procedure provides a means for adjusting the initial estimates of area or change in land use since date of photography and for photo misclassifications.

2. Estimates of timber volume and forest classifications were based on measurements recorded at 610 ground sample locations systematically distributed within the commercial forest land. The plot design at each location was based on a cluster of 10 points. In most cases, variable plots, using a basal-area factor of 37.5 square feet per acre, were systematically spaced within a single forest condition at 5 of the 10 cluster points. Trees less than 5 inches d.b.h. were tallied on a fixed-radius plot around each point center.

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

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

4. Felled trees were measured at 10 active cutting operations. These data will be pooled with similar measurements taken in the State to supplement the standing-tree volume data and to generate utilization factors for product and species groups that will be analyzed at the State level.

5. Estimates of growth, removals, and mortality were determined from the remeasurement of 565 permanent sample plots established in the fourth survey.

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

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

Reliability of the Data

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

	<u>Percent</u>
Per million acres of	
commercial forest land	0.77
Per billion cubic feet of	
growing stock	5.55
Per billion cubic feet of	
net annual growth	1.30
Per billion cubic feet of	
annual removals	3.22

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

County	Commercial forest area	Cubic-foot volume of growing stock		
		Inventory	Growth	Removals
----- Sampling error ^b -----				
Bartow	2.14	13.21	15.08	34.96
Catoosa	4.39	21.70	24.77	100.08
Chattooga	3.39	13.36	17.00	33.52
Cherokee	1.81	11.47	11.62	37.79
Dade	3.45	13.61	12.84	68.06
Dawson	1.52	11.84	17.86	64.86
Fannin	1.50	9.74	11.90	81.05
Floyd	1.62	10.38	10.63	35.92
Gilmer	0.89	8.11	8.83	33.46
Gordon	2.58	16.29	17.37	40.95
Habersham	2.00	10.54	13.09	52.60
Lumpkin	1.22	11.78	15.26	49.70
Murray	1.87	14.60	15.85	42.80
Pickens	1.77	17.09	17.34	46.15
Rabun	1.04	8.63	10.39	48.97
Stephens	2.81	16.84	15.91	49.96
Towns	1.81	13.16	16.44	73.76
Union	1.28	10.33	11.36	60.69
Walker	2.13	9.35	9.96	58.16
White	1.36	10.45	10.33	78.78
Whitfield	2.45	15.43	16.81	40.33
Total	0.43	2.70	3.06	11.11

^aSampling error of breakdowns of county and unit totals may be computed with the following formula:

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

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

SE = Specified sampling error in table.

^bBy random-sampling formula (in percent).

Definitions of Terms

Acceptable trees.—Growing-stock trees of commercial species that meet specified standards of size and quality, but not qualifying as desirable trees.

Basal area.—The area in square feet of the cross section at breast height of a single tree or of all the trees in a stand, usually expressed as square feet of basal area per acre.

Commercial forest land.—Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization.

Commercial species.—Tree species presently or prospectively suitable for industrial wood products.

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

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

Diameter class.—A classification of trees based on diameter outside bark, measured at breast height (4½ feet above the ground). D.b.h. is the common abbreviation for “diameter at breast height.” Two-inch diameter classes are commonly used in Renewable Resources Evaluation, with the even inch as the approximate midpoint for a class. For example, the 6-inch class includes trees 5.0 through 6.9 inches d.b.h., inclusive.

Farm.—Lands on which agriculture operations are being conducted and sale of agriculture products totaled \$1,000 or more during the year.

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

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

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

Forest land.—Land at least 16.7 percent stocked by forest trees of any size, or formerly having had such tree cover, and not currently developed for nonforest use.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Industrial wood.—All roundwood products except fuelwood.

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

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

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

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

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

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

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

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

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

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

Noncommercial species.—Tree species of typically small size, poor form, or inferior quality which normally do not develop into trees suitable for industrial wood products.

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

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

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

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

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

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

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

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

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

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

available dead trees.—Standing or down dead trees that are considered merchantable by Renewable Resources Evaluation standards.

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

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

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

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

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

Sawtimber volume.—Net volume of the saw-log portion of live sawtimber in board-foot International $\frac{1}{4}$ -inch rule.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Stocking.—The degree of occupancy of land by trees, measured by basal area or the number of trees in a stand and spacing in the stand, compared to a minimum standard, depending on tree size, to fully utilize the growth potential of the land. (See page 8.)

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

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

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

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

Stocking Standard

D.b.h. class	: : Minimum number of : trees per acre : for full stocking :	: : Minimum basal area : per acre : for full stocking :	: : Percent stocking : assigned : each tally tree ^a :
Seedlings	600	—	5.0
2	560	—	5.4
4	460	—	6.5
6	340	67	5.8
8	240	84	4.8
10	155	85	4.3
12	115	90	4.0
14	90	96	3.8
16	72	101	3.7
18	60	106	3.5
20	51	111	3.5

^aStocking percentages based on tally at all 10 points of a 10-point cluster of plots. Trees less than 5 inches d.b.h. were tallied on circular, 1/300-acre plots at each point. Trees 5.0 inches d.b.h. and larger were tallied on variable plots using a basal area factor of 37.5 at each sample point.

Overstocked—More than 130 percent

Fully stocked—100-130 percent

Medium stocked—60-99 percent

Poorly stocked—16.7-59 percent

Nonstocked—Less than 16.7 percent

Cubic feet of wood per average cord (excluding bark)

D.b.h. class	: : All : species :	: : Pine :	: : Other : softwood :	: : Hardwood :
6	60.4	61.0	68.2	60.0
8	68.4	68.1	76.0	68.4
10	73.4	73.1	81.4	73.4
12	76.7	76.7	85.2	76.4
14	79.0	79.4	88.2	78.4
16	80.8	81.6	90.4	79.8
18	81.9	83.3	92.3	80.8
20	83.6	84.8	93.8	81.5
22	83.8	86.0	95.1	82.1
24+	86.3	88.3	97.1	83.0
Average	74.2	72.4	88.8	74.2

County Tables

The county tables are intended for use in compiling forest resource estimates for groups of counties. Because the sampling procedure used by the forest survey was intended primarily to furnish inventory data for the survey unit as a whole, individual county estimates have limited and variable accuracy. As county totals are broken down by various subdivisions, the possibility of error increases and is greatest for the smallest items. The order of this increase can be computed with the formula on page 4.

Table 1.—Area, by county and land class, North Georgia, 1983

County	All land ^a	Forest land				Nonforest land ^b
		Total	Commercial forest	Unproductive forest	Productive- reserved	
----- Acres -----						
Bartow	295,296	180,521	178,500	—	2,021	114,775
Catoosa	106,880	53,021	49,648	—	3,373	53,859
Chattooga	202,880	149,157	148,967	—	190	53,723
Cherokee	267,219	207,548	207,548	—	—	59,671
Dade	107,520	79,078	76,383	—	2,695	28,442
Dawson	133,702	116,776	116,385	—	391	16,926
Fannin	252,096	225,036	195,772	—	29,264	27,060
Floyd	328,006	208,166	208,131	—	35	119,840
Gilmer	278,189	249,841	248,891	—	950	28,348
Gordon	228,992	129,681	129,656	—	25	99,311
Habersham	180,672	129,059	129,059	—	—	51,613
Lumpkin	186,547	164,345	163,275	—	1,070	22,202
Murray	217,389	156,845	148,803	—	8,042	60,544
Pickens	143,789	121,845	121,845	—	—	21,944
Rabun	235,712	215,208	207,055	—	8,153	20,504
Stephens	110,912	85,470	85,254	—	216	25,442
Towns	106,048	96,526	95,822	—	704	9,522
Union	197,696	171,435	168,870	—	2,565	26,261
Walker	284,544	180,538	179,273	—	1,265	104,006
White	155,392	124,278	118,988	—	5,290	31,114
Whitfield	179,770	118,610	118,610	—	—	61,160
Total	4,199,251	3,162,984	3,096,735	—	66,249	1,036,267

^aFrom U.S. Bureau of the Census, 1970 and 1980.

^bIncludes 5,441 acres of water according to survey standards of area classification, but defined by the Bureau of Census as land.

Table 2.—Area of commercial forest land, by county and ownership class, North Georgia, 1983

County	All ownerships	Ownership class									
		National Forest		Miscellaneous Federal		State	County and municipal	Forest industry ^a	Farmer	Miscellaneous private	
										Corporate	Individual
----- Acres -----											
Bartow	178,500	—	7,812	105	101	26,031	55,833	16,751	71,867		
Catoosa	49,648	—	1,578	—	138	3,591	—	—	44,341		
Chattooga	148,967	15,489	—	—	—	17,020	21,174	10,587	84,697		
Cherokee	207,548	—	9,496	—	147	41,038	5,602	44,819	106,446		
Dade	76,383	—	—	—	47	11,822	23,460	—	41,054		
Dawson	116,385	6,546	1,185	4,639	10,050	13,632	4,725	14,176	61,432		
Fannin	195,772	73,635	—	—	49	461	51,212	12,802	57,613		
Floyd	208,131	8,264	—	510	599	21,429	41,664	41,794	93,871		
Gilmer	248,891	52,441	3,805	—	17	16,729	36,218	20,694	118,987		
Gordon	129,656	5,660	56	—	85	23,061	18,183	—	82,611		
Habersham	129,059	39,268	—	124	43	3,606	20,240	15,179	50,599		
Lumpkin	163,275	57,252	223	420	26	15,041	38,707	17,202	34,404		
Murray	148,803	45,838	1,178	—	54	20,550	12,180	91	68,912		
Pickens	121,845	—	—	2	85	20,137	15,243	20,324	66,054		
Rabun	207,055	124,553	—	20	70	—	13,012	26,024	43,376		
Stephens	85,254	20,523	1,140	—	369	3,185	26,683	6,671	26,683		
Towns	95,822	50,285	—	—	20	217	16,988	—	28,312		
Union	168,870	89,067	—	290	54	3,162	30,424	236	45,637		
Walker	179,273	20,814	—	10,500	14	3,432	52,552	21,896	70,065		
White	118,988	40,184	—	—	69	2,836	11,983	—	63,916		
Whitfield	118,610	10,075	8	—	430	16,158	—	12,439	79,500		
Total	3,096,735	659,894	26,481	16,610	12,467	263,138	496,083	281,685	1,340,377		

^aNot including 8,364 acres of farmer-owned and miscellaneous private lands leased to forest industry.

Table 3.--Area of commercial forest land, by county and forest-type group, North Georgia, 1983

County	All type groups	Forest-type group									
		White pine- hemlock	Spruce- fir	Longleaf- slash	Loblolly- shortleaf	Oak- pine	Oak- hickory	Oak-gum- cypress	Elm-ash- cottonwood	Maple-beech- birch	
		----- Acres -----									
Bartow	178,500	—	—	5,584	79,300	38,437	55,179	—	—	—	
Catoosa	49,648	—	—	—	3,591	7,912	31,811	—	6,334	—	
Chattooga	148,967	—	—	—	34,598	48,669	65,700	—	—	—	
Cherokee	207,548	—	—	—	88,321	26,970	86,655	—	5,602	—	
Dade	76,383	—	—	—	11,730	5,865	52,923	—	5,865	—	
Dawson	116,385	—	—	—	30,173	23,928	62,284	—	—	—	
Fannin	195,772	9,204	—	—	30,207	30,210	126,151	—	—	—	
Floyd	208,131	—	—	—	97,036	16,134	84,544	—	10,417	—	
Gilmer	248,891	10,347	—	—	21,115	55,299	156,957	—	5,173	—	
Gordon	129,656	—	—	—	51,154	37,209	32,201	9,092	—	—	
Habersham	129,059	—	—	—	50,244	27,542	51,273	—	—	—	
Lumpkin	163,275	18,614	—	—	41,936	27,216	75,509	—	—	—	
Murray	148,803	—	—	—	67,912	15,257	62,209	3,425	—	—	
Pickens	121,845	—	—	—	47,447	5,081	69,317	—	—	—	
Rabun	207,055	29,893	—	—	42,262	32,939	101,961	—	—	—	
Stephens	85,254	—	—	—	33,973	16,388	34,893	—	—	—	
Towns	95,822	—	—	—	15,752	21,177	58,893	—	—	—	
Union	168,870	8,906	—	—	48,799	8,907	102,258	—	—	—	
Walker	179,273	—	—	—	47,961	28,835	102,477	—	—	—	
White	118,988	4,465	—	—	45,352	15,980	49,197	—	3,994	—	
Whitfield	118,610	—	—	—	54,872	15,892	41,731	—	6,115	—	
Total	3,096,735	81,429	—	5,584	943,735	505,847	1,504,123	12,517	43,500	—	

Table 4.—Area of commercial forest land, by county and stand-size class,
North Georgia, 1983

County	All stands	Stand-size class			Nonstocked areas
		Sawtimber	Poletimber	Sapling- seedling	
----- Acres -----					
Bartow	178,500	90,845	57,890	24,559	5,206
Catoosa	49,648	20,720	12,668	16,260	—
Chattooga	148,967	52,932	61,059	26,845	8,131
Cherokee	207,548	98,237	64,101	45,210	—
Dade	76,383	31,340	39,178	5,865	—
Dawson	116,385	41,109	61,100	14,176	—
Fannin	195,772	91,835	78,332	25,605	—
Floyd	208,131	102,521	70,998	30,327	4,285
Gilmer	248,891	121,143	96,708	31,040	—
Gordon	129,656	51,801	42,194	33,565	2,096
Habersham	129,059	68,527	40,646	19,886	—
Lumpkin	163,275	102,768	56,206	4,301	—
Murray	148,803	68,681	57,256	22,866	—
Pickens	121,845	60,785	40,734	20,326	—
Rabun	207,055	141,105	51,004	14,946	—
Stephens	85,254	36,034	27,051	18,065	4,104
Towns	95,822	57,666	37,939	217	—
Union	168,870	87,304	52,993	28,573	—
Walker	179,273	63,867	97,876	17,530	—
White	118,988	50,355	53,342	12,455	2,836
Whitfield	118,610	52,154	45,526	14,815	6,115
Total	3,096,735	1,491,729	1,144,801	427,432	32,773

Table 5.—Area of commercial forest land, by county and site class,
North Georgia, 1983

County	All classes	Site class				
		1	2	3	4	5
		----- Acres -----				
Bartow	178,500	—	5,583	25,039	131,128	16,750
Catoosa	49,648	—	—	14,247	22,594	12,807
Chattooga	148,967	—	—	34,599	109,075	5,293
Cherokee	207,548	—	5,749	86,888	104,749	10,162
Dade	76,383	—	5,864	27,400	37,254	5,865
Dawson	116,385	—	11,272	57,260	47,853	—
Fannin	195,772	—	22,007	50,927	116,437	6,401
Floyd	208,131	—	—	41,666	162,179	4,286
Gilmer	248,891	—	25,064	67,260	135,875	20,692
Gordon	129,656	—	—	85	101,480	28,091
Habersham	129,059	—	5,060	36,518	87,481	—
Lumpkin	163,275	7,157	8,602	49,390	98,126	—
Murray	148,803	—	—	27,437	95,022	26,344
Pickens	121,845	—	6,712	10,162	104,971	—
Rabun	207,055	8,674	19,948	52,226	117,532	8,675
Stephens	85,254	—	—	27,824	57,430	—
Towns	95,822	5,663	9,872	28,302	39,414	12,571
Union	168,870	4,453	16,514	57,434	90,469	—
Walker	179,273	—	—	26,275	97,151	55,847
White	118,988	3,995	4,465	49,344	48,259	12,925
Whitfield	118,610	—	—	21,577	90,917	6,116
Total	3,096,735	29,942	146,712	791,860	1,895,396	232,825

Table 6.—Area of commercial forest land, by county and stocking classes of growing-stock trees, North Georgia, 1983

County	All classes	Stocking percentage ^a				
		> 130	100-130	60-99	16.7-59	< 16.7
----- Acres -----						
Bartow	178,500	11,167	53,990	91,764	16,373	5,206
Catoosa	49,648	—	—	36,841	12,807	—
Chattooga	148,967	—	37,434	73,061	30,341	8,131
Cherokee	207,548	11,206	72,513	112,625	11,204	—
Dade	76,383	—	15,671	48,935	11,777	—
Dawson	116,385	—	23,540	69,163	23,682	—
Fannin	195,772	4,602	45,814	105,435	39,921	—
Floyd	208,131	—	58,139	117,532	28,175	4,285
Gilmer	248,891	—	45,376	147,811	55,704	—
Gordon	129,656	11,188	15,466	91,786	9,120	2,096
Habersham	129,059	5,060	52,799	55,897	15,303	—
Lumpkin	163,275	15,783	46,204	79,094	22,194	—
Murray	148,803	6,144	51,578	61,724	29,357	—
Pickens	121,845	6,797	25,407	35,567	54,074	—
Rabun	207,055	4,982	69,002	114,432	18,639	—
Stephens	85,254	—	39,586	30,789	10,775	4,104
Towns	95,822	4,190	19,943	53,454	18,235	—
Union	168,870	7,606	37,488	99,657	24,119	—
Walker	179,273	—	45,403	111,959	21,911	—
White	118,988	—	45,354	62,270	8,528	2,836
Whitfield	118,610	6,462	52,071	42,808	11,154	6,115
Total	3,096,735	95,187	852,778	1,642,604	473,393	32,773

^a See stocking standards on page 8.

Table 7.—Volume of sawtimber and growing stock on commercial forest land, by county and species group, North Georgia, 1983

County	Sawtimber					Growing stock				
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
	Thousand board feet					Thousand cubic feet ^a				
Bartow	550,633	367,966	—	52,893	129,774	203,288	132,629	—	14,505	56,154
Catoosa	184,641	52,053	—	26,690	105,898	61,013	11,371	—	12,683	36,959
Chattooga	321,568	144,426	—	46,971	130,171	137,429	59,569	—	20,632	57,228
Cherokee	960,579	580,240	—	123,821	256,518	306,532	152,197	—	59,049	95,286
Dade	212,067	17,413	4,361	37,546	152,747	91,262	9,209	1,406	21,125	59,522
Dawson	341,248	104,546	2,583	42,009	192,110	151,077	62,214	1,151	19,596	68,116
Fannin	779,823	115,798	129,685	61,774	472,566	268,509	48,565	27,687	31,001	161,256
Floyd	753,751	575,769	—	28,560	149,422	252,461	155,032	—	13,860	83,569
Gilmer	1,003,900	148,503	156,265	245,712	453,420	336,521	54,250	31,847	84,874	165,550
Gordon	259,829	145,782	—	5,722	108,325	124,059	73,187	—	6,486	44,386
Habersham	580,345	306,209	19,427	40,967	213,742	205,775	93,360	4,864	21,915	85,636
Lumpkin	792,979	195,037	122,495	112,618	362,829	274,006	90,271	27,148	35,945	120,642
Murray	522,197	234,936	51,917	33,303	202,041	195,158	86,422	10,606	18,323	79,807
Pickens	437,670	187,369	29,867	79,134	141,300	150,212	68,828	5,391	24,940	51,053
Rabun	1,215,900	268,495	350,723	143,725	452,957	371,399	78,345	73,406	57,901	161,747
Stephens	355,858	149,027	—	30,859	175,972	125,473	58,385	—	13,072	54,016
Towns	440,534	131,268	8,272	54,933	246,061	144,083	49,863	1,374	21,258	71,588
Union	828,291	103,754	122,431	87,293	514,813	263,293	42,106	24,496	34,405	162,286
Walker	458,134	119,978	—	56,833	281,323	185,189	53,600	503	23,160	107,926
White	512,502	159,667	28,709	110,194	213,932	187,191	69,803	5,709	36,056	75,623
Whitfield	523,599	295,379	—	74,283	153,937	180,181	95,109	—	24,715	60,357
Total	12,036,048	4,403,615	1,026,735	1,495,840	5,109,858	4,214,111	1,544,315	215,588	595,501	1,858,707

^aFactors for converting to cords are shown on page 8.

Table 8.—Net annual growth of sawtimber and growing stock on commercial forest land, by county and species group, North Georgia, 1982

County	Sawtimber					Growing stock				
	All species	Pine	Other : softwood	Soft : hardwood	Hard : hardwood	All species	Pine	Other : softwood	Soft : hardwood	Hard : hardwood
	Thousand board feet					Thousand cubic feet				
Bartow	37,125	28,841	—	2,012	6,272	10,355	7,782	—	874	1,699
Catoosa	7,028	2,346	—	1,005	3,677	1,929	382	—	556	991
Chattooga	20,422	12,824	—	2,724	4,874	6,992	4,058	—	1,046	1,888
Cherokee	54,951	31,479	—	14,623	8,849	13,725	7,677	—	3,065	2,983
Dade	10,049	1,661	454	1,282	6,652	3,513	542	78	1,289	1,604
Dawson	22,361	10,501	311	2,715	8,834	9,073	4,819	124	1,965	2,165
Fannin	39,222	7,934	7,700	5,181	18,407	10,408	2,947	1,232	1,456	4,773
Floyd	35,872	27,784	—	1,199	6,889	11,082	7,055	—	981	3,046
Gilmer	47,924	8,054	7,910	13,134	18,826	12,809	3,057	1,387	3,615	4,750
Gordon	18,155	13,405	—	435	4,315	7,683	5,920	—	302	1,461
Habersham	29,827	16,409	2,072	1,861	9,485	8,053	3,447	189	1,908	2,509
Lumpkin	44,419	21,389	7,575	4,100	11,355	10,660	4,963	1,301	1,378	3,018
Murray	27,530	15,597	2,244	1,044	8,645	9,185	5,281	619	1,010	2,275
Pickens	30,106	18,585	1,245	3,702	6,574	6,864	4,070	211	1,209	1,374
Rabun	56,207	14,026	18,162	7,397	16,622	13,607	2,523	3,463	3,139	4,482
Stephens	19,627	10,185	—	4,932	4,510	4,722	2,691	—	608	1,423
Towns	28,167	10,979	302	9,591	7,295	5,302	2,235	142	1,102	1,823
Union	36,333	10,514	5,790	3,351	16,678	8,709	1,792	1,021	1,741	4,155
Walker	30,932	11,696	265	5,552	13,419	8,083	3,361	53	1,327	3,342
White	26,084	11,769	1,298	5,476	7,541	8,282	4,156	249	1,493	2,384
Whitfield	36,769	23,367	—	7,400	6,002	6,916	4,335	—	1,032	1,549
Total	659,110	309,345	55,328	98,716	195,721	177,952	83,093	10,069	31,096	53,694

Table 9.--Annual removals of sawtimber and growing stock on commercial forest land, by county and species group,
North Georgia, 1982

County	Sawtimber					Growing stock				
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
	Thousand board feet	Thousand board feet	Thousand board feet	Thousand board feet	Thousand board feet	Thousand cubic feet	Thousand cubic feet	Thousand cubic feet	Thousand cubic feet	Thousand cubic feet
Bartow	28,970	22,748	—	2,443	3,779	6,330	4,664	—	515	1,151
Catoosa	1,738	—	—	777	961	1,156	—	—	726	430
Chattooga	19,150	18,235	—	—	915	6,281	4,771	—	—	1,510
Cherokee	19,466	16,679	—	2,787	—	5,313	4,438	—	875	—
Dade	1,645	1,645	—	—	—	645	311	—	—	334
Dawson	6,707	5,826	—	—	881	1,816	1,478	—	117	221
Fannin	4,910	—	—	—	4,910	1,089	—	—	—	1,089
Floyd	6,466	5,666	—	—	800	4,242	3,255	—	—	987
Gilmer	28,647	7,740	7,678	3,800	9,429	6,041	1,681	1,199	936	2,225
Gordon	12,723	11,491	—	501	731	4,410	4,032	—	173	205
Habersham	17,760	9,737	—	2,274	5,749	5,884	3,837	—	620	1,427
Lumpkin	6,188	5,344	—	—	844	2,842	1,957	—	499	386
Murray	26,004	9,540	7,175	—	9,289	8,116	5,078	1,085	—	1,953
Pickens	12,851	12,286	—	—	565	3,568	3,080	—	351	137
Rabun	11,887	10,147	—	938	802	2,326	1,743	—	271	312
Stephens	13,937	4,787	—	—	9,150	5,746	3,408	—	—	2,338
Towns	3,209	2,024	—	—	1,185	758	520	—	—	238
Union	16,631	6,506	—	—	10,125	3,979	1,174	—	316	2,489
Walker	9,616	7,998	—	1,618	—	2,884	2,196	—	293	395
White	8,883	8,883	—	—	—	1,946	1,946	—	—	—
Whitfield	24,428	22,687	—	884	857	8,272	7,871	—	236	165
Total	281,816	189,969	14,853	16,022	60,972	83,644	57,440	2,284	5,928	17,992

Unit Tables

Table 10.—Area of commercial forest land, by forest type and ownership class, North Georgia, 1983

Forest type	All ownerships	Ownership class				
		National Forest	Other public	Forest industry	Farmer	Misc. private
----- Acres -----						
Softwood types:						
White pine-hemlock	81,429	66,782	—	—	—	14,647
Spruce-fir	—	—	—	—	—	—
Longleaf pine	5,584	—	—	—	5,584	—
Slash pine	—	—	—	—	—	—
Loblolly pine	327,696	5,037	10,327	97,061	32,051	183,220
Shortleaf pine	276,023	42,485	—	14,364	39,489	179,685
Virginia pine	319,204	28,242	262	23,588	61,774	205,338
Sand pine	—	—	—	—	—	—
Eastern redcedar	5,865	—	—	—	—	5,865
Pond pine	—	—	—	—	—	—
Spruce pine	—	—	—	—	—	—
Pitch pine	14,947	14,947	—	—	—	—
Table Mountain pine	—	—	—	—	—	—
Total	1,030,748	157,493	10,589	135,013	138,898	588,755
Hardwood types:						
Oak-pine	505,847	119,050	17,068	10,394	66,961	292,374
Oak-hickory	1,465,253	383,351	27,901	109,747	261,548	682,706
Chestnut oak	34,311	—	—	—	10,382	23,929
Southern scrub oak	4,559	—	—	4,559	—	—
Oak-gum-cypress	12,517	—	—	3,425	9,092	—
Elm-ash-cottonwood	43,500	—	—	—	9,202	34,298
Maple-beech-birch	—	—	—	—	—	—
Total	2,065,987	502,401	44,969	128,125	357,185	1,033,307
All types	3,096,735	659,894	55,558	263,138	496,083	1,622,062

Table 11.—Area of commercial forest land, by ownership and stocking classes of growing-stock trees, North Georgia, 1983

Ownership classes	All classes	Stocking percentage ^a				
		> 130	100-130	60-99	16.7-59	< 16.7
		----- Acres -----				
National Forest	659,894	20,931	178,784	352,604	103,471	4,104
Other public	55,558	165	21,487	22,995	10,911	—
Forest industry	263,138	15,271	85,063	37,225	58,319	17,260
Farmer	496,083	24,339	137,414	244,055	84,981	5,294
Miscellaneous private	1,622,062	34,481	430,030	935,725	215,711	6,115
All ownerships	3,096,735	95,187	852,778	1,642,604	473,393	32,773

^aSee stocking standards on page 8.

Table 12.—Volume of timber on commercial forest land, by class and species group,
North Georgia, 1983

Class of timber	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
----- Thousand cubic feet -----					
Sawtimber trees:					
Saw-log portion	2,436,547	912,516	177,278	289,222	1,057,531
Upper-stem portion	324,658	83,680	16,257	48,260	176,461
Total	2,761,205	996,196	193,535	337,482	1,233,992
Poletimber trees	1,452,906	548,119	22,053	258,019	624,715
All growing-stock trees	4,214,111	1,544,315	215,588	595,501	1,858,707
Rough trees:					
Sawtimber size	77,568	6,536	—	10,533	60,499
Poletimber size	170,381	3,223	—	24,855	142,303
Total	247,949	9,759	—	35,388	202,802
Rotten trees:					
Sawtimber size	53,339	—	—	14,501	38,838
Poletimber size	8,165	—	—	3,668	4,497
Total	61,504	—	—	18,169	43,335
Savalable dead trees:					
Sawtimber size	10,380	4,143	454	—	5,783
Poletimber size	7,098	4,715	—	338	2,045
Total	17,478	8,858	454	338	7,828
Total, all timber	4,541,042	1,562,932	216,042	649,396	2,112,672

Table 13.--Number of growing-stock trees on commercial forest land, by species and diameter class, North Georgia, 1983

Species	All classes	Diameter class (inches at breast height)												29.0 and larger
		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				
Thousand trees														
Softwood:														
Longleaf pine	495	--	253	--	--	149	--	19	--	--	--	--	--	--
Slash pine	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Shortleaf pine	59,195	21,882	18,600	10,845	5,235	1,835	603	129	20	46	--	--	--	--
Loblolly pine	60,716	20,979	18,268	9,550	6,372	3,053	1,586	559	216	128	5	--	--	5
Pond pine	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Virginia pine	70,080	29,186	22,446	11,895	4,765	1,345	362	64	17	--	--	--	--	--
Pitch pine	2,992	771	773	395	346	365	158	85	63	36	--	--	--	--
Table Mountain pine	566	317	91	56	83	--	--	19	--	--	--	--	--	--
Spruce pine	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sand pine	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Eastern white pine	9,285	1,778	2,208	1,324	1,144	747	824	377	419	435	29	--	--	29
Eastern hemlock	1,386	206	386	275	227	202	30	--	36	13	11	--	--	11
Spruce and fir	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Baldcypress	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pondcypress	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cedars	503	208	208	87	--	--	--	--	--	--	--	--	--	--
Total softwoods	205,218	75,327	63,233	34,427	18,321	7,621	3,563	1,252	771	658	45	--	--	45
Hardwood:														
Select white oaks	29,719	10,559	5,633	5,079	3,881	2,156	1,277	489	367	265	13	--	--	13
Select red oaks	12,093	4,879	2,328	1,372	1,288	535	655	354	332	320	30	--	--	30
Chestnut oak	36,217	15,236	5,162	5,533	4,292	2,667	1,503	865	465	452	42	--	--	42
Other white oaks	9,015	4,116	2,142	1,548	552	401	211	45	--	--	--	--	--	--
Other red oaks	44,559	13,115	10,261	7,872	5,769	3,330	2,447	967	482	316	--	--	--	--
Hickory	28,362	9,876	6,453	5,872	2,315	2,034	1,080	387	135	210	--	--	--	--
Yellow birch	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hard maple	342	--	342	--	--	--	--	--	--	--	--	--	--	--
Soft maple	15,247	8,550	3,392	1,559	990	277	284	110	64	21	--	--	--	--
Beech	769	166	278	76	--	106	62	39	--	35	7	--	--	7
Sweetgum	10,008	5,595	2,227	1,074	750	166	89	42	43	15	7	--	--	7
Tupelo and blackgum	5,850	2,604	1,997	547	281	233	115	45	15	13	--	--	--	--
Ash	2,763	655	1,017	516	373	156	--	--	18	28	--	--	--	--
Cottonwood	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Basswood	357	--	--	152	205	--	--	--	--	--	--	--	--	--
Yellow-poplar	28,570	9,210	7,122	4,787	3,116	1,975	1,291	507	213	336	13	--	--	13
Bay and magnolia	700	575	95	--	--	--	--	--	--	30	--	--	--	--
Black cherry	1,702	1,010	436	92	102	32	--	--	--	30	--	--	--	--
Black walnut	176	--	139	--	--	37	--	--	--	--	--	--	--	--
Sycamore	993	541	216	91	81	44	--	20	--	--	--	--	--	--
Black locust	1,123	472	189	346	58	35	--	23	--	--	--	--	--	--
Elm	1,243	576	337	280	50	--	--	--	--	--	--	--	--	--
Other eastern hardwoods	5,506	3,089	954	797	284	109	196	43	34	--	--	--	--	--
Total hardwoods	235,314	90,824	50,720	37,593	24,387	14,293	9,210	3,936	2,168	2,071	112	--	--	112
All species	440,532	166,151	113,953	72,020	42,708	21,914	12,773	5,188	2,939	2,729	157	--	--	157

Table 14.--Volume of all live trees on commercial forest land, by species and diameter class, North Georgia, 1983

Species	All classes	Diameter class (inches at breast height)												21.0- 28.9	29.0 and larger
		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						
Thousand cubic feet															
Softwood:															
Longleaf pine	6,324	--	1,002	--	2,409	1,866	--	1,047	--	--	--	--	--	--	--
Slash pine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Shortleaf pine	458,235	54,455	112,151	117,768	92,983	46,213	22,899	6,788	1,417	3,561	--	--	--	--	--
Loblolly pine	550,395	48,588	98,685	101,208	108,230	81,452	58,082	28,105	14,177	10,748	1,120	--	--	--	--
Pond pine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Virginia pine	490,273	84,929	142,075	132,520	78,738	34,307	13,084	3,237	1,383	--	--	--	--	--	--
Pitch pine	44,937	1,959	5,577	4,997	5,477	9,501	5,348	3,982	4,323	3,773	--	--	--	--	--
Table Mountain pine	3,910	897	1,024	432	1,002	--	--	555	--	--	--	--	--	--	--
Spruce pine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sand pine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Eastern white pine	193,690	4,989	13,032	13,284	18,188	18,556	30,392	17,814	25,921	46,350	5,164	--	--	--	--
Eastern hemlock	20,344	519	2,380	2,871	3,881	3,982	832	--	2,141	1,191	2,547	--	--	--	--
Spruce and fir	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Baldcypress	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pondcypress	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cedars	1,554	261	872	421	--	--	--	--	--	--	--	--	--	--	--
Total softwoods		1,769,662	196,597	376,798	373,501	310,908	195,877	130,637	61,528	49,362	65,623	8,831			
Hardwood:															
Select white oaks	365,275	28,904	31,907	55,209	70,269	58,705	48,077	22,811	22,444	24,691	2,258				
Select red oaks	184,167	13,937	13,917	16,318	22,591	13,966	24,050	16,741	21,895	32,671	8,081				
Chestnut oak	427,495	38,601	31,260	56,569	73,648	65,363	49,071	42,281	24,972	39,198	6,532				
Other white oaks	61,276	10,762	10,042	14,476	8,310	10,183	5,552	1,951	--	--	--				
Other red oaks	542,147	33,094	60,133	83,438	100,106	82,044	82,787	43,777	27,528	28,915	325				
Hickory	292,804	24,125	36,609	55,916	36,994	52,195	40,078	20,148	7,976	18,763	--				
Yellow birch	--	--	--	--	--	--	--	--	--	--	--				
Hard maple	2,176	--	2,176	--	--	--	--	--	--	--	--				
Soft maple	123,539	29,889	21,433	19,639	18,369	7,949	10,403	6,523	4,158	5,176	--				
Beech	21,005	795	1,297	815	--	3,206	2,470	3,430	1,100	6,404	1,488				
Sweetgum	69,477	12,228	13,170	11,953	15,152	5,320	4,170	2,303	3,217	1,106	858				
Tupelo and blackgum	44,242	6,659	10,966	5,806	5,913	5,606	4,169	1,874	944	2,305	--				
Ash	27,924	1,205	6,761	5,045	7,149	4,406	--	938	888	1,532	--				
Cottonwood	--	--	--	--	--	--	--	--	--	--	--				
Basswood	5,837	--	499	1,334	3,292	--	--	--	--	712	--				
Yellow-poplar	357,719	23,710	45,186	55,407	59,811	57,789	46,215	23,805	14,285	28,056	3,455				
Bay and magnolia	4,789	2,344	493	--	--	--	--	--	--	1,952	--				
Black cherry	15,896	3,863	5,261	1,065	1,618	1,428	--	--	--	2,661	--				
Black walnut	1,290	--	546	--	--	744	--	--	--	--	--				
Sycamore	8,425	3,036	1,455	764	1,498	788	--	884	--	--	--				
Black locust	16,377	3,203	2,283	4,263	807	2,476	413	1,736	12	1,184	--				
Elm	7,203	1,187	2,016	2,514	634	--	--	--	852	--	--				
Other eastern hardwoods	174,839	63,181	39,877	29,516	18,389	11,368	7,148	3,242	2,118	--	--				
Total hardwoods		2,753,902	300,723	337,287	420,047	444,550	383,536	324,603	192,444	132,389	195,326	22,997			
All species		4,523,564	497,320	714,085	793,548	755,458	579,413	455,240	253,972	181,751	260,949	31,828			

Species	All classes	Diameter class (inches at breast height)														21.0- 28.9	29.0 and larger
		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								
		Thousand cubic feet															
Softwood:																	
Longleaf pine	6,324	--	1,002	--	2,409	1,866	--	1,047	--	--	--	--	--	--	--	--	--
Slash pine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Shortleaf pine	456,979	54,455	112,151	116,512	92,983	46,213	22,899	6,788	1,417	3,561	--	--	--	--	--	--	--
Loblolly pine	549,848	48,588	98,685	100,661	108,230	81,452	58,082	28,105	14,177	10,748	--	--	--	--	--	--	1,120
Pond pine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Virginia pine	482,922	82,412	141,369	130,616	78,738	32,874	12,293	3,237	1,383	--	--	--	--	--	--	--	--
Pitch pine	44,332	1,959	5,577	4,392	5,477	9,501	5,348	3,982	4,323	3,773	--	--	--	--	--	--	--
Table Mountain pine	3,910	897	1,024	432	1,002	--	--	555	--	--	--	--	--	--	--	--	--
Spruce pine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sand pine	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Eastern white pine	193,690	4,989	13,032	13,284	18,188	18,556	30,392	17,814	25,921	46,350	--	--	--	--	--	--	5,164
Eastern hemlock	20,344	519	2,380	2,871	3,881	3,982	832	--	2,141	1,191	--	--	--	--	--	--	2,547
Spruce and fir	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Baldcypress	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pondcypress	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cedars	1,554	261	872	421	--	--	--	--	--	--	--	--	--	--	--	--	--
Total softwoods	1,759,903	194,080	376,092	369,189	310,908	194,444	129,846	61,528	49,362	65,623	--	--	--	--	--	--	8,831
Hardwood:																	
Select white oaks	353,100	27,852	31,446	53,013	68,338	57,688	45,520	22,000	21,257	23,728	--	--	--	--	--	--	2,258
Select red oaks	173,848	13,552	13,651	15,652	21,279	13,224	22,095	16,741	19,542	31,987	--	--	--	--	--	--	6,125
Chestnut oak	392,634	35,242	27,988	52,028	66,651	62,053	45,868	37,522	24,360	35,086	--	--	--	--	--	--	5,836
Other white oaks	58,896	10,177	9,158	14,476	8,024	9,682	5,552	1,827	--	--	--	--	--	--	--	--	--
Other red oaks	517,039	31,246	57,590	80,615	96,315	79,343	80,081	41,638	25,131	25,080	--	--	--	--	--	--	--
Hickory	282,994	21,063	33,606	54,789	36,994	51,147	40,078	19,566	7,976	17,235	--	--	--	--	--	--	--
Yellow birch	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hard maple	2,176	--	2,176	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Soft maple	98,421	22,604	16,914	16,921	16,319	6,673	8,797	4,557	3,426	2,210	--	--	--	--	--	--	--
Beech	15,456	472	1,297	815	--	3,206	2,470	2,126	--	3,582	--	--	--	--	--	--	1,488
Sweetgum	67,239	11,803	13,170	11,467	15,152	5,320	3,106	2,303	2,954	1,106	--	--	--	--	--	--	858
Tupelo and blackgum	35,179	5,183	9,267	5,136	4,622	4,435	3,334	1,568	944	690	--	--	--	--	--	--	--
Ash	25,241	1,205	6,376	5,045	6,447	3,748	--	--	888	1,532	--	--	--	--	--	--	--
Cottonwood	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Basswood	4,626	--	--	1,334	3,292	--	--	--	--	--	--	--	--	--	--	--	--
Yellow-poplar	352,409	23,710	44,319	55,015	59,715	57,250	45,476	23,805	12,900	27,424	--	--	--	--	--	--	2,795
Bay and magnolia	3,996	1,551	493	--	--	--	--	--	--	1,952	--	--	--	--	--	--	--
Black cherry	11,024	2,686	2,728	712	1,618	619	--	--	--	2,661	--	--	--	--	--	--	--
Black walnut	1,290	--	546	--	--	744	--	--	--	--	--	--	--	--	--	--	--
Sycamore	7,125	1,805	1,455	695	1,498	788	--	884	--	--	--	--	--	--	--	--	--
Black locust	8,609	872	1,062	3,909	807	1,069	--	890	--	--	--	--	--	--	--	--	--
Elm	5,643	1,187	1,500	2,322	634	--	--	--	--	--	--	--	--	--	--	--	--
Other eastern hardwoods	37,263	7,058	5,106	9,134	4,664	2,494	5,151	1,819	1,473	--	--	--	--	--	--	--	--
Total hardwoods	2,454,208	219,808	279,848	383,078	412,369	359,483	307,892	177,246	120,851	174,273	--	--	--	--	--	--	19,360
All species	4,214,111	413,888	655,940	752,267	723,277	553,927	437,738	238,774	170,213	239,896	--	--	--	--	--	--	28,191

Table 16.--Volume of sawtimber on commercial forest land, by species and diameter class, North Georgia, 1983

Species	All classes	Diameter class (inches at breast height)											29.0 and larger
		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					
		Thousand board feet											
Softwood:													
Longleaf pine	27,950	--	11,477	9,945	--	6,528	--	--	--	--	--	--	--
Slash pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Shortleaf pine	1,277,548	428,676	417,926	233,657	126,315	39,701	8,678	22,595	--	--	--	--	--
Loblolly pine	1,888,947	351,093	473,763	411,393	320,572	166,098	87,801	69,894	8,333	--	--	--	--
Pond pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Virginia pine	1,009,429	451,254	322,668	150,665	60,483	16,844	7,515	--	--	--	--	--	--
Pitch pine	190,031	14,383	23,657	47,076	29,180	23,229	27,211	25,295	--	--	--	--	--
Table Mountain pine	9,710	1,750	4,687	--	--	3,273	--	--	--	--	--	--	--
Spruce pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Sand pine	--	--	--	--	--	--	--	--	--	--	--	--	--
Eastern white pine	940,172	47,275	78,045	89,615	159,356	98,217	149,537	284,493	33,634	--	--	--	--
Eastern hemlock	84,949	10,243	16,193	18,287	4,103	--	12,062	7,152	16,909	--	--	--	--
Spruce and fir	--	--	--	--	--	--	--	--	--	--	--	--	--
Baldcypress	--	--	--	--	--	--	--	--	--	--	--	--	--
Pondcypress	--	--	--	--	--	--	--	--	--	--	--	--	--
Cedars	1,614	1,614	--	--	--	--	--	--	--	--	--	--	--
Total softwoods		5,430,350	1,306,288	1,348,416	960,638	700,009	353,890	292,804	409,429	58,876			
Hardwood:													
Select white oaks	989,079	--	224,610	223,099	195,337	102,885	104,274	125,727	13,147	--	--	--	--
Select red oaks	558,874	--	67,174	48,716	88,684	73,218	90,608	157,428	33,046	--	--	--	--
Chestnut oak	1,124,318	--	209,819	231,430	189,632	167,388	115,282	178,227	32,540	--	--	--	--
Other white oaks	104,284	--	28,625	40,911	25,756	8,992	--	--	--	--	--	--	--
Other red oaks	1,439,982	--	321,572	310,669	351,193	197,718	126,144	132,686	--	--	--	--	--
Hickory	741,859	--	124,285	204,152	180,877	95,846	41,179	95,520	--	--	--	--	--
Yellow birch	--	--	--	--	--	--	--	--	--	--	--	--	--
Hard maple	--	--	--	--	--	--	--	--	--	--	--	--	--
Soft maple	161,628	--	52,396	24,620	36,587	20,115	16,344	11,566	--	--	--	--	--
Beech	51,511	--	--	12,209	9,625	8,482	--	14,849	6,346	--	--	--	--
Sweetgum	132,731	--	55,281	22,523	14,629	11,812	16,201	6,676	5,609	--	--	--	--
Tupelo and blackgum	59,350	--	14,523	16,247	13,803	6,892	4,471	3,414	--	--	--	--	--
Ash	47,805	--	21,548	14,085	--	--	4,259	7,913	--	--	--	--	--
Cottonwood	--	--	--	--	--	--	--	--	--	--	--	--	--
Basswood	11,007	--	11,007	--	--	--	--	--	--	--	--	--	--
Yellow-poplar	1,058,783	--	214,069	245,574	217,936	124,948	72,470	164,455	19,331	--	--	--	--
Bay and magnolia	13,336	--	--	--	--	--	--	13,336	--	--	--	--	--
Black cherry	21,580	--	5,724	2,417	--	--	--	13,439	--	--	--	--	--
Black walnut	2,603	--	--	2,603	--	--	--	--	--	--	--	--	--
Sycamore	11,781	--	4,754	2,780	--	4,247	--	--	--	--	--	--	--
Black locust	10,088	--	2,818	3,922	--	3,348	--	--	--	--	--	--	--
Elm	2,189	--	2,189	--	--	--	--	--	--	--	--	--	--
Other eastern hardwoods	62,910	--	16,039	9,708	22,412	7,896	6,855	--	--	--	--	--	--
Total hardwoods		6,605,698	--	1,376,433	1,415,665	1,346,471	833,787	598,087	925,236	110,019			
All species		12,036,048	1,306,288	2,724,849	2,376,303	2,046,480	1,187,677	890,891	1,334,665	168,895			

Table 17.—Net annual growth and removals of growing stock on commercial forest land, by species, North Georgia, 1982

Species	Net annual growth	Annual timber removals
--- Thousand cubic feet ---		
Softwood:		
Yellow pines	83,093	57,440
Eastern white pine	8,498	2,284
Spruce and fir	—	—
Cypress	—	—
Other eastern softwoods	1,571	—
Total softwoods	93,162	59,724
Hardwood:		
Select white and red oaks	14,840	4,256
Other white and red oaks	28,701	9,954
Hickory	6,623	3,232
Yellow birch	—	—
Hard maple	94	—
Sweetgum	3,742	1,394
Ash, walnut, and black cherry	1,763	203
Yellow-poplar	18,851	2,973
Tupelo and blackgum	1,061	349
Bay and magnolia	201	—
Other eastern hardwoods	8,914	1,559
Total hardwoods	84,790	23,920
All species	177,952	83,644

Table 18.—Net annual growth and removals of sawtimber on commercial forest land, by species, North Georgia, 1982

Species	Net annual growth	Annual timber removals
--- Thousand board feet ---		
Softwood:		
Yellow pines	309,345	189,969
Eastern white pine	48,045	14,853
Spruce and fir	—	—
Cypress	—	—
Other eastern softwoods	7,283	—
Total softwoods	364,673	204,822
Hardwood:		
Select white and red oaks	54,034	14,870
Other white and red oaks	107,115	35,174
Hickory	24,121	9,470
Yellow birch	—	—
Hard maple	—	—
Sweetgum	6,733	4,945
Ash, walnut, and black cherry	3,258	—
Yellow-poplar	77,601	6,927
Tupelo and blackgum	1,248	1,373
Bay and magnolia	279	—
Other eastern hardwoods	20,048	4,235
Total hardwoods	294,437	76,994
All species	659,110	281,816

Table 19.—Mortality of growing stock and sawtimber on commercial forest land, by species, North Georgia, 1982

Species	Growing stock	Sawtimber
	Thousand cubic feet	Thousand board feet
Softwood:		
Yellow pines	18,077	40,795
Eastern white pine	926	6,327
Spruce and fir	—	—
Cypress	—	—
Other eastern softwoods	—	—
Total softwoods	19,003	47,122
Hardwood:		
Select white and red oaks	2,457	10,328
Other white and red oaks	9,828	33,390
Hickory	1,085	1,136
Yellow birch	—	—
Hard maple	—	—
Sweetgum	93	—
Ash, walnut, and black cherry	—	—
Yellow-poplar	158	—
Tupelo and blackgum	230	—
Bay and magnolia	—	—
Other eastern hardwoods	302	—
Total hardwoods	14,153	44,854
All species	33,156	91,976

Ownership class	All live trees					Growing stock				
	All species	Pine	Other : softwood	Soft : hardwood	Hard : hardwood	All species	Pine	Other : softwood	Soft : hardwood	Hard : hardwood
	----- Thousand cubic feet -----									
National Forest	1,228,852	175,758	143,912	166,840	742,342	1,114,446	175,468	143,912	157,613	637,453
Other public	120,065	50,078	1,050	30,302	38,635	116,037	50,078	1,050	29,120	35,789
Forest industry	332,786	174,575	2,324	41,113	114,774	313,478	173,998	2,324	37,050	100,106
Farmer	674,135	270,117	3,574	103,845	296,599	629,634	267,171	3,574	94,472	264,417
Miscellaneous private	2,167,726	883,546	64,728	306,958	912,494	2,040,516	877,600	64,728	277,246	820,942
All ownerships	4,523,564	1,554,074	215,588	649,058	2,104,844	4,214,111	1,544,315	215,588	595,501	1,858,707

Table 21.—Volume of sawtimber on commercial forest land, by ownership class and species group, North Georgia, 1983

Ownership class	Small sawtimber ^a					Large sawtimber ^b				
	All species	Pine	Other : softwood	Soft : hardwood	Hard : hardwood	All species	Pine	Other : softwood	Soft : hardwood	Hard : hardwood
	----- Thousand board feet -----									
National Forest	1,317,350	412,272	176,419	175,772	552,887	2,387,988	188,091	520,617	272,873	1,406,407
Other public	174,164	91,689	—	34,073	48,402	185,887	116,594	—	30,017	39,276
Forest industry	448,339	310,456	—	42,180	95,703	284,823	80,270	13,510	53,615	137,428
Farmer	1,034,692	556,177	—	111,238	367,277	561,892	108,047	15,038	104,470	334,337
Miscellaneous private	3,432,895	1,983,476	84,853	313,731	1,050,835	2,208,018	556,543	216,298	357,871	1,077,306
All ownerships	6,407,440	3,354,070	261,272	676,994	2,115,104	5,628,608	1,049,545	765,463	818,846	2,994,754

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

Table 22.—Net annual growth and removals of growing stock on commercial forest land, by ownership class and species group, North Georgia, 1982

Ownership class	Net annual growth					Annual timber removals				
	All species	Pine	Other : softwood	Soft : hardwood	Hard : hardwood	All species	Pine	Other : softwood	Soft : hardwood	Hard : hardwood
----- Thousand cubic feet -----										
National Forest	36,645	6,657	6,663	6,708	16,617	14,125	6,942	1,085	762	5,336
Other public	4,951	2,231	53	1,420	1,247	1,473	762	—	—	711
Forest industry	17,672	12,881	91	1,620	3,080	14,497	11,857	—	188	2,452
Farmer	26,420	13,027	150	5,146	8,097	17,390	12,790	—	1,743	2,857
Miscellaneous private	92,264	48,297	3,112	16,202	24,653	36,159	25,089	1,199	3,235	6,636
All ownerships	177,952	83,093	10,069	31,096	53,694	83,644	57,440	2,284	5,928	17,992

Table 23.—Net annual growth and removals of sawtimber on commercial forest land, by ownership class and species group, North Georgia, 1982

Ownership class	Net annual growth					Annual timber removals				
	All species	Pine	Other : softwood	Soft : hardwood	Hard : hardwood	All species	Pine	Other : softwood	Soft : hardwood	Hard : hardwood
----- Thousand board feet -----										
National Forest	163,104	32,858	36,523	27,092	66,631	63,033	31,557	7,175	2,022	22,279
Other public	16,298	8,330	1,406	3,269	3,293	6,055	3,102	—	—	2,953
Forest industry	51,347	37,270	558	5,209	8,310	41,489	34,430	—	—	7,059
Farmer	101,382	56,015	856	14,695	29,816	43,233	35,326	—	2,102	5,805
Miscellaneous private	326,979	174,872	15,985	48,451	87,671	128,006	85,554	7,678	11,898	22,876
All ownerships	659,110	309,345	55,328	98,716	195,721	281,816	189,969	14,853	16,022	60,972

Table 24.--Average net volume per acre of sawtimber, growing stock, and other live timber^a on commercial forest land, by major forest type, species group, and ownership class, North Georgia, 1983

Forest type, species group, and class of material	Ownership class											
	All ownerships		National Forest		Other public		Forest industry		Farmer		Misc. private	
	Board feet	Cubic feet	Board feet	Cubic feet	Board feet	Cubic feet	Board feet	Cubic feet	Board feet	Cubic feet	Board feet	Cubic feet
Line types:												
Growing stock:												
Softwood	4,030	1,328	6,122	1,549	8,756	2,016	1,574	774	4,193	1,682	4,166	1,361
Hardwood	652	256	1,251	455	686	151	282	115	826	297	584	246
Total	4,682	1,584	7,373	2,004	9,442	2,167	1,856	889	5,019	1,979	4,750	1,607
Other timber:												
Softwood	--	8	--	2	--	--	--	3	--	17	--	10
Hardwood	--	44	--	125	--	--	--	15	--	32	--	36
Total	--	52	--	127	--	--	--	18	--	49	--	46
Oak-pine type:												
Growing stock:												
Softwood	1,598	517	2,799	645	2,515	626	3,133	947	1,023	475	1,032	436
Hardwood	1,391	653	1,542	711	2,135	957	1,739	1,153	1,398	604	1,239	584
Total	2,989	1,170	4,341	1,356	4,650	1,583	4,872	2,100	2,421	1,079	2,271	1,020
Other timber:												
Softwood	--	1	--	--	--	--	--	--	--	--	--	2
Hardwood	--	84	--	121	--	49	--	21	--	90	--	73
Total	--	85	--	121	--	49	--	21	--	90	--	75
Upland hardwood types:												
Growing stock:												
Softwood	320	89	213	51	462	166	431	110	283	91	370	104
Hardwood	3,366	1,196	4,881	1,540	2,591	1,142	1,906	748	2,609	1,018	3,040	1,141
Total	3,686	1,285	5,094	1,591	3,053	1,308	2,337	858	2,892	1,109	3,410	1,245
Other timber:												
Softwood	--	--	--	--	--	--	--	--	--	3	--	--
Hardwood	--	137	--	195	--	81	--	119	--	116	--	115
Total	--	137	--	195	--	81	--	119	--	119	--	115
Lowland hardwood types:												
Growing stock:												
Softwood	124	25	--	--	--	--	--	--	--	--	199	39
Hardwood	2,337	918	--	--	--	--	--	--	3,497	1,390	2,167	845
Total	2,461	943	--	--	--	--	--	--	3,497	1,390	2,366	884
Other timber:												
Softwood	--	--	--	--	--	--	--	--	--	--	--	--
Hardwood	--	96	--	--	--	--	--	--	--	119	--	101
Total	--	96	--	--	--	--	--	--	--	119	--	101
Slender types:												
Growing stock:												
Softwood	1,754	568	1,904	469	2,820	692	1,185	517	1,462	583	1,850	614
Hardwood	2,133	793	3,534	1,167	2,055	879	964	402	1,974	772	1,823	715
Total	3,887	1,361	5,438	1,636	4,875	1,571	2,149	919	3,436	1,355	3,673	1,329
Other timber:												
Softwood	--	3	--	--	--	--	--	2	--	6	--	4
Hardwood	--	97	--	168	--	54	--	55	--	90	--	79
Total	--	100	--	168	--	54	--	57	--	96	--	83
Slender timber	3,887	1,461	5,438	1,804	4,875	1,625	2,149	976	3,436	1,451	3,673	1,412

^a Rough and rotten trees.

Table 25.—Land area, by class, major forest type, and survey completion date, North Georgia, 1961, 1972, and 1983

Land use class	Survey completion date			Change 1972-1983
	1961	1972	1983	
----- Acres -----				
Forest land:				
Commercial forest land:				
Pine and oak-pine types	1,504,700	1,698,424	1,536,595	-161,829
Hardwood types	1,772,700	1,494,074	1,560,140	+66,066
Total	3,277,400	3,192,498	3,096,735	-95,763
Noncommercial forest land:				
Productive-reserved	14,500	16,230	66,249	+50,019
Unproductive	2,500	—	—	—
Total	17,000	16,230	66,249	+50,019
Nonforest land:				
Cropland	483,300	278,587	293,712	+15,125
Pasture and range	279,400	435,559	399,001	-36,558
Other	146,100	271,230	338,113	+66,883
Total	908,800	985,376	1,030,826	+45,450
All land ^a	4,203,200	4,194,104	4,193,810	-294

^aExcludes all water areas.

Species group and year	All classes	Diameter class (inches at breast height)										
		5.0- 6.9	7.0- 8.9	9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0 and larger		
SAWTIMBER (in thousand board feet)												
Softwood												
1961	2,278,228	—	—	626,258	603,511	453,922	190,949	170,438	83,926	149,224		
1972	4,220,765	—	—	1,159,325	1,074,028	739,735	463,421	268,521	190,643	325,092		
1983	5,430,350	—	—	1,306,288	1,348,416	960,638	700,009	353,890	292,804	468,305		
Hardwood												
1961	3,952,197	—	—	—	917,917	919,495	661,945	544,803	345,648	562,389		
1972	5,570,558	—	—	—	1,208,386	1,274,853	997,158	791,575	514,750	783,836		
1983	6,605,698	—	—	—	1,376,433	1,415,665	1,346,471	833,787	598,087	1,035,255		
GROWING STOCK (in thousand cubic feet)												
Softwood												
1961	954,931	217,257	226,701	177,009	139,154	91,887	35,420	29,631	14,148	23,724		
1972	1,592,826	283,834	367,460	327,678	247,643	149,744	85,962	46,683	32,138	51,684		
1983	1,759,903	194,080	376,092	369,189	310,908	194,444	129,846	61,528	49,362	74,454		
Hardwood												
1961	1,635,281	168,538	230,416	285,616	274,990	233,493	151,371	115,817	69,842	105,198		
1972	2,156,955	198,133	281,470	344,677	362,009	323,731	228,026	168,277	104,011	146,621		
1983	2,454,208	219,808	279,848	383,078	412,369	359,483	307,892	177,246	120,851	193,633		
ALL LIVE TIMBER (in thousand cubic feet)												
Softwood												
1961	960,960	219,963	227,040	179,079	139,154	92,591	35,630	29,631	14,148	23,724		
1972	1,602,416	287,368	368,013	331,497	247,643	150,876	86,514	46,683	32,138	51,684		
1983	1,769,662	196,597	376,798	373,501	310,908	195,877	130,637	61,528	49,362	74,454		
Hardwood												
1961	1,847,792	230,930	277,745	313,071	296,381	249,165	159,602	125,760	76,538	118,600		
1972	2,426,590	271,480	339,291	377,800	390,164	345,453	240,408	182,729	113,952	165,313		
1983	2,753,902	300,723	337,287	420,047	444,550	383,536	324,603	192,444	132,389	218,323		

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



Tansey, John B.

Forest statistics for North Georgia, 1983. Resour. Bull. SE-68. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southeastern Forest Experiment Station; 1983. 29 p.

Since the fourth inventory of the forest resources of North Georgia in 1972, the area of commercial forest land has decreased by 3 percent. Commercial forests now cover approximately 3.1 million acres, 74 percent the land in these 21 counties. Volume of softwood growing stock has increased 10 percent and volume of hardwood growing stock has increased nearly 14 percent. Net annual growth of softwood growing stock totaled 93 million cubic feet compared to annual softwood removals of 60 million cubic feet. Hardwood net annual growth totaled 85 million cubic feet compared to annual hardwood removals of 24 million cubic feet. Mortality of softwood growing stock has more than tripled since 1971, reaching 19 million cubic feet.

KEYWORDS: Commercial forest land, timber volume, timber growth, timber removals, mortality.

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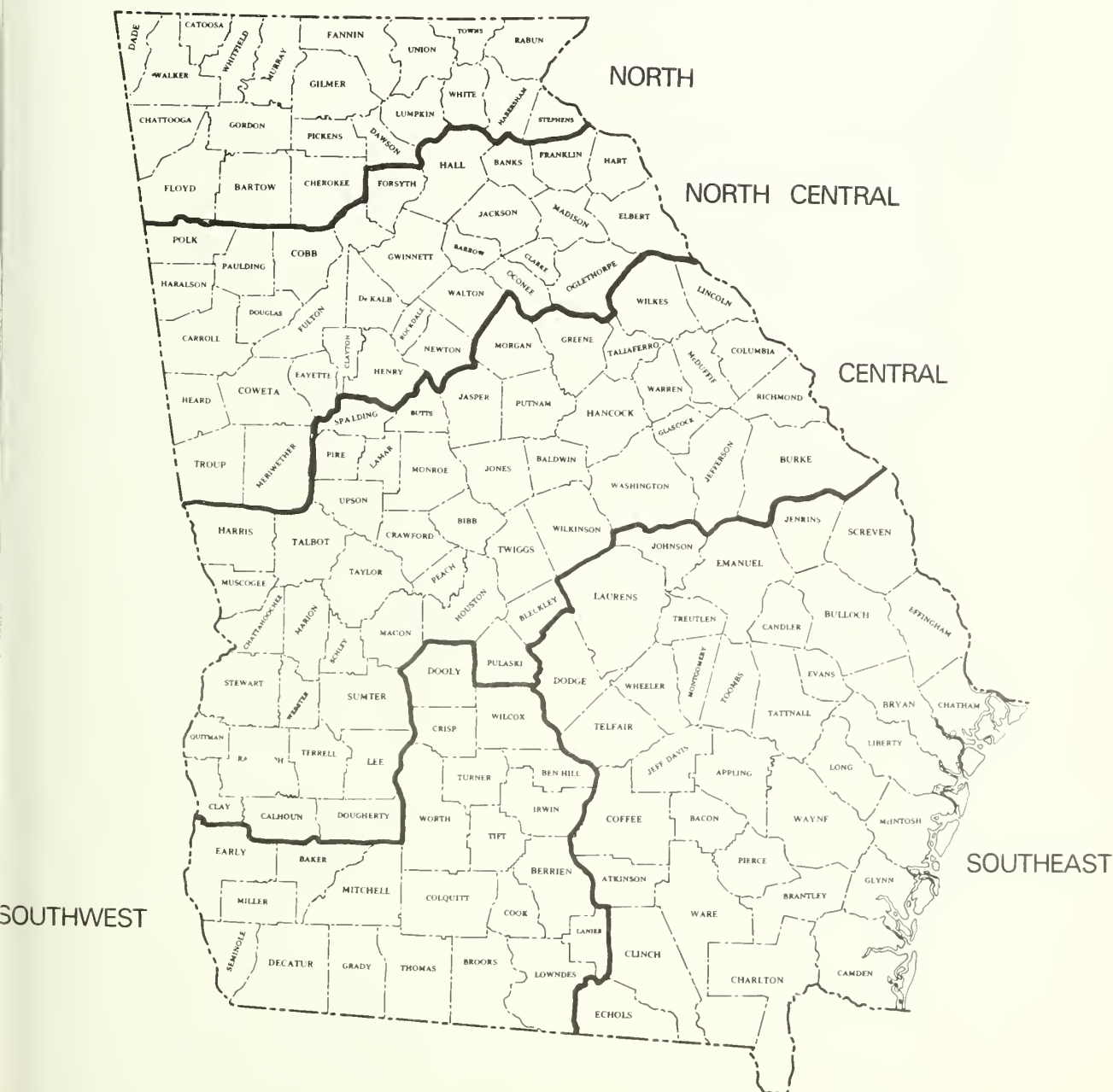
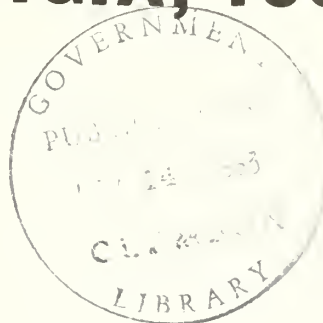
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FOREST STATISTICS FOR GEORGIA, 1982



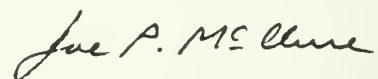
Foreword

This report highlights the principal findings of the fifth forest inventory of Georgia. Fieldwork began in May 1980 and was completed in January 1983. Four previous statewide surveys, completed in 1936, 1953, 1961, and 1972, provide statistics for measuring changes and trends over the past 46 years. The primary emphasis in this report is on the changes and trends since 1972. Previously reported figures have been adjusted to provide the best estimate of change.

Periodic surveys of the forest resource are authorized by the Forest and Rangeland Renewable Resources Research Act of 1978. These surveys are a continuing, nationwide undertaking by the regional experiment stations of the Forest Service, USDA. In Florida, Georgia, North Carolina, South Carolina, and Virginia, these surveys are administered by the Forest Inventory and Analysis (Forest Survey) Research Work Unit at the Southeastern Forest Experiment Station, with headquarters in Asheville, North Carolina. The primary objective of the survey is to periodically inventory and evaluate all forest and related resources. These multiresource data help provide a basis for formulating forest policies and programs and for the orderly development and use of the resources. This report deals only with the extent and condition of forest lands, associated timber volumes, and rates of growth and removals.

Reports for four survey units in Georgia, USDA Forest Service Resource Bulletins SE-61, SE-63, SE-65, and SE-67 have been issued for Southwest, Southeast, Central, and North Central Georgia, respectively. A comparable report for North Georgia is being released with this report. An in-depth, analytical State report dealing with Georgia's timber resource should be available in late 1983.

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



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FOREST STATISTICS
FOR GEORGIA, 1982

by

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Forest Inventory and Analysis
Asheville, North Carolina

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Since the fourth inventory of Georgia's forest resources was completed in 1972

- area of commercial forest land declined almost 1.1 million acres to 23.7 million acres. Decreases were measured in all survey units. Statewide, almost 5 million acres of commercial forest were diverted to other land uses, while less than 0.4 million acres of new commercial forest were added. Approximately 26 percent of the area diverted went to agricultural uses, 26 percent to urban uses, and 6 percent to water. A reclassification of more than 110,000 acres of commercial forest to productive reserved forest accounts for another 8 percent of the diversion. Georgia, with over 64 percent of its land area classified as commercial forest, has more timberland than any other state except Oregon.
- area of commercial forest land classified as farmer owned declined from 8.4 million to 6.1 million acres, or by 27 percent. Miscellaneous private corporate holdings increased 30 percent to 9 million acres, while the acreage owned by miscellaneous private individuals remained about the same. These three landowner categories make up the nonindustrial private forest (NIPF) sector, and account for 72 percent of the commercial forest in Georgia. Forest industry increased its holdings by 15 percent and now owns almost 5.0 million acres of commercial forest. Forest industry also leases under long-term contract an additional 973,000 acres from NIPF owners.
- nearly 5.1 million acres were harvested and retained in commercial forest, a 14 percent increase since the period between 1961 and 1972. At the time of the last survey, 3.2 million of these acres were classified as pine types, 0.7 million acres as oak-pine types, and 1.2 million acres as hardwood types. Sixty-four percent of this harvest occurred on NIPF land, while 32 percent occurred on land owned or leased by forest industry. An additional 2.7 million acres experienced some form of intermediate cutting. Insects, disease, and other natural destructive agents damaged timber on 3.8 million acres of commercial forest land. At the time this

survey was made, silvicultural treatment opportunities were identified on 42 percent of the total commercial forest area.

- about 2.9 million acres were adequately regenerated with suitable trees. Lands regenerated to a pine type account for 66 percent of the total regenerated area, those regenerated to an oak-pine type account for another 13 percent, and those regenerated to a hardwood type account for 21 percent. Almost 1.7 million of these acres were artificially regenerated. Of this area, 75 percent was owned or leased by forest industry, and 22 percent was NIPF land. Since the previous survey period, the rate of artificial regeneration on industry owned or leased lands increased 15 percent, but that on NIPF lands decreased by 40 percent. Stands originating wholly or in part from artificial regeneration now make up 16 percent of Georgia's commercial forest land.

- average basal area of all live trees 5.0 inches d.b.h. and larger increased from 56 to 64 square feet per acre of commercial forest land. There were also 515 sapling-size trees per acre, 61 fewer than in 1972. Stands classified as fully stocked increased by over 29 percent to 8.3 million acres. Stands classified as medium stocked decreased by 18 percent to 10.6 million acres. Stands classified as poorly stocked decreased by 11 percent and now total 4.9 million acres.

- number of southern yellow pines in the smaller diameter classes declined significantly. The number of yellow pines dropped 45 percent in the 2-inch class, 29 percent in the 4-inch class, and 18 percent in the 6-inch class. The number of stems in the 8-inch diameter class remained about the same. These reductions suggest that losses in pine volume in the 8-inch and 10-inch diameter classes will likely occur in the coming one to two decades. Consistent with the reductions in the number of small pines, the acreage of pine sapling-seedling stands declined from 3.7 to 3.0 million acres and that of pine poletimber stands dropped from 4.6 to 3.8 million acres. The area of pine stands dominated by sawtimber-size trees

increased from 3.9 to over 4.4 million acres.

- volume of softwood growing stock increased from about 15.0 to 15.9 billion cubic feet. This 6-percent increase is relatively small compared to the 32-percent increase seen between 1961 and 1972. Increases occurred within all sawtimber-size diameter classes, while poletimber volume declined by 330 million cubic feet, or more than 6 percent. Volume of loblolly pine, the predominant species in the State with 6.9 billion cubic feet of growing stock, increased by 12 percent, and accounted for 49 percent of the total increase in softwood growing stock. Volume of slash pine increased 12 percent, and now contributes 4.3 billion cubic feet to the State's softwood growing stock. Volume of shortleaf pine, a major species in both North Central and North Georgia, declined by about 354 million cubic feet, or 17 percent. The current inventory of softwood growing stock includes 52.3 billion board feet of sawtimber, an increase of 14 percent.

- volume of hardwood growing stock increased by 17 percent and now stands at 13.7 billion cubic feet. This increase occurred across the entire range of diameter classes. Oaks, both red and white, accounted for 45 percent of the volume increase, while sweetgum, blackgum and tupelo, and yellow poplar accounted for 12, 11, and 15 percent, respectively. The current inventory of hardwood growing stock includes 37 billion board feet of sawtimber, a 24 percent increase.

In 1981

- net annual growth of growing stock averaged 74 cubic feet per acre of commercial forest land and totaled almost 1.8 billion cubic feet. This is an increase of 11 percent from the 1.6 billion cubic feet of 1971. Softwood growth increased by only 3 percent, but contributed 1.2 billion cubic feet to the total. Sixty-four percent of the softwood growth occurred on NIPF land, while

another 30 percent occurred on land owned or leased by forest industry. A of the small increase in softwood growth occurred on forest industry land. Net annual growth of softwoods actually decreased by 15 percent in the Piedmont and Mountains of Georgia, but this decrease was offset by a 30-percent increase in the Coastal Plain. Hardwood growth increased 34 percent statewide since the previous survey and totals 50 million cubic feet. Almost 75 percent of the hardwood growth occurred on NIPF land, with about 17 percent occurring on land owned or leased by forest industry. Net annual growth for all species included 6.8 billion board feet of sawtimber.

- annual removals of growing stock totaled 1.4 billion cubic feet and included 5.1 billion board feet of sawtimber. Softwood removals increased by almost 39 percent to 1.1 billion cubic feet since 1971. Hardwood removals have increased by 20 percent to around 281 million cubic feet. About 80 percent of the total volume removed was converted into timber products, 10 percent was left in the woods in the form of logging residues, and the remaining 10 percent was lost in cultural practices, land clearing, and other land use changes where the timber was not used. By ownership, 64 percent of all removals was from NIPF land, 30 percent was from land owned or leased by forest industry, and the remaining 6 percent was from public land.

- mortality of growing stock totaled 311 million cubic feet and included 872 million board feet of sawtimber. Softwood mortality increased 145 percent since 1971 and reduced softwood gross growth by almost 15 percent. Approximately 42 percent of the current softwood mortality can be attributed to the southern pine bark beetle, and another 22 percent to disease. Losses due to pine bark beetles were especially severe in the Piedmont and Mountain regions. Hardwood mortality increased 46 percent since 1971, and reduced hardwood gross growth by 16 percent.

How the Inventory is Made

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

1. Initial estimates of forest and nonforest areas were based on the classification of 118,600 sample clusters systematically spaced on the latest aerial photographs available. A subsample of 11,503 of the 16-point clusters was ground checked, and a linear regression was fitted to the data to develop the relationship between the photo and ground classification of the subsample. This procedure provides a means for adjusting the initial estimates of area for change in land use since date of photography and for photo misclassifications.

2. Estimates of timber volume and forest classifications were based on measurements recorded at 7,084 ground sample locations systematically distributed within the commercial forest land. The plot design at each location was based on a cluster of 10 points. In most cases, variable plots, using a basal-area factor of 37.5 square feet per acre, were systematically spaced within a single forest condition at 5 of the 10 cluster points. Trees less than 5 inches d.b.h. were tallied on a fixed-radius plot around each point center.

3. Equations prepared from detailed measurements collected on standing trees in Georgia, and similar measurements taken throughout the Southeast, were used to compute the volume of individual trees. A mirror caliper and sec-

tional aluminum poles were used to obtain the additional measurements on these standing trees required to construct volume equations.

4. Felled trees were measured at 101 active cutting operations. These data will supplement the standing-tree volume data and generate utilization factors for product and species groups.

5. Estimates of growth, removals, and mortality were determined from the remeasurement of 6,134 permanent sample plots established in the fourth survey.

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

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

Reliability of the Data

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

	<u>Percent</u>
Per million acres of	
commercial forest land	1.03
Per billion cubic feet of	
growing stock	5.61
Per billion cubic feet of	
net annual growth	1.36
Per billion cubic feet of	
annual removals	2.96

Sampling errors for county and state totals,^a in terms of one standard error, Georgia

County	Cubic-foot volume of growing stock				County	Cubic-foot volume of growing stock			
	Commercial forest area	Inventory	Growth	Removals		Commercial forest area	Inventory	Growth	Removals
	^b ----- Sampling error -----					^b ----- Sampling error -----			
Appling	2.10	10.75	10.27	26.31	Cobb	4.30	9.72	10.05	27.87
Atkinson	2.32	14.56	13.56	33.12	Coffee	2.35	11.80	11.12	19.68
Bacon	3.20	15.53	14.67	38.35	Colquitt	3.02	12.26	15.22	33.01
Baker	4.92	14.63	17.47	34.66	Columbia	2.16	11.85	10.76	29.71
Baldwin	2.17	12.65	13.04	31.34	Cook	4.31	16.01	15.82	30.90
Banks	2.49	11.73	10.96	40.63	Coweta	1.43	10.97	10.14	25.30
Barrow	6.82	18.25	20.65	59.35	Crawford	1.65	18.39	16.52	24.63
Bartow	2.14	13.21	15.08	34.96	Crisp	5.25	14.86	18.07	48.78
Ben Hill	3.06	16.08	16.30	32.12	Dade	3.45	13.61	12.84	68.06
Berrien	2.43	9.68	9.80	33.84	Dawson	1.52	11.84	17.86	64.86
Bibb	3.85	20.07	16.34	30.52	Decatur	3.22	11.13	9.88	20.52
Bleckley	6.57	24.01	20.81	31.32	De Kalb	5.15	11.95	11.83	73.91
Brantley	1.28	12.61	14.03	25.05	Dodge	2.32	10.62	11.79	21.88
Brooks	3.84	14.25	14.14	31.95	Dooley	5.04	15.17	14.28	29.62
Bryan	1.52	9.18	10.00	26.63	Dougherty	4.79	19.11	18.14	35.92
Bulloch	2.03	7.93	8.32	23.27	Douglas	3.75	12.46	13.52	46.61
Burke	2.22	9.60	8.96	21.52	Early	3.52	12.91	10.31	27.45
Butts	2.10	20.81	17.10	25.40	Echols	0.91	10.37	11.53	27.31
Calhoun	4.02	16.64	18.67	38.48	Effingham	1.38	9.22	10.11	27.65
Camden	1.88	9.01	9.04	22.35	Elbert	2.32	13.53	10.74	25.27
Candler	3.70	21.84	18.98	39.91	Emanuel	1.50	9.44	8.59	17.96
Carroll	2.13	11.86	11.11	31.16	Evans	4.81	18.22	14.31	70.88
Catoosa	4.39	21.70	24.77	100.08	Fannin	1.50	9.74	11.90	81.05
Charlton	1.28	9.38	8.53	26.83	Fayette	3.07	17.93	19.67	44.93
Chatham	4.68	12.66	15.21	39.91	Floyd	1.62	10.38	10.63	35.92
Chattahoochee	1.83	14.58	12.18	46.85	Forsyth	3.78	14.48	15.96	69.39
Chattooga	3.39	13.36	17.00	33.52	Franklin	2.77	12.50	11.40	45.22
Cherokee	1.81	11.47	11.62	37.79	Fulton	2.89	6.94	6.69	51.35
Clarke	4.91	22.96	14.78	41.54	Gilmer	0.89	8.11	8.83	33.46
Clay	3.81	19.63	18.21	42.65	Glaccock	2.68	20.77	19.49	35.67
Clayton	6.00	20.72	19.74	49.24	Glynn	3.28	17.96	13.70	31.93
Clinch	0.82	8.45	8.21	16.20	Gordon	2.58	16.29	17.37	40.95

County	Cubic-foot volume of growing stock			
	Commercial forest area	Inventory	Growth	Removals
	----- Sampling error ^b -----			
Grady	2.86	11.59	11.05	27.64
Greene	1.42	10.43	9.70	24.23
Gwinnett	3.01	9.37	9.91	25.39
Habersham	2.00	10.54	13.09	52.60
Hall	2.36	12.49	13.06	29.11
Hancock	1.23	9.95	9.73	22.15
Haralson	1.98	12.11	12.48	36.58
Harris	2.04	10.66	9.98	25.00
Hart	2.60	14.56	9.14	47.80
Heard	1.56	15.14	16.81	22.84
Henry	2.79	11.81	12.32	34.22
Houston	4.44	17.70	17.14	23.77
Irwin	4.73	13.31	12.57	35.87
Jackson	3.78	11.79	11.36	38.56
Jasper	1.35	11.13	10.11	23.79
Jeff Davis	3.24	15.40	14.36	35.60
Jefferson	2.37	10.30	11.60	22.88
Jenkins	3.22	14.10	12.27	32.31
Johnson	3.36	15.07	14.11	27.41
Jones	1.12	7.48	7.67	29.75
Lamar	4.54	19.02	18.42	22.61
Lanier	2.42	19.75	18.29	31.37
Laurens	1.90	7.18	8.70	18.91
Lee	3.27	12.35	16.74	48.76
Liberty	1.74	8.86	10.19	29.30
Lincoln	2.81	17.16	16.64	26.26
Long	0.90	9.88	10.35	33.00
Lowndes	2.27	11.41	9.71	20.58
Lumpkin	1.22	11.78	15.26	49.70
Macon	4.05	14.59	13.85	32.65
Madison	2.47	16.09	16.19	39.00
Marion	1.84	15.75	14.77	35.05

County	Cubic-foot volume of growing stock			
	Commercial forest area	Inventory	Growth	Removals
	----- Sampling error ^b -----			
McDuffie	3.11	15.02	15.43	36.18
McIntosh	6.32	11.69	12.66	33.33
Meriwether	1.82	14.19	14.81	17.53
Miller	5.36	19.13	18.69	60.14
Mitchell	5.51	15.63	20.11	30.81
Monroe	1.32	10.30	9.47	23.74
Montgomery	3.30	14.21	14.24	27.07
Morgan	2.39	10.80	10.97	31.70
Murray	1.87	14.60	15.85	42.80
Muscoogie	3.00	18.82	19.35	52.16
Newton	2.52	14.29	13.90	50.63
Oconee	3.21	11.46	10.87	64.54
Oglethorpe	1.46	10.73	9.57	17.85
Paulding	1.63	11.43	11.11	30.96
Peach	5.68	22.41	25.26	67.73
Pickens	1.77	17.09	17.34	46.15
Pierce	2.68	12.82	15.20	25.73
Pike	2.73	14.40	11.73	39.74
Polk	3.22	11.92	12.41	35.50
Pulaski	7.11	22.47	20.13	39.63
Putnam	1.71	17.10	15.49	21.97
Quitman	2.74	20.75	19.49	51.44
Rabun	1.04	8.63	10.39	48.97
Randolph	2.74	10.99	12.37	20.81
Richmond	3.29	17.43	15.24	42.02
Rockdale	8.19	21.40	21.74	100.32
Schley	4.61	20.86	18.19	31.61
Screven	2.66	10.63	9.04	30.79
Seminole	5.78	35.39	34.06	40.57
Spalding	3.64	16.16	16.15	34.89
Stephens	2.81	16.84	15.91	49.96
Stewart	1.98	13.53	12.64	15.45

Continued

Sampling errors for county and state totals,^a in terms of one standard error, Georgia—Continued

County	Cubic-foot volume of growing stock				County	Cubic-foot volume of growing stock			
	Commercial forest area	Inventory	Growth	Removals		Commercial forest area	Inventory	Growth	Removals
	Sampling error ^b					Sampling error ^b			
Suiter	4.73	13.34	12.84	31.63	Walker	2.13	9.35	9.96	58.16
Talbot	1.01	11.76	11.39	21.78	Walton	2.84	11.60	10.42	56.13
Taliaferro	1.40	15.24	14.66	34.46	Ware	1.52	9.55	10.11	18.72
Tattnall	2.47	13.64	13.10	26.88	Warren	2.08	10.16	12.46	39.73
Taylor	1.50	16.31	18.68	34.19	Washington	1.96	8.67	8.62	19.64
Telfair	1.76	10.90	9.92	28.00	Wayne	1.19	10.28	10.00	25.73
Terrell	3.07	14.70	12.94	35.75	Webster	5.96	29.95	26.60	35.11
Thomas	2.92	8.54	9.82	27.56	Wheeler	2.16	12.90	12.06	26.56
Tift	4.41	15.68	19.17	38.31	White	1.36	10.45	10.33	78.78
Toombs	4.05	15.20	15.65	26.95	Whitfield	2.45	15.43	16.81	40.33
Towns	1.81	13.16	16.44	73.76	Wilcox	2.70	13.67	12.92	29.13
Treutlen	2.58	16.30	16.18	25.60	Wilkes	1.56	10.19	8.85	26.56
Troup	1.65	10.29	8.52	21.33	Wilkinson	2.31	9.83	9.02	23.94
Turner	4.53	22.80	13.50	42.66	Worth	3.08	9.93	11.53	25.10
Twiggs	1.88	12.48	9.83	25.54					
Union	1.28	10.33	11.36	60.69	State total	1.03	1.05	1.06	2.54
Upson	1.90	14.14	11.78	31.19					

^aSampling error of breakdowns of county and unit totals may be computed with the following formula:

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

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

SE = Specified sampling error in table.

^bBy random-sampling formula (in percent).

Definitions of Terms

Acceptable trees.—Growing-stock trees of commercial species that meet specified standards of size and quality, but not qualifying as desirable trees.

Basal area.—The area in square feet of the cross section at breast height of a single tree or of all the trees in a stand, usually expressed as square feet of basal area per acre.

Commercial forest land.—Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization.

Commercial species.—Tree species presently or prospectively suitable for industrial wood products.

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

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

Diameter class.—A classification of trees based on diameter outside bark, measured at breast height (4½ feet above the ground). D.b.h. is the common abbreviation for "diameter at breast height." Two-inch diameter classes are commonly used in Renewable Resources Evaluation, with the even inch as the approximate midpoint for a class. For example, the 6-inch class includes trees 5.0 through 6.9 inches d.b.h., inclusive.

Farm.—Lands on which agriculture operations are being conducted and sale of agriculture products totaled \$1,000 or more during the year.

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

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

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

Forest land.—Land at least 16.7 percent stocked by forest trees of any size, or formerly having had such tree cover, and not currently developed for nonforest use.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Industrial wood.—All roundwood products except fuelwood.

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

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

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

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

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

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

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

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

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

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

Noncommercial species.—Tree species of typically small size, poor form, or inferior quality which normally do not develop into trees suitable for industrial wood products.

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

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

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

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

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

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

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

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

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

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

Merchantable dead trees.—Standing or down dead trees that are considered merchantable by Renewable Resources Evaluation standards.

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

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

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

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

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

Sawtimber volume.—Net volume of the saw-log portion of live sawtimber in board-foot International $\frac{1}{4}$ -inch rule.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Stocking.—The degree of occupancy of land by trees, measured by basal area or the number of trees in a stand and spacing in the stand, compared to a minimum standard, depending on tree size, to fully utilize the growth potential of the land. (See page 10.)

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

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

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

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

Stocking standard

D.b.h. class	Minimum number of trees per acre for full stocking	Minimum basal area per acre for full stocking	Percent stocking assigned each tally tree ^a
Seedlings	600	--	5.0
2	560	--	5.4
4	460	--	6.5
6	340	67	5.8
8	240	84	4.8
10	155	85	4.3
12	115	90	4.0
14	90	96	3.8
16	72	101	3.7
18	60	106	3.5
20	51	111	3.5

^aStocking percentages based on tally at all 10 points of a 10-point cluster of plots. Trees less than 5 inches d.b.h. were tallied on circular, 1/300-acre plots at each point. Trees 5.0 inches d.b.h. and larger were tallied on variable plots using a basal area factor of 37.5 at each sample point.

Overstocked--More than 130 percent

Fully stocked--100-130 percent

Medium stocked--60-99 percent

Poorly stocked--16.7-59 percent

Nonstocked--Less than 16.7 percent

Cubic feet of wood per average cord (excluding bark)

D.b.h. class	All species	Pine	Other softwood	Hardwood
6	60.7	61.0	68.2	60.0
8	68.4	68.1	76.0	68.4
10	73.4	73.1	81.4	73.4
12	76.8	76.7	85.2	76.4
14	79.2	79.4	88.2	78.4
16	80.9	81.6	90.4	79.8
18	82.1	83.3	92.3	80.8
20	83.2	84.8	93.8	81.5
22	83.6	86.0	95.1	82.1
24+	84.7	87.7	97.8	83.1
Average	74.0	73.3	84.6	74.1

County Tables

The county tables are intended for use in compiling forest resource estimates for groups of counties. Because the sampling procedure used by the forest survey was intended primarily to furnish inventory data for the survey unit as a whole, individual county estimates have limited and variable accuracy. As county totals are broken down by various subdivisions, the possibility of error increases and is greatest for the smallest items. The order of this increase can be computed with the formula on page 6.

Table 1.--Area, by county and land class, Georgia, 1982

County	All land ^a	Forest land				Nonforest land ^b
		Total	Commercial forest	Unproductive forest	Productive- reserved	
Acres						
Appling	328,320	220,632	220,632	--	--	107,688
Atkinson	203,520	155,030	155,030	--	--	48,490
Bacon	187,520	118,587	118,587	--	--	68,933
Baker	227,200	112,966	112,966	--	--	114,234
Baldwin	162,944	117,799	117,799	--	--	45,145
Banks	147,776	103,526	103,526	--	--	44,250
Barrow	109,126	54,411	53,029	--	1,382	54,715
Cartow	295,296	180,521	178,500	--	2,021	114,775
Chen Hill	163,200	95,278	95,278	--	--	67,922
Cherrien	299,520	181,290	181,290	--	--	118,230
Chibb	160,813	86,891	86,441	--	450	73,922
Cleckley	140,160	61,067	61,067	--	--	79,093
Crantley	286,080	255,092	255,092	--	--	30,988
Crooks	314,494	142,780	142,780	--	--	171,714
Cryan	283,520	236,904	236,685	23	196	46,616
Culloch	437,760	227,709	227,709	--	--	210,051
Curke	531,648	281,701	281,701	--	--	249,947
Cutts	118,528	82,016	81,625	--	391	36,512
Dalhoun	184,832	91,519	91,519	--	--	93,313
Damden	417,920	312,999	298,931	309	13,759	104,921
Dandler	160,000	81,902	81,902	--	--	78,098
Darroll	315,603	189,722	189,601	--	121	125,881
Datoosa	106,880	53,021	49,648	--	3,373	53,859
Darlington	509,520	488,886	318,444	--	170,442	20,634
Datham	284,800	105,314	100,946	506	3,862	179,486
Dattahoochee	161,222	134,768	134,768	--	--	26,454
Dattooga	202,880	149,157	148,967	--	190	53,723
Dherokee	267,219	207,548	207,548	--	--	59,671
Dlarke	80,000	42,686	42,686	--	--	37,314
Dlay	130,304	78,361	78,016	--	345	51,943
Dlayton	94,810	46,309	46,309	--	--	48,501
Dlinch	509,440	484,787	464,955	--	19,832	24,653
Dobb	221,696	105,362	101,689	--	3,673	116,334
Doffee	391,680	230,514	229,038	--	1,476	161,166
Dolquitt	360,320	135,885	135,152	--	733	224,435
Dolumbia	185,856	139,829	137,049	--	2,780	46,027
Dook	149,120	70,083	69,612	--	471	79,037
Doweta	283,072	199,020	199,020	--	--	84,052
Drawford	201,600	160,022	160,022	--	--	41,578
Drisp	188,409	73,317	72,117	--	1,200	115,092
Dade	107,520	79,078	76,383	--	2,695	28,442
Dawson	133,702	116,776	116,385	--	391	16,926
Decatur	375,841	191,911	191,911	--	--	183,930
D Kalb	171,802	67,639	65,834	--	1,805	104,163
Dodge	318,720	193,151	193,151	--	--	125,569
Ddoly	252,800	87,727	87,702	--	25	165,073
Dugherty	207,616	88,018	87,878	--	140	119,598
Duglas	129,280	95,679	93,979	--	1,700	33,601
Durly	335,360	153,618	152,434	--	1,184	181,742
Dhols	272,000	257,509	257,349	160	--	14,491
Dfingham	307,200	240,622	240,622	--	--	66,578
Dbert	228,800	156,636	155,962	--	674	72,164
Dmanuel	439,040	285,041	284,136	--	905	153,999
Dans	119,040	70,827	70,827	--	--	48,213

Continued

Table 1.--Area, by county and land class, Georgia, 1982--Continued

County	All land ^a	Forest land			Nonforest land ^b	
		Total	Commercial forest	Unproductive forest		Productive- reserved
----- Acres -----						
Fannin	252,096	225,036	195,772	--	29,264	27,060
Fayette	127,040	73,865	73,865	--	--	53,175
Floyd	328,006	208,166	208,131	--	35	119,840
Forsyth	142,317	83,381	83,288	--	93	58,936
Franklin	170,323	92,139	91,424	--	715	78,184
Fulton	339,200	170,528	168,598	--	1,930	168,672
Gilmer	278,189	249,841	248,891	--	950	28,348
Glascocock	91,520	64,365	64,365	--	--	27,155
Glynn	269,610	157,021	153,208	141	3,672	112,589
Gordon	228,992	129,681	129,656	--	25	99,311
Grady	298,240	156,537	153,624	--	2,913	141,703
Greene	247,232	197,155	197,142	--	13	50,077
Gwinnett	278,778	155,019	154,589	--	430	123,759
Habersham	180,672	129,059	129,059	--	--	51,613
Hall	241,600	151,111	151,111	--	--	90,489
Hancock	304,576	269,657	269,657	--	--	34,919
Haralson	182,099	137,513	137,513	--	--	44,586
Harris	297,382	247,564	242,627	--	4,937	49,818
Hart	147,712	63,148	63,010	--	138	84,564
Heard	187,277	150,603	150,603	--	--	36,674
Henry	211,526	121,180	121,180	--	--	90,346
Houston	242,816	120,568	119,871	--	697	122,248
Irwin	238,080	107,357	107,357	--	--	130,723
Jackson	215,680	119,467	119,467	--	--	96,213
Jasper	238,464	188,203	188,203	--	--	50,261
Jeff Davis	211,840	147,124	147,124	--	--	64,716
Jefferson	339,200	187,730	187,730	--	--	151,470
Jenkins	224,640	130,457	129,568	--	889	94,183
Johnson	200,320	109,097	109,097	--	--	91,223
Jones	257,216	215,326	215,324	--	2	41,890
Lamar	115,584	78,634	78,634	--	--	36,950
Lanier	116,079	87,323	87,323	--	--	28,756
Laurens	518,400	313,161	313,161	--	--	205,239
Lee	226,880	89,347	89,022	--	325	137,533
Liberty	328,960	255,669	255,627	--	42	73,291
Lincoln	123,200	103,690	103,263	--	427	19,510
Long	257,280	235,275	234,556	--	719	22,005
Lowndes	325,120	211,169	211,169	--	--	113,951
Lumpkin	186,547	164,345	163,275	--	1,070	22,202
Macon	257,632	115,706	115,487	--	219	141,926
Madison	179,546	100,726	100,685	--	41	78,820
Marion	233,600	186,332	186,332	--	--	47,268
McDuffie	161,792	113,615	113,555	--	60	48,177
McIntosh	272,640	204,204	190,233	2,880	11,091	68,436
Meriwether	319,066	229,739	229,739	--	--	89,327
Miller	183,680	60,038	60,038	--	--	123,642
Mitchell	326,400	101,738	101,738	--	--	224,662
Monroe	254,976	203,744	203,356	--	388	51,232
Montgomery	151,040	99,387	99,387	--	--	51,653
Morgan	224,922	135,286	129,917	--	5,369	89,636
Murray	217,389	156,845	148,803	--	8,042	60,544
Muscogee	140,109	96,286	96,228	--	58	43,823
Newton	173,632	108,559	108,559	--	--	65,073
Oconee	118,982	69,097	69,097	--	--	49,885

Continued

Table 1.--Area, by county and land class, Georgia, 1982--Continued

County	All land ^a	Forest land				Nonforest land ^b
		Total	Commercial forest	Unproductive forest	Productive- reserved	
----- Acres -----						
Oglethorpe	278,336	220,825	220,615	--	210	57,511
Paulding	203,270	159,350	158,618	--	732	43,920
Peach	96,640	39,376	39,376	--	--	57,264
Pickens	143,789	121,845	121,845	--	--	21,944
Pierce	218,880	142,128	142,128	--	--	76,752
Pike	147,200	82,514	82,514	--	--	64,686
Polk	199,642	141,017	141,017	--	--	58,625
Pulaski	162,112	72,030	71,990	--	40	90,082
Putnam	212,800	178,784	178,396	--	388	34,016
Quitman	99,776	84,886	84,886	--	--	14,890
Rabun	235,712	215,208	207,055	--	8,153	20,504
Randolph	278,726	165,996	165,996	--	--	112,730
Richmond	206,912	117,350	117,350	--	--	89,562
Rockdale	81,862	38,918	38,501	--	417	42,944
Schley	103,680	70,320	70,320	--	--	33,360
Screven	416,640	239,148	239,148	--	--	177,492
Seminole	165,440	51,298	50,967	--	331	114,142
Spalding	128,314	68,409	68,409	--	--	59,905
Stephens	110,912	85,470	85,254	--	216	25,442
Stewart	289,280	248,407	247,798	--	609	40,873
Sumter	312,576	117,675	117,675	--	--	194,901
Talbot	249,280	225,230	225,230	--	--	24,050
Taliaferro	124,800	108,098	106,959	--	1,139	16,702
Tattnall	313,600	185,675	185,510	--	165	127,925
Taylor	257,734	185,480	185,480	--	--	72,254
Telfair	281,600	197,159	197,059	--	100	84,441
Terrell	210,240	91,348	91,348	--	--	118,892
Thomas	346,240	179,048	179,048	--	--	167,192
Tift	170,240	58,464	58,464	--	--	111,776
Toombs	235,520	118,673	118,673	--	--	116,847
Towns	106,048	96,526	95,822	--	704	9,522
Treutlen	124,160	83,840	83,840	--	--	40,320
Troup	266,170	192,707	192,707	--	--	73,463
Turner	187,520	82,436	82,436	--	--	105,084
Twiggs	233,088	188,194	188,194	--	--	44,894
Union	197,696	171,435	168,870	--	2,565	26,261
Upson	213,632	158,030	158,030	--	--	55,602
Walker	284,544	180,538	179,273	--	1,265	104,006
Walton	211,200	120,973	120,798	--	175	90,227
Ware	583,680	510,174	340,739	14,142	155,293	73,506
Warren	181,427	125,299	125,299	--	--	56,128
Washington	430,822	292,886	292,360	--	526	137,936
Wayne	412,800	339,280	338,827	--	453	73,520
Webster	124,717	78,727	78,727	--	--	45,990
Wheeler	195,840	134,027	132,995	--	1,032	61,813
White	155,392	124,278	118,988	--	5,290	31,114
Whitfield	179,770	118,610	118,610	--	--	61,160
Wilcox	245,120	146,711	146,691	--	20	98,409
Wilkes	299,712	232,534	232,534	--	--	67,178
Wilkinson	292,634	241,625	241,625	--	--	51,009
Worth	370,560	156,223	156,223	--	--	214,337
Total	37,167,713	24,242,438	23,733,684	18,161	490,593	12,925,275

^aFrom the Bureau of the Census, 1970 and 1980.^bIncludes 331,250 acres of water according to survey standards of area classification, but defined by the Bureau of Census as land.

Table 2.—Area of commercial forest land, by county and ownership class, Georgia, 1982

County	All ownerships	Ownership class							
		National Forest	Miscellaneous Federal	State	County and municipal	Forest industry ^a	Farmer	Miscellaneous private	
								Corporate	Individual
----- Acres -----									
Appling	220,632	—	—	25	880	69,590	70,701	6,750	72,686
Atkinson	155,030	—	—	—	—	61,726	52,482	2,916	37,906
Bacon	118,587	—	—	—	2,367	24,671	43,217	2,702	45,630
Baker	112,966	—	—	—	5	17,886	35,910	10,756	48,409
Baldwin	117,799	—	—	5,093	185	16,286	—	—	96,235
Banks	103,526	656	—	413	—	10,153	60,198	4,013	28,093
Barrow	53,029	—	—	15	85	—	18,591	3,098	31,240
Bartow	178,500	—	7,812	105	101	26,031	55,833	16,751	71,867
Ben Hill	95,278	—	—	3	185	6,644	57,808	18,720	11,918
Berrien	181,290	—	—	2,468	88	21,008	88,899	2,868	65,959
Bibb	86,441	—	—	—	—	5,480	7,679	15,360	57,922
Bleckley	61,067	—	—	70	40	20,071	32,072	708	8,106
Brantley	255,092	—	—	6,219	—	158,744	29,404	7,793	52,932
Brooks	142,780	—	—	—	304	21,051	75,965	8,440	37,020
Bryan	236,685	—	89,394	7,171	115	43,772	42,107	2,885	51,241
Bulloch	227,709	—	—	125	268	22,760	146,779	5,372	52,405
Burke	281,701	—	—	75	79	77,066	120,451	16,645	67,385
Butts	81,625	—	—	510	20	12,973	5,991	2,217	59,914
Calhoun	91,519	—	—	—	3	9,035	60,417	14,466	7,598
Camden	298,931	—	6,657	—	—	141,377	2,867	2,867	145,163
Candler	81,902	—	—	—	125	9,823	53,966	2,570	15,418
Carroll	189,601	—	—	140	780	27,633	47,675	6,810	106,563
Catoosa	49,648	—	1,578	—	138	3,591	—	—	44,341
Charlton	318,444	—	5,490	—	1,145	180,901	24,947	43,658	62,303
Chatham	100,946	—	3,345	10,030	1,020	31,818	3,225	9,678	41,830
Chattahoochee	134,768	—	84,432	—	4	16,268	—	202	33,862
Chattooga	148,967	15,489	—	—	—	17,020	21,174	10,587	84,697
Cherokee	207,548	—	9,496	—	147	41,038	5,602	44,819	106,446
Clarke	42,686	—	—	1,650	593	840	—	—	39,603
Clay	78,016	—	2,310	—	21	12,715	6,683	4,952	51,335
Clayton	46,309	—	428	35	3,594	—	3,018	21,126	18,108
Clinch	464,955	—	2,410	—	110	245,008	23,748	107,944	85,735
Cobb	101,689	—	2,597	90	325	—	3,178	25,430	70,069
Coffee	229,038	—	—	—	277	12,542	153,726	8,717	53,776
Colquitt	135,152	—	—	—	546	3,082	88,779	13,152	29,593
Columbia	137,049	—	10,933	78	286	24,697	30,580	8,737	61,738
Cook	69,612	—	—	—	327	6,151	54,731	2,737	5,666
Coweta	199,020	—	—	—	2,915	25,255	31,382	17,433	122,035
Crawford	160,022	—	—	—	33	65,574	13,094	9,769	71,552
Crisp	72,117	—	—	—	258	288	64,364	—	7,207
Dade	76,383	—	—	—	47	11,822	23,460	—	41,054
Dawson	116,385	6,546	1,185	4,639	10,050	13,632	4,725	14,176	61,432
Decatur	191,911	—	6,720	370	574	33,921	78,171	12,025	60,130
De Kalb	65,834	—	58	222	1,068	—	2,804	28,037	33,645
Dodge	193,151	—	—	—	—	24,463	82,509	10,944	75,235
Dooly	87,702	4,106	—	—	26	4,298	53,003	3,117	23,152
Dougherty	87,878	—	1,384	100	187	15,326	17,721	26,580	26,580
Douglas	93,979	—	—	—	890	2,222	—	23,355	67,512
Early	152,434	—	354	245	25	10,409	108,280	—	33,121
Echols	257,349	—	—	—	—	62,806	12,683	124,712	57,148
Effingham	240,622	—	5,972	—	254	56,306	63,175	15,167	99,748
Elbert	155,962	—	13,405	—	267	41,467	25,891	11,489	63,443
Emanuel	284,136	—	—	—	482	70,078	107,314	7,118	99,144
Evans	70,827	—	15,858	—	178	6,458	24,167	—	24,166

Continued

Table 2.—Area of commercial forest land, by county and ownership class, Georgia, 1982—Continued

County	All ownerships	Ownership class							
		National Forest	Miscellaneous Federal	State	County and municipal	Forest industry	Farmer	Miscellaneous private	
								Corporate	Individual
----- Acres -----									
Appling	195,772	73,635	—	—	49	461	51,212	12,802	57,613
Archie	73,865	—	—	—	134	840	10,414	10,412	52,065
Barrow	208,131	8,264	—	510	599	21,429	41,664	41,794	93,871
Bartow	83,288	—	5,504	—	35	235	22,024	4,097	51,393
Bethlehem	91,424	—	964	—	25	5,484	42,420	7,181	35,350
Bibb	168,598	—	—	105	1,480	3,025	10,250	23,914	129,824
Bolton	248,891	52,441	3,805	—	17	16,729	36,218	20,694	118,987
Bosque	64,365	—	—	—	—	14,688	29,972	3,746	15,959
Bowling	153,208	—	1,228	1,701	965	88,160	316	32,930	27,908
Brown	129,656	5,660	56	—	85	23,061	18,183	—	82,611
Buckley	153,624	—	—	—	170	7,765	116,856	3,247	25,586
Calhoun	197,142	20,110	—	617	153	51,727	29,901	3,597	91,037
Camden	154,589	—	841	100	718	—	17,338	31,207	104,385
Candler	129,059	39,268	—	124	43	3,606	20,240	15,179	50,599
Carroll	151,111	—	7,915	203	3,018	7,504	30,772	13,188	88,511
Catoosa	269,657	—	—	—	280	109,894	28,744	3,475	127,264
Chatham	137,513	—	—	—	510	26,265	45,657	3,512	61,569
Cherokee	242,627	—	—	30	60	26,763	26,516	26,517	162,741
Chickasaw	63,010	—	5,704	750	25	3,763	38,377	—	14,391
Chickly	150,603	—	5,381	—	266	51,570	6,908	17,370	69,108
Clay	121,180	—	—	80	285	4,093	47,321	18,927	50,474
Clayton	119,871	—	2,130	—	410	50,869	29,076	8,308	29,078
Claxton	107,357	—	—	—	59	9,594	69,462	6,014	22,228
Clayton	119,467	—	—	447	202	3,298	28,880	7,220	79,420
Cobb	188,203	23,769	6,092	—	30	34,276	38,259	13,509	72,268
Coff Davis	147,124	—	—	—	9	42,843	40,550	17,379	46,343
Cofferson	187,730	—	4,198	—	113	36,608	89,403	3,588	53,820
Columbia	129,568	—	40	14	45	46,868	61,424	—	21,177
Conley	109,097	—	—	—	52	19,185	57,183	5,446	27,231
Conley	215,324	20,947	26,517	—	420	51,312	35,771	7,228	73,129
Conley	78,634	—	—	—	427	12,268	13,784	467	51,688
Conley	87,323	—	6,530	—	—	14,797	33,872	7,259	24,865
Conley	313,161	—	20	—	1,071	35,644	129,333	1,018	146,075
Conley	89,022	—	—	—	40	3,487	52,684	3,850	28,961
Conley	255,627	—	103,221	—	264	51,047	—	6,696	94,399
Conley	103,263	—	20,721	—	—	10,889	20,332	3,948	47,373
Conley	234,556	—	26,406	—	—	115,137	24,663	—	68,350
Conley	211,169	—	1,868	136	1,191	61,415	85,236	15,320	46,003
Conley	163,275	57,252	223	420	26	15,041	38,707	17,202	34,404
Conley	115,487	—	—	—	747	26,443	49,123	10,341	28,833
Conley	100,685	—	—	—	75	16,094	19,265	10,447	54,804
Conley	186,332	—	425	—	65	74,581	9,300	—	101,961
Conley	113,555	—	14,353	200	87	14,937	27,252	4,473	52,253
Conley	190,233	—	700	8,000	82	122,177	2,776	5,553	50,945
Conley	229,739	—	—	2,905	2,039	56,549	48,133	12,336	107,777
Conley	60,038	—	—	—	32	10,233	36,306	2,694	10,773
Conley	101,738	—	—	3	117	4,319	67,361	11,227	18,711
Conley	203,356	—	—	—	180	57,012	24,676	13,575	107,913
Conley	99,387	—	—	38	22	14,281	62,199	—	22,847
Conley	129,917	281	—	130	121	21,891	38,391	11,517	57,586
Conley	148,803	45,838	1,178	—	54	20,550	12,180	91	68,912
Conley	96,228	—	39,727	—	1,301	993	—	12,509	41,698
Conley	108,559	—	—	245	721	8,581	14,668	18,338	66,006
Conley	69,097	160	200	176	34	4,418	8,014	8,014	48,081

Continued

Table 2.—Area of commercial forest land, by county and ownership class, Georgia, 1982—Continued

County	All ownerships	Ownership class							
		National Forest	Miscellaneous Federal	State	County and municipal	Forest industry ^a	Farmer	Miscellaneous private	
								Corporate	Individual
----- Acres -----									
Oglethorpe	220,615	3,771	—	300	40	87,077	30,052	10,204	89,17
Paulding	158,618	—	—	—	10,055	31,930	10,824	3,608	102,20
Peach	39,376	—	68	194	—	2,308	24,321	4,053	8,43
Pickens	121,845	—	—	2	85	20,137	15,243	20,324	66,05
Pierce	142,128	—	—	—	75	30,594	81,019	2,490	27,95
Pike	82,514	—	—	35	227	10,303	18,743	6,350	46,85
Polk	141,017	—	—	—	425	31,425	28,912	10,842	69,41
Pulaski	71,990	—	44	18	—	9,692	31,117	6,223	24,89
Putnam	178,396	31,201	—	12,000	238	48,206	35,276	6,117	45,35
Quitman	84,886	—	758	—	8	12,677	27,852	14,215	29,37
Rabun	207,055	124,553	—	20	70	—	13,012	26,024	43,37
Randolph	165,996	—	—	—	—	31,686	55,874	10,921	67,51
Richmond	117,350	—	40,096	145	170	16,570	10,714	11,035	38,62
Rockdale	38,501	—	—	392	32	1,048	3,703	11,109	22,21
Schley	70,320	—	—	—	15	14,747	27,288	—	28,27
Screven	239,148	—	—	—	1,374	58,411	111,733	20,583	47,04
Seminole	50,967	—	3,561	—	—	3,327	25,712	3,673	14,69
Spalding	68,409	—	—	300	255	1,625	4,412	8,825	52,99
Stephens	85,254	20,523	1,140	—	369	3,185	26,683	6,671	26,68
Stewart	247,798	—	383	—	97	74,671	41,875	80,862	49,91
Sumter	117,675	—	100	50	200	19,473	32,673	21,891	43,28
Talbot	225,230	—	—	3,599	21	52,673	30,078	14,091	124,76
Taliaferro	106,959	—	—	—	88	40,729	14,153	4,015	47,97
Tattnall	185,510	—	4,667	2,044	—	28,539	95,463	5,219	49,57
Taylor	185,480	—	60	—	120	43,123	36,099	36,099	69,97
Telfair	197,059	—	—	—	6	59,066	60,791	3,813	73,38
Terrell	91,348	—	—	—	—	3,972	53,659	8,586	25,13
Thomas	179,048	—	—	20	527	5,225	74,042	30,850	68,38
Tift	58,464	—	—	581	292	—	49,364	2,743	5,48
Toombs	118,673	—	—	248	289	23,583	59,561	7,959	27,03
Towns	95,822	50,285	—	—	20	217	16,988	—	28,31
Treutlen	83,840	—	—	—	50	9,648	44,042	—	30,10
Troup	192,707	—	11,928	—	585	23,885	18,175	25,446	112,68
Turner	82,436	—	—	—	81	4,171	50,027	—	28,15
Twiggs	188,194	—	—	—	—	57,828	24,577	17,555	88,23
Union	168,870	89,067	—	290	54	3,162	30,424	236	45,63
Upson	158,030	—	—	—	549	46,857	27,257	9,084	74,28
Walker	179,273	20,814	—	10,500	14	3,432	52,552	21,896	70,06
Walton	120,798	—	—	—	444	5,517	37,597	12,304	64,93
Ware	340,739	—	3,932	29,678	1,273	162,906	31,849	—	111,10
Warren	125,299	—	126	—	14	43,756	35,818	6,056	39,52
Washington	292,360	—	—	—	140	46,175	80,724	26,910	138,41
Wayne	338,827	—	—	—	373	187,171	48,521	—	102,76
Webster	78,727	—	—	—	—	35,829	27,628	7,649	7,62
Wheeler	132,995	—	—	80	4	20,193	37,199	2,480	73,03
White	118,988	40,184	—	—	69	2,836	11,983	—	63,91
Whitfield	118,610	10,075	8	—	430	16,158	—	12,439	79,50
Wilcox	146,691	—	—	57	26	16,118	71,339	12,516	46,63
Wilkes	232,534	—	6,518	149	127	74,624	29,211	3,355	118,55
Wilkinson	241,625	—	—	130	240	54,809	28,257	24,979	133,21
Worth	156,223	—	—	47	68	3,969	105,140	2,628	44,37
Total	23,733,684	764,895	631,154	117,704	70,009	4,963,738	6,120,268	1,884,652	9,181,264

^aNot including 972,510 acres of farmer-owned and miscellaneous private lands leased to forest industry.

Table 3.—Area of commercial forest land, by county and forest-type group, Georgia, 1982

County	All type groups	Forest-type group								
		White pine-hemlock	Spruce-fir	Longleaf-slash	Loblolly-shortleaf	Oak-pine	Oak-hickory	Oak-gum-cypress	Elm-ash-cottonwood	Maple-beech-birch
Acres										
Appling	220,632	—	—	124,135	16,598	12,395	11,514	55,990	—	—
Atkinson	155,030	—	—	96,481	10,769	8,748	11,216	27,816	—	—
Bacon	118,587	—	—	76,621	3,884	11,531	10,804	15,747	—	—
Baker	112,966	—	—	34,097	5,379	16,140	37,197	20,153	—	—
Baldwin	117,799	—	—	13,958	61,828	11,007	19,999	4,340	6,667	—
Banks	103,526	—	—	—	37,181	25,556	32,762	—	8,027	—
Barrow	53,029	—	—	—	25,144	12,393	12,394	—	3,098	—
Bartow	178,500	—	—	5,584	79,300	38,437	55,179	—	—	—
Ben Hill	95,278	—	—	48,786	18,720	11,532	5,536	10,704	—	—
Berrien	181,290	—	—	71,095	15,760	27,145	14,339	52,951	—	—
Bibb	86,441	—	—	3,840	34,883	11,519	21,939	11,520	2,740	—
Bleckley	61,067	—	—	8,216	15,864	3,563	15,156	18,268	—	—
Brantley	255,092	—	—	126,841	20,365	35,130	8,714	64,042	—	—
Brooks	142,780	—	—	26,399	20,140	11,255	33,955	48,218	2,813	—
Bryan	236,685	—	—	84,974	50,720	35,451	8,835	56,705	—	—
Bulloch	227,709	—	—	54,175	21,805	47,170	35,075	69,483	—	—
Burke	281,701	—	—	65,538	39,592	32,934	84,776	45,899	12,962	—
Butts	81,625	—	—	—	41,674	15,475	23,966	510	—	—
Calhoun	91,519	—	—	10,662	8,561	—	46,451	22,291	3,554	—
Camden	298,931	—	—	133,654	33,835	32,238	24,084	72,683	2,437	—
Candler	81,902	—	—	22,797	2,569	12,848	20,558	23,130	—	—
Carroll	189,601	—	—	—	68,439	30,649	80,248	3,406	6,859	—
Catoosa	49,648	—	—	—	3,591	7,912	31,811	—	6,334	—
Charlton	318,444	—	—	240,732	7,537	15,075	12,474	42,626	—	—
Chatham	100,946	—	—	21,159	21,274	11,299	31,539	15,675	—	—
Chattahoochee	134,768	—	—	8,169	45,906	16,340	53,458	8,171	2,724	—
Chattooga	148,967	—	—	—	34,598	48,669	65,700	—	—	—
Cherokee	207,548	—	—	—	88,321	26,970	86,655	—	5,602	—
Clarke	42,686	—	—	—	22,842	8,801	6,643	4,400	—	—
Clay	78,016	—	—	12,846	23,084	7,839	24,221	10,026	—	—
Clayton	46,309	—	—	—	21,589	6,036	15,666	3,018	—	—
Clinch	464,955	—	—	306,908	12,234	20,528	—	125,285	—	—
Cobb	101,689	—	—	—	72,991	12,714	12,805	—	3,179	—
Coffee	229,038	—	—	122,145	11,623	34,467	14,525	46,278	—	—
Colquitt	135,152	—	—	66,101	9,864	16,441	9,864	32,882	—	—
Columbia	137,049	—	—	—	72,871	17,552	22,418	4,369	19,839	—
Cook	69,612	—	—	16,940	5,473	8,209	2,737	36,253	—	—
Coweta	199,020	—	—	—	65,676	55,072	60,838	—	17,434	—
Crawford	160,022	—	—	3,934	86,245	33,239	31,070	5,534	—	—
Crisp	72,117	—	—	28,950	2,681	8,046	8,046	24,394	—	—
Cude	76,383	—	—	—	11,730	5,865	52,923	—	5,865	—
Dawson	116,385	—	—	—	30,173	23,928	62,284	—	—	—
Decatur	191,911	—	—	69,195	32,172	17,859	42,093	27,765	2,827	—
De Kalb	65,834	—	—	—	34,936	8,410	19,685	—	2,803	—
Dodge	193,151	—	—	97,044	15,477	21,888	25,963	28,702	4,077	—
Dooly	87,702	—	—	21,845	9,353	11,502	21,825	23,177	—	—
Dougherty	87,878	—	—	21,294	17,669	4,430	15,666	8,810	20,009	—
Douglas	93,979	—	—	—	24,140	15,566	50,047	890	3,336	—
Darby	152,434	—	—	42,255	16,305	8,547	40,004	45,323	—	—
Doolen	257,349	—	—	159,398	5,480	12,410	8,398	71,663	—	—
Douglas	240,622	—	—	83,415	57,112	16,055	39,074	41,980	2,986	—
Elbert	155,962	—	—	—	73,617	33,650	44,087	4,608	—	—
Emmanuel	284,136	—	—	137,345	32,265	24,116	29,507	60,903	—	—
Evans	70,827	—	—	19,144	10,838	3,199	14,726	22,920	—	—

Continued

Table 3.—Area of commercial forest land, by county and forest-type group, Georgia, 1982—Continued

County	All type groups	Forest-type group								
		White pine-hemlock	Spruce-fir	Longleaf-slash	Loblolly-shortleaf	Oak-pine	Oak-hickory	Oak-gum-cypress	Elm-ash-cottonwood	Maple-beech-birch
Acres										
Fannin	195,772	9,204	—	—	30,207	30,210	126,151	—	—	—
Fayette	73,865	—	—	—	27,006	10,413	26,032	—	10,414	—
Floyd	208,131	—	—	—	97,036	16,134	84,544	—	10,417	—
Forsyth	83,288	—	—	—	35,531	7,377	40,380	—	—	—
Franklin	91,424	—	—	—	37,410	7,095	39,849	—	7,070	—
Fulton	168,598	—	—	—	89,177	13,770	55,402	3,416	6,833	—
Gilmer	248,891	10,347	—	—	21,115	55,299	156,957	—	5,173	—
Glascocok	64,365	—	—	7,494	11,239	16,134	17,285	7,492	4,721	—
Glynn	153,208	—	—	28,156	56,664	11,416	19,916	37,056	—	—
Gordon	129,656	—	—	—	51,154	37,209	32,201	9,092	—	—
Grady	153,624	—	—	18,171	30,773	23,359	35,707	45,614	—	—
Greene	197,142	—	—	—	122,415	27,028	40,505	3,597	3,597	—
Gwinnett	154,589	—	—	—	83,326	24,271	43,524	—	3,468	—
Habersham	129,059	—	—	—	50,244	27,542	51,273	—	—	—
Hall	151,111	—	—	—	56,416	19,761	73,351	1,583	—	—
Hancock	269,657	—	—	10,566	153,857	28,150	66,658	10,426	—	—
Haralson	137,513	—	—	—	49,941	24,584	52,452	—	10,536	—
Harris	242,627	—	—	11,399	116,741	61,347	41,739	3,788	7,613	—
Hart	63,010	—	—	—	21,977	—	41,033	—	—	—
Heard	150,603	—	—	—	83,101	11,598	52,450	3,454	—	—
Henry	121,180	—	—	—	58,087	25,237	34,702	—	3,154	—
Houston	119,871	—	—	—	27,384	7,333	53,280	27,720	4,154	—
Irwin	107,357	—	—	46,552	8,337	16,669	11,115	24,684	—	—
Jackson	119,467	—	—	—	71,235	7,220	33,792	—	7,220	—
Jasper	188,203	—	—	—	103,624	27,953	56,596	30	—	—
Jeff Davis	147,124	—	—	71,517	12,785	29,365	3,295	30,162	—	—
Jefferson	187,730	—	—	25,553	39,725	17,939	53,964	50,549	—	—
Jenkins	129,568	—	—	39,969	15,167	14,992	21,189	38,251	—	—
Johnson	109,097	—	—	27,266	19,097	24,524	16,408	21,802	—	—
Jones	215,324	—	—	—	146,401	27,064	31,082	3,556	7,221	—
Lamar	78,634	—	—	—	40,729	—	20,675	10,338	6,892	—
Lanier	87,323	—	—	29,417	14,704	4,840	4,838	33,524	—	—
Laurens	313,161	—	—	102,212	52,481	32,421	57,069	62,922	6,056	—
Lee	89,022	—	—	22,858	5,255	7,024	39,836	10,537	3,512	—
Liberty	255,627	—	—	98,377	49,844	21,768	46,462	39,176	—	—
Lincoln	103,263	—	—	—	57,503	22,073	23,687	—	—	—
Long	234,556	—	—	78,614	27,152	35,415	21,551	68,865	2,959	—
Lowndes	211,169	—	—	68,510	9,192	28,561	36,951	67,955	—	—
Lumpkin	163,275	18,614	—	—	41,936	27,216	75,509	—	—	—
Macon	115,487	—	—	—	15,629	15,630	49,514	32,128	2,586	—
Madison	100,685	—	—	—	44,085	19,339	33,409	3,852	—	—
Marion	186,332	—	—	11,612	56,599	8,379	83,852	16,758	9,132	—
McDuffie	113,555	—	—	4,473	66,956	8,947	13,420	19,759	—	—
McIntosh	190,233	—	—	60,946	28,734	25,786	34,289	37,702	2,776	—
Meriwether	229,739	—	—	—	109,669	9,026	75,593	32,475	2,976	—
Miller	60,038	—	—	15,890	—	10,773	15,922	17,453	—	—
Mitchell	101,738	—	—	49,346	11,227	11,227	18,712	7,484	3,742	—
Monroe	203,356	—	—	2,715	99,696	28,788	61,216	—	10,941	—
Montgomery	99,387	—	—	40,892	11,489	12,910	17,617	12,909	3,570	—
Morgan	129,917	—	—	—	57,614	30,523	37,820	3,839	121	—
Murray	148,803	—	—	—	67,912	15,257	62,209	3,425	—	—
Muscogee	96,228	—	—	3,612	48,798	16,211	16,772	7,223	3,612	—
Newton	108,559	—	—	—	53,394	10,194	37,637	—	7,334	—
Oconee	69,097	—	—	—	28,852	20,211	12,020	4,007	4,007	—

Continued

Table 3.—Area of commercial forest land, by county and forest-type group, Georgia, 1982—Continued

County	All type groups	Forest-type group								
		White pine-hemlock	Spruce-fir	Longleaf-slash	Loblolly-shortleaf	Oak-pine	Oak-hickory	Oak-gum-cypress	Elm-ash-cottonwood	Maple-beech birch
----- Acres -----										
Oglethorpe	220,615	—	—	—	110,239	11,812	64,721	8,586	25,257	—
Paulding	158,618	—	—	—	85,787	14,432	58,399	—	—	—
Peach	39,376	—	—	4,054	12,422	—	18,846	4,054	—	—
Pickens	121,845	—	—	—	47,447	5,081	69,317	—	—	—
Pierce	142,128	—	—	67,582	9,084	15,399	12,449	37,614	—	—
Pike	82,514	—	—	—	30,244	6,248	33,847	5,927	6,248	—
Polk	141,017	—	—	—	76,210	14,456	50,351	—	—	—
Pulaski	71,990	—	—	14,181	7,958	12,448	15,602	21,801	—	—
Putnam	178,396	—	—	—	102,889	21,563	53,944	—	—	—
Quitman	84,886	—	—	—	48,830	14,049	10,071	11,936	—	—
Rabun	207,055	29,893	—	—	42,262	32,939	101,961	—	—	—
Randolph	165,996	—	—	16,955	52,131	14,899	46,754	27,809	7,448	—
Richmond	117,350	—	—	15,476	29,950	9,441	33,230	22,625	6,628	—
Rockdale	38,501	—	—	—	18,907	7,406	12,188	—	—	—
Schley	70,320	—	—	—	18,037	13,644	27,854	10,785	—	—
Screven	239,148	—	—	49,192	40,690	14,542	58,331	73,611	2,782	—
Seminole	50,967	—	—	14,693	—	10,673	11,020	14,581	—	—
Spalding	68,409	—	—	—	37,482	13,276	8,826	8,825	—	—
Stephens	85,254	—	—	—	33,973	16,388	34,893	—	—	—
Stewart	247,798	—	—	10,781	128,641	25,657	72,690	6,156	3,873	—
Sumter	117,675	—	—	27,489	27,757	10,760	18,996	26,732	5,941	—
Talbot	225,230	—	—	4,297	117,618	45,960	42,070	8,594	6,691	—
Taliaferro	106,959	—	—	—	61,688	31,117	14,154	—	—	—
Tattnall	185,510	—	—	81,560	14,006	16,614	26,495	41,616	5,219	—
Taylor	185,480	—	—	51,625	29,886	16,014	65,071	22,884	—	—
Telfair	197,059	—	—	94,682	24,500	7,079	7,828	52,829	10,141	—
Terrell	91,348	—	—	7,155	15,829	3,578	14,309	46,900	3,577	—
Thomas	179,048	—	—	41,848	30,870	33,936	36,205	36,189	—	—
Tift	58,464	—	—	28,297	2,743	8,228	2,743	16,453	—	—
Toombs	118,673	—	—	40,338	9,760	12,638	24,864	28,483	2,590	—
Towns	95,822	—	—	—	15,752	21,177	58,893	—	—	—
Treutlen	83,840	—	—	47,307	12,247	12,040	3,010	9,236	—	—
Troup	192,707	—	—	—	109,262	16,926	58,161	—	8,358	—
Turner	82,436	—	—	50,790	—	10,005	6,672	14,969	—	—
Twiggs	188,194	—	—	3,511	73,665	17,555	68,197	10,877	14,389	—
Union	168,870	8,906	—	—	48,799	8,907	102,258	—	—	—
Upson	158,030	—	—	5,207	61,923	11,688	64,921	14,291	—	—
Walker	179,273	—	—	—	47,961	28,835	102,477	—	—	—
Walton	120,798	—	—	—	59,276	17,089	27,344	17,089	—	—
Ware	340,739	—	—	232,561	16,936	16,150	2,546	72,546	—	—
Warren	125,299	—	—	5,470	60,438	14,553	41,797	3,041	—	—
Washington	292,360	—	—	29,678	113,701	41,660	81,178	22,299	3,844	—
Wayne	338,827	—	—	174,525	27,695	39,251	14,272	80,371	2,713	—
Webster	78,727	—	—	19,377	14,342	3,981	32,138	5,436	3,453	—
Wheeler	132,995	—	—	60,137	9,585	21,399	13,957	18,918	8,999	—
White	118,988	4,465	—	—	45,352	15,980	49,197	—	3,994	—
Whitfield	118,610	—	—	—	54,872	15,892	41,731	—	6,115	—
Wilcox	146,691	—	—	67,564	5,481	17,632	8,917	47,097	—	—
Wilkes	232,534	—	—	3,354	141,924	46,965	25,252	11,684	3,355	—
Wilkinson	241,625	—	—	12,110	82,088	31,812	61,167	43,559	10,889	—
Worth	156,223	—	—	89,625	14,842	10,514	12,281	28,961	—	—
Total	23,733,684	81,429	—	4,734,210	6,623,280	2,959,550	5,805,257	3,069,475	460,483	—

Table 4.--Area of commercial forest land, by county and stand-size class, Georgia, 1982

County	All stands	Stand-size class			Nonstocked areas
		Sawtimber	Poletimber	Sapling- seedling	
Acres					
Appling	220,632	60,574	78,326	62,188	19,544
Atkinson	155,030	28,263	56,763	59,235	10,769
Bacon	118,587	20,091	48,282	44,812	5,402
Baker	112,966	61,450	25,078	15,682	10,756
Baldwin	117,799	50,565	49,561	17,673	--
Banks	103,526	45,214	37,182	21,130	--
Barrow	53,029	30,998	12,652	6,281	3,098
Bartow	178,500	90,845	57,890	24,559	5,206
Ben Hill	95,278	32,102	40,295	14,853	8,028
Berrien	181,290	78,252	50,851	43,584	8,603
Bibb	86,441	49,145	18,099	19,197	--
Bleckley	61,067	30,458	7,617	22,992	--
Brantley	255,092	49,445	93,179	100,815	11,653
Brooks	142,780	65,401	31,977	39,775	5,627
Bryan	236,685	119,250	68,529	46,277	2,629
Bulloch	227,709	128,190	53,527	43,306	2,686
Burke	281,701	123,669	81,365	65,194	11,473
Butts	81,625	27,458	24,474	26,677	3,016
Calhoun	91,519	48,619	21,324	21,573	3
Camden	298,931	98,532	105,933	81,850	12,616
Candler	81,902	28,393	15,420	30,380	7,709
Carroll	189,601	51,315	79,295	55,586	3,405
Catoosa	49,648	20,720	12,668	16,260	--
Charlton	318,444	79,991	132,437	85,399	20,617
Chatham	100,946	48,036	40,726	6,451	5,733
Chattahoochee	134,768	51,714	37,508	40,098	5,448
Chattooga	148,967	52,932	61,059	26,845	8,131
Cherokee	207,548	98,237	64,101	45,210	--
Clarke	42,686	18,193	20,093	4,400	--
Clay	78,016	34,593	14,194	29,229	--
Clayton	46,309	22,165	12,072	12,072	--
Clinch	464,955	69,928	193,425	186,635	14,967
Cobb	101,689	69,904	22,249	9,536	--
Coffee	229,038	43,581	93,439	66,268	25,750
Colquitt	135,152	59,524	42,746	32,882	--
Columbia	137,049	64,692	42,404	25,584	4,369
Cook	69,612	27,365	22,752	16,758	2,737
Coweta	199,020	72,862	48,244	70,940	6,974
Crawford	160,022	34,836	50,740	74,446	--
Crisp	72,117	37,547	18,221	13,668	2,681
Dade	76,383	31,340	39,178	5,865	--
Dawson	116,385	41,109	61,100	14,176	--
Decatur	191,911	79,916	48,296	60,692	3,007
De Kalb	65,834	40,599	22,431	--	2,804
Dodge	193,151	92,969	58,795	31,839	9,548
Dooly	87,702	45,729	30,471	5,267	6,235
Dougherty	87,878	51,611	31,650	4,617	--
Douglas	93,979	61,731	13,346	18,902	--
Early	152,434	42,331	71,248	36,006	2,849
Echols	257,349	43,979	104,858	102,558	5,954
Effingham	240,622	105,330	85,204	34,288	15,800
Elbert	155,962	32,730	58,404	64,828	--
Emanuel	284,136	91,699	101,158	67,132	24,147
Evans	70,827	36,200	23,412	11,215	--

Continued

Table 4.--Area of commercial forest land, by county and stand-size class,
Georgia, 1982--Continued

County	All stands	Stand-size class			Nonstocked areas
		Sawtimber	Poletimber	Sapling- seedling	
----- Acres -----					
Fannin	195,772	91,835	78,332	25,605	--
Fayette	73,865	42,491	20,827	10,547	--
Floyd	208,131	102,521	70,998	30,327	4,285
Forsyth	83,288	38,811	33,464	7,342	3,671
Franklin	91,424	36,450	37,299	17,675	--
Fulton	168,598	120,421	37,188	10,989	--
Gilmer	248,891	121,143	96,708	31,040	--
GlascocK	64,365	33,244	18,733	12,388	--
Glynn	153,208	54,494	41,626	46,145	10,943
Gordon	129,656	51,801	42,194	33,565	2,096
Grady	153,624	94,941	38,952	19,731	--
Greene	197,142	61,290	68,194	67,658	--
Gwinnett	154,589	92,885	38,985	22,719	--
Habersham	129,059	68,527	40,646	19,886	--
Hall	151,111	53,103	56,120	28,700	13,188
Hancock	269,657	106,036	73,611	86,465	3,545
Haralson	137,513	62,530	52,733	18,738	3,512
Harris	242,627	72,078	81,603	88,946	--
Hart	63,010	20,871	35,460	6,679	--
Heard	150,603	38,465	38,465	73,673	--
Henry	121,180	65,506	30,437	25,237	--
Houston	119,871	56,079	19,795	40,818	3,179
Irwin	107,357	49,689	35,820	16,292	5,556
Jackson	119,467	64,015	33,792	21,660	--
Jasper	188,203	84,093	56,596	44,398	3,116
Jeff Davis	147,124	47,153	54,525	45,446	--
Jefferson	187,730	101,217	54,076	28,849	3,588
Jenkins	129,568	46,746	57,695	25,127	--
Johnson	109,097	32,728	38,194	38,175	--
Jones	215,324	124,164	51,974	32,203	6,983
Lamar	78,634	36,173	21,142	21,319	--
Lanier	87,323	14,610	35,611	32,264	4,838
Laurens	313,161	167,188	77,956	55,902	12,115
Lee	89,022	57,411	17,562	14,049	--
Liberty	255,627	115,443	56,626	67,685	15,873
Lincoln	103,263	51,570	23,193	28,500	--
Long	234,556	99,826	59,841	61,005	13,884
Lowndes	211,169	68,171	77,624	59,750	5,624
Lumpkin	163,275	102,768	56,206	4,301	--
Macon	115,487	54,534	31,890	18,334	10,729
Madison	100,685	33,407	37,088	30,190	--
Marion	186,332	48,219	67,030	46,868	24,215
McDuffie	113,555	58,779	32,441	22,335	--
McIntosh	190,233	72,286	64,166	46,017	7,764
Meriwether	229,739	58,387	75,041	87,383	8,928
Miller	60,038	26,665	14,790	15,889	2,694
Mitchell	101,738	44,908	34,376	22,454	--
Monroe	203,356	58,403	93,208	51,745	--
Montgomery	99,387	34,399	44,488	10,819	9,681
Morgan	129,917	38,610	57,205	34,102	--
Murray	148,803	68,681	57,256	22,866	--
Muscogee	96,228	35,947	17,207	39,463	3,611
Newton	108,559	58,587	21,442	28,530	--
Oconee	69,097	32,626	28,047	8,424	--

Continued

Table 4.--Area of commercial forest land, by county and stand-size class,
Georgia, 1982--Continued

County	All stands	Stand-size class			Nonstocked areas
		Sawtimber	Poletimber	Sapling- seedling	
- - - - - Acres - - - - -					
Oglethorpe	220,615	100,759	64,442	51,120	4,294
Paulding	158,618	42,062	74,534	37,460	4,562
Peach	39,376	14,537	16,213	8,300	326
Pickens	121,845	60,785	40,734	20,326	--
Pierce	142,128	56,465	53,117	20,097	12,449
Pike	82,514	29,046	40,972	12,496	--
Polk	141,017	50,777	61,573	28,667	--
Pulaski	71,990	28,052	18,671	25,249	18
Putnam	178,396	45,256	57,137	76,003	--
Quitman	84,886	30,894	15,823	34,190	3,979
Rabun	207,055	141,105	51,004	14,946	--
Randolph	165,996	74,006	45,877	46,113	--
Richmond	117,350	44,785	22,658	40,467	9,440
Rockdale	38,501	25,920	7,830	4,751	--
Schley	70,320	24,429	20,481	25,410	--
Screven	239,148	130,568	53,191	55,389	--
Seminole	50,967	12,800	14,693	12,454	11,020
Spalding	68,409	41,895	13,278	13,236	--
Stephens	85,254	36,034	27,051	18,065	4,104
Stewart	247,798	60,264	73,988	100,413	13,133
Sumter	117,675	54,690	31,600	31,385	--
Talbot	225,230	50,993	101,307	72,930	--
Taliaferro	106,959	44,001	24,423	35,704	2,831
Tattnall	185,510	69,481	57,272	45,031	13,726
Taylor	185,480	41,904	44,060	73,551	25,965
Telfair	197,059	96,391	56,151	37,095	7,422
Terrell	91,348	42,929	32,591	15,828	--
Thomas	179,048	104,060	28,711	46,277	--
Tift	58,464	39,266	10,970	8,228	--
Toombs	118,673	34,980	39,131	28,247	16,315
Towns	95,822	57,666	37,939	217	--
Treutlen	83,840	36,326	24,336	23,172	--
Troup	192,707	78,511	57,998	56,198	--
Turner	82,436	40,022	20,850	21,564	--
Twiggs	188,194	82,586	57,898	47,710	--
Union	168,870	87,304	52,993	28,573	--
Upson	158,030	58,656	61,043	38,331	--
Walker	179,273	63,867	97,876	17,530	--
Walton	120,798	75,190	23,926	18,264	3,418
Ware	340,739	71,505	105,791	146,061	17,382
Warren	125,299	56,743	44,909	17,592	6,055
Washington	292,360	100,320	113,482	74,714	3,844
Wayne	338,827	75,368	113,289	133,327	16,843
Webster	78,727	21,248	15,270	34,775	7,434
Wheeler	132,995	59,233	33,205	38,078	2,479
White	118,988	50,355	53,342	12,455	2,836
Whitfield	118,610	52,154	45,526	14,815	6,115
Wilcox	146,691	59,532	46,863	37,323	2,973
Wilkes	232,534	105,319	98,871	28,344	--
Wilkinson	241,625	95,792	90,646	51,151	4,036
Worth	156,223	56,639	53,358	39,268	6,958
Total	23,733,684	9,508,717	7,721,620	5,809,798	693,549

Table 5.--Area of commercial forest land, by county and site class,
Georgia, 1982

County	All classes	Site class				
		1	2	3	4	5
		Acres				
Appling	220,632	--	8,838	46,595	148,332	16,867
Atkinson	155,030	2,916	--	27,372	113,972	10,770
Bacon	118,587	--	2,701	39,141	64,155	12,590
Baker	112,966	--	--	31,362	65,470	16,134
Baldwin	117,799	--	--	50,059	67,740	--
Banks	103,526	--	4,013	24,735	74,778	--
Barrow	53,029	--	--	15,507	37,522	--
Bartow	178,500	--	5,583	25,039	131,128	16,750
Ben Hill	95,278	--	2,675	23,062	64,190	5,351
Berrien	181,290	--	7,835	49,008	108,008	16,439
Bibb	86,441	--	7,679	23,038	55,724	--
Bleckley	61,067	--	4,014	20,856	32,633	3,564
Brantley	255,092	--	5,826	34,849	170,683	43,734
Brooks	142,780	2,814	8,442	48,518	68,939	14,067
Bryan	236,685	--	12,983	85,066	127,227	11,409
Bulloch	227,709	2,686	19,202	78,370	127,183	268
Burke	281,701	--	3,329	84,692	187,023	6,657
Butts	81,625	--	--	14,978	66,647	--
Calhoun	91,519	--	--	15,669	75,850	--
Camden	298,931	--	7,311	72,321	208,261	11,038
Candler	81,902	--	5,139	15,419	48,371	12,973
Carroll	189,601	--	7,000	52,006	119,330	11,265
Catoosa	49,648	--	--	14,247	22,594	12,807
Charlton	318,444	--	5,631	63,183	235,250	14,380
Chatham	100,946	--	20,675	32,389	46,862	1,020
Chattahoochee	134,768	--	12,239	50,469	63,885	8,175
Chattooga	148,967	--	--	34,599	109,075	5,293
Cherokee	207,548	--	5,749	86,888	104,749	10,162
Clarke	42,686	--	--	10,233	32,453	--
Clay	78,016	--	--	24,547	53,448	21
Clayton	46,309	--	6,036	15,553	18,684	6,036
Clinch	464,955	--	--	60,632	355,086	49,237
Cobb	101,689	--	12,133	44,828	44,728	--
Coffee	229,038	2,905	3,183	46,401	159,117	17,432
Colquitt	135,152	--	6,576	49,867	62,267	16,442
Columbia	137,049	--	24,206	57,253	51,221	4,369
Cook	69,612	--	2,737	27,561	36,251	3,063
Coweta	199,020	--	6,973	102,321	86,239	3,487
Crawford	160,022	2,851	13,569	35,039	104,629	3,934
Crisp	72,117	--	5,364	21,454	42,360	2,939
Dade	76,383	--	5,864	27,400	37,254	5,865
Dawson	116,385	--	11,272	57,260	47,853	--
Decatur	191,911	2,827	11,666	65,603	100,150	11,665
De Kalb	65,834	--	--	20,752	45,082	--
Dodge	193,151	--	10,944	72,476	106,996	2,735
Dooly	87,702	--	--	49,083	35,501	3,118
Dougherty	87,878	--	--	42,008	43,681	2,189
Douglas	93,979	--	890	35,586	57,503	--
Early	152,434	--	--	36,011	105,027	11,396
Echols	257,349	--	--	36,344	190,569	30,436
Effingham	240,622	--	10,533	59,386	163,495	7,208
Elbert	155,962	--	--	33,785	122,177	--
Emanuel	284,136	--	--	60,929	193,716	29,491
Evans	70,827	2,643	178	25,562	39,423	3,021

Continued

Table 5.--Area of commercial forest land, by county and site class,
Georgia, 1982--Continued

County	All classes	Site class				
		1	2	3	4	5
		Acres				
Fannin	195,772	--	22,007	50,927	116,437	6,401
Fayette	73,865	--	16,459	31,372	26,034	--
Floyd	208,131	--	--	41,666	162,179	4,286
Forsyth	83,288	--	--	31,435	44,476	7,377
Franklin	91,424	--	--	15,215	76,209	--
Fulton	168,598	--	20,499	95,371	49,312	3,416
Gilmer	248,891	--	25,064	67,260	135,875	20,692
Glascocock	64,365	--	--	28,524	35,841	--
Glynn	153,208	2,672	2,671	52,776	92,052	3,037
Gordon	129,656	--	--	85	101,480	28,091
Grady	153,624	6,492	8,434	58,852	79,846	--
Greene	197,142	--	7,619	57,868	128,058	3,597
Gwinnett	154,589	--	6,934	70,527	77,128	--
Habersham	129,059	--	5,060	36,518	87,481	--
Hall	151,111	4,396	8,792	61,951	74,389	1,583
Hancock	269,657	--	14,041	122,159	133,457	--
Haralson	137,513	--	--	41,687	92,314	3,512
Harris	242,627	--	15,152	74,536	137,752	15,187
Hart	63,010	--	--	9,594	53,416	--
Heard	150,603	--	6,909	49,814	89,192	4,688
Henry	121,180	--	--	40,265	80,915	--
Houston	119,871	--	14,667	52,488	52,716	--
Irwin	107,357	--	7,956	38,577	52,489	8,335
Jackson	119,467	--	447	49,330	69,690	--
Jasper	188,203	4,251	9,258	95,968	71,359	7,367
Jeff Davis	147,124	--	9	26,867	111,559	8,689
Jefferson	187,730	--	3,587	87,157	89,810	7,176
Jenkins	129,568	3,233	2,604	35,074	82,191	6,466
Johnson	109,097	--	2,723	49,103	51,807	5,464
Jones	215,324	--	16,189	139,582	59,553	--
Lamar	73,634	--	--	18,300	60,334	--
Lanier	87,323	--	2,467	12,191	53,702	18,963
Laurens	313,161	--	11,688	122,158	170,229	9,086
Lee	89,022	--	--	21,047	64,463	3,512
Liberty	255,627	--	10,037	102,364	133,025	10,201
Lincoln	103,263	--	--	47,129	56,134	--
Long	234,556	--	11,383	41,966	152,740	28,467
Lowndes	211,169	--	5,118	61,859	130,386	13,806
Lumpkin	163,275	7,157	8,602	49,390	98,126	--
Macon	115,487	--	--	44,191	47,791	23,505
Madison	100,685	--	3,853	41,188	55,644	--
Marion	186,332	--	--	37,998	102,222	46,112
McDuffie	113,555	--	7,176	44,437	61,942	--
McIntosh	190,233	--	5,552	41,660	129,422	13,599
Meriwether	229,739	--	21,996	103,413	92,297	12,033
Miller	60,038	--	5,117	13,465	38,762	2,694
Mitchell	101,738	3,743	7,484	11,803	63,738	14,970
Monroe	203,356	--	4,113	83,016	112,115	4,112
Montgomery	99,387	--	1,785	38,482	50,881	8,239
Morgan	129,917	--	--	38,330	91,587	--
Murray	148,803	--	--	27,437	95,022	26,344
Muscogee	96,228	--	22,786	17,858	47,804	7,780
Newton	108,559	--	--	46,780	61,779	--
Oconee	69,097	--	--	28,654	40,443	--

Continued

Table 5.--Area of commercial forest land, by county and site class,
Georgia, 1982--Continued

County	All classes	Site class				
		1	2	3	4	5
		Acres				
Oglethorpe	220,615	--	8,586	87,086	124,943	--
Paulding	158,618	--	--	14,433	123,285	20,900
Peach	39,376	--	--	6,430	32,946	--
Pickens	121,845	--	6,712	10,162	104,971	--
Pierce	142,128	--	4,980	37,525	76,755	22,868
Pike	82,514	--	2,575	14,661	58,803	6,475
Polk	141,017	--	3,614	25,176	90,666	21,561
Pulaski	71,990	--	3,112	17,294	48,473	3,111
Putnam	178,396	--	6,466	96,178	70,713	5,039
Quitman	84,886	--	12,612	30,466	41,808	--
Rabun	207,055	8,674	19,948	52,226	117,532	8,675
Randolph	165,996	--	--	54,121	108,150	3,725
Richmond	117,350	--	9,145	32,303	69,830	6,072
Rockdale	38,501	--	3,703	15,892	18,906	--
Schley	70,320	--	3,411	41,484	25,425	--
Screven	239,148	5,881	20,422	65,745	135,340	11,760
Seminole	50,967	--	--	9,126	27,148	14,693
Spalding	68,409	--	--	41,894	26,515	--
Stephens	85,254	--	--	27,824	57,430	--
Stewart	247,798	--	24,741	117,648	99,252	6,157
Sumter	117,675	2,970	17,921	35,446	58,367	2,971
Talbot	225,230	--	--	55,289	154,656	15,285
Taliaferro	106,959	--	10,182	36,320	57,626	2,831
Tattnall	185,510	--	14,004	64,957	84,036	22,513
Taylor	185,480	--	--	47,800	72,565	65,115
Telfair	197,059	6	15,656	76,920	88,618	15,859
Terrell	91,348	--	7,154	25,043	59,151	--
Thomas	179,048	--	33,935	71,375	63,445	10,293
Tift	58,464	--	2,742	19,489	36,233	--
Toombs	118,673	--	7,418	27,142	78,933	5,180
Towns	95,822	5,663	9,872	28,302	39,414	12,571
Treutlen	83,840	--	--	33,367	50,473	--
Troup	192,707	--	13,242	73,173	106,292	--
Turner	82,436	--	3,336	31,645	37,450	10,005
Twiggs	138,194	--	3,856	39,999	140,484	3,855
Union	168,870	4,453	16,514	57,434	90,469	--
Upson	158,030	--	2,603	37,002	104,798	13,627
Walker	179,273	--	--	26,275	97,151	55,847
Walton	120,798	--	3,418	79,341	38,039	--
Ware	340,739	--	2,450	56,168	235,973	46,148
Warren	125,299	--	3,027	57,408	64,864	--
Washington	292,360	--	3,844	162,721	125,795	--
Wayne	338,827	--	5,426	69,515	202,790	61,096
Webster	78,727	--	4,908	29,211	44,608	--
Wheeler	132,995	2,480	4,959	31,318	94,238	--
White	118,988	3,995	4,465	49,344	48,259	12,925
Whitfield	118,610	--	--	21,577	90,917	6,116
Wilcox	146,691	--	83	69,733	68,243	8,632
Wilkes	232,534	--	6,708	91,065	134,761	--
Wilkinson	241,625	--	4,037	65,332	172,256	--
Worth	156,223	--	4,328	46,076	90,046	15,773
Total	23,733,684	85,708	971,341	7,398,436	13,895,937	1,382,262

Table 6.--Area of commercial forest land, by county and stocking classes of growing-stock trees, Georgia, 1982

County	All classes	Stocking percentage ^a				
		> 130	100-130	60-99	16.7-59	< 16.7
		Acres				
Appling	220,632	5,623	85,094	76,366	34,005	19,544
Atkinson	155,030	--	38,139	78,304	27,818	10,769
Bacon	118,587	2,242	46,499	38,225	26,219	5,402
Baker	112,966	7,160	20,153	48,453	26,444	10,756
Baldwin	117,799	755	39,558	64,153	13,333	--
Banks	103,526	--	33,167	53,242	17,117	--
Barrow	53,029	--	18,949	24,786	6,196	3,098
Bartow	178,500	11,167	53,990	91,764	16,373	5,206
Ben Hill	95,278	5,351	17,882	54,973	9,044	8,028
Berrien	181,290	19,764	78,560	57,922	16,441	8,603
Bibb	86,441	7,680	14,586	34,556	29,619	--
Bleckley	61,067	--	19,427	26,337	15,303	--
Brantley	255,092	2,886	74,618	116,264	49,671	11,653
Brooks	142,780	14,069	40,609	54,341	28,134	5,627
Bryan	236,685	8,835	77,344	93,016	54,861	2,629
Bulloch	227,709	8,217	55,654	113,506	47,646	2,686
Burke	281,701	12,962	87,593	117,441	52,232	11,473
Butts	81,625	8,987	24,458	30,185	14,979	3,016
Calhoun	91,519	5,007	33,200	35,539	17,770	3
Camden	298,931	23,654	113,227	113,162	36,272	12,616
Candler	81,902	2,570	22,672	17,989	30,962	7,709
Carroll	189,601	3,405	45,431	123,691	13,669	3,405
Catoosa	49,648	--	--	36,841	12,807	--
Charlton	318,444	14,455	123,081	121,402	38,889	20,617
Chatham	100,946	4,779	24,633	44,589	21,212	5,733
Chattahoochee	134,768	8,171	18,703	60,871	41,575	5,448
Chattooga	148,967	--	37,434	73,061	30,341	8,131
Cherokee	207,548	11,206	72,513	112,625	11,204	--
Clarke	42,686	--	14,041	23,651	4,994	--
Clay	78,016	--	16,187	33,940	27,889	--
Clayton	46,309	6,499	12,072	27,738	--	--
Clinch	464,955	28,260	139,982	183,186	98,560	14,967
Cobb	101,689	13,041	54,175	34,473	--	--
Coffee	229,038	2,905	68,002	58,202	74,179	25,750
Colquitt	135,152	13,152	26,851	55,898	39,251	--
Columbia	137,049	4,368	49,660	57,230	21,422	4,369
Cook	69,612	--	25,162	33,165	8,548	2,737
Coweta	199,020	--	110,648	67,452	13,946	6,974
Crawford	160,022	3,933	43,174	75,743	37,172	--
Crisp	72,117	10,728	25,980	21,712	11,016	2,681
Dade	76,383	--	15,671	48,935	11,777	--
Dawson	116,385	--	23,540	69,163	23,682	--
Decatur	191,911	2,826	71,423	84,591	30,064	3,007
De Kalb	65,834	8,412	26,360	25,454	2,804	2,804
Dodge	193,151	2,736	40,986	98,844	41,037	9,548
Dooly	87,702	3,144	16,769	30,114	31,440	6,235
Dougherty	87,878	6,669	13,982	38,457	28,770	--
Douglas	93,979	4,120	26,692	46,485	16,682	--
Early	152,434	5,699	60,181	75,132	8,573	2,849
Echols	257,349	5,481	90,272	108,393	47,249	5,954
Effingham	240,622	5,267	74,626	79,640	65,289	15,800
Elbert	155,962	--	48,731	85,390	21,841	--
Emanuel	284,136	10,751	52,765	121,430	75,043	24,147
Evans	70,827	4,795	12,083	27,895	26,054	--

Continued

Table 6.--Area of commercial forest land, by county and stocking classes of growing-stock trees, Georgia, 1982--Continued

County	All classes	Stocking percentage ^a				
		> 130	100-130	60-99	16.7-59	< 16.7
		Acres				
Fannin	195,772	4,602	45,814	105,435	39,921	--
Fayette	73,865	11,254	15,754	36,444	10,413	--
Floyd	208,131	--	58,139	117,532	28,175	4,285
Forsyth	83,288	9,409	25,695	26,123	18,390	3,671
Franklin	91,424	111	12,554	64,619	14,140	--
Fulton	168,598	13,667	89,282	58,817	6,832	--
Gilmer	248,891	--	45,376	147,811	55,704	--
Glascocock	64,365	--	14,514	11,239	38,612	--
Glynn	153,208	27,659	37,281	52,333	24,992	10,943
Gordon	129,656	11,188	15,466	91,786	9,120	2,096
Grady	153,624	--	37,817	74,913	40,894	--
Greene	197,142	12,214	77,102	89,459	18,367	--
Gwinnett	154,589	14,588	38,143	81,053	20,805	--
Habersham	129,059	5,060	52,799	55,897	15,303	--
Hall	151,111	8,792	45,258	60,311	23,562	13,188
Hancock	269,657	6,951	109,062	118,542	31,557	3,545
Haralson	137,513	3,283	46,377	56,245	28,096	3,512
Harris	242,627	3,789	74,542	126,414	37,882	--
Hart	63,010	--	9,594	39,025	14,391	--
Heard	150,603	--	62,032	77,941	10,630	--
Henry	121,180	9,542	35,641	63,378	12,619	--
Houston	119,871	9,539	44,333	45,949	16,871	3,179
Irwin	107,357	16,289	25,085	44,137	16,290	5,556
Jackson	119,467	3,610	50,742	38,745	26,370	--
Jasper	188,203	14,445	45,338	105,154	20,150	3,116
Jeff Davis	147,124	5,803	42,945	38,451	59,925	--
Jefferson	187,730	7,175	40,044	104,631	32,292	3,588
Jenkins	129,568	7,812	28,741	64,688	28,327	--
Johnson	109,097	8,187	30,007	57,270	13,633	--
Jones	215,324	6,317	52,260	124,890	24,874	6,983
Lamar	78,634	--	33,194	17,872	27,568	--
Lanier	87,323	4,885	22,205	43,252	12,143	4,838
Laurens	313,161	15,581	85,936	152,411	47,118	12,115
Lee	89,022	--	11,740	56,170	21,112	--
Liberty	255,627	11,932	89,305	95,184	43,333	15,873
Lincoln	103,263	3,454	42,699	38,489	18,621	--
Long	234,556	16,388	100,821	77,225	26,238	13,884
Lowndes	211,169	9,192	62,870	89,865	43,618	5,624
Lumpkin	163,275	15,783	46,204	79,094	22,194	--
Macon	115,487	--	18,215	46,894	39,649	10,729
Madison	100,685	3,293	30,576	49,454	17,362	--
Marion	186,332	4,650	28,699	79,893	48,875	24,215
McDuffie	113,555	5,455	39,962	39,432	28,706	--
McIntosh	190,233	7,480	90,523	55,733	28,733	7,764
Meriwether	229,739	16,951	93,850	81,515	28,495	8,928
Miller	60,038	--	15,891	22,839	18,614	2,694
Mitchell	101,738	8,061	26,317	29,936	37,424	--
Monroe	203,356	--	72,466	103,320	27,570	--
Montgomery	99,387	--	17,943	56,726	15,037	9,681
Morgan	129,917	--	41,847	76,622	11,448	--
Murray	148,803	6,144	51,578	61,724	29,357	--
Muscogee	96,228	7,224	17,329	52,067	15,997	3,611
Newton	108,559	3,667	32,198	54,359	18,335	--
Oconee	69,097	160	20,268	36,472	12,197	--

Continued

Table 6.--Area of commercial forest land, by county and stocking classes of growing-stock trees, Georgia, 1982--Continued

County	All classes	Stocking percentage ^a				
		> 130	100-130	60-99	16.7-59	< 16.7
		Acres				
Oglethorpe	220,615	7,518	89,799	92,155	26,849	4,294
Paulding	158,618	7,216	54,547	72,346	19,947	4,562
Peach	39,376	--	4,247	22,643	12,160	326
Pickens	121,845	6,797	25,407	35,567	54,074	--
Pierce	142,128	4,980	35,048	57,903	31,748	12,449
Pike	82,514	--	25,093	39,774	17,647	--
Polk	141,017	--	36,826	86,122	18,069	--
Pulaski	71,990	3,112	9,336	47,077	12,447	18
Putnam	178,396	3,443	64,729	94,854	15,370	--
Quitman	84,886	--	41,476	28,345	11,086	3,979
Rabun	207,055	4,982	69,002	114,432	18,639	--
Randolph	165,996	3,725	46,753	80,495	35,023	--
Richmond	117,350	--	6,887	58,704	42,319	9,440
Rockdale	38,501	3,703	11,501	23,297	--	--
Schley	70,320	7,374	21,448	27,854	13,644	--
Screven	239,148	23,205	66,199	106,274	43,470	--
Seminole	50,967	--	9,126	14,693	16,128	11,020
Spalding	68,409	6,038	31,483	30,888	--	--
Stephens	85,254	--	39,586	30,789	10,775	4,104
Stewart	247,798	--	111,109	76,761	46,795	13,133
Sumter	117,675	2,970	41,516	47,575	25,614	--
Talbot	225,230	6,691	107,456	84,319	26,764	--
Taliaferro	106,959	--	57,628	24,995	21,505	2,831
Tattnall	185,510	26,512	39,549	64,261	41,462	13,726
Taylor	185,480	6,928	43,742	68,828	40,017	25,965
Telfair	197,059	13,953	67,187	69,967	38,530	7,422
Terrell	91,348	3,577	33,714	35,775	18,282	--
Thomas	179,048	--	32,593	88,672	57,783	--
Tift	58,464	8,228	27,423	11,843	10,970	--
Toombs	118,673	8,547	22,883	44,852	26,076	16,315
Towns	95,822	4,190	19,943	53,454	18,235	--
Treutlen	83,840	--	23,021	39,337	21,482	--
Troup	192,707	--	97,822	88,864	6,021	--
Turner	82,436	10,006	29,068	26,687	16,675	--
Twiggs	188,194	7,366	57,210	90,188	33,430	--
Union	168,870	7,606	37,488	99,657	24,119	--
Upson	158,030	2,603	32,397	78,882	44,148	--
Walker	179,273	--	45,403	111,959	21,911	--
Walton	120,798	6,836	31,491	58,549	20,504	3,418
Ware	340,739	4,511	128,168	132,412	58,266	17,382
Warren	125,299	12,957	32,802	58,919	14,566	6,055
Washington	292,360	10,001	64,959	183,569	29,987	3,844
Wayne	338,827	22,126	101,500	133,700	64,658	16,843
Webster	78,727	1,455	29,209	29,740	10,889	7,434
Wheeler	132,995	11,478	33,701	62,380	22,957	2,479
White	118,988	--	45,354	62,270	8,528	2,836
Whitfield	118,610	6,462	52,071	42,808	11,154	6,115
Wilcox	146,691	11,889	47,233	58,703	25,893	2,973
Wilkes	232,534	31,697	69,529	102,701	28,607	--
Wilkinson	241,625	7,462	89,321	99,327	41,479	4,036
Worth	156,223	4,020	52,431	71,742	21,072	6,958
Total	23,733,684	1,015,481	7,270,976	10,569,605	4,184,073	693,549

^aSee stocking standards on page 10.

Table 7.—Volume of sawtimber and growing stock on commercial forest land, by county and species group, Georgia, 1982

County	Sawtimber					Growing stock				
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
	Thousand board feet					Thousand cubic feet ^a				
Adair	729,248	457,750	90,505	124,791	56,202	259,966	165,060	18,947	57,740	18,219
Albany	369,456	266,089	23,047	73,798	6,522	135,961	88,172	9,092	35,469	3,228
Appling	264,425	190,974	25,756	36,009	11,686	117,976	79,559	9,233	24,260	4,924
Armstrong	496,136	258,707	32,106	26,253	179,070	139,299	66,912	11,174	8,952	52,261
Bartow	406,125	279,417	—	79,283	47,425	138,651	88,867	303	33,034	16,447
Belt	343,132	153,745	—	74,121	115,266	131,043	56,488	327	28,138	46,090
Bolton	234,683	117,826	—	40,060	76,797	76,540	37,280	—	15,441	23,819
Bowling Green	550,633	367,966	—	52,893	129,774	203,288	132,629	—	14,505	56,154
Brunswick	324,681	268,181	7,059	34,505	14,936	98,299	80,905	2,658	9,788	4,948
Buena Vista	738,179	559,508	65,672	90,006	22,993	260,177	161,017	28,530	61,758	8,872
Camden	445,061	267,777	—	106,707	70,577	124,081	62,148	—	39,003	22,930
Candler	266,766	26,630	—	112,988	127,148	79,465	7,484	—	39,682	32,299
Carroll	449,213	242,515	42,892	125,800	38,006	198,500	110,425	17,486	56,720	13,869
Catoosa	621,010	322,755	56,872	162,526	78,857	188,000	78,188	21,656	57,611	30,545
Chatham	1,081,815	731,848	11,797	207,971	130,199	339,840	215,561	5,206	80,522	38,551
Cherokee	1,065,717	569,770	13,025	353,668	129,254	328,479	156,306	4,476	127,906	39,791
Clay	1,078,444	391,963	38,023	399,404	249,054	353,620	113,944	8,476	138,333	92,867
Clarke	309,028	190,818	1,322	62,165	54,723	107,787	60,496	798	20,507	25,986
Cobb	375,790	85,916	56,586	85,248	148,040	128,313	24,984	16,365	38,235	48,729
Columbia	994,006	421,218	102,751	236,622	233,415	369,004	174,599	24,284	105,140	64,981
Conley	317,805	159,161	11,542	119,823	27,279	104,072	40,115	2,351	49,494	12,112
Crawford	485,143	180,347	—	120,283	184,513	201,910	76,583	—	45,102	80,225
Cumming	184,641	52,053	—	26,690	105,898	61,013	11,371	—	12,683	36,959
Dade	662,997	514,235	59,925	73,586	15,251	291,164	230,415	21,768	33,598	5,383
Dawson	562,254	296,123	17,994	130,865	117,272	171,081	75,093	6,481	55,654	33,853
De Kalb	692,752	506,968	—	131,930	53,854	184,194	105,320	—	56,355	22,519
Douglas	321,568	144,426	—	46,971	130,171	137,429	59,569	—	20,632	57,228
Early	960,579	580,240	—	123,821	256,518	306,532	152,197	—	59,049	95,286
Effingham	188,346	79,688	—	71,699	36,959	55,590	23,779	—	19,952	11,859
Elberton	183,079	84,336	—	37,293	61,450	66,199	30,684	—	14,298	21,217
Evans	209,034	144,796	—	23,603	40,635	65,837	37,556	—	9,681	18,600
Farmer	768,074	419,332	158,126	158,590	32,026	397,303	228,038	74,128	87,756	7,381
Fayette	734,727	581,659	—	76,463	76,605	205,090	156,015	—	24,630	24,445
Floyd	546,278	381,688	27,998	104,042	32,550	219,465	148,381	9,883	48,672	12,529
Franklin	509,261	411,379	—	50,296	47,586	165,161	124,275	6,169	22,172	12,545
Gwinnett	881,803	645,386	—	136,550	99,867	238,108	153,253	200	47,970	36,685
Hall	306,838	195,653	14,936	39,761	56,488	100,983	51,368	4,468	25,547	19,600
Hamilton	646,057	264,945	—	202,268	178,844	221,311	84,103	—	67,240	69,968
Hartwell	247,988	140,415	—	87,657	19,916	103,696	56,704	—	36,314	10,678
Hawkins	385,463	261,319	16,606	51,991	55,547	123,820	77,181	4,337	21,490	20,812
Heard	212,067	17,413	4,361	37,546	152,747	91,262	9,209	1,406	21,125	59,522
Henry	341,248	104,546	2,583	42,009	192,110	151,077	62,214	1,151	19,596	68,116
Holston	818,392	600,785	28,859	86,435	102,313	238,796	152,944	5,988	41,960	37,904
Irwin	469,990	278,344	—	44,416	147,230	129,040	72,012	—	13,809	43,219
Jackson	762,135	498,974	15,915	158,765	88,481	246,807	156,872	3,309	58,556	28,070
Jasper	399,090	180,133	62,032	99,096	57,829	115,692	46,826	13,615	35,193	20,058
Jefferson	558,651	302,259	112,136	41,413	102,843	158,682	82,482	28,724	15,255	32,221
Johnson	389,872	136,897	—	88,438	164,537	136,270	45,271	—	30,818	60,181
Kane	540,698	147,656	20,487	166,299	206,256	193,327	58,002	9,260	62,088	63,977
Kaufman	378,771	193,646	73,607	100,155	11,363	207,780	108,965	31,913	58,076	8,826
Kenneth	1,018,114	631,500	20,898	170,994	194,722	324,471	177,583	7,071	73,061	66,756
Kirk	396,422	192,513	—	89,253	114,656	144,201	64,513	2,022	25,423	52,243
Knox	955,035	613,055	9,658	238,223	94,099	310,318	181,483	1,942	99,317	27,576
Lincoln	297,439	142,522	15,262	103,868	35,787	104,106	37,382	5,170	51,126	10,428

Continued

Table 7.—Volume of sawtimber and growing stock on commercial forest land, by county and species group, Georgia, 1982—Continued

County	Sawtimber					Growing stock				
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
----- Thousand board feet -----					----- Thousand cubic feet ^a -----					
Fannin	779,823	115,798	129,685	61,774	472,566	268,509	48,565	27,687	31,001	161,2
Fayette	372,912	124,363	—	134,396	114,153	115,048	33,299	—	49,443	32,
Floyd	753,751	575,769	—	28,560	149,422	252,461	155,032	—	13,860	83,5
Forsyth	323,848	191,053	—	43,141	89,654	119,963	67,572	—	17,163	35,2
Franklin	300,639	93,147	1,569	51,552	154,371	113,243	36,663	1,310	20,089	55,11
Fulton	1,273,516	664,756	—	249,634	359,126	368,364	186,186	—	77,697	104,41
Gilmer	1,003,900	148,503	156,265	245,712	453,420	336,521	54,250	31,847	84,874	165,51
Glascok	181,096	96,635	—	25,927	58,534	61,650	29,789	—	12,908	18,91
Glynn	603,801	219,829	73,291	122,710	187,971	191,512	74,578	19,722	42,941	54,21
Gordon	259,829	145,782	—	5,722	108,325	124,059	73,187	—	6,486	44,31
Grady	871,815	567,034	—	122,405	182,376	216,681	121,476	—	43,138	52,01
Greene	635,535	501,533	—	80,109	53,893	236,502	162,150	341	42,965	31,04
Gwinnett	807,137	470,341	—	174,703	162,093	239,284	135,079	—	54,905	49,31
Habersham	580,345	306,209	19,427	40,967	213,742	205,775	93,360	4,864	21,915	85,61
Hall	452,927	176,073	—	75,088	201,766	179,614	82,200	—	31,274	66,14
Hancock	1,024,431	782,050	—	148,241	94,140	322,923	223,819	—	57,092	42,01
Haralson	534,202	293,294	—	101,260	139,648	176,287	82,120	—	39,680	54,41
Harris	702,471	437,608	1,348	136,474	127,041	243,941	129,593	332	63,052	50,91
Hart	147,462	13,880	—	16,454	117,128	71,088	10,570	—	12,913	47,60
Heard	331,444	208,334	—	88,194	34,916	117,689	72,229	—	27,605	17,85
Henry	484,273	325,556	—	59,648	99,069	169,281	103,030	—	27,999	38,25
Houston	570,899	172,854	4,261	189,065	204,719	162,839	43,568	748	66,974	51,54
Irwin	569,084	403,306	51,337	98,944	15,497	175,358	113,432	14,925	42,016	4,98
Jackson	530,373	333,013	3,126	90,648	103,586	170,011	99,140	533	34,053	36,28
Jasper	907,978	644,242	3,125	128,958	131,653	270,194	157,848	1,415	54,492	56,43
Jeff Davis	552,145	459,051	16,636	38,746	37,712	166,189	132,598	4,924	16,230	12,43
Jefferson	776,699	281,642	47,503	288,348	159,206	252,390	76,501	12,896	102,707	60,28
Jenkins	579,067	207,412	32,297	173,074	166,284	193,950	70,102	7,800	62,590	53,45
Johnson	379,634	190,251	—	124,622	64,761	128,174	64,841	—	47,310	16,02
Jones	1,163,828	935,566	—	133,934	94,328	340,536	243,053	—	58,722	38,76
Lamar	300,854	133,923	—	89,436	77,495	93,262	37,375	—	27,977	27,91
Lanier	191,032	125,380	45,331	17,243	3,078	72,466	38,705	14,041	18,267	1,45
Laurens	1,456,510	806,829	31,971	307,769	309,941	465,130	228,763	8,028	136,018	92,32
Lee	459,936	180,755	15,261	83,416	180,504	129,466	47,762	2,732	24,474	54,49
Liberty	1,288,104	775,100	33,026	233,850	246,128	362,645	219,809	8,744	77,327	56,76
Lincoln	435,686	397,035	—	7,681	30,970	124,172	96,733	—	6,046	21,39
Long	966,578	403,208	105,456	209,487	248,427	298,714	133,094	28,425	80,345	56,85
Lowndes	649,151	252,952	72,513	186,324	137,362	219,929	79,995	20,271	77,342	42,32
Lumpkin	792,979	195,037	122,495	112,618	362,829	274,006	90,271	27,148	35,945	120,64
Macon	439,923	129,412	—	147,932	162,579	132,723	33,147	—	50,156	49,42
Madison	285,549	178,253	—	43,877	63,419	106,927	59,529	287	27,685	19,42
Marion	394,425	154,572	—	135,130	104,723	137,622	44,973	—	48,900	43,74
McDuffie	631,043	447,746	—	110,137	73,160	177,429	117,916	—	33,864	25,64
McIntosh	709,685	308,897	71,327	127,978	201,483	244,559	114,905	19,265	58,127	52,26
Meriwether	553,707	292,434	—	110,423	150,850	211,785	106,522	334	54,495	50,43
Miller	251,618	110,812	9,794	43,796	87,216	69,127	27,147	4,510	16,889	20,58
Mitchell	357,344	263,858	17,054	41,150	35,282	119,103	79,652	3,709	19,121	16,62
Monroe	663,034	333,147	—	113,815	216,072	241,025	106,588	—	61,043	73,39
Montgomery	388,453	222,655	2,093	86,551	77,154	118,279	69,837	373	25,247	22,82
Morgan	463,759	325,507	—	90,358	47,894	170,938	99,519	—	47,528	23,89
Murray	522,197	234,936	51,917	33,303	202,041	195,158	86,422	10,606	18,323	79,80
Muscogee	535,805	356,465	—	120,038	59,302	137,458	78,917	—	39,647	18,89
Newton	494,182	325,535	—	56,969	111,678	150,070	89,289	—	21,642	39,13
Oconee	326,671	196,340	—	70,164	60,167	118,165	55,430	—	29,047	33,68

Continued

Table 7.—Volume of sawtimber and growing stock on commercial forest land, by county and species group, Georgia, 1982—Continued

County	Sawtimber					Growing stock				
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
	Thousand board feet					Thousand cubic feet ^a				
Cherokee	895,062	449,938	10,198	261,126	173,800	300,614	143,174	2,469	96,277	58,694
Chickamauga	390,534	173,456	—	87,101	129,977	165,006	77,970	—	34,153	52,883
Clatsop	90,772	54,467	—	27,634	8,671	36,198	18,863	—	10,210	7,125
Columbia	437,670	187,369	29,867	79,134	141,300	150,212	68,828	5,391	24,940	51,053
Conley	507,507	328,622	59,649	111,250	7,986	182,393	106,486	18,398	51,482	6,027
Cordeiro	338,761	159,117	—	90,243	89,401	111,289	39,349	—	32,234	39,706
Cumming	328,340	184,286	—	22,184	121,870	127,066	69,092	760	7,420	49,794
Dade	289,308	72,170	31,882	97,434	87,822	89,245	26,420	5,847	27,923	29,055
Dawson	670,524	553,246	1,997	32,987	82,294	206,180	132,704	873	31,674	40,929
DeKalb	363,880	247,261	—	64,165	52,454	110,887	62,816	—	26,835	21,236
Douglas	1,215,900	268,495	350,723	143,725	452,957	371,399	78,345	73,406	57,901	161,747
Early	747,886	302,403	—	214,298	231,185	228,634	79,380	—	81,185	68,069
Evans	377,391	208,631	13,996	113,254	41,510	116,615	51,229	2,852	43,898	18,636
Fayette	211,688	167,183	—	29,120	15,385	61,883	44,561	223	8,899	8,200
Floyd	246,387	133,765	2,101	65,950	44,571	92,428	38,568	444	34,197	19,219
Gwinnett	1,549,960	545,242	145,337	596,698	262,683	424,226	132,124	31,910	178,672	81,520
Hall	151,475	104,418	11,393	17,400	18,264	41,391	22,450	2,677	8,786	7,478
Haralson	446,727	341,094	—	90,159	15,474	128,530	85,451	—	34,864	8,215
Hawkins	355,858	149,027	—	30,859	175,972	125,473	58,385	—	13,072	54,016
Henry	539,745	318,434	—	74,410	146,901	195,670	104,969	—	34,546	56,155
Iredell	522,504	290,233	11,016	109,024	112,231	165,948	83,092	1,861	45,769	35,226
Jasper	546,657	292,888	7,056	137,454	109,259	211,598	104,233	1,275	54,989	51,101
Jefferson	416,557	321,619	—	37,164	57,774	147,769	103,914	—	17,699	26,156
Johnson	687,148	418,866	18,927	146,349	103,006	218,833	127,474	7,029	59,219	25,111
Kane	402,032	188,830	—	107,384	105,818	149,430	69,940	982	40,785	37,723
Kaufman	969,011	574,345	37,048	155,106	202,512	298,282	180,065	8,005	59,647	50,565
Laurens	366,235	84,651	12,344	216,874	52,366	132,312	21,781	3,419	84,599	22,513
Liberty	1,088,405	822,128	—	77,119	189,158	247,091	166,981	—	30,931	49,179
Lincoln	339,358	239,003	20,475	56,822	23,058	106,653	61,679	6,446	31,870	6,658
Long	303,468	166,578	3,399	98,458	35,033	128,573	69,957	756	47,644	10,216
Lumpkin	440,534	131,268	8,272	54,933	246,061	144,083	49,863	1,374	21,258	71,588
Madison	258,089	204,794	—	34,759	18,536	89,819	64,288	—	19,175	6,356
Macon	641,978	397,716	—	148,169	96,093	222,898	123,627	291	52,638	46,342
Marion	453,319	305,482	90,101	51,099	6,637	124,495	77,418	23,451	19,547	4,079
Martin	780,299	298,374	—	276,604	205,321	253,540	96,009	—	85,141	72,390
McClintock	828,291	103,754	122,431	87,293	514,813	263,293	42,106	24,496	34,405	162,286
Meriwether	526,376	187,415	—	172,495	166,466	175,054	64,512	—	57,026	53,516
Milledgeville	458,134	119,978	—	56,833	281,323	185,189	53,600	503	23,160	107,926
Monroe	642,906	417,100	—	117,479	108,327	184,845	101,053	—	47,574	36,218
Morgan	621,749	490,155	59,484	60,371	11,739	249,584	184,363	24,363	37,006	3,852
Murray	462,895	343,392	—	52,270	67,233	168,246	101,408	—	31,751	35,087
Newbern	814,744	463,351	2,067	192,879	156,447	312,729	154,541	497	86,254	71,437
Oglethorpe	765,741	423,802	122,816	161,754	57,369	304,082	184,651	36,884	69,239	13,308
Polk	250,141	98,121	—	84,949	67,071	69,456	20,276	—	23,912	25,268
Quitman	524,197	284,379	1,920	185,372	52,526	166,946	94,535	1,246	54,494	16,671
Rockdale	512,502	159,667	28,709	110,194	213,932	187,191	69,803	5,709	36,056	75,623
Spalding	523,599	295,379	—	74,283	153,937	180,181	95,109	—	24,715	60,357
Stewart	541,085	205,759	64,735	149,997	120,594	194,480	89,884	14,650	55,981	33,965
Sumter	1,358,355	942,504	2,216	202,909	210,726	406,779	247,691	788	86,629	71,671
Taliaferro	972,072	365,119	96,556	298,300	212,097	322,263	114,011	19,130	116,843	72,279
Telford	579,076	432,214	24,663	82,211	39,988	184,945	134,648	5,196	27,989	17,112
Thomas	89,242,080	48,508,925	3,749,824	17,670,403	19,312,928	29,572,196	14,850,588	1,031,785	6,979,098	6,710,725

Factors for converting to cords are shown on page 10.

Table 8.—Net annual growth of sawtimber and growing stock on commercial forest land, by county and species group, Georgia, 1981

County	Sawtimber					Growing stock				
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
Thousand board feet					Thousand cubic feet					
Appling	60,883	51,059	2,252	5,884	1,688	18,977	16,095	407	1,751	
Atkinson	29,423	26,334	742	2,184	163	9,094	7,777	174	911	
Bacon	31,189	26,582	1,118	1,950	1,539	8,804	7,416	349	810	
Baker	35,362	23,994	916	1,033	9,419	8,178	4,865	304	303	2
Baldwin	34,610	27,873	—	4,650	2,087	8,796	6,925	16	1,192	
Banks	30,564	14,670	—	7,846	8,048	6,964	3,234	19	1,655	2
Barrow	18,755	9,458	—	3,601	5,696	4,072	2,341	—	818	
Bartow	37,125	28,841	—	2,012	6,272	10,355	7,782	—	874	1
Ben Hill	27,502	23,582	245	2,742	933	9,235	8,364	90	357	
Berrien	68,373	58,393	4,011	4,606	1,363	17,699	13,579	1,005	2,466	
Bibb	27,434	16,363	—	8,353	2,718	6,585	4,255	—	1,336	
Bleckley	16,132	3,199	—	7,790	5,143	3,235	523	—	1,363	1
Brantley	44,623	37,710	1,220	4,193	1,500	14,366	11,784	550	1,487	
Brooks	41,576	25,922	2,100	6,131	7,423	9,899	5,439	725	1,785	1
Bryan	82,541	69,656	330	5,805	6,750	22,258	18,449	108	1,963	1
Bulloch	70,185	50,755	384	14,335	4,711	17,520	11,517	98	3,981	1
Burke	84,397	45,139	2,701	21,244	15,313	19,082	8,397	366	5,501	4
Butts	29,589	23,216	58	2,939	3,376	7,775	4,972	57	878	1
Calhoun	24,962	7,211	2,500	4,245	11,006	5,968	1,782	803	1,361	2
Candler	72,888	54,880	3,147	7,589	7,272	25,006	17,713	646	3,805	2
Candler	23,624	17,791	257	4,120	1,456	4,641	2,703	41	1,292	
Carroll	47,544	24,288	—	6,694	16,562	12,592	6,719	—	2,121	3
Catoosa	7,028	2,346	—	1,005	3,677	1,929	382	—	556	
Charlton	62,144	56,545	1,823	3,057	719	28,562	26,176	598	1,068	
Chatham	39,704	25,052	947	7,082	6,623	9,828	6,342	185	1,931	1
Chattahoochee	36,016	26,006	—	6,740	3,270	7,983	4,968	—	1,895	1
Chattooga	20,422	12,824	—	2,724	4,874	6,992	4,058	—	1,046	1
Cherokee	54,951	31,479	—	14,623	8,849	13,725	7,677	—	3,065	2
Clarke	9,998	4,721	—	3,304	1,973	2,993	1,499	—	926	
Clay	20,283	13,370	—	2,337	4,576	4,051	2,361	—	459	1
Clayton	16,843	11,225	—	1,537	4,081	4,093	2,226	—	775	1
Clinch	75,388	62,513	6,190	5,474	1,211	32,416	27,713	2,008	2,415	
Cobb	62,534	54,909	—	4,820	2,805	12,446	9,946	—	1,596	
Coffee	66,862	59,943	814	4,751	1,354	17,409	14,372	210	2,152	
Colquitt	42,464	38,770	121	1,385	2,188	13,578	11,538	573	743	
Columbia	62,372	48,505	52	7,489	6,326	13,412	9,584	6	2,070	1
Cook	29,962	22,388	348	3,659	3,567	6,956	4,289	93	1,090	1
Coweta	51,229	24,731	—	12,352	14,146	12,773	6,018	—	3,254	3
Crawford	24,402	15,238	—	5,900	3,264	8,703	6,521	—	1,679	
Crisp	46,637	37,027	562	4,320	4,728	8,680	6,743	110	962	
Dade	10,049	1,661	454	1,282	6,652	3,513	542	78	1,289	1
Dawson	22,361	10,501	311	2,715	8,834	9,073	4,819	124	1,965	2
Decatur	61,785	49,084	1,307	5,744	5,650	14,881	10,679	233	1,941	2
De Kalb	27,811	18,514	—	3,249	6,048	6,376	4,134	—	644	1
Dodge	74,012	63,028	627	5,114	5,243	16,465	12,784	102	2,115	1
Dooly	24,158	14,108	1,431	5,499	3,120	7,575	4,215	283	1,406	1
Dougherty	47,544	32,494	4,815	1,809	8,426	8,396	5,457	836	525	1
Douglas	29,935	14,928	—	4,542	10,465	7,425	3,125	—	1,609	2
Early	40,077	22,284	1,316	6,994	9,483	13,085	6,720	354	2,475	3
Echols	33,541	22,372	3,085	4,240	3,844	18,181	14,837	821	2,041	
Effingham	90,811	69,941	783	7,078	13,009	20,137	14,922	124	2,062	3
Elbert	30,367	15,840	909	5,479	8,139	9,216	4,987	199	1,288	2
Emanuel	81,671	64,786	220	12,532	4,133	20,058	14,882	35	3,719	1
Evans	21,324	14,568	545	4,940	1,271	4,766	3,010	83	1,286	

Contin

Table 8.—Net annual growth of sawtimber and growing stock on commercial forest land, by county and species group, Georgia, 1981—Continued

County	Sawtimber					Growing stock				
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
	Thousand board feet					Thousand cubic feet				
Cherokee	39,222	7,934	7,700	5,181	18,407	10,408	2,947	1,232	1,456	4,773
Chickamauga	19,921	8,031	—	7,116	4,774	6,515	2,957	—	2,114	1,444
Chitasha	35,872	27,784	—	1,199	6,889	11,082	7,055	—	981	3,046
Cobb	25,556	17,593	—	3,555	4,408	7,322	4,376	—	1,204	1,742
Columbia	24,914	12,021	90	2,497	10,306	5,550	2,063	78	995	2,414
Conley	94,855	63,617	—	16,315	14,923	20,124	11,776	—	4,479	3,869
Crawford	47,924	8,054	7,910	13,134	18,826	12,809	3,057	1,387	3,615	4,750
Cumming	17,365	12,373	—	2,618	2,374	3,735	2,448	—	454	833
Dade	44,996	28,090	3,569	5,257	8,080	10,936	7,612	731	828	1,765
Dawson	18,155	13,405	—	435	4,315	7,683	5,920	—	302	1,461
DeKalb	63,415	43,233	—	8,157	12,025	12,790	8,076	—	1,903	2,811
Dodge	77,137	62,422	108	8,742	5,865	16,002	11,788	11	2,464	1,739
Douglas	61,889	40,914	—	11,579	9,396	13,403	8,338	—	2,983	2,082
Early	29,827	16,409	2,072	1,861	9,485	8,053	3,447	189	1,908	2,509
Effingham	40,015	23,423	—	5,990	10,602	10,653	6,234	152	1,560	2,707
Fannin	91,161	75,317	—	8,889	6,955	20,445	15,490	—	2,694	2,261
Fayette	35,981	22,955	—	6,303	6,723	10,320	5,224	—	2,392	2,704
Floyd	60,952	45,109	64	9,267	6,512	16,211	9,866	11	3,559	2,775
Franklin	11,229	1,957	—	1,583	7,689	3,853	1,040	72	586	2,155
Gordon	31,514	23,206	—	5,714	2,594	7,529	5,359	—	1,347	823
Grady	44,868	35,420	—	3,655	5,793	10,807	7,338	—	1,473	1,996
Gwinnett	29,446	11,992	199	9,124	8,131	7,526	2,438	30	2,303	2,755
Hall	45,248	39,201	1,957	3,417	673	11,553	9,545	362	1,371	275
Hamilton	42,636	28,639	78	5,206	8,713	8,956	5,294	13	1,851	1,798
Hartwell	68,456	50,217	139	10,002	8,098	16,730	10,452	76	3,106	3,096
Heard	47,577	44,495	439	905	1,738	11,600	9,979	129	778	714
Henry	55,251	31,451	2,433	13,471	7,896	12,877	5,574	738	3,672	2,893
Holston	45,750	29,200	810	6,427	9,313	11,265	6,343	149	2,359	2,414
Irwin	33,233	23,637	—	6,038	3,558	9,292	7,061	—	1,426	805
Jackson	99,317	78,971	—	13,622	6,724	19,840	15,554	—	2,578	1,708
Jefferson	20,281	13,223	—	3,986	3,072	4,672	2,552	—	1,029	1,091
Johnson	16,515	12,833	1,737	1,821	124	5,285	4,006	340	852	87
Kane	110,083	78,846	764	14,303	16,170	27,591	17,824	140	5,430	4,197
Kaufman	33,065	18,428	675	3,554	10,408	6,794	3,478	101	890	2,325
Kelley	89,173	72,803	1,437	6,642	8,291	21,182	16,849	211	2,221	1,901
Kennedy	36,161	31,877	—	638	3,646	7,122	5,623	—	340	1,159
Kirk	66,450	49,395	3,235	5,967	7,853	17,361	12,475	843	2,350	1,693
Knox	48,644	28,978	2,415	7,164	10,087	13,618	8,021	491	3,139	1,967
Lamar	44,419	21,389	7,575	4,100	11,355	10,660	4,963	1,301	1,378	3,018
Lane	24,305	8,988	—	5,949	9,368	5,893	2,179	—	1,483	2,231
Laurens	25,306	16,964	—	3,779	4,563	6,192	3,717	21	1,601	853
Lee	28,811	15,675	—	7,273	5,863	7,552	3,541	—	2,093	1,918
Liberty	46,697	36,629	—	7,087	2,981	11,277	8,606	—	1,483	1,188
Limestone	55,638	40,936	2,330	5,006	7,366	16,092	11,664	653	1,881	1,894
Lowndes	50,499	36,197	—	7,661	6,641	13,319	8,396	22	2,486	2,415
Madison	15,659	9,974	361	1,718	3,606	3,799	2,281	253	550	715
Macon	29,484	23,340	391	1,849	3,904	10,023	8,233	71	667	1,052
Maguire	61,408	39,502	—	8,332	13,574	15,573	9,085	—	3,167	3,321
Manly	34,078	28,595	46	2,563	2,874	7,306	5,834	7	781	684
Martin	45,006	33,409	—	6,296	5,301	10,400	7,071	—	2,111	1,218
McClain	27,530	15,597	2,244	1,044	8,645	9,185	5,281	619	1,010	2,275
Meigs	32,784	24,613	—	6,389	1,782	7,020	4,541	—	1,787	692
Meritt	40,251	29,483	—	4,146	6,622	8,235	5,498	38	921	1,778
Milledgeville	27,811	12,912	—	3,863	11,036	6,437	2,784	—	1,594	2,059

Continued

Table 8.—Net annual growth of sawtimber and growing stock on commercial forest land, by county and species group, Georgia, 1981—Continued

County	Sawtimber					Growing stock				
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
	Thousand board feet					Thousand cubic feet				
Oglethorpe	79,701	48,784	401	17,577	12,939	16,978	9,983	100	4,187	2,701
Paulding	39,414	26,242	—	5,383	7,789	12,529	7,649	—	2,340	2,500
Peach	8,113	6,172	—	1,575	366	2,811	1,714	—	445	600
Pickens	30,106	18,585	1,245	3,702	6,574	6,864	4,070	211	1,209	1,300
Pierce	41,956	35,157	1,574	4,163	1,062	10,694	8,545	365	1,430	1,900
Pike	23,747	13,653	—	3,755	6,339	6,090	2,924	—	1,258	4,400
Polk	23,378	14,833	—	1,168	7,377	8,605	5,657	156	430	2,300
Pulaski	17,885	6,647	1,584	3,971	5,683	5,150	2,475	243	1,158	1,200
Putnam	51,725	41,034	89	4,562	6,040	12,318	8,117	49	1,625	2,500
Quitman	32,244	23,177	—	4,612	4,455	5,747	3,454	—	1,163	1,100
Rabun	56,207	14,026	18,162	7,397	16,622	13,607	2,523	3,463	3,139	4,400
Randolph	46,890	24,100	—	9,539	13,251	10,544	5,523	—	2,208	2,800
Richmond	26,983	16,002	667	4,671	5,643	5,834	3,278	107	1,548	900
Rockdale	20,085	16,319	—	1,212	2,554	3,911	3,046	16	444	400
Scley	18,164	11,662	82	3,757	2,663	4,588	2,770	13	922	800
Screven	84,733	43,853	3,919	26,034	10,927	18,490	9,112	735	5,203	3,440
Seminole	11,299	6,526	370	2,059	2,344	2,124	1,255	71	511	280
Spalding	37,634	30,529	—	5,023	2,082	8,062	5,657	—	1,884	520
Stephens	19,627	10,185	—	4,932	4,510	4,722	2,691	—	608	1,420
Stewart	42,385	26,686	—	6,724	8,975	13,156	8,286	—	1,906	2,960
Sumter	49,237	37,638	409	5,315	5,875	10,079	6,580	63	1,615	1,820
Talbot	42,966	30,439	233	7,214	5,080	15,573	9,689	138	2,617	3,120
Taliaferro	36,423	30,455	—	1,943	4,025	9,964	7,356	—	1,145	1,460
Tattnall	52,017	40,880	531	7,091	3,515	12,604	9,766	153	1,785	900
Taylor	40,790	30,019	201	5,899	4,671	10,439	6,964	58	1,441	1,970
Telfair	73,323	59,472	1,359	5,808	6,684	18,615	14,787	242	1,825	1,760
Terrell	25,616	7,994	677	14,131	2,814	6,071	1,595	140	3,038	1,290
Thomas	60,041	48,548	—	3,091	8,402	13,152	9,216	—	1,500	2,430
Tift	27,184	22,568	624	2,806	1,186	6,793	4,816	148	1,434	390
Toombs	27,979	22,442	101	4,208	1,228	9,407	7,399	63	1,582	360
Towns	28,167	10,979	302	9,591	7,295	5,302	2,235	142	1,102	1,820
Treutlen	24,863	22,395	—	1,461	1,007	6,246	5,465	—	527	250
Troup	51,890	35,876	—	8,543	7,471	14,551	9,078	19	2,757	2,690
Turner	29,389	22,915	2,617	3,378	479	8,018	6,157	487	892	480
Twiggs	50,142	27,729	—	10,270	12,143	14,046	8,141	—	2,703	3,200
Union	36,333	10,514	5,790	3,351	16,678	8,709	1,792	1,021	1,741	4,150
Upson	39,891	22,688	—	9,381	7,822	11,724	6,281	—	2,731	2,710
Walker	30,932	11,696	265	5,552	13,419	8,083	3,361	53	1,327	3,340
Walton	44,083	30,283	—	6,343	7,457	9,802	5,573	—	2,413	1,810
Ware	65,776	60,992	2,285	2,075	424	22,832	21,125	629	922	150
Warren	51,338	37,739	—	3,638	9,961	11,142	7,445	—	1,604	2,090
Washington	76,494	51,672	108	12,875	11,839	21,107	14,086	18	3,276	3,720
Wayne	63,474	52,594	3,668	5,161	2,051	25,142	22,004	823	1,636	670
Webster	13,519	4,941	—	5,085	3,493	3,363	1,107	—	896	1,360
Wheeler	41,473	34,513	93	4,708	2,159	9,886	7,772	51	1,419	640
White	26,084	11,769	1,298	5,476	7,541	8,282	4,156	249	1,493	2,380
Whitfield	36,769	23,367	—	7,400	6,002	6,916	4,335	—	1,032	1,540
Wilcox	52,306	35,375	2,945	8,926	5,060	13,372	9,352	535	1,964	1,520
Wilkes	107,480	81,737	72	14,268	11,403	23,712	16,998	64	3,604	3,040
Wilkinson	77,124	39,734	3,766	19,865	13,759	18,105	9,812	604	4,184	3,505
Worth	60,963	51,879	784	6,146	2,154	15,158	12,393	176	1,198	1,390
Total	6,814,048	4,702,287	155,640	944,926	1,011,195	1,756,253	1,154,875	34,689	281,063	285,626

Table 9.—Annual removals of sawtimber and growing stock on commercial forest land, by county and species group, Georgia, 1981

County	Sawtimber					Growing stock				
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
	Thousand board feet					Thousand cubic feet				
Albany	63,009	59,852	1,693	323	1,141	17,777	16,770	571	255	181
Appling	37,161	37,161	—	—	—	8,865	8,751	—	114	—
Armstrong	28,471	28,471	—	—	—	9,982	9,884	—	98	—
Bartow	8,159	7,173	—	—	986	3,517	2,716	175	—	626
Bolton	43,142	41,578	—	—	1,564	9,291	8,774	—	—	517
Brunswick	32,983	22,588	—	4,142	6,253	9,002	6,308	—	1,309	1,385
Butts	11,388	10,169	—	1,219	—	2,346	2,179	—	167	—
Calhoun	28,970	22,748	—	2,443	3,779	6,330	4,664	—	515	1,151
Chatham	21,854	21,854	—	—	—	5,925	5,925	—	—	—
Cherokee	28,440	27,927	—	513	—	8,020	7,700	108	119	93
Clay	16,840	12,478	—	2,777	1,585	3,915	2,731	—	660	524
Cobb	19,283	9,900	—	2,337	7,046	7,198	4,013	—	779	2,406
Columbia	45,943	36,545	1,836	1,312	6,250	12,333	10,486	409	296	1,142
Conley	15,623	13,155	—	—	2,468	5,141	2,883	—	—	2,258
Cordeiro	56,042	40,113	—	13,257	2,672	16,058	12,734	—	2,849	475
Crawford	70,807	63,524	—	3,759	3,524	15,145	12,852	—	883	1,410
Dade	42,370	32,569	—	5,691	4,110	14,328	10,458	—	1,811	2,059
Dawson	27,005	17,040	—	7,381	2,584	7,190	5,114	—	1,567	509
DeKalb	20,097	8,815	—	1,341	9,941	4,947	1,871	—	392	2,684
Douglas	94,058	85,835	—	2,383	5,840	25,604	22,342	—	1,448	1,814
Effingham	15,734	12,866	—	2,073	795	4,533	3,697	—	554	282
Fannin	21,295	13,218	—	3,376	4,701	7,784	4,924	—	942	1,918
Fayette	1,738	—	—	777	961	1,156	—	—	726	430
Franklin	73,979	70,711	—	2,735	533	19,938	18,197	—	887	854
Gordon	33,239	28,761	—	547	3,931	7,158	5,500	—	627	1,031
Greene	19,869	19,869	—	—	—	3,544	3,229	—	—	315
Guilford	19,150	18,235	—	—	915	6,281	4,771	—	—	1,510
Hall	19,466	16,679	—	2,787	—	5,313	4,438	—	875	—
Hancock	12,057	12,057	—	—	—	3,057	3,057	—	—	—
Hardee	8,740	7,597	—	—	1,143	2,414	1,767	—	—	647
Henry	7,025	7,025	—	—	—	1,255	1,133	—	—	122
Houston	91,692	90,629	405	658	—	27,830	27,590	114	126	—
Jackson	28,075	24,117	—	975	2,983	7,481	5,614	—	311	1,556
Jefferson	59,925	52,852	373	5,247	1,453	19,842	17,327	211	1,751	553
Johnston	36,992	33,576	—	1,601	1,815	8,678	7,863	—	320	495
Kane	35,722	17,844	—	7,370	10,508	7,881	3,633	—	1,851	2,397
Kaufman	21,272	18,784	—	2,488	—	6,225	5,150	—	822	253
Laurens	41,683	31,787	—	7,478	2,418	12,472	8,985	—	2,746	741
Liberty	61,697	51,806	—	7,191	2,700	14,895	12,322	—	2,041	532
Lincoln	16,968	14,296	—	1,166	1,506	3,734	2,997	—	432	305
Lumpkin	1,645	1,645	—	—	—	645	311	—	—	334
Madison	6,707	5,826	—	—	881	1,816	1,478	—	117	221
Macon	66,627	51,200	—	9,213	6,214	17,063	12,484	—	2,607	1,972
Manly	8,400	8,149	—	—	251	1,523	1,397	—	—	126
Martin	43,029	38,660	—	3,686	683	11,964	10,317	—	1,510	137
McClintock	18,750	13,960	—	691	4,099	6,052	3,877	—	789	1,386
Meriwether	9,799	9,017	—	—	782	2,942	2,260	—	100	582
Milledgeville	7,639	7,162	—	—	477	2,759	2,605	—	—	154
Monroe	30,339	19,254	—	6,649	4,436	8,869	5,769	—	1,800	1,300
Montgomery	45,716	44,306	1,410	—	—	12,204	11,827	377	—	—
Morgan	43,937	32,080	—	4,969	6,888	12,318	9,224	148	1,075	1,871
Murray	28,214	19,208	—	4,138	4,868	8,931	6,007	64	1,298	1,562
Nassau	74,930	55,871	—	10,081	8,978	18,415	13,675	—	2,676	2,064
Newton	2,693	2,693	—	—	—	1,051	896	155	—	—

Continued

Table 9.—Annual removals of sawtimber and growing stock on commercial forest land, by county and species group, Georgia, 1981—Continued

County	Sawtimber					Growing stock				
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
	Thousand board feet					Thousand cubic feet				
Fannin	4,910	—	—	—	4,910	1,089	—	—	—	1,089
Fayette	30,462	27,702	—	2,760	—	8,218	7,391	—	827	—
Floyd	6,466	5,666	—	—	800	4,242	3,255	—	—	—
Forsyth	15,402	15,402	—	—	—	3,659	3,285	—	374	—
Franklin	22,683	16,309	—	—	6,374	5,651	3,671	—	—	—
Fulton	25,414	19,834	—	2,967	2,613	5,452	3,466	—	944	—
Gilmer	28,647	7,740	7,678	3,800	9,429	6,041	1,681	1,199	936	—
Glascocock	7,912	2,610	—	4,122	1,180	2,996	1,762	—	716	—
Glynn	78,873	76,472	—	2,401	—	18,290	16,344	—	1,604	—
Gordon	12,723	11,491	—	501	731	4,410	4,032	—	173	—
Grady	33,387	29,908	—	1,162	2,317	8,173	6,221	—	540	—
Greene	78,878	63,917	—	12,884	2,077	18,054	13,654	—	3,173	—
Gwinnett	38,871	22,979	—	7,764	8,128	8,752	5,270	—	1,758	—
Habersham	17,760	9,737	—	2,274	5,749	5,884	3,837	—	620	—
Hall	25,728	15,904	—	894	8,930	7,779	5,005	—	266	—
Hancock	71,673	62,148	—	7,415	2,110	17,321	14,014	—	2,091	—
Haralson	9,440	6,732	—	1,424	1,284	2,891	2,003	—	629	—
Harris	55,224	44,548	—	9,292	1,384	13,608	10,438	—	2,612	—
Hart	3,959	2,673	—	—	1,286	1,968	1,091	—	—	—
Heard	68,478	37,265	—	9,312	21,901	19,282	11,038	—	3,066	—
Henry	29,142	24,545	—	3,762	835	7,236	6,029	—	742	—
Houston	55,319	31,902	—	4,640	18,777	15,652	8,484	—	1,392	—
Irwin	22,350	20,528	—	1,822	—	5,294	4,436	—	858	—
Jackson	6,964	6,015	—	949	—	1,584	1,330	—	254	—
Jasper	46,532	36,444	—	5,469	4,619	10,241	6,673	81	1,243	—
Jeff Davis	23,606	21,809	—	595	1,202	8,154	7,198	—	268	—
Jefferson	39,036	25,948	—	9,197	3,891	10,855	7,285	—	2,131	—
Jenkins	17,547	17,547	—	—	—	6,281	5,911	—	176	—
Johnson	22,666	16,523	—	2,493	3,650	7,267	5,787	—	762	—
Jones	50,612	50,612	—	—	—	10,822	10,720	—	102	—
Lamar	22,103	17,525	—	3,152	1,426	6,463	5,183	—	748	—
Lanier	19,408	17,837	1,571	—	—	4,737	4,137	388	—	—
Laurens	78,052	59,276	—	8,855	9,921	24,198	20,025	—	2,238	—
Lee	6,375	1,349	—	710	4,316	3,075	670	—	577	—
Liberty	56,930	50,434	—	4,855	1,641	17,243	14,639	—	2,049	—
Lincoln	24,882	22,632	—	777	1,473	8,932	7,694	—	437	—
Long	33,301	26,258	—	4,626	2,417	9,447	7,751	—	1,245	—
Lowndes	48,633	38,994	—	8,916	723	12,583	10,293	—	2,006	—
Lumpkin	6,188	5,344	—	—	844	2,842	1,957	—	499	—
Macon	34,785	24,280	—	3,555	6,950	7,560	5,407	—	942	—
Madison	37,763	13,075	—	23,967	721	9,372	4,679	—	4,379	—
Marion	16,715	14,370	—	2,345	—	5,098	4,164	—	827	—
McDuffie	18,461	14,524	—	3,437	500	7,756	5,042	—	2,060	—
McIntosh	40,259	24,800	1,121	3,308	11,030	12,405	8,909	312	1,373	—
Meriwether	106,010	90,340	—	11,450	4,220	26,853	22,032	81	3,630	—
Miller	11,299	10,160	—	569	570	3,376	3,067	—	139	—
Mitchell	22,349	22,349	—	—	—	8,048	7,083	—	—	—
Monroe	70,028	64,204	—	993	4,831	18,337	15,922	—	1,050	—
Montgomery	33,257	16,748	1,865	3,495	11,149	7,620	4,304	336	601	—
Morgan	35,390	27,061	—	6,895	1,434	8,413	5,345	—	2,355	—
Murray	26,004	9,540	7,175	—	9,289	8,116	5,078	1,085	—	—
Muscogee	14,231	11,649	—	2,115	467	3,394	2,721	—	563	—
Newton	5,972	5,972	—	—	—	2,495	2,020	—	102	—
Oconee	3,548	2,336	—	—	1,212	806	474	—	73	—

Continued

Table 9.—Annual removals of sawtimber and growing stock on commercial forest land, by county and species group, Georgia, 1981—Continued

County	Sawtimber					Growing stock				
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
	Thousand board feet					Thousand cubic feet				
Cherokee	64,553	51,590	—	11,229	1,734	17,147	14,035	—	2,321	791
Chickamauga	26,104	22,214	—	812	3,078	6,926	5,680	—	187	1,059
Clatsop	6,990	6,990	—	—	—	1,150	1,150	—	—	—
Columbia	12,851	12,286	—	—	565	3,568	3,080	—	351	137
DeKalb	27,538	24,504	324	1,660	1,050	7,760	7,113	96	286	265
Douglas	22,098	17,649	—	4,449	—	5,671	4,125	—	1,435	111
Effingham	18,091	12,503	—	1,041	4,547	5,291	3,765	—	193	1,333
Fulton	16,438	8,436	—	4,270	3,732	4,111	2,105	—	1,017	989
Gwinnett	61,370	52,228	—	7,083	2,059	15,669	12,853	—	1,985	831
Haralson	11,032	7,069	—	3,963	—	3,310	2,337	—	839	134
Henry	11,887	10,147	—	938	802	2,326	1,743	—	271	312
Jefferson	46,583	36,949	—	9,196	438	10,403	8,201	—	1,848	354
Liberty	22,889	7,884	974	14,031	—	6,270	2,670	186	3,272	142
Long	4,851	4,851	—	—	—	826	826	—	—	—
Madison	16,621	16,049	—	—	572	4,110	3,974	—	—	136
Macon	30,541	25,116	3,108	—	2,317	9,363	8,496	448	—	419
Marion	13,624	10,791	—	—	2,833	4,676	3,729	—	—	947
Murray	8,118	6,675	—	623	820	2,985	2,135	—	567	283
Newton	13,937	4,787	—	—	9,150	5,746	3,408	—	—	2,338
Oglethorpe	79,326	66,825	491	4,514	7,496	21,074	16,370	120	2,233	2,351
Polk	17,942	13,724	—	3,605	613	4,813	3,751	—	731	331
Quitman	54,102	45,622	—	4,261	4,219	12,757	10,545	—	1,055	1,157
Rockdale	39,543	32,278	—	7,265	—	9,683	6,895	—	2,285	503
Seminole	54,115	48,518	—	5,597	—	13,796	12,148	103	1,244	301
Spalding	29,688	21,958	—	6,383	1,347	6,962	4,500	—	1,788	674
Stewart	52,726	48,403	—	3,419	904	13,588	12,388	—	1,024	176
Sumter	10,219	4,547	—	5,113	559	5,086	3,088	—	1,717	281
Taliaferro	30,143	19,544	—	5,714	4,885	9,205	6,004	—	1,306	1,895
Terrell	12,243	10,893	—	—	1,350	3,031	2,368	—	—	663
Thomas	36,073	33,119	—	2,128	826	12,183	10,756	—	1,018	409
Towson	3,209	2,024	—	—	1,185	758	520	—	—	238
Union	34,114	32,978	—	1,136	—	8,754	7,619	—	296	839
Upson	49,698	42,066	—	3,448	4,184	13,184	10,779	—	778	1,627
Walker	10,474	7,941	—	2,533	—	2,296	1,743	—	553	—
Walton	48,248	30,925	—	6,945	10,378	9,764	6,222	—	1,415	2,127
Washington	16,631	6,506	—	—	10,125	3,979	1,174	—	316	2,489
Wayne	34,426	31,005	—	3,421	—	9,147	8,304	—	558	285
Wilkes	9,616	7,998	—	1,618	—	2,884	2,196	—	293	395
Worth	9,304	4,012	—	—	5,292	2,245	1,206	—	—	1,039
Yamacraw	84,094	81,708	—	2,386	—	24,371	23,496	—	875	—
Yamacraw	22,561	19,043	—	697	2,821	5,104	4,027	—	335	742
Yamacraw	57,889	44,175	—	4,659	9,055	16,835	13,368	—	963	2,504
Yamacraw	73,458	70,865	335	2,258	—	20,014	18,864	110	901	139
Yamacraw	31,332	24,058	—	1,886	5,388	8,102	6,177	—	707	1,218
Yamacraw	39,862	34,116	—	1,384	4,362	11,454	10,336	—	399	719
Yamacraw	8,883	8,883	—	—	—	1,946	1,946	—	—	—
Yamacraw	24,428	22,687	—	884	857	8,272	7,871	—	236	165
Yamacraw	20,509	20,509	—	—	—	7,788	7,684	—	104	—
Yamacraw	54,084	45,001	—	5,699	3,384	12,320	9,417	204	1,512	1,187
Yamacraw	61,315	32,074	—	12,831	16,410	14,194	7,413	—	3,306	3,475
Yamacraw	83,698	74,607	344	5,393	3,354	17,828	15,350	265	1,222	991
Total	5,079,064	4,100,532	30,703	491,165	456,664	1,367,977	1,079,333	7,346	140,137	141,161

State Tables

Table 10.—Area of commercial forest land, by forest type and ownership class, Georgia, 1982

Forest type	:	:	Ownership class									
	:	All	:	:	:	:						
	:	ownerships	:	National	:	Other	:	Forest	:	Farmer	:	Misc.
	:		:	Forest	:	public	:	industry	:		:	private
----- Acres -----												
Softwood types:												
White pine-hemlock	81,429	66,782	—	—								14,647
Spruce-fir	—	—	—	—								—
Longleaf pine	676,444	—	46,747	75,073	255,070							299,554
Slash pine	4,057,766	4,106	137,764	1,457,863	1,104,245							1,353,788
Loblolly pine	5,130,233	67,660	221,303	1,334,134	827,766							2,679,370
Shortleaf pine	914,704	42,485	29,388	116,070	177,727							549,034
Virginia pine	380,955	28,242	7,449	23,588	74,579							247,097
Sand pine	21,335	—	—	11,022	—							10,313
Eastern redcedar	19,658	—	—	—	10,179							9,479
Pond pine	141,448	—	13,172	32,231	32,195							63,850
Spruce pine	—	—	—	—	—							—
Pitch pine	14,947	14,947	—	—	—							—
Table Mountain pine	—	—	—	—	—							—
Total	11,438,919	224,222	455,823	3,049,981	2,481,761							5,227,132
Hardwood types:												
Oak-pine	2,959,550	133,036	118,616	409,336	812,702							1,485,860
Oak-hickory	5,458,754	403,866	103,656	679,320	1,531,939							2,739,973
Chestnut oak	37,982	—	—	—	10,382							27,600
Southern scrub oak	308,521	—	19,506	36,883	64,403							187,729
Oak-gum-cypress	3,069,475	—	105,310	684,230	1,127,700							1,152,235
Elm-ash-cottonwood	460,483	3,771	15,956	103,988	91,381							245,387
Maple-beech-birch	—	—	—	—	—							—
Total	12,294,765	540,673	363,044	1,913,757	3,638,507							5,838,784
All types	23,733,684	764,895	818,867	4,963,738	6,120,268							11,065,916

Table 11.—Area of commercial forest land, by ownership and stocking classes of growing-stock trees, Georgia, 1982

Ownership classes	All classes	Stocking percentage ^a				
		> 130	100-130	60-99	16.7-59	< 16.7
		----- Acres -----				
National Forest	764,895	31,056	200,188	410,058	112,506	11,087
Other public	818,867	49,032	211,241	369,651	163,623	25,320
Forest industry	4,963,738	281,753	1,902,730	1,876,163	736,338	166,754
Farmer	6,120,268	258,810	1,644,072	2,731,962	1,284,231	201,193
Miscellaneous private	11,065,916	394,830	3,312,745	5,181,771	1,887,375	289,195
All ownerships	23,733,684	1,015,481	7,270,976	10,569,605	4,184,073	693,549

^aSee stocking standards on page 10.

Table 12.—Volume of timber on commercial forest land, by class and species group,
Georgia, 1982

Class of timber	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
----- Thousand cubic feet -----					
Sawtimber trees:					
Saw-log portion	17,398,227	9,403,902	748,955	3,507,306	3,738,064
Upper-stem portion	2,110,527	862,367	68,681	570,957	608,522
Total	19,508,754	10,266,269	817,636	4,078,263	4,346,586
Poletimber trees	10,063,442	4,584,319	214,149	2,900,835	2,364,139
All growing-stock trees	29,572,196	14,850,588	1,031,785	6,979,098	6,710,725
Rough trees:					
Sawtimber size	590,457	30,467	7,508	220,412	332,070
Poletimber size	876,376	27,041	5,077	339,562	504,696
Total	1,466,833	57,508	12,585	559,974	836,766
Rotten trees:					
Sawtimber size	265,950	—	10,803	122,967	132,180
Poletimber size	45,765	361	491	27,411	17,502
Total	311,715	361	11,294	150,378	149,682
Salvable dead trees:					
Sawtimber size	96,058	56,763	1,100	15,424	22,771
Poletimber size	71,189	52,289	440	8,525	9,935
Total	167,247	109,052	1,540	23,949	32,706
Total, all timber	31,517,991	15,017,509	1,057,204	7,713,399	7,729,879

Table 13.--Number of growing-stock trees on commercial forest land, by species and diameter class, Georgia, 1982

Species	All classes	Diameter class (inches at breast height)												21.0- and larger
		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- 21.9	22.0- 22.9	23.0- 23.9		
Softwood:														
Thousand trees														
Longleaf pine	76,602	19,264	17,462	16,402	11,411	7,234	3,201	1,203	271	154	--	--	--	--
Slash pine	597,372	309,802	157,487	72,566	34,049	14,415	5,439	2,147	989	457	21	--	--	21
Shortleaf pine	221,877	93,734	63,961	34,069	18,947	7,550	2,459	822	215	120	--	--	--	--
Loblolly pine	698,996	266,747	180,822	112,902	65,705	37,900	18,921	9,669	3,737	2,520	73	--	--	73
Pond pine	23,780	9,160	5,862	3,838	2,371	1,238	864	211	175	61	--	--	--	--
Virginia pine	82,754	34,024	26,701	14,095	5,761	1,590	468	98	17	--	--	--	--	--
Pitch pine	2,992	771	773	395	346	365	158	85	63	36	--	--	--	--
Table Mountain pine	566	317	91	56	83	--	--	19	--	--	--	--	--	--
Spruce pine	1,883	374	422	230	288	354	67	24	62	54	8	--	--	8
Sand pine	468	468	--	--	--	--	--	--	--	--	--	--	--	--
Eastern white pine	9,285	1,778	2,208	1,324	1,144	747	824	377	419	435	29	--	--	29
Eastern hemlock	1,386	206	386	275	227	202	30	--	36	13	11	--	--	11
Spruce and fir	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Baldcypress	9,437	2,381	1,576	1,329	1,105	836	897	361	444	461	47	--	--	47
Pondcypress	64,649	25,823	14,647	10,469	6,952	3,658	1,879	687	225	254	55	--	--	55
Cedars	5,426	3,636	1,021	393	170	112	79	15	--	--	--	--	--	--
Total softwoods	1,797,473	768,485	473,419	268,343	148,559	76,201	35,286	15,718	6,653	4,565	244	--	--	244
Hardwood:														
Select white oaks	93,273	35,349	20,143	14,474	10,143	5,995	3,534	1,675	946	951	63	--	--	63
Select red oaks	26,229	9,197	5,164	3,530	3,061	1,933	1,393	705	579	605	62	--	--	62
Chestnut oak	41,018	16,937	6,094	6,402	4,702	3,205	1,691	935	507	503	42	--	--	42
Other white oaks	40,542	15,352	10,130	6,864	3,129	2,002	1,185	769	352	592	167	--	--	167
Other red oaks	288,220	111,445	67,333	42,407	28,893	15,843	9,373	5,634	2,890	3,880	522	--	--	522
Hickory	85,242	35,974	19,673	13,012	6,399	5,316	2,653	1,033	527	638	17	--	--	17
Yellow birch	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hard maple	2,632	1,158	1,044	222	91	101	--	16	--	--	--	--	--	--
Soft maple	86,670	39,037	21,621	11,323	6,191	3,814	2,434	1,009	642	566	33	--	--	33
Beech	2,579	553	546	242	272	182	241	226	88	217	12	--	--	12
Sweetgum	248,881	118,188	59,452	33,023	18,262	10,293	5,008	2,528	1,201	881	45	--	--	45
Tupelo and blackgum	234,434	96,753	54,627	34,308	23,791	12,472	6,372	3,470	1,234	1,293	114	--	--	114
Ash	22,879	6,624	6,705	3,914	2,630	1,547	658	391	174	214	22	--	--	22
Cottonwood	804	522	116	48	53	--	--	32	13	20	--	--	--	--
Basswood	712	--	66	286	273	61	22	--	--	--	4	--	--	4
Yellow-poplar	92,726	28,440	20,068	13,648	11,919	7,944	5,250	2,664	1,441	1,284	68	--	--	68
Bay and magnolia	39,078	18,387	9,939	4,645	2,931	1,463	925	455	187	126	20	--	--	20
Black cherry	11,546	7,829	2,275	795	480	120	--	17	--	30	--	--	--	--
Black walnut	1,481	964	208	185	35	37	--	30	14	8	--	--	--	--
Sycamore	3,497	985	1,259	283	294	234	144	154	91	53	--	--	--	--
Black locust	1,263	582	189	346	58	65	--	23	--	--	--	--	--	--
Elm	24,448	10,951	6,820	3,188	1,280	1,138	522	305	123	121	--	--	--	--
Other eastern hardwoods	33,183	20,210	6,127	2,909	1,882	871	487	339	202	153	3	--	--	3
Total hardwoods	1,381,337	575,437	319,599	196,054	126,769	74,636	41,892	22,410	11,211	12,135	1,194	--	--	1,194
All species	3,178,810	1,343,922	793,018	464,397	275,328	150,837	77,178	38,128	17,864	16,700	1,000	--	--	1,000

Species	All classes	Diameter class (inches at breast height)												29.0 and larger
		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				
Softwood:														
Longleaf pine	1,051,921	52,485	117,553	217,533	236,391	211,230	124,336	61,499	16,502	14,392				--
Slash pine	4,313,907	835,956	1,017,550	908,272	689,154	422,186	222,592	111,939	63,821	38,658				3,779
Shortleaf pine	1,695,854	218,769	372,924	371,683	358,054	211,282	96,002	41,997	14,731	10,412				--
Loblolly pine	6,948,710	626,030	1,030,609	1,257,412	1,232,086	1,058,890	747,240	503,011	243,988	236,429				13,015
Pond pine	230,368	23,815	34,010	43,790	41,983	31,211	30,786	9,913	9,638	5,222				--
Virginia pine	580,007	98,864	168,574	155,023	94,313	40,014	16,710	5,126	1,383	--				--
Pitch pine	44,937	1,959	5,577	4,997	5,477	9,501	5,348	3,982	4,323	3,773				--
Table Mountain pine	3,910	897	1,024	432	1,002	--	--	555	--	--				--
Spruce pine	38,012	945	3,349	3,547	5,386	10,249	2,741	1,413	4,114	4,769				1,499
Sand pine	831	831	--	--	--	--	--	--	--	--				--
Eastern white pine	193,690	4,989	13,032	13,284	18,188	18,556	30,392	17,814	25,921	46,350				5,164
Eastern hemlock	20,344	519	2,380	2,871	3,881	3,982	832	--	2,141	1,191				2,547
Spruce and fir	--	--	--	--	--	--	--	--	--	--				--
Baldcypress	200,859	8,052	9,003	15,941	21,079	22,366	31,827	15,599	24,743	37,682				14,567
Pondcypress	616,066	72,616	96,965	122,682	114,687	86,233	56,863	26,829	10,727	19,348				9,116
Cedars	24,705	7,860	4,301	3,394	3,130	2,634	2,401	920	--	65				--
Total softwoods		15,964,121	2,876,851	3,120,861	2,824,811	2,128,334	1,368,070	800,597	422,032	418,291				49,687
Hardwood:														
Select white oaks	1,085,603	98,386	114,358	158,769	179,903	157,986	131,747	79,319	57,664	92,021				15,450
Select red oaks	405,492	28,339	32,246	41,328	53,672	51,520	52,746	34,420	37,326	59,445				14,450
Chestnut oak	478,630	43,547	37,043	64,532	80,230	76,896	54,941	44,798	27,058	43,053				6,532
Other white oaks	558,320	43,351	59,457	70,292	58,368	60,018	48,617	43,608	27,620	88,463				58,526
Other red oaks	3,312,643	304,708	403,398	457,873	498,048	404,721	330,976	262,967	173,131	362,217				114,604
Hickory	821,941	83,145	108,133	131,009	107,504	137,613	98,848	54,325	34,096	63,240				4,028
Yellow birch	--	--	--	--	--	--	--	--	--	--				--
Hard maple	22,539	3,675	8,482	3,486	1,373	2,877	300	2,076	--	270				--
Soft maple	967,658	151,198	159,742	147,519	127,001	118,703	95,413	56,113	44,320	61,471				6,178
Beech	83,838	3,381	3,354	3,983	5,041	4,979	9,312	13,897	8,195	26,349				5,347
Sweetgum	2,133,675	253,337	343,658	381,831	346,247	299,079	200,090	133,738	79,658	84,332				11,705
Tupelo and blackgum	2,421,527	292,584	363,293	404,013	440,069	334,102	228,606	160,897	68,195	104,229				25,539
Ash	291,338	22,865	46,930	43,697	49,722	43,261	26,341	20,277	11,834	21,187				5,224
Cottonwood	9,554	1,549	1,009	870	1,904	--	--	1,737	859	1,626				--
Basswood	12,277	--	1,013	2,935	4,957	1,518	581	--	--	712				561
Yellow-poplar	1,339,980	79,887	126,407	156,147	222,966	217,355	190,446	129,620	88,139	113,496				15,517
Bay and magnolia	364,963	58,912	68,403	56,862	54,479	44,674	34,772	19,885	11,660	10,770				4,546
Black cherry	71,860	25,749	20,515	9,924	7,854	3,906	--	824	--	3,088				--
Black walnut	10,248	2,035	1,061	1,588	836	1,419	--	1,717	626	966				--
Sycamore	49,748	4,368	8,966	3,183	5,460	6,284	4,994	6,992	5,258	4,243				--
Black locust	17,299	3,542	2,283	4,263	807	3,059	413	1,736	12	1,184				--
Elm	224,106	27,255	39,701	36,938	25,672	33,198	21,084	16,001	10,817	12,397				1,043
Other eastern hardwoods	703,384	223,877	146,092	121,869	73,500	47,088	29,460	25,133	18,487	16,207				1,671
Total hardwoods		15,386,623	1,755,690	2,095,544	2,302,911	2,345,613	1,559,687	1,110,080	704,955	1,170,966				290,921
All species		31,350,744	3,710,277	4,972,395	5,423,772	4,478,950	2,927,757	1,910,677	1,126,987	1,589,257				340,608

Table 15.--Volume of growing stock on commercial forest land, by species and diameter class, Georgia, 1982

Species	All classes	Diameter class (inches at breast height)												21.0- 28.9	29.0 and larger	
		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							
		Thousand cubic feet														
Softwood:																
Longleaf pine	1,050,064	52,148	117,445	216,747	236,033	211,230	124,068	61,499	16,502	14,392	--					
Slash pine	4,303,286	833,135	1,015,375	906,640	685,825	422,186	222,592	111,939	63,157	38,658	3,779					
Shortleaf pine	1,690,738	216,607	372,069	370,427	358,054	211,282	95,159	41,997	14,731	10,412	--					
Loblolly pine	6,919,330	620,529	1,022,451	1,252,251	1,228,482	1,055,932	746,011	501,604	243,988	235,067	13,015					
Pond pine	227,842	22,330	33,846	43,463	41,983	31,211	30,236	9,913	9,638	5,222	--					
Virginia pine	572,243	96,347	167,455	153,119	94,313	38,581	15,919	5,126	1,383	--	--					
Pitch pine	44,332	1,959	5,577	4,392	5,477	9,501	5,348	3,982	4,323	3,773	--					
Table Mountain pine	3,910	897	1,024	432	1,002	--	--	555	--	--	--					
Spruce pine	38,012	945	3,349	3,547	5,386	10,249	2,741	1,413	4,114	4,769	1,499					
Sand pine	831	--	--	--	--	--	--	--	--	--	--					
Eastern white pine	193,690	4,989	13,032	13,284	18,188	18,556	30,392	17,814	25,921	46,350	5,164					
Eastern hemlock	20,344	519	2,380	2,871	3,881	3,982	832	--	2,141	1,191	2,547					
Spruce and fir	--	--	--	--	--	--	--	--	--	--	--					
Baldcypress	192,974	7,812	9,003	15,523	20,762	22,366	31,827	15,599	24,416	36,100	9,566					
Pondcypress	603,117	70,515	94,656	119,803	113,873	84,604	56,532	26,589	10,495	18,701	7,349					
Cedars	21,660	7,142	4,101	2,790	2,457	2,634	2,003	533	--	--	--					
Total softwoods	15,882,373	1,936,705	2,861,763	3,105,289	2,815,716	2,122,314	1,363,660	798,563	420,809	414,635	42,919					
Hardwood:																
Select white oaks	1,055,295	94,172	113,030	154,399	177,175	156,516	127,947	77,812	54,967	88,005	11,272					
Select red oaks	390,608	27,954	31,439	39,067	52,360	49,931	49,800	33,829	34,973	58,761	12,494					
Chestnut oak	440,756	40,188	32,724	59,105	72,508	73,586	51,383	40,039	26,446	38,941	5,836					
Other white oaks	420,414	36,784	50,055	64,799	45,558	46,622	37,059	32,793	19,705	52,887	34,152					
Other red oaks	3,114,639	283,517	385,667	439,222	479,875	388,981	312,325	246,397	157,691	331,230	89,734					
Hickory	792,487	78,665	102,416	127,192	104,933	134,947	98,028	52,395	32,035	58,885	2,991					
Yellow birch	--	--	--	--	--	--	--	--	--	--	--					
Hard maple	17,976	3,675	6,427	2,748	1,373	2,877	--	876	--	--	--					
Soft maple	747,160	106,061	123,395	114,360	103,241	95,420	79,034	43,915	34,115	43,156	4,463					
Beech	64,643	1,608	3,354	2,691	4,520	4,979	9,219	10,778	4,831	20,622	2,041					
Sweetgum	2,061,393	237,392	330,246	371,269	340,046	292,777	193,841	129,988	77,160	80,714	7,960					
Tupelo and blackgum	2,132,414	243,626	312,883	356,418	396,569	305,109	205,558	146,523	60,208	87,698	17,822					
Ash	261,569	17,914	38,992	40,865	47,379	42,096	23,398	18,781	9,998	18,341	3,805					
Cottonwood	8,545	1,549	1,009	389	1,376	--	--	1,737	859	1,626	--					
Basswood	10,961	--	514	2,935	4,957	1,413	581	--	--	--	561					
Yellow-poplar	1,317,261	77,481	122,905	155,258	221,794	215,641	188,436	128,325	86,189	109,296	11,936					
Bay and magnolia	316,241	50,605	59,214	50,477	49,228	37,397	30,711	18,522	9,131	8,345	2,611					
Black cherry	54,701	19,022	13,526	8,263	7,659	2,746	--	824	--	2,661	--					
Black walnut	9,573	2,035	1,061	1,588	836	744	--	1,717	626	966	--					
Sycamore	47,867	3,137	8,966	3,114	5,460	6,284	4,994	6,992	5,258	3,662	--					
Black locust	9,531	1,211	1,062	3,909	807	1,652	--	890	--	--	--					
Elm	200,850	24,316	34,677	32,789	23,752	30,663	18,132	16,001	8,662	11,858	--					
Other eastern hardwoods	214,939	45,059	33,931	30,653	31,144	20,399	15,196	14,427	11,232	12,453	445					
Total hardwoods	13,689,823	1,395,971	1,807,493	2,061,510	2,172,550	1,910,780	1,445,642	1,023,561	634,086	1,030,107	208,123					
All species	29,572,196	3,332,676	4,669,256	5,166,799	4,988,266	4,033,094	2,809,302	1,822,124	1,054,895	1,444,742	221,042					

Species	All classes	Diameter class (inches at breast height)										21.0- 28.9	29.0 and larger
		9.0- 10.9	11.0- 12.9	13.0- 14.9	15.0- 16.9	17.0- 18.9	19.0- 20.9	21.0- 28.9	29.0 and larger				
		Thousand board feet											
Softwood:													
Longleaf pine	4,445,335	882,605	1,138,749	1,133,843	713,529	374,472	105,352	96,785	--				
Slash pine	11,321,151	3,363,533	3,147,421	2,192,066	1,260,950	673,907	398,676	257,397	27,201				
Shortleaf pine	4,961,623	1,355,517	1,606,362	1,071,802	524,384	245,946	90,712	66,900	--				
Loblolly pine	25,385,643	4,406,894	5,413,295	5,325,461	4,126,689	2,961,523	1,512,884	1,545,427	93,470				
Pond pine	824,727	163,431	189,869	157,278	164,958	57,758	58,104	33,329	--				
Virginia pine	1,204,290	529,213	385,573	176,971	78,326	26,692	7,515	--	--				
Pitch pine	190,031	14,383	23,657	47,076	29,180	23,229	27,211	25,295	--				
Table Mountain pine	9,710	1,750	4,687	--	--	3,273	--	--	--				
Spruce pine	166,415	15,771	24,860	49,840	13,682	7,249	21,431	25,331	8,251				
Sand pine	--	--	--	--	--	--	--	--	--				
Eastern white pine	940,172	47,275	78,045	89,615	159,356	98,217	149,537	284,493	33,634				
Eastern hemlock	84,949	10,243	16,193	18,287	4,103	--	12,062	7,152	16,909				
Spruce and fir	--	--	--	--	--	--	--	--	--				
Baldcypress	857,398	42,829	76,958	96,672	153,443	80,221	133,257	211,181	62,837				
Pondcypress	1,816,090	373,742	440,555	374,509	274,934	137,756	56,984	110,513	47,097				
Cedars	51,215	11,466	11,440	13,935	11,248	3,126	--	--	--				
Total softwoods	52,258,749	11,218,652	12,557,664	10,747,355	7,514,782	4,693,369	2,573,725	2,663,803	289,399				
Hardwood:													
Select white oaks	2,920,536	--	577,762	605,464	554,130	363,934	274,288	475,251	69,707				
Select red oaks	1,246,057	--	167,976	187,363	204,903	153,251	162,936	297,324	72,304				
Chestnut oak	1,248,457	--	228,073	273,937	212,307	178,744	125,097	197,759	32,540				
Other white oaks	1,326,035	--	163,421	196,354	172,000	164,294	104,364	305,560	220,042				
Other red oaks	9,280,751	--	1,714,148	1,620,634	1,437,792	1,222,238	828,956	1,889,812	567,171				
Hickory	2,107,181	--	352,812	539,484	443,469	256,786	165,991	330,102	18,537				
Yellow birch	--	--	--	--	--	--	--	--	--				
Hard maple	20,737	--	5,017	11,746	--	3,974	--	--	--				
Soft maple	1,610,986	--	326,224	355,885	326,259	195,960	161,859	219,792	25,007				
Beech	228,023	--	16,664	18,952	36,025	42,935	19,522	85,228	8,697				
Sweetgum	5,032,814	--	1,205,414	1,245,382	933,160	679,854	429,295	485,911	53,798				
Tupelo and blackgum	4,982,900	--	1,251,471	1,185,731	902,666	705,879	311,263	499,038	126,852				
Ash	671,168	--	155,266	161,566	99,929	87,117	48,735	96,552	22,003				
Cottonwood	25,936	--	4,763	--	--	8,257	4,365	8,551	--				
Basswood	27,940	--	16,997	5,377	2,425	--	--	--	3,141				
Yellow-poplar	4,523,616	--	786,044	924,130	909,418	674,255	483,595	663,862	82,312				
Bay and magnolia	643,390	--	158,887	145,610	135,943	89,956	45,206	50,447	17,341				
Black cherry	55,267	--	27,035	10,921	--	3,872	--	13,439	--				
Black walnut	17,310	--	2,893	2,603	--	6,101	2,233	3,480	--				
Sycamore	140,293	--	16,755	23,313	21,248	33,048	26,422	19,507	--				
Black locust	12,183	--	2,818	6,017	--	3,348	--	--	--				
Elm	449,891	--	81,153	118,469	76,248	72,239	41,237	60,545	--				
Other eastern hardwoods	411,860	--	95,092	75,119	62,172	62,787	51,508	62,102	3,080				
Total hardwoods	36,983,331	--	7,356,685	7,714,057	6,530,094	5,008,829	3,286,872	5,764,262	1,322,532				
All species	89,242,080	11,218,652	19,914,349	18,461,412	14,044,876	9,702,198	5,860,597	8,428,065	1,611,931				

Table 17.—Net annual growth and removals of growing stock on commercial forest land, by species, Georgia, 1981

Species	Net annual growth	Annual timber removals
--- Thousand cubic feet ---		
Softwood:		
Yellow pines	1,154,875	1,079,333
Eastern white pine	8,498	2,284
Spruce and fir	—	—
Cypress	23,085	4,512
Other eastern softwoods	3,106	550
Total softwoods	1,189,564	1,086,679
Hardwood:		
Select white and red oaks	57,138	22,906
Other white and red oaks	180,340	93,600
Hickory	25,924	15,150
Yellow birch	—	—
Hard maple	1,563	395
Sweetgum	94,846	57,078
Ash, walnut, and black cherry	15,111	6,002
Yellow-poplar	77,549	38,770
Tupelo and blackgum	48,922	22,632
Bay and magnolia	9,774	3,346
Other eastern hardwoods	55,522	21,419
Total hardwoods	566,689	281,298
All species	1,756,253	1,367,977

Table 18.—Net annual growth and removals of sawtimber on commercial forest land, by species, Georgia, 1981

Species	Net annual growth	Annual timber removals
--- Thousand board feet ---		
Softwood:		
Yellow pines	4,702,287	4,100,532
Eastern white pine	48,045	14,853
Spruce and fir	—	—
Cypress	97,196	15,359
Other eastern softwoods	10,399	491
Total softwoods	4,857,927	4,131,235
Hardwood:		
Select white and red oaks	222,628	83,429
Other white and red oaks	643,172	295,521
Hickory	83,627	46,537
Yellow birch	—	—
Hard maple	2,033	1,856
Sweetgum	317,110	169,444
Ash, walnut, and black cherry	43,456	17,945
Yellow-poplar	327,646	174,394
Tupelo and blackgum	152,923	81,210
Bay and magnolia	27,312	10,439
Other eastern hardwoods	136,214	67,054
Total hardwoods	1,956,121	947,829
All species	6,814,048	5,079,064

Table 19.—Mortality of growing stock and sawtimber on commercial forest land, by species, Georgia, 1981

Species	Growing stock	Sawtimber
	Thousand cubic feet	Thousand board feet
Softwood:		
Yellow pines	203,835	524,458
Eastern white pine	926	6,327
Spruce and fir	—	—
Cypress	1,558	2,682
Other eastern softwoods	395	2,024
Total softwoods	206,714	535,491
Hardwood:		
Select white and red oaks	7,363	26,102
Other white and red oaks	40,748	141,632
Hickory	4,891	15,004
Yellow birch	—	—
Hard maple	125	611
Sweetgum	15,984	49,357
Ash, walnut, and black cherry	2,918	8,341
Yellow-poplar	7,254	22,729
Tupelo and blackgum	8,281	26,201
Bay and magnolia	1,714	5,058
Other eastern hardwoods	15,252	41,599
Total hardwoods	104,530	336,634
All species	311,244	872,125

Table 20.—Volume of all live trees and growing stock on commercial forest land, by ownership class and species group, Georgia, 1982

Ownership class	All live trees										Growing stock			
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood				
	Thousand cubic feet													
National Forest	1,359,222	263,095	143,912	185,740	766,475	1,242,054	262,805	143,912	174,553	660,784				
Other public	1,522,732	905,548	20,525	338,859	257,800	1,439,415	902,477	19,483	312,040	205,415				
Forest industry	5,804,234	3,015,226	319,638	1,374,559	1,094,811	5,515,529	3,005,639	308,269	1,244,174	957,447				
Farmer	8,425,201	3,823,359	221,716	2,500,282	1,879,844	7,888,165	3,808,010	218,107	2,236,795	1,625,253				
Miscellaneous private	14,239,355	6,901,229	349,873	3,290,010	3,698,243	13,487,033	6,871,657	342,014	3,011,536	3,261,826				
All ownerships	31,350,744	14,908,457	1,055,664	7,689,450	7,697,173	29,572,196	14,850,588	1,031,785	6,979,098	6,710,725				

Table 21.—Volume of sawtimber on commercial forest land, by ownership class and species group, Georgia, 1982

Ownership class	Small sawtimber ^a										Large sawtimber ^b			
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood				
	Thousand board feet													
National Forest	1,530,072	571,169	176,419	193,721	588,763	2,637,240	392,747	520,617	294,217	1,429,659				
Other public	2,777,494	2,091,735	41,318	402,508	241,933	2,462,551	1,719,402	20,334	428,722	294,093				
Forest industry	8,450,705	5,653,239	491,224	1,376,708	929,534	6,915,366	2,209,187	589,527	2,037,819	2,078,833				
Farmer	13,900,934	9,050,387	444,027	2,620,110	1,786,410	10,104,155	4,334,042	235,437	2,733,820	2,800,856				
Miscellaneous private	22,935,208	15,455,377	548,776	3,360,105	3,570,950	17,528,355	7,031,640	682,145	4,222,673	5,591,897				
All ownerships	49,594,413	32,821,907	1,701,764	7,953,152	7,117,590	39,647,667	15,687,018	2,048,060	9,717,251	12,195,338				

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

b.

Ownership class	Net annual growth					Annual timber removals				
	All species	Pine	Other : softwood	Soft : hardwood	Hard : hardwood	All species	Pine	Other : softwood	Soft : hardwood	Hard : hardwood
----- Thousand cubic feet -----										
National Forest	43,537	11,662	6,663	7,505	17,707	31,205	22,453	1,166	1,460	6,126
Other public	76,859	54,572	697	12,149	9,441	44,529	35,759	—	3,959	4,811
Forest industry	393,769	299,191	8,602	44,334	41,642	343,004	277,924	2,046	30,166	32,868
Farmer	453,034	279,428	7,328	88,713	77,565	398,874	305,092	903	46,097	46,782
Miscellaneous private	789,054	510,022	11,399	128,362	139,271	550,365	438,105	3,231	58,455	50,574
All ownerships	1,756,253	1,154,875	34,689	281,063	285,626	1,367,977	1,079,333	7,346	140,137	141,161

Table 23.—Net annual growth and removals of sawtimber on commercial forest land, by ownership class and species group, Georgia, 1981

Ownership class	Net annual growth					Annual timber removals				
	All species	Pine	Other : softwood	Soft : hardwood	Hard : hardwood	All species	Pine	Other : softwood	Soft : hardwood	Hard : hardwood
----- Thousand board feet -----										
National Forest	197,834	59,856	36,523	30,032	71,423	149,147	115,624	7,175	4,069	22,279
Other public	351,789	283,398	3,206	34,324	30,861	177,133	143,000	—	12,811	21,322
Forest industry	1,287,103	949,346	38,669	148,386	150,702	1,211,260	1,000,535	8,527	94,090	108,108
Farmer	1,882,334	1,280,676	26,504	308,477	266,677	1,473,605	1,182,090	1,041	158,289	132,185
Miscellaneous private	3,094,988	2,129,011	50,738	423,707	491,532	2,067,919	1,659,283	13,960	221,906	172,770
All ownerships	6,814,048	4,702,287	155,640	944,926	1,011,195	5,079,064	4,100,532	30,703	491,165	456,664

Table 24.--Average net volume per acre of sawtimber, growing stock, and other live timber^a on commercial forest land, by major forest type, species group, and ownership class, Georgia, 1982

Forest type, species group, and class of material	All ownerships			Ownership class														
				National Forest			Other public			Forest industry			Farmer			Misc. private		
	Board feet	Cubic feet	Board feet	Cubic feet	Board feet	Cubic feet	Board feet	Cubic feet	Board feet	Cubic feet	Board feet	Cubic feet	Board feet	Cubic feet	Board feet	Cubic feet	Board feet	Cubic feet
Pine types:																		
Growing stock:																		
Softwood	3,462	1,102	5,867	1,457	6,399	1,534	2,017	831	4,216	1,252	3,630	1,144						
Hardwood	255	118	969	364	358	144	120	56	275	133	291	137						
Total	3,717	1,220	6,836	1,821	6,757	1,678	2,137	887	4,491	1,385	3,921	1,281						
Other timber:																		
Softwood	--	4	--	1	--	6	--	3	--	4	--	5						
Hardwood	--	16	--	90	--	13	--	8	--	21	--	17						
Total	--	20	--	91	--	19	--	11	--	25	--	22						
Oak-pine types:																		
Growing stock:																		
Softwood	2,091	566	2,685	614	3,020	725	2,082	576	2,290	604	1,838	523						
Hardwood	1,093	487	1,406	653	1,066	477	944	390	1,086	495	1,115	496						
Total	3,184	1,053	4,091	1,267	4,086	1,202	3,026	966	3,376	1,099	2,953	1,019						
Other timber:																		
Softwood	--	4	--	--	--	7	--	3	--	5	--	3						
Hardwood	--	67	--	115	--	102	--	33	--	80	--	62						
Total	--	71	--	115	--	109	--	36	--	85	--	65						
Upland hardwood types:																		
Growing stock:																		
Softwood	437	107	212	55	654	152	438	99	417	103	470	117						
Hardwood	2,773	998	4,805	1,525	2,112	845	2,603	888	2,415	913	2,746	1,003						
Total	3,210	1,105	5,017	1,580	2,766	997	3,041	987	2,832	1,016	3,216	1,120						
Other timber:																		
Softwood	--	1	--	--	--	--	--	--	--	2	--	--						
Hardwood	--	107	--	191	--	164	--	80	--	112	--	97						
Total	--	108	--	191	--	164	--	80	--	114	--	97						
Lowland hardwood types:																		
Growing stock:																		
Softwood	1,129	283	--	--	898	175	1,488	380	1,024	258	1,035	259						
Hardwood	4,163	1,444	8,458	2,984	5,052	1,764	4,431	1,431	3,754	1,390	4,260	1,462						
Total	5,292	1,727	8,458	2,984	5,950	1,939	5,919	1,811	4,778	1,648	5,295	1,721						
Other timber:																		
Softwood	--	5	--	--	--	1	--	12	--	2	--	4						
Hardwood	--	195	--	--	--	236	--	204	--	184	--	195						
Total	--	200	--	--	--	237	--	216	--	186	--	199						
All types:																		
Growing stock:																		
Softwood	2,202	669	2,137	523	4,140	986	1,706	632	2,321	664	2,213	673						
Hardwood	1,558	577	3,225	1,075	1,461	553	1,225	420	1,641	637	1,562	585						
Total	3,760	1,246	5,362	1,598	5,601	1,539	2,931	1,052	3,962	1,301	3,775	1,258						
Other timber:																		
Softwood	--	3	--	1	--	4	--	4	--	3	--	3						
Hardwood	--	72	--	150	--	85	--	51	--	86	--	67						
Total	--	75	--	151	--	89	--	55	--	89	--	70						
All timber	3,760	1,321	5,362	1,749	5,601	1,628	2,931	1,107	3,962	1,390	3,775	1,328						

Table 25.—Land area, by class, major forest type, and survey completion date, Georgia, 1961, 1972, and 1982

Land use class	Survey completion date			Change 1972-1982
	1961	1972	1982	
----- Acres -----				
Forest land:				
Commercial forest land:				
Pine and oak-pine types	16,795,500	16,129,955	14,398,469	-1,731,486
Hardwood types	8,992,600	8,696,471	9,335,215	+638,744
Total	25,788,100	24,826,426	23,733,684	-1,092,742
Noncommercial forest land:				
Productive-reserved	35,400	383,679	490,593	+106,914
Unproductive	25,900	30,075	18,161	-11,914
Total	61,300	413,754	508,754	+95,000
Nonforest land:				
Cropland	6,943,500	6,276,534	6,773,563	+497,029
Pasture and range	2,522,500	2,825,525	2,505,404	-320,121
Other	1,811,400	2,668,710	3,315,058	+646,348
Total	11,277,400	11,770,769	12,594,025	+823,256
All land ^a	37,126,800	37,010,949	36,836,463	-174,486

^aExcludes all water areas.



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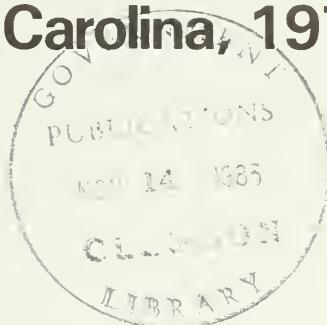


Southeastern Forest Experiment Station

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SE-70

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August 1983

Southeastern Forest Experiment Station
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Changes in Output of Industrial Timber Products in North Carolina, 1973-1979

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Abstract

More than 534 million cubic feet of industrial roundwood products were harvested from North Carolina forests during 1979, 2 percent more than in 1976 but 7 percent less than in 1973. Saw logs and pulpwood were the leading roundwood products with 91 percent of output. Byproduct output increased from 94 million cubic feet in 1973 to more than 144 million cubic feet in 1979, a 53 percent increase. A total of 530 primary wood-using plants operated in North Carolina during 1979, an increase of more than 100 plants, mostly sawmills, since 1973. North Carolina's output of 534 million cubic feet of industrial roundwood exceeded receipts by 15 million cubic feet in 1979, making the State a net exporter of industrial roundwood. A trend toward complete utilization of residues continued. Use of residues was 87 percent for bark, 98 percent for coarse materials, 89 percent for sawdust, and 97 percent for shavings.

KEYWORDS: Roundwood products, plant byproducts, softwood products, hardwood products, unused plant residues, roundwood receipts, wood movement.

Background

In 1974 a detailed forest inventory of North Carolina was made to determine inventory, growth, and removals of the forest resources; these inventories are made at approximately 10-year intervals. To supplement these data, primary wood-using plants are canvassed periodically to determine amounts and sources of their receipts. These industry canvasses have been made approximately every 3 years, beginning in 1964 and continuing through 1979. This Bulletin reports the findings

of the 1979 canvass and the changes since 1973.

Since one objective is to determine the volume of wood removed from the State's forests, only primary processing plants are considered. A plant that converts boards from a sawmill into furniture, for example, is classed as a secondary processor and is not considered here. Total use of wood by primary processing plants is here called output of industrial timber products. The output is divided into two components--roundwood products and plant byproducts. The second component consists of those initial residues from primary plants that were used as a roundwood substitute.

This report divides North Carolina into four geographic regions, Southern Coastal Plain, Northern Coastal Plain, Piedmont, and Mountain (fig. 1). Each region has its own characteristics that affect the wood-using industry in different ways. These regions coincide with those for inventory and commodity drain surveys, permitting many comparisons beyond those reported here.

Statewide Trends

North Carolina's total output of industrial timber products for 1979 was almost 679 million cubic feet, an increase of 8 percent since 1976 and 1 percent more than 1973. Statewide outputs are shown in table 1; those for individual regions are in tables 2-5. Softwood roundwood accounted for more than 50 percent of the total output in 1979, approximately 6 percent less than 1973 and 1976. Hardwood roundwood output was 28 percent of total output, about the same as in previous years. The leading products for 1979 were saw logs and pulpwood, which accounted for 49 percent and 42 percent, respectively, of the roundwood produced. Byproduct use has increased by 53 percent since 1973 and

now accounts for approximately 21 percent of total output.

The number of primary wood-using plants increased from 410 in 1973 to 530 in 1979 (fig. 2). Almost all the increase was in sawmills in the Piedmont and Mountain Regions (table 6). Veneer mills decreased by 5 during this 7-year period, and now number 31. One pulpmill closed during this period, leaving eight operating. The Piedmont is the only region without a pulpmill. There were 13 other miscellaneous plants in 1979, approximately the same as in 1973 and 1976.

North Carolina continues to be a net exporter of industrial roundwood; however, export volume has declined from 8 percent of the total output in 1973 to 3 percent in 1979 (table 7). When compared regionally, the Southern Coastal Plain, Northern Coastal Plain, and Piedmont are net exporters, while the Mountain Region imported four times more than it exported during 1979 (table 8). More than 96 percent of out-of-State softwood movement can be attributed to pulpwood, most of which is shipped to South Carolina. Ninety percent of the hardwood exported to other States was pulpwood; most went to Virginia.

The volume of unused plant residues continues to decline as use for fuelwood and other products increases (table 9). Utilization of residues in 1979 was 98 percent for coarse material, 97 percent for shavings, 89 percent for sawdust, and 87 percent for bark. Ninety-seven percent of the unutilized residues came from the manufacture of lumber and consisted of bark and sawdust. More than 84 percent of the unused residues occur in the Piedmont and Mountain Regions of the State, where sawmills are smaller and scattered over a larger area (table 10). Only 8 percent of softwood bark and 22 percent of hardwood bark were not utilized during 1979 (table 11).

North Carolina had 17 counties that produced more than 10 million cubic feet of roundwood during 1979, compared with 16 counties in 1976 and 18 during 1973 (table 12). Most of the counties producing more than 10 million cubic feet in 1979 also produced this amount in 1976 and 1973. Craven County, in the Northern Coastal Plain led all counties with 26.6 million cubic feet and also had the largest increase since 1973 (figs. 3, 4).

Southern Coastal Plain

The Southern Coastal Plain's 21 counties produced almost 30 percent of the total output for North Carolina during 1979. Their output was approximately the same as in 1976 and 1973 (table 2). A small increase was noted in total product output despite a decline in roundwood of 6 percent. Approximately 75 percent of the total output was softwood, with saw logs comprising 36 percent and pulpwood 52 percent of the total. Pulpwood was the leading roundwood product with 46 percent, followed by saw logs with 42 percent. This region produced more than 40 percent of the State's veneer during 1979; almost 93 percent of the region's output was softwood. Byproduct output during 1979 was approximately 52 million cubic feet, 26 percent of the total output and an 89 percent increase over 1976. The region was a net exporter of industrial roundwood as output exceeded receipts by 33 percent. Both softwood and hardwood roundwood exports were four times greater than imports. Pulpwood was the leading export product; most of it was shipped to South Carolina.

There was only one major change in the makeup of wood-using industries in this region since 1973. One pulpmill was completed and began operating between 1973 and 1976. In 1979 the number of wood-using plants totaled 71, about the same number as in 1973.

Northern Coastal Plain

The Northern Coastal Plain, consisting of 23 counties in the northeastern part of the State, produced 35 percent of the industrial output of North Carolina during 1979. Production of roundwood was 8 percent more than in 1976 but 13 percent less than in 1973 (table 3). Byproduct output has increased in each of the survey years, from more than 41 million cubic feet to more than 51 million cubic feet, a 24 percent increase. Total roundwood exports were 126 percent more than imports, with 18 million cubic feet of softwood and 14 million cubic feet of hardwood being exported. The roundwood exports consisted mainly of pulpwood and were exported to Virginia.

There were 64 wood-using plants operating in this region during 1979, 4 less

than in 1976 and 13 fewer than in 1973. The reduction in number of plants resulted from the closing of sawmills, as the number of other types of plants remained about the same. This region contains four of the State's eight pulpmills.

The Northern Coastal Plain had the most roundwood output of any region in the State and the least amount of unused residues. Only 826,000 cubic feet of residues was not used; more than 83 percent of the unused material came from sawn products.

Piedmont

The Piedmont Region was the only one in the State to show an increase in roundwood output during each of the survey years. Although there was only a 6 percent increase from 1973 through 1979, this was in contrast to all other regions in the State which had declines in 1976. The region's 35 counties accounted for 155 million cubic feet or 29 percent of the roundwood output in the State (table 4). About 62 percent of Piedmont output was softwood and 38 percent was hardwood. Saw logs accounted for almost 52 percent and pulpwood 41 percent of the roundwood product output. Byproduct output increased 45 percent between 1973 and 1979 and totals more than 31 million cubic feet.

The Piedmont had the largest volume and greatest percentage of roundwood exports of any region in the State. Almost 74 million cubic feet of roundwood was exported, while less than 3 million cubic feet was imported. Only 59 percent of softwood roundwood and 41 percent of the hardwood produced were retained for use within the region.

Total number of wood-using plants increased from 170 in 1973 to 208 in 1979. All the increase in number of plants can be attributed to sawmills; other types of plants remained constant or decreased in number. Among its 208 mills, the Piedmont region has only one large veneer mill, six large sawmills, and is the only region without a pulpmill.

Volume of unused plant residues in this region was more than 5 million cubic feet, 45 percent of the State total during 1979. More than 99 percent of the unused residues, which consist primarily of sawdust, come from the manufacture of

lumber. Use of residues in this region is limited for several reasons. First, many of the sawmills are portable, small, and scattered over a wide area, making collection expensive. Second, no large industries using wood for fuel are located in this region.

Mountain

The Mountain Region with its 21 counties is the only region in the State where hardwood roundwood output exceeds softwood (table 5). This region produced 9 percent of the roundwood output for the State in 1979, compared with 8 percent in 1976 and 10 percent in 1973. More than 60 percent of the region's roundwood output is hardwood, and saw logs are the leading product. Byproduct output remained about the same for all three survey years, approximately 6 percent of the total industrial output for the region.

Both softwood and hardwood roundwood imports exceeded exports by more than four to one. Output was only 68 percent of the regional use (mill receipts). More than 92 percent of softwood and 73 percent of hardwood roundwood imports were pulpwood.

The Mountain Region had the second largest number of plants operating in the State during 1979. Sawmills accounted for 181 of the 187 plants; 4 veneer and 2 pulpmills were also operating in this region.

The volume of unused plant residues was higher here, in relation to roundwood output, than in any other region of the State. More than 4.5 million cubic feet of residues was not used in the Mountain Region during 1979, more than 38 percent of the State total. More than 95 percent of these unused residues came from lumber manufacture, with sawdust accounting for 60 percent, bark 23 percent, and coarse material 17 percent of this total. There are several reasons for the large volume of unused residues in this region:

- (1) Most sawmills are small and do not have facilities for utilizing the residues on site,
- (2) collecting and transporting the small volumes of the residue is difficult and expensive,
- (3) large facilities that use wood residues are rare, and
- (4) many portable sawmills operate within this region.

Definitions of Terms

Coarse residues. Wood residues suitable for chipping, such as slab, edgings, and veneer cores.

Fine residues. Wood residues not suitable for chipping, such as sawdust and shavings.

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

Industrial wood. All roundwood products except fuelwood.

Plant byproducts. Wood products, such as pulp chips, obtained incidentally to production of other manufactured products.

Primary wood-using plants (industries). Those plants or industries that utilized roundwood products in the manufacture of their principal products. (Plants that

utilize only plant byproducts as a substitute for roundwood are included.)

Roundwood products. Logs, bolts, or other round sections cut from trees for industrial or consumer uses.

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

Timber products. Roundwood products and plant byproducts.

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

Unused plant residues. Wood material from manufacturing plants not utilized for some product.

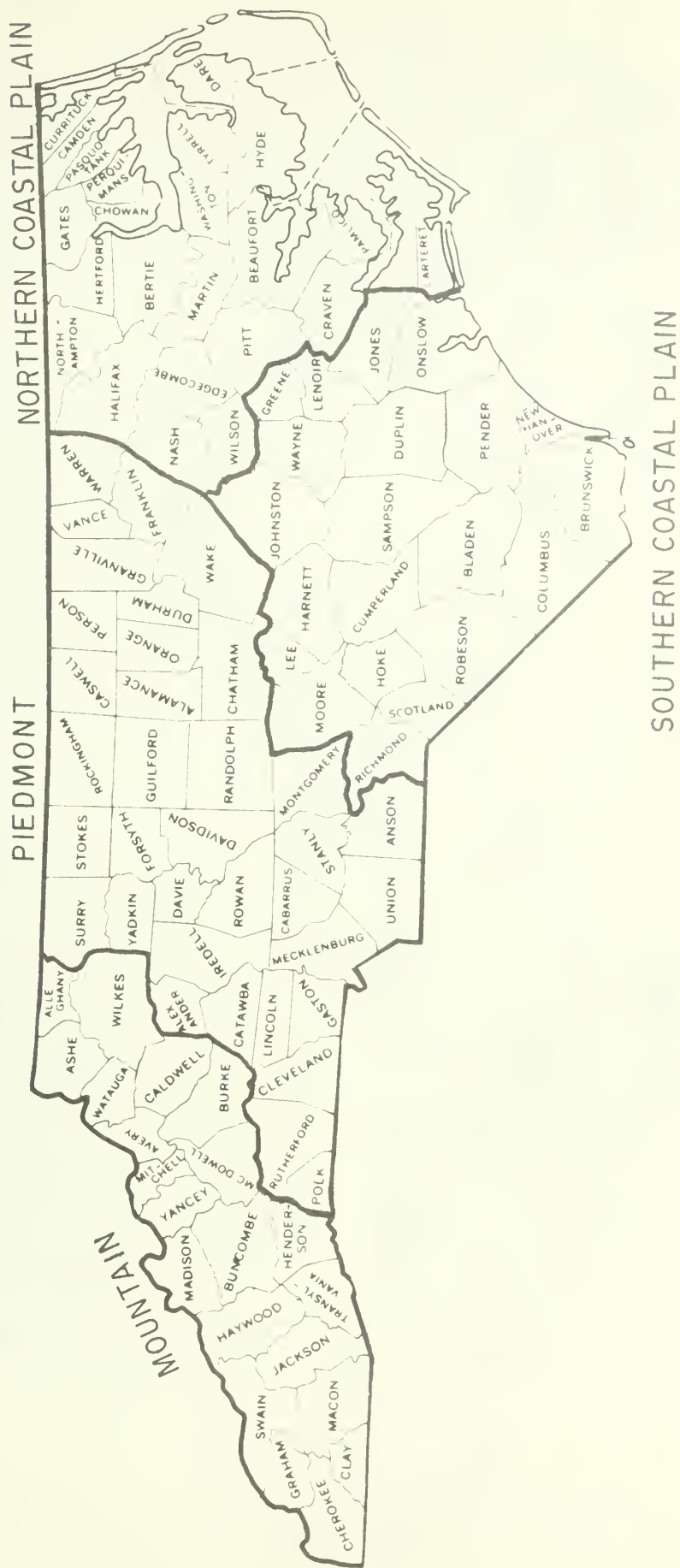


Figure 1.--Forest survey regions in North Carolina.

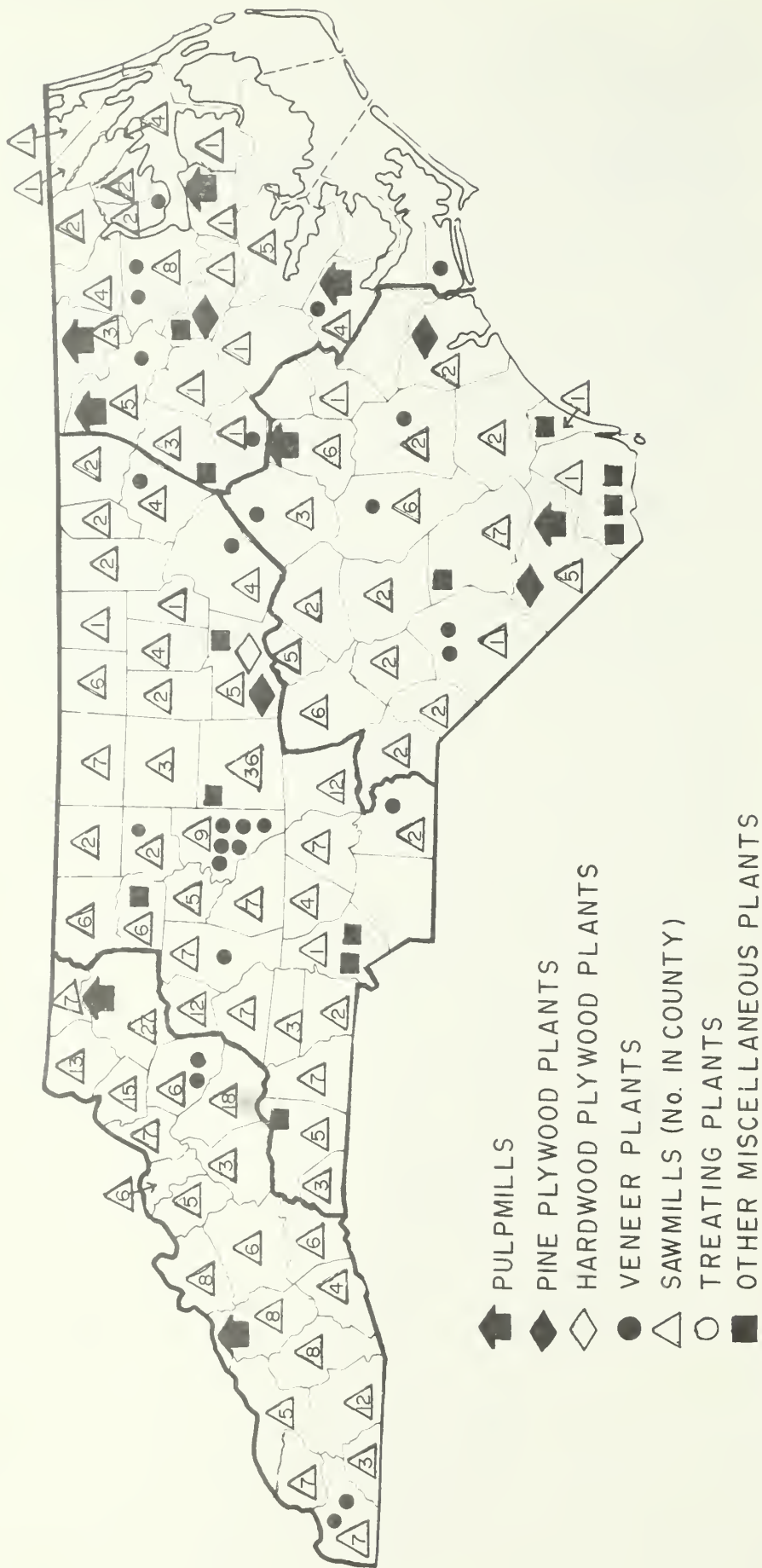


Figure 2.--Location of primary wood-using Industries In North Carolina, 1979.

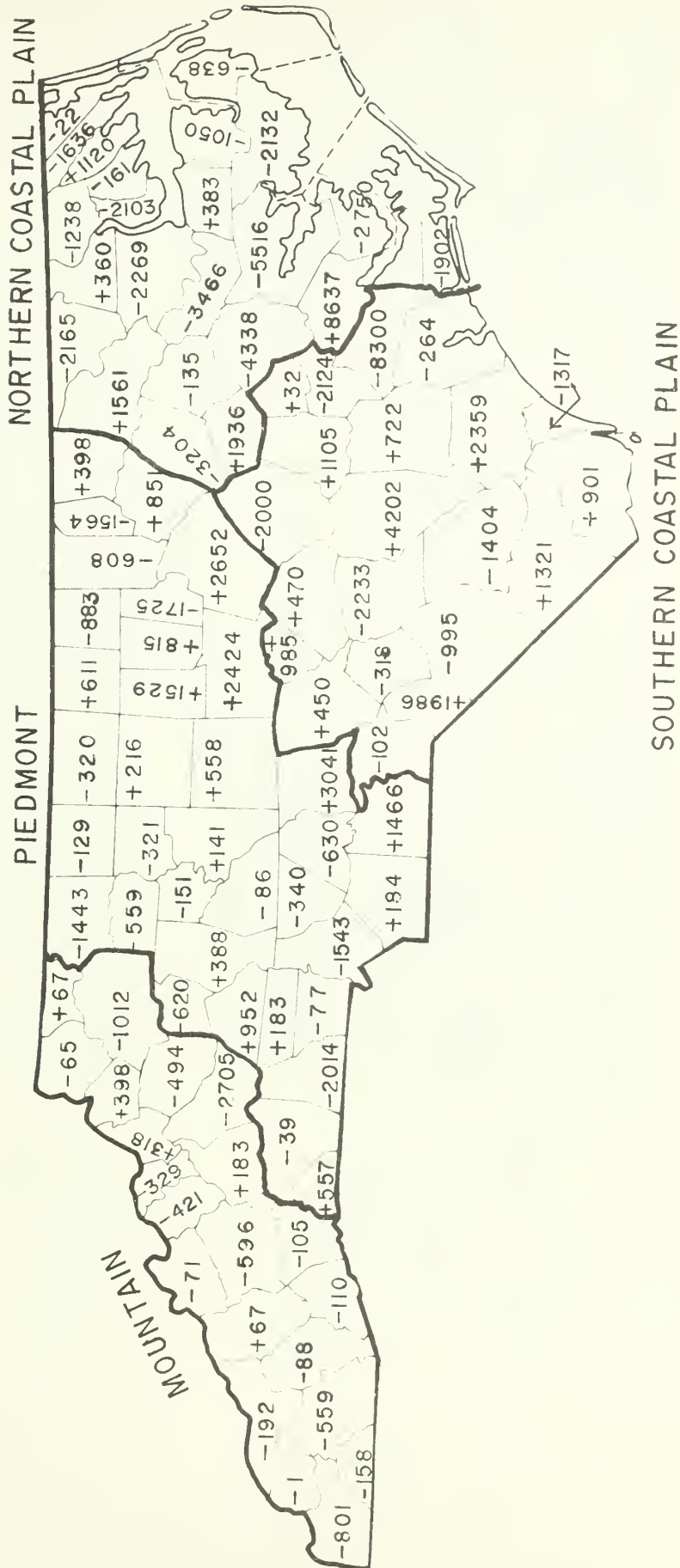


Figure 3.--Change in output of softwood roundwood products (in thousand cubic feet), by county, North Carolina, 1973-1979.

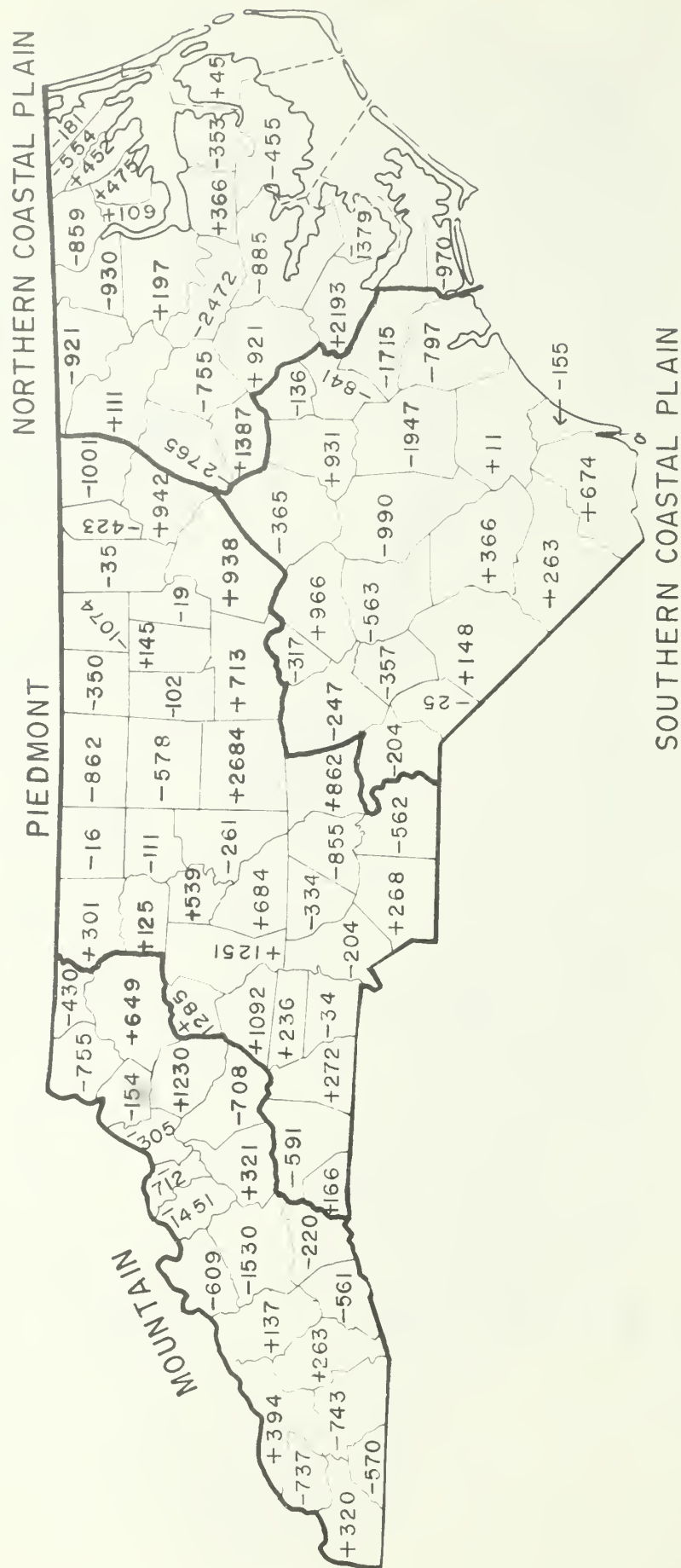


Figure 4.--Change in output of hardwood roundwood products (in thousand cubic feet), by county, North Carolina, 1973-1979.

Table 1.--Output of industrial timber products for 3 years, by product and species group, and by type of material, North Carolina

Product and species group	Total			Roundwood			Byproduct		
	1973 ^a	1976 ^b	1979 ^b	1973 ^a	1976 ^b	1979 ^b	1973	1976	1979
-- -- -- -- -- Thousand cubic feet -- -- -- -- --									
Saw logs:									
Softwood	182,201	182,786	181,604	178,126	178,489	175,692	4,075	4,297	5,912
Hardwood	90,240	72,822	85,788	89,940	72,559	85,717	300	263	71
Total	272,441	255,608	267,392	268,066	251,048	261,409	4,375	4,560	5,983
Veneer logs:									
Softwood	49,799	31,643	34,496	49,799	31,643	34,496	--	--	--
Hardwood	17,629	11,262	9,644	17,629	11,262	9,644	--	--	--
Total	67,428	42,905	44,140	67,428	42,905	44,140	--	--	--
Pulpwood:									
Softwood	202,727	216,236	222,656	143,698	148,968	134,625	59,029	67,268	88,031
Hardwood	106,538	97,275	120,283	92,243	78,195	89,494	14,295	19,080	30,789
Total	309,265	313,511	342,939	235,941	227,163	224,119	73,324	86,348	118,820
Other industrial:									
Softwood	14,903	10,935	13,918	1,899	1,428	777	13,004	9,507	13,141
Hardwood	6,101	4,609	10,301	2,491	333	3,890	3,610	4,276	6,411
Total	21,004	15,544	24,219	4,390	1,761	4,667	16,614	13,783	19,552
All industrial:									
Softwood	449,630	441,600	452,674	373,522	360,528	345,590	76,108	81,072	107,084
Hardwood	220,508	185,968	226,016	202,303	162,349	188,745	18,205	23,619	37,271
Total	670,138	627,568	678,690	575,825	522,877	534,335	94,313	104,691	144,355

^aExcludes a small amount of roundwood pulpwood chipped.

^bIncludes roundwood chipped at other primary wood-using industries.

Table 2.--Output of industrial timber products for 3 years, by product and species group, and by type of material, Southern Coastal Plain, North Carolina

Product and species group	Total			Roundwood			Byproduct		
	1973 ^a	1976 ^b	1979 ^b	1973 ^a	1976 ^b	1979 ^b	1973	1976	1979
----- Thousand cubic feet -----									
Saw logs:									
Softwood	44,027	48,375	53,499	41,373	45,076	47,613	2,654	3,299	5,886
Hardwood	13,459	10,802	14,673	13,397	10,802	14,673	62	--	--
Total	57,486	59,177	68,172	54,770	55,878	62,286	2,716	3,299	5,886
Veneer logs:									
Softwood	18,117	13,220	16,481	18,117	13,220	16,481	--	--	--
Hardwood	3,134	3,085	1,308	3,134	3,085	1,308	--	--	--
Total	21,251	16,305	17,789	21,251	16,305	17,789	--	--	--
Pulpwood:									
Softwood	69,724	86,488	78,157	53,769	69,053	45,107	15,955	17,435	33,050
Hardwood	30,091	25,403	34,338	27,906	22,167	23,538	2,185	3,236	10,800
Total	99,815	111,891	112,495	81,675	91,220	68,645	18,140	20,671	43,850
Other industrial:									
Softwood	4,948	3,455	2,315	929	619	463	4,019	2,836	1,852
Hardwood	872	589	198	460	--	78	412	589	120
Total	5,820	4,044	2,513	1,389	619	541	4,431	3,425	1,972
All industrial:									
Softwood	136,816	151,538	150,452	114,188	127,968	109,664	22,628	23,570	40,788
Hardwood	47,556	39,879	50,517	44,897	36,054	39,597	2,659	3,825	10,920
Total	184,372	191,417	200,969	159,085	164,022	149,261	25,287	27,395	51,708

^aExcludes a small amount of roundwood pulpwood chipped.
^bIncludes roundwood chipped at other primary wood-using industries.

Table 3.--Output of industrial timber products for 3 years, by product and species group, and by type of material, Northern Coastal Plain, North Carolina

Product and species group	Total			Roundwood			Byproduct		
	1973 ^a	1976 ^b	1979 ^b	1973 ^a	1976 ^b	1979 ^b	1973	1976	1979
----- Thousand cubic feet -----									
Saw logs:									
Softwood	72,818	69,073	64,380	71,397	68,075	64,380	1,421	998	--
Hardwood	30,147	21,044	18,893	30,128	21,044	18,893	19	--	--
Total	102,965	90,117	83,273	101,525	89,119	83,273	1,440	998	--
Veneer logs:									
Softwood	28,193	12,944	11,377	28,193	12,944	11,377	--	--	--
Hardwood	7,387	5,481	4,978	7,387	5,481	4,978	--	--	--
Total	35,580	18,425	16,355	35,580	18,425	16,355	--	--	--
Pulpwood:									
Softwood	68,665	60,070	81,446	42,000	30,704	45,823	26,665	29,366	35,623
Hardwood	36,625	38,358	43,248	29,241	30,050	35,577	7,384	8,308	7,671
Total	105,290	98,428	124,694	71,241	60,754	81,400	34,049	37,674	43,294
Other industrial:									
Softwood	5,991	4,568	7,481	730	355	12	5,261	4,213	7,469
Hardwood	2,494	788	2,767	1,549	--	1,634	945	788	1,133
Total	8,485	5,356	10,248	2,279	355	1,646	6,206	5,001	8,602
All industrial:									
Softwood	175,667	146,655	164,684	142,320	112,078	121,592	33,347	34,577	43,092
Hardwood	76,653	65,671	69,886	68,305	56,575	61,082	8,348	9,096	8,804
Total	252,320	212,326	234,570	210,625	168,653	182,674	41,695	43,673	51,896

^aExcludes a small amount of roundwood pulpwood chipped.

^bIncludes roundwood chipped at other primary wood-using industries.

Table 4.--Output of industrial timber products for 3 years, by product and species group, and by type of material, Piedmont, North Carolina

Product and species group	Total			Roundwood			Byproduct		
	1973 ^a	1976 ^b	1979 ^b	1973 ^a	1976 ^b	1979 ^b	1973	1976	1979
----- Thousand cubic feet -----									
Saw logs:									
Softwood	47,410	51,107	49,280	47,410	51,107	49,254	--	--	26
Hardwood	24,454	23,927	31,329	24,312	23,927	31,258	142	--	71
Total	71,864	75,034	80,609	71,722	75,034	80,512	142	--	97
Veneer logs:									
Softwood	3,489	5,479	6,376	3,489	5,479	6,376	--	--	--
Hardwood	4,437	1,756	2,673	4,437	1,756	2,673	--	--	--
Total	7,926	7,235	9,049	7,926	7,235	9,049	--	--	--
Pulpwood:									
Softwood	54,054	63,359	56,195	40,456	44,774	39,673	13,598	18,585	16,522
Hardwood	28,078	25,071	30,401	25,631	20,724	23,720	2,447	4,347	6,681
Total	82,132	88,430	86,596	66,087	65,498	63,393	16,045	22,932	23,203
Other industrial:									
Softwood	3,628	2,791	3,414	234	437	280	3,394	2,354	3,134
Hardwood	2,137	3,082	6,814	358	252	2,178	1,779	2,830	4,636
Total	5,765	5,873	10,228	592	689	2,458	5,173	5,184	7,770
All industrial:									
Softwood	108,581	122,736	115,265	91,589	101,797	95,583	16,992	20,939	19,682
Hardwood	59,106	53,836	71,217	54,738	46,659	59,829	4,368	7,177	11,388
Total	167,687	176,572	186,482	146,327	148,456	155,412	21,360	28,116	31,070

^aExcludes a small amount of roundwood pulpwood chipped.

^bIncludes roundwood chipped at other primary wood-using industries.

Output of industrial timber products for 3 years, by product and species group, and by type of material, Mountain, North Carolina

Product and species group	Total			Roundwood			Byproduct		
	1973 ^a	1976 ^b	1979 ^b	1973 ^a	1976 ^b	1979 ^b	1973	1976	1979
- - - - - Thousand cubic feet - - - - -									
Saw logs:									
Softwood	17,946	14,231	14,445	17,946	14,231	14,445	--	--	--
Hardwood	22,180	17,049	20,893	22,103	16,786	20,893	77	263	--
Total	40,126	31,280	35,338	40,049	31,017	35,338	77	263	--
Veneer logs:									
Softwood	--	--	262	--	--	262	--	--	--
Hardwood	2,671	940	685	2,671	940	685	--	--	--
Total	2,671	940	947	2,671	940	947	--	--	--
Pulpwood:									
Softwood	10,284	6,319	6,858	7,473	4,437	4,022	2,811	1,882	2,836
Hardwood	11,744	8,443	12,296	9,465	5,254	6,659	2,279	3,189	5,637
Total	22,028	14,762	19,154	16,938	9,691	10,681	5,090	5,071	8,473
Other industrial:									
Softwood	336	121	708	6	17	22	330	104	686
Hardwood	598	150	522	124	81	--	474	69	522
Total	934	271	1,230	130	98	22	804	173	1,208
All industrial:									
Softwood	28,566	20,671	22,273	25,425	18,685	18,751	3,141	1,986	3,522
Hardwood	37,193	26,582	34,396	34,363	23,061	28,237	2,830	3,521	6,159
Total	65,759	47,253	56,669	59,788	41,746	46,988	5,971	5,507	9,681

^aExcludes a small amount of roundwood pulpwood chipped.

^bIncludes roundwood chipped at other primary wood-using industries.

Table 6.--Number of primary wood using plants for 3 years, by survey region and industry, North Carolina

Region	Total all plants	Industry			
		Sawmills	Veneer mills	Pulpmills	Other misc.
Southern Coastal Plain					
1973	69	58	9	1	1
1976	74	62	8	2	2
1979	71	57	7	2	5
Northern Coastal Plain					
1973	77	59	9	4	5
1976	68	55	8	4	1
1979	64	50	8	4	2
Piedmont					
1973	170	151	14	--	5
1976	207	189	12	--	6
1979	208	190	12	--	6
Mountain					
1973	94	87	4	3	--
1976	103	97	4	2	--
1979	187	181	4	2	--
All regions					
1973	410	355	36	8	11
1976	452	403	32	8	9
1979	530	478	31	8	13

Table 7.--Industrial roundwood movement for 3 years,
by species group, North Carolina

Species group	1973 ^a	1976	1979
- - <u>Thousand cubic feet</u> - -			
Softwood:			
Output	373,522	360,528	345,590
Retained	297,387	296,989	300,434
Export	76,135	63,539	45,156
Import	44,060	42,375	37,217
Receipts	341,447	339,364	337,651
Hardwood:			
Output	202,303	162,349	188,745
Retained	163,026	134,488	159,308
Export	39,277	27,861	29,437
Import	23,923	20,690	21,837
Receipts	186,949	155,178	181,145
All species:			
Output	575,825	522,877	534,335
Retained	460,413	431,477	459,742
Export	115,412	91,400	74,593
Import	67,983	63,065	59,054
Receipts	528,396	494,542	518,796

^aExcludes a small amount of roundwood pulpwood
chipped.

Table 8.--Industrial roundwood movement, by species group and survey region North Carolina, 1979

Species group	Southern Coastal Plain	Northern Coastal Plain	Piedmont	Mountain
- - - - - Thousand cubic feet - - - - -				
Softwood:				
Output	109,667	121,590	95,585	18,748
Retained	72,277	103,278	47,914	15,301
Export	37,390	18,312	47,671	3,447
Import	9,929	10,232	1,068	15,989
Receipts	82,206	113,510	48,982	31,290
Hardwood:				
Output	39,652	61,056	59,805	28,232
Retained	27,367	46,754	33,786	24,522
Export	12,285	14,302	26,019	3,710
Import	2,718	4,230	1,699	13,191
Receipts	30,085	50,984	35,485	37,713
All species:				
Output	149,319	182,646	155,390	46,980
Retained	99,644	150,032	81,700	39,823
Export	49,675	32,614	73,690	7,157
Import	12,647	14,462	2,767	29,180
Receipts	112,291	164,494	84,467	69,003

Table 9.--Volume of unused plant residues at primary wood-using industries, by species group and type of residue, and by industry, North Carolina, 1979

Species group and type of residue	:	All industries	:	Lumber	:	Veneer and plywood	:	Other
- - - - - <u>Thousand cubic feet</u> - - - - -								
Softwood:								
Coarse		1,520		1,520		--		--
Shavings		434		434		--		--
Other fine		4,600		4,585		15		--
Total		6,554		6,539		15		--
Hardwood:								
Coarse		1,264		1,106		158		--
Shavings		30		30		--		--
Other fine		3,977		3,770		207		--
Total		5,271		4,906		365		--
All species:								
Coarse		2,784		2,626		158		--
Shavings		464		464		--		--
Other fine		8,577		8,355		222		--
Total		11,825		11,445		380		--

Table 10.--Volume of unused plant residues, by species group and industry, and by survey region, North Carolina, 1979

Species group and industry	Region				
	Total	Southern			Mountain
		Coastal Plain	Coastal Plain	Piedmont	
- - - - - Thousand cubic feet - - - - -					
Softwood:					
Lumber	6,539	1,002	542	3,034	1,961
Veneer and plywood	15	--	15	--	--
Other	--	--	--	--	--
Total	6,554	1,002	557	3,034	1,961
Hardwood:					
Lumber	4,906	112	144	2,297	2,353
Veneer and plywood	365	--	125	26	214
Other	--	--	--	--	--
Total	5,271	112	269	2,323	2,567
All species:					
Lumber	11,445	1,114	686	5,331	4,314
Veneer and plywood	380	--	140	26	214
Other	--	--	--	--	--
Total	11,825	1,114	826	5,357	4,528

Table 11.--Disposal of bark at primary wood-using industries for 3 years, by disposition and species group, North Carolina

Disposition	All species			Softwood			Hardwood		
	1973	1976	1979	1973	1976	1979	1973	1976	1979
	-----Thousand green tons-----								
Fiber products	25.0	11.5	9.7	4.7	3.1	4.1	20.3	8.4	5.6
Particleboard	0.9	0.4	2.8	0.7	0.1	2.3	0.2	0.3	0.5
Charcoal	--	8.7	35.0	--	8.2	27.8	--	0.5	7.2
Industrial fuel	930.0	834.3	468.0	552.8	477.9	302.3	377.2	356.4	165.7
Domestic fuel	27.9	25.0	35.7	13.8	9.7	13.8	14.1	15.3	21.9
Miscellaneous	223.0	249.0	202.1	176.7	205.2	141.0	46.3	43.8	61.1
Not used	392.3	230.6	117.4	183.1	107.8	45.6	209.2	122.8	71.8
Total	1,599.1	1,359.5	870.7	931.8	812.0	536.9	667.3	547.5	333.8

Table 12.--Roundwood products output for 3 years, by region and county, and by species group, North Carolina

Region and county	All species			Softwood			Hardwood		
	1973	1976	1979	1973	1976	1979	1973	1976	1979
----- Thousand cubic feet -----									
Southern Coastal Plain:									
Bladen	14,871	18,631	13,833	10,848	12,551	9,444	4,023	6,080	4,389
Brunswick	11,190	11,421	12,765	9,250	9,825	10,151	1,940	1,596	2,614
Columbus	12,356	16,263	13,940	9,135	13,759	10,456	3,221	2,504	3,484
Cumberland	6,333	6,341	3,537	4,782	5,274	2,549	1,551	1,067	988
Duplin	11,607	10,784	10,382	7,591	8,803	8,313	4,016	1,981	2,069
Greene	2,551	2,984	2,447	1,827	1,952	1,859	724	1,032	588
Harnett	4,164	3,781	5,600	2,865	2,542	3,335	1,299	1,239	2,265
Hoke	2,340	2,438	1,665	1,743	2,033	1,425	597	405	240
Johnston	12,712	9,090	10,347	8,163	5,344	6,163	4,549	3,746	4,184
Jones	14,153	7,409	4,138	11,613	6,004	3,313	2,540	1,405	825
Lee	3,897	4,218	4,565	2,331	3,417	3,316	1,566	801	1,249
Lenior	7,353	4,093	4,388	5,529	3,296	3,405	1,824	797	983
Moore	5,843	5,591	6,046	3,939	4,296	4,389	1,904	1,295	1,657
New Hanover	2,334	1,767	862	1,994	1,673	677	340	94	185
Onslow	7,285	8,985	6,224	5,638	8,175	5,374	1,647	810	850
Pender	7,027	10,410	9,397	5,043	8,923	7,402	1,984	1,487	1,995
Richmond	4,799	3,496	4,493	3,418	2,442	3,316	1,381	1,054	1,177
Robeson	8,799	12,363	7,952	6,108	9,552	5,113	2,691	2,811	2,839
Sampson	11,712	12,348	14,924	7,505	9,700	11,707	4,207	2,648	3,217
Scotland	2,328	4,969	4,289	1,440	4,456	3,426	888	513	863
Wayne	5,431	6,640	7,467	3,426	3,951	4,531	2,005	2,689	2,936
Total	159,085	164,022	149,261	114,188	127,968	109,664	44,897	36,054	39,597

Continued

Table 12.--Roundwood products output for 3 years, by region and county, and by species group, North Carolina--Continued

Region and county	All species			Softwood			Hardwood		
	1973	1976	1979	1973	1976	1979	1973	1976	1979
----- Thousand cubic feet -----									
Northern Coastal Plain:									
Beaufort	21,728	14,146	15,327	16,182	9,242	10,666	5,546	4,904	4,661
Bertie	18,925	15,508	16,853	11,449	8,400	9,180	7,476	7,108	7,673
Camden	3,955	3,967	1,765	2,451	2,167	815	1,504	1,800	950
Carteret	6,445	2,603	3,573	5,041	2,134	3,139	1,404	469	434
Chowan	6,228	3,634	4,234	4,375	1,950	2,272	1,853	1,684	1,962
Craven	15,755	16,657	26,585	11,566	12,218	20,203	4,189	4,439	6,382
Currituck	1,923	1,333	1,720	935	590	913	988	743	807
Dare	2,745	3,595	2,152	2,364	3,508	1,726	381	87	426
Edgecombe	6,251	6,016	5,361	3,970	3,752	3,835	2,281	2,264	1,526
Gates	12,009	11,645	9,912	8,361	8,406	7,123	3,648	3,239	2,789
Halifax	13,160	12,867	14,832	7,648	8,652	9,209	5,512	4,215	5,623
Hertford	11,041	10,279	10,471	6,425	5,693	6,785	4,616	4,586	3,686
Hyde	6,440	4,353	3,853	5,075	3,238	2,943	1,365	1,115	910
Martin	12,732	7,287	6,794	8,196	4,956	4,730	4,536	2,331	2,064
Nash	12,253	9,985	6,284	7,153	7,417	3,949	5,100	2,568	2,335
Northampton	14,873	14,155	11,787	8,729	8,566	6,564	6,144	5,589	5,223
Pamlico	7,118	4,146	2,989	4,937	3,195	2,187	2,181	951	802
Pasquotank	5,168	3,508	6,740	3,825	2,681	4,945	1,343	827	1,795
Perquimans	5,720	3,576	6,034	4,115	2,331	3,954	1,605	1,245	2,080
Pitt	10,187	5,521	6,770	8,445	2,956	4,107	1,742	2,565	2,663
Tyrrell	5,713	3,820	4,310	4,450	3,329	3,400	1,263	491	910
Washington	3,910	4,172	4,659	2,243	2,499	2,626	1,667	1,673	2,033
Wilson	6,346	5,880	9,669	4,385	4,198	6,321	1,961	1,682	3,348
Total	210,625	168,653	182,674	142,320	112,078	121,592	68,305	56,575	61,082

Continued

Table 12.--Roundwood products output for 3 years, by region and county, and by species group, North Carolina--Continued

Region and county	All species			Softwood			Hardwood		
	1973	1976	1979	1973	1976	1979	1973	1976	1979
----- Thousand cubic feet -----									
Piedmont:									
Alamance	1,282	656	2,709	468	212	1,997	814	444	712
Alexander	2,537	3,153	3,202	1,987	2,276	1,367	550	877	1,835
Anson	8,840	9,395	9,744	5,954	6,480	7,420	2,886	2,915	2,324
Cabarrus	2,759	2,342	2,085	1,755	1,430	1,415	1,004	912	670
Caswell	2,238	2,216	2,499	672	881	1,283	1,566	1,335	1,216
Catawba	1,855	2,215	3,899	1,563	1,570	2,515	292	645	1,384
Chatham	9,189	12,483	12,326	5,905	9,675	8,329	3,284	2,808	3,997
Cleveland	3,856	2,496	2,194	3,133	1,837	1,199	723	659	995
Davidson	4,385	2,478	4,265	2,043	1,183	2,184	2,342	1,295	2,081
Davie	2,316	2,491	2,704	1,483	1,359	1,332	833	1,132	1,372
Durham	3,957	4,762	2,213	2,963	3,889	1,238	994	873	975
Forsyth	1,652	1,657	1,220	1,048	824	727	604	833	493
Franklin	8,734	9,479	10,527	5,761	7,081	6,612	2,973	2,398	3,915
Gaston	1,990	2,398	1,879	1,539	1,909	1,462	451	489	417
Granville	7,696	8,434	7,053	4,354	6,351	3,746	3,342	2,083	3,307
Guilford	2,339	1,281	1,977	1,018	632	1,234	1,321	649	743
Iredell	4,430	4,938	6,069	3,508	3,182	3,896	922	1,756	2,173
Lincoln	2,626	3,721	3,045	2,137	2,946	2,320	489	775	725
Mecklenburg	3,947	2,460	2,200	3,157	1,605	1,614	790	855	586
Montgomery	7,179	8,807	11,082	5,334	6,732	8,375	1,845	2,075	2,707
Orange	2,959	3,093	3,919	1,644	1,777	2,459	1,315	1,316	1,460
Person	4,121	5,434	2,164	2,024	4,150	1,141	2,097	1,284	1,023
Polk	1,418	1,542	2,141	553	972	1,110	865	570	1,031
Randolph	4,270	5,163	7,512	2,165	2,827	2,723	2,105	2,336	4,789
Rockingham	3,562	1,926	2,380	1,281	757	961	2,281	1,169	1,419
Rowan	3,276	4,532	3,874	2,268	2,618	2,182	1,008	1,914	1,692
Rutherford	6,391	4,637	5,761	3,620	2,820	3,581	2,771	1,817	2,180
Stanly	4,300	3,658	2,815	2,608	2,763	1,978	1,692	895	837
Stokes	2,634	2,340	2,489	819	951	690	1,815	1,389	1,799
Surry	3,864	1,881	2,722	2,123	823	680	1,741	1,058	2,042
Union	3,289	3,714	3,741	2,003	2,308	2,187	1,286	1,406	1,554
Vance	3,354	2,767	1,367	2,315	2,121	751	1,039	646	616
Wake	9,536	11,071	13,126	6,644	8,698	9,296	2,892	2,373	3,830
Warren	7,365	6,876	6,762	4,248	5,111	4,646	3,117	1,765	2,116
Yadkin	2,181	1,960	1,747	1,492	1,047	933	689	913	814
Total	146,327	148,456	155,412	91,589	101,797	95,583	54,738	46,659	59,829

Continued

Table 12.--Roundwood products output for 3 years, by region and county, and by species group, North Carolina--Continued

Region and county	All species			Softwood			Hardwood		
	1973	1976	1979	1973	1976	1979	1973	1976	1979
----- Thousand cubic feet -----									
Mountains:									
Alleghany	1,405	1,072	1,042	798	757	865	607	315	177
Ashe	2,198	383	1,378	743	120	678	1,455	263	700
Avery	762	429	775	67	85	385	695	344	390
Buncombe	4,052	3,550	1,926	1,043	1,474	447	3,009	2,076	1,479
Burke	7,866	5,811	4,453	5,101	3,824	2,396	2,765	1,987	2,057
Caldwell	3,278	1,949	4,059	2,262	1,118	1,768	1,016	831	2,291
Cherokee	3,957	2,756	3,476	2,170	1,590	1,369	1,787	1,166	2,107
Clay	1,512	1,723	784	443	721	285	1,069	1,002	499
Graham	1,541	895	803	198	162	197	1,343	733	606
Haywood	1,747	1,413	1,951	237	315	304	1,510	1,098	1,647
Henderson	2,292	1,649	1,967	621	754	516	1,671	895	1,451
Jackson	1,339	2,929	1,514	393	742	305	946	2,187	1,209
McDowell	1,761	1,333	2,265	871	711	1,054	890	622	1,211
Macon	2,634	2,178	1,332	842	415	283	1,792	1,763	1,049
Madison	2,590	2,048	1,910	567	740	496	2,023	1,308	1,414
Mitchell	2,070	753	1,029	804	330	475	1,266	423	554
Swain	1,381	855	1,583	572	267	380	809	588	1,203
Transylvania	2,585	1,345	1,914	504	544	394	2,081	801	1,520
Watauga	539	183	783	--	40	398	539	143	385
Wilkes	11,287	7,538	10,924	6,455	3,864	5,443	4,832	3,674	5,481
Yancy	2,992	954	1,120	734	112	313	2,258	842	807
Total	59,788	41,746	46,988	25,425	18,685	18,751	34,363	23,061	28,237
All counties	575,825	522,877	534,335	373,522	360,528	345,590	202,303	162,349	188,745

Hutchins, Cecil C., Jr.

Changes in output of Industrial timber products in North Carolina, 1973-1979. Resour. Bull. SE-70. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southeastern Forest Experiment Station; 1983. 23 p.

More than 534 million cubic feet of industrial roundwood products were harvested from North Carolina forests during 1979, 2 percent more than in 1976 but 7 percent less than in 1973. Saw logs and pulpwood were the leading roundwood products with 91 percent of output. Byproduct output increased from 94 million cubic feet in 1973 to more than 144 million cubic feet in 1979, a 53 percent increase. A total of 530 primary wood-using plants operated in North Carolina during 1979, an increase of more than 100 plants, mostly sawmills, since 1973. North Carolina's output of 534 million cubic feet of industrial roundwood exceeded receipts by 15 million cubic feet in 1979, making the State a net exporter of industrial roundwood. A trend toward complete utilization of residues continues.

KEYWORDS: Roundwood products, plant byproducts, softwood products, hardwood products, unused plant residues, roundwood receipts, wood movement.

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KEYWORDS: Roundwood products, plant byproducts, softwood products, hardwood products, unused plant residues, roundwood receipts, wood movement.



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