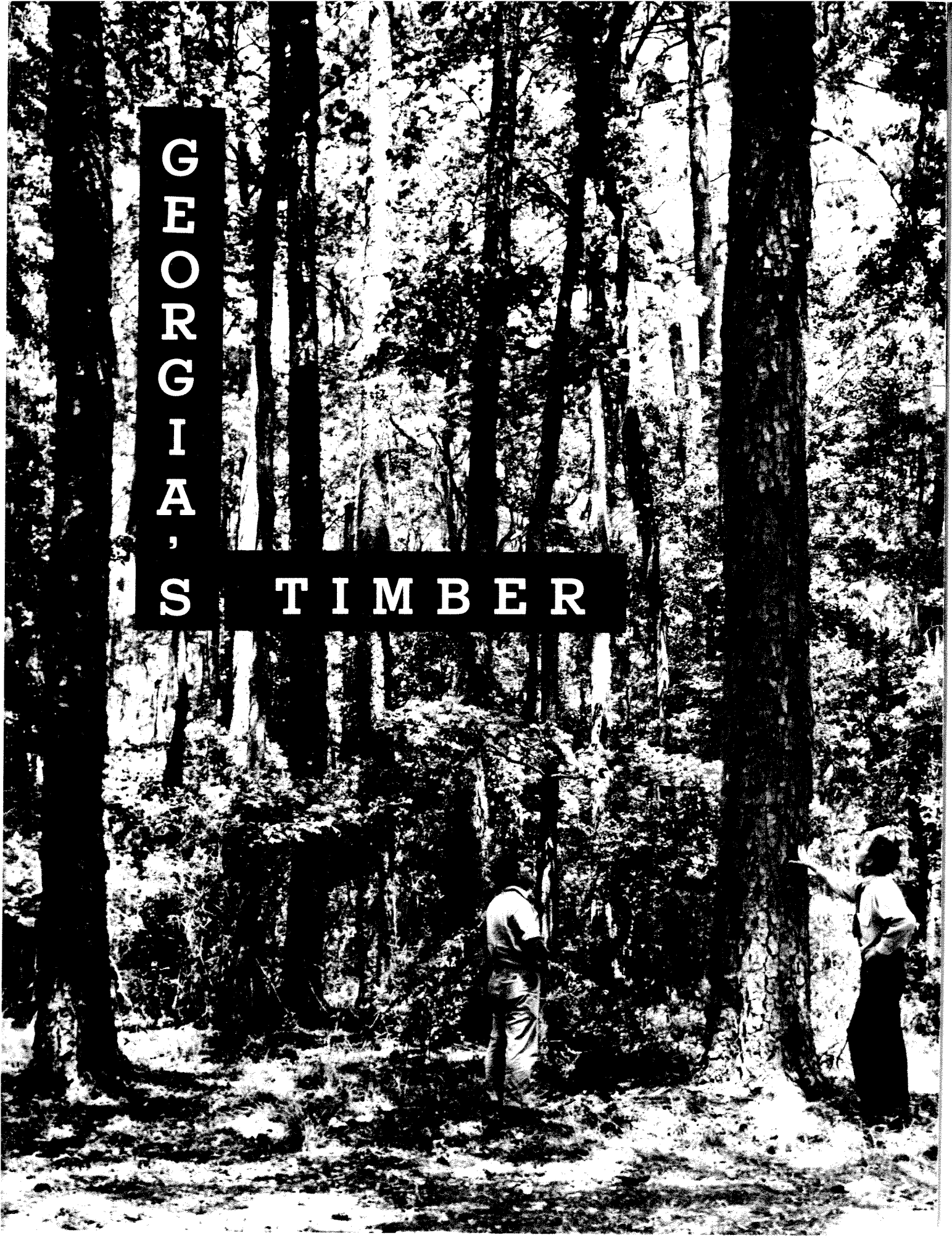
GEORGIA'S TIMBER

Foreword

The survey of Georgia's forests reported here was completed in August 1961. It is the third in a series conducted by the U. S. Forest Service. The first was completed in 1936 and the second in 1953. Comparisons between the three surveys show significant changes taking place in the timber supply outlook.

The Georgia Forest Survey is part of a continuing nationwide undertaking by the regional experiment stations of the U. S. Forest Service. The general objective is to make periodic inventory of forest lands, their extent, condition, and volume of timber, to ascertain rates of forest growth and depletion, to estimate present consumption of timber products and probable future trends in timber requirements, to analyze and make available Survey data which provide a sound basis for formulation of forest policies and programs on a National, State, and local level, and to make resurveys as necessary to keep basic information up to date.

The field work, compilation of data, and preparation of this report represent the combined efforts of many people. The Southeastern Station wishes to acknowledge the cooperation of the following in assisting the Survey with funds, men, and equipment:

Armstrong Cork Company
Bowaters Southern Paper Corporation
Champion Papers, Inc.
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Continental Can Company, Inc.
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Georgia Forestry Association, Inc.
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Union Bag-Camp Paper Corporation
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GEORGIA'S TIMBER

by

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U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

SOUTHEASTERN FOREST EXPERIMENT STATION
ASHEVILLE, NORTH CAROLINA

1963

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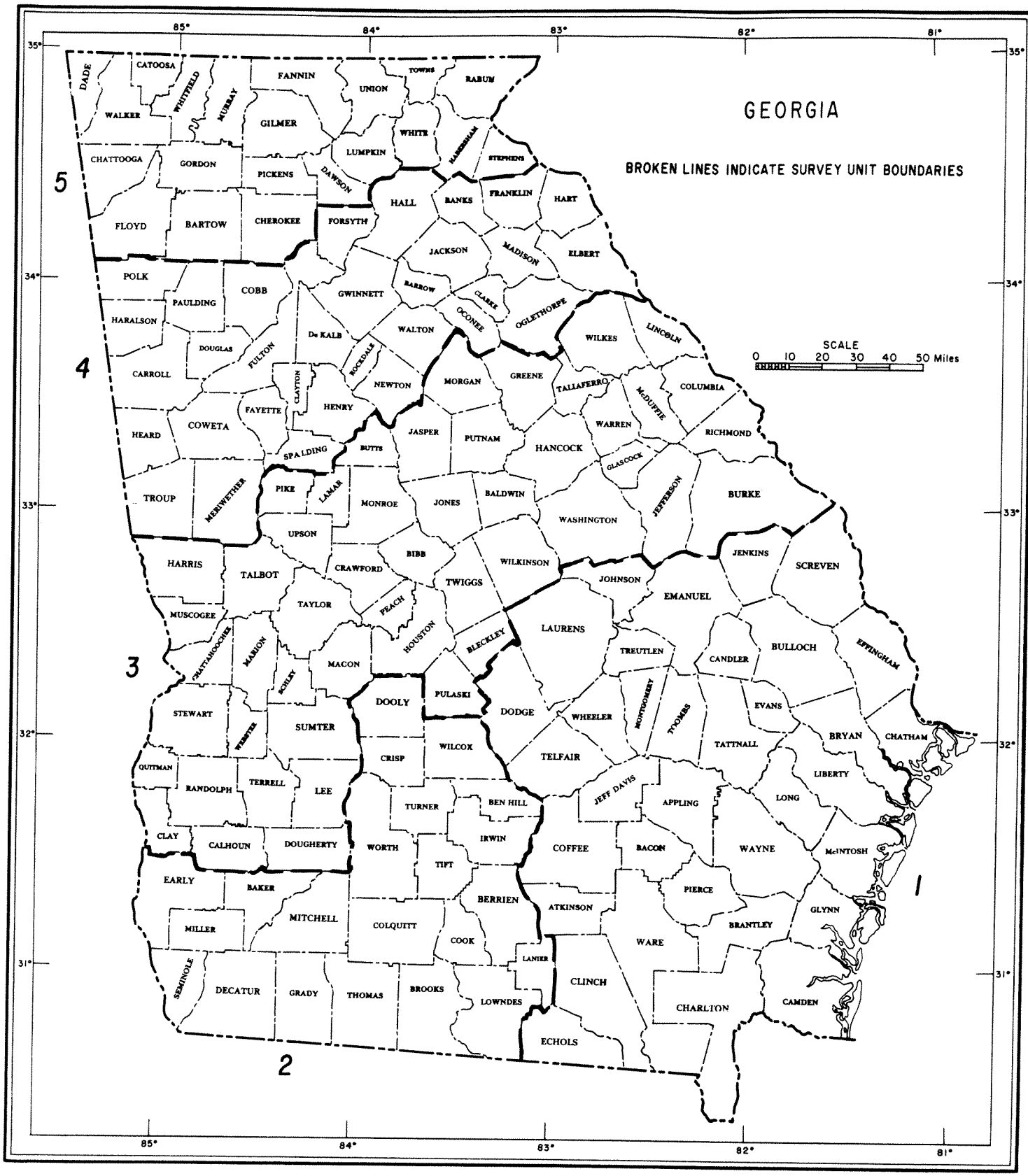


Figure 1. *Forest Survey Units in Georgia.*

Highlights

Forest area is increasing. During the past 25 years the area of commercial forest land in Georgia increased 4.5 million acres—a gain of 21 percent. Most of this increase has taken place in Piedmont Survey Unit 3 (fig. 1), where as a result of planting and natural reseeding of pine, large areas of former cropland are now forest land.

Forest land is better stocked. The basal area density of all live trees 1.0 inch d.b.h. and larger has increased about 1 percent annually during the past 25 years, with the rate of increase being slightly greater since 1953. Pine and hardwood stocking increased in about the same proportion—pine trees still accounting for about 45 percent of the total stocking and about 55 percent of the growing-stock volume.

Timber volume is increasing. Since 1936, softwood growing stock increased 19 percent and hardwood 26 percent. The upward trend in hardwoods seems to be leveling off, but softwood volume has increased faster during the past 8 years than between the first two surveys.

Timber on the average is smaller but less defective. The proportion of softwood growing stock in sawtimber trees 15.0 inches and larger has dropped from 27 percent to 14 percent. The large hardwood sawtimber proportion has declined from 37 percent in 1936 to 27 percent in 1961. Today, loss of cubic-foot volume due to rot is negligible in both softwood and hardwood—less than 1 percent for softwoods and about 1 percent for hardwoods. Other defects such as sweep, crook, and forking still reduce the usable volume for saw logs by 7 percent in softwoods and by 9 percent in hardwoods.

Margin of softwood growth over cut increasing. Better stocking with younger and more vigorous trees has resulted in a 42-percent increase in net growth of softwoods since 1936. The softwood cut has also increased, but by only 23 percent. In 1936, growth of softwood growing stock barely exceeded the cut, but by 1961 there was an excess of 17 percent. Softwood sawtimber growth, which failed to replace cut by a substantial margin in 1936, now exceeds the cut by 11 percent. Hardwood growth, on the other hand, has not kept pace with the increase in cut and mortality; by 1961, total growth barely replaced the cut, while sawtimber growth failed to replace the cut.

Ample supply of trees for gum naval stores. The number of trees worked for gum dropped from 65 million in 1936 to 22 million in 1960. The number of slash and longleaf pine available for gum production is at least 3½ times the number now being worked.

Declining trend in lumber production offset by increase in pulpwood cut. Lumber production dropped from a high of over 2 billion board feet in 1953 to less than a billion in 1961. Pulpwood production has risen from 700,000 cords in 1940 to almost 5 million in 1961.

The increase in softwood growth likely to level off. Conditions which have favored regeneration are not expected to continue. The area of idle and abandoned cropland has decreased sharply during the past 10 years. Openings formerly maintained by repeated burning have, with improved protection, pretty well restocked or have been taken over by shrubs and cull trees.

Net growth will remain well below potential unless forest management is intensified. Current growth is 42 cubic feet per acre. Prospective growth may be expected to level off at about 50 cubic feet during the next 30 years

with present trends in management. With management aimed at rotations that would supply the raw material needs of both sawmills and pulpmills, the potential is about 100 cubic feet per acre.

Many opportunities to increase growth. Georgia has about 9 million acres of land at least 40 percent stocked with desirable trees, but nearly two-thirds of this requires stand improvement to insure the future development and growth of desirable trees. Of the remainder, slightly over 12 million acres are suitable for growing pine, nearly one-third of which has no pine seed source and requires site preparation followed by planting. In addition, 1.3 million acres of idle and abandoned cropland and nearly a million acres of cutover forest land are available for planting without site preparation.

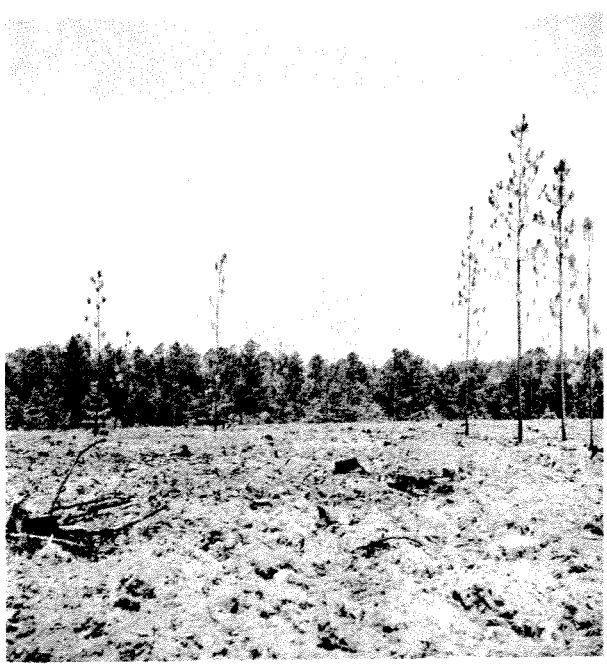
Opportunities greatest on farm woodlands. Farm woodlands offer the greatest opportunities to increase growth, but largely because of the area they represent rather than less favorable growing conditions. Farmers own over half of the commercial forest land. Growing conditions are only slightly less favorable on farmer-owned land than on forest-industry land and are equal to the average of all ownerships.

Timber Trends

MORE FOREST AREA

Trees increasingly dominate Georgia's landscape. Forests now cover 69 percent of the State's total 37 million acres of land area, as compared with 57 percent in 1936, when the first forest survey was completed. Practically all of Georgia's forest area is available for timber production; of the total 25.8 million acres qualifying as forest land, only 67,000 acres are not available for timber growing. This area is mainly in military reservations, national monuments, and state parks.

During the past quarter century, reversion of open land to forest has added 4.5 million acres to Georgia's timber-growing total—an increase of 21 percent (table I). Most of this forest increase has taken place in the Piedmont, where planting and natural reseeding of pine has converted large areas of idle and abandoned farmland to forest. In the Coastal Plain, the area of forest land has not changed much, and the increase has been less than a million acres.



In the Coastal Plain, the area of forest land is fairly stable. During the past 25 years clearing of forest land has just about offset reversion of nonforest land to forest.

Between 1953 and 1961, forest area increased at an average rate of 225,000 acres per year, compared to only 158,800 acres per year between the first and second surveys. A sharp reduction in idle and abandoned cropland available for planting and natural reseeding during the past 8 years makes a leveling-off of this upward trend in forest area quite likely within the next 10 years. The area of idle and abandoned cropland remained constant between 1936 and 1953, but since then has dropped 41 percent.

Table I.—*Commercial forest area by province and forest type group, Georgia, 1936, 1953, and 1961*

Province and forest type group	Survey completion date		
	1936	1953	1961
	Million acres		
Coastal Plain:			
Pine and oak-pine	8.7	7.7	7.7
Hardwood	1.7	3.0	3.3
Total	10.4	10.7	11.0
Piedmont:			
Pine and oak-pine	6.3	6.7	7.6
Hardwood	1.8	3.5	3.9
Total	8.1	10.2	11.5
Mountains:			
Pine and oak-pine	1.7	1.5	1.5
Hardwood	1.1	1.6	1.8
Total	2.8	3.1	3.3
State:			
Pine and oak-pine	16.7	15.9	16.8
Hardwood	4.6	8.1	9.0
Total	21.3	24.0	25.8

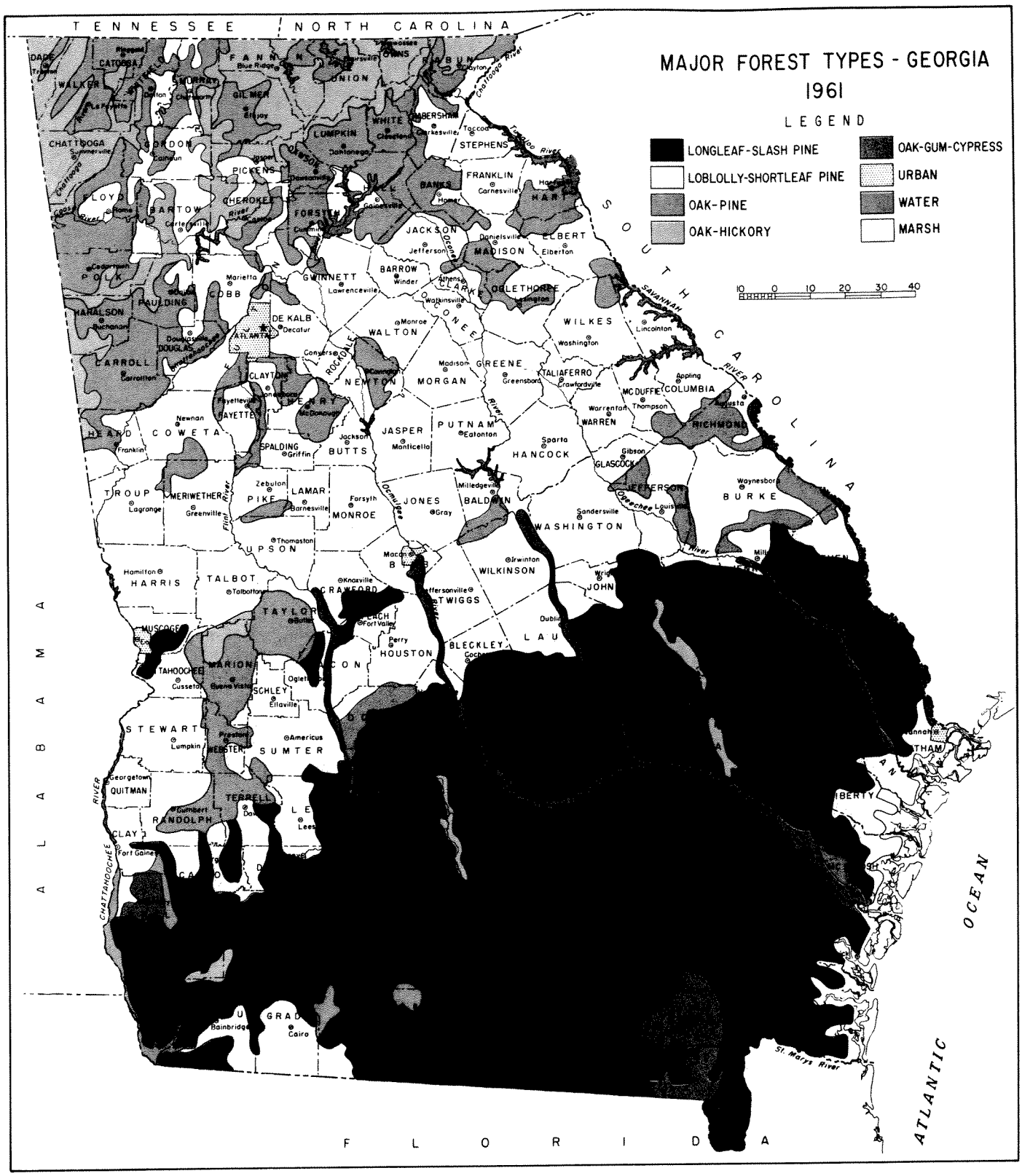


Figure 2. *Major forest types in Georgia.*

BETTER STOCKING

Along with the increase in forest area, there has been an improvement in stocking. In 1936, the average stand of all live trees 1.0 inch and larger averaged 49 square feet of basal area per acre. By 1953, this average had increased to 57 square feet, and by 1961 to 62 square feet.

Natural pine regeneration and planting have been sufficient to offset the natural encroachment of hardwoods following the cutting of pine stands (fig. 2). Pine trees still make up about 45 percent of the total stocking and about 55 percent of the growing-stock volume.

MORE TIMBER VOLUME

The increase in forest area and stocking has been accompanied by a substantial increase in volume. For Georgia as a whole, softwood growing-stock volume (volume in trees 5.0 inches and larger) has increased 19 percent and hardwood growing stock 26 percent during the past 25 years. Hardwoods have shown some leveling-off in the upward trend since 1953, but softwoods still show a rising trend (fig. 3).

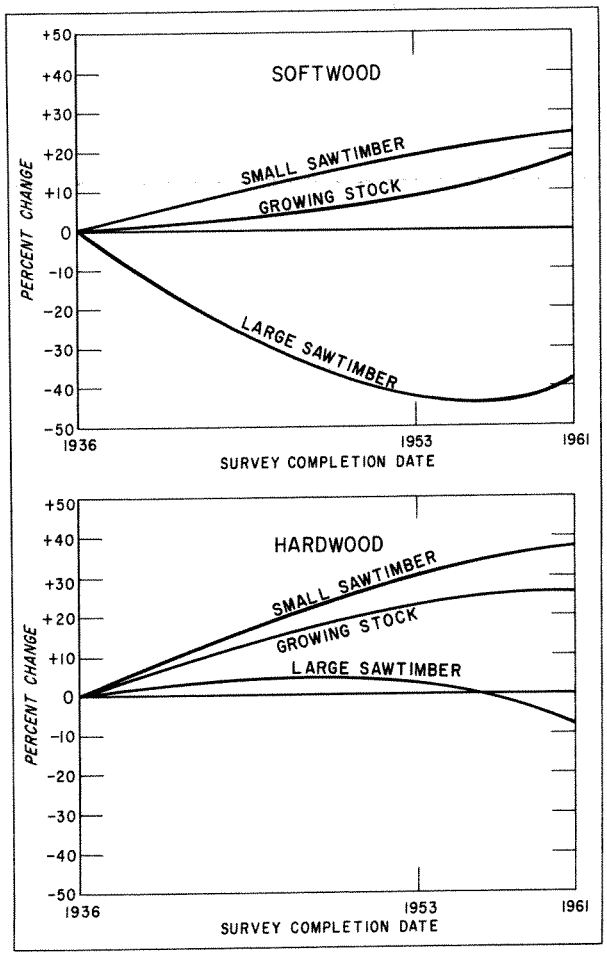


Figure 3. *Percent change in timber volume in Georgia since 1936.*

Changes in timber volume have not been uniform throughout the State. Softwood volume in the Coastal Plain, after making a substantial gain between 1936 and 1953, declined somewhat during the past 8 years. However, both softwood and hardwood volume is still substantially above the 1936 level. In the Piedmont, softwoods just about held their own between 1936 and 1953, but showed a sharp upward trend during the past 8 years. In the mountain area, softwood growing stock declined between 1936 and 1953, but since then this area has recovered practically all of the loss. Softwoods have increased, but hardwoods have shown little change.

TIMBER SMALLER BUT LESS DEFECTIVE

During the past 25 years, the average size of both softwood and hardwood timber in Georgia has decreased, which in turn has reduced the volume of high-quality timber available for lumber and veneer. In 1936, softwood timber in trees 15.0 inches and larger and of good enough quality to make saw logs comprised 27 percent of the total volume of growing stock, compared to 14 percent in 1961. Practically all of this shift in volume of softwood timber by size took place between 1936 and 1953. Since 1953, the distribution of volume by size class has remained about the same—thanks entirely to the recovery of large pine sawtimber volume in the lower Piedmont area. In other sections of the State, large sawtimber was still being overcut in 1961.

The average size of hardwood trees has also decreased. In 1936, 37 percent of the hardwood growing-stock volume was in large sawtimber (trees 15.0 inches and larger). By 1961, this had dropped to 27 percent. The volume in small sawtimber (trees 11.0 to 15.0) has not changed much, but large hardwood timber continues to be overcut.

The present lower tree quality is primarily a result of reduction in tree size. However, the young and vigorous stands building up in response to improved management practices and

fire protection are potentially of high quality. The improvement in turpentining along with the utilization of worked-out timber for pulpwood has nearly eliminated cull pine trees from the Coastal Plain stands. In the Piedmont area many old-field stands formerly stocked with scattered, excessively limby and short trees are now filling in with well-formed trees developing under forest conditions.

The examination of permanent plots throughout the State indicates an extremely high mortality rate for the poorer-quality timber, so that the chances are good the proportion of cull timber in today's stands is decreasing. If so, it is fortunate, for by present standards about 6 percent of the softwood and 26 percent of the hardwood basal area is in trees that will not make one merchantable 12-foot saw log now or prospectively. Most of these trees are not suitable for sawtimber because of defects such as excessive limbiness, crook, and sweep; trees which are cull because of rot account for only 4 percent of the total basal area.

Volume loss due to cull is decreasing. In 1961, the reduction in the gross cubic-foot volume of growing stock caused by rot was less than 1 percent for softwoods and only slightly more than 1 percent for hardwoods. The loss of board-foot volume amounts to 7 percent of the softwood gross board-foot volume and 9 percent of the hardwood board-foot volume.

Many of the older and larger hardwood trees still have the butt rot resulting from fire scars of past years. But these are either being cut or dying out and being replaced by vigorous, good-quality, young trees. Better fire protection has all but eliminated the butt scarring which in turn led to rot and such high losses of volume.

This increase in quality of young hardwoods has taken place mainly on the better hardwood growing sites. The picture is quite different on sites less well suited to growing hardwoods; here low-quality hardwoods with little or no saw-log quality potential have replaced pine over large areas following cutting. Most of these trees are slow-growing, have little market potential, and represent a poor utilization of the land.

TIMBER GROWING FASTER

In response to better stocking with younger and more vigorous trees, the net growth of softwoods has increased 42 percent since 1936 (fig. 4). The increase in softwood sawtimber growth has not been nearly so great—only 20 percent. Hardwood growth has increased also, but not so fast as softwood growth. Net growth increased 26 percent for hardwood growing stock and 23 percent for sawtimber. The trend in net growth is upward for both softwood and hardwood growing stock and for softwood sawtimber. Hardwood sawtimber growth shows a distinct leveling-off.

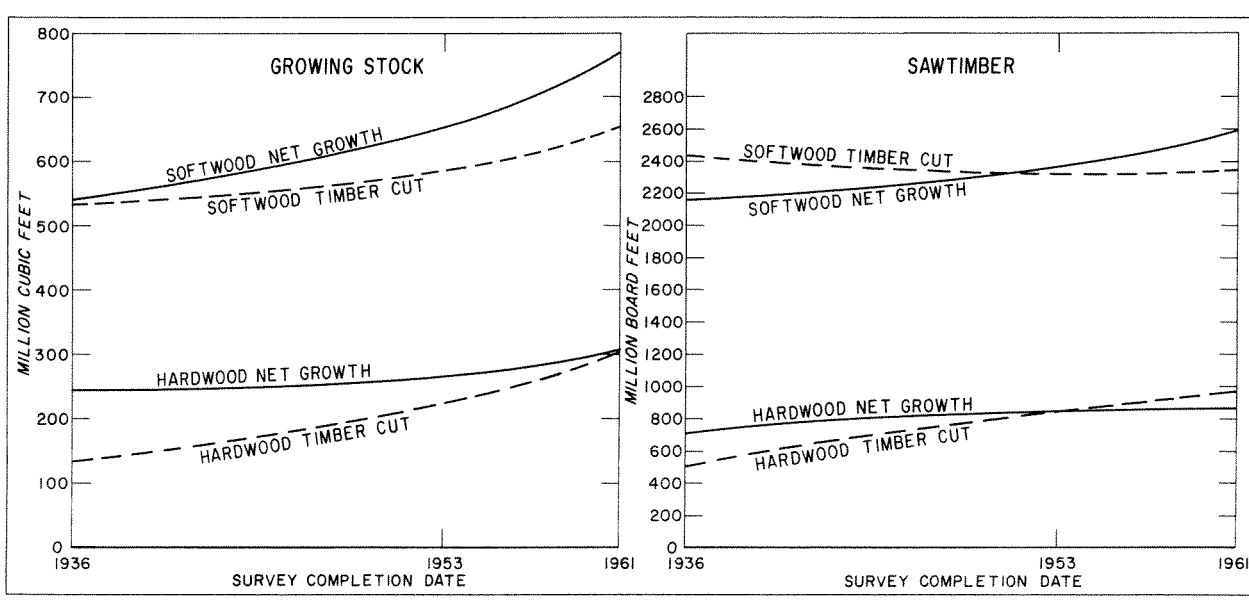


Figure 4. *Trend in net growth and timber cut in Georgia since 1936.*

MORE TIMBER CUT

Georgia's cut is increasing, but, for the State as a whole, softwood net growth is increasing faster than the cut (fig. 4). The same holds true for sawtimber; in 1936, timber cut exceeded net growth; by 1950, net growth balanced sawtimber cut, and by 1960 exceeded it.

The cut and growth relationship of hardwoods differs from that of softwoods in that timber is being cut faster than it grows. In 1936, the net growth of growing stock was almost double the timber cut. By 1960, net growth still exceeded the cut, but only by a narrow margin. As for sawtimber, the relationship shifted from an excess of growth over cut to more cut than growth in 1960.

MORE PULPWOOD, LESS SAW-LOG PRODUCTION

In 1937, Georgia's 1,607 sawmills dominated the State's forest industries. Since then, the trend has been toward fewer and larger mills. There are now only 527 sawmills, and their average annual production per mill has doubled since 1937 (fig. 5). During the period between the last two inventories, the number of wood-

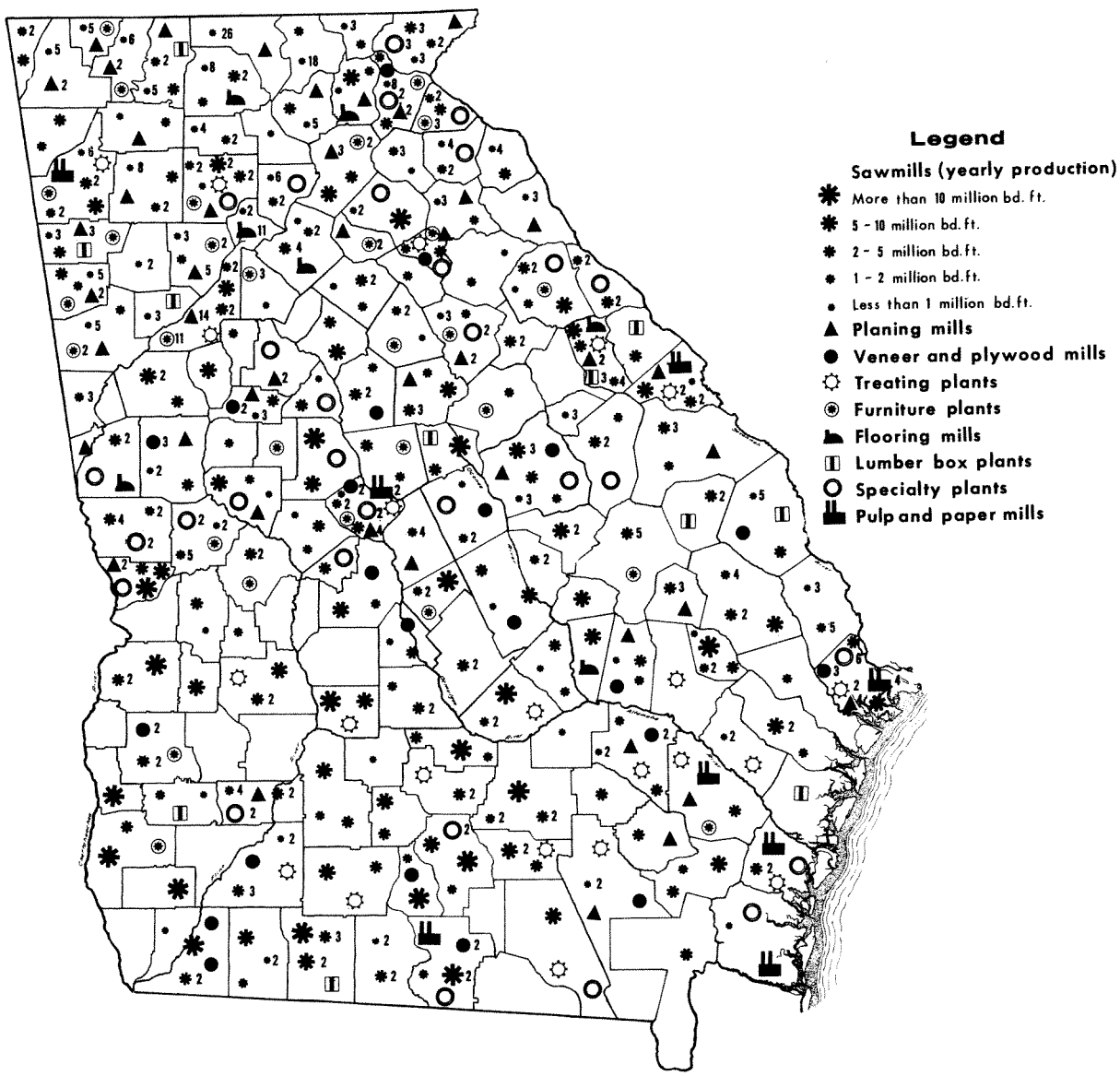


Figure 5. *Location of wood-using industries in Georgia, 1961.*

using pulpmills in Georgia has increased from 7 in 1952 to 12 in 1961. In addition, the average daily capacity of pulpmills has increased almost 40 percent since then. In 1952 daily capacity of pulpmills was 3,640 tons, or an average of 520 tons, while in 1961 daily capacity had increased to 8,693 tons, or an average of 724 tons per mill.

Lumber production has fluctuated widely from year to year. Current lumber production is about the same as it was in the middle thirties (fig. 6). Lumber production rose from about a billion board feet in 1936 to nearly two billion in 1942 and 1943 in response to the World War II demand. By 1945, production had dropped to 1.5 billion board feet, then rose to a high of 2.2 billion board feet in 1953. The present trend in reported lumber production is downward, reflecting in part the reduction in available supply of larger-size and better-quality timber.

This downward trend in lumber production has been more than offset by a marked increase in pulpwood production. Since 1940, pulpwood production has risen from 700,000 cords to a current level of almost 5 million cords (fig. 7). During recent years there has been a greater use of hardwoods and plant residues. Although the cut from hardwoods has doubled since 1955, hardwood pulpwood production currently accounted for only 11 percent of the total. Increase in pulpwood production during the past 3 years has come from greater use of plant residues. The use of residues had increased to 11 percent of the total by 1961; since 1959, pulpwood production from roundwood has remained at 4.4 million cords.

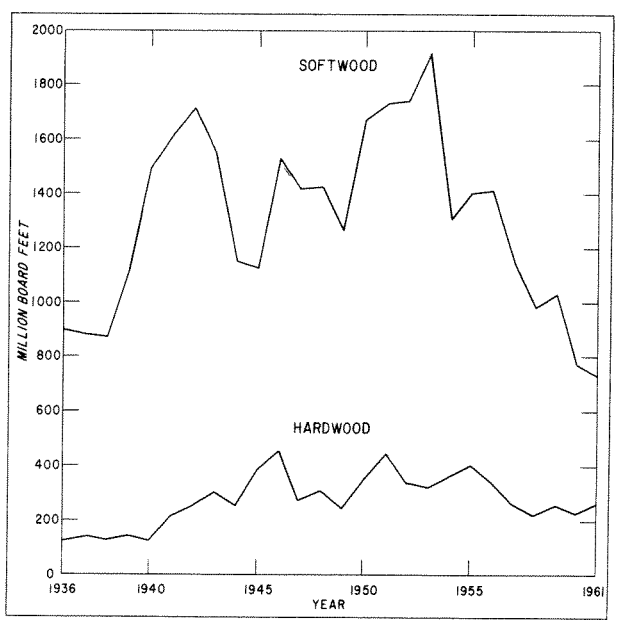


Figure 6. *Lumber production in Georgia, 1936 to 1961.*

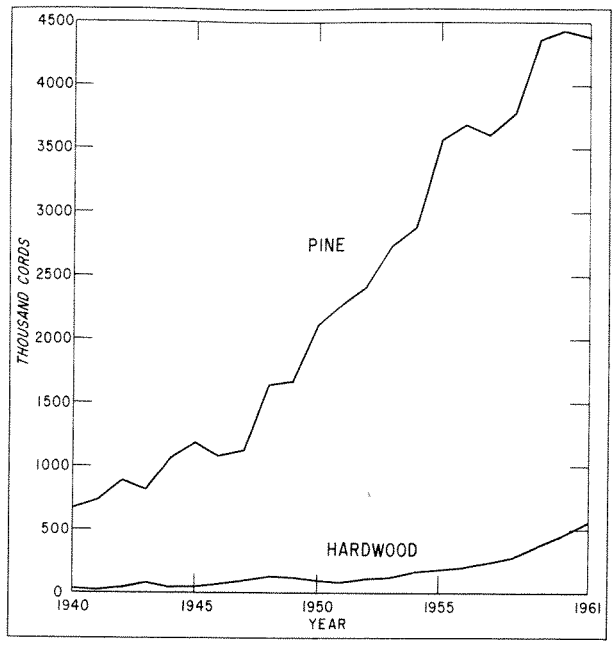


Figure 7. *Pulpwood production in Georgia, including residues, 1940 to 1961.*

Veneer plants—which account for a rather small part of the total cut—have increased only from 25 in 1936 to 27 in 1961. The number of treating plants, however, has increased from 6 in 1936 to 22 in 1961. The 36 stave plants that were reported in 1937 have all but disappeared from the scene, with only 3 reported in 1961. Following the sharp downward trend in number of households using wood for heating and cooking, the timber cut for fuelwood has also declined.

Georgia Pine - Source c

Naval Stores

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In addition to wood products, Georgia's timber is a leading source of turpentine and rosin. Gum collected from the scored faces of live longleaf and slash pine trees is the source of about one-fifth of the rosin and turpentine produced in the United States.

The volume of rosin and turpentine produced in the United States has changed little over the past 50 years, but the source of this production has shifted considerably. In 1936, when the first survey was completed, living slash and longleaf pine trees yielded almost all of the turpentine and rosin produced in the United States. In 1961, 54 percent of the rosin came from the distillation of stumpwood, 23 percent from the sulfate pulp process, and 23 percent from living pine trees. Fifty-two percent of the turpentine came from tall oil, 24 percent from stumps, and 24 percent from standing timber.

In 1960, 22 million trees in Georgia were being worked for gum as compared to 65 million trees in 1934 and 47 million in 1951. While the number of trees being worked has fallen off sharply, the supply of trees that could be worked has increased many times. The number of slash and longleaf pines available for gum production in Georgia is at least 3½ times the number now being worked. Current stumpwood production is only a fraction of the 13.8 million tons of operable stumps available. An additional 7.1 million tons of stumps will become operable when they can be removed without excessive damage to surrounding trees.

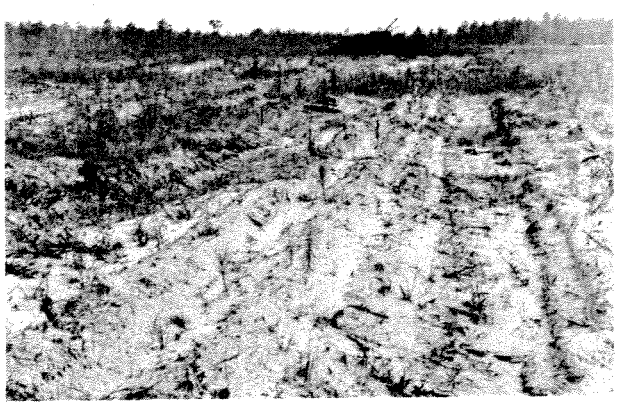
A substantial increase in the gum naval stores industry can be accomplished without the deterioration of timber values formerly associated with gum operations. Technical improvements have replaced old methods which, besides being wasteful, often left worked-out trees useless for other wood products. For the most part, such recently developed techniques as bark chipping with acid and the selection of harvest trees for chipping make possible a substantial buildup in gum naval stores without diminishing the usefulness of the worked-out timber for other products.

Timber Supply Outlook

During the past 25 years, conditions have been highly favorable to natural regeneration, rapid diameter growth, and low mortality. But conditions are changing. The area of idle and abandoned cropland is decreasing, leaving less land suitable for natural pine regeneration and planting. Stands are becoming more dense. Stand openings formerly created and maintained by cutting and wildfires are filling in either with growing stock or with cull trees and shrubs. Unless forest management is intensified, growth will not continue to rise at the present rate.

REGENERATION OUTLOOK

Changes in number of 2-inch saplings indicate that the regeneration rate for both softwoods and hardwoods has tripled during the past 25 years. The number of trees that survive to grow annually into the 2-inch diameter class (sapling ingrowth) has increased from 157 million softwood trees in 1936 to 440 million in 1960. The hardwood sapling ingrowth has increased from 193 million to 590 million. These increases in sapling ingrowth have accounted for a large part of the increase in net growth.



With the outlook for less and less abandoned cropland available for tree planting and less favorable conditions for natural regeneration on forest land, Georgia will have to rely more and more on costly site preparation followed by planting to maintain the regeneration rate.

Natural Regeneration

Future sapling ingrowth will continue to come mainly from natural regeneration. Further increases in the annual regeneration rate may be expected but at a somewhat slower rate than in the past as increasing stand density lowers the survival rate of seedlings. A projection of past trends, with allowances for increased seedling mortality, indicates that natural softwood sapling ingrowth will increase from the current 369 million trees to 652 million by 1990. Hardwood ingrowth may be expected to increase from 590 million to 1,023 million.

Ingrowth from Plantations

In the past, planting contributed very little to sapling ingrowth. For instance, in 1936, ingrowth from planted trees was negligible, and even by 1952, planted ingrowth accounted for only 4 percent of the total. But by 1960, plantations were contributing 71 million trees, or about 16 percent, to sapling ingrowth. This 1960 ingrowth, which consisted of survivors of the 118 million seedlings planted in 1955, still did not reflect recent large-scale planting. The peak planting of 375 million trees in 1958 will probably make up about a third of the total ingrowth in 1963.

That 1958 peak of planting has not been sustained in the last few years, and it seems likely the long-term average will be substantially

lower. Trees distributed for planting in Georgia since 1952 are:

Year	*Million seedlings*
1952	69
1953	96
1954	121
1955	118
1956	99
1957	201
1958	375
1959	316
1960	193
1961	118

In order to maintain the pine regeneration rate, it seems likely that planting should increase from the 1961 level of 118 million trees to a high of 234 million in 1980. After this, planting may decline to 212 million by 1990, as the opportunities for planting decrease and stand improvement needs increase. This planting level would result in nearly doubling ingrowth from planting over the next 30 years and serve to maintain the present planting proportion—about 16 percent of total ingrowth.

MORTALITY OUTLOOK

In 1960, natural destructive agents killed 3.5 percent of the softwood and 5.3 percent of the hardwood 2-inch saplings. In 4-inch saplings, the mortality rates are even higher—6.8 percent for both softwoods and hardwoods. Trees 5.0 inches and larger show much lower mortality rates, mainly because cutting tends to open up stands and prevent the overcrowding that kills so many smaller saplings. In this class, mortality rates of softwoods range from about 2 percent in 6-inch trees to about 0.75 percent of the inventory for large sawtimber. Hardwood rates are somewhat higher on the average. With continued fire protection, cutting nearly equal to growth, and a continuing shift of the cut to smaller sizes, chances are good that mortality rates will remain about as they are now.

LEVEL AND DISTRIBUTION OF CUT

The heaviest cutting is now taking place in the 14- to 18-inch timber, but as more timber is cut for pulpwood and less for saw logs, the smaller sizes will provide a greater share of the harvest. With a continuation of this trend, cutting may be more evenly distributed among all size classes by 1990.

Over the past 25 years, the margin between growth and cut has remained relatively narrow. Since the demand for timber products is rising, the difference between growth and cut will probably continue to be small.

AVAILABLE CUT

Under the assumption that the difference in the cut and growth will gradually diminish until growth equals cut by 1990, and assuming a continuation of the current trend in management, the prospective softwood cut available to forest industries may be expected to increase about 30 percent (fig. 8). This would mean that cutting would continue to increase about as it has for the past 10 years for another decade and then begin to level off. After 1980, net growth and the cut available from net growth would increase very little. Softwood timber available for saw logs in 1990 would increase a total of about 18 percent over 1960—two-thirds of this in large sawtimber and one-third in small sawtimber.

Hardwood growing stock also shows a prospective 30-percent increase in 30 years, but the cut available from large sawtimber would decrease if the trend to cut by diameter class is continued.

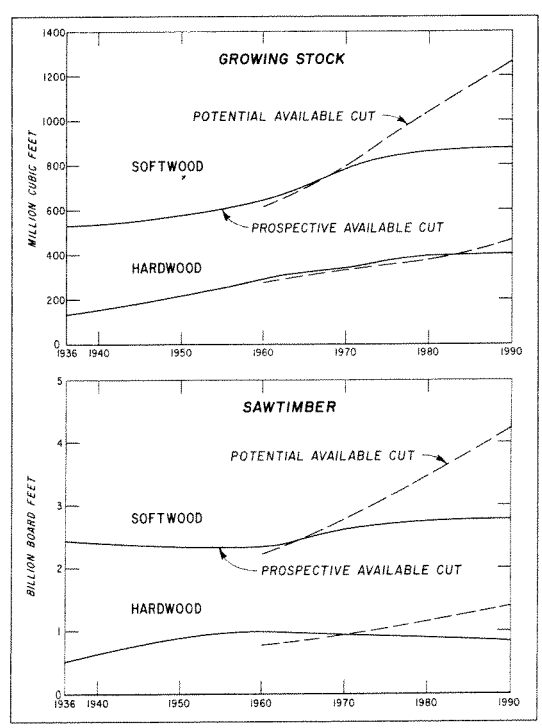


Figure 8. *Prospective and potential available cut, 1960-1990, Georgia.*

Timber-Growing Opportunities

GROWTH

In spite of the gains made over the past 25 years, opportunities to increase growth through better management and protection are numerous. Only 30 percent of Georgia's forest area is stocked with desirable trees—the kind of trees the land is capable of growing under good management (table II). Another 38 percent of the area is stocked with acceptable growing stock. These trees qualify as growing stock, but because of low vigor, high risk, too much rot or excessive forking and limbiness, they are not the kind of trees that will produce the highest volume and quality of products possible. Some 20 percent of the area is occupied by shrubs and cull trees, and another 12 percent is nonstocked.

Not only is the quality of trees far below the potential, but species composition of the stands is far out of balance. At least two-thirds of the land in Georgia is capable of growing pine, yet pine today accounts for only 45 percent of the basal area density. The potential growth of well managed, fully stocked pine stands is over 100 cubic feet per acre per year, compared to about 75 cubic feet for hardwood stands.

Intensive management practices which would result in full stocking of desirable trees, with two-thirds of the stocking in pine, would result in a potential net growth in all species of 100 cubic feet per acre, compared to the current growth of 42 cubic feet (table III). The potential board-foot growth per acre would be 340 board feet compared to the current growth of 135 board feet.

A management program that would achieve the above potential growth in 50 years would result in an available cut of growing stock 30 percent above the prospective cut by 1990 (fig. 9). The gain would be even greater for sawtimber—nearly a 60-percent increase over the prospective available cut by 1990.

Table II.—*Percent of area controlled by class of trees and vegetation, by land type and site, Georgia, 1961*

Land type and site	Growing stock		Cull trees	Shrubs	Non-stocked	Total
	Desirable	Other				
	Percent					
Pine stands:[1]						
Good	46	31	5	7	11	100
Average	41	33	8	6	12	100
Poor	34	28	8	14	16	100
All sites	44	31	6	8	11	100
Upland hardwoods:						
Good	25	35	9	13	18	100
Average	16	44	16	9	15	100
Poor	11	21	37	14	17	100
All sites	18	38	17	11	16	100
Lowland hardwoods:						
Good	21	54	11	9	5	100
Average	15	50	13	12	10	100
Poor	6	37	12	27	18	100
All sites	18	52	11	11	8	100
All land	30	38	11	9	12	100

[1] 40 percent or more stocked with pine.

Table III.—*Commercial forest area and net growth of growing stock per acre by land type and site, Georgia, 1961*

Land type and site	Area	Net growth per acre		
		Total	Softwood	Hardwood
	Million acres	*Cubic feet*		
Pine stands:[1]				
Good	6.8	60.1	55.5	4.6
Average	4.3	45.2	41.7	3.5
Poor	.6	35.3	34.5	.8
All sites	11.7	53.4	49.4	4.0
Upland hardwoods:				
Good	2.7	34.8	18.1	16.7
Average	5.2	25.1	10.0	15.1
Poor	1.1	12.3	8.0	4.3
All sites	9.0	26.5	12.2	14.3
Lowland hardwoods:				
Good	2.5	54.3	5.2	49.1
Average	2.5	30.2	5.0	25.2
Poor	.1	20.0	1.9	18.1
All sites	5.1	41.8	5.0	36.8
All land	25.8	41.7	27.6	14.1

[1] 40 percent or more stocked with pine.

STAND IMPROVEMENT

Nearly all the forest lands in Georgia offer opportunities to increase growth. Only 1.8 million acres are 70 percent or more stocked with desirable trees (condition class 1), and many of these are young stands that will require thinning before harvest time (table IV).

Table IV.—*Commercial forest area by land type, site, and area condition. Georgia, 1961*

Land type and site	Area condition class 1	2	3	4	5	6	All classes
	Million acres						
Pine stands:[1]							
Good	1.1	0.9	2.6	..	2.1	0.1	6.8
Average	.5	.5	1.6	..	1.6	.1	4.3
Poor	..	.1	.3	..	.2	..	.6
Total	1.6	1.5	4.5	..	3.9	.2	11.7
Upland hardwoods:							
Good	.1	..	.3	..	1.4	.9	2.7
Average	..	.1	.3	..	3.3	1.5	5.2
Poor	..	..	..	..	.4	.7	1.1
Total	.1	.1	.6	..	5.1	3.1	9.0
Lowland hardwoods:							
Good	.1	..	.4	.1	1.8	.1	2.5
Average	..	..	.2	.2	1.8	.3	2.5
Poor	..	..	..	..	.1	..	.1
Total	.1	..	.6	.3	3.7	.4	5.1
All land	1.8	1.6	5.7	.3	12.7	3.7	25.8

[1] 40 percent or more stocked with pine.

A third of the area, or 7.3 million acres, are between 40 and 70 percent stocked with desirable trees but only about a fourth of this area is expected to attain full stocking without treatment. The remaining 5.7 million acres require treatment to free the desirable trees from competition and overtopping.

Stands at least 40 percent stocked with pine offer the best opportunities for stand improvement; 4.5 million acres are at least 40 percent stocked with desirable trees but have at least 30 percent of the area occupied by competing low-quality trees and shrubs.

Upland hardwood stands offer far less opportunity for stand improvement. Out of a total of 9 million acres, less than a million acres have as much as 40-percent stocking with desirable trees. About 5 million acres are at least 40 percent stocked with growing stock; many of these stands, especially the 1.4 million acres on good sites, would probably justify stand improvement.

Georgia has, in addition to the upland and flatwood area, 5.1 million acres of lowland and riverbottoms. Only 18 percent of this area is

Nearly 4 million acres have virtually no growth potential at the present time and require rehabilitation to get them back into timber production.

About 9 million acres are at least 40 percent stocked with desirable trees, but nearly 6 million acres of this require removal of low-quality trees and shrubs to make room for the future growth and development of the desirable trees.

The 5 million acres of lowland sites are Georgia's main potential source of high-quality hardwoods. Today desirable trees stock only 18 percent of this area.

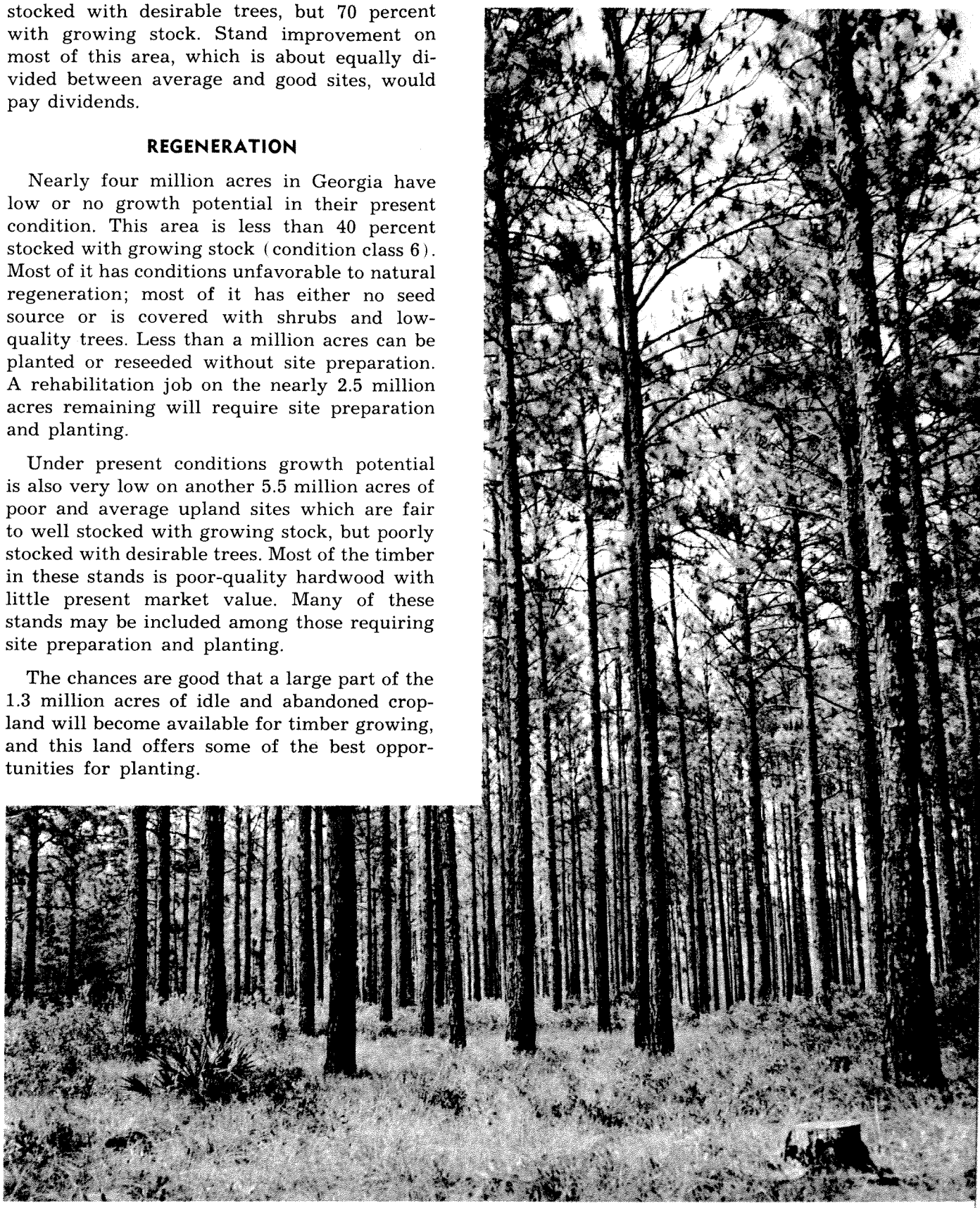
stocked with desirable trees, but 70 percent with growing stock. Stand improvement on most of this area, which is about equally divided between average and good sites, would pay dividends.

REGENERATION

Nearly four million acres in Georgia have low or no growth potential in their present condition. This area is less than 40 percent stocked with growing stock (condition class 6). Most of it has conditions unfavorable to natural regeneration; most of it has either no seed source or is covered with shrubs and low-quality trees. Less than a million acres can be planted or reseeded without site preparation. A rehabilitation job on the nearly 2.5 million acres remaining will require site preparation and planting.

Under present conditions growth potential is also very low on another 5.5 million acres of poor and average upland sites which are fair to well stocked with growing stock, but poorly stocked with desirable trees. Most of the timber in these stands is poor-quality hardwood with little present market value. Many of these stands may be included among those requiring site preparation and planting.

The chances are good that a large part of the 1.3 million acres of idle and abandoned cropland will become available for timber growing, and this land offers some of the best opportunities for planting.



About 5 million acres are well stocked with pine trees.

FORESTRY OUTLOOK

Nearly 200,000 people own 78 percent of the commercial forest land in Georgia. Over 170,000 of them are farmers owning on the average about 100 acres of woodland, and the rest are miscellaneous private owners.

Forest industries, mostly pulp companies, own 4 million acres, or 15 percent of the forest area (table V).

Public agencies such as National Forests, State, Department of Interior, and the Department of Defense, own a total of 2 million acres (7 percent).

Although productivity has improved in recent years, it is still far below potential on all classes of ownership. All ownerships are about two-thirds stocked with growing stock and about one-third stocked with desirable trees (table VI). The stocking of desirable trees on industrial forest land was only slightly better than on farmer-owned and miscellaneous private. Differences between stocking on public and private land reflect mainly differences in site potential and past use rather than current or recent management practices. While the stocking of growing stock for National Forests is considerably above the average, the species composition is far from ideal.

Table V.—*Area by land type, site class and ownership, Georgia, 1961*

Land type and site	All ownerships	Nat'l. Forest	Other public	Forest industry	Farmer-owned	Misc. private
	Thousand acres					
Pine stands:[1]						
Good	6,798	123	246	1,335	3,822	1,272
Average	4,303	94	145	635	2,504	925
Poor	626	4	50	125	284	163
Total	11,727	221	441	2,095	6,610	2,360
Upland hardwoods:						
Good	2,735	162	74	426	1,563	510
Average	5,168	339	150	596	3,068	1,015
Poor	1,100	41	61	152	558	288
Total	9,003	542	285	1,174	5,189	1,813
Lowland hardwoods:						
Good	2,440	10	183	375	1,458	414
Average	2,464	...	133	289	1,719	323
Poor	138	...	26	13	77	22
Total	5,042	10	342	677	3,254	759
All stands:						
Good	11,973	295	503	2,136	6,843	2,196
Average	11,935	433	428	1,520	7,291	2,263
Poor	1,864	45	137	290	919	473
Total	25,772	773	1,068	3,946	15,053	4,932

[1] 40 percent or more stocked with pine.

Table VI.—*Commercial forest land by owners and stocking class, Georgia, 1961*

Ownership	Stocking class					
	Growing stock		Cull trees	Shrubs	Non-stocked	Total
	Desirable	Other				
	Percent					
National Forest	18	62	12	5	3	100
Other public	24	38	9	16	13	100
Private farm	29	37	11	9	14	100
Forest industry	34	34	9	11	12	100
Other private	29	40	12	9	10	100
All ownerships	30	38	11	9	12	100

Of these three groups, clearly the first—the small private owners who control more than three-fourths of the State's commercial land—are the key to improving productivity. Owning an area that dwarfs that of industry and public agencies combined, these are the people who could most markedly increase the State's timber supply by adopting good forestry practices. Studies show that those who own 500 acres or upwards are more likely to be engaged in forestry than those with smaller woodland areas. Programs beamed at holders of the smaller acreages have to date left these people relatively untouched. These individuals are many, heterogeneous, and possessed of diverse viewpoints. Some of these owners would be willing to put time and money into forestry if they knew the earnings they could expect from planting, thinning, and handling timber as a crop. Some seem to be interested primarily in wildlife, a spot of wooded isolation and quiet, and a feeling for conservation and land stewardship. Many such owners are apprehensive about any kind of cutting, and do not know that good forestry can enhance the values they cherish while incidentally bringing in a small income.

Whatever the approach needed, the fact remains that for Georgia, a large state with a large share of the best timber-growing land in the South, forests are a pillar of the economy. Forestry benefits reach into every city and crossroads. Georgia has the land, the climate, and the progressive private companies and public agencies. But the State is realizing only half its timber-growing potential because its principal forest owners are not taking advantage of the opportunities offered by their woodlands.

Appendix

ACCURACY OF THE SURVEY

The data on forest acreage and timber volume in this report include estimates based on samples having an associated sampling error. A large enough sample is taken to keep the sampling error below a specified minimum for forest area and timber volume. Nonsampling errors, such as may arise from mistakes in judgment, measurement, recording, and compilation, are kept to a minimum through training, supervision, field check cruises, and complete editing and machine verification in compiling the data.

Estimates of forest area were based on the classification of 217,805 sample points systematically spaced on aerial photographs with a ground check of 11,796 of these points to adjust for changes in land use since date of photography. Estimates of volume and growth are based on measurements recorded at 8,876 of the ground check points classed as forest land. Estimates of timber products output are based on a canvass of wood-using industries made by the State in 1961.

Statistical analysis of the data indicates a sampling error of ±0.3 percent for the estimate of total forest area, 1.1 percent for total cubic volume, and 1.3 percent for total cubic volume growth. As these totals are broken down by forest type, species, tree diameter, and other subdivisions, the possibility of error increases and is greatest for the smallest items. The order of this increase is suggested in the following tabulation, which shows the sampling error to which the estimates are liable, two chances out of three.

Forest area	Sampling error [1]	Cubic volume	Sampling error [1]	Net cu. ft. growth	Sampling error [1]
Thousand acres	*Percent*	*Million cu. ft.*	*Percent*	*Million cu. ft.*	*Percent*
25,772.2	0.3				
2,310.4	1.0	17,330.6	1.1	1,075.5	1.3
577.6	2.0	5,244.1	2.0	444.0	2.0
256.7	3.0	2,330.7	3.0	197.3	3.0
144.4	4.0	1,311.0	4.0	111.0	4.0
92.4	5.0	839.1	5.0	71.0	5.0
23.1	10.0	209.8	10.0	17.8	10.0
10.3	15.0	93.2	15.0	7.9	15.0
5.8	20.0	52.4	20.0	4.4	20.0
3.7	25.0	33.6	25.0	2.8	25.0

[1] By random-sampling formula.

HOW THE FOREST INVENTORY IS MADE

Forest statistics in Georgia were estimated by aerial photo interpretation with ground checks, remeasurements on plots established in the previous survey, and measurement of new plots. The detailed procedure was as follows:

1. From the most recent available aerial photography, every third photo was obtained in the flight lines most nearly coinciding with those used in the previous survey. Extra photos were also obtained if old forest plots fell between these photos or off the flight line. Preliminary estimates of the acreage of forest and other land-use classes were obtained by classifying grid points printed on the flight-line photos. No grid was printed on extra photos. The proportion of grid points falling in each land-use class provided the acreage estimates.

2. Enough old forest plots to meet established limits of error per billion cubic feet of timber were relocated on the new photos. When the new photographs showed that any of these old forest plots were now on nonforest land, all tally on such plots was recorded as timber cut and a replacement chosen. In counties with more old plots than were needed, the extra plots were deleted at random. If there were not enough old plots, new plots were added, using the grid points with the first new plot chosen at random and later ones at systematic intervals from the first. The photos, both old and new, and the old plot tally sheets were then sent to the field crews and they added additional new forest plots to insure sampling all ownership classes having 50 acres or more in each county, or to replace old plots which they were unable to find. Plots which were relocated but had to be shifted so that the entire plot would fall in the same stand size, forest type, and ownership were replaced by new plots for inventory and growth measurements; the mortality and cut data were, however, taken at the old location.

At both new and relocated sample areas the basic plot was a variable plot with a basal area factor of 10 square feet per acre. Timber volume, quality, and growth were tallied on this basic plot. Data on stocking, area condition, treatment needed, stand size, and disturbance were tallied on 20 sample points systematically established within the circular acre around plot center. At each point, stocking of pole and larger trees was tallied on a variable plot

with a basal area factor of 75 square feet per acre. Stocking of smaller trees and brush was recorded on concentric fixed-radius plots around the point center. The presence or absence of an acceptable seed source was also recorded at each point.

On relocated plots, all trees tallied as 4.0 inches d.b.h. and larger in the previous survey were accounted for. Missing trees were recorded as either cut or dead. On both relocated plots and new plots, trees which had been cut within the past 3 years or which died in the past year were tallied on three concentric plots of 1/100 acre, 1/50 acre, and 1/5 acre around the variable plot center. Cut and mortality were recorded only at the old location when plots were shifted, but when a lost plot was replaced by a new plot, the old tally was disregarded in recording cut and mortality. Trees deadened in stand improvement measures were included with cut. Cause of death was recorded for all tallied trees that had died of natural causes.

Except in southwest Georgia, where little change was anticipated, a tally of wood naval stores stumps was made on a 1/5-acre plot around the old plot center on each relocated old plot. Availability of wood naval stores stumps was recorded on a circular acre on all forest plots. Plots in nonforest land, systematically chosen to verify and adjust the area estimates based on the photo grid points, were also examined for availability of wood naval stores stumps.

3. Growth estimates were based on increment borings taken on all trees 4.0 inches d.b.h. and larger tallied on the base plot, except live oak. The breakdown of volume of timber cut by product was based on a 1960 production survey and on utilization studies. The breakdown of the cut and mortality by size was computed from the plot tally.

4. All field data were sent to Asheville for editing and were placed on punch cards for machine computing, sorting, and tabulation. Final estimates were based on statistical summaries of the data.

DEFINITIONS OF TERMS

Land-Use Classes

Forest land.—Areas of 1 acre or more at least 10 percent stocked by forest trees of any size, or formerly having such tree cover, and not currently developed for nonforest use.

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

Productive-reserved forest land. — Productive public forest land withdrawn from timber utilization through statute or administrative regulation.

Unproductive forest land.—Forest land incapable of yielding crops of industrial wood because of adverse site conditions.

Nonforest land.—Includes all land not qualifying as forest, water areas under 40 acres, and strips of water less than 660 feet wide. Also includes improved (graded) roads and railroads.

Cropland.—Nonforest land which has been cultivated within the past 2 years. Also includes tended orchards and yards of occupied farm homes. Excludes land being developed for permanent pasture even though it has been cultivated within the past 2 years.

Improved pasture.—Nonforest areas that are fenced, are less than 10 percent stocked with trees, and show evidence that an attempt is being made to maintain a sod of forage species.

Idle or abandoned cropland.—Includes cropland and orchards not cultivated or tended in the past 2 years, abandoned farm home sites, and nonforest land that no longer qualifies as improved pasture because of lack of maintenance.

Marsh or prairie.—Low, wet areas characterized by heavy growth of reeds and grasses without tree growth. Also includes upland meadows or prairies where timber does not grow naturally.

Urban and other.—Areas occupied by cities and towns, suburban areas developed for residential or industrial purposes, school yards, cemeteries, mines, quarries, airfields, roads, railroads, other cleared rights-of-way, and nonforested sand dunes and beaches. Excludes extensive areas of forested land within legal boundaries of cities and towns which have not been developed for other purposes and are available for production of timber. Includes town parks.

Ownership Classes

National Forest.—Includes Federally owned land within the boundaries of the National Forests.

Indian.—Tribal lands held in fee by the Federal Government but administered for Indian tribal groups and Indian trust.

Other Federal.—Includes military reservations, wildlife refuges, etc.

State.—Lands owned by states or leased by states for more than 50 years. Includes state forests, etc.

County and municipal.—Lands owned by counties or municipalities or leased by them for more than 50 years. Includes parks, watersheds, etc.

Pulp and paper companies.—Includes land owned in fee simple by pulp and paper companies. Excludes leased lands.

Other wood-using industries.—Includes land owned by all primary and secondary industries using wood as a raw material such as sawmills, veneer plants, handle mills, furniture factories, etc.

Farmer owned.—Includes land owned by persons who operate farms, either performing the labor themselves or directly supervising it, retired farmers or wives of farmers. To be classified as a farm, an area must be 10 or more acres and yield $50 or more annually from agricultural products or, if less than 10 acres, the yield must be at least $250

annually. Forest land owned by a farmer is classified as farmer-owned whether or not the particular tract contains an agricultural operation, unless the owner operates a forest industry. Lands leased by farm operators from owners such as railroads, states, and pulp companies are not to be considered farmer-owned lands.

Miscellaneous private.—All forest land not included under the above classification.

Stand-Size Class

Sawtimber stands.—Stands at least 10 percent stocked with growing-stock trees and with sawtimber trees making up a plurality of the stocking.

Poletimber stands.—Stands at least 10 percent stocked with growing-stock trees, and with poletimber trees making up a plurality of this stocking.

Sapling-seedling stands.—Stands at least 10 percent stocked with growing-stock trees, and with saplings and/or seedlings making up a plurality of this stocking.

Nonstocked areas.—Commercial forest lands less than 10 percent stocked with growing-stock trees.

Stocking

As a measure of area occupancy by tree quality, three categories of stocking are used by the Survey: (1) all live trees, (2) growing-stock trees, and (3) desirable trees. Stocking in terms of all trees is used in the delineation of forest land and forest types. Stocking in terms of growing-stock trees is used in stand-size and age classifications. Stocking in terms of desirable trees is used in classifying forest land by area-condition classes. The most dominant vegetation at each of the 20 points was recorded and formed the basis for determining plot stocking. The standards for 100 percent stocking are as follows: (1) 75 square feet of basal area per acre in trees 5.0 inches d.b.h. and larger, (2) 600 4-inch d.b.h. trees per acre, (3) 800 2-inch d.b.h. trees per acre, or (4) 1,000 established seedlings per acre.

Well stocked.—Areas 70 percent or better stocked with growing stock.

Medium stocked.—Areas 40-70 percent stocked with growing stock.

Poorly stocked.—Areas 10-40 percent stocked with growing stock. When there was a question whether an area had reverted to forest from another land use, the 10-percent minimum stocking was determined by another method. A count was made by size of all trees on the acre in which the plot fell, and a table used to determine exact stocking.

Nonstocked.—Areas less than 10 percent stocked with growing stock trees.

Forest Type Groups

White-red-jack pine.—Forests in which 50 percent or more of the stand is eastern white pine, red pine, or jack pine, singly or in combination. Common associates include hemlock, aspen, birch, and maple.

Loblolly-shortleaf pine.—Forests in which 50 percent or more of the stand is loblolly pine, shortleaf pine, or other southern yellow pines except longleaf or slash pine, singly or in combination. Common associates include oak, hickory, and gum.

Longleaf-slash pine.—Forests in which 50 percent or more of the stand is longleaf or slash pine, singly or in combination. Common associates include other southern pines, oak, and gum.

Oak-pine.—Forests in which 50 percent or more of the stand is hardwoods, usually upland oaks, but in which southern pines make up 25-49 percent of the stand. Common associates include gum, hickory, and yellow-poplar.

Oak-hickory.—Forests in which 50 percent or more of the stand is upland oak or hickory, singly or in combination, except where pines comprise 25-49 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 50 percent or more of the stand is tupelo, blackgum, sweetgum, oaks, or southern cypress, singly or in combination, except where pines comprise 25-49 percent, in which case the stand would be classified oak-pine. Common associates include cottonwood, willow, ash, elm, hackberry, and maple.

Tree Species

Commercial species.—Tree species presently or prospectively suitable for industrial wood products; excludes so-called weed species, such as blackjack oak and blue beech.

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

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

Site Quality Classes

Site classes represent a classification of forest land in terms of inherent capacity to grow crops of industrial wood.

Site indices for pine types were recorded in the field on a basis of the height-age relationship. On hardwood types where no pine was available, site was recorded in terms of the number of 16-foot saw logs that may be expected at maturity in the best hardwood tree in the area, i.e., 1-log, 2-log, 3-log, or better sites.

Based on these site indices, three site-quality classes are recognized. They are expressed in terms of the culmination of mean annual growth per acre of growing stock attainable in fully-stocked stands.

50 cubic feet per acre.—Longleaf pine and pond pine types of site index 60 or less; slash pine, loblolly pine, and oak-pine types of site index 50 or less; shortleaf pine types of site index 40; and

hardwood types of one log site or pine site index of 50 or less.

50-85 cubic feet per acre.—Longleaf pine and pond pine types of site index 70 or 80; slash pine types of site index 60; loblolly pine types and oak-pine types of site index 60 or 70; shortleaf pine types of site index 50 or 60; and hardwood types of two-log site or pine site index of 60 or 70.

85 or better cubic feet per acre.—Longleaf pine and pond pine types of site index 90 or better; loblolly pine and oak-pine types of site index 80 or better; slash pine and shortleaf pine types of site index 70 or better; and hardwood types of three-log site or pine site index of 80 or better.

Area Condition Classes

Class 1.—Areas 70 percent or more stocked with desirable trees.

Class 2.—Areas 40 to 70 percent stocked with desirable trees and with 30 percent or less of the area controlled by other trees and/or inhibiting vegetation or surface conditions that will prevent occupancy by desirable trees.

Class 3.—Areas 40 to 70 percent stocked with desirable trees and with more than 30 percent of the area controlled by other trees and/or inhibiting vegetation or surface conditions that will prevent occupancy by desirable trees.

Class 4.—Areas less than 40 percent stocked with desirable trees and with 30 percent or less of the area controlled by other trees and/or inhibiting vegetation or surface conditions that will prevent occupancy by desirable trees.

Class 5.—Areas less than 40 percent stocked with desirable trees and with more than 30 percent of the area controlled by other trees and/or inhibiting vegetation or surface condition that will prevent occupancy by desirable trees. Growing stock stocking 40 percent or more.

Class 6.—Areas less than 40 percent stocked with desirable trees and with more than 30 percent of the area controlled by other trees and/or inhibiting vegetation or surface conditions that will prevent occupancy by desirable trees. Growing stock stocking less than 40 percent.

Class of Timber

Growing-stock trees.—Sawtimber trees, poletimber trees, saplings, and seedlings; that is, all live trees except cull trees.

Sawtimber trees.—Live trees of commercial species 9.0 inches and larger in diameter at breast height for softwoods and 11.0 inches and larger for hardwoods, and containing at least one saw log.

Poletimber trees.—Live trees of commercial species 5.0 to 9.0 inches in d.b.h. for softwoods and 5.0 to 11.0 inches for hardwoods, and of good form and vigor.

Seedlings and saplings.—Live trees of commercial species less than 5.0 inches in d.b.h. and of good form and vigor.

Desirable trees.—Growing-stock trees of high vigor and low risk that do not have defects that limit their present or potential use for high-quality timber products such as veneer logs and choice saw logs. Pines larger than 4.0 inches d.b.h. must have an annual radial growth of at least 0.08 inch and hardwoods at least 0.05 inch.

Desirable sawtimber trees.—Sawtimber trees which meet the following requirements:

1. Trees 15.0 inches d.b.h. or larger with at least 24 feet of saw-log portion with no more than 10 percent loss of board-foot volume due to rot, sweep, crook, or other defect. Trees less than 15.0 inches d.b.h. must have at least 16 feet of saw-log portion free of board-foot cull.
2. Softwood trees 15.0 inches d.b.h. or larger with one saw log 8 feet or longer qualifying as grade 2 or better. Softwood trees less than 15.0 inches with one log qualifying as grade 3 or better.
3. Trees that are vigorous and show no evidence of risk of mortality and have a complete crown of live limbs. Boles are neither hollow nor have an exposed rotten area over 4 inches wide. May include turpentined trees if no face has been idle or worked out as long as 5 years and no face has been burned.

Desirable large sapling and poletimber trees.—Trees 3.0 inches d.b.h. up to sawtimber size which meet the following specifications:

1. No stem defect which would prevent the tree having a 16-foot, cull-free saw log upon reaching sawtimber size.
2. A complete crown of live limbs.
3. A sound bole with no exposed rotten wood.
4. The site must be capable of producing desirable trees of the species in question.

Desirable seedlings and small saplings.—Trees of the following species less than 3.0 inches d.b.h. unless they are so obviously deformed and defective or are on such a poor site that they are not expected to develop into sawtimber:

Longleaf pine	Sweetgum
Slash pine	Basswood
Spruce pine	Cucumber
Loblolly pine	White oak
Shortleaf pine	Swamp chestnut oak
Pond pine	Northern red oak
White pine	Cherrybark oak
Cypress	Shumard oak
Water tupelo	Sugar maple
Blackgum (good bottomland sites only)	Yellow birch
Yellow-poplar	Black walnut

Acceptable trees.—Trees meeting the specifications for growing stock but not qualifying as desirable trees.

Sound cull trees.—Limited-use or rough live trees of sawtimber or poletimber size that are unmerchantable for saw logs now or prospectively because of excessive knots, sweep, crook, other sound defect, or because they are noncommercial species.

Rotten cull trees.—Live trees of sawtimber or poletimber size that are unmerchantable for saw logs now or prospectively because of rot. Also includes seedlings and saplings not expected to survive.

Salvable dead trees.—Standing or down dead trees that are considered currently or potentially merchantable.

Tree Grades

Tree grades are based on the log grade of the butt log graded according to standards presented by the U. S. Forest Service in "Interim Log Grades for Southern Pines," issued by the Southern Forest Experiment Station in 1953, and "Hardwood Log Grades for Standard Lumber," issued by the Forest Products Laboratory under the designation D1737 in 1949.

Hardwood log grades include, in addition to the hardwood log grades for standard lumber, a grade 4 tie and timber log. A grade 4 hardwood log must be sound internally (cannot have a rotten center), and no single knot or group of knots within a 6-inch section of the log can exceed one-third the log diameter at that point. Rotten defects or holes can be present on the surface of the log, but they must not extend more than 3 inches into the potential tie or timber. Sweep departure cannot exceed one-fourth the log scaling diameter per 8 feet of length.

Diameters

D.b.h. (Diameter breast high).—Tree diameter in inches, outside bark, measured at 4½ feet above ground.

Diameter classes.—The 2-inch diameter classes extend from 1.0 inch below to 0.9 inch above the stated midpoint. Thus, the 12-inch class includes trees 11.0 inches to and including 12.9 inches d.b.h.

Volume

Volume of sawtimber.—Net volume of the sawlog portion of live sawtimber trees, in board feet of the International rule, ¼-inch kerf.

Volume of growing stock.—Cubic-foot volume of sound wood in the bole of sawtimber and poletimber trees from stump to a minimum 4.0-inch top outside bark or to the point where the central stem breaks into limbs. Similar volumes are given for cull trees.

Volume in cords.—Volume in standard cords of the same material shown in cubic feet except that bark is included.

International ¼-inch log rule.—A rule for estimating the board-foot volume of 4-foot log sections, according to the formula $V = 0.905\ (0.22D^2 - 0.71D)$. The taper allowance for computing the volume in log lengths greater than 4 feet is 0.5 inch per 4-foot section. Allowance for saw kerf is ¼ inch.

Cord.—The solid wood content, exclusive of bark, of a stacked pile 4 x 4 x 8 feet of round or split bolts. See "Conversion Factors" for cubic-foot content.

Growth and Timber Cut

Gross growth.—The growth on trees that were of volume size at the beginning of the year and the ingrowth resulting from smaller trees growing into volume size during the year.

Mortality.—The net volume in trees dying from natural causes during the year.

Net growth.—Gross growth minus mortality. When expressed in board feet, it represents the change during the calendar year in sawtimber volume resulting from growth, ingrowth, and mortality losses. When expressed in cubic feet or cords, it represents the change during the calendar year in the volume of all trees 5.0 inches and larger resulting from growth, ingrowth, and mortality losses.

Timber cut from sawtimber.—The net board-foot volume of live sawtimber trees cut for forest products during a specified period, including both roundwood products and logging residues.

Timber cut from growing stock.—The volume of sound wood in live sawtimber and poletimber trees cut for forest products during a specified period, including both roundwood products and logging residues.

Timber products.—Roundwood products and byproducts of wood manufacturing plants.

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	73.0	81.4	73.4
12	76.6	85.3	76.4
14	79.4	88.2	78.4
16	81.6	90.4	79.8
18	83.3	92.3	80.8
20	84.7	93.8	81.6
22	86.0	95.1	82.1
24	87.0	96.1	82.6
26	87.9	97.1	82.9
28	88.7	97.8	83.2
30	89.4	98.5	83.5
Average	71.3	81.5	72.6

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Table 1. *Area by land classes, Georgia, 1961*

Land class	Area
	Thousand acres
Commercial forest land	25,772.2
Unproductive forest land	54.1
Productive-reserved forest land	13.1
Total forest land	25,839.4
Nonforest land [1]	11,543.3
All land [2]	37,382.7

[1] Includes 269,000 acres of water according to survey standards of area classification but defined by Bureau of the Census as land. Also includes 45,900 acres classified as water by the Bureau of the Census but as land by Forest Survey; and excludes 92,000 acres of Census water created since 1950.

[2] From U. S. Bureau of the Census, Land and Water Area of the United States, 1950.

Table 2. *Area of commercial forest land, by ownership classes, Georgia, 1961*

Ownership class	Area
	Thousand acres
National Forest	773.4
Other Federal:	
Bureau of Land Management	...
Indian	...
Miscellaneous Federal	932.4
Total other Federal	932.4
State	111.2
County and municipal	23.9
Forest industry:	
Pulp and paper	3,153.1
Other	793.3
Total forest industry	3,946.4
Farmer-owned	15,053.0
Miscellaneous private	4,931.9
All ownerships	25,772.2

Table 3. *Area of commercial forest land by stand-size and ownership classes, Georgia, 1961*

Stand-size class	All ownerships	National Forest	Other public	Forest industry	Farmer and misc. private
	Thousand acres				
Sawtimber	8,592.2	472.1	450.5	1,331.2	6,338.4
Poletimber	4,720.8	161.6	178.0	724.7	3,656.5
Sapling and seedling	11,720.2	139.7	374.4	1,740.9	9,465.2
Nonstocked areas	739.0	...	64.6	149.6	524.8
All classes	25,772.2	773.4	1,067.5	3,946.4	19,984.9

Table 4. *Area of commercial forest land, by stand-volume classes for sawtimber and other stand-size classes, Georgia, 1961*

Stand volumes per acre	All stands	Sawtimber stands	Other stands
	Thousand acres		
Less than 1,500 board feet	16,343.4	2,220.1	14,123.3
1,500 to 5,000 board feet	6,520.7	3,722.3	2,798.4
More than 5,000 board feet	2,908.1	2,649.8	258.3
All classes	25,772.2	8,592.2	17,180.0

Table 5. *Area of commercial forest land, by stocking classes based on alternative stand components, Georgia, 1961*

Stocking percentage	Stocking classified in terms of --		
	All trees	Growing-stock trees	Desirable trees
	Thousand acres		
90 to 100	8,939.4	4,863.2	225.3
80 to 90	5,515.5	4,960.4	560.8
70 to 80	3,544.1	4,472.5	1,049.9
60 to 70	2,529.4	3,190.8	1,649.3
50 to 60	1,703.9	2,512.0	2,472.2
40 to 50	1,346.2	1,922.9	3,081.6
30 to 40	951.4	1,350.4	3,375.8
20 to 30	664.2	1,034.7	3,953.0
10 to 20	352.1	726.3	4,250.7
Less than 10	226.0	739.0	5,153.6
All areas	25,772.2	25,772.2	25,772.2

Table 6. *Area of commercial forest land, by stocking classes of growing-stock trees and by stand-size classes, Georgia, 1961*

Stocking class	All stands	Sawtimber stands	Poletimber stands	Sapling and seedling stands	Nonstocked areas
	Thousand acres				
70 percent or more	14,296.1	5,495.1	2,847.2	5,953.8	...
40 to 70 percent	7,625.7	2,326.9	1,321.0	3,977.8	...
10 to 40 percent	3,111.4	770.2	552.6	1,788.6	...
Less than 10 percent	739.0	...	...	...	739.0
All classes	25,772.2	8,592.2	4,720.8	11,720.2	739.0

Table 7. *Area of commercial forest land, by area-condition and ownership classes, Georgia, 1961*

Area-condition class	All ownerships	National Forest	Other public	Forest industry	Farmer and misc. private
	Thousand acres				
1	1,764.5	9.0	52.8	344.6	1,358.1
2	1,564.4	1.4	53.9	251.8	1,257.3
3	5,705.2	74.2	245.7	1,085.1	4,300.2
4	297.6	...	38.9	39.5	219.2
5	12,711.3	679.5	476.9	1,672.3	9,882.6
6	3,729.2	9.3	199.3	553.1	2,967.5
All classes	25,772.2	773.4	1,067.5	3,946.4	19,984.9

Table 8. *Area of commercial forest land, by area-condition and stocking classes, Georgia, 1961*

Area-condition class	All classes		Stocking class: Growing stock: Desirable		Growing stock: Other		Cull trees		Shrubs		Nonstocked	
	Thousand acres	*Percent*	*Thousand acres*	*Percent*	*Thousand acres*	*Percent*	*Thousand acres*	*Percent*	*Thousand acres*	*Percent*	*Thousand acres*	*Percent*
1	1,764.5	100.0	1,372.8	77.8	201.2	11.4	35.3	2.0	52.9	3.0	102.3	5.8
2	1,564.4	100.0	851.0	54.4	115.8	7.4	40.7	2.6	43.8	2.8	513.1	32.8
3	5,705.2	100.0	2,807.0	49.2	1,751.5	30.7	359.4	6.3	467.8	8.2	319.5	5.6
4	297.6	100.0	20.8	7.0	113.1	38.0	14.9	5.0	25.9	8.7	122.9	41.3
5	12,711.3	100.0	2,135.5	16.8	7,181.9	56.5	1,499.9	11.8	1,029.6	8.1	864.4	6.8
6	3,729.2	100.0	462.4	12.4	354.3	9.5	854.0	22.9	790.6	21.2	1,267.9	34.0
All classes	25,772.2	100.0	7,649.5	29.7	9,717.8	37.7	2,804.2	10.9	2,410.6	9.3	3,190.1	12.4

Table 9. *Area of commercial forest land, by site and ownership classes, Georgia, 1961*

Site class	All ownerships	National Forest	Other public	Forest industry	Farmer and misc. private
	Thousand acres				
120 cu. ft. or more	2,376.9	53.5	104.5	495.2	1,723.7
85 to 120 cu. ft.	9,595.6	241.8	398.5	1,640.4	7,314.9
50 to 85 cu. ft.	11,935.7	433.5	428.0	1,520.4	9,553.8
Less than 50 cu. ft.	1,864.0	44.6	136.5	290.4	1,392.5
All classes	25,772.2	773.4	1,067.5	3,946.4	19,984.9

Table 10. *Area of commercial forest land, by forest types and ownership classes, Georgia, 1961*

Type	All ownerships	Public	Private
	Thousand acres		
Pine types:			
White pine	18.1	14.4	3.7
Longleaf pine	1,610.0	109.2	1,500.8
Slash pine	4,099.9	165.5	3,934.4
Loblolly pine	5,074.7	256.3	4,818.4
Shortleaf pine	1,735.3	97.4	1,637.9
Pond pine	304.5	19.5	285.0
Virginia pine	300.4	35.4	265.0
Total	13,142.9	697.7	12,445.2
Hardwood types:			
Oak-pine	3,639.9	289.2	3,350.7
Oak-hickory	3,947.6	502.1	3,445.5
Oak-gum-cypress	5,041.8	351.9	4,689.9
Total	12,629.3	1,143.2	11,486.1
All types	25,772.2	1,840.9	23,931.3

Table 11. *Area of noncommercial forest land, by forest types, Georgia, 1961*

Type	All areas	Productive-reserved areas	Unproductive areas
	Thousand acres		
Longleaf-slash pine	20.1	0.4	19.7
Loblolly-shortleaf pine	23.1	6.8	16.3
Oak-pine	11.5	1.8	9.7
Oak-hickory	5.6	3.4	2.2
Oak-gum-cypress	6.9	.7	6.2
All types	67.2	13.1	54.1

Table 12. *Number of growing-stock trees on commercial forest land, by diameter classes and by softwood and hardwood, Georgia, 1961*

D.b.h. class (inches)	All species	Softwood	Hardwood
	Thousand trees		
1.0-2.9	7,197,564	2,694,716	4,502,848
3.0-4.9	2,202,770	1,131,542	1,071,228
5.0-6.9	1,047,622	636,956	410,666
7.0-8.9	582,404	356,815	225,589
9.0-10.9	345,605	204,406	141,199
11.0-12.9	190,913	108,948	81,965
13.0-14.9	94,487	47,122	47,365
15.0-16.9	40,123	18,249	21,874
17.0-18.9	19,969	7,032	12,937
19.0-28.9	17,866	4,748	13,118
29.0-38.9	764	141	623
39.0 and larger	42	23	19
All classes	11,740,129	5,210,698	6,529,431

Table 13. *Number of cull and salvable dead trees on commercial forest land, by diameter groups and by softwood and hardwood, Georgia, 1961*

D.b.h. class (inches)	Cull trees	Salvable dead trees
	Thousand trees	
Softwood:		
5.0-8.9	28,226	1,736
9.0-18.9	16,553	306
19.0 and larger	321	3
Total	45,100	2,045
Hardwood:		
5.0-10.9	238,016	...
11.0-18.9	36,387	...
19.0 and larger	4,482	...
Total	278,885	...
All species	323,985	2,045

Table 14. *Volume of timber on commercial forest land, by class and by softwood and hardwood, Georgia, 1961*

Class of timber	All species	Softwood	Hardwood
	– – Million cubic feet – –		
Sawtimber trees:			
Saw-log portion	8,191.9	5,099.8	3,092.1
Upper-stem portion	2,686.6	1,397.2	1,289.4
Total	10,878.5	6,497.0	4,381.5
Poletimber trees	6,452.1	3,242.2	3,209.9
All growing-stock trees	17,330.6	9,739.2	7,591.4
Sound cull trees:			
Sawtimber-size trees	533.0	143.0	390.0
Poletimber-size trees	554.3	54.4	499.9
Total	1,087.3	197.4	889.9
Rotten cull trees:			
Sawtimber-size trees	333.7	30.0	303.7
Poletimber-size trees	130.2	9.2	121.0
Total	463.9	39.2	424.7
Salvable dead trees:			
Sawtimber-size trees	5.1	5.1	...
Poletimber-size trees	5.3	5.3	...
Total	10.4	10.4	...
Total, all timber	18,892.2	9,986.2	8,906.0

Table 15. *Volume of growing stock and sawtimber on commercial forest land, by ownership classes and by softwood and hardwood, Georgia, 1961*

Ownership class	Growing stock			Sawtimber		
	All species	Softwood	Hardwood	All species	Softwood	Hardwood
	– – – Million cubic feet – – –			*– – – Million board feet – – –*		
National Forest	867.4	325.6	541.8	2,865.7	1,177.3	1,688.4
Other public	816.2	595.9	220.3	2,752.6	2,209.3	543.3
Forest industry	2,882.1	1,842.8	1,039.3	8,132.4	5,375.5	2,756.9
Farmer and misc. private	12,764.9	6,974.9	5,790.0	34,261.0	19,619.9	14,641.1
All ownerships	17,330.6	9,739.2	7,591.4	48,011.7	28,382.0	19,629.7

Table 16. *Volume of growing stock and sawtimber on commercial forest land, by stand-size classes and by softwood and hardwood, Georgia, 1961*

Stand-size class	Growing stock			Sawtimber		
	All species	Softwood	Hardwood	All species	Softwood	Hardwood
	– – – Million cubic feet – – –			*– – – Million board feet – – –*		
Sawtimber	10,580.0	5,886.5	4,693.5	35,231.1	20,820.4	14,410.7
Poletimber	3,378.9	1,837.0	1,541.9	5,217.8	2,808.9	2,408.9
Sapling and seedling	3,353.6	2,002.0	1,351.6	7,510.4	4,715.3	2,795.1
Nonstocked areas	18.1	13.7	4.4	52.4	37.4	15.0
All classes	17,330.6	9,739.2	7,591.4	48,011.7	28,382.0	19,629.7

Table 17. *Volume of growing stock on commercial forest land, by species and diameter classes, Georgia, 1961*

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	19.0-28.9	29.0-38.9	39.0 and larger
	Diameter class (inches at breast height)										
	Million cubic feet										
Softwood:											
Longleaf pine	1,169.0	84.4	233.6	326.4	255.7	159.0	64.8	25.9	19.2	...	...
Slash pine	2,402.2	292.7	507.9	593.9	470.5	270.7	151.5	64.9	50.1	...	...
Shortleaf pine	1,585.4	324.5	387.2	363.8	270.7	139.1	66.4	24.8	8.9	...	...
Loblolly pine	3,549.1	474.4	623.3	685.6	647.9	451.9	303.0	169.2	182.9	10.9	...
Other yellow pine	403.8	68.8	82.9	72.2	64.0	58.6	20.4	24.1	12.8	...	...
Eastern white pine	52.2	3.3	3.8	3.4	9.6	10.0	2.9	3.1	16.1	...	...
Eastern hemlock	7.6	.6	1.6	.7	...	1.5	...	...	1.7	1.5	...
Cypress	565.8	51.3	98.9	105.6	121.4	75.3	34.9	18.2	41.5	8.9	9.8
Other eastern softwoods	4.1	1.4	1.6	.4	.5	.2	...	...	...	...	...
Total	9,739.2	1,301.4	1,940.8	2,152.0	1,840.3	1,166.3	643.9	330.2	333.2	21.3	9.8
Hardwood:											
Select white oaks [1]	527.1	72.1	71.9	89.3	87.6	58.1	36.3	36.8	64.8	9.5	.7
Select red oaks [2]	260.7	21.3	22.3	34.9	42.8	38.3	21.7	32.7	39.4	7.3	...
Other white oaks	551.6	60.1	81.0	93.2	80.1	62.5	43.7	44.7	73.9	12.0	.4
Other red oaks	1,427.9	169.8	187.6	210.8	203.4	171.0	143.0	104.2	213.1	22.5	2.5
Hickory	522.4	57.2	69.9	79.8	77.4	68.9	61.8	36.7	68.2	1.7	.8
Yellow birch	2.0	...	...	1.5	...	...	...	...	.5	...	...
Hard maple	6.6	1.0	2.1	.9	.3	.7	...	.8	.8	...	...
Soft maple	414.8	55.3	72.6	79.2	62.6	50.6	27.7	28.6	36.7	1.5	...
Beech	37.9	1.6	.7	3.4	3.8	3.6	4.9	6.8	12.7	.4	...
Sweetgum	1,077.2	121.0	166.8	194.3	180.1	173.7	86.1	65.3	84.6	5.3	...
Tupelo and blackgum	1,424.0	128.8	204.2	274.3	271.5	235.9	142.1	72.6	89.0	5.6	...
Ash	228.5	29.3	35.7	41.6	37.6	33.1	14.8	15.0	21.4	...	...
Cottonwood	3.7	...	...	...	...	...	1.5	1.2	1.0	...	..
Basswood	7.5	1.5	1.4	...	2.0	1.0	.7	...	.9	...	...
Yellow-poplar	548.9	38.3	71.9	85.6	109.8	84.8	43.7	43.5	66.0	5.3	...
Black walnut	6.4	.2	...	2.1	1.3	...	1.1	.7	1.0	...	...
Other eastern hardwoods	544.2	76.9	89.4	107.1	83.1	66.1	52.3	32.6	33.4	3.3	...
Total	7,591.4	834.4	1,077.5	1,298.0	1,243.4	1,048.3	681.4	522.2	807.4	74.4	4.4
All species	17,330.6	2,135.8	3,018.3	3,450.0	3,083.7	2,214.6	1,325.3	852.4	1,140.6	95.7	14.2

[1] Includes white and swamp chestnut oaks.
[2] Includes cherrybark, Shumard, and northern red oaks.

Table 18. *Volume of sawtimber on commercial forest land, by species and diameter classes, Georgia, 1961*

Species	All classes	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0-28.9	29.0-38.9	39.0 and larger
	Diameter class (inches at breast height)								
	Million board feet								
Softwood:									
Longleaf pine	3,717.5	1,361.5	1,114.6	726.0	284.4	126.2	104.8	...	...
Slash pine	7,124.6	2,436.8	2,148.4	1,301.5	681.6	312.6	243.7	...	...
Shortleaf pine	3,745.2	1,365.3	1,192.1	673.1	334.5	129.2	51.0	...	...
Loblolly pine	10,707.6	2,377.3	2,724.9	2,115.7	1,529.0	911.0	994.6	55.1	...
Other yellow pine	1,050.3	254.7	265.6	263.6	88.6	112.7	65.1	...	...
Eastern white pine	231.3	13.3	43.6	45.4	16.0	18.6	94.4	...	...
Eastern hemlock	27.4	2.6	...	9.0	...	...	11.2	4.6	...
Cypress	1,773.9	329.5	505.7	364.6	178.1	88.9	234.1	37.6	35.4
Other eastern softwoods	4.2	.7	2.0	1.5	...	..	...	...	...
Total	28,382.0	8,141.7	7,996.9	5,500.4	3,112.2	1,699.2	1,798.9	97.3	35.4
Hardwood:									
Select white oaks [1]	1,373.7	...	381.5	273.5	166.6	170.7	328.8	49.0	3.6
Select red oaks [2]	940.5	...	189.6	189.7	125.6	162.5	220.6	52.5	...
Other white oaks	1,425.9	...	335.0	270.7	192.6	200.4	359.3	64.9	3.0
Other red oaks	4,157.9	...	867.0	794.6	700.6	528.2	1,119.2	139.8	8.5
Hickory	1,528.1	...	325.9	308.9	310.1	174.2	390.5	10.4	8.1
Yellow birch	1.8	...	...	...	...	...	1.8	...	...
Hard maple	12.6	...	1.9	3.5	...	3.8	3.4	...	...
Soft maple	831.4	...	214.7	188.8	130.6	117.9	170.9	8.5	...
Beech	134.5	...	13.1	15.1	18.8	28.9	55.8	2.8	...
Sweetgum	2,543.5	...	665.6	718.9	410.1	300.0	425.3	23.6	...
Tupelo and blackgum	3,232.8	...	968.5	933.6	589.8	310.2	410.6	20.1	...
Ash	569.3	...	156.5	152.6	76.7	74.2	109.3	...	...
Cottonwood	21.9	...	...	...	7.7	7.2	7.0	...	...
Basswood	20.0	...	9.0	3.3	3.4	...	4.3	...	...
Yellow-poplar	1,614.6	...	445.5	371.6	221.2	210.9	338.8	26.6	...
Black walnut	17.1	...	5.0	...	3.1	2.6	6.4	...	...
Other eastern hardwoods	1,204.1	...	337.3	285.9	249.6	154.7	159.3	17.3	...
Total	19,629.7	..	4,916.1	4,510.7	3,206.5	2,446.4	4,111.3	415.5	23.2
All species	48,011.7	8,141.7	12,913.0	10,011.1	6,318.7	4,145.6	5,910.2	512.8	58.6

[1] Includes white and swamp chestnut oaks.
[2] Includes cherrybark, Shumard, and northern red oaks.

Table 19. *Volume of sawtimber on commercial forest land, by species and log grade, Georgia, 1961*

Species	All grades	Grade 1 logs	Grade 2 logs	Grade 3 logs	Grade 4 logs
	Million board feet				
Softwood:					
Yellow pines	26,345.2	719.5	6,488.6	18,333.2	803.9
Eastern white pine	231.3	20.2	35.6	172.2	3.3
Cypress	1,773.9	175.4	502.2	1,076.0	20.3
Other eastern softwoods	31.6	.5	21.5	8.4	1.2
Total	28,382.0	915.6	7,047.9	19,589.8	828.7
Hardwood:					
Select white and red oaks	2,314.2	306.7	576.4	1,068.3	362.8
Other white and red oaks	5,583.8	438.7	1,187.5	2,594.0	1,363.6
Hickory	1,528.1	206.4	422.9	618.9	279.9
Yellow birch	1.8	...	1.3	.3	.2
Hard maple	12.6	...	...	9.4	3.2
Sweetgum	2,543.5	162.2	637.6	1,237.3	506.4
Ash, walnut, and black cherry	597.4	46.3	156.0	310.7	84.4
Yellow-poplar	1,614.6	162.3	395.4	727.4	329.5
Other hardwoods	5,433.7	379.4	1,404.8	2,532.0	1,117.5
Total	19,629.7	1,702.0	4,781.9	9,098.3	4,047.5
All species	48,011.7	2,617.6	11,829.8	28,688.1	4,876.2

Table 20. *Volume of salvable dead sawtimber-size trees on commercial forest land, by softwood and hardwood, Georgia, 1961*

Species group	Volume
	Million board feet
Softwood	21.7
Hardwood	...
All species	21.7

Table 21. *Net annual growth and annual cut of growing stock on commercial forest land, by species, Georgia, 1960*

Species	Net annual growth	Annual timber cut [1]
	Million cubic feet	
Softwood:		
Yellow pines	747.5	639.9
Eastern white pine	4.3	.4
Cypress	14.9	15.5
Other eastern softwoods	.6	.2
Total	767.3	656.0
Hardwood:		
Select white and red oaks	34.4	26.2
Other white and red oaks	75.5	68.7
Hickory	13.0	7.3
Yellow birch	.1	.2
Hard maple	.1	.2
Sweetgum	63.6	64.8
Ash, walnut, and black cherry	6.8	6.1
Yellow-poplar	36.2	34.6
Other hardwoods	78.5	93.8
Total	308.2	301.9
All species	1,075.5	957.9

[1] Annual cut based on trend level between 1952 and 1960 as developed from the remeasurement of permanent sample plots.

Table 22. *Net annual growth and cut of growing stock on commercial forest land, by ownership classes and by softwood and hardwood, Georgia, 1960*

Ownership class	Net annual growth			Annual timber cut [1]		
	All species	Soft-wood	Hard-wood	All species	Soft-wood	Hard-wood
	Million cubic feet					
National Forest	29.8	17.6	12.2	9.5	4.2	5.3
Other public	33.0	24.8	8.2	25.3	17.9	7.4
Forest industry	185.3	145.6	39.7	145.0	97.9	47.1
Farmer and misc. private	827.4	579.3	248.1	778.1	536.0	242.1
All ownerships	1,075.5	767.3	308.2	957.9	656.0	301.9

[1] Annual cut based on trend level between 1952 and 1960 as developed from the remeasurement of permanent sample plots.

Table 23. *Net annual growth and cut of sawtimber on commercial forest land, by species, Georgia, 1960*

Species	Net annual growth	Annual timber cut [1]
	Million board feet	
Softwood:		
Yellow pines	2,529.7	2,275.9
Eastern white pine	15.3	1.6
Cypress	48.0	68.0
Other eastern softwoods	1.0	.5
Total	2,594.0	2,346.0
Hardwood:		
Select white and red oaks	96.6	78.7
Other white and red oaks	231.8	201.1
Hickory	38.1	17.9
Yellow birch	...	1.0
Hard maple	.3	.8
Sweetgum	136.1	221.2
Ash, walnut, and black cherry	21.2	19.5
Yellow-poplar	105.3	139.0
Other hardwoods	245.6	292.8
Total	875.0	972.0
All species	3,469.0	3,318.0

[1] Annual cut based on trend level between 1952 and 1960 as developed from the remeasurement of permanent sample plots.

Table 24. *Net annual growth and cut of sawtimber on commercial forest land, by ownership classes and by softwood and hardwood, Georgia, 1960*

Ownership class	Net annual growth			Annual timber cut [1]		
	All species	Soft-wood	Hard-wood	All species	Soft-wood	Hard-wood
	Million board feet					
National Forest	90.9	69.1	21.8	36.6	17.5	19.1
Other public	101.8	80.3	21.5	85.5	71.6	13.9
Forest industry	596.7	514.7	82.0	534.0	385.3	148.7
Farmer and misc. private	2,679.6	1,929.9	749.7	2,661.9	1,871.6	790.3
All ownerships	3,469.0	2,594.0	875.0	3,318.0	2,346.0	972.0

[1] Annual cut based on trend level between 1952 and 1960 as developed from the remeasurement of permanent sample plots.

Table 25. *Annual mortality [1] of growing stock and sawtimber on commercial forest land, by species, Georgia, 1960*

Species	Growing stock	Saw-timber
	Million cubic feet	*Million board feet*
Softwood:		
Yellow pines	97.2	200.1
Eastern white pine	.2	.5
Cypress	5.7	16.0
Other eastern softwoods	.1	.4
Total	103.2	217.0
Hardwood:		
Select white and red oaks	6.2	21.5
Other white and red oaks	29.5	77.7
Hickory	5.2	18.8
Yellow birch	...	...
Hard maple	.1	...
Sweetgum	9.2	20.6
Ash, walnut, and black cherry	4.5	9.8
Yellow-poplar	5.0	15.5
Other hardwoods	29.3	59.1
Total	89.0	223.0
All species	192.2	440.0

[1] Average annual mortality between 1952 and 1960 from the remeasurement of permanent sample plots.

Table 26. *Annual mortality [1] of growing stock and sawtimber on commercial forest land, by ownership classes and by softwood and hardwood, Georgia, 1960*

Ownership class	Growing stock			Sawtimber		
	All species	Soft-wood	Hard-wood	All species	Soft-wood	Hard-wood
	Million cubic feet			*Million board feet*		
National Forest	9.7	2.6	7.1	36.0	6.0	30.0
Other public	12.2	8.4	3.8	35.5	26.7	8.8
Forest industry	25.8	14.6	11.2	67.2	32.1	35.1
Farmer and misc. private	144.5	77.6	66.9	301.3	152.2	149.1
All ownerships	192.2	103.2	89.0	440.0	217.0	223.0

[1] Average annual mortality between 1952 and 1960 from the remeasurement of permanent sample plots.

Table 27. *Annual mortality [1] of growing stock and sawtimber on commercial forest land, by causes and by softwood and hardwood, Georgia, 1960*

Cause of death	Growing stock			Sawtimber		
	All species	Soft-wood	Hard-wood	All species	Soft-wood	Hard-wood
	Million cubic feet			*Million board feet*		
Fire	22.5	19.6	2.9	39.6	33.8	5.8
Insects	16.0	10.4	5.6	52.6	27.7	24.9
Disease	9.6	6.7	2.9	21.8	13.6	8.2
Other	43.3	26.8	16.5	89.0	46.7	42.3
Unknown	100.8	39.7	61.1	237.0	95.2	141.8
All causes	192.2	103.2	89.0	440.0	217.0	223.0

[1] Average annual mortality between 1952 and 1960 from the remeasurement of permanent sample plots.

Table 28. *Total output of timber products, by product, by type of material used, and by softwood and hardwood, Georgia, 1961* [1]

Product and species group	Total output in standard units		Output from roundwood		Output from plant byproducts
	Unit	*Number*	*Standard units*	*M cubic feet*	*Standard units*
Saw logs:					
Softwood	M bd. ft.	995,187	995,187	174,594	...
Hardwood	M bd. ft.	261,272	261,272	41,804	...
Total	M bd. ft.	1,256,459	1,256,459	216,398	...
Veneer logs and bolts:					
Softwood	M bd. ft.	430	430	66	...
Hardwood	M bd. ft.	118,281	118,281	17,922	...
Total	M bd. ft.	118,711	118,711	17,988	...
Cooperage logs and bolts:					
Softwood	M bd. ft.	...	...	...	...
Hardwood	M bd. ft.	2,825	2,825	452	...
Total	M bd. ft.	2,825	2,825	452	...
Pulpwood:					
Softwood	Std. cords [2]	4,387,521	3,923,858	265,844	463,663
Hardwood	Std. cords [2]	561,565	482,152	36,683	79,413
Total	Std. cords [2]	4,949,086	4,406,010	302,527	543,076
Piling:					
Softwood	M linear ft.	648	648	437	...
Hardwood	M linear ft.	...	...	...	...
Total	M linear ft.	648	648	437	...
Poles:					
Softwood	M pieces	558	558	8,196	...
Hardwood	M pieces	...	...	...	...
Total	M pieces	558	558	8,196	...
Misc. industrial wood: [3]					
Softwood	M cu. ft.	224	220	220	4
Hardwood	M cu. ft.	1,526	1,253	1,253	273
Total	M cu. ft.	1,750	1,473	1,473	277
Posts (round and split):					
Softwood	M pieces	2,992	2,992	1,316	...
Hardwood	M pieces	122	122	53	...
Total	M pieces	3,114	3,114	1,369	...
Fuelwood: [4]					
Softwood	Std. cords	274,191	219,353	15,508	54,838
Hardwood	Std. cords	380,310	305,009	20,405	75,301
Total	Std. cords	654,501	524,362	35,913	130,139
All products:					
Softwood	M cu. ft.	...	...	466,181	...
Hardwood	M cu. ft.	...	...	118,572	...
Total	M cu. ft.	...	...	584,753	...

[1] Based on 1961 state commodity drain survey.
[2] Rough wood basis.
[3] Includes excelsior bolts, turnery bolts, etc.
[4] Used for domestic heating and cooking; excludes industrial use.

Table 29. *Total output of roundwood products, by source and by softwood and hardwood, Georgia, 1961*

Source	All species	Softwood	Hardwood
	– – Thousand cubic feet – –		
Growing-stock trees: [1]			
Sawtimber trees	363,306	272,969	90,337
Poletimber trees	106,615	101,892	4,723
Material left after logging [2]	63,552	57,359	6,193
Total	533,473	432,220	101,253
Cull trees [1]	21,148	7,030	14,118
Salvable dead trees [1]	4,201	1,752	2,449
Other sources [3]	25,931	25,179	752
All sources	584,753	466,181	118,572

[1] On commercial forest land.
[2] Material from growing stock trees left after cutting for a specific product, but subsequently removed for other products.
[3] Includes trees less than 5.0 inches in diameter, and treetops and limbs.

Table 30. *Annual timber cut* [1] *from growing stock on commercial forest land, by product and logging residues, and by softwood and hardwood, Georgia, 1961*

Product and residues	All species	Softwood	Hardwood
	– – Thousand cubic feet – –		
Roundwood products:			
Saw logs	209,110	171,298	37,812
Veneer logs and bolts	17,545	61	17,484
Cooperage logs and bolts	452	...	452
Pulpwood	272,877	241,135	31,742
Piling	437	437	...
Poles	8,119	8,119	...
Misc. industrial wood	1,397	208	1,189
Posts	854	821	33
Fuelwood	14,597	7,278	7,319
All products	525,388	429,357	96,031
Logging residues	80,485	21,036	59,449
Timber cut	605,873	450,393	155,480

[1] Timber cut based on estimates of timber products output in 1961, by product.

Table 31. *Annual timber cut[1] from live sawtimber on commercial forest land, by product and logging residues, and by softwood and hardwood, Georgia, 1961*

Product and residues	All species	Softwood	Hardwood
	Thousand board feet		
Roundwood products:			
Saw logs	1,138,400	912,791	225,609
Veneer logs and bolts	115,809	405	115,404
Cooperage logs and bolts	2,848	...	2,848
Pulpwood	671,644	454,529	217,115
Piling	2,050	2,050	...
Poles	45,782	45,782	...
Misc. industrial wood	4,112	484	3,628
Posts	837	804	33
Fuelwood	2,623	...	2,623
All products	1,984,105	1,416,845	567,260
Logging residues	84,888	27,273	57,615
Timber cut	2,068,993	1,444,118	624,875

[1] Timber cut based on estimates of timber products output in 1961, by product.

Table 32. *Volume of plant residues, by industrial source and type of residue, and by softwood and hardwood, Georgia, 1961*

Industrial source	All species			Softwood			Hardwood		
	Total	Coarse[1]	Fine[2]	Total	Coarse[1]	Fine[2]	Total	Coarse[1]	Fine[2]
	Thousand cubic feet								
Lumber industry	82,440	15,406	67,034	62,232	8,832	53,400	20,208	6,574	13,634
Veneer and plywood industry	6,032	5,639	393	32	31	1	6,000	5,608	392
Other primary industries	2,870	1,147	1,723	1,688	642	1,046	1,182	505	677
All industries	91,342	22,192	69,150	63,952	9,505	54,447	27,390	12,687	14,703

[1] Unused material suitable for chipping, such as slabs, edgings, and veneer cores.
[2] Unused material not suitable for chipping, such as sawdust and shavings.

Table 33. *Timber growth projections, Georgia, 1960 to 1990*[1]

Period	Assumed cut			Projected growth		
	All species	Soft-wood	Hard-wood	All Species	Soft-wood	Hard-wood
	GROWING STOCK					
	Thousand cubic feet					
1960 (year of inventory)	957,900	656,000	301,900	1,075,500	767,300	308,200
1970 (plus 10 years)	1,121,700	780,400	341,300	1,206,100	859,100	347,000
1980 (plus 20 years)	1,240,000	862,000	378,000	1,282,300	901,500	380,800
1990 (plus 30 years)	1,277,700	876,300	401,400	1,277,900	876,400	401,500
	SAWTIMBER					
	Thousand board feet					
1960 (year of inventory)	3,318,000	2,346,000	972,000	3,469,000	2,594,000	875,000
1970 (plus 10 years)	3,537,000	2,607,000	930,000	3,718,000	2,892,000	826,000
1980 (plus 20 years)	3,647,000	2,751,000	896,000	3,792,000	3,011,000	781,000
1990 (plus 30 years)	3,611,000	2,774,000	837,000	3,755,000	3,007,000	748,000

[1] Based on the assumption that cut starting at the 1960 level will be in balance with the growth by the year 1990, and that forestry progress will continue at the rate indicated by recent trends.

Table 34. *Volume of timber by species group and timber quality, Georgia, 1961*

Species group	Timber quality				
	Growing stock			Cull trees	All timber
	Desirable	Other	Total		
	Million cubic feet				
Softwood	3,901.5	5,837.7	9,739.2	236.6	9,975.8
Hardwood	1,779.5	5,811.9	7,591.4	1,314.6	8,906.0
Total	5,681.0	11,649.6	17,330.6	1,551.2	18,881.8

Table 35. *Commercial forest land, by area description and stocking class, Georgia, 1961*

Area description	All classes	Growing stock		Cull trees	Shrubs	Non-stocked
		Desirable	Other			
	Thousand acres					
Uplands and flatwoods:						
Pine stocking						
40 percent or more						
Good sites	6,798.1	3,153.7	2,071.7	347.7	493.5	731.5
Average sites	4,303.4	1,771.5	1,415.7	335.0	281.4	499.8
Poor sites	626.3	215.1	175.0	49.0	88.0	99.2
All sites	11,727.8	5,140.3	3,662.4	731.7	862.9	1,330.5
Less than 40 percent						
Good sites	2,734.6	677.9	957.2	247.6	360.4	491.5
Average sites	5,168.4	801.7	2,261.8	840.0	470.4	794.5
Poor sites	1,099.6	124.6	226.1	402.1	159.9	186.9
All sites	9,002.6	1,604.2	3,445.1	1,489.7	990.7	1,472.9
Total uplands	20,730.4	6,744.5	7,107.5	2,221.4	1,853.6	2,803.4
Lowlands:						
Good sites	2,439.8	522.6	1,321.8	255.0	216.3	124.1
Average sites	2,463.9	373.8	1,238.3	310.8	302.9	238.1
Poor sites	138.1	8.6	50.2	17.0	37.8	24.5
All sites	5,041.8	905.0	2,610.3	582.8	557.0	386.7
All areas	25,772.2	7,649.5	9,717.8	2,804.2	2,410.6	3,190.1

Table 36. *Commercial forest land, by stocking class and ownership, Georgia, 1961*

Stocking class	All ownerships	National Forest	Other public	Forest industry	Farmer-owned	Misc. private
	Thousand acres					
Desirable trees:						
Pine	6,008.7	77.3	221.0	1,109.0	3,457.3	1,144.1
Other	1,640.8	64.9	38.7	238.0	995.1	304.1
Total	7,649.5	142.2	259.7	1,347.0	4,452.4	1,448.2
Other:						
Pine	3,086.4	124.6	131.9	487.4	1,682.0	660.5
Other	6,631.4	355.0	266.4	825.0	3,869.2	1,315.8
Total	9,717.8	479.6	398.3	1,312.4	5,551.2	1,976.3
Cull treees:						
Pine	294.9	5.6	8.0	37.7	185.0	58.6
Other	2,509.3	87.7	86.1	326.5	1,504.4	504.6
Total	2,804.2	93.3	94.1	364.2	1,689.4	563.2
Shrubs	2,410.6	37.1	169.0	437.7	1,320.2	446.6
Nonstocked	3,190.1	21.2	146.4	485.1	2,039.8	497.6
All classes	25,772.2	773.4	1,067.5	3,946.4	15,053.0	4,931.9

Table 37. *Average net volume per acre on commercial forest land, by area description and species group, Georgia, 1961*

Area description	Pine		Hardwood [1]		Total	
	Cubic feet	*Board feet*	*Cubic feet*	*Board feet*	*Cubic feet*	*Board feet*
Pine stands:						
Good sites						
Growing stock						
Desirable	302.2	940	19.4	43	321.6	983
Other	433.7	1,205	57.2	120	490.9	1,325
Culls	14.3	..	13.5	...	27.8	...
Total	750.2	2,145	90.1	163	840.3	2,308
Average sites						
Growing stock						
Desirable	187.9	494	11.8	26	199.7	520
Other	308.7	765	53.6	94	362.3	859
Culls	16.5	..	12.8	...	29.3	...
Total	513.1	1,259	78.2	120	591.3	1,379
Poor sites						
Growing stock						
Desirable	187.6	512	1.9	7	189.5	519
Other	255.0	805	17.4	22	272.4	827
Culls	5.3	..	9.6	...	14.9	...
Total	447.9	1,317	28.9	29	476.8	1,346
Upland hardwoods:						
Good sites						
Growing stock						
Desirable	109.7	410	113.0	437	222.7	847
Other	106.3	351	293.7	799	400.0	1,150
Culls	2.7	..	50.6	...	53.3	...
Total	218.7	761	457.3	1,236	676.0	1,997
Average sites						
Growing stock						
Desirable	55.2	167	50.2	152	105.4	319
Other	67.0	182	270.1	591	337.1	773
Culls	3.6	..	52.8	...	56.4	...
Total	125.8	349	373.1	743	498.9	1,092
Poor sites						
Growing stock						
Desirable	45.6	111	5.9	14	51.5	125
Other	57.5	157	77.2	149	134.7	306
Culls	2.5	..	61.5	...	64.0	...
Total	105.6	268	144.6	163	250.2	431
Lowland hardwoods:						
Good sites						
Growing stock						
Desirable	35.2	156	345.2	1,248	380.4	1,404
Other	41.4	161	887.7	2,435	929.1	2,596
Culls	.5	...	159.3	...	159.8	...
Total	77.1	317	1,392.2	3,683	1,469.3	4,000
Average sites						
Growing stock						
Desirable	27.1	90	123.1	360	150.2	450
Other	40.3	136	484.7	1,088	525.0	1,224
Culls	1.4	...	123.4	...	124.8	...
Total	68.8	226	731.2	1,448	800.0	1,674
Poor sites						
Growing stock						
Desirable	4.3	13	50.7	89	55.0	102
Other	22.4	64	251.3	368	273.7	432
Culls	5.1	...	146.3	...	151.4	...
Total	31.8	77	448.3	457	480.1	534
All stands:						
Good sites						
Growing stock						
Desirable	203.8	659	107.2	379	311.0	1,038
Other	279.0	797	280.5	747	559.5	1,544
Culls	8.8	...	51.7	...	60.5	...
Total	491.6	1,456	439.4	1,126	931.0	2,582
Average sites						
Growing stock						
Desirable	97.3	269	51.4	150	148.7	419
Other	148.6	383	236.3	514	384.9	897
Culls	7.8	...	53.0	...	60.8	...
Total	253.7	652	340.7	664	594.4	1,316
Poor sites						
Growing stock						
Desirable	90.2	238	7.9	18	98.1	256
Other	121.2	368	70.0	123	191.2	491
Culls	3.6	..	50.3	...	53.9	...
Total	215.0	606	128.2	141	343.2	747

Table 38. *Average net volume and growth per acre on commercial forest land by ownership, tree class, and species group, Georgia, 1961*

Ownership and tree class	Net volume per acre						Net growth per acre					
	Pine		Hardwood [1]		Total		Pine		Hardwood [1]		Total	
	Cubic feet	*Board feet*	*Cubic feet*	*Board feet*	*Cubic feet*	*Board feet*	*Cubic feet*	*Board feet*	*Cubic feet*	*Board feet*	*Cubic feet*	*Board feet*
National Forest:												
Growing stock												
Desirable	74.2	279	127.4	525	201.6	804	4.6	23	4.6	32	9.2	55
Other	285.2	957	634.7	1,944	919.9	2,901	9.7	44	18.4	46	28.1	90
Culls	7.9	...	107.4	...	115.3	...	1.1	...	.6	...	1.7	...
Total	367.3	1,236	869.5	2,469	1,236.8	3,705	15.4	67	23.6	78	39.0	145
Other public:												
Growing stock												
Desirable	190.8	683	61.1	237	251.9	920	17.5	51	2.9	8	20.4	59
Other	275.1	972	237.6	686	512.7	1,658	11.5	65	7.3	31	18.8	96
Culls	6.2	...	51.4	...	57.6	...	.8	...	.9	...	1.7	...
Total	472.1	1,655	350.1	923	822.2	2,578	29.8	116	11.1	39	40.9	155
Forest industry:												
Growing stock												
Desirable	192.3	593	76.8	267	269.1	860	19.1	80	3.1	12	22.2	92
Other	243.1	671	218.2	529	461.3	1,200	15.5	64	7.9	22	23.4	86
Culls	7.7	...	47.0	...	54.7	...	1.5	...	1.6	...	3.1	...
Total	443.1	1,264	342.0	796	785.1	2,060	36.1	144	12.6	34	48.7	178
Farmer-owned:												
Growing stock												
Desirable	140.4	418	71.1	224	211.5	642	15.4	60	3.8	16	19.2	76
Other	187.8	498	233.0	538	420.8	1,036	13.1	57	10.2	37	23.3	94
Culls	7.6	...	52.1	...	59.7	...	1.6	...	1.4	...	3.0	...
Total	335.8	916	356.2	762	692.0	1,678	30.1	117	15.4	53	45.5	170
Misc. private:												
Growing stock												
Desirable	129.0	398	75.8	256	204.8	654	13.3	42	3.6	19	16.9	61
Other	210.9	584	242.7	587	453.6	1,171	13.6	47	8.7	34	22.3	81
Culls	10.0	...	48.2	...	58.2	...	1.6	...	1.2	...	2.8	...
Total	349.9	982	366.7	843	716.6	1,825	28.5	89	13.5	53	42.0	142
All ownerships:												
Growing stock												
Desirable	146.3	448	74.2	246	220.5	694	15.3	58	3.7	16	19.0	74
Other	207.2	574	244.8	594	452.0	1,168	13.4	56	9.7	34	23.1	90
Culls	8.0	...	52.2	...	60.2	...	1.5	...	1.3	...	2.8	...
Total	361.5	1,022	371.2	840	732.7	1,862	30.2	114	14.7	50	44.9	164

[1] Includes cypress

Table 39. *Land area, by class, major forest type, and survey completion date, Georgia, 1936, 1953, and 1961*

Land class and forest type	Survey completion date 1936	1953	1961	Change 1953-1961
	Thousand acres			
Commercial forest land:				
Pine and oak-pine type	16,727.5	15,883.0	16,812.2	+ 929.2
Hardwood type	4,607.1	8,086.1	8,960.0	+ 873.9
Total	21,334.6	23,969.1	25,772.2	+1,803.1
Noncommercial forest land	97.9	87.5	67.2	— 20.3
Nonforest land:				
Cropland	11,866.7	7,559.8	5,675.7	—1,884.1
Improved pasture	697.5	1,648.9	2,524.8	+ 875.9
Idle or abandoned cropland	2,179.3	2,143.2	1,273.0	— 870.2
Marsh or prairie	583.5	493.7	430.7	— 63.0
Urban and other	717.1	1,297.1	1,370.1	+ 73.0
Total	16,044.1	13,142.7	11,274.3	—1,868.4
All land [1]	37,476.6	37,199.3	37,113.7	— 85.6

[1] Excludes all water areas.

Table 40. *Volume [1] of sawtimber and all timber, by species group, diameter class, and survey completion date, 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						
					Million board feet						
Pine [2]	1936	26,480.7	..	..	5,199.9	6,004.6	5,098.1	3,653.3	2,459.9	1,521.3	2,543.6
	1953	25,027.9	..	..	7,393.8	7,155.9	4,837.1	2,754.7	1,399.9	645.9	840.6
	1961	26,608.1	..	..	7,812.2	7,491.2	5,135.8	2,934.1	1,610.3	802.7	821.8
Cypress	1936	1,978.0	..	..	266.0	381.0	311.0	197.0	133.0	127.0	563.0
	1953	1,868.0	..	..	305.0	468.0	350.0	152.0	127.0	92.0	374.0
	1961	1,774.0	..	..	330.0	506.0	364.0	178.0	89.0	80.0	227.0
Hardwood [3]	1936	16,929.0	..	..	..	3,125.0	3,220.0	2,974.0	2,288.0	1,744.0	3,578.0
	1953	18,859.0	..	..	..	4,031.0	4,212.0	3,216.0	2,420.0	1,695.0	3,285.0
	1961	18,443.0	..	..	..	4,411.0	4,288.0	3,073.0	2,337.0	1,688.0	2,646.0
					ALL TIMBER						
					Million cubic feet						
Pine	1936	7,849.9	656.5	1,225.7	1,404.0	1,410.6	1,103.8	767.3	496.8	304.4	480.8
	1953	8,549.1	1,021.4	1,683.9	1,983.0	1,672.0	1,042.1	582.6	281.8	128.4	153.9
	1961	9,384.7	1,277.7	1,873.6	2,115.6	1,758.9	1,109.6	616.6	320.9	159.6	152.2
Cypress	1936	572.2	41.9	67.3	89.6	94.2	63.1	38.3	27.9	30.5	119.4
	1953	590.8	54.0	82.9	104.0	118.0	73.6	29.9	26.6	22.8	79.0
	1961	591.1	54.2	100.3	113.3	125.4	76.7	35.1	18.9	19.0	48.2
Hardwood	1936	7,092.9	694.6	847.0	994.7	1,022.9	883.9	750.5	580.4	422.5	896.4
	1953	8,715.0	883.2	1,169.4	1,476.4	1,324.2	1,168.6	822.4	620.9	417.0	832.9
	1961	8,906.0	1,070.6	1,295.5	1,464.7	1,440.8	1,179.9	781.0	593.9	411.0	668.6

[1] In order to provide a basis for valid comparisons, adjustments have been made to allow for differences in volume tables and sawtimber specifications used in the previous surveys.
[2] Includes other softwoods except cypress.
[3] Hardwood sawtimber has been adjusted to include only trees with saw-log length of 12 feet or more.

Table 41. *Volume of all timber, by species group, survey unit, and survey completion date, Georgia*

Species group and survey unit	1936	1953	Change 1936-1953	1961	Change 1953-1961
	Million cubic feet		*Percent*	*Million cubic feet*	*Percent*
Pine:[1]					
Southeast	2,529.0	3,321.5	+31.3	3,247.9	− 2.2
Southwest	1,063.4	1,160.3	+ 9.1	1,041.4	−10.2
Central	2,352.3	2,268.3	− 3.6	2,896.5	+27.7
North Central	1,035.0	1,058.2	+22.4	1,312.7	+24.1
North	870.2	740.8	−14.9	886.2	+19.6
All units	7,849.9	8,549.1	+ 8.9	9,384.7	+ 9.8
Cypress:					
Southeast	465.4	427.3	− 8.2	402.2	− 5.9
Southwest	77.1	118.6	+53.8	118.7	+ .1
Central	29.7	44.9	+51.2	70.2	+56.3
North Central	...	...	...	...	...
North	...	...	...	...	...
All units	572.2	590.8	+ 3.3	591.1	+ .1
Hardwood:					
Southeast	2,176.8	2,496.1	+14.7	2,326.8	− 6.8
Southwest	507.2	971.1	+91.5	871.0	−10.3
Central	2,224.8	2,476.8	+11.3	2,690.2	+ 8.6
North Central	827.0	1,127.4	+36.3	1,382.1	+22.6
North	1,357.1	1,643.6	+21.1	1,635.9	− .5
All units	7,092.9	8,715.0	+22.9	8,906.0	+ 2.2

[1] Includes other softwoods except cypress.

Table 42. *County area, by class, Georgia, 1961*

County	Total area [1]	Forest		Nonforest	
		Commercial	Non-commercial	Land	Water
	Thousand acres				
Appling	329.6	245.5	...	82.2	1.9
Atkinson	203.5	173.4	...	29.5	.6
Bacon	187.5	129.1	...	57.0	1.4
Baker	227.8	132.4	...	94.2	1.2
Baldwin	169.6	117.7	...	47.6	4.3
Banks	147.8	113.2	...	34.4	.2
Barrow	109.4	48.9	...	60.2	.3
Bartow	304.6	201.2	...	92.1	11.3
Ben Hill	163.2	111.0	...	51.6	.6
Berrien	300.8	207.7	...	92.0	1.1
Bibb	162.6	97.6	0.6	61.0	3.4
Bleckley	140.1	71.1	...	66.6	2.4
Brantley	286.1	252.6	...	32.1	1.4
Brooks	318.1	187.1	...	130.2	.8
Bryan	291.2	231.9	4.2	42.3	12.8
Bulloch	438.4	253.2	.1	178.8	6.3
Burke	532.5	309.3	...	221.4	1.8
Butts	120.3	83.1	.1	35.8	1.3
Calhoun	185.0	92.6	...	91.3	1.1
Camden	444.8	317.5	...	95.3	32.0
Candler	160.6	94.6	...	64.8	1.2
Carroll	316.8	190.2	...	125.0	1.6
Catoosa	106.9	55.6	3.9	47.2	.2
Charlton	511.4	476.0	...	30.5	4.9
Chatham	321.3	120.2	(2)	149.5	51.6
Chattahoochee	161.9	121.0	24.3	14.3	2.3
Chattooga	202.9	155.6	...	46.9	.4
Cherokee	273.9	213.7	...	49.2	11.0
Clarke	80.0	43.6	...	36.1	.3
Clay	143.3	85.6	...	57.3	.4
Clayton	95.4	55.3	...	39.1	1.0
Clinch	510.1	496.8	...	12.7	.6
Cobb	222.7	145.4	2.2	73.1	2.0
Coffee	392.3	266.5	(2)	124.7	1.1
Colquitt	360.3	151.5	...	206.4	2.4
Columbia	197.1	152.8	...	31.8	12.5
Cook	149.1	86.4	...	62.1	.6
Coweta	283.5	215.1	...	66.8	1.6
Crawford	201.6	164.3	...	36.7	.6
Crisp	190.7	80.8	...	106.8	3.1
Dade	105.6	81.1	.6	23.9	...
Dawson	136.3	117.2	...	16.2	2.9
Decatur	392.3	233.7	...	142.1	16.5
De Kalb	172.2	97.0	.3	73.4	1.5
Dodge	320.0	221.8	...	97.4	.8
Dooly	252.8	95.5	(2)	156.0	1.3
Dougherty	210.6	106.6	...	100.0	4.0
Douglas	129.3	95.7	...	32.5	1.1
Early	336.7	167.9	...	167.6	1.2
Echols	272.0	256.3	...	15.5	.2
Effingham	307.2	260.6	...	45.5	1.1
Elbert	233.6	154.5	(2)	75.7	3.4
Emanuel	439.1	305.8	...	130.9	2.4
Evans	119.0	79.2	1.5	37.2	1.1
Fannin	256.0	221.9	...	30.8	3.3
Fayette	127.4	79.5	...	47.2	.7
Floyd	329.0	214.5	...	110.1	4.4
Forsyth	155.5	84.5	...	57.5	13.5
Franklin	172.2	80.2	...	90.5	1.5
Fulton	339.8	205.2	...	129.9	4.7
Gilmer	281.0	264.4	...	16.6	...
Glascock	91.5	62.2	...	29.3	...
Glynn	297.6	170.3	(2)	89.4	37.9
Gordon	229.1	130.7	(2)	97.3	1.1
Grady	298.9	166.2	...	131.9	.8
Greene	258.6	208.9	...	48.2	1.5
Gwinnett	279.7	182.9	...	94.9	1.9
Habersham	181.1	137.2	.2	42.6	1.1
Hall	272.6	186.5	...	61.1	25.0
Hancock	310.4	254.3	...	48.5	7.6
Haralson	182.4	150.4	...	31.3	.7
Harris	302.7	242.8	...	51.6	8.3
Hart	165.1	65.4	...	84.8	14.9
Heard	193.3	157.7	...	34.6	1.0
Henry	211.8	119.8	...	91.6	.4
Houston	243.2	142.2	...	100.6	.4
Irwin	238.1	139.9	...	95.7	2.5
Jackson	215.7	127.9	...	87.7	.1
Jasper	240.0	193.7	...	44.2	2.1
Jeff Davis	211.8	168.9	...	41.4	1.5
Jefferson	340.5	194.0	...	141.6	4.9
Jenkins	224.6	146.2	0.2	77.6	.6
Johnson	200.3	113.5	...	86.2	.6
Jones	257.3	215.9	...	40.2	1.2
Lamar	115.8	77.4	...	38.2	.2
Lanier	117.1	95.8	...	20.0	1.3
Laurens	519.1	311.5	(2)	206.1	1.5
Lee	229.1	108.3	(2)	118.2	2.6
Liberty	343.0	250.2	7.0	66.7	19.1
Lincoln	163.2	111.0	...	32.1	20.1
Long	257.9	231.0	1.5	24.2	1.2
Lowndes	327.7	218.8	...	104.5	4.4
Lumpkin	186.9	171.5	1.1	14.0	.3
McDuffie	168.3	121.3	...	45.1	1.9
McIntosh	306.6	175.5	2.9	85.6	42.6
Macon	257.9	152.3	(2)	104.8	.8
Madison	179.9	95.0	...	84.2	.7
Marion	233.6	183.9	...	49.7	...
Meriwether	319.4	243.2	...	75.7	.5
Miller	183.7	84.2	...	99.3	.2
Mitchell	327.0	128.0	...	198.0	1.0
Monroe	255.4	217.8	...	36.6	1.0
Montgomery	151.7	103.6	...	46.8	1.3
Morgan	227.8	146.5	...	80.8	.5
Murray	218.9	171.3	...	47.6	...
Muscogee	142.1	95.0	4.0	40.2	2.9
Newton	174.7	117.7	...	55.0	2.0
Oconee	119.0	62.7	...	56.2	.1
Oglethorpe	278.4	211.3	...	66.6	.5
Paulding	203.5	167.3	...	35.5	.7
Peach	96.6	43.0	...	53.4	.2
Pickens	144.0	120.2	...	22.9	.9
Pierce	218.9	148.5	...	69.9	.5
Pike	147.2	90.9	...	53.8	2.5
Polk	199.7	144.4	...	55.0	.3
Pulaski	162.6	84.7	...	77.3	.6
Putnam	224.0	181.9	...	36.9	5.2
Quitman	109.4	88.5	...	20.2	.7
Rabun	240.0	219.7	1.5	13.5	5.3
Randolph	279.0	185.4	...	92.0	1.6
Richmond	208.6	140.2	1.0	64.4	3.0
Rockdale	81.9	49.5	...	31.7	.7
Schley	103.7	69.5	...	34.2	...
Screven	416.6	248.7	...	165.4	2.5
Seminole	177.3	75.1	...	89.6	12.6
Spalding	128.6	73.3	...	54.6	.7
Stephens	115.2	73.5	.7	37.5	3.5
Stewart	296.3	247.1	...	47.4	1.8
Sumter	314.9	165.5	...	147.1	2.3
Talbot	249.6	219.2	...	29.2	1.2
Taliaferro	124.8	101.8	(2)	22.8	.2
Tattnall	315.5	230.9	1.9	80.8	1.9
Taylor	257.9	212.4	...	44.0	1.5
Telfair	281.6	207.2	...	73.7	.7
Terrell	210.6	94.7	...	115.7	.2
Thomas	347.5	207.2	...	138.2	2.1
Tift	170.2	70.5	...	98.0	1.7
Toombs	236.2	144.9	...	90.6	.7
Towns	110.1	95.9	...	9.6	4.6
Treutlen	124.2	85.3	...	38.7	.2
Troup	286.1	211.2	...	72.8	2.1
Turner	187.5	88.8	...	95.8	2.9
Twiggs	233.6	195.9	...	36.8	.9
Union	204.2	160.8	1.9	36.1	5.4
Upson	213.8	175.4	...	34.9	3.5
Walker	286.7	211.5	1.2	73.8	.2
Walton	211.2	117.0	...	93.1	1.1
Ware	583.7	503.5	3.5	69.9	6.8
Warren	181.8	111.9	...	69.9	...
Washington	431.4	306.9	.1	122.0	2.4
Wayne	413.4	354.8	...	57.2	1.4
Webster	124.8	90.0	...	34.8	...
Wheeler	195.8	151.5	...	43.6	.7
White	155.5	135.3	.7	19.3	.2
Whitfield	179.8	120.0	...	59.2	.6
Wilcox	245.8	162.6	...	82.1	1.1
Wilkes	302.1	216.9	...	84.1	1.1
Wilkinson	293.1	262.1	...	30.6	.4
Worth	371.2	176.7	...	193.1	1.4
Total	37,680.5	25,772.2	67.2	11,274.3	566.8

[1] Gross area from Bureau of the Census, 1950.
[2] Less than 50 acres.

Table 43. *Commercial forest land, by county and ownership, Georgia, 1961*

County	All ownerships	National Forest	Other public	Forest industry	Farmer-owned	Misc. private
	Thousand acres					
Appling	245.5	...	0.9	33.1	189.5	22.0
Atkinson	173.4	...	...	56.0	114.1	3.3
Bacon	129.1	...	...	17.9	100.9	10.3
Baker	132.4	...	...	8.4	121.8	2.2
Baldwin	117.7	...	4.9	19.5	73.3	20.0
Banks	113.2	0.6	...	9.1	56.2	47.3
Barrow	48.9	...	2.1	.8	41.6	4.4
Bartow	201.2	...	4.7	29.7	98.2	68.6
Ben Hill	111.0	...	.1	5.3	101.8	3.8
Berrien	207.7	...	2.6	16.6	188.5	...
Bibb	97.6	...	.5	5.9	49.5	41.7
Bleckley	71.1	...	.1	9.2	58.0	3.8
Brantley	252.6	...	5.0	91.2	119.6	36.8
Brooks	187.1	...	.3	18.3	159.8	8.7
Bryan	231.9	...	105.2	70.3	49.2	7.2
Bulloch	253.2	...	.5	27.7	203.4	21.6
Burke	309.3	...	...	52.0	238.4	18.9
Butts	83.1	...	.4	7.1	68.3	7.3
Calhoun	92.6	...	.1	8.0	84.5	...
Camden	317.5	...	4.6	164.2	40.9	107.8
Candler	94.6	...	...	6.2	75.8	12.6
Carroll	190.2	...	.2	31.1	148.9	10.0
Catoosa	55.6	...	1.6	4.1	40.4	9.5
Charlton	476.0	...	147.0	108.0	56.5	164.5
Chatham	120.2	...	7.6	40.9	27.6	44.1
Chattahoochee	121.0	...	84.4	6.1	6.9	23.6
Chattooga	155.6	12.5	...	14.4	85.4	43.3
Cherokee	213.7	...	5.4	50.2	138.3	19.8
Clarke	43.6	...	1.7	1.4	29.5	11.0
Clay	85.6	...	6.3	6.0	62.7	10.6
Clayton	55.3	...	.3	.8	34.0	20.2
Clinch	496.8	...	14.5	160.9	97.6	223.8
Cobb	145.4	...	2.1	...	25.6	117.7
Coffee	266.5	...	...	15.0	242.0	9.5
Colquitt	151.5	...	1.1	1.0	129.0	20.4
Columbia	152.8	...	13.7	17.6	96.6	24.9
Cook	86.4	...	.1	...	83.7	2.6
Coweta	215.1	...	1.1	16.7	164.7	32.6
Crawford	164.3	...	.1	51.9	42.9	69.4
Crisp	80.8	...	1.0	...	68.1	11.7
Dade	81.1	...	1.5	5.7	29.9	44.0
Dawson	117.2	5.3	10.6	23.9	49.7	27.7
Decatur	233.7	...	7.8	21.0	172.4	32.5
De Kalb	97.0	...	2.8	...	18.9	75.3
Dodge	221.8	...	...	26.7	165.0	30.1
Dooly	95.5	4.1	...	1.7	84.7	5.0
Dougherty	106.6	...	1.1	15.0	81.3	9.2
Douglas	95.7	...	...	7.9	38.9	48.9
Early	167.9	...	1.1	.5	149.7	16.6
Echols	256.3	...	...	23.6	81.4	151.3
Effingham	260.6	...	.1	49.5	201.2	9.8
Elbert	154.5	...	3.8	31.7	70.6	48.4
Emanuel	305.8	...	.3	57.9	207.4	40.2
Evans	79.2	...	16.0	6.1	52.6	4.5
Fannin	221.9	95.9	.3	5.8	78.8	41.1
Fayette	79.5	...	.1	1.4	72.0	6.0
Floyd	214.5	6.4	1.1	20.5	68.0	118.5
Forsyth	84.5	...	5.2	4.3	59.8	15.2
Franklin	80.2	...	1.0	6.2	63.0	10.0
Fulton	205.2	...	1.3	6.7	98.7	98.5
Gilmer	264.4	23.5	...	62.9	95.5	82.5
Glascock	62.2	...	...	9.3	43.9	9.0
Glynn	170.3	...	4.2	82.3	52.3	31.5
Gordon	130.7	6.9	...	29.2	63.1	31.5
Grady	166.2	...	.1	3.5	120.4	42.2
Greene	208.9	22.6	.5	35.5	128.9	21.4
Gwinnett	182.9	...	.8	2.0	112.3	67.8
Habersham	137.2	42.0	.3	1.1	33.7	60.1
Hall	186.5	...	10.7	15.7	75.8	84.3
Hancock	254.3	...	...	36.9	180.0	37.4
Haralson	150.4	...	...	20.3	89.6	40.5
Harris	242.8	...	5.0	14.5	106.6	116.7
Hart	65.4	...	2.7	2.3	47.3	13.1
Heard	157.7	...	...	48.3	58.4	51.0
Henry	119.8	...	...	4.2	82.9	32.7
Houston	142.2	...	2.6	38.4	89.2	12.0
Irwin	139.9	...	...	13.2	114.3	12.4
Jackson	127.9	...	.8	2.7	72.9	51.5
Jasper	193.7	25.0	5.1	24.1	131.1	8.4
Jeff Davis	168.9	...	...	46.0	106.6	16.3
Jefferson	194.0	...	4.0	23.7	166.3	...
Jenkins	146.2	...	.9	34.8	99.4	11.1
Johnson	113.5	...	...	14.6	95.3	3.6
Jones	215.9	16.4	25.2	56.4	79.8	38.1
Lamar	77.4	...	.1	13.8	54.9	8.6
Lanier	95.8	...	8.6	11.4	66.2	9.6
Laurens	311.5	...	.5	25.1	219.6	66.3
Lee	108.3	...	.4	.8	107.1	...
Liberty	250.2	...	108.3	41.3	58.2	42.4
Lincoln	111.0	...	30.6	5.5	70.9	4.0
Long	231.0	...	26.3	83.1	56.0	65.6
Lowndes	218.8	...	4.4	36.8	156.0	21.6
Lumpkin	171.5	55.4	.4	10.3	58.2	47.2
McDuffie	121.3	...	14.9	6.1	90.6	9.7
McIntosh	175.5	...	1.2	127.5	35.8	11.0
Macon	152.3	...	.1	7.1	118.2	26.9
Madison	95.0	...	...	9.3	64.8	20.9
Marion	183.9	...	.4	52.1	71.5	59.9
Meriwether	243.2	...	7.0	34.1	169.2	32.9
Miller	84.2	...	...	10.6	72.2	1.4
Mitchell	128.0	...	.1	.1	125.9	1.9
Monroe	217.8	...	.1	55.1	141.2	21.4
Montgomery	103.6	...	...	8.6	95.0	...
Morgan	146.5	.4	5.9	17.5	104.7	18.0
Murray	171.3	35.3	2.6	24.5	88.9	20.0
Muscogee	95.0	...	40.3	2.7	23.5	28.5
Newton	117.7	...	.2	6.3	93.0	18.2
Oconee	62.7	.3	.4	2.9	59.1	...
Oglethorpe	211.3	4.0	...	72.8	104.7	29.8
Paulding	167.3	...	.1	28.3	76.4	62.5
Peach	43.0	...	.3	4.5	25.4	12.8
Pickens	120.2	...	...	21.2	83.2	15.8
Pierce	148.5	...	.1	17.5	120.0	10.9
Pike	90.9	...	.2	5.6	85.1	...
Polk	144.4	...	...	28.3	71.0	45.1
Pulaski	84.7	...	...	8.3	73.2	3.2
Putnam	181.9	29.8	13.3	43.0	76.8	19.0
Quitman	88.5	...	2.2	11.8	60.8	13.7
Rabun	219.7	142.6	...	2.4	41.7	33.0
Randolph	185.4	...	.2	7.7	110.4	67.1
Richmond	140.2	...	42.1	14.2	38.1	45.8
Rockdale	49.5	...	...	1.5	37.7	10.3
Schley	69.5	...	...	6.4	52.4	10.7
Screven	248.7	...	1.2	34.2	189.7	23.6
Seminole	75.1	...	4.3	3.4	67.4	...
Spalding	73.3	...	.3	2.2	64.1	6.7
Stephens	73.5	20.9	1.8	5.2	18.3	27.3
Stewart	247.1	...	2.3	55.2	168.7	20.9
Sumter	165.5	...	.6	3.6	142.0	19.3
Talbot	219.2	...	...	41.7	157.0	20.5
Taliaferro	101.8	...	1.1	13.5	58.8	28.4
Tattnall	230.9	...	9.2	17.5	173.6	30.6
Taylor	212.4	...	...	18.5	153.4	40.5
Telfair	207.2	...	.2	32.3	145.1	29.6
Terrell	94.7	...	...	4.0	80.1	10.6
Thomas	207.2	...	.5	10.4	186.4	9.9
Tift	70.5	...	1.7	1.2	60.8	6.8
Toombs	144.9	...	1.4	30.0	100.0	13.5
Towns	95.9	56.1	.3	.2	29.4	9.9
Treutlen	85.3	...	...	10.8	73.0	1.5
Troup	211.2	...	.3	26.7	155.1	29.1
Turner	88.8	...	.1	2.0	72.2	14.5
Twiggs	195.9	...	.2	42.0	79.1	74.6
Union	160.8	90.7	.7	2.4	57.5	9.5
Upson	175.4	...	.1	25.7	103.9	45.7
Walker	211.5	15.3	.3	4.0	100.7	91.2
Walton	117.0	...	.1	1.4	88.6	26.9
Ware	503.5	...	184.5	140.3	111.6	67.1
Warren	111.9	...	.1	16.8	81.7	13.3
Washington	306.9	...	.6	22.6	216.0	67.7
Wayne	354.8	...	...	209.0	110.8	35.0
Webster	90.0	...	...	21.8	53.7	14.5
Wheeler	151.5	...	1.2	16.6	116.9	16.8
White	135.3	40.2	.2	3.9	54.8	36.2
Whitfield	120.0	21.2	.2	10.2	78.2	10.2
Wilcox	162.6	...	.1	33.5	118.4	10.6
Wilkes	216.9	...	5.1	39.5	161.8	10.5
Wilkinson	262.1	...	.2	56.8	118.2	86.9
Worth	176.7	...	.1	.6	145.1	30.9
Total	25,772.2	773.4	1,067.5	3,946.4	15,053.0	4,931.9

Table 44. *Volume of sawtimber and all timber, by county and species group, Georgia, 1961*

County	Sawtimber					All timber [1]				
	All species	Yellow pine	Other softwood	Soft hardwood	Hard hardwood	All species	Yellow pine	Other softwood	Soft hardwood	Hard hardwood
	Million board feet					*Thousand cords*				
Appling	491.6	424.5	16.9	37.9	12.3	2,484	2,007	91	307	79
Atkinson	258.4	146.7	30.5	81.2	...	1,421	763	103	523	32
Bacon	202.9	158.1	5.8	36.3	2.7	1,312	859	46	346	61
Baker	155.4	72.5	24.7	7.9	50.3	748	212	50	76	410
Baldwin	225.1	183.1	...	21.0	21.0	1,356	1,024	...	160	172
Banks	168.1	86.3	...	17.1	64.7	1,259	657	3	210	389
Barrow	78.3	37.6	...	17.2	23.5	562	288	...	115	159
Bartow	172.8	106.7	...	4.9	61.2	1,399	693	...	62	644
Ben Hill	202.1	171.5	...	26.7	3.9	859	689	...	143	27
Berrien	447.7	323.0	37.4	81.9	5.4	2,391	1,469	235	608	79
Bibb	312.2	194.0	...	60.1	58.1	1,434	807	...	370	257
Bleckley	89.2	32.7	.7	24.2	31.6	686	191	7	249	239
Brantley	513.9	272.3	41.7	170.4	29.5	2,717	1,367	219	886	245
Brooks	367.4	172.1	56.9	53.0	85.4	1,951	670	355	520	406
Bryan	542.3	367.7	3.1	127.7	43.8	2,894	1,692	15	905	282
Bulloch	591.6	352.8	19.6	164.4	54.8	3,069	1,485	98	1,148	338
Burke	591.1	239.8	23.5	226.2	101.6	2,924	845	92	1,339	648
Butts	214.9	125.2	...	56.6	33.1	912	523	2	240	147
Calhoun	166.8	63.3	3.7	52.6	47.2	856	193	14	383	266
Camden	833.6	497.2	28.9	141.5	166.0	4,813	2,661	125	1,073	954
Candler	128.0	99.1	.3	16.6	12.0	772	477	5	227	63
Carroll	179.6	62.0	...	14.4	103.2	1,062	342	...	148	572
Catoosa	96.5	15.4	...	5.4	75.7	527	132	...	41	354
Charlton	866.4	500.3	272.9	82.4	10.8	4,086	2,336	768	890	92
Chatham	307.1	128.8	5.8	104.2	68.3	1,909	548	30	873	458
Chattahoochee	547.4	456.5	...	56.3	34.6	1,900	1,250	...	434	216
Chattooga	159.0	56.6	...	16.9	85.5	1,365	518	...	131	716
Cherokee	298.8	106.0	...	41.6	151.2	1,986	938	...	236	812
Clarke	78.2	38.0	...	24.7	15.5	456	230	...	136	90
Clay	132.8	68.5	...	15.4	48.9	771	368	...	155	248
Clayton	98.0	54.3	...	20.8	22.9	536	286	...	133	117
Clinch	787.3	605.1	137.8	41.4	3.0	4,177	2,899	525	700	53
Cobb	183.9	124.8	...	31.6	27.5	1,364	884	...	229	251
Coffee	404.8	253.6	17.8	111.2	22.2	2,442	1,357	162	825	98
Colquitt	245.7	202.6	...	30.8	12.3	1,019	697	1	234	87
Columbia	247.3	171.1	...	46.7	29.5	1,613	1,051	...	348	214
Cook	117.8	90.3	.6	19.2	7.7	711	430	6	162	113
Coweta	344.1	141.0	...	116.4	86.7	1,941	789	...	577	575
Crawford	311.1	237.3	...	54.1	19.7	1,493	863	...	427	203
Crisp	143.4	94.7	1.6	31.4	15.7	718	369	8	237	104
Dade	113.6	8.0	...	11.1	94.5	646	116	2	113	415
Dawson	319.1	181.8	...	13.9	123.4	1,454	712	...	77	665
Decatur	435.1	263.4	9.8	90.9	71.0	2,155	1,056	30	534	535
De Kalb	397.3	168.8	...	53.1	175.4	1,523	722	...	210	591
Dodge	333.9	208.4	5.0	76.6	43.9	1,690	852	13	590	235
Dooly	152.9	59.3	13.3	48.5	31.8	805	317	45	255	188
Dougherty	393.1	130.6	99.1	51.7	111.7	1,502	478	309	269	446
Douglas	127.8	18.0	...	51.0	58.8	1,033	333	...	253	447
Early	316.1	112.7	26.5	81.7	95.2	1,551	424	116	524	487
Echols	657.7	498.8	114.8	40.1	4.0	2,967	2,037	556	333	41
Effingham	440.5	207.7	39.3	100.5	93.0	2,569	1,195	142	683	549
Elbert	166.5	63.7	...	26.4	76.4	1,258	589	5	245	419
Emanuel	405.9	276.3	...	97.5	32.1	2,382	1,304	...	726	352
Evans	160.5	123.7	6.5	22.4	7.9	867	476	52	253	86
Fannin	408.2	11.1	31.9	54.1	311.1	2,538	110	96	411	1,921
Fayette	130.0	48.7	...	55.4	25.9	966	373	...	364	229
Floyd	287.4	164.3	...	50.0	73.1	1,691	822	...	223	646
Forsyth	99.8	65.0	...	1.7	33.1	789	567	...	27	195
Franklin	125.1	51.6	.5	17.2	55.8	729	286	8	131	304
Fulton	468.7	211.5	...	54.4	202.8	2,192	1,143	...	359	690
Gilmer	483.4	43.0	46.9	40.9	352.6	3,046	621	109	351	1,965
Glascock	98.3	47.1	...	27.3	23.9	756	246	...	303	207
Glynn	430.4	269.6	40.5	50.3	70.0	2,327	1,193	135	430	569
Gordon	121.8	60.7	...	9.5	51.6	1,006	541	...	107	358
Grady	355.1	236.0	...	47.7	71.4	1,506	713	...	430	363
Greene	440.9	310.0	...	55.6	75.3	2,599	1,741	...	466	392
Gwinnett	385.3	141.4	...	105.0	138.9	1,807	912	...	445	450
Habersham	303.4	153.3	...	25.2	124.9	1,818	709	7	146	956
Hall	277.9	149.0	...	9.7	119.2	1,794	994	...	35	765
Hancock	370.7	221.2	...	84.5	65.0	2,739	1,791	...	617	331
Haralson	160.5	13.1	...	55.9	91.5	1,312	216	...	377	719
Harris	465.6	325.1	...	66.5	74.0	2,766	1,667	...	490	609
Hart	65.3	30.3	...	11.7	23.3	534	255	1	98	180
Heard	165.1	73.6	...	58.1	33.4	995	504	...	261	230
Henry	278.1	138.3	...	54.4	85.4	1,547	982	...	202	363
Houston	453.6	89.3	4.0	205.6	154.7	2,252	513	24	1,043	672
Irwin	169.9	139.0	9.6	16.1	5.2	1,034	633	66	289	46
Jackson	114.5	86.5	...	14.9	13.1	758	518	3	115	122
Jasper	613.0	427.1	...	78.1	107.8	2,696	1,746	27	406	517
Jeff Davis	300.6	274.7	.2	7.3	18.4	1,592	1,300	10	166	116

Table 44. *Volume of sawtimber and all timber, by county and species group, Georgia, 1961* (Continued)

County	Sawtimber					All timber [1]				
	All species	Yellow pine	Other softwood	Soft hardwood	Hard hardwood	All species	Yellow pine	Other softwood	Soft hardwood	Hard hardwood
	Million board feet					*Thousand cords*				
Jefferson	418.9	117.0	17.9	174.5	109.5	2,086	467	106	1,017	496
Jenkins	290.5	61.2	24.2	118.5	86.6	1,605	361	72	641	531
Johnson	255.3	102.7	...	102.9	49.7	1,231	410	...	597	224
Jones	483.9	405.6	...	22.7	55.6	2,305	1,819	...	255	231
Lamar	144.9	76.2	..	28.0	40.7	841	431	2	209	199
Lanier	188.6	113.1	28.0	37.6	9.9	1,112	496	150	407	59
Laurens	516.6	210.2	5.9	190.6	109.9	2,805	1,102	21	1,180	502
Lee	102.1	40.9	1.8	16.9	42.5	509	171	4	97	237
Liberty	665.2	382.0	19.6	158.8	104.8	3,248	1,629	60	837	722
Lincoln	233.4	195.7	...	9.3	28.4	1,250	987	...	75	188
Long	691.6	318.0	34.6	106.4	232.6	3,463	1,661	211	864	727
Lowndes	481.9	306.5	31.0	100.4	44.0	2,245	1,058	167	691	329
Lumpkin	401.9	79.6	66.9	29.5	225.9	1,937	453	150	171	1,163
McDuffie	160.4	99.3	...	42.2	18.9	1,249	795	...	301	153
McIntosh	339.6	106.4	38.8	91.7	102.7	1,717	463	135	650	469
Macon	245.7	101.2	...	74.1	70.4	1,346	535	...	459	352
Madison	193.7	45.4	...	99.0	49.3	920	322	3	384	211
Marion	236.0	132.4	...	76.1	27.5	1,310	588	...	394	328
Meriwether	349.1	175.3	..	55.9	117.9	2,111	984	...	552	575
Miller	139.2	75.5	9.3	21.7	32.7	785	260	55	134	336
Mitchell	166.0	133.9	5.9	16.3	9.9	673	409	23	121	120
Monroe	328.7	222.9	...	42.6	63.2	2,205	1,412	...	455	338
Montgomery	207.1	124.8	4.0	32.6	45.7	1,006	563	23	213	207
Morgan	224.5	136.5	..	49.5	38.5	1,332	735	...	379	218
Murray	252.9	90.3	19.6	15.3	127.7	2,021	983	40	144	854
Muscogee	321.4	241.3	..	47.2	32.9	1,253	751	...	291	211
Newton	180.7	87.2	...	13.2	80.3	1,099	495	...	137	467
Oconee	91.4	47.9	...	28.4	15.1	664	292	1	217	154
Oglethorpe	380.7	216.3	...	105.7	58.7	2,612	1,551	...	742	319
Paulding	217.6	119.1	...	56.4	42.1	1,852	909	...	541	402
Peach	81.8	46.7	...	20.7	14.4	445	190	...	176	79
Pickens	214.0	123.8	3.4	9.1	77.7	1,535	982	14	103	436
Pierce	271.1	188.2	16.2	63.9	2.8	1,387	956	67	332	32
Pike	209.8	125.4	1.1	60.1	23.2	1,101	577	9	367	148
Polk	105.6	53.0	...	6.3	46.3	989	537	...	23	429
Pulaski	138.9	52.6	14.4	40.4	31.5	814	208	39	312	255
Putnam	552.9	460.1	...	48.7	44.1	2,381	1,795	6	283	297
Quitman	113.0	66.2	...	13.4	33.4	900	478	...	225	197
Rabun	714.1	251.5	38.4	104.7	319.5	3,491	967	162	436	1,926
Randolph	330.6	119.6	...	153.6	57.4	1,713	458	...	889	366
Richmond	236.2	133.9	6.4	72.7	23.2	1,195	515	34	460	186
Rockdale	40.5	17.3	...	15.0	8.2	304	158	1	85	60
Schley	84.7	37.8	...	33.0	13.9	640	264	2	257	117
Screven	662.7	313.0	44.6	178.5	126.6	2,845	1,044	144	1,027	630
Seminole	97.8	78.0	.8	1.8	17.2	567	359	8	39	161
Spalding	108.7	78.1	.3	26.1	4.2	635	421	1	165	48
Stephens	136.9	66.7	...	4.9	65.3	824	444	...	33	347
Stewart	503.9	394.4	...	50.3	59.2	2,449	1,809	...	298	342
Sumter	182.9	86.3	...	49.0	47.6	976	402	...	355	219
Talbot	213.0	150.3	...	25.9	36.8	1,687	1,088	...	271	328
Taliaferro	201.2	132.6	...	47.9	20.7	1,265	763	...	309	193
Tattnall	522.0	361.2	.8	83.2	76.8	2,473	1,471	40	592	370
Taylor	179.3	69.4	...	65.0	44.9	1,193	450	...	377	366
Telfair	450.3	233.1	...	117.5	99.7	2,160	955	...	747	458
Terrell	164.9	34.9	10.9	100.2	18.9	874	143	39	549	143
Thomas	606.6	446.5	...	53.7	106.4	2,241	1,215	...	412	614
Tift	92.5	69.2	4.8	11.9	6.6	513	287	37	139	50
Toombs	177.3	89.3	5.4	68.4	14.2	1,210	553	17	553	87
Towns	233.5	5.0	...	22.0	206.5	1,407	232	...	160	1,015
Treutlen	197.0	170.4	.4	19.9	6.3	981	748	2	180	51
Troup	232.1	157.5	...	74.6	...	1,605	1,071	...	399	135
Turner	204.2	137.2	14.0	44.6	8.4	1,073	626	67	344	36
Twiggs	591.0	259.4	...	210.0	121.6	2,732	1,176	...	942	614
Union	508.3	36.2	46.3	48.0	377.8	2,345	381	118	272	1,574
Upson	159.3	76.8	...	22.5	60.0	1,311	711	...	214	386
Walker	195.3	64.3	..	33.1	97.9	1,918	530	6	199	1,183
Walton	124.0	39.2	...	36.8	48.0	768	274	...	226	268
Ware	812.7	585.2	178.5	49.0	..	4,047	2,834	580	568	65
Warren	169.5	71.1	..	46.8	51.6	1,242	565	...	282	395
Washington	553.4	210.6	2.0	148.2	192.6	3,165	1,316	7	847	995
Wayne	647.2	494.7	90.3	40.9	21.3	3,869	2,816	489	407	157
Webster	172.6	55.1	.	47.0	70.5	970	320	...	307	343
Wheeler	315.1	205.5	..	93.7	15.9	1,637	794	...	697	146
White	181.3	48.7	5.3	14.6	112.7	1,246	365	19	122	740
Whitfield	158.0	91.7	..	10.5	55.8	1,283	692	...	100	491
Wilcox	301.4	177.5	14.5	91.6	17.8	1,295	668	59	462	106
Wilkes	626.5	438.5	..	140.5	47.5	3,586	2,300	8	929	349
Wilkinson	696.3	274.2	52.4	203.8	165.9	3,218	988	171	1,253	806
Worth	335.1	268.1	...	43.5	23.5	1,526	1,085	13	285	143
Total	48,011.7	26,345.2	2,036.8	9,244.3	10,385.4	261,909	130,639	8,098	62,327	60,845

[1] Net volume, sound wood and bark.