

ALABAMA FORESTS



Foreword

This report presents the principal findings of the third Forest Survey of Alabama, completed 1963 by the Southern Forest Experiment Station. The survey, which was undertaken as one phase of the nationwide inventory being conducted by the U. S. Forest Service, provides up-to-date information on the kind, amount, and condition of forest resources; the industries they support; and the possibilities for improving wood production. Comparison with the previous survey of 1953 helps to clarify timber trends.

Generous assistance from public and private organizations made it possible to keep the field work for the new inventory ahead of the schedule that could have been maintained with regular allotted funds. The very material aid of the organizations listed below, and of the individuals among them, is gratefully acknowledged:

Alabama Department of Conservation

Alabama Extension Service

Tennessee Valley Authority

Container Corporation of America

Coosa River Newsprint Company

Georgia Kraft Company

Hiwassee Land Company

International Paper Company

Marathon Southern Corporation

Scott Paper Company

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ALABAMA FORESTS

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U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE



SOUTHERN FOREST EXPERIMENT STATION
New Orleans, Louisiana

1963

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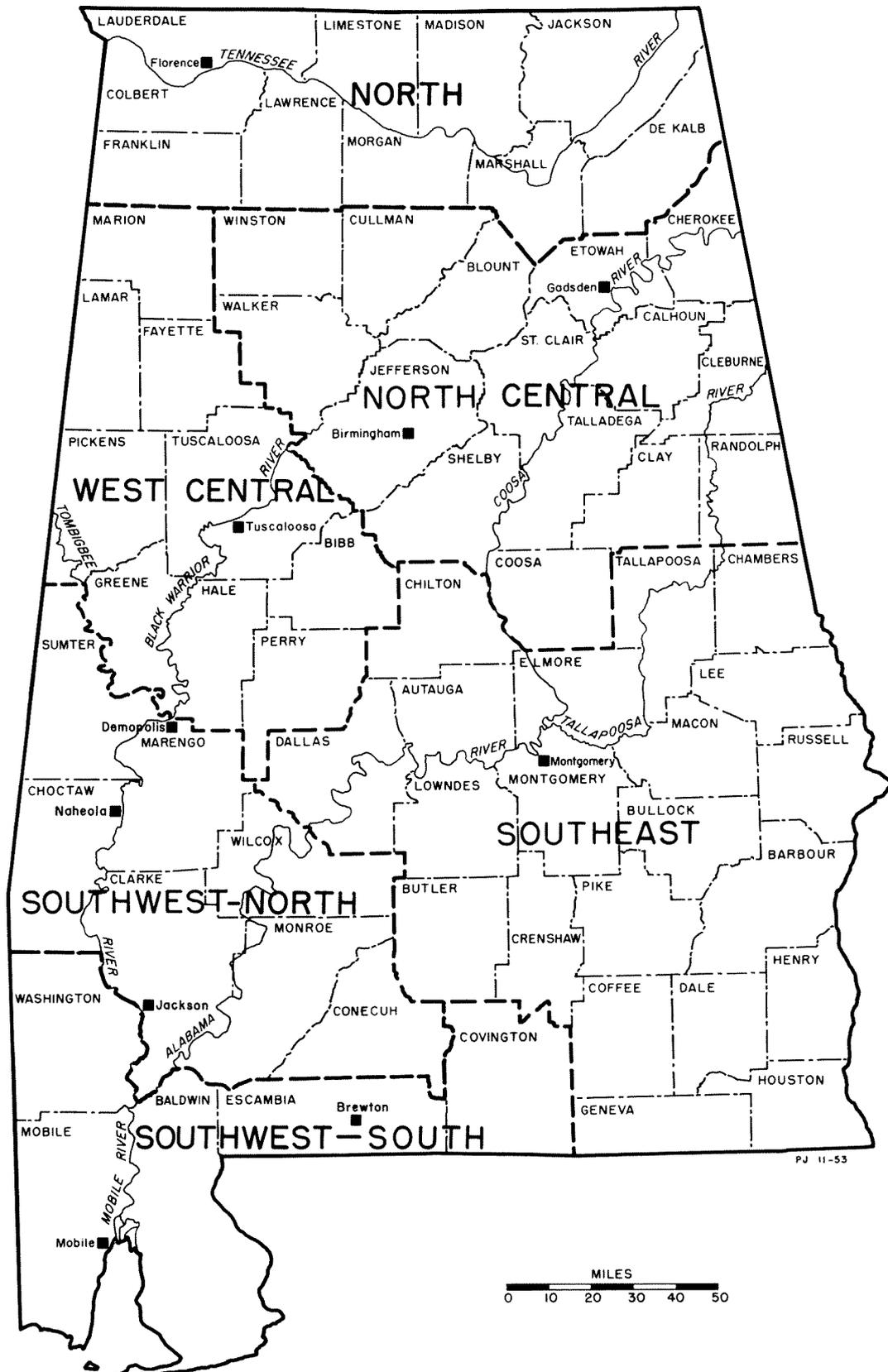


Figure 1. Forest Survey regions in Alabama.

Alabama Timber Highlights

The decade that elapsed between the 1953 and 1963 Alabama forest surveys was a period of many changes. Shifts in land use and changes in product demand, timber growth, cutting, management, and many other factors importantly affected the State's forest resources. Some of these improved the ability of the forests to supply industry with the kind and volume of timber it needs; others did not.

The pulp and paper industry greatly enlarged its capabilities. New pulpmills were established at Brewton, Demopolis, and Naheola (fig. 1). Existing plants were expanded. In response to industrial expansion, the production of pulpwood increased twofold. Especially noteworthy has been the sizable gain in the use of hardwoods for pulp. Pulpwood is now the dominant product of Alabama forests. The volume of pulpwood bolts harvested in 1962 topped that of saw logs by nearly 25 percent. Further expansion of the pulp industry within the State and in peripheral areas points to new highs in future pulpwood output.

The lumber industry developed a new and profitable market for plant residues that were formerly regarded as unavoidable waste. At least 120 Alabama sawmills convert slabs and edgings, chiefly pine, into high-quality chips for sale to pulpmills. The equivalent of one in every six cords of pine pulpwood produced in Alabama is currently derived from chips. Use of hardwood residues is also gaining, although handicapped by the need to separate species for most pulping processes.

Alabama's veneer industry, which consumes mainly soft-textured hardwoods such as sweetgum, ranked from 42 to 34 plants during the past decade. The average annual output of those that survived, however, rose sharply. Moreover, sustained partly by foreign imports and logs brought in from neighboring States, total consumption of veneer logs is greater now than at the time of the previous forest survey. Increasing numbers of the veneer plants, too, are making pulp chips from residues.

In response to demand for treated wood, 17 new wood-preserving plants have been constructed since 1951. Of the 25 establishments now operating, 21 are pressure-type.

In anticipation of greater long-term demand for timber, pine management programs have been expanded and intensified in many parts of the State, especially on forest industry lands and public holdings. Both public agencies and forest industries are also sponsoring programs of technical assistance to stimulate good practices on small woodlands. Management of hardwoods, however, has progressed much less than pine.

How have these and other trends affected the forest resources of Alabama?

In one area, the forests are 5 percent or one million acres greater than in 1953. They now occupy 67 percent of Alabama's total land area. In volume, softwood growing stock (virtually all pine) has risen some 28 percent; softwood sawtimber has gained 30 percent. These are reversals of earlier volume trends.

Other aspects of the forest situation are less encouraging. Several million acres that are capable of growing pine, for example, are dominated by other species. Volume in high-quality hardwoods—that is, those most suitable for factory lumber and veneer—has declined precipitously. One in every four hardwoods is a cull—a waster of growing space that could be devoted to thrifty timber. The current growth of timber is less than half of the potential. And stocking in many stands is far less than most forest managers might desire.

Almost 15 of Alabama's nearly 22 million forest acres are in ownerships of less than 5,000 acres. On these holdings especially, there are numerous opportunities for increasing future supplies of timber that can support new industries. The greatest possibilities for enhancing forest productivity are in raising the level of pine stocking and in applying stand improvement practices on all sites capable of growing high-quality hardwoods rapidly. The most promising remedial measures are to remove culls and other low-value trees that are interfering with the growth or establishment of desirable ones; to plant pine sites on which adequate natural regeneration is not likely; and on hardwood lands especially, to plan timber harvests in a way that will insure a buildup in trees of the quality, sizes, and utility normally demanded for industrial purposes.



Forest Resource Trends

TRENDS IN FOREST AREA

More Forest Land

Alabama is the most extensively wooded State in the Midsouth. Forests now cover 67 percent, 21.8 million acres, of the land. About 18 thousand of these acres are classified as non-commercial, either because they are reserved for nontimber uses or because their timber-growing capacity is extremely low. In 1953 forest acreage totaled 20.8 million.

Recent changes in Alabama's rural economy underlie the expansion of forest acreage. Land on farms, for example, declined some 20 percent in the 1950's. At the same time, rural population dropped 14 percent, while urban areas experienced a 34-percent gain. The State's population now resides mostly in cities and towns. In 1950 it was still largely rural.

Forest acreage expansion has been widespread. Increases have resulted both from natural reseeding and from extensive planting of pine on abandoned farmland. Fifty-four of Alabama's 67 counties have more woodland today than they did in 1953; 6 in the northern section and 5 in the extreme south registered modest declines. Gains of 15 percent or more occurred in some counties of the Tennessee Valley and the southeastern Coastal Plain. Statewide, the net result of land-use shifts is that commercial forest acreage is 5 percent greater than it was 10 years ago (table I).

Table I. Commercial forest land (1963) and change since 1953

Region	Commercial forest	Change Percent
	Thousand acres	
North ¹	10,134.0	+ 5
Southeast	5,452.8	+ 8
Southwest	6,155.4	+ 1
Total	21,742.2	+ 5

Includes the three northernmost regions shown in figure 1.

What about future land-use trends? The most recent nationwide study of projected land-use requirements by the Department of Agriculture concluded that retirement of cropland would greatly exceed anticipated increases in pasture and range land requirements by 1980.¹ If local land-use changes parallel national trends, further gains in Alabama's forest area are likely in the next decade or two.

Increase In Big Ownerships

Most timberland in Alabama is in small tracts. Statewide, commercial forest land in holdings of less than 5,000 acres aggregates nearly 14.7 million acres. This is about the same total as in 1953. In the same time span, 1953-63, acreage in ownerships of 50,000 acres or more rose from 2.6 to 4.0 million. The increase in big holdings largely reflects expansion of industrially owned lands.

Commercial forest land held by wood-using industries now totals 4.1 million acres, or about 19 percent of the State's woodland acreage. In 1953 the industrial segment totaled 15 percent. Virtually all of the recent gain is attributable to increases in pulp and paper company holdings. In Alabama, as in most of the South, major investments in pulping facilities tend to go hand-in-hand with programs of land acquisition. These programs stem partly from the need for dependable supplies of raw material to protect multi-million dollar investments in plants and partly from an increasing recognition of the profitable possibilities of growing timber crops in the southern pine region.

The total commercial forest acreage in private, nonindustrial holdings—16.6 million acres

¹ U. S. Department of Agriculture. *Land and water resources*. 73 pp., illus. Washington, D. C. 1962.

—remained about the same in the last 10 years. But the woodland area classified as “farmer-owned,” declined noticeably. This change is at least partially due to a shift in occupation of many landowners who were formerly farm operators.

Publicly owned lands make up a scant 5 percent, 1 million acres, of the commercial forest land in Alabama. Although the total area in such holdings increased slightly, the Federal share declined as a result of land disposition.

Gain In Upland Timber Types

Forests predominately of longleaf and slash pine typify Alabama’s lower Coastal Plain and dominate 2 million acres of commercial forest land. Longleaf is also found in the central part of the State, but here much of its former acreage was taken over by other pines when the old-growth was logged off years ago. Extending north from the coastal region, loblolly and shortleaf pine cover 7.4 million acres. Another 4.8 million acres of uplands are occupied by oak, hickory, and other hardwoods in mixture with various pines. Along the Mobile, Tombigbee, Black Warrior, and other streams throughout the State are stands of bottom-land hardwoods that aggregate 2.4 million acres. Upland hardwood forests, chiefly in the northern half of the State, total 5.1 million acres.²

Between surveys there was some shifting of acreages in the major forest types. Forests in which southern pines make up at least 25 percent of the stand gained 4 percent, mainly because of conversion of abandoned fields to forest. Acreage of bottom-land forests remained virtually unchanged. But stands of upland oak and hickory increased some 10 percent. Most of the acreage presently supporting upland hardwoods is capable of growing excellent crops of pine. On these sites, hardwoods usually represent an inferior source of industrial raw material and often cannot be marketed at all.

Better Stocking

Along with the increase in forest area, stocking has improved noticeably. The gain is most

² A map detailing the major forest types in the South is available upon request from the Southern Forest Experiment Station. The scale is 40 miles to the inch.

evident in the smaller tree sizes. Stocking of saplings, for example, has increased nearly 20 percent since 1953. Half of Alabama’s commercial forest land is presently well stocked in the sense that it has at least 70 percent of the number of growing-stock trees needed to make effective use of the site. About 10 percent is poorly stocked (less than 40 percent of full stocking). Inadequate stocking is associated to some extent with the expansion of forest acreage during the past decade. Invasion of forests into abandoned fields ordinarily extends over a period of years. Many fields which have only recently qualified as forest are still in the initial stages of reversion to woodland and consequently are understocked.

Regeneration following timber harvesting has usually been prompt, but the species, quality, and vigor of the restocking trees in many areas leave something to be desired. Only 31 percent of Alabama’s forest area is stocked with trees considered desirable—the kind that the land is capable of growing under good management. Another 33 percent is stocked with acceptable trees. These trees qualify as growing stock, but because of low vigor, high risk, rot, excessive forking or limbiness, or other limitations, they will not yield the highest volume and quality of products possible. Moreover, some 36 percent of the forest area is either nonstocked or else is encumbered with shrubs and cull trees that inhibit stand development. Intensifying measures that will improve stand regeneration appears to be a high-priority management task.

TRENDS IN TIMBER VOLUME

More Pine

Softwood volume in Alabama has risen 28 percent since 1953 (table II). This is a reversal of earlier trends. Southern pine (fig. 2) makes up all but 2 percent of the 7.7 billion cubic feet of softwood. Other species include cypress and eastern redcedar (fig. 3). Nearly two-thirds of

Table II. *Growing-stock volume (1963) and change since 1953*

Region	Softwood		Hardwood	
	Volume	Change	Volume	Change
	Million cu. ft.	Per- cent	Million cu. ft.	Per- cent
North	2,741.2	+ 37	2,994.7	— 6
Southeast	1,743.7	+ 30	1,534.3	— 2
Southwest	3,188.2	+ 20	2,245.8	+ 13
Total	7,673.1	+ 28	6,774.8	+ 1

The current softwood volume is in trees 6 to 12 inches in diameter.

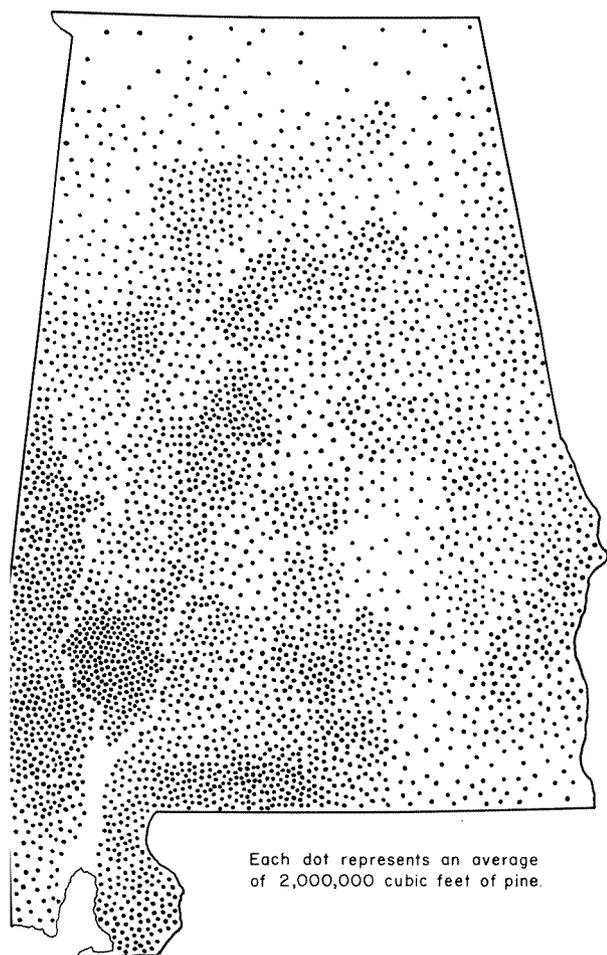


Figure 2. Generalized distribution of pine growing stock in Alabama.

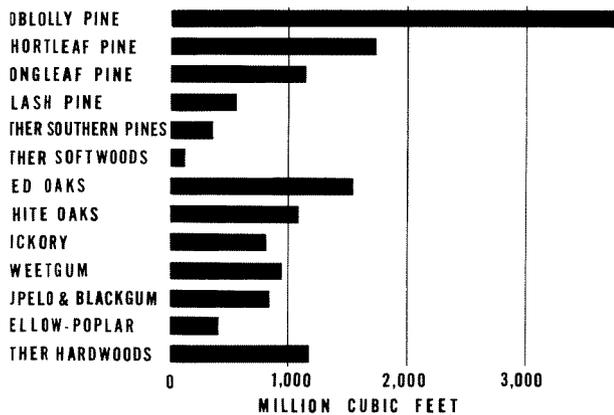


Figure 3. Growing stock by species.

Changes in softwood tree size between the latest two surveys are summarized in figure 4. Part of the increase in the smallest diameter

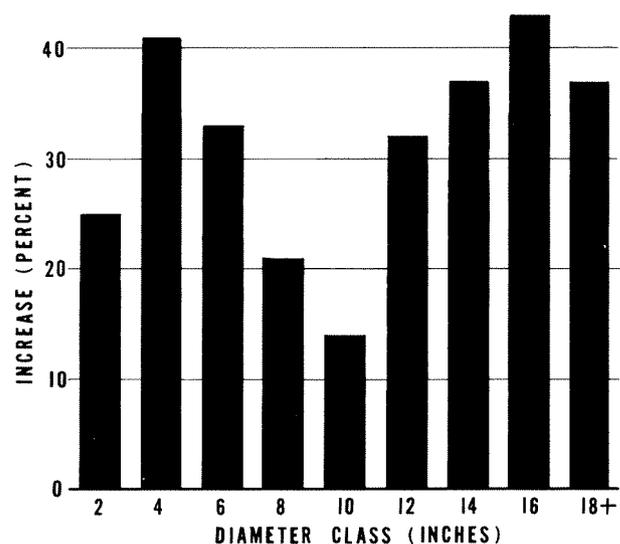


Figure 4. Percentage change in number of softwood growing stock trees between surveys.

classes is related to the sizable expansion of forest acreage in the uplands. The increase in 6- to 12-inch trees is especially encouraging because considerable pulpwood is harvested from these diameter classes. The 40-percent gain in numbers of trees 16 inches and larger is even more impressive; it is noteworthy that nearly two-fifths of the softwoods in these diameters are growing on the 5 million forest acres held by timber industries and public agencies. As a result of these changes, softwood volume increased some 1.7 billion cubic feet.

The increase in board-foot volume of softwoods large enough for sawtimber totaled 6.6 billion board feet. Changes in volume differed among the major classes of landowners (fig. 5). On public holdings, for example, volume

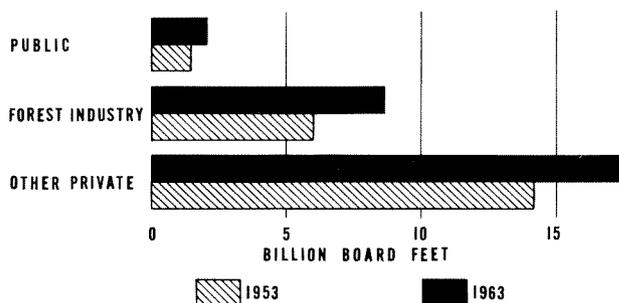


Figure 5. Softwood sawtimber volume by class of ownership, 1953 and 1963.

of softwood sawtimber is some 36 percent greater than in 1953. Forest industry ownerships gained 44 percent. The improvement on industrial ownership may be partly attributable to forest acquisition during the intersurvey period. On private ownership other than that held by industry, the gain in softwood sawtimber totaled about 24 percent.

Softwood timber quality also improved discernibly. On both the 1953 and 1963 forest surveys, softwood sawtimber trees were tallied by the standard log grades for southern pine. Between surveys the volume of upper-grade logs—that is, grades 1 and 2—increased some 23 percent. The volume in grade-3 logs rose by more than 50 percent. All together, logs graded 2 and 3 now make up nearly three-fifths of Alabama's softwood sawtimber inventory. They are well adapted to the manufacture of dimension lumber provided they are not coarse grained. The nascent southern pine plywood industry is also expected to rely mainly upon No. 2 and 3 logs.

Although Alabama's softwood inventory has gained both in volume and quality during the last 10 years, most pine sites are still lightly stocked with sawtimber. Statewide, for example, forested uplands that are better adapted to pine than hardwood support about 1,400 board feet per acre in softwood sawtimber trees. Public and forest industry holdings each average about 2,300. But pine sites on farm and other private, nonindustrial holdings have only 1,200 board feet per acre of softwood sawtimber. Additionally, the typical pine site on all classes of ownership supports several hundred board feet of hardwood.

Hardwood Quality Has Declined

The total volume of hardwood growing stock has shown little change since 1953. But in the bottom lands, where many hardwood species attain their best development, volume has declined some 7 percent. Upland hardwoods have increased about 5 percent. Most hardwood trees on upland sites are slow growing, have little market potential, and represent a poor utilization of the land. Pine is usually a more attractive investment in the uplands.

It will be noted from figure 6 that the number of hardwood trees has declined in most

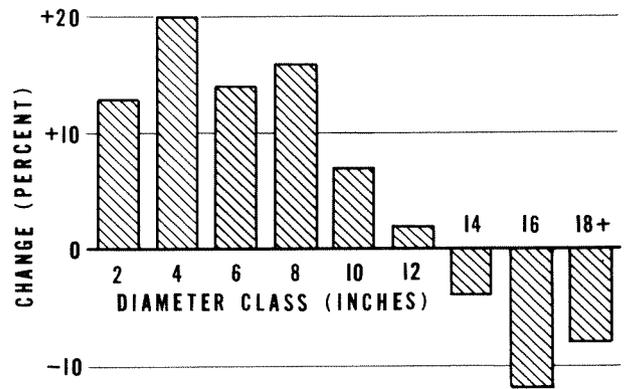


Figure 6. Percentage change in number of hardwood growing stock trees between surveys.

sawtimber sizes. As a result of these stand-structure changes, hardwood sawtimber volume is presently somewhat below the 1953 level. It now stands at 18.3 billion board feet, a 4-percent drop. This is a continuation of earlier trends.

Recent changes in hardwood sawtimber volume have not been uniform throughout the State (table III). But only in the southwest section, where most of the board footage is in the bottom lands, has the supply increased noticeably. Here it has risen 13 percent in the past decade. In fact, hardwood inventory in the southwest has been steadily gaining since the midthirties.

Table III. Sawtimber volume (1963) and change since 1953

Region	Softwood		Hardwood	
	Volume	Change	Volume	Change
	Million bd. ft.	Per- cent	Million bd. ft.	Per- cent
North	9,071.3	+ 42	7,655.2	- 13
Southeast	6,500.8	+ 33	3,742.5	- 11
Southwest	12,734.6	+ 22	6,897.5	+ 13
Total	28,306.7	+ 30	18,295.2	- 4

Another significant aspect of the changing hardwood situation is in upper-grade standard lumber logs. These are the logs that are normally most in demand for lumber and other products requiring clear material. Between the two most recent surveys the volume of such logs—that is, grades 1 and 2—declined about 25 percent (table IV). Volume in lower-grade logs rose about 4 percent. Nearly two-fifths of the latter volume is in tie and timber logs that are presently suited only for low-value end uses such as crating and crossies.

The outlook for preferred hardwoods in Alabama could be markedly improved by intensive timber management. Hardwood forestry is now being facilitated by the rising production of hardwood pulps, which is enabling more and more timber managers to thin their hardwood stands and make improvement cuttings to favor the trees suitable for more exacting products.

Table IV. Sawtimber volume by log grade and tree diameter, 1963

Species group and d.b.h. class (inches)	All grades	Grade 1 ¹	Grade 2	Lower grades
----- Million board feet -----				
Softwood:				
10 to 12	12,778.0	35.0	156.3	12,586.7
14 to 18	12,420.9	17.1	2,394.7	10,009.1
20 and up	3,107.8	415.2	705.2	1,987.4
Total	28,306.7	467.3	3,256.2	24,583.2
Hardwood:				
12	4,525.1	..	11.0	4,514.1
14 to 18	9,527.6	225.8	1,872.8	7,429.0
20 and up	4,242.5	966.5	1,076.7	2,199.3
Total	18,295.2	1,192.3	2,960.5	14,142.4

¹ All cedar saw logs were graded as No. 1.

TIMBER GROWTH AND CUT

Growth Is Far Below Potential

Forest fires, insect pests, tree diseases, and other natural agents kill about 133 million cubic feet of Alabama timber annually. The loss is equivalent to 16 percent of the net growth of growing stock, and is substantially higher in hardwoods than in softwoods. After allowance is made for mortality, net annual growth is 629 million cubic feet of softwood growing stock and 227 million of hardwood. This equals 39 cubic feet per acre a year, or about 0.5 cord. At this rate, the forests are growing wood at less than half of their capacity.

For sawtimber alone, growth totals 2,601 million board feet of softwood and 695 million of hardwood. Virtually all of the softwood growth is southern pine. Some two-fifths of the hardwood growth is oak. The more valuable red and white oaks—cherrybark, Shumard, northern red, white, swamp chestnut, swamp white, and chinkapin oak—make up 34 percent of all oak sawtimber growth and the less desirable ones 66 percent. Among the

numerous other hardwood species in Alabama, sweetgum accounts for the biggest share of the sawtimber growth.

Cut Is Chiefly Softwood

Loggers removed 309 million cubic feet of softwood growing stock and 215 million cubic feet of hardwood from commercial forest land in 1962, when the most recent statistics were compiled. The estimate of hardwood cut includes 33 million cubic feet deadened in timber stand improvement operations. Oak made up 34 percent of the total hardwood cut. Sweetgum, which is being increasingly used for pulpwood, provided 24 percent. The rest of the hardwood cut was largely in soft-textured species, like yellow-poplar.

Alabama's primary wood-using industries are largely dependent upon trees of sawtimber size—softwoods at least 9.0 inches in diameter, and hardwoods 11.0 inches and larger in d.b.h. For the State as a whole, sawtimber growth was double the 1962 cut (fig. 7), but this com-

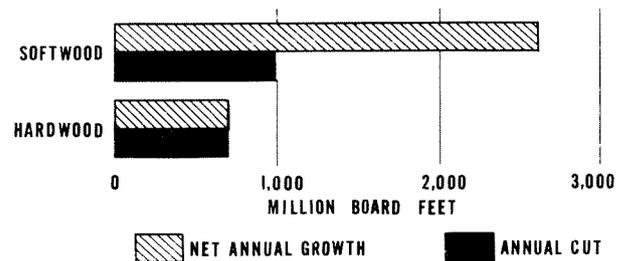


Figure 7. Growth and cut of sawtimber, 1962.

parison masks critical differences in softwood and hardwood relationships. Whereas the growth of softwood sawtimber was 2.6 times the softwood harvest, the growth and cut of hardwood sawtimber were barely in equilibrium. Furthermore, the hardwood growth is largely taking place on trees that are still too small in diameter to yield high-quality logs in the immediate future. The favorable growth-cut ratio in softwoods together with the strong upward trend in softwood inventory, is highly encouraging for dependent industries. At the same time, it appears that industries producing hardwood veneer and factory lumber may find it increasingly difficult to obtain domestic timber of the sizes and quality that have long sustained them.



Timber Products Output

Industrial roundwood production in Alabama totaled 423 million cubic feet in 1962. Output of home-use products, chiefly fuelwood, was 14 million.

The composition of Alabama's output of industrial roundwood changed markedly during the past decade. Rising demand for paper and the availability of desired species helped to boost pulpwood into ascendancy. It makes up half of the current industrial output; saw logs about 40 percent. The rest is largely veneer logs, cooperage bolts, poles, piling, and posts.

LUMBER IS MAINLY PINE

Alabama is among the Nation's chief lumber manufacturers. In recent years it has ranked seventh in the United States and third in the South.

The State's 1962 saw-log harvest exceeded 1 billion board feet. More than two-thirds was softwood—almost all pine. But some cypress, redcedar, and hemlock were also sawn. Oak supplied half of the hardwood; sweetgum, blackgum, tupelo, and yellow-poplar most of the remainder.

The years since World War II have been a period of drastic change for the lumber industry. Some 555 sawmills were active in Alabama during 1962. In 1946, when the last complete sawmill census was made, 3,030 mills were active. The losses were mostly among small, generally portable, ones. Mills cutting an excess of 3 million board feet annually decreased in number from 83 to 74, but average annual output per large mill rose over a third.

To cope with the changing market conditions of the past few years many large mills have made investments in new equipment, especially machinery for converting slabs and edgings

into pulp chips.³ This has resulted in versatility in product mix, decreased waste of wood, greater output per man-hour, and reduced maintenance costs. Sale of pulp chips has also helped to keep mills solvent by adding several dollars of gross income per thousand board feet of lumber sawn.

PULPWOOD AT ALL-TIME HIGH

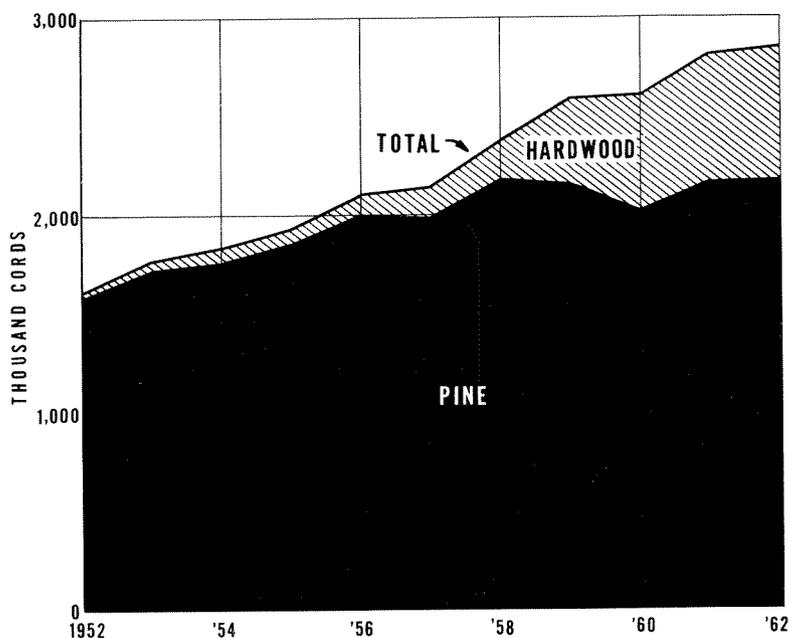
Pulp and paper is the most rapidly expanding segment of Alabama's forest industry.

Since 1946, total pulpwood production has risen from 756 thousand cords to a current level of 3.4 million. Although pine roundwood is still the mainstay of the pulp industry, hardwood has gained steadily. Hardwoods made up about 4 percent of the pulpwood bolt output in the late 1940's. Today they account for 24 percent (fig. 8). The industry's preference is for soft-textured species, which are also in heavy demand for lumber and veneer. More than 80 percent of the hardwood bolts cut in 1962 were from gums and other soft-textured species. Output of oak and other firm-textured bolts, however, is trending up; it reached 116 thousand cords in 1962, a rise of 3 percent from the previous year.

The increase in the use of chips made largely from sawmill residues has been spectacular. In 1956 about 84 thousand cords of plant waste were converted into pulp chips. By 1962, chip output totaled 596 thousand cords. This volume comprised 17 percent of the State's entire pulpwood production. At least 136 Alabama firms produced chips for sale to pulpmills in 1962. Some 76 percent of the chips were southern pine. Hardwood sales are gaining, although

³ Whaley, Ross S., and Guttenberg, Sam. Alabama's changing lumber industry. *South. Lumberman* 206(2571): 28-30, 32, illus. 1963.

Figure 8.
Production of pulp-
wood bolts, 1952-
62.



presently handicapped by the need to separate species for most pulping processes.

Establishment of new mills, as well as expansion of existing facilities, boosted Alabama's daily pulping capability from 1,106 tons in 1946 to 5,093 tons in 1962. During this period, Alabama's share of mill capacity in the seven Midsouth States increased from 15 to 23 percent. The average mill can now manufacture about 566 tons of pulp every day, as compared to 221 tons in 1946. Individual mills range in capability from 48 to 1,315 tons daily.

Plans have been announced for a new pulp-mill at Jackson and expansion of several existing ones. These facilities are expected to have a combined capacity of some 1,000 tons daily. Alabama's pulpwood harvest thus promises to trend upward for some time. The continued growth of the pulp and paper industry provides woodland owners with a strong incentive for managing their timber.

VENEER IS NEARLY ALL HARDWOOD

Most of the veneer processed in Alabama is used for containers of various kinds.

Veneer-log production in 1962 totaled 101.4 million board feet, of which 3.9 million were shipped out-of-State. Some 8.6 million board

feet of logs were brought into Alabama for manufacture. The imports were from Florida, Georgia, Mississippi, and Tennessee—and also from Central America. The 34 veneer mills now in the State consumed an average of 3.1 million board feet per plant (fig. 9). The 42 mills active in 1951 used an average of 2.3 million per plant.

Virtually all of the veneer logs made in Alabama are hardwood. More than 90 percent of the total is soft-textured wood. Gums and yellow-poplar are by far the leading veneer species, sweetgum alone accounting for about 40 percent of the total. Firm-textured logs are largely oak, sycamore, and hackberry.

OTHER PRODUCTS

Alabama is a top-ranking producer of southern pine poles and piling. In all, some 847,000 pines were cut for these purposes in 1962. The volume was 13 million cubic feet, of which more than 90 percent was cut in southwest Alabama. About half of the poles and piling cut within the State are shipped to local wood-preserving plants for treatment. Between 1951 and 1962, 17 new wood-preserving plants were constructed. Of the 25 establishments now operating, 21 are pressure-type. These plants also treat large quantities of lumber, crossties, and fence posts.

Following the downward trend in number of households burning wood for heating and cooking, output of roundwood fuel dropped from 1.2 million cords in 1951 to 0.7 million in 1962. Rising urbanization and per capita income are expected to contribute to further reduction in

domestic fuelwood consumption.

All other timber products harvested in 1962 supplied about two percent of the total roundwood output in Alabama. Their volume, 9.8 million cubic feet, was mostly in fence posts and cooperage bolts.

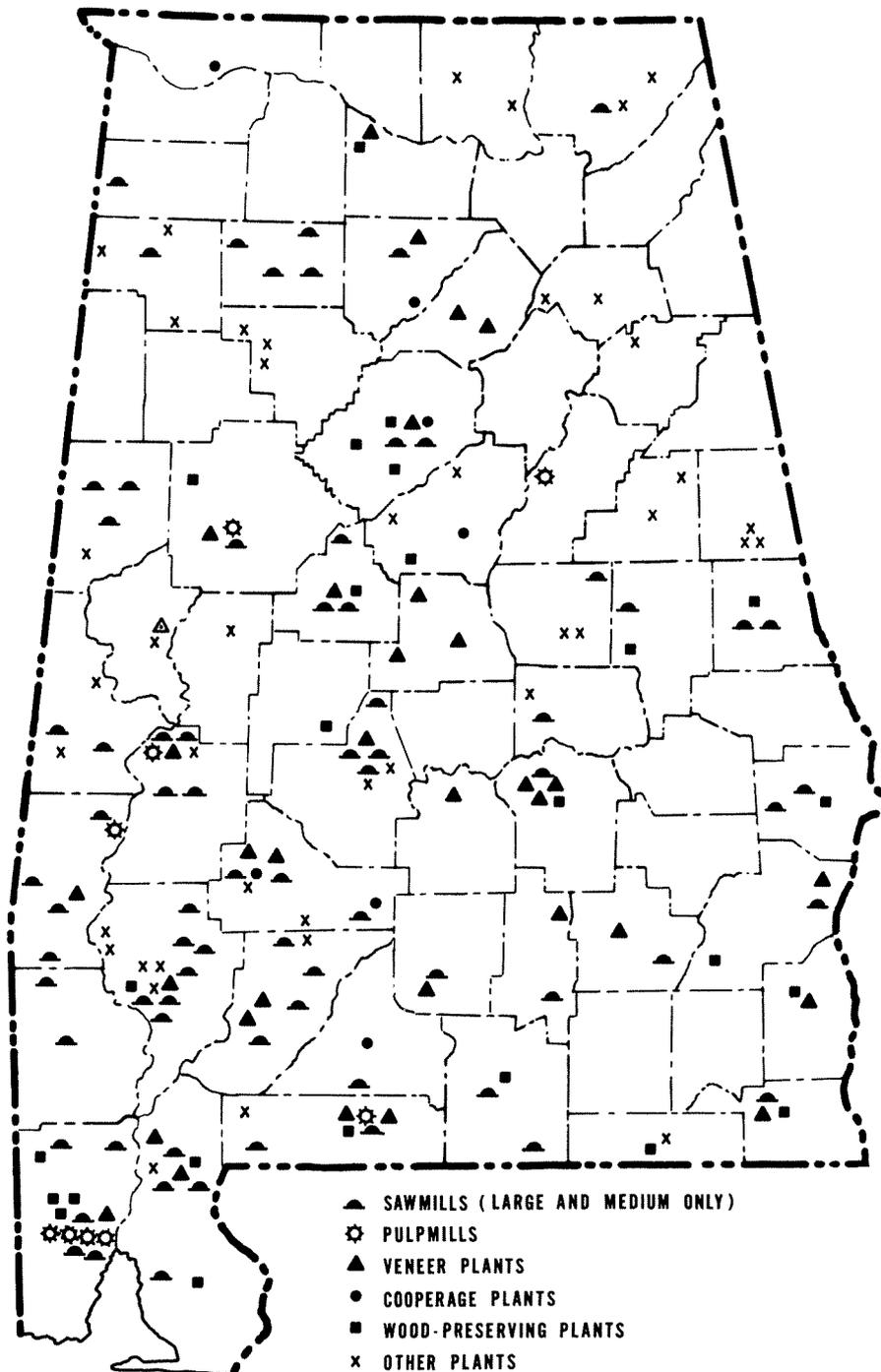


Figure 9. Location of primary wood-using plants in Alabama, 1962.



Improving Forest Productivity

The long-range outlook for forest products is bright. Anticipated gains in population and gross national product are expected to boost future timber demands. Nationwide, for example, consumption of pulp and paper may triple within the next few decades. Use of plywood and veneer may more than double. Total use of lumber is projected to increase by as much as 60 to 70 percent by the year 2000.¹ Only with fuller development of potentially productive forest lands can these needs be met. Essential to such development is heavy and sustained investment in cultural measures, such as timber stand improvement and planting. The recent improvement in Alabama's pine resources is partly attributable to the effort already expended on such measures. But overall, the task of forest betterment is still sizable.

BUILDING UP PINE STOCKING

Of the 21.7 million acres of commercial forest land in Alabama, 17.5 are suitable for growing pine—as evidenced by pine's present or former occurrence.

Some 10.6 million acres of the potential pine sites are less than 40 percent stocked with desirable timber—that is, thrifty trees that are presently or potentially capable of yielding high-quality saw logs or other forest products. Scarcely 7 percent of the latter acreage—about 705 thousand acres—is expected to restock itself naturally and adequately within the next 10 years. On 346 thousand acres, only planting or seeding is likely to improve future yields. The largest share of the acreage that requires planting is in the southeastern counties. On the

majority of pine sites, 7.0 million acres, removal of culls and other undesirable trees will be needed in order to assure successful establishment of natural pine reproduction. On another 2.5 million acres, restoration may be more expensive. Here, both planting and removal of undesirable trees will be required if timber yields are to be substantially increased.

These estimates do not include fields that are no longer in cultivation but have not yet reverted to forest. Some such areas are of course highly plantable.

About 5.4 million acres of pine sites are already 40 to 70 percent stocked with desirable trees. Part of this area is expected to attain full stocking without stand treatment. But some 3.0 million acres of the total is encumbered with trees whose defects limit their present or prospective use. Removal of such trees will not only create openings for reproduction, but also speed the development of desirable trees already established.

The remaining 1.5 million acres of pine sites are more than 70 percent stocked with desirables. Given adequate protection from fire and premature cutting, these stands can be expected to produce excellent crops of pine.

IMPROVING HARDWOOD STANDS

Alabama has 4.2 million acres of commercial forest that appear to be primarily suited to growing hardwood. This forest is a comparatively neglected resource. Most hardwood stands are clearly deficient in trees of the quality, sizes, and utility demanded by the distinctive hardwood industries. Moreover, the typical stand contains a high proportion of trees that are undesirable as future growing stock. All told, the productivity of some 3.8

¹ Cliff, Edward P. *The outlook for timber resources*. Speech before the American Forestry Association. Washington, D. C. 1963.

million acres of hardwood sites is noticeably hampered by culls and other trees that are of little potential value.

After the merchantable components of this overburden have been removed, the greatest returns per dollar of expenditure will probably be realized by concentrating improvement efforts on large dominant culls. But restricting cull-tree control to the larger stems will not improve areas covered with thickets of small

weed trees or shrubs. These areas require some kind of blanket treatment. Before such treatments are undertaken, however, their potential effectiveness and cost need to be carefully appraised.

Hardwood sites in Alabama include some of the most potentially productive in the Nation. Translating the capability into reality depends upon sharply accelerating the tempo of forestry efforts.

Appendix

ACCURACY OF THE SURVEY

The data on forest acreage and timber volume in this report were secured by a systematic sampling method involving a forest-nonforest classification on aerial photographs and on-the-ground measurements of trees at sample locations. The sample locations were at the intersections of a grid of lines spaced 3 miles apart. At each location, 10 small plots were systematically distributed on an area of about one acre.

Accuracy of the estimates may be affected by two types of errors. The first stems from the use of a sample to estimate the whole and from variability of the items being sampled. This type is termed sampling error; it is susceptible to a mathematical evaluation of the probability of error. The second type—often referred to as reporting or estimating error—derives from mistakes in measurement, judgment, arithmetic, or recording, and limitations of method or equipment. Its effects cannot be appraised mathematically, but the Forest Survey constantly attempts to hold such error to a minimum by proper training and good supervision, and by emphasis on careful work.

Statistical analysis of the data indicates a sampling error of plus or minus 0.3 percent for the estimate of total forest area, 1.5 percent for total cubic volume, and 2.1 percent for total board-foot volume. 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 ²	Board-foot volume	Sampling error ²
Thousand acres	Percent	Million cu. ft.	Percent	Million bd. ft.	Percent
21,770.0	0.3	...	...	...	...
1,959.3	1.0	14,447.9	1.5	...	...
489.8	2.0	8,126.9	2.0	46,601.9	2.1
217.7	3.0	3,612.0	3.0	22,834.9	3.0
122.5	4.0	2,031.7	4.0	12,844.6	4.0
78.4	5.0	1,300.3	5.0	8,220.6	5.0
19.6	10.0	325.1	10.0	2,055.1	10.0
8.7	15.0	144.5	15.0	913.4	15.0
4.9	20.0	81.3	20.0	513.8	20.0
3.1	25.0	52.0	25.0	328.8	25.0
.8	50.0	13.0	50.0	82.2	50.0

¹By random-sampling formula.

²Estimated by use of a procedure described by D. B. DeLury in *Values and Integrals of the Orthogonal Polynomials up to n = 26*. Univ. Toronto Press, 33 pp. Toronto, Ont. 1950.

Growth estimates were derived from diameter-growth measurements and mortality data taken at sample locations. No attempt was made to calculate sampling error in these estimates.

Estimates of annual timber cut are based on studies conducted during the period of forest inventory. The sampling error to which the estimates are liable, on a probability of two chances out of three, are:

Cubic volume	Sampling error ¹	Board-foot volume	Sampling error ¹
Million cu. ft.	Percent	Million bd. ft.	Percent
523.8	2.2	1,686.8	2.9
101.4	5.0	567.4	5.0
25.4	10.0	141.9	10.0
11.3	15.0	63.0	15.0
6.3	20.0	35.5	20.0
4.1	25.0	22.7	25.0
1.0	50.0	5.7	50.0

¹By random-sampling formula.

In computing changes in timber volumes since 1953, data from the earlier survey were adjusted to make them closely comparable to those from the latest survey. This was necessary because of certain basic differences between the two sets of data. In every case, the data from the earlier survey were adjusted to conform to the standards of the latest survey before the change was computed.

DEFINITIONS OF TERMS

Forest Land Class

Forest land.—Land at least 10 percent stocked by forest trees of any size, or formerly having such tree cover, and not currently developed for non-forest 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.

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.

Forest Type

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.

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.

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 oaks 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.—Bottom-land 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.

Elm-ash-cottonwood.—Forests in which 50 percent or more of the stand is elm, ash, or cottonwood, singly or in combination. Common associates include willow, sycamore, beech, and maple.

Class of Timber

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

Desirable trees.—Growing-stock trees that have no serious defects to limit present or prospective use, are of relatively high vigor, and contain no pathogens that may result in death or serious deterioration before rotation age. They comprise the type of trees that forest managers aim to grow; that is, the trees left in silvicultural cutting or favored in cultural operations.

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

Saplings.—Live trees of commercial species, 1.0 inch to 5.0 inches in d.b.h. and of good form and vigor.

Cull trees.—Live trees of sawtimber or poletimber size that are unmerchantable for saw logs now or prospectively because of defect, rot, or species.

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

Stand-Size Class

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

A measure of area occupancy by trees of specified classes. Three categories of stocking are considered in 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 delineating area-condition and stand-treatment classes.

Volume

Volume of sawtimber.—Net volume of the saw-log portion of live sawtimber trees, in board feet of the International rule, $\frac{1}{4}$ -inch kerf.

Volume of growing stock.—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.

Volume of timber.—The volume of sound wood in the bole of growing stock, cull, and salvable dead trees 5.0 inches and larger in d.b.h., from stump to a minimum 4.0-inch top outside bark or to the point where the central stem breaks into limbs.

Softwood Log Grades

Softwood log grades are based on the value yield per unit outturn of yard lumber. The value of lumber yield may be expressed relative to the value of No. 2 Common lumber taken as 100 percent. Expressed thus, studies have shown that lumber from grade 1 logs has a value 244 percent as great as No. 2 Common lumber, while the corresponding percentages are 189 percent for grade 2 logs, 142 percent for grade 3 logs, and 107 percent for grade 4 logs. For detailed specifications of log grades, see **Interim log grades for southern pine**, U. S. Forest Service, Southern Forest Experiment Station, 18 pp. 1953.

Hardwood Log Grades

Specifications for standard lumber logs (hardwood log grades 1, 2, and 3) are based on suitability for standard factory lumber. Studies have shown that, for nearly all species tested, the yield of No. 1 Common and better lumber in grade 1 logs varies from 65 to 80 percent; in grade 2 logs from 40 to 64 percent; and in grade 3 logs from 13 to 36 percent. For detailed specifications of log grades, see **Hardwood log grades for standard lumber: proposals and results**, U. S. Forest Products Laboratory D1737. 1949.

Tie and timber logs are suitable for ties, timber, and certain other construction lumber items. Specifications for tie and timber logs are based chiefly on knot size and log soundness; clear cuttings are not required.

Area-Condition Class

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 adequate seed source and seedbed favorable to natural restocking.

Class 5.—Areas less than 40 percent stocked with desirable trees and with inadequate seed source and/or seedbed unfavorable to natural regeneration.

Stand-Treatment Class

No treatment.—Stands ready for harvest, stands in highly productive condition, stands where there is little or no practical opportunity to increase harvest yields by cultural measures, and areas where prompt natural regeneration is expected.

Stand improvement.—Stands where cleaning, thinning, cull-tree deadening, sanitation-salvage cutting, or pruning will effectively increase the volume and/or value of harvest yields.

Regeneration.—Areas where planting, seeding, scarification, removal of inhibiting vegetation, or other measures to obtain natural or artificial regeneration will be primarily effective in increasing yields of desirable trees.

Miscellaneous Definitions

D.b.h. (Diameter breast high).—Tree diameter in inches, outside bark, measured at 4-½ 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.

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

Farmer-owned lands.—Lands owned by operators of farms.

Net annual growth of sawtimber.—The annual change in net board-foot volume of live sawtimber trees during a specified period resulting from natural causes.

Net annual growth of growing stock.—The annual change in volume of sound wood in live sawtimber and poletimber trees during a specified period resulting from natural causes.

Mortality of sawtimber.—The net board-foot volume of sawtimber trees dying annually from natural causes during a specified period.

Mortality of growing stock.—The volume of sound wood in live sawtimber and poletimber trees dying annually from natural causes during a specified period.

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 by-products of wood manufacturing plants.

STANDARD TABLES

Tables similar in format to those that follow will be found in all State reports issued by the Forest Survey. Their purpose is to facilitate compilation of data for various States and regions.

Table 1. Area by land classes, Alabama, 1963

Land class	Area
	Thousand acres
Forest:	
Commercial	21,742.2
Unproductive	6.6
Productive-reserved	21.2
Total forest	<u>21,770.0</u>
Nonforest ¹	<u>10,908.4</u>
Land ²	<u>32,678.4</u>

¹ Includes some acreage of water according to survey standards and area classification but defined by Bureau of the Census as land.

² From U. S. Bureau of the Census, Land and Water Area of the United States, 1960.

Table 2. Area of commercial forest land by ownership classes, Alabama, 1963

Ownership class	Area
	Thousand acres
Public:	
National forest	629.7
Miscellaneous federal	169.4
State	156.8
County and municipal	45.5
Total public	<u>1,001.4</u>
Private:	
Forest industry	4,073.7
Farmer	7,631.7
Miscellaneous private	9,035.4
Total private	<u>20,740.8</u>
All ownerships	<u>21,742.2</u>

Table 3. Area of commercial forest land by stand-size and ownership classes, Alabama, 1963

Stand-size class	All ownerships	National forest	Other public	Ownership classes	
				Forest industry	Farmer and misc. private
----- Thousand acres -----					
Sawtimber	8,885.3	431.5	201.4	1,885.4	6,367.0
Poletimber	5,224.0	116.4	76.4	888.5	4,142.7
Sapling and seedling	7,468.5	81.8	93.9	1,283.3	6,009.5
Nonstocked areas	164.4	...	...	16.5	147.9
All classes	<u>21,742.2</u>	<u>629.7</u>	<u>371.7</u>	<u>4,073.7</u>	<u>16,667.1</u>

Table 4. Area of commercial forest land by stand-volume classes for saw-timber and other stand-size classes, Alabama, 1963

Stand volume per acre	All stands	Sawtimber stands	Other stands
Less than 1,500 board feet	12,225.9	1,071.6	11,154.3
1,500 to 5,000 board feet	6,897.0	5,203.6	1,693.4
More than 5,000 board feet	2,619.3	2,610.1	9.2
All classes	<u>21,742.2</u>	<u>8,885.3</u>	<u>12,856.9</u>

Table 5. Area of commercial forest land by stocking classes based on alternative stand components, Alabama, 1963

Stocking percentage	Stocking classified in terms of		
	All trees	Growing stock trees	Desirable trees
----- Thousand acres -----			
90 to 100	6,092.2	2,133.3	206.5
80 to 90	6,021.2	3,793.2	452.1
70 to 80	4,684.1	4,766.9	905.4
60 to 70	2,507.5	4,072.1	1,431.7
50 to 60	1,309.7	2,898.3	2,186.9
40 to 50	541.4	1,870.6	2,645.5
30 to 40	306.2	1,085.2	3,358.9
20 to 30	136.9	656.4	3,538.9
10 to 20	103.9	301.8	3,622.0
Less than 10	39.1	164.4	3,394.3
All areas	<u>21,742.2</u>	<u>21,742.2</u>	<u>21,742.2</u>

Table 6. Area of commercial forest land by stocking classes of growing stock trees and by stand-size classes, Alabama, 1963

Stocking class	All stands	Saw-timber	Pole-timber	Sapling and seedling	Non-stocked
70 percent or more	10,693.4	4,904.6	2,421.7	3,367.1	...
40 to 70 percent	8,841.0	3,438.9	2,314.8	3,087.3	...
10 to 40 percent	2,043.4	541.8	487.5	1,014.1	...
Less than 10 percent	164.4	...	...	...	164.4
All classes	<u>21,742.2</u>	<u>8,885.3</u>	<u>5,224.0</u>	<u>7,468.5</u>	<u>164.4</u>

Table 7. Area of commercial forest land by area-condition and ownership classes, Alabama, 1963

Area-condition class	All ownerships	National forest	Other public	Forest industry	Farmer and misc. private
----- Thousand acres -----					
1	1,564.0	48.2	23.9	431.9	1,060.0
2	2,690.6	90.1	32.4	578.7	1,989.4
3	3,573.5	104.5	51.3	879.3	2,538.4
4	807.9	15.3	7.3	111.8	673.5
5	13,106.2	371.6	256.8	2,072.0	10,405.8
All classes	21,742.2	629.7	371.7	4,073.7	16,667.1

Table 8. Area of commercial forest land by area-condition and stand-treatment classes, Alabama, 1963

Area-condition class	All areas	No treatment	Stand improvement	Regeneration
----- Thousand acres -----				
1	1,564.0	1,564.0	...	...
2	2,690.6	2,690.6	...	...
3	3,573.5	...	3,573.5	...
4	807.9	807.9	...	...
5	13,106.2	...	...	13,106.2
All classes	21,742.2	5,062.5	3,573.5	13,106.2

Table 9. Area of commercial forest land by site and ownership classes, Alabama, 1963

Site class	All ownerships	National forest	Other public	Forest industry	Farmer and misc. private
----- Thousand acres -----					
120 cu. ft. or more	2,867.1	54.0	28.0	805.8	1,979.3
85 to 120 cu. ft.	7,011.6	180.8	105.1	1,282.1	5,443.6
50 to 85 cu. ft.	9,859.6	317.8	193.7	1,599.5	7,748.6
Less than 50 cu. ft.	2,003.9	77.1	44.9	386.3	1,495.6
All classes	21,742.2	629.7	371.7	4,073.7	16,667.1

Table 10. Area of commercial forest land by forest types and ownership classes, Alabama, 1963

Type	All ownerships	Public	Private
----- Thousand acres -----			
Longleaf-slash pine	1,998.7	144.3	1,854.4
Loblolly-shortleaf pine	7,437.8	305.5	7,132.3
Oak-pine	4,834.9	220.4	4,614.5
Oak-hickory	5,105.5	283.9	4,821.6
Oak-gum-cypress	2,271.1	47.3	2,223.8
White-oak-cottonwood	94.2	...	94.2
All types	21,742.2	1,001.4	20,740.8

Table 11. Area of noncommercial forest land by forest types, Alabama, 1963

Type	All areas	Productive-reserved areas	Un-productive areas
----- Thousand acres -----			
Longleaf-slash pine	(¹)	(¹)	...
Loblolly-shortleaf pine	20.7	14.1	6.6
Oak-pine	6.2	6.2	...
Oak-hickory	.9	.9	...
All types	27.8	21.2	6.6

¹ Negligible

Table 12. Number of growing-stock trees on commercial forest land by diameter classes and by softwoods and hardwoods, Alabama, 1963

D.b.h. class (inches)	All species	Softwood	Hardwood
----- Thousand trees -----			
1.0 - 2.9	6,350,310	2,015,120	4,335,190
3.0 - 4.9	2,004,610	956,630	1,047,980
5.0 - 6.9	904,020	485,630	418,390
7.0 - 8.9	491,130	256,050	235,080
9.0 - 10.9	281,950	136,420	145,530
11.0 - 12.9	150,000	79,160	70,840
13.0 - 14.9	79,590	39,640	39,950
15.0 - 16.9	39,480	19,190	20,290
17.0 - 18.9	18,840	8,350	10,490
19.0 and larger	17,831	6,277	11,554
All classes	10,337,761	4,002,467	6,335,294

Table 13. Number of cull and salvable dead trees on commercial forest land by diameter groups and by softwoods and hardwoods, Alabama, 1963

D.b.h. class (inches)	Cull trees	Salvable dead trees
----- Thousand trees -----		
Softwood:		
5.0 - 8.9	16,000	2,889
9.0 - 18.9	9,500	1,042
19.0 and larger	139	24
Total	25,639	3,955
Hardwood:		
5.0 - 10.9	252,760	4,000
11.0 - 18.9	61,130	720
19.0 and larger	6,137	59
Total	320,027	4,779
All species	345,666	8,734

Table 14. Volume of timber on commercial forest land by class of timber and by softwoods and hardwoods, Alabama, 1963

Class of timber	All species	Softwood	Hardwood
--- Million cubic feet ---			
Sawtimber trees:			
Saw-log portion	7,883.9	4,816.9	3,067.0
Upper-stem portion	1,788.2	854.7	933.5
Total	9,672.1	5,671.6	4,000.5
Poletimber trees	4,775.8	2,001.5	2,774.3
All growing stock	14,447.9	7,673.1	6,774.8
Sound cull trees:			
Sawtimber-size	853.7	73.7	780.0
Poletimber-size	431.0	19.2	411.8
Total	1,284.7	92.9	1,191.8
Rotten cull trees:			
Sawtimber-size	422.8	13.1	409.7
Poletimber-size	79.9	3.6	76.3
Total	502.7	16.7	486.0
Salvable dead trees:			
Sawtimber-size	42.4	22.0	20.4
Poletimber-size	21.8	7.8	14.0
Total	64.2	29.8	34.4
All timber	16,299.5	7,812.5	8,487.0

¹ Estimates of additional volumes on unproductive forest land total 0.2 million cubic feet in trees 5.0 inches and larger d.b.h., including 0.1 million cubic feet of softwoods and 0.1 million cubic feet of hardwoods.

Table 15. Volume of growing stock and sawtimber on commercial forest land by ownership classes and by softwoods and hardwoods, Alabama, 1963

Ownership class	Growing stock			Sawtimber		
	All species	Soft-wood	Hard-wood	All species	Soft-wood	Hard-wood
--- Million cubic feet --- --- Million board feet ---						
Public:						
National forest	558.4	368.4	190.0	2,067.9	1,552.7	515.2
Other public	271.7	147.9	123.8	878.4	511.9	366.5
Total	830.1	516.3	313.8	2,946.3	2,064.6	881.7
Private:						
Forest industry	3,366.3	2,192.8	1,173.5	11,973.9	8,685.6	3,288.3
Farmer and misc. private	10,251.5	4,964.0	5,287.5	31,681.7	17,556.5	14,125.2
Total	13,617.8	7,156.8	6,461.0	43,655.6	26,242.1	17,413.5
All ownerships	14,447.9	7,673.1	6,774.8	46,601.9	28,306.7	18,295.2

Table 16. Volume of growing stock and sawtimber on commercial forest land by stand-size classes and by softwoods and hardwoods, Alabama, 1963

Stand-size class	Growing stock			Sawtimber		
	All species	Soft-wood	Hard-wood	All species	Soft-wood	Hard-wood
--- Million cubic feet --- --- Million board feet ---						
Sawtimber	10,111.4	5,502.9	4,608.5	38,068.0	23,352.3	14,715.7
Poletimber	2,876.3	1,260.1	1,616.2	4,673.3	2,245.9	2,427.4
Sapling and seedling	1,458.4	909.0	549.4	3,857.6	2,706.8	1,150.8
Nonstocked areas	1.8	1.1	.7	3.0	1.7	1.3
All classes	14,447.9	7,673.1	6,774.8	46,601.9	28,306.7	18,295.2

Table 17. Volume of growing stock on commercial forest land by species and diameter classes, Alabama, 1963

Species	Diameter class (inches at breast height)								
	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 and larger
----- Million cubic feet -----									
Softwood:									
Longleaf and slash pines	1,703.8	144.0	276.3	341.7	410.1	258.1	151.1	77.0	45.5
Shortleaf and loblolly pines	5,502.5	555.3	874.5	1,038.0	943.3	787.1	562.2	330.0	412.1
Other yellow pines	349.9	56.5	67.7	52.3	55.6	44.0	28.5	22.1	23.2
Cypress	87.0	1.1	5.9	3.9	9.7	7.0	10.3	7.5	41.6
Other softwoods	29.9	10.5	9.7	3.8	3.4	1.2	.5	.8	...
Total	7,673.1	767.4	1,234.1	1,439.7	1,422.1	1,097.4	752.6	437.4	522.4
Hardwood:									
Select white oaks ¹	575.4	38.1	67.4	92.2	103.1	96.5	62.9	39.2	76.0
Select red oaks ²	222.8	9.6	21.6	28.3	27.8	28.0	29.0	21.3	57.2
Other white oaks	512.8	51.5	86.1	101.5	85.5	65.8	40.6	32.3	49.5
Other red oaks	1,303.9	110.2	182.3	222.3	204.4	169.2	136.5	90.4	188.6
Hickory	803.4	71.1	127.3	166.3	138.7	108.0	73.6	48.6	69.8
Hard maple	11.0	1.0	1.6	1.6	.3	1.5	1.4	1.7	1.9
Soft maple	125.1	17.5	19.8	22.4	19.4	16.9	9.3	10.9	8.9
Beech	97.3	1.7	7.5	9.0	5.9	13.8	11.5	13.8	34.1
Sweetgum	938.3	112.2	151.1	169.4	163.7	125.3	78.1	44.9	93.6
Tupelo and blackgum	832.7	57.9	131.6	157.4	171.6	123.4	78.9	43.3	68.6
Ash	225.9	20.1	28.2	34.5	34.6	36.9	22.6	19.5	29.5
Cottonwood	12.4	.3	.1	3.2	3.1	1.5	2.9	...	1.3
Basswood	27.3	1.6	4.2	5.7	3.3	5.5	3.8	2.5	.7
Yellow-poplar	409.7	17.9	33.6	61.7	53.1	84.1	50.1	31.4	77.8
Black walnut	8.3	.2	2.3	1.7	.6	2.0	.7	.5	.3
Other hardwoods	668.5	80.3	112.7	128.5	106.6	74.4	55.2	50.4	60.4
Total	6,774.8	591.2	977.4	1,205.7	1,121.7	952.8	657.1	450.7	818.2
All species	14,447.9	1,358.6	2,211.5	2,645.4	2,543.8	2,050.2	1,409.7	888.1	1,340.6

¹ Includes white, swamp chestnut, swamp white, and chinkapin oaks.

² Includes cherrybark, Shumard, and northern red oaks.

Table 18. Volume of sawtimber on commercial forest land by species, and diameter classes, Alabama, 1963

Species	Diameter class (inches at breast height)						
	All classes	9.0-10.9	11.0-12.9	13.0-14.9	15.0-16.9	17.0-18.9	19.0 and larger
----- Million board feet -----							
Softwood:							
Longleaf and slash pines	6,530.3	1,481.9	2,049.6	1,399.5	856.2	457.3	285.8
Shortleaf and loblolly pines	20,202.1	4,157.7	4,511.8	4,131.7	3,079.4	1,874.8	2,446.7
Other yellow pines	1,114.7	221.9	268.3	221.4	145.1	119.9	138.1
Cypress	410.1	13.2	38.6	34.4	51.4	35.3	237.2
Other softwoods	49.5	17.6	17.4	6.0	3.1	5.4	...
Total	28,306.7	5,892.3	6,885.7	5,793.0	4,135.2	2,492.7	3,107.8
Hardwood:							
Select white oaks ¹	1,731.5	...	412.6	431.1	291.2	204.1	392.5
Select red oaks ²	768.7	...	111.7	119.8	133.2	95.7	308.3
Other white oaks	1,250.6	...	349.3	296.3	187.4	156.6	261.0
Other red oaks	3,625.2	...	803.7	733.9	639.3	436.8	1,011.5
Hickory	1,997.5	...	584.9	476.5	350.1	230.4	355.6
Hard maple	29.8	...	1.5	6.4	5.4	6.5	10.0
Soft maple	279.2	...	79.4	67.7	44.2	51.4	36.5
Beech	391.2	...	25.5	65.3	55.9	73.5	171.0
Sweetgum	2,407.4	...	666.9	574.4	394.6	246.3	525.2
Tupelo and blackgum	2,287.6	...	697.5	597.0	386.2	227.0	379.9
Ash	628.1	...	139.3	151.4	103.1	93.4	140.9
Cottonwood	37.9	...	11.8	6.2	14.3	...	5.6
Basswood	68.5	...	14.2	23.1	16.9	9.9	4.4
Yellow-poplar	1,218.4	...	191.4	330.7	212.0	133.4	350.9
Black walnut	22.6	...	3.3	11.3	4.1	2.2	1.7
Other hardwoods	1,551.0	...	432.1	324.0	259.5	247.9	287.5
Total	18,295.2	...	4,525.1	4,215.1	3,097.4	2,215.1	4,242.5
All species	46,601.9	5,892.3	11,410.8	10,008.1	7,232.6	4,707.8	7,350.3

¹ Includes white, swamp chestnut, swamp white, and chinkapin oaks.

² Includes cherrybark, Shumard, and northern red oaks.

Table 19. Volume of sawtimber on commercial forest land by species and log grade, Alabama, 1963

Species	All grades	Grade 1 logs	Grade 2 logs	Grade 3 logs	Lower grade logs
----- Million board feet -----					
Softwood:					
Yellow pines	27,847.1	383.0	3,108.0	12,829.7	11,526.4
Cypress	410.1	34.8	148.2	140.8	86.3
Other softwoods	49.5	49.5	...	...	...
Total	<u>28,306.7</u>	<u>467.3</u>	<u>3,256.2</u>	<u>12,970.5</u>	<u>11,612.7</u>
Hardwood:					
Select white and red oaks	2,500.2	217.5	469.9	1,217.9	594.9
Other white and red oaks	4,875.8	282.2	614.5	2,188.7	1,790.4
Hickory	1,997.5	102.1	304.8	1,031.7	558.9
Hard maple	29.8	...	2.2	7.5	20.1
Sweetgum	2,407.4	140.2	424.7	1,189.0	653.5
Ash, black walnut, and black cherry	663.2	54.4	156.4	356.3	96.1
Yellow-poplar	1,218.4	86.9	168.0	482.0	481.5
Other hardwoods	4,602.9	309.0	820.0	2,441.2	1,032.7
Total	<u>18,295.2</u>	<u>1,192.3</u>	<u>2,960.5</u>	<u>8,914.3</u>	<u>5,228.1</u>
All species	<u>46,601.9</u>	<u>1,659.6</u>	<u>6,216.7</u>	<u>21,884.8</u>	<u>16,840.8</u>

Table 20. Volume of salvable dead sawtimber-size trees on commercial forest land by softwoods and hardwoods, Alabama, 1963

Species group	Volume
----- Million board feet -----	
Softwood	110.0
Hardwood	93.0
All species	<u>203.0</u>

Table 21. Net annual growth and cut of growing stock on commercial forest land by species, Alabama, 1962

Species	Net annual growth	Annual timber cut
----- Million cubic feet -----		
Softwood:		
Yellow pines	619.6	308.3
Other softwoods	9.6	.7
Total	<u>629.2</u>	<u>309.0</u>
Hardwood:		
Select white and red oaks	26.7	14.6
Other white and red oaks	60.9	57.8
Hickory	26.9	25.7
Sweetgum	31.4	50.9
Yellow-poplar	13.7	15.5
Other hardwoods	67.3	50.3
Total	<u>226.9</u>	<u>214.8</u>
All species	856.1	523.8

Table 22. Net annual growth and cut of growing stock on commercial forest land by ownership classes and by softwoods and hardwoods, Alabama, 1962

Ownership class	Net annual growth			Annual timber cut		
	All species	Softwood	Hardwood	All species	Softwood	Hardwood
----- Million cubic feet -----						
Public	52.8	42.3	10.5	23.1	15.3	7.8
Forest industry	219.1	179.8	39.3	110.8	61.7	49.1
Farmer and misc. private	<u>584.2</u>	<u>407.1</u>	<u>177.1</u>	<u>389.9</u>	<u>232.0</u>	<u>157.9</u>
All ownerships	856.1	629.2	226.9	523.8	309.0	214.8

Table 23. *Net annual growth and cut of sawtimber on commercial forest land by species, Alabama, 1962*

Species	Net annual growth	Annual timber cut
	Million board feet	
Softwood:		
Yellow pines	2,559.2	990.4
Other softwoods	42.2	2.1
Total	<u>2,601.4</u>	<u>992.5</u>
Hardwood:		
Select white and red oaks	95.0	53.6
Other white and red oaks	185.3	154.2
Hickory	75.9	63.2
Sweetgum	91.5	195.0
Yellow-poplar	46.3	65.1
Other hardwoods	201.2	163.2
Total	<u>695.2</u>	<u>694.3</u>
All species	3,296.6	1,686.8

Table 24. *Net annual growth and cut of sawtimber on commercial forest land by ownership classes and by softwoods and hardwoods, Alabama, 1962*

Ownership class	Net annual growth			Annual timber cut		
	All species	Softwood	Hardwood	All species	Softwood	Hardwood
----- Million board feet -----						
Public	223.2	189.7	33.5	69.9	50.9	19.0
Forest industry	923.2	798.2	125.0	360.1	223.4	136.7
Farmer and misc. private	2,150.2	1,613.5	536.7	1,256.8	718.2	538.6
All ownerships	<u>3,296.6</u>	<u>2,601.4</u>	<u>695.2</u>	<u>1,686.8</u>	<u>992.5</u>	<u>694.3</u>

Table 25. *Annual mortality of growing stock and sawtimber on commercial forest land by species, Alabama, 1962*

Species	Growing stock	Sawtimber
	Million cubic feet	Million board feet
Softwood:		
Yellow pines	30.2	128.1
Other softwoods	.5	2.1
Total	<u>30.7</u>	<u>130.2</u>
Hardwood:		
Select white and red oaks	12.0	42.5
Other white and red oaks	27.4	82.9
Hickory	12.1	34.0
Sweetgum	14.1	40.9
Yellow-poplar	6.2	20.7
Other hardwoods	30.2	90.0
Total	<u>102.0</u>	<u>311.0</u>
All species	132.7	441.2

Table 26. *Annual mortality of growing stock and sawtimber on commercial forest land by ownership classes and by softwoods and hardwoods, Alabama, 1962*

Ownership class	Growing stock			Sawtimber		
	All species	Softwood	Hardwood	All species	Softwood	Hardwood
----- Million cubic feet -----						
----- Million board feet -----						
Public	6.8	2.1	4.7	24.5	9.5	15.0
Forest industry	26.5	8.8	17.7	95.9	40.0	55.9
Farmer and misc. private	99.4	19.8	79.6	320.8	80.7	240.1
All ownerships	<u>132.7</u>	<u>30.7</u>	<u>102.0</u>	<u>441.2</u>	<u>130.2</u>	<u>311.0</u>

Table 27. Annual mortality of growing stock and sawtimber on commercial forest land by causes and by softwoods and hardwoods, Alabama, 1962

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	14.0	2.1	11.9	38.1	7.0	31.1
Insects	7.1	6.4	.7	28.0	25.8	2.2
Disease	3.8	.9	2.9	11.1	3.0	8.1
Other	43.5	9.0	34.5	149.2	38.8	110.4
Unknown	64.3	12.3	52.0	214.8	55.6	159.2
All causes	132.7	30.7	102.0	441.2	130.2	311.0

Table 28. Total output of timber products by product, by type of material used, and by softwoods and hardwoods, Alabama, 1962

Product and species group	Total output in standard units		Output from roundwood		Output from plant by-products (standard units)
	Unit	Number	Standard units	M cubic feet	
Saw logs:					
Softwood	M bd. ft. ¹	749,790	749,790	122,948	...
Hardwood	M bd. ft. ¹	342,312	342,312	50,756	...
Total	M bd. ft. ¹	1,092,102	1,092,102	173,704	...
Veneer logs and bolts:					
Softwood	M bd. ft.	426	426	70	...
Hardwood	M bd. ft.	100,999	100,999	14,053	...
Total	M bd. ft.	101,425	101,425	14,123	...
Cooperage logs and bolts:					
Softwood	M bd. ft.	8,331	8,331	1,364	...
Hardwood	M bd. ft.	3,195	3,195	456	...
Total	M bd. ft.	11,526	11,526	1,820	...
Pulpwood:					
Softwood	Std. cords ²	2,630,777	2,174,388	163,940	456,389
Hardwood	Std. cords ²	817,418	668,059	51,590	149,359
Total	Std. cords ²	3,448,195	2,842,447	215,530	605,748
Piling:					
Softwood	M linear ft.	1,201	1,201	1,152	...
Hardwood	M linear ft.	...	...	...	...
Total	M linear ft.	1,201	1,201	1,152	...
Poles:					
Softwood	M pieces	820	820	11,883	...
Hardwood	M pieces	...	...	...	...
Total	M pieces	820	820	11,883	...
Mine timbers (round):					
Softwood	M cu. ft.	30	30	30	...
Hardwood	M cu. ft.	174	174	174	...
Total	M cu. ft.	204	204	204	...
Misc. industrial wood: ³					
Softwood	M cu. ft.	2,255	162	162	2,093
Hardwood	M cu. ft.	4,075	2,612	2,612	1,463
Total	M cu. ft.	6,330	2,774	2,774	3,556
Posts (round and split):					
Softwood	M pieces	2,790	2,790	1,730	...
Hardwood	M pieces	4,855	4,855	3,272	...
Total	M pieces	7,645	7,645	5,002	...
Fuelwood:					
Softwood	Std. cords	341,817	91,819	6,929	⁴ 249,998
Hardwood	Std. cords	726,213	587,481	44,068	⁴ 138,732
Total	Std. cords	1,068,030	679,300	50,997	⁴ 388,730
All products:					
Softwood	M cu. ft.	...	...	310,208	...
Hardwood	M cu. ft.	...	...	166,981	...
Total	M cu. ft.	...	...	477,189	...

¹ International 1/4-inch rule.

² Rough wood basis (for example, chips converted to equivalent standard cords).

³ Includes chemical wood, excelsior, handle stock, furniture and other dimension, shuttleblocks, and miscellaneous domestic use. Additionally, byproducts include material used for livestock bedding, mulch, etc.

⁴ Includes plant byproducts used for industrial and domestic fuel.

Table 29. Total output of roundwood products by source and by softwoods and hardwoods, Alabama, 1962

Source	All species	Softwood	Hardwood
--- Thousand cubic feet ---			
Growing stock trees: ¹			
Sawtimber	284,144	191,917	92,227
Poletimber	154,182	101,404	52,778
Total	438,326	293,321	145,005
Cull trees ¹	4,404	368	4,036
Salvable dead trees ¹	4,636	1,161	3,475
Other sources ²	29,823	15,358	14,465
All sources	477,189	310,208	166,981

¹On commercial forest land.

²Includes noncommercial forest land, nonforest land such as fence rows, trees less than 5.0 inches in diameter, and treetops and limbs.

Table 30. Annual timber cut from growing stock on commercial forest land by product and logging residues, and by softwoods and hardwoods, Alabama, 1962

Product and residues	All species	Softwood	Hardwood
--- Thousand cubic feet ---			
Roundwood products:			
Saw logs	172,666	122,642	50,024
Veneer logs and bolts	14,112	70	14,042
Cooperage logs and bolts	1,804	1,350	454
Pulpwood	195,431	150,031	45,400
Piling	1,152	1,152	...
Poles	11,883	11,883	...
Mine timbers	204	30	174
Miscellaneous industrial wood ¹	2,537	137	2,400
Posts	4,640	1,520	3,120
Fuelwood	33,897	4,506	29,391
All products	438,326	293,321	145,005
Logging residues	52,258	15,635	36,623
Other operations	33,200	...	33,200
Total cut	523,784	308,956	214,828

Includes 248 M cu. ft. of miscellaneous farm products.

Table 31. Annual timber cut from live sawtimber on commercial forest land by product and logging residues, and by softwoods and hardwoods, Alabama, 1962

Product and residues	All species	Softwood	Hardwood
--- Thousand board feet ---			
Roundwood products:			
Saw logs	1,019,013	695,730	323,283
Veneer logs and bolts	101,340	402	100,938
Cooperage logs and bolts	10,329	7,287	3,042
Pulpwood	309,920	195,700	114,220
Piling	6,288	6,288	...
Poles	64,754	64,754	...
Mine timbers	3	3	...
Miscellaneous industrial wood ¹	9,438	196	9,242
Posts	4,404	1,531	2,823
Fuelwood	29,519	3,674	25,845
All products	1,555,008	975,615	579,939
Logging residues	50,518	16,959	33,559
Cultural operations	81,300	...	81,300
Timber cut	1,686,826	992,574	694,252

¹Includes 47 M bd. ft. of miscellaneous farm products.

Table 32. Volume of plant residues by industrial source and type of residue, and by softwoods and hardwoods, Alabama, 1962

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	21,488	7,991	13,497	12,617	3,686	8,931	8,871	4,305	4,566
Veneer and plywood industry	234	165	69	...	...	...	234	165	69
Other primary industries	1,560	184	1,376	1,014	116	898	546	68	478
All industries	23,282	8,340	14,942	13,631	3,802	9,829	9,651	4,538	5,113

¹Unused material suitable for chipping, such as slabs, edgings, and veneer cores.

²Unused material not suitable for chipping, such as sawdust and shavings.

Table 33. *Timber growth projections, Alabama, 1962 to 1992*¹

Period	Assumed cut			Projected growth		
	All species	Soft-wood	Hard-wood	All species	Soft-wood	Hard-wood
GROWING STOCK						
----- Thousand cubic feet -----						
1962 (year of inventory)	524,000	309,000	215,000	856,000	629,000	227,000
1972 (plus 10 years)	530,000	370,000	160,000	1,030,000	790,000	240,000
1982 (plus 20 years)	660,000	490,000	170,000	1,200,000	940,000	260,000
1992 (plus 30 years)	820,000	640,000	180,000	1,360,000	1,060,000	300,000
SAWTIMBER						
----- Thousand board feet -----						
1962 (year of inventory)	1,687,000	993,000	694,000	3,297,000	2,602,000	695,000
1972 (plus 10 years)	1,600,000	1,110,000	490,000	4,000,000	3,280,000	720,000
1982 (plus 20 years)	2,190,000	1,680,000	510,000	4,670,000	3,870,000	800,000
1992 (plus 30 years)	3,080,000	2,520,000	560,000	5,300,000	4,380,000	920,000

¹ Based on assumptions that timber output in the United States and Alabama will increase with anticipated gains in population and gross national product; that industrial wood products will largely maintain their relative position in the national economy; and that forestry progress will continue at the rate indicated by recent trends.

Table 34. *Basal area per acre of growing stock and cull trees by forest type and Survey region, Alabama, 1963*

Forest type	State of Alabama	North	North-central	West-central	South-east	South-west-north	South-west-south
Longleaf-slash pine:							
2- and 4-inch good trees ¹	8.3	...	9.7	6.7	6.7	6.6	8.9
Growing stock	36.8	...	41.3	43.3	22.0	30.4	41.0
2- and 4-inch poor trees	2.1	...	3.2	5.4	2.5	.7	1.8
Cull trees	3.0	...	2.5	5.4	3.5	5.2	2.5
All trees	50.2	...	56.7	60.8	34.7	42.9	54.2
Loblolly-shortleaf pine:							
2- and 4-inch good trees ¹	14.8	13.3	16.5	17.8	12.0	16.1	13.5
Growing stock	38.9	37.0	36.5	41.0	33.4	51.4	43.6
2- and 4-inch poor trees	2.6	2.1	2.7	2.2	2.6	2.7	4.7
Cull trees	4.2	5.2	4.7	4.0	3.9	3.9	4.4
All trees	60.5	57.6	60.4	65.0	51.9	74.1	66.2
Oak-pine:							
2- and 4-inch good trees ¹	13.0	15.8	12.5	16.6	11.5	13.9	9.9
Growing stock	32.8	31.8	27.2	34.1	30.4	49.9	32.7
2- and 4-inch poor trees	3.9	2.5	4.1	3.6	4.7	3.4	3.5
Cull trees	7.3	7.1	6.2	6.5	9.2	6.2	7.5
All trees	57.0	57.2	50.0	60.8	55.8	73.4	53.6
Oak-hickory:							
2- and 4-inch good trees ¹	11.1	11.8	10.3	13.4	10.7	12.3	4.9
Growing stock	31.8	35.6	28.5	29.8	28.6	44.6	19.0
2- and 4-inch poor trees	4.4	4.1	4.2	4.1	5.6	2.9	4.7
Cull trees	10.0	9.3	10.6	8.7	12.2	9.1	8.0
All trees	57.3	60.8	53.6	56.0	57.1	68.9	36.6
Elm-ash-cottonwood:							
2- and 4-inch good trees ¹	14.7	11.2	9.4	16.9	23.4	6.3	...
Growing stock	28.4	56.2	7.5	58.1	26.3	16.3	...
2- and 4-inch poor trees	4.1	3.8	3.8	5.6	5.6	1.2	...
Cull trees	14.7	...	11.2	35.6	15.9	6.2	...
All trees	61.9	71.2	31.9	116.2	71.2	30.0	...
Oak-gum-cypress:							
2- and 4-inch good trees ¹	11.1	16.4	14.3	11.3	9.3	10.2	12.5
Growing stock	52.7	50.4	47.1	44.9	48.2	57.7	73.6
2- and 4-inch poor trees	5.0	3.0	2.7	4.4	6.8	3.8	4.5
Cull trees	15.7	7.5	9.9	14.0	21.0	13.1	13.4
All trees	84.5	77.3	74.0	74.6	85.3	84.8	104.0
All types:							
2- and 4-inch good trees ¹	12.6	13.1	13.3	15.5	11.0	13.5	9.5
Growing stock	37.1	36.4	31.7	37.9	33.6	49.8	41.3
2- and 4-inch poor trees	3.5	3.5	3.6	3.3	4.2	3.0	3.1
Cull trees	7.5	8.1	6.9	7.0	9.0	6.8	5.6
All trees	60.7	61.1	55.5	63.7	57.8	73.1	59.5

¹ Includes only sound, well-formed trees.

COUNTY TABLES

The tables that follow are intended for use in compiling forest resource estimates for groups of counties. Since the sampling procedure used by the Forest Survey in Alabama was intended primarily to furnish inventory data for the State as a whole, individual county estimates have limited and variable accuracy. As county totals are broken down by various subdivisions, the possibility of error increases and is greatest for the smallest items. The order of this increase is suggested in the tabulations on page 15.

Table 35. Land area and commercial forest by county, Alabama, 1963

County	All land			County	Commercial forest		
	Thousand acres	Thousand acres	Percent		Thousand acres	Thousand acres	Percent
Chautauga	383.4	252.0	65.7	Houston	369.9	140.4	38.0
Chalderwin	1,032.3	760.0	73.6	Jackson	719.4	442.0	61.4
Chalderbour	575.4	382.5	66.5	Jefferson	715.6	499.8	69.8
Chalderibb	400.0	344.0	86.0	Lamar	387.2	299.2	77.3
Chalderount	409.6	246.0	60.1	Lauderdale	440.3	174.9	39.7
Chalderullock	393.6	231.0	58.7	Lawrence	439.0	217.8	49.6
Chalderutler	494.7	369.6	74.7	Lee	391.7	270.1	69.0
Chalhoum	390.4	254.1	65.1	Limestone	348.8	98.0	28.1
Chalhambers	382.7	258.4	67.5	Lowndes	458.2	246.4	53.8
Chalherokee	384.0	244.2	63.6	Macon	394.2	237.6	60.3
Chalhillton	447.4	320.0	71.5	Madison	514.0	177.0	34.4
Chalhoctaw	587.5	506.0	86.1	Marengo	625.3	399.6	63.9
Chalharke	794.2	695.2	87.5	Marion	475.5	353.4	74.3
Chalhay	385.9	315.4	81.7	Marshall	365.4	176.0	48.2
Chalheburne	367.4	313.2	85.2	Mobile	794.9	580.0	73.0
Chalheffer	433.3	235.6	54.4	Monroe	662.4	510.3	77.0
Chalheolbert	394.2	222.0	56.3	Montgomery	505.6	206.5	40.8
Chalheonecuh	544.0	404.0	74.3	Morgan	367.4	149.6	40.7
Chalheoosa	414.7	361.0	87.1	Perry	469.8	304.0	64.7
Chalheovington	661.8	442.0	66.8	Pickens	567.7	422.4	74.4
Chalherenshaw	391.0	255.5	65.3	Pike	430.7	240.0	55.7
Chalheullman	475.5	270.0	56.8	Randolph	371.8	265.6	71.4
Chalheale	358.4	206.5	57.6	Russell	409.0	246.4	60.2
Chalheallas	624.7	336.6	53.9	St. Clair	410.2	307.5	75.0
ChalheKalb	497.9	252.0	50.6	Shelby	512.0	404.2	78.9
Chalhemore	401.9	253.5	63.1	Sumter	583.1	358.9	61.6
Chalhescambia	615.7	484.0	78.6	Talladega	480.0	297.0	61.9
Chalhetowah	355.2	201.5	56.7	Tallapoosa	455.0	378.4	83.2
Chalheayette	401.3	315.0	78.5	Tuscaloosa	857.6	690.0	80.5
ChalheFranklin	412.2	281.2	68.2	Walker	517.8	394.8	76.2
ChalheGeneva	369.9	177.0	47.9	Washington	684.1	601.4	87.9
ChalheGreene	407.6	262.8	64.5	Wilcox	576.0	414.0	71.9
Chalheale	424.3	251.6	59.3	Winston	405.1	326.8	80.7
ChalheHenry	361.6	208.8	57.7	All counties	32,678.4	21,742.2	66.5

Table 36. Growing stock volume by species groups and county, Alabama, 1963

County	All species	Softwood			Soft hardwood			Hard hardwood		
		Total	Pine	Other	Total	Gum	Other	Total	Oak	Other
----- Million cubic feet -----										
Autauga	167.8	102.0	102.0	...	35.4	21.7	13.7	30.4	23.1	7.3
Baldwin	637.6	360.4	349.6	10.8	181.0	129.6	51.4	96.2	29.9	66.3
Barbour	229.8	151.5	151.5	...	35.3	25.2	10.1	43.0	28.9	14.1
Bibb	275.9	185.8	184.6	1.2	35.8	28.1	7.7	54.3	39.0	15.3
Blount	117.1	49.4	49.4	...	12.2	10.1	2.1	55.5	36.8	18.7
Bullock	127.7	85.2	83.9	1.3	24.2	17.0	7.2	18.3	9.3	9.0
Butler	283.7	185.7	181.8	3.9	38.1	23.6	14.5	59.9	33.2	26.7
Calhoun	94.6	56.2	56.2	...	6.8	4.8	2.0	31.6	21.7	9.9
Chambers	115.0	57.1	57.1	...	34.2	22.4	11.8	23.7	14.7	9.0
Cherokee	84.7	47.4	47.4	...	9.9	8.6	1.3	27.4	18.7	8.7
Chilton	150.6	54.3	54.3	...	35.4	19.0	16.4	60.9	38.9	22.0
Choctaw	446.6	308.6	291.6	17.0	46.7	35.8	10.9	91.3	62.5	28.8
Clarke	832.2	464.9	452.9	12.0	161.5	111.6	49.9	205.8	124.0	81.8
Clay	156.3	74.3	74.3	...	19.2	6.7	12.5	62.8	46.2	16.6
Cleburne	163.3	96.4	96.4	...	11.8	5.2	6.6	55.1	38.4	16.7
Coffee	88.4	36.8	36.6	0.2	29.5	13.3	16.2	22.1	18.5	3.6
Colbert	91.5	9.5	8.8	0.7	10.0	7.6	2.4	72.0	40.6	31.4
Conecuh	319.2	173.5	172.4	1.1	80.4	48.9	31.5	65.3	51.4	13.9
Coosa	176.0	101.4	101.4	...	22.4	11.1	11.3	52.2	34.9	17.3
Covington	303.6	216.1	216.1	...	63.0	31.2	31.8	24.5	21.6	2.9
Crenshaw	256.9	132.1	127.8	4.3	66.4	40.4	26.0	58.4	44.0	14.4
Cullman	152.4	90.7	90.7	...	11.5	5.7	5.8	50.2	35.9	14.3
Dale	141.6	63.5	63.0	0.5	46.3	28.4	17.9	31.8	25.4	6.4
Dallas	201.5	111.1	110.6	0.5	53.2	45.0	8.2	37.2	23.2	14.0
De Kalb	84.9	30.7	30.7	...	11.4	7.2	4.2	42.8	35.0	7.8
Elmore	116.8	38.9	36.2	2.7	39.7	30.8	8.9	38.2	20.6	17.6
Escambia	433.1	313.6	313.3	0.3	85.0	33.3	51.7	34.5	27.0	7.5
Etowah	89.8	22.7	22.7	...	14.7	8.8	5.9	52.4	36.0	16.4
Fayette	120.2	66.9	66.9	...	26.6	20.5	6.1	26.7	21.7	5.0
Franklin	116.6	36.1	35.9	0.2	6.6	5.2	1.4	73.9	39.6	34.3
Geneva	111.7	41.0	41.0	...	55.1	38.0	17.1	15.6	13.4	2.2
Greene	211.7	85.4	75.9	9.5	52.1	45.1	7.0	74.2	28.7	45.5
Hale	203.9	116.4	116.4	...	34.4	20.7	13.7	53.1	44.2	8.9
Henry	108.0	60.4	60.4	...	19.0	12.9	6.1	28.6	21.7	6.9
Houston	75.3	29.6	26.6	3.0	26.9	17.8	9.1	18.8	14.0	4.8
Jackson	319.4	21.8	14.6	7.2	42.2	19.1	23.1	255.4	155.2	100.2
Jefferson	306.6	234.7	234.7	...	11.6	7.0	4.6	60.3	46.6	13.7
Lamar	129.4	43.1	42.4	0.7	38.4	32.5	5.9	47.9	35.2	12.7
Lauderdale	78.4	6.7	6.7	...	10.7	5.8	4.9	61.0	35.5	25.5
Lawrence	137.3	38.1	32.8	5.3	10.4	7.6	2.8	88.8	69.1	19.7
Lee	159.2	102.2	102.2	...	43.2	23.5	19.7	13.8	7.6	6.2
Limestone	75.4	10.5	10.4	0.1	18.0	9.0	9.0	46.9	31.1	15.8
Lowndes	224.3	116.8	116.8	...	34.3	24.3	10.0	73.2	31.6	41.6
Macon	133.0	65.4	65.4	...	41.7	22.8	18.9	25.9	8.6	17.3
Madison	104.3	13.7	10.4	3.3	21.6	5.2	16.4	69.0	36.2	32.8
Marengo	316.0	175.3	172.5	2.8	36.2	22.0	14.2	104.5	51.1	53.4
Marion	81.2	33.0	33.0	...	4.8	4.5	0.3	43.4	30.9	12.5
Marshall	120.6	62.6	60.7	1.9	8.8	6.8	2.0	49.2	29.1	20.1
Mobile	279.4	181.1	179.2	1.9	69.0	49.0	20.0	29.3	22.5	6.8
Monroe	474.0	182.2	179.8	2.4	128.1	85.8	42.3	163.7	111.7	52.0
Montgomery	93.3	34.0	32.5	1.5	37.5	28.5	9.0	21.8	9.2	12.6
Morgan	97.3	22.6	21.1	1.5	21.9	16.0	5.9	52.8	27.5	25.3
Perry	261.2	174.6	172.4	2.2	49.2	37.4	11.8	37.4	19.6	17.8
Pickens	272.1	141.7	140.8	0.9	55.1	47.2	7.9	75.3	56.4	18.9
Pike	144.4	51.0	50.5	0.5	53.4	36.5	16.9	40.0	23.1	16.9
Randolph	130.1	67.5	67.5	...	12.5	5.0	7.5	50.1	39.5	10.6
Russell	150.7	113.6	113.6	...	29.6	20.8	8.8	7.5	3.8	3.7
St. Clair	213.6	126.9	126.7	0.2	17.8	11.9	5.9	68.9	46.9	22.0
Shelby	186.1	108.7	108.7	...	13.9	9.1	4.8	63.5	45.3	18.2
Sumter	390.6	259.2	258.8	0.4	43.8	31.6	12.2	87.6	54.4	33.2
Talladega	180.2	98.2	98.2	...	21.3	12.0	9.3	60.7	37.9	22.8
Tallapoosa	198.3	111.5	111.5	...	19.5	12.8	6.7	67.3	42.3	25.0
Tuscaloosa	503.5	240.4	239.4	1.0	118.4	85.6	32.8	144.7	109.2	35.5
Walker	213.4	117.1	117.1	...	25.2	9.7	15.5	71.1	37.2	33.9
Washington	558.7	338.7	325.8	12.9	137.6	85.8	51.8	82.4	60.3	22.1
Wilcox	443.0	214.6	213.6	1.0	80.0	50.7	29.3	148.4	89.0	59.4
Winston	186.9	110.0	110.0	...	11.2	4.2	7.0	65.7	48.6	17.1
All counties	14,447.9	7,673.1	7,556.2	116.9	2,708.6	1,771.0	937.6	4,066.2	2,614.9	1,451.3

¹ Cubic feet per cord converting factors are: softwood, 75; hardwood, 67.

Table 37. Growing stock volume by diameter classes and county, Alabama, 1963

County	All species	Softwood			Soft hardwood			Hard hardwood		
		Total	5.0-12.9 inches	13.0 inches and up	Total	5.0-12.9 inches	13.0 inches and up	Total	5.0-12.9 inches	13.0 inches and up
----- Million cubic feet -----										
Autauga	167.8	102.0	60.7	41.3	35.4	21.1	14.3	30.4	17.9	12.5
Baldwin	637.6	360.4	265.3	95.1	181.0	88.4	92.6	96.2	33.6	62.6
Barbour	229.8	151.5	100.9	50.6	35.3	26.3	9.0	43.0	21.5	21.5
Bibb	275.9	185.8	114.2	71.6	35.8	22.0	13.8	54.3	40.4	13.9
Blount	117.1	49.4	44.4	5.0	12.2	6.9	5.3	55.5	32.6	22.9
Bullock	127.7	85.2	53.8	31.4	24.2	15.4	8.8	18.3	8.7	9.6
Butler	283.7	185.7	89.9	95.8	38.1	22.0	16.1	59.9	30.8	29.1
Calhoun	94.6	56.2	39.7	16.5	6.8	4.8	2.0	31.6	18.6	13.0
Chambers	115.0	57.1	44.4	12.7	34.2	18.3	15.9	23.7	15.2	8.5
Cherokee	84.7	47.4	32.6	14.8	9.9	4.5	5.4	27.4	16.9	10.5
Chilton	150.6	54.3	41.1	13.2	35.4	28.5	6.9	60.9	45.5	15.4
Choctaw	446.6	308.6	196.0	112.6	46.7	34.6	12.1	91.3	51.1	40.2
Clarke	832.2	464.9	248.5	216.4	161.5	80.7	80.8	205.8	90.0	115.8
Clay	156.3	74.3	49.1	25.2	19.2	12.1	7.1	62.8	40.0	22.8
Cleburne	163.3	96.4	62.5	33.9	11.8	9.6	2.2	55.1	37.1	18.0
Coffee	88.4	36.8	27.5	9.3	29.5	22.3	7.2	22.1	12.2	9.9
Colbert	91.5	9.5	8.4	1.1	10.0	6.4	3.6	72.0	45.4	26.6
Conecuh	319.2	173.5	104.1	69.4	80.4	52.9	27.5	65.3	40.6	24.7
Coosa	176.0	101.4	74.8	26.6	22.4	14.2	8.2	52.2	29.7	22.5
Covington	303.6	216.1	150.8	65.3	63.0	50.8	12.2	24.5	18.6	5.9
Crenshaw	256.9	132.1	82.9	49.2	66.4	46.5	19.9	58.4	29.6	28.8
Cullman	152.4	90.7	67.3	23.4	11.5	5.1	6.4	50.2	40.7	9.5
Dale	141.6	63.5	40.2	23.3	46.3	29.0	17.3	31.8	17.2	14.6
Dallas	201.5	111.1	64.1	47.0	53.2	42.3	10.9	37.2	23.8	13.4
De Kalb	84.9	30.7	24.8	5.9	11.4	6.1	5.3	42.8	29.0	13.8
Elmore	116.8	38.9	29.7	9.2	39.7	24.2	15.5	38.2	25.5	12.7
Escambia	433.1	313.6	189.9	123.7	85.0	45.6	39.4	34.5	14.4	20.1
Etowah	89.8	22.7	17.6	5.1	14.7	7.4	7.3	52.4	28.9	23.5
Fayette	120.2	66.9	53.4	13.5	26.6	19.8	6.8	26.7	20.9	5.8
Franklin	116.6	36.1	34.3	1.8	6.6	5.9	.7	73.9	53.9	20.0
Geneva	111.7	41.0	27.4	13.6	55.1	31.6	23.5	15.6	8.9	6.7
Greene	211.7	85.4	47.0	38.4	52.1	20.1	32.0	74.2	34.6	39.6
Hale	203.9	116.4	65.8	50.6	34.4	23.9	10.5	53.1	18.9	34.2
Henry	108.0	60.4	41.6	18.8	19.0	13.7	5.3	28.6	16.9	11.7
Houston	75.3	29.6	14.2	15.4	26.9	17.5	9.4	18.8	11.1	7.7
Jackson	319.4	21.8	18.3	3.5	42.2	20.2	22.0	255.4	145.6	109.8
Jefferson	306.6	234.7	138.7	96.0	11.6	8.7	2.9	60.3	42.8	17.5
Lamar	129.4	43.1	34.1	9.0	38.4	28.4	10.0	47.9	35.8	12.1
Lauderdale	78.4	6.7	6.7	...	10.7	7.0	3.7	61.0	38.0	23.0
Lawrence	137.3	38.1	18.1	20.0	10.4	5.4	5.0	88.8	36.1	52.7
Lee	159.2	102.2	67.3	34.9	43.2	23.3	19.9	13.8	7.1	6.7
Limestone	75.4	10.5	4.6	5.9	18.0	11.2	6.8	46.9	17.5	29.4
Lowndes	224.3	116.8	55.0	61.8	34.3	20.0	14.3	73.2	37.6	35.6
Macon	133.0	65.4	37.8	27.6	41.7	25.9	15.8	25.9	11.3	14.6
Madison	104.3	13.7	11.0	2.7	21.6	9.8	11.8	69.0	44.0	25.0
Marengo	316.0	175.3	119.5	55.8	36.2	16.8	19.4	104.5	44.8	59.7
Marion	81.2	33.0	30.8	2.2	4.8	3.2	1.6	43.4	31.1	12.3
Marshall	120.6	62.6	29.4	33.2	8.8	5.3	3.5	49.2	29.9	19.3
Mobile	279.4	181.1	128.2	52.9	69.0	35.6	33.4	29.3	13.1	16.2
Monroe	474.0	182.2	88.7	93.5	128.1	78.0	50.1	163.7	59.1	104.6
Montgomery	93.3	34.0	18.9	15.1	37.5	26.1	11.4	21.8	12.2	9.6
Morgan	97.3	22.6	17.9	4.7	21.9	11.6	10.3	52.8	24.6	28.2
Perry	261.2	174.6	94.7	79.9	49.2	22.6	26.6	37.4	20.6	16.8
Pickens	272.1	141.7	109.5	32.2	55.1	35.6	19.5	75.3	33.1	42.2
Pike	144.4	51.0	31.2	19.8	53.4	34.6	18.8	40.0	25.4	14.6
Randolph	130.1	67.5	51.8	15.7	12.5	7.2	5.3	50.1	24.5	25.6
Russell	150.7	113.6	80.0	33.6	29.6	17.8	11.8	7.5	3.0	4.5
St. Clair	213.6	126.9	95.5	31.4	17.8	10.1	7.7	68.9	43.2	25.7
Shelby	186.1	108.7	81.4	27.3	13.9	7.4	6.5	63.5	46.5	17.0
Sumter	390.6	259.2	110.0	149.2	43.8	29.4	14.4	87.6	46.1	41.5
Talladega	180.2	98.2	70.4	27.8	21.3	14.2	7.1	60.7	33.7	27.0
Tallapoosa	198.3	111.5	75.6	35.9	19.5	13.3	6.2	67.3	42.8	24.5
Tuscaloosa	503.5	240.4	157.7	82.7	118.4	80.2	38.2	144.7	98.2	46.5
Walker	213.4	117.1	91.3	25.8	25.2	18.1	7.1	71.1	49.2	21.9
Washington	558.7	338.7	176.1	162.6	137.6	72.7	64.9	82.4	31.4	51.0
Wilcox	443.0	214.6	125.8	88.8	80.0	36.5	43.5	148.4	82.7	65.7
Winston	186.9	110.0	78.4	31.6	11.2	4.4	6.8	65.7	43.2	22.5
All counties	14,447.9	7,673.1	4,863.3	2,809.8	2,708.6	1,621.1	1,087.5	4,066.2	2,274.9	1,791.3

Table 38. Sawtimber volume by species groups and county, Alabama, 1963

County	All species	Softwood			Soft hardwood			Hard hardwood		
		Total	Pine	Other	Total	Gum	Other	Total	Oak	Other
----- Million board feet -----										
Autauga	572.4	401.4	401.4	...	89.4	47.7	41.7	81.6	64.1	17.5
Baldwin	2,305.5	1,389.6	1,335.0	54.6	588.7	443.0	145.7	327.2	93.4	233.8
Barbour	784.0	599.6	599.6	...	69.4	40.0	29.4	115.0	84.4	30.6
Bibb	819.2	630.3	630.3	...	91.6	76.9	14.7	97.3	74.9	22.4
Blount	312.9	112.3	112.3	...	34.9	26.7	8.2	165.7	116.9	48.8
Bullock	430.1	327.5	327.5	...	48.7	36.2	12.5	53.9	30.9	23.0
Butler	1,052.0	773.2	760.9	12.3	106.5	60.5	46.0	172.3	89.3	83.0
Calhoun	295.3	193.5	193.5	...	15.2	12.7	2.5	86.6	68.2	18.4
Chambers	283.4	147.9	147.9	...	81.2	53.0	28.2	54.3	39.5	14.8
Cherokee	234.6	160.0	160.0	...	19.7	17.3	2.4	54.9	46.2	8.7
Chilton	341.3	188.2	188.2	...	48.5	19.8	28.7	104.6	72.4	32.2
Choctaw	1,608.2	1,193.8	1,091.7	102.1	125.8	88.0	37.8	288.6	194.3	94.3
Clarke	3,038.9	1,865.6	1,823.1	42.5	518.9	375.0	143.9	654.4	400.6	253.8
Clay	369.7	220.5	220.5	...	28.9	11.9	17.0	120.3	104.8	15.5
Cleburne	481.6	322.4	322.4	...	26.6	11.0	15.6	132.6	91.0	41.6
Coffee	216.5	121.8	121.8	...	44.8	20.4	24.4	49.9	40.1	9.8
Colbert	217.9	19.4	16.2	3.2	21.5	20.4	1.1	177.0	91.3	85.7
Conecuh	951.1	580.2	575.3	4.9	191.5	122.5	69.0	179.4	139.2	40.2
Coosa	523.2	329.4	329.4	...	53.4	22.6	30.8	140.4	98.4	42.0
Covington	1,008.1	859.3	859.3	...	100.0	40.6	59.4	48.8	40.6	8.2
Crenshaw	824.9	512.6	493.1	19.5	144.2	79.7	64.5	168.1	135.6	32.5
Cullman	412.4	278.6	278.6	...	32.8	15.0	17.8	101.0	73.3	27.7
Dale	401.7	211.6	211.6	...	104.7	59.0	45.7	85.4	64.6	20.8
Dallas	589.2	387.6	384.5	3.1	125.7	99.4	26.3	75.9	61.0	14.9
De Kalb	194.1	68.9	68.9	...	34.3	27.5	6.8	90.9	81.3	9.6
Elmore	327.5	121.4	111.3	10.1	105.9	87.0	18.9	100.2	74.7	25.5
Escambia	1,655.0	1,269.2	1,269.2	...	265.9	113.4	152.5	119.9	89.6	30.3
Etowah	252.5	73.3	73.3	...	36.7	21.3	15.4	142.5	117.7	24.8
Fayette	279.7	171.6	171.6	...	51.7	32.0	19.7	56.4	44.8	11.6
Franklin	226.5	43.9	43.9	...	5.8	4.4	1.4	176.8	100.7	76.1
Geneva	361.1	162.4	162.4	...	158.2	129.6	28.6	40.5	36.2	4.3
Greene	751.8	348.0	289.6	58.4	194.2	176.9	17.3	209.6	91.4	118.2
Hale	694.8	459.2	459.2	...	60.9	39.9	21.0	174.7	152.0	22.7
Henry	324.9	216.5	216.5	...	45.0	29.2	15.8	63.4	47.5	15.9
Houston	234.1	127.1	114.7	12.4	57.5	37.4	20.1	49.5	40.2	9.3
Jackson	928.4	53.4	43.6	9.8	133.9	52.1	81.8	741.1	478.7	262.4
Jefferson	1,119.4	946.6	946.6	...	23.9	8.4	15.5	148.9	121.5	27.4
Lamar	303.8	120.4	117.9	2.5	75.4	62.2	13.2	108.0	70.8	37.2
Lauderdale	201.1	8.9	8.9	...	27.6	8.6	19.0	164.6	91.2	73.4
Lawrence	453.0	163.8	147.5	16.3	25.9	23.6	2.3	263.3	213.1	50.2
Lee	462.2	325.9	325.9	...	95.1	47.2	47.9	41.2	19.8	21.4
Limestone	250.6	44.4	44.4	...	42.3	21.2	21.1	163.9	112.5	51.4
Lowndes	877.7	559.1	559.1	...	93.0	66.3	26.7	225.6	115.7	109.9
Macon	411.3	253.8	253.8	...	81.7	46.5	35.2	75.8	27.8	48.0
Madison	262.9	35.4	32.6	2.8	63.4	14.3	49.1	164.1	98.9	65.2
Marengo	1,122.7	613.6	603.4	10.2	117.3	63.8	53.5	391.8	192.1	199.7
Marion	170.9	51.1	51.1	...	14.7	14.7	...	105.1	77.4	27.7
Marshall	411.2	245.7	244.4	1.3	25.3	18.0	7.3	140.2	92.1	48.1
Mobile	967.3	650.1	643.8	6.3	213.7	182.1	31.6	103.5	83.4	20.1
Monroe	1,650.7	729.8	720.9	8.9	335.7	209.4	126.3	585.2	415.2	170.0
Montgomery	267.1	122.2	117.4	4.8	80.7	65.4	15.3	64.2	27.5	36.7
Morgan	282.3	63.2	58.3	4.9	66.7	56.6	10.1	152.4	74.3	78.1
Perry	940.8	709.9	698.1	11.8	139.9	118.0	21.9	91.0	45.5	45.5
Pickens	862.3	466.9	462.3	4.6	130.9	102.8	28.1	264.5	184.2	80.3
Pike	455.3	191.7	189.7	2.0	139.4	104.8	34.6	124.2	73.8	50.4
Randolph	336.8	170.9	170.9	...	26.9	13.3	13.6	139.0	114.3	24.7
Russell	487.0	389.9	389.9	...	73.3	51.3	22.0	23.8	13.8	10.0
St. Clair	649.8	418.8	418.8	...	60.3	48.0	12.3	170.7	127.7	43.0
Shelby	485.1	324.8	324.8	...	44.3	31.2	13.1	116.0	82.6	33.4
Sumter	1,723.8	1,350.8	1,350.8	...	119.4	79.8	39.6	253.6	167.7	85.9
Talladega	506.8	331.1	331.1	...	44.8	19.8	25.0	130.9	89.3	41.6
Tallapoosa	539.6	359.4	359.4	...	33.1	14.4	18.7	147.1	90.9	56.2
Tuscaloosa	1,441.0	828.6	828.6	...	283.3	190.2	93.1	329.1	249.4	79.7
Walker	509.6	307.6	307.6	...	52.7	15.4	37.3	149.3	64.6	84.7
Washington	2,037.5	1,335.9	1,285.6	50.3	419.9	289.1	130.8	281.7	200.3	81.4
Wilcox	1,563.3	896.7	896.7	...	254.8	152.0	102.8	411.8	265.6	146.2
Winston	544.5	348.5	348.5	...	35.9	6.6	29.3	160.1	103.2	56.9
All counties	46,601.9	28,306.7	27,847.1	459.6	7,103.9	4,695.0	2,408.9	11,191.3	7,376.0	3,815.3

Table 39. Sawtimber volume by diameter classes and county, Alabama, 1963

County	All species	Softwood			Soft hardwood			Hard hardwood		
		Total	9.0-14.9 inches	15.0 inches and up	Total	11.0-14.9 inches	15.0 inches and up	Total	11.0-14.9 inches	15.0 inches and up
----- Million board feet -----										
Autauga	572.4	401.4	255.1	146.3	89.4	41.5	47.9	81.6	45.6	36.0
Baldwin	2,305.5	1,389.6	1,121.6	268.0	588.7	253.9	334.8	327.2	81.9	245.3
Barbour	784.0	599.6	451.2	148.4	69.4	47.6	21.8	115.0	43.4	71.6
Bibb	819.2	630.3	401.4	228.9	91.6	65.3	26.3	97.3	58.7	38.6
Blount	312.9	112.3	97.3	15.0	34.9	14.7	20.2	165.7	73.7	92.0
Bullock	430.1	327.5	236.3	91.2	48.7	27.1	21.6	53.9	23.3	30.6
Butler	1,052.0	773.2	344.1	429.1	106.5	57.2	49.3	172.3	94.0	78.3
Calhoun	295.3	193.5	145.2	48.3	15.2	5.9	9.3	86.6	48.5	38.1
Chambers	283.4	147.9	108.7	39.2	81.2	33.3	47.9	54.3	14.4	39.9
Cherokee	234.6	160.0	116.2	43.8	19.7	11.1	8.6	54.9	31.2	23.7
Chilton	341.3	188.2	147.5	40.7	48.5	31.1	17.4	104.6	68.6	36.0
Choctaw	1,608.2	1,193.8	845.5	348.3	125.8	85.2	40.6	288.6	128.3	160.3
Clarke	3,038.9	1,865.6	1,156.6	709.0	518.9	197.0	321.9	654.4	232.9	421.5
Clay	369.7	220.5	136.7	83.8	28.9	14.7	14.2	120.3	54.5	65.8
Cleburne	481.6	322.4	219.4	103.0	26.6	16.2	10.4	132.6	97.4	35.2
Coffee	216.5	121.8	95.9	25.9	44.8	31.0	13.8	49.9	20.1	29.8
Colbert	217.9	19.4	16.2	3.2	21.5	2.7	18.8	177.0	100.8	76.2
Conecuh	951.1	580.2	367.0	213.2	191.5	132.7	58.8	179.4	93.8	85.6
Coosa	523.2	329.4	240.0	89.4	53.4	33.1	20.3	140.4	82.2	58.2
Covington	1,008.1	859.3	669.1	190.2	100.0	73.4	26.6	48.8	31.7	17.1
Crenshaw	824.9	512.6	367.9	144.7	144.2	119.1	25.1	168.1	53.4	114.7
Cullman	412.4	278.6	193.8	84.8	32.8	11.5	21.3	101.0	67.3	33.7
Dale	401.7	211.6	149.9	61.7	104.7	73.4	31.3	85.4	32.6	52.8
Dallas	589.2	387.6	233.9	153.7	125.7	101.9	23.8	75.9	24.4	51.5
De Kalb	194.1	68.9	56.3	12.6	34.3	9.3	25.0	90.9	58.3	32.6
Elmore	327.5	121.4	100.5	20.9	105.9	55.4	50.5	100.2	52.3	47.9
Escambia	1,655.0	1,269.2	863.1	406.1	265.9	147.3	118.6	119.9	32.7	87.2
Etowah	252.5	73.3	55.9	17.4	36.7	7.7	29.0	142.5	55.7	86.8
Fayette	279.7	171.6	124.1	47.5	51.7	31.1	20.6	56.4	47.7	8.7
Franklin	226.5	43.9	43.9	...	5.8	5.8	...	176.8	94.4	82.4
Geneva	361.1	162.4	113.6	48.8	158.2	67.8	90.4	40.5	20.9	19.6
Greene	751.8	348.0	200.2	147.8	194.2	65.9	128.3	209.6	65.8	143.8
Hale	694.8	459.2	241.3	217.9	60.9	36.1	24.8	174.7	74.1	100.6
Henry	324.9	216.5	167.9	48.6	45.0	31.3	13.7	63.4	36.9	26.5
Houston	234.1	127.1	68.0	59.1	57.5	35.5	22.0	49.5	23.9	25.6
Jackson	928.4	53.4	43.7	9.7	133.9	72.7	61.2	741.1	366.7	374.4
Jefferson	1,119.4	946.6	575.3	371.3	23.9	13.0	10.9	148.9	101.9	47.0
Lamar	303.8	120.4	105.4	15.0	75.4	42.9	32.5	108.0	74.1	33.9
Lauderdale	201.1	8.9	8.9	...	27.6	11.9	15.7	164.6	82.6	82.0
Lawrence	453.0	163.8	61.6	102.2	25.9	8.6	17.3	263.3	68.9	194.4
Lee	462.2	325.9	219.6	106.3	95.1	27.2	67.9	41.2	23.9	17.3
Limestone	250.6	44.4	19.0	25.4	42.3	19.1	23.2	163.9	68.8	95.1
Lowndes	877.7	559.1	271.7	287.4	93.0	52.1	40.9	225.6	76.0	149.6
Macon	411.3	253.8	165.1	88.7	81.7	36.4	45.3	75.8	28.7	47.1
Madison	262.9	35.4	22.5	12.9	63.4	27.4	36.0	164.1	75.3	88.8
Marengo	1,122.7	613.6	460.1	153.5	117.3	52.3	65.0	391.8	151.7	240.1
Marion	170.9	51.1	47.7	3.4	14.7	5.3	9.4	105.1	72.7	32.4
Marshall	411.2	245.7	124.7	121.0	25.3	15.4	9.9	140.2	81.1	59.1
Mobile	967.3	650.1	511.4	138.7	213.7	90.0	123.7	103.5	30.6	72.9
Monroe	1,650.7	729.8	398.1	331.7	335.7	193.1	142.6	585.2	184.0	401.2
Montgomery	267.1	122.2	74.6	47.6	80.7	48.7	32.0	64.2	26.2	38.0
Morgan	282.3	63.2	49.2	14.0	66.7	30.2	36.5	152.4	63.0	89.4
Perry	940.8	709.9	421.8	288.1	139.9	58.0	81.9	91.0	36.8	54.2
Pickens	862.3	466.9	367.9	99.0	130.9	75.6	55.3	264.5	90.8	173.7
Pike	455.3	191.7	117.6	74.1	139.4	81.2	58.2	124.2	77.6	46.6
Randolph	336.8	170.9	112.5	58.4	26.9	14.3	12.6	139.0	78.9	60.1
Russell	487.0	389.9	291.6	98.3	73.3	43.4	29.9	23.8	9.6	14.2
St. Clair	649.8	418.8	330.3	88.5	60.3	28.6	31.7	170.7	98.3	72.4
Shelby	485.1	324.8	229.7	95.1	44.3	12.6	31.7	116.0	94.9	21.1
Sumter	1,723.8	1,350.8	531.7	819.1	119.4	55.0	64.4	253.6	99.8	153.8
Talladega	506.8	331.1	244.2	86.9	44.8	30.0	14.8	130.9	58.3	72.6
Tallapoosa	539.6	359.4	269.0	90.4	33.1	10.0	23.1	147.1	62.6	84.5
Tuscaloosa	1,441.0	828.6	504.7	323.9	283.3	166.3	117.0	329.1	192.8	136.3
Walker	509.6	307.6	268.7	38.9	52.7	37.2	15.5	149.3	64.3	85.0
Washington	2,037.5	1,335.9	783.4	552.5	419.9	242.2	177.7	281.7	53.4	228.3
Wilcox	1,563.3	896.7	589.4	307.3	254.8	127.2	127.6	411.8	170.8	241.0
Winston	544.5	348.5	198.6	149.9	35.9	8.9	27.0	160.1	99.1	61.0
All counties	46,601.9	28,306.7	18,571.0	9,735.7	7,103.9	3,710.6	3,393.3	11,191.3	5,029.6	6,161.7

Table 40. Annual cut of growing stock and sawtimber by county, Alabama, 1962

County	Growing stock			Sawtimber		
	All species	Soft-wood	Hard-wood	All species	Soft-wood	Hard-wood
	- Million cubic feet -			- Million board feet -		
Autauga	5.5	1.8	3.7	24.8	8.3	16.5
Baldwin	30.0	21.8	8.2	96.1	71.6	24.5
Barbour	7.9	4.4	3.5	26.4	13.3	13.1
Bibb	8.1	5.8	2.3	28.9	20.8	8.1
Blount	2.2	.9	1.3	6.1	2.6	3.5
Bullock	3.9	1.9	2.0	10.9	4.3	6.6
Butler	12.8	9.7	3.1	47.3	38.6	8.7
Calhoun	7.2	4.9	2.3	15.5	9.8	5.7
Chambers	5.3	3.9	1.4	17.9	13.9	4.0
Cherokee	4.1	2.0	2.1	9.1	3.6	5.5
Chilton	4.1	2.1	2.0	11.5	5.0	6.5
Choctaw	24.8	16.3	8.5	86.4	62.1	24.3
Clarke	28.8	18.2	10.6	111.1	77.3	33.8
Clay	6.0	3.7	2.3	15.8	9.2	6.6
Cleburne	5.1	3.4	1.7	10.8	5.8	5.0
Coffee	3.6	2.5	1.1	10.3	7.5	2.8
Colbert	3.5	1.0	2.5	12.9	3.8	9.1
Conecuh	14.8	9.9	4.9	53.3	38.0	15.3
Coosa	7.4	5.0	2.4	19.0	12.1	6.9
Covington	9.8	8.2	1.6	33.7	29.2	4.5
Crenshaw	5.6	2.8	2.8	19.3	9.8	9.5
Cullman	4.2	1.9	2.3	15.0	7.9	7.1
Dale	4.3	2.4	1.9	9.5	5.5	4.0
Dallas	6.1	1.9	4.2	18.9	5.4	13.5
De Kalb	4.0	2.2	1.8	11.9	7.7	4.2
Elmore	4.9	3.4	1.5	14.4	9.7	4.7
Escambia	16.4	12.9	3.5	62.1	50.5	11.6
Etowah	5.4	2.8	2.6	14.0	5.7	8.3
Fayette	4.3	2.1	2.2	13.2	5.0	8.2
Franklin	2.3	.8	1.5	6.5	1.5	5.0
Geneva	2.8	1.6	1.2	7.5	4.2	3.3
Greene	5.5	2.0	3.5	18.8	5.8	13.0
Hale	5.1	1.7	3.4	15.9	4.7	11.2
Henry	5.4	3.0	2.4	18.3	8.3	10.0
Houston	3.3	1.7	1.6	9.9	5.0	4.9
Jackson	6.9	2.1	4.8	27.5	9.0	18.5
Jefferson	10.1	4.6	5.5	35.9	14.4	21.5
Lamar	4.2	1.4	2.8	15.2	4.7	10.5
Lauderdale	2.1	.2	1.9	5.9	.3	5.6
Lawrence	2.5	.6	1.9	8.7	2.7	6.0
Lee	5.1	3.8	1.3	10.4	7.3	3.1
Limestone	1.9	.3	1.6	5.2	.4	4.8
Lowndes	6.5	3.4	3.1	19.6	9.5	10.1
Macon	3.5	1.9	1.6	11.6	6.4	5.2
Madison	2.3	.2	2.1	5.6	.2	5.4
Marengo	15.4	8.2	7.2	51.0	27.2	23.8
Marion	3.8	1.9	1.9	14.2	7.5	6.7
Marshall	2.8	1.4	1.4	7.5	3.7	3.8
Mobile	17.6	13.6	4.0	55.0	46.6	8.4
Monroe	17.6	10.2	7.4	58.4	33.4	25.0
Montgomery	5.8	2.9	2.9	12.8	3.9	8.9
Morgan	3.2	1.0	2.2	12.2	4.5	7.7
Perry	5.8	2.5	3.3	20.4	9.7	10.7
Pickens	9.5	4.5	5.0	34.9	16.6	18.3
Pike	6.7	3.6	3.1	17.0	7.3	9.7
Randolph	5.6	3.6	2.0	12.6	6.1	6.5
Russell	5.6	4.6	1.0	16.3	13.9	2.4
St. Clair	6.8	3.8	3.0	19.2	8.8	10.4
Shelby	8.7	5.5	3.2	25.0	14.8	10.2
Sumter	16.2	9.6	6.6	60.3	40.1	20.2
Talladega	8.2	5.3	2.9	23.5	14.4	9.1
Tallapoosa	7.0	5.5	1.5	15.9	12.6	3.3
Tuscaloosa	12.0	5.8	6.2	36.3	12.8	23.5
Walker	7.0	4.0	3.0	19.0	8.9	10.1
Washington	17.1	11.4	5.7	51.4	32.7	18.7
Wilcox	16.9	8.5	8.4	56.2	28.4	27.8
Winston	4.9	2.5	2.4	19.1	10.2	8.9
All counties	523.8	309.0	214.8	1,686.8	992.5	694.3

U. S. Forest Service Resource Bulletin SO-3

SOUTHERN FOREST EXPERIMENT STATION

New Orleans, Louisiana

Forest Service, U.S. Department of Agriculture

1963