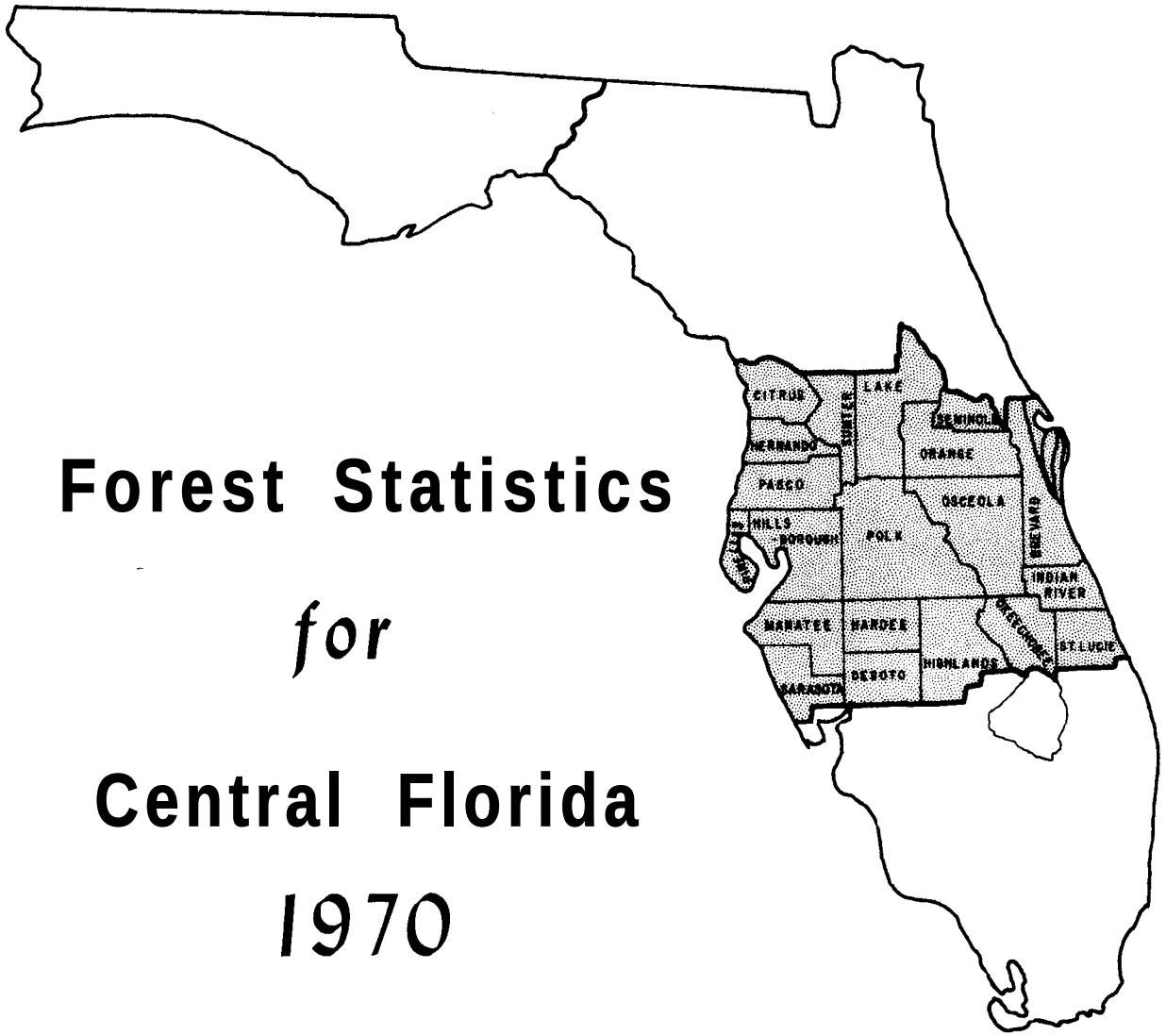
USDA forest Seruice Resource Bulletin SE- 17 September 1970



Forest Statistics

for

Central Florida

1970

forest Seruice- U.S. Department of Agriculture
Southeastern Forest Experiment Station
Asheville, North Carolina

FOREWORD

This report highlights the principal findings of the fourth Forest Survey of the timber resource in Central Florida. The survey was started in November 1969 and completed in June 1970. Findings of the three previous surveys, completed in 1936, 1949, and 1959, provide the basis for measuring changes that have occurred and trends that have developed over the past 34 years. However, in this report, the primary emphasis is on the changes and trends that have taken place since the last survey.

Forest Survey, authorized by the McSweeney-McNary Forest Research Act of May 22, 1928, is a continuing nationwide undertaking by the regional experiment stations of the Forest Service, USDA. In Florida, Georgia, North Carolina, South Carolina, and Virginia, Forest Survey is an activity of the Southeastern Forest Experiment Station, with headquarters at Asheville, North Carolina. The general objective is to inventory periodically the forest lands, their extent, condition, and volume of timber, and to ascertain rates of forest growth and depletion. It is necessary to keep this basic information up to date to provide a sound basis for the formulation of forest policies and programs.

The 20-county area covered by this report is one of four Survey units in Florida. Similar reports, USDA Forest Service Resource Bulletins SE-14, 15, and 16, have been issued for Northwest, Northeast, and South Florida and copies are available at the Southeastern Station, along with an interim summary of some of the State totals. The final State report containing an in-depth analysis of the findings should be available by early 1971.

The Southeastern Station gratefully acknowledges the cooperation and assistance provided by the Division of Forestry, Florida Department of Agriculture and Consumer Services, in the collection of the field data.

Joe P. McClure, Project Leader of Forest Survey in the Southeast, organized and coordinated the various phases of the Survey. Noel D. Cost was in charge of the data collection. William H. B. Haines was in charge of the computations. Richard L. Welch was responsible for compiling the timber removal and mortality information. Herbert A. Knight was in charge of the analysis and reporting.

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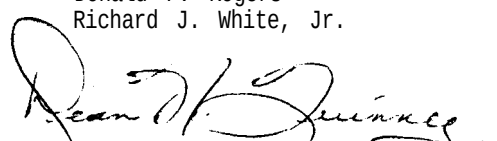

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by

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and

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CONTENTS

HIGHLIGHTS

Since 1959 in Central Florida--

--area of commercial forest has declined from 3.2 to 2.7 million acres, or 16 percent, excluding the reclassification of 1.7 million acres from nonstocked forest to natural rangeland. Some 589,400 acres were actually diverted from commercial forest to other land uses, while only 56,400 acres of new forest were added. About 57 percent of the diversion was to agricultural use and most of the remaining 43 percent was to urban development.

--average stand density of all live trees 5.0 inches d.b.h. and larger has increased from 32 to 46 square feet of basal area per acre. Two out of every three acres of commercial forest, however, are still poorly stocked with growing-stock trees.

--volume of softwood growing stock has increased by 218 million cubic feet, or 25 percent. All of the softwood species showed gains in inventory volume except longleaf pine which decreased 23 percent. Cypress is the predominant species in this 20-county area and makes up 59 percent of the total volume of softwood growing stock. Slash pine is the second leading species and makes up 21 percent of the softwood volume.

--volume of hardwood growing stock has increased by 146 million cubic feet, or 23 percent. All of the major hardwood species showed gains in inventory volume. Blackgum and tupelo are the leading hardwood species and, together with other soft-textured species, such as red maple, sweetgum, bay, and magnolia, make up 57 percent of the total volume of hardwood growing stock.

--volume of saw-timber has increased by 1,343 million board feet, or almost 32 percent. About 61 percent of the board-foot volume is in small saw-timber--trees less than 15.0 inches d.b.h.

--net growth of both softwood and hardwood has exceeded timber removals. In 1969, net growth of growing stock totaled 83.2 million cubic feet and exceeded removals by an estimated 35.0 million cubic feet, or 73 percent. About 31 percent of this growth over removals was pine, 24 percent other softwoods, and 45 percent hardwood. By ownership, 13 percent of the growth over removals was on public lands, 21 percent on farm woodlands, and 66 percent on other miscellaneous private lands.

--mortality of growing stock has reduced gross growth by almost 20 percent, and in 1969 was estimated to total 20 million cubic feet. In 1969, 64 percent of the growing-stock mortality was hardwood and 36 percent was softwood. Fire was the leading identifiable cause of death, followed by weather, suppression, and insects.

--the annual harvest of pulpwood has averaged about 152,000 cords, ranging from a low of 116,900 cords in 1963 to a high of 201,600 cords in 1968. Over 40 percent of the timber removals, however, have resulted from land clearing and development where the timber was not used for products of any kind.

This latest Forest Survey also shows that--

--about 88 percent, 2,386,600 acres, of the commercial forest land in Central Florida is privately owned. Commercial forest land that is publicly owned totals 321,400 acres, most of which is in three large holdings: the Withlacoochee State Forest, Ocala National Forest, and Avon Park Air Force Range. Forest industry does not own any commercial forest land in Central Florida according to the survey findings.

--about 1'35,000 acres, or 5 percent, of the commercial forest have been artificially reforested. Over 80 percent of this tree planting has occurred since the 1959 Forest Survey.

HOW THE FOREST SURVEY IS MADE

The method of survey is essentially a sampling procedure designed to provide reliable statistics primarily at the State and Survey Unit levels. Individual county statistics are presented to permit adding any combination of counties together until the total is large enough to meet the desired degree of reliability. The basic steps of the survey procedure were as follows:

1. Estimates of forest and nonforest areas were based on the ground classification of 4,233 sample clusters systematically distributed within the 20-county area. At each of the sample clusters 16 points were classified as to land use. Because of the unique and complex land-use patterns which exist in this Survey Unit, photo classifications and direct aerial observation normally used in the area sample were not attempted. The area estimates and land-use separations, therefore, were based entirely upon the ground classifications.

2. Approximately 1,720,700 acres of land classified as nonstocked forest land in the 1959 survey were reclassified as rangeland. This step was taken in an attempt to provide a more realistic measure of the timber resource in this 20-county area.

3. Estimates of timber volume and forest classifications were based on measurements recorded at 960 ground sample locations systematically distributed within the commercial forest land. A lo-point cluster of plots systematically spaced on an acre were measured at each of these sample locations 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. Existing volume-prediction equations were used to compute the volumes of individual tally trees. These volume equations were developed from measurements on standing trees in northern Florida and other areas of the Southeast. A mirror caliper and sectional aluminum poles were used to obtain the measurements. Felled trees were measured at active cutting operations to provide utilization factors for product and species groups and to supplement the standing tree-volume study.

5. Estimates of growth, removals, and mortality were determined from the remeasurement of 815 permanent sample plots which were established in the third survey.

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

7. All field data were sent to Asheville for editing and punched into cards and stored on magnetic tape 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:

	Percent
Per million acres of commercial forest land	3.54
Per billion cubic feet of growing stock	6.22
Per billion cubic feet of net annual growth	1.27
Per billion cubic feet of annual removals	2.46

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]			
Brevard	11.37	25.58	22.38	52.27
Citrus	4.99	16.68	16.07	32.81
De Soto	15.64	29.46	29.22	101.21
Hardee	12.96	21.34	31.89	56.44
Hernando	6.20	16.46	16.03	33.33
Highlands	13.22	31.78	30.07	73.33
Hillsborough	8.28	17.88	16.87	49.33
Indian River	19.13	46.23	38.68	70.58
Lake	6.26	11.76	11.92	38.97
Manatee	11.87	27.63	32.23	52.21
Okeechobee	17.30	29.31	31.50	(3/)
Orange	6.88	16.04	14.62	39.33
Osceola	6.99	13.02	12.71	43.02
Pasco	7.66	15.67	15.92	53.83
Pinellas	17.95	53.07	48.09	41.69
Polk	6.27	13.27	13.21	29.72
St. Lucie	18.82	29.41	28.22	101.75
Sarasota	12.48	23.74	24.51	53.08
Seminole	8.86	20.45	23.18	44.33
Sumter	7.67	16.61	16.14	26.32
Unit total	2.15	4.55	4.42	11.23

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).

3/ Undefined.

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 ($4\frac{1}{2}$ 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.

Farm.--Either a place operated as a unit of 10 or more acres from which the sale of agricultural products totaled $50 or more annually, or a place operated as a unit of less than 10 acres from which the sale of agricultural products for the year amounted to at least $250.

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, 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 forests in which tupelo, blackgum, sweetgum, oaks, or southern cypress, singly or in combination, comprises 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.)

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 l-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 mts.), 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 two 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 saw-timber 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 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 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 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.

Saw-timber trees.--Live trees of commercial species containing at least a 12-foot saw log and with at least one-third of the gross board-foot volume between the l-foot stump and minimum saw-log top 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 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.

5.ass --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, shortleaf, pitch, Virginia, Table-Mt., 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 pole-timber trees, and with saw-timber stocking at least equal to pole-timber 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 saw-timber.

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.--bands 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 12.)

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 tree1/
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/ Trees less than 5.0 inches d.b.h. were tallied on a 10-point cluster of circular, 1/300-acre plots at each sample location. Trees 5.0 inches d.b.h. and larger were tallied on a lo-point cluster of variable plots using a basal area factor of 37.5 at each sample location.

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	Soft hardwood	Hard hardwood
6	63.2	61.0	68.2	60.0	60.0
8	71.2	68.1	76.0	68.4	68.4
10	75.9	73.1	81.4	73.4	73.4
12	79.1	76.7	85.2	76.4	76.4
14	80.9	79.4	88.2	78.4	78.4
16	82.3	81.6	90.4	79.8	i9.8
18	83.0	83.3	92.3	80.8	80.8
20	83.2	84.8	93.8	81.5	81.5
22	83.7	86.0	95.1	82.1	82.1
24+	84.7	87.5	97.6	83.3	83.3
Average	75.9	73.4	80.2	73.4	75.2

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 in Central Florida was intended primarily to furnish inventory data for the Unit as a whole, individual county estimates have limited and variable accuracy. As county totals are broken down by various subdivisions, the possibility of error increases and is greatest for the smallest items. The order of this increase can be computed with the formula on page 5.

Table l.--Area, by land class and county, 1970

county	All land 1/	Forest land				Nonforest land 2/
		Total	Commercial forest	Unproductive forest	Productive reserved	
	Thousand acres					
Brevard	665.8	128.7	116.4	12.3	--	537.1
Citrus	410.9	252.3	252.3	--	--	158.6
De Soto	405.3	46.9	45.8	1.1	--	358.4
Hardee	410.1	76.4	72.6	3.5	0.3	333.7
Hernando	313.4	187.0	187.0	--	--	126.4
Highlands	681.8	109.1	91.6	14.3	3.2	572.7
Hillsborough	684.0	170.8	150.3	17.8	2.7	513.2
Indian River	322.2	44.4	37.5	6.9	--	277.8
Lake	674.4	289.1	286.0	2.2	0.9	385.3
Manatee	480.9	79.9	66.5	5.5	7.9	401.0
Okeechobee	499.2	46.6	45.0	1.6	--	452.6
Orange	605.5	213.8	211.9	1.8	0.1	391.7
Osceola	869.3	239.6	239.4	1.1	(3/)	629.7
Pasco	488.3	179.8	178.7	6.1	--	308.5
Pinellas	185.9	47.6	41.2		0.3	138.3
Polk	1,229.3	314.5	296.0	17.5	1.0	914.8
St. Lucie		47.2	43.3	3.9	--	326.5
Sarasota	373.7				7.2	
Seminole	193.4 375.6	103.1 83.9	101.8 76.5	0.2 1.3	(3/)	291.7 90.3
Sumter	369.5	171.8	168.2		0.1	197.7
Total	10,238.5	2,832.5	2,708.0	100.8	23.7	7,406.0

1/ From U. S. Bureau of the Census, Land and Water Area of the United States, 1960.
2/ Includes 181,200 acres of water according to Survey standards of area classification but defined by the Bureau of the Census as land.
3/ Less than 50 acres.

Table 2.--Area of commercial forest land, by ownership class and county, 1970

County	All ownerships	Ownership class							
		National Forest	Miscellaneous Federal	State	County and municipal	Forest industry 2/	Farmer	Miscellaneous private	
								Corporate	Individual
	Thousand acres								
Brevard	116.3	--	20.5	2.6	0.4	--	--	59.9	32.9
Citrus	252.3	--	5.8	40.7	0.3	--	37.1	37.1	131.3
De Sot0	45.8	--	--	3.5	0.1	--	15.8	13.2	13.2
Hardee	72.6	--	--	0.2	0.1	--	51.7	17.2	3.4
Hernando	187.0	--	5.::	32.5	2.2	--	12.0	79.2	57.6
Highlands	91.6	--		1.3	0.7	--	10.3	15.5	13.8
Hillsborough	150.4	--	--	0.4	0.3	--	51.7	54.4	43.6
Indian River	37.5	--	--	--	0.4	--	18.5	9.3	9.3
Lake	286.0	70.2	0.3	13.5	0.4	--	74.0	38.3	89.3
Manatee	66.5	--	--	(1/)	0.2	--	36.8	25.8	3.7
Okeechobee	44.9	--	--	--	--	--	35.9	3.0	6.0
Orange	211.9	--	0.1	6.8	0.1	--	65.5	59.7	79.7
Osceola	239.4	--	--	2.5	0.3	--	77.9	141.4	17.3
Pasco	178.7	--	--	7.1	(1/)	--	34.9	46.5	90.2
Pinellas	41.2	--	--	--	0.3	--	7.5	14.8	18.6
Polk	296.1	--	15.4	5.1	1.2	--	75.6	162.4	36.4
St. Lucie	43.3	--	--	1.2	0.3	--	27.1	12.3	2.4
Sarasota	76.5	--	--	--	0.1	--	33.2	29.9	13.3
Seminole	101.8	--	0.3	(1/)	0.5	--	38.2	19.1	43.7
Sumter	168.2	--	0.1	29.9	--	--	73.5	17.7	47.0
Total	2,708.0	70.2	96.0	147.3	7.9	--	777.2	856.7	752.7

1/ Less than 50 acres.
2/ Forest industry does not own any commercial forest land in Central Florida according to the survey findings; however, the sample estimated 2,700 acres of miscellaneous private lands leased to forest industry.

Table 3. --Area of commercial forest land, by forest-type group and county, 1970

county	All type groups	Forest-type groups					
		Longleaf-slash pine	Loblolly-shortleaf pine	Oak-pine	Oak-hickory	Oak-gum-cypress	Elm-ash-cottonwood
	Thousand acres						
Brevard	116.3	52.1	15.0	3.0	11.5	31.7	3.0
Citrus	252.3	41.7	a.5	35.5	107.2	56.6	2.8
De Soto	45.8	7.9	--	2.6	5.3	30.0	--
Hardee	72.6	17.3	--	6.9	3.4	45.0	--
Hernando	187.0	26.7	18.0	19.5	91.4	29.0	2.4
Highlands	91.6	33.5	1.7	3.4	12.3	40.7	--
Hillsborough	150.4	29.9	5.5	a.2	29.9	74.2	2.7
Indian River	37.5	22.0	3.1	3.1	3.1	6.2	--
Lake	286.0	76.6	65.9	22.9	15.3	100.2	5.1
Manatee	66.5	29.4	11.3	--	3.7	22.1	--
Okeechobee	44.9	18.0	--	--	3.0	23.9	--
Orange	211.9	63.2	37.1	9.1	11.4	91.1	--
Osceola	239.4	69.5	5.8	11.6	14.4	138.1	--
Pasco	178.7	42.0	--	5.8	52.4	78.5	--
Pinellas	41.2	18.9	3.7	--	--	18.6	--
Polk	296.1	80.5	5.6	25.2	39.2	137.2	8.4
St. Lucie	43.3	28.6	2.5	2.4	--	9.8	--
Sarasota	76.5	59.8	3.3	--	--	13.4	--
Seminole	101.8	27.3	9.0	13.6	13.7	38.2	--
Sumter	168.2	31.4	11.8	13.5	23.5	82.1	.
Total	2,708.0	776.3	207.8	186.3	440.7	1,066.6	30.3

Table 4.--Area of commercial forest land, by stand-size class and county, 1970

county	All stands	Stand-size class			Nonstocked areas
		Sawtimber	Pole-timber	Sapling and seedling	
		Thousand acres			
Brevard	116.3	35.9	22.7	32.1	25.6
Citrus	252.3	64.7	37.9	14.7	135.8
De Soto	45.8	17.6	6.9	2.6	17.7
Hardee	72.6	45.0		3.5	17.2
Hernando					75.9
Highlands	197.6	88.6	36.3	19.8	34.9
Hillsborough	150.4	62.6	35.4	14.3	38.1
Indian River	37.5	18.9	6.2	3.1	9.3
Lake	286.0	91.4	95.3	53.6	45.7
Manatee	66.5	29.4	7.4	7.6	22.1
Okeechobee	44.9	21.0	9.0	8.9	6.0
Orange	211.9	62.7	56.9	40.5	51.8
Osceola	239.4	100.6	63.5	28.9	46.4
Pasco	178.7	68.7	46.0	14.5	49.5
Pinellas	41.2	97.6	7.4	3.7	18.9
Polk	296.1	13.8	86.5	30.8	81.2
St. Lucie	43.3	[illegible]	7.4	12.3	9.8
Sarasota	76.5	23.4	23.2	16.6	13.3
Seminole	101.8	38.2	22.7	8.2	32.7
Sumter	168.2	66.1	.	35.1	31.7
Total	2,708.0	953.0	623.2	368.2	763.6

Table 5. --Area of commercial forest land, by site class and county, 1970

County	All classes	Site class				
		1	2	3	4	5
	Thousand acres					
Brevard	116.3	--	--	--	47.9	68.4
Citrus	252.3	--	--	16.6	93.8	141.9
De Soto	45.8	--	--	2.6	37.9	5.3
Hardee	72.6	--	--	--	41.4	31.2
Hernando	187.0	--	--	14.5	105.0	67.5
Highlands	91.6	--	--	3.4	58.4	29.8
Hillsborough	150.4	--	--	8.2	93.2	49.0
Indian River	37.5	--	--	--	28.2	9.3
Lake	286.0	--	--	43.0	150.0	93.0
Manatee	66.5	--	--	3.7	44.1	18.7
Okeechobee	44.9	--	--	5.7	29.9	15.0
Orange	211.9	--	--	8.7	96.8	109.4
Osceola	239.4	--	--	--	141.0	89.7
Pasco	178.7	--	--	11.1	89.1	78.5
Pinellas	41.2	--	--	3.7	18.6	18.9
Polk	296.1	--	--	2.8	181.3	112.0
St. Lucie	43.3	--	--	2.4	19.7	21.2
Sarasota	76.5	--	--	--	49.8	26.7
Seminole	101.8	--	--	16.4	60.9	24.5
Sumter	168.2	--	2.3	23.9	112.6	29.4
Total	2,708.0	--	2.3	166.7	1,499.6	1,039.4

Table 6.--Area of commercial forest land, by stocking classes of growing-stock trees, by county, 1970

County	All classes	Stocking percentage[1]				
		Over 130	100-130	60-99	16.7-59	Less than 16.7
	Thousand acres					
Brevard	116.3	2.6	6.0	30.7	61.1	25.6
Citrus	252.3	--	16.3	1.8	69.6	135.7
De Soto	45.8	--	--	[illegible]	26.4	17.6
Hardee	72.6	--	--	13.8	41.6	17.2
Hernando	187.0	4.8	9.6	53.2	43.4	76.0
Highlands	91.6	--	10.2	17.5	29.0	34.9
Hillsborough	150.4	10.9	21.8	24.5	55.1	38.1
Indian River	37.5	--	3.1	6.2	18.9	9.3
Lake	286.0	5.3	53.6	79.6	101.8	45.7
Manatee	66.5	--	--	7.3	37.1	22.1
Okeechobee	44.9	3.0	3.0	18.0	14.9	6.0
Orange	211.9	--	22.8	45.5	91.8	51.8
Osceola	239.4	14.4	57.7	51.5	69.3	46.5
Pasco	178.7	11.7	22.7	43.1	51.8	49.4
Pinellas	41.2	--	--	7.4	14.9	18.9
Polk	296.1	14.0	37.4	96.3	67.2	81.2
St. Lucie	43.3	--	--	4.9	28.6	9.8
Sarasota	76.5	--	3.3	6.6	53.3	13.3
Seminole	101.8	--	2.7	13.6	52.7	32.8
Sumter	168.2	15.7	22.9	52.7	45.2	31.7
Total	2,708.0	82.4	293.1	595.2	973.7	763.6

1/ See stocking standards on page 12.

Table 7.--Volume of sawtimber and growing stock on commercial forest land, by species group and county, 1970

county	Sawtimber					Growing stock				
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
	Million board feet					Million cubic feet 1/				
Brevard	206.9	65.3	18.2	53.4	70.0	62.1	21.2	8.3	14.8	17.8
Citrus	330.4	104.3	95.2	60.8	70.1	98.8	28.4	25.6	20.0	24.8
De Soto	59.1	4.7	11.4	27.2	15.8	19.7	1.7	3.6	9.7	4.7
Hardee	167.0	51.8	22.0	27.6	65.6	48.6	13.3	10.3	9.6	15.4
Hernando	356.8	88.6	16.3	119.5	132.4	110.1	22.7	5.4	39.9	42.1
Highlands	163.0	99.1	93.6	70.9	6.3	49.8	a.7	22.3	15.3	3.5
Hillsborough	438.8	37.4	177.6	8.2	9.1	141.4	22.9	69.0	1.7	28.7
Indian River	88.3	.	33.6	..	84.4	25.6	12.5	40.9	54.5	2.4
Lake	569.5	242.3	103.8	139.0		200.6	76.7			28.5
Manatee	101.8	41.2	--	38.5	22.1	27.0	10.9	__	9.9	6.2
Okeechobee	112.0	24.8	41.1	41.0	5.1	40.3	a.1	11.3	19.0	1.9
Orange	336.9	83.5	119.2	102.4	31.8	122.7	28.4	45.5	38.9	9.9
Osceola	683.5	127.6	410.5	103.4	42.0	240.5	34.7	145.4	43.2	17.2
Pasco	456.9	103.5	175.5	83.4	94.5	158.1	26.7	66.4	32.9	32.1
					2.3		5.7		1.3	0.9
Pinellas	631.8	182.0	246.7	113.7	90.4	245.7	56.0	105.9	56.0	32.9
St. Lucie	33.8	24.7	3.8	4.3	2.6	10.8	8.3	1.0	0.8	0.7
Sarasota	76.0	69.1	--		62.1	25.2	21.9		1.6	1.7
Seminole	192.0	62.3	24.6	43.0		55.1	19.6	5.5	12.3	17.7
Sumter	561.6	75.4	252.7	101.0	132.5	175.3	20.2	75.8	36.3	43.0
Total	5,603.3	1,540.2	1,860.6	1,170.6	1,031.9	1,871.2	448.6	646.8	443.7	332.1

1/ Factors for converting to cords are shown on page 12.

Table 8.--Net annual growth of saw-timber and growing stock on commercial forest land, by species group and county, 1969

County	Sawtimber					Growing stock				
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
	Million board feet					Million cubic feet				
Brevard	9.9	4.8	0.7	1.9	2.5	3.9 4.0	2.8	0.2	0.5	0.4
Citrus	15.9	7.1	3.0	2.9	2.9		1.6	0.6	0.8	1.0
De Soto	3.7	0.3	0.6	1.7	1.1	0.8	0.2	0.1	0.3	0.2
Hardee	7.6	3.5	0.7	1.6	1.8	2.0	1.1	0.2	0.3	0.4
Hernando	19.4	4.9	3.0	6.1	0.9	1.9	1.3	0.1	1.7	2.0
Highlands	8.9	2.4	6.7	2.6	4.5	4.9	0.4	0.7	0.6	0.2
Hillsborough	5.7	3.3		0.4	0.3		1.01	1.7	1.2	0.9
Indian River	36.9	19.8	1.7	8.7	4.9	1.4	6.1	0.2	0.1	0.1
Lake	4.8		3.5			11.3		1.3	2.9	1.0
Manatee	8.1	2.1	--	2.1	0.6	1.2	0.6	--	0.4	0.2
Okeechobee		1.8	1.9	7.2	0.2	5.7	0.7	0.5	1.0	0.1
Orange	21.9	8.0	5.1	7.0	2.1	8.8	2.1	4.3	1.8	0.3
Osceola	33.2	8.1	16.0		4.2		1.9		1.8	0.8
	2.1			0.2	0.1		0.7			1.3
Pinellas	38.7	6.1	0.4	7.3	4.5	6.2	4.3	0.2	0.1	(1/)
Pasco	3.1							1.7	2.6	1.0
Polk	6.1	2.4	0.3	0.3	0.1	10.7	0.6	0.4	(1/)	(1/)
St. Lucie		16.1	1.3			1.3		3.4		
Sarasota		5.8		0.2	0.1	1.8	1.6	--	0.1	0.1
Seminole	8.4	3.8	0.5	1.8	2.3	2.6	1.5	0.1	0.4	0.6
Sumter	26.1	4.8	10.0	6.4	4.9	6.5	1.5	2.1	1.5	1.4
Total	302.3	111.3	72-5	71.3	47.2	83.2	33.1	18.8	19.3	12.0

1/ Less than 50,000 cubic feet.

Table 9.--Annual removals of sawtimber and growing stock on commercial forest land, by species group and county, 1969

county	Sawtimber					Growing stock				
	All species	Pine	Other softwood	Soft hardwood	Hard hardwood	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
	Million board feet					Million cubic feet				
Brevard	4.4	4.4	—	—	—	1.4	1.4	—	—	—
Citrus	8.6	6.9	—	0.9	0.8	2.9	2.2	—	0.2	0.5
De Soto	0.3	—	--	0.3	—	0.1	—	—	0.1	—
Hardee	0.8	0.4	—	—	0.4	0.3	0.1	—	—	0.2
Hernando	10.7	8.4	—	0.3	2.0	2.8	2.1	—	0.1	0.6
Highlands	1.7	0.4	—	1.3	—	0.4	0.1	—	0.3	—
Hillsborough	18.2	3.0	10.7	2.0	2.5	4.8	0.7	2.8	0.7	0.6
Indian River	1.3	—	--	0.5	0.8	0.4	0.1	—	0.1	0.2
Lake	10.3	0.8	0.3	8.6	0.6	3.6	0.9	0.2	2.3	0.2
Manatee	7.5	7.5	--	—	—	1.8	1.8	--	—	—
Okeechobee	—	—	—	—	--			--	—	—
Orange	13.2	5.7	5.8	1.7	—	4:;	2.1	1.4	1.0	--
Osceola	8.9	3.8	2.0	1.9	1.2	2.9	1.6	0.4	0.7	0.2
Pasco	17.0	2.1	14.3	0.6	--	4.0	0.6	3.1	0.3	--
Pinellas	7.1	5.2	1.9	—	—	1.7	1.2	0.5	--	—
Polk	26.2	9.8	2.7	5.9	7.8	9.3	3.7	1.0	2.1	2.5
St. Lucie	0.3	0.3	--	—	—	0.1	0.1	--	—	—
Sarasota	6.0	6.0	—	--	--	1.4	1.4	—	—	—
Seminole	5.9	1.6	1.8	1.8	0.7	1.3	0.5	0.3	0.3	0.2
Sumter	14.8	.	4.3	1.7	5.1	4.5	1.6	0.9	0.7	1.3
Total	163.2	70.0	43.8	27.5	21.9	48.2	22.2	10.6	8.9	6.5

Table 10.--Area of commercial forest land, by forest type and ownership class, 1970

Forest type	All ownerships	Ownership class				
		National Forest	Other public	Forest industry	Farmer	Misc. private
	Thousand acres					
Softwood types:						
Longleaf pine	275.1	12.5	31.6	--	69.5	161.5
Slash pine	501.2	17.6	70.9	--	163.5	249.2
Loblolly pine	7.7	--	--	--	2.6	5.1
Sand pine	122.2	17.6	6.3	--	27.6	70.7
Eastern redcedar	5.7	--	--	--	--	5.7
Pond pine	72.2	5.0	0.9	--	33.4	32.9
Total	984.1	52.7	109.7	--	296.6	525.1
Hardwood types:						
Oak-pine	186.3	7.5	19.7	--	46.3	112.8
Oak-hickory	68.5	--	--	--	21.3	47.2
Southern scrub oak	372.2	2.5	42.;	--	74.7	252.9
Oak-gum-cypress	1,066.6	7.5	79.7	--	335.8	643.6
Elm-ash-cottonwood	30.3	--	--	--	2.5	27.8
Total	1,723.9	17.5	141.5	--	480.6	1,084.3
All types	2,708.0	70.2	251.2	--	777.2	1,609.4

Table Il.--Area of commercial forest land, by ownership and stocking classes of growing-stock trees, 1970

Ownership classes	All classes	Stocking percentage[1/]				
		Over 130	100-130	60-99	16.7-59	Less than 16.7
	Thousand acres					
National Forest	70.2	--	5.0	12.5	40.1	12.6
Other public	251.2	12.3	21.6	66.8	79.5	71.0
Forest industry	--	--	--	--	--	--
Farmer	777.2	34.1	89.4	161.8	289.5	202.4
Misc. private	1,609.4	36.0	177.1	354.1	564.6	477.6
All ownerships	2,708.0	82.4	293.1	595.2	973.7	763.6

1/ See stocking standards on page 12.

Table 12.--Volume of timber on commercial forest land, by class and species group, 1970

Class of timber	All species	Pine	Other softwood	Soft hardwood	Hard hardwood
	Million cubic feet				
Saw-timber trees:					
Saw-log portion	1,090.0	291.7	356.7	220.4	221.2
Upper-stem portion	137.1	28.0	44.3	42.2	22.6
Total	1,227.1	319.7	401.0	262.6	243.8
Poletimber trees	644.1	128.9	245.8	181.1	88.3
All growing-stock trees	1,871.2	448.6	646.8	443.7	332.1
Rough trees:					
Saw-timber-size trees	160.8	2.5	10.4	26.3	121.6
Poletimber-size trees	164.0	2.0	13.6	41.6	106.8
Total	324.8	4.5	24.0	67.9	228.4
Rotten trees:					
Sawtimber-size trees	53.6	--	6.4	14.1	33.1
Poletimber-size trees	7.8	--	0.6	3.2	4.0
Total	61.4	--	7.0	17.3	37.1
Salvable dead trees:					
Saw-timber-size trees	--	--	--	--	--
Poletimber-size trees	2.5	2.5	--	--	--
Total	2.5	2.5	--	--	--
Total, all timber	2,259.9	455.6	677.8	528.9	597.6

Table 13.--Number of growing-stock trees on commercial forest land, by species and diameter class, 1970

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	13,712	4,020	2,965	3,157	2,114	937	427	67	25	—	--
Slash pine	30,907	12,326	8,267	4,831	2,665	1,769	663	233	108	28	8
Loblolly pine	908	296	168	154	166	36	27			31	
Pond pine	4.573	1.839	1,243	617	435	236	117	48	24	12	2
Sand pine	8,043	3,996	2,590	961	323	120	47	6	91	--	—
Baldcypress	17,470	6,080	3,979	2,859	2,229	1.178	545	333	81	165	11
Pondcypress	68,815	31,372	20,040	10,081	4,668	1,694	678	166		33	2
Atlantic white cedar	--	--	--	--	--	--	--	--	--	--	--
Eastern redcedar	632	349	109	34	79	27	28	—	—	6	—
Total softwoods	145,060	60,278	39,361	22,694	12,679	5,997	2,532	900	337	267	15
Hardwood:											
Select white oaks[1]	49	--		--	22	8	--	10	5	4	—
Select red oaks[2]	27	--		18	—	—	—	—	—		2
Other white oaks	2,869	396	446	404	188	232	296	363	202	38:	120
Other red oaks	9,084	2,866	2,031	1,462	806	664	430	63	197	221	44
Hickory	1,020	252	149	221	179	59	61		14	18	4
Florida maple	119	—	34	51	24	10	—	—	—	--	—
Soft maple	10,268	3,473	2,565	1,627	1,212	664	334	206	96	87	4
Sweetgum	6,852	2,173	1,770	1,190	665	566	181	197	55	53	2
Tupelo and blackgum	12,728	4,383	3,375	2,050	1,294	735	423	198	135	113	5
Ash	10,600	4,644	2,205	1,866	800	629	277	115	38	26	3
Bay and magnolia	12,141	6,692	2,423	1,374	701	543	221	91		42	16
Basswood	157	—	--	104	15	—	33	--		-_	—
Yellow-poplar	22	--	—	—	—	—			5		
Elm	2,250	1,019	503	209	242	122	69	23 6	44 5	11 17	2
Black cherry	78	53	--	20	—	—	--	5	—	--	—
Hackberry	278	210	23	—	39	--	--	6	--	--	--
Willow	149	119	30		—	--	--	--	--	--	--
Other eastern hardwoods	295	111	103	40	32	9	—	—	—	—	—
Total hardwoods	68,986	26,391	15,657	10,636	6,219	4,241	2,325	1,485	848	982	202
All species	214,046	86,669	55,018	33,330	18,898	10,238	4,857	2,385	1,185	1,249	217

1/ Swamp chestnut oak.
2/ Shumard oak.

Table 14.--Volume of all live trees on commercial forest land, by species and diameter class, 1970

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
	Million cubic feet										
Softwood:											
Longleaf pine	127.8	9.6	16.5	32.2	32.6	20.3	12.7	2.8	1.1		--
Slash pine	231.2	25.2	41.9	41.5	43.0	40.8	20.5	9.5	4.7	2:;	--
Loblolly pine	11.9	0.7	1.0	5.8	6.3	0.8	0.9	1.5	0.6	1.9	__
Pond pine	34.0	3.1	5.6			5.3		2.1	1.2	0.7	0.3
Sand pine	48.2	11.1	16.2	10.7	5.4		3.6	0.2	--	--	_-
Baldcypress	215.8	21.7	28.5	34.2	39.9	3:;;	20.3	15.4	5.8	14.7	3.8
Pondcypress	456.1	91.9	116.2	102.7	72.4	38.4	20.3	6.9	4.2	2.6	0.5
Atlantic white cedar	0.1	--	0.1					--		--	
Eastern redcedar	5.8	0.9	0.	0.7	1.3	0.7	1.0	--	--	0.5	__
Total softwoods	1,130.9	164.2	226.7	233.1	201.7	140.8	80.9	38.4	17.6	22.9	4.6
Hardwood:											
Select white oaks[1]	1.7	--	--	--	0.4	0.2	--	0.5	0.3	0.5	--
Select red oaks[2]	1.2	--	--	0.2	--	0.1	--	__	0.2	46.8	29.2 0.2
Other white oaks	199.3	6.6	12.0	16.7	15.0	17.3	21.7	17.5	16.5		
Other red oaks	185.4	12.9	16.0	18.7	19.7	20.7	17.8	21.7	15.0	28.6	14.3
Hickory	16.7	0.6	0.8	2.5	3.3	1.3	2.4	2.9	0.8	1.4	0.7
Florida maple	4.6	0.5	0.5	0.7	1.0	1.2	0.1	__		0.2	
Soft maple	143.5	16.0	20.8	22.1	26.4	19.1	13.5	9.7	6:;	8.8	0.4 0.6
Sweetgum	85.8	6.1	10.6	14.5	12.3	16.0	6.6	9.0	3.5	5.9	1.3
Tupelo and blackgum	156.8	16.3	23.3	25.1	24.2	20.1	15.8	9.7	8.9	11.3	2.1
Ash	128.2	19.2	18.8	26.2	18.5	20.4	11.4	7.2	3.1	2.7	0.7
Bay and magnolia	103.9	21.7	18.8	16.2	13.3	13.9	8.5	4.1	1.9	3.3	2.2
Basswood	4.2	__	__	1.8	0.6	__	1.2	0.3	0.3	__	__
Yellow-poplar	1.6	__	--	__	__	--	--	0.3	0.3	1.0	__
Elm	28.5	3.0	4.0	3.0	5.0	4.4	3.0	1.1	2.5	1.9	0.6
Black cherry	0.5	0.2	__	0.1		--	--	0.2	--	__	__
Hackberry	2.8	0.8	0.3	__	0.9	0.3	0.2	0.3	__	--	__
Willow	1.3	0.9	0.2	0.1	__	0.1	__	__	__	--	__
Other eastern hardwoods	60.5	lg.6	16.0	10.6	7.5	2.9	2.5	0.6	0.6	0.2	__
Total hardwoods	1,126.5	124.4	142.1	158.5	148.1	138.0	104.7	85.1	60.4	112.9	52.3
All species	2,257.4	288.6	368.8	391.6	349.8	278.8	185.6	123.5	78.0	135.8	56.9

1/ Swamp chestnut oak.
2/ Shumard oak.

Table 15.--Volume of growing stock on commercial forest land, by species and diameter class, 1970

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
	Million cubic feet										
Softwood:											
Longleaf pine	127.4	9.6	16.4	32.1	32.6	20.1	12.7	2.8	1.1		—
Slash pine	230.1	24.8	41.7	45.2	40.8	40.8	20.5	9.3	4.7	2:;	--
Loblolly pine	11.8	0.7	1.0	1.5	2.9	0.8	0.9	1.5	0.6	1.9	--
Pond pine	33.1	2.8	5.5	5.3	6.3		3.6	2.1	1.2	0.7	0.3
Sand pine	46.2	10.8	15.6	10.2	5.0	5.3	1.6	0.2	5.6	--	—
Baldcypress	207.7	20.3	26.7	33.0	39.9	30.9	20.1	14.7	4.0	13.7	2.8
Pondcypress	433.9	85.2	112.2	96.9	70.1	36.6	20.3	6.4		2.0	0.2
Atlantic white cedar	--	--				--		--			
Eastern redcedar	5.2	0.9	0.	0.4	1.2	0.	1.0	--	--	0.5	—
Total softwoods	1,095.4	155.1	219.6	224.6	198.8	138.0	80.7	37.0	17.2	21.1	.
Hardwood:											
Select white oaks[1]	0.8	--		--	0.4	0.2	--	0.5	0.2	0.3	--
Select red oaks[2]	88.4	--	2.2 --	0.2 3.5	2.4 --	4.3 _	8.4	7.1	9.1	29.9 0.4	20.5 0.2
Other white oaks		1.0									
Other red oaks	127.9	7.4	11.3	13.9	12.7	15.4	13.3	16.3	10.6	18.5	8.5
Hickory	15.3	0.5	0.7	2.1	2.8	1.3	2.4	2.7	0.7	1.4	0.7
Florida maple								--	5.5	--	
Soft maple	110.1	10.7	15.6	16.8	10.7	15.2	10.6	8.6	3.3	7.0	0.6
Sweetgum	79.2	5.5	9.5	13.4	11.3	14.7	6.5	9.0	5.5	5.2	0.8
Tupelo and blackgum	137.7	12.1	19.8	22.7	21.5	18.4	15.0	8.9	8.7	9.6	1.0
Ash	94.7	11.9	11.8	20.0	14.7	16.1	9.9	5.4	2.0	2.2	0.7
Bay and magnolia	87.4	16.9	14.3	14.3	11.6	12.2	7.1	3.9	1.9	3.0	2.2
Basswood	2.9	--	--	1.1	0.3	--	1.2	--	0.3	--	--
Yellow-poplar	1.6							0.3	0.3	1.0	--
Elm	22.1	2.3	2.9	1.8	3.8	3.2	2.4	1.1	2.5	1.7	0.4
Black cherry	0.5	0.2	--	0.1		--	--	0.2	--	--	—
Hackberry	1.8	0.7	0.1	—	0.7	--	--	0.3	—	--	--
Willow	0.2	0.1	0.1	--	—	--	--	—	—	—	—
Other eastern hardwoods	1.9	0.2	0.	0.4	0.	0.3	—	—	—	—	—
Total hardwoods	775.8	69.5	88.9	111.0	102.8	101.5	76.8	64.3	45.2	80.2	35.6
All species	1,871.2	224.6	308.5	335.6	301.6	239.5	157.5	101.3	62.4	101.3	38.9

1/ Swamp chestnut oak.
2/ Shumard oak.

Table 16.--Volume of sawtimber on commercial forest land, by species and diameter class, 1970

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
	Million board feet								
Softwood:									
Longleaf pine	506.7	146.6	167.5	104.9	66.5	15.3	5.9	--	--
Slash pine									
Loblolly pine	782.9						3.1		
Pond pine	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	26.1	12.8 10.4	1.5
Sand pine						1.1			
Baldcypress	[illegible]	[illegible]	[illegible]	[illegible]	107.9	76.6	28.9	67.;	13.1
Pondcypress	1,084.9	411.8	328.9	179.2	102.5	32.2	19.3	9.7	1.3
Atlantic white cedar	—	—	—	--	--	--	--		--
Eastern redcedar	17.5	1.6	5.4	3.1	4.8	--	--	2.6	--
Total softwoods	3,400.8	937.0	944.6	699.5	419.4	192.1	86.4	105.9	15.9
Hardwood:									
Select white oaks 1/	8.3	--	2.0	0.9	--	2.7	1.3	1.4	—
Select red oaks 2/	3.2	--	—	15.5 —	34.9	28.4 --	36.8 --	126.0 2.0	1.2
Other white oaks	340.4	--							91.1
Other red oaks	398.6		7.7						
Hickory	3.0	--	50.0 10.0	0.9	12.4 55.1	[illegible]	44.2 3.5	79.1 7.2	37.3 4.0
Florida maple	307.2	--	79.7 2.1	66.4	--	43.8	--	—	--
Soft maple					50.1		28.5	35.6	3.1
Sweetgum	241.9	--	44.2	71.0	32.6	46.7	15.7	27.4	4.3
Tupelo and blackgum	364.3	--	86.9	79.5	68.8	41.6	39.8	43.3	4.4
Ash	220.6	--	57.5	70.5	44.4	25.4	9.5	10.0	3.3
Bay and magnolia	174.5	--	46.9	50.9	30.3	16.6	7.9	13.0	8.9
Basswood	[illegible]	--	1.4	--	4.9	--	1.3	—	--
Yellow-poplar	61.2 87.9	--	14.2	—	—	1.6	1.8	5.4	--
Elm				13.1	9.1	5.4	10.9	7.0	1.5
Black cherry	1.1	--		—				—	—
Hackberry	4.1	--	2.9	—	--	1.2 1.1	--	—	—
Willow	—	—	—	—	—	—	—	—	—
Other eastern hardwoods	3.2	—	1.8	1.4	—	—	—	—	—
Total hardwoods	2,202.5	—	407.3	438.3	342.6	296.6	201.2	357.4	159.1
All species	5,603.3	937.0	1,351.9	1,137.8	762.0	488.7	287.6	463.3	175.0

1/ Swamp chestnut oak.
2/ Shumard oak.

Table 17.--Net annual growth and removals of growing stock on commercial forest land, by species, 1969

Species	Net annual growth	Annual timber removals
	Million cubic feet	
Softwood:		
Yellow pines	33.1	22.2
Cypress	18.7	10.5
Other eastern softwoods	0.1	0.1
Total softwoods	51.9	32.8
Hardwood:		
Select white and red oaks	0.1	—
Other white and red oaks	8.1	5.2
Hickory	0.6	0.4
Hard maple	1/	--
Sweetgum	2.9	2.6
Ash, walnut, and black cherry	3.1	1.0
Yellow-poplar	0.1	--
Other eastern hardwoods	16.4	6.2
Total hardwoods	31.3	15.4
All species	83.2	48.2

1/ Negligible.

Table 18.--Net annual growth and removals of sawtimber on commercial forest land, by species, 1969

Species	Net annual growth	Annual timber removals
	Million board feet	
Softwood:		
Yellow pines	111.3	70.0
Cypress	71.9	43.5
Other eastern softwoods	0.6	0.3
Total softwoods	183.8	113.8
Hardwood:		
Select white and red oaks	0.3	--
Other white and red oaks	30.9	16.5
Hickory	0.5	2.2
Hard maple		--
Sweetgum	13.1	11.1
Ash, walnut, and black cherry	11.9	3.2
Yellow-poplar	0.3	--
Other eastern hardwoods	57.9	16.4
Total hardwoods	118.5	49.4
All species	302.3	163.2

Table 19.--Mortality of growing stock and saw-timber on commercial forest land, by species, 1969

Species	Growing stock	Saw-timber
	Million cubic feet	Million board feet
Softwood:		
Yellow pines	6.2	17.0
Cypress	1.1	1.9
Other eastern softwoods	--	--
Total softwoods	7.3	18.9
Hardwood:		
Select white and red oaks	--	--
Other white and red oaks	3.9	11.6
Hickory	--	--
Hard maple	--	--
Sweetgum	0.6	1.6
Ash, walnut, and black cherry	0.5	0.6
Yellow-poplar	--	--
Other eastern hardwoods	.	20.2
Total hardwoods	12.7	34.0
All species	20.0	52.9

Table 20.--Volume of all live trees and growing stock on commercial forest land, by ownership class and species group, 1970

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
	Million cubic feet									
National Forest	50.3	32.0	--	7.7	10.6	45.9	32.0	--	7.6	6.3
Other public	181.1	45.9	71.5	27.0	36.7	152.8	45.6	69.7	23.1	14.4
Forest industry	—	—	—	—	—	—	—	—	--	—
Farmer	675.0	137.9	225.8	140.3	171.0	572.3	136.4	216.3	119.1	100.5
Miscellaneous private	1,351.0	237.3	380.5	.	.3	1,100.2	234.6	360.8	293.9	210.9
All ownerships	2,257.4	453.1	677.8	528.9	597.6	1.871.2	448.6	646.8	443.7	332.1

Table 21.--Volume of sawtimber on commercial forest land, by ownership class and species group, 1970

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
	Million board feet									
National Forest	97.3	82.6	--	6.8	7.9	51.6	28.3	—	10.7	12.6
Other public	362.2	155.9	167.3	25.4	13.6	171.2	37.0	56.7	39.4	38.1
Forest industry	—	—	—	--	--	—	—	--	—	--
Farmer	1,069.5	379.4	432.2	153.5	104.4	646.2	97.8	162.1	150.6	235.7
Miscellaneous private	1,897.7	568.6	795.1	371.3	162.7	1,307.6	190.6	247.2	412.9	456.9
All ownerships	31426.7	1,186.5	1,394.6	557.0	288.6	2,176.6	353.7	466.0	613.6	743.3

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, 1969

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
	Million cubic feet									
National Forest	3.0	2.4	--	0.3	0.3	--	--	--	--	--
Other public	6.0	3.0	1.7	0.8	0.5	4.6	3.8	--	--	0.8
Forest industry	--	--	--	--	--	--	--	--	--	--
Farmer	24.9	9.2	6.7	5.7	3.3	17.4	6.3	4.9	3.8	2.4
Miscellaneous private	49.3	18.5	10.4	12.5	7.9	26.2	12.1	5.7	5.1	3.3
All ownerships	83.2	33.1	18.8	19.3	12.0	48.2	22.2	10.6	8.9	6.5

Table 23.--Net annual growth and removals of sawtimber on commercial forest land, by ownership class and species group, 1969

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
	Million board feet									
National Forest	10.0	7.6	--	1.2	1.2	--	--	--	--	--
Other public	25.2	11.2	7.9	3.8	2.3	12.4	11.3	--	--	1.1
Forest industry	--	--	--	--			--	--	--	--
Farmer	96.7	37.0	24.°	20.°	15.7	63.6	22.9	20.4	11.8	8.5
Miscellaneous private	170.4	55.5	40.6	46.3	28.0	87.2	35.8	23.4	15.7	12.3
All ownerships	302.3	111.3	72.5	71.3	47.2	163.2	70.0	43.8	27.5	21.9

Table 24.--Average net volume per acre of sawtimber, growing stock, and other live timber 1/ on commercial forest land, by ownership class, major forest type, and species group, 1970

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	Board feet	Cubic feet	Board feet	Cubic feet	Board feet	Cubic feet	Board feet	Cubic feet
Pine types:												
Growing stock:												
Softwood	1,219	369	1,680	507	1,652	417	--	--	1,259	376	1,075	342
Hardwood	22	12	13	22	12	5	--	--	29	11	21	13
Total	1,241	381	1,693	529	1,664	422	--	--	1,288	387	1,096	355
Other timber:												
Softwood	--	4	--	--	--	1	--	--	--	3	--	5
Hardwood	--	20	--	4	--	24	--	--	--	18	--	18
Total	--	24	--	40	--	25	--	--	--	21	--	23
Oak-pine type:												
Growing stock:												
Softwood	1,179	323	1,952	482	1,093	285	--	--	1,568	375	976	297
Hardwood	220	89	301	235	--	--	--	--	263	112	237	86
Total	1,399	412	2,253	717	1,093	285	--	--	1,831	487	1,213	383
Other timber:												
Softwood	--	4	--	--	--	6	--	--	--	5	--	4
Hardwood	--	113	--	116	--	53	--	--	--	100	--	130
Total	--	117	--	116	--	59	--	--	--	105	--	134
Upland hardwood types:												
Growing stock:												
Softwood	130	37	--	--	200	49	--	--	146	44	116	33
Hardwood	628	178	--	--	61	17	--	--	1.008	283	602	171
Total	758	215	--	--	261	66	--	--	1,154	327	718	204
Other timber:												
Softwood	--	1	--	--	--	--	--	--	--	1	--	1
Hardwood	--	155	--	--	--	176	--	--	--	204	--	138
Total	--	156	--	--	--	176	--	--	--	205	--	139
Bottomland hardwood types:												
Growing stock:												
Softwood	1,762	601	757	142	3,575		--	--	1,779	640	1,594	544
Hardwood	1,704	612	4,566	1,438	1,755	1,956			1,543	579	1,748	644
Total	3,466	1,213	5,323	1,580	5,330	1,621	--	--	3,322	1,179	3,342	1,188
Other timber:												
Softwood	--	28	--	--	--	28	--	--	--	29	--	28
Hardwood	--	221	--	177	--	229	--	--	--	182	--	240
Total	--	249	--	177	--	257	--	--	--	211	--	268
All types:												
Growing stock:												
Softwood	1,256	464	1,530	447	1,847	561	--	--	W &	451	1,106	366
Hardwood	813	286	552	195	316	166		--		281	862	310
Total	2,069	690	2,082	642	2,363	677	--	--	2,194	732	1,968	676
Other timber:												
Softwood	--	13	--	--	--	9	--	--	--	14	--	14
Hardwood	--	130	--	61	--	116	--	--	--	117	--	140
Total	--	143	--	61	--	125	--	--	--	131	--	154
All timber	2,069	833	2,082	703	2,363	802	--	--	2,194	863	1,968	830

1/ Rough and rotten trees.

Table 25.--Land area, by class, major forest type, and survey completion date, 1949, 1959, and 1970

Land use class	Survey completion date			Change 1959-1970
	1949	1959 2/	1970	
	Thousand acres			
Forest land:				
Commercial forest land:				
Pine and oak-pine types	3,905.8	2,943.7	1,170.4	-1,773.3
Hardwood types	1,841.4	2,018.0	1,537.6	- 480.4
Total	5,747.2	4,961.7	2,708.0	-2,253.7
Noncommercial forest land:				
Productive-reserved	11.9	21.9	23.7	+ 1.8
Unproductive	220.1	111.1	100.8	- 10.3
Total	232.0	133.0	124.5	- 8.5
Nonforest land:				
Cropland	844.0	1,201.8	1,304.4	+ 102.6
Pasture and range	526.5	1,256.2	3,829.8	+2,573.6
Other	2,429.3	2,346.8	2,090.6	- 256.2
Total	3,799-a	4,804.8	7,224.a	+2,420.0
All land 1/	9,779.0	9,899.5	10,057.3	+ 157.8

1/ Excludes all water areas.
2/ These figures differ slightly from reported figures because of revisions in the estimates of land area.

Table 26.--Volume[1/] 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-a.9	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-20.9	21.0 and larger
					SAWTIMBER (in million board feet)						
Softwood	1949	2,744.5	--	--	917.0	711.9	497.7	244.1	75.6	48.7	116.2
	1959	2,554.2	--	--	751.5	944.6	479.4	300.7	158.9	68.4	83.4
	1970	3,400.8	--	--	937.0	.	699.5	419.4	192.1	86.4	121.8
Hardwood	1949	1,867.4	--	--	_-	385.1	357.9	270.5	210.5	187.9	455.5
	1959	1,706.2	--	--	-_	388.7	331.6	255.3	202.5	154.2	373.9
	1970	2,202.5	--	--	__	407.3	438.3	342.6	296.6	201.2	516.5
					GROWING STOCK (in million cubic feet)						
Softwood	1949	924.0	125.0	208.6	219.7	177.9	98.2	47.0	14.6	9.7	23.3
	1959	877.0	135.4	198.2	180.1	149.9	94.6	57.9	30.6	13.6	16.7
	1970	1,095.4	155.1	219.6	224.6	198.8	138.0	80.7	37.0 45.7	17.2	24.4
Hardwood	1949	685.0	76.3	84.3	93.7	97.2	82.9	60.6	44.0	42.2	102.1
	1959	630.0	64.6	80.6	90.2	98.1	76.9	57.2	[illegible]	34.6	83.8
	1970	775.8	69.5	88.9	111.0	102.8	101.5	76.8	64.3	45.2	115.8
					ALL LIVE TIMBER (in million cubic feet)						
Softwood	1949	955.0 906.1	132.5	215.4	228.1	180.4	100.2	47.1	15.1	9.9	26.3
	1959	[illegible]	143.6	204.6	186.9	152.0	96.5	58.0	31.8	13.9	18.8
	1970	1,130.9	164.2	226.7	233.1	201.7	140.8	80.9	38.4	17.6	27.5
Hardwood	1949	1,003.2	137.0	134.7	133.7	140.0	112.7	82.7	60.4	56.4	145.6
	1959	921.4	116.0	128.9	128.7	141.3	104.4	78.1	58.1	46.3	119.6
	1970	1,126.5	124.4	142.1	158.5	148.1	138.0	104.7	85.1	60.4	165.2

1/ To provide a basis for valid comparisons, adjustments have been made to allow for differences in volume tables and saw-timber specifications used in previous surveys.

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