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Louisiana Forests: Status & Outlook

Figure 1.—*Forest resource regions of Louisiana.*

Highlights

This report contains the principal findings of the latest forest survey of Louisiana. The inventory is reported for January 1, 1974, and growth and cut information is given for calendar year 1973. Data from a canvass of forest products output for 1973 are included.

Forest area declined 9 percent since 1964 and now totals 14.5 million acres. All regions of the State lost some forest area. The North Delta, where widespread clearing for soybeans accelerated since the last survey, had the greatest loss.

Several changes in ownership patterns occurred. While public and forest-industry lands increased through acquisition programs, forest land owned by individuals decreased.

Softwood growing-stock volume is 9 billion cubic feet, which is an increase of 31 percent over 1964. All size classes shared in the increase, and softwood sawtimber volume gained 29 percent and is now 37 billion board feet. Eighty-seven percent of the softwood growing stock is southern pine; practically all of the remainder is cypress.

The loss of hardwood forests in the Delta is the principal reason for a 7-percent decline in hardwood growing stock. The inventory is now 7.7 billion cubic feet. All size classes lost volume, and sawtimber had a 9-percent loss to 24 billion board feet. One-third of the hardwood inventory is oak, sweetgum is 18 percent, and tupelos and hickories also represent a significant part of the volume.

Net growth in 1973 was 604 million cubic feet for softwood and 325 million cubic feet for hardwood, which translates to about 64 cubic feet per acre. Although stand densities have increased, Louisiana's forests have not reached their growth potential. After timber removals were deducted from net growth, the increase in the State's timber inventory was 327 million cubic feet.

Louisiana's forests supplied more than 561 million cubic feet of industrial roundwood products in 1973.[1] This volume represents a 59-percent decadal increase.

Some 3.2 million cords of pulpwood were produced in 1973—a 10-year increase of 64 percent. Hardwoods and softwoods shared this gain. Softwood roundwood production increased rather sharply until about 1970. After that, softwood chips produced from residue began to replace roundwood, and roundwood production leveled off.

Saw log production increased slightly since the last canvass. About 1.1 billion board feet of saw logs were received by sawmills from Louisiana's forests in 1973, which is a 4-percent rise from 1963. Despite the overall increase, hardwood saw log production declined.

Veneer log production for 1973 was 642 million board feet. This thirteen-fold increase is due solely to the emergence of the pine plywood industry since 1963. The hardwood veneer industry has been waning for many years.

Currently, 8.8 million acres of Louisiana's forest land are suitable for pine, but 3.7 million of these support hardwoods. Louisiana has 5.6 million acres of bottom lands suitable for hardwood; however, about 22 percent of the hardwood volume is in cull trees. To increase and improve the timber resource, these basic problems must be corrected.

[1] The timber products output data for 1973 are also printed in Bertelson, Daniel. 1974. **Louisiana forest industries, 1973.** U.S. Dep. Agric. For. Serv., Resour. Bull. SO-51, 21 p. South. For. Exp. Stn., New Orleans, La.

Resource Trends

FOREST AREA

Forest Area Declines

Louisiana's forest area declined 9 percent since 1964; the present total is 14.5 million acres (table I). The land operations reported in the 1964 survey, such as clearing for agriculture, urban expansion, and right-of-ways, continued to affect the State's forest resource.[2] Despite the general trend, 47 percent of Louisiana is forested.

Table I. *Commercial forest land in 1974 and change since 1964*

Resource region	Commercial forest	Change since last survey	Proportion of region forested[1]
	Thousand acres	*Percent*	*Percent*
North Delta	1,178.4	−38	33
South Delta	2,573.1	− 6	22
Southwest	4,538.4	− 6	66
Southeast	1,786.3	− 5	59
Northwest	4,450.4	− 5	73
All regions	14,526.6	− 9	47

[1] Total forest, including noncommercial, as a proportion of total area, land, and water in the region.

Accelerated clearing for soybeans meant a 38-percent reduction in forest area in the North Delta during the past decade (fig. 1). The State's prime hardwood sites are in the Delta, and by taking the best land for soybeans, agriculture is damaging the bottom land hardwood resource severely (table II). Northwest Louisiana is the most heavily wooded section of the State; almost 3 of every 4 acres is in forest. The 1964 survey reported that this area had gained forest land, principally from the reversion of farm land to forest, but it had a 5-percent loss since. The South Delta remains the least timbered section of Louisiana.

[2] Sternitzke, H. S. 1965. **Louisiana forests.** U.S. Dep. Agric. For. Serv., Resour. Bull. SO-7, 31 p. South. For. Exp. Stn., New Orleans, La.

Ownership Patterns

Several shifts in ownership patterns occurred during the last 10 years. Wood-using industries increased their forest land holdings 18 percent. Their total acreage is 3.8 million acres, which is over one-fourth of the forest land in the State. An additional 620,000 acres have been leased by industry as a reaction to the scarcity of land that is suitable for purchase.

Government agencies increased the public's share 16 percent to 1 million acres. Farmer-owned forest land declined because of clearing for agriculture. Other private owners still hold over one-half of the forest land in the State (7.6 million acres), although they lost 25 percent of their acreage.

Forest Type

Louisiana's forest land is classified according to its suitability for growing certain species groups—southern pines, upland hardwoods, and bottom land hardwoods. Pine sites are in upland areas, and all but 84,000 acres of hardwood sites are bottom lands.

Table II. *Change in commercial forest land, 1964-1974*

Resource region	Net change	Additions from:			Diversions to:		
		Total	Nonforest	Noncommercial forest	Total	Agriculture	Other
	Thousand acres						
North Delta	− 716.4	28.4	28.4	...	744.8	702.9	41.9
South Delta	− 177.8	90.0	90.0	...	267.8	170.4	97.4
Southwest	− 283.9	101.9	101.9	...	385.8	206.1	179.7
Southeast	− 98.1	104.8	104.8	...	202.9	133.2	69.7
Northwest	− 233.7	31.4	31.4	(1)	265.1	202.4	62.7
All regions	−1,509.9	356.5	356.5	(1)	1,866.4	1,415.0	451.4

[1] Negligible.

Some 8.8 million acres of the State can grow southern pine (table III). Fifty-eight percent of this acreage now supports southern pine forest types—most are loblolly-shortleaf, but longleaf-slash forests are important in parts of south Louisiana. Oak and oak-hickory often mingle with pines, and about 3.7 million acres of pine sites are occupied mostly by hardwoods. Often these forests are what is left after pines have been harvested.

Despite extensive removal of forests in the Delta, there are still 5.6 million acres of bottom land hardwood sites in the State. Most of these forests are oak-gum-cypress, and many are elm-ash-cottonwood.

TIMBER VOLUME

There were 19.2 billion cubic feet of wood in Louisiana's forests in 1974. Volume in growing stock—that is, in trees now or prospectively suitable for sawtimber—came to 16.7 billion cubic feet. Because methods for computing tree volume were changed since the 1964 survey, the volumes from 1964 were adjusted to conform to current criteria.

Softwood Increases

The 9 billion cubic feet in softwood is a 31-percent increase over 1964 (table IV). Ninety-seven percent of the volume is in growing stock (fig. 2). All diameter classes had gains, although most of the increase was in trees 14 inches in diameter and less (fig. 3). Sawtimber in the North Delta is the sole instance of a decline in softwood volume (table V). Even in this region, growing stock registered a 9-percent increase.

Between 1964 and 1974, sawtimber volume rose 29 percent, and about 79 percent of the softwood growing stock volume is in sawtimber-size trees. There are some 40 billion board feet of sawtimber; it is overwhelmingly in privat ownership (fig. 4); and most of it is in wester Louisiana.

Table IV. *Growing-stock volume in 1974 and chan since 1964*

Resource region	Softwood		Hardwood	
	Volume	Change	Volume	Chang
	Million ft³	*Percent*	*Million ft³*	*Percen*
North Delta	172.5	+ 9	1,120.4	−34
South Delta	1,000.4	+20	2,289.1	− 4
Southwest	3,339.0	+40	1,642.3	+ 1
Southeast	1,184.4	+10	733.4	− 6
Northwest	3,343.7	+37	1,872.3	+ 7
All regions	9,040.0	+31	7,657.5	− 7

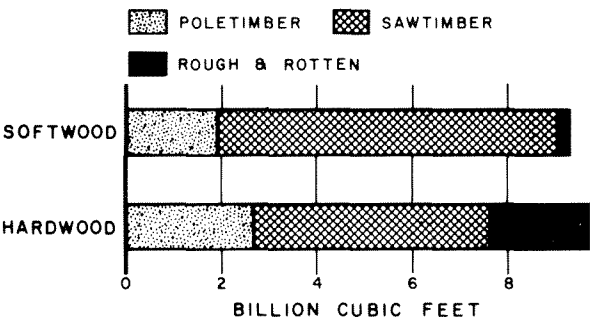

Figure 2.—*Volume of softwoods and hardwoods by cla of timber.*

Southern pine comprises 87 percent of tl softwood growing stock. Loblolly makes u three-fifths of the inventory followed by shor leaf, cypress, and other pine species (fig. 5).

Hardwood Loses Volume

The hardwood growing stock inventory w reduced 7 percent to 7.7 billion cubic feet. A diameter classes had losses, particularly sa timber trees which declined 9 percent to 23 billion board feet (fig. 6). Again, the Nor

Table III. *Commercial forest land by forest type and site, 1974*

Forest type	All sites	Pine	Upland hardwood	Bottom land hardwood
	Thousand acres			
Longleaf-slash pine	1,022.6	1,022.6	...	...
Loblolly-shortleaf pine	4,073.4	4,062.2	...	11.2
Oak-pine	2,207.6	2,080.8	...	126.8
Oak-hickory	1,725.5	1,641.9	83.6	...
Oak-gum-cypress	4,956.6	...	...	4,956.6
Elm-ash-cottonwood	540.9	...	...	540.9
All types	14,526.6	8,807.5	83.6	5,635.5

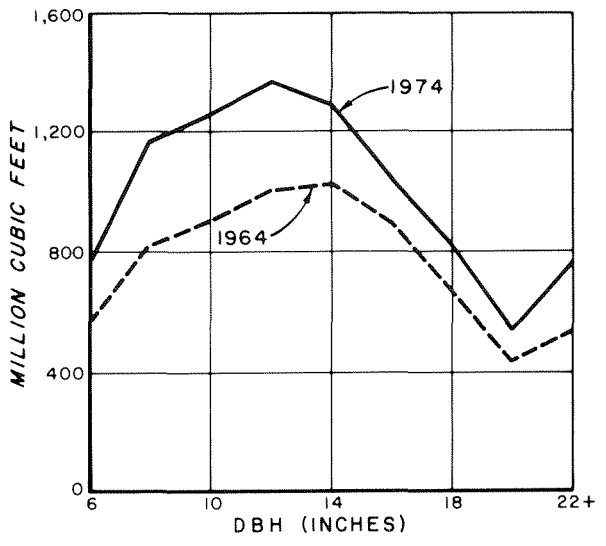

Figure 3.—*Softwood growing stock by tree diameter, 1964 and 1974.*

Table V. *Sawtimber volume in 1974 and change since 1964*

Resource region	Softwood		Hardwood	
	Volume	Change	Volume	Change
	Million fbm	*Percent*	*Million fbm*	*Percent*
North Delta	762.2	− 7	4,010.9	−35
South Delta	4,116.4	+22	7,072.4	− 3
Southwest	13,378.1	+33	5,086.6	(1)
Southeast	4,981.5	+ 9	2,104.3	− 8
Northwest	13,754.5	+38	5,548.5	+ 4
All regions	36,992.7	+29	23,822.7	− 9

[1] Negligible.

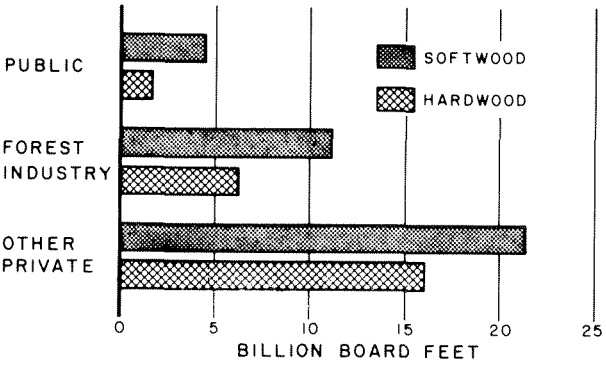

Figure 4.—*Sawtimber volume by class of ownership.*

Delta was affected most. Only western Louisiana showed gains in volume, and as in the 1964 survey, the increase was on sites that could better support pine.

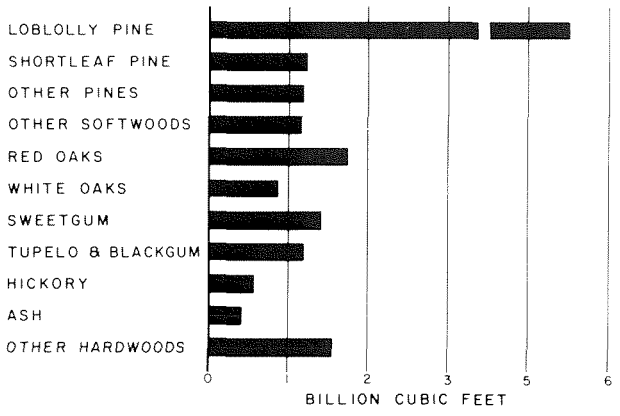

Figure 5.—*Growing stock by species.*

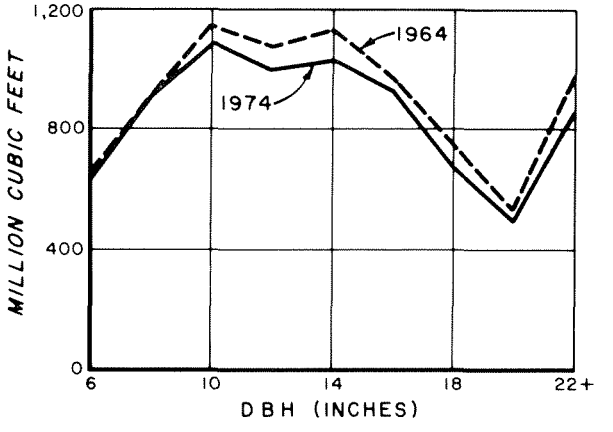

Figure 6.—*Hardwood growing stock by tree diameter, 1964 and 1974.*

Among the most plentiful hardwood species are oaks, sweetgum, tupelos, and hickory. Oak volume, which rose slightly, is about 33 percent of the hardwood inventory, but only 20 percent of the oaks are preferred species. Sweetgum, with 18 percent of the total, is the greatest commercially valuable volume among hardwoods. Tupelos lost significantly since the last survey.

The hardwood situation needs attention. The problem is land clearing rather than overcutting. More than ever, hardwoods are confined to poor sites, but the fact that stocking increased over 1964 levels suggests that proper management may help replenish the resource.

GROWTH AND REMOVALS

Louisiana's forests had 1 billion cubic feet of gross growth in 1973. The components of gross growth are: (1) survivor growth—the increase in net volume of growing stock trees at the be-

ginning of the specified year and surviving to its end; (2) ingrowth—the net volume of trees at the time they grew into growing stock during a specified year; (3) growth on ingrowth—the increase in net volume of trees after they grew into growing stock in a specified year; (4) growth on removals—the increase in net volume of growing-stock trees that were cut during the year; (5) mortality—the net volume in growing stock trees that died during the year.

Survivor growth made up 78 percent of gross growth in 1973, ingrowth and growth on ingrowth comprised 10 percent, growth on removals contributed 2 percent, and mortality claimed 10 percent (table VI). Survivor growth was 81 percent of gross growth for softwood; 6 percent of the softwood gross growth died. Only 72 percent of the hardwood volume was survivor growth because mortality claimed 18 percent of hardwood gross growth.

Net growth, gross growth minus mortality, was 929 million cubic feet in 1973 (table VII). About two-thirds of this net growth was in western Louisiana.

Between 1964 and 1974, net growth went fro about 45 cubic feet per acre to 64 cubic feet pe acre. Louisiana's growth per acre compares fav orably with that of other Midsouth States, an it has not reached its maximum. Not all of th net growth, however, is in preferred specie For example, almost 40 percent of the hardwoo net growth in 1973 was in oak, but only 20 pe cent of the oak growth was in preferred specie The oaks, sweetgum, and the tupelos made u two-thirds of the hardwood net growth, whil nearly all of the softwood growth is souther pine.

Growing stock, annual net growth minus re movals, increased by about 327 million cubi feet in 1973, while the sawtimber volume grev by 931 million board feet (table VII). Growin stock increased in all regions; however, wester Louisiana had 58 percent of the total increase Of the 601 million cubic feet of removals, 9 percent was used as various roundwood prod ucts; 5 percent was logging residue; and 3 per cent was destroyed by timber stand improve ment and land clearing for agriculture, urba expansion, and other uses.

Table VI. *Growth components of growing stock on commercial forest land, by species group and resource region, 197*

Resource region	Species group	Growth components					Total	
		Survivor growth	Ingrowth	Growth on ingrowth	Growth on removals	Mortality	Gross growth	Net growt
		Million cubic feet						
North Delta	Softwood	11.2	0.8	0.1	0.5	0.3	12.9	12.6
	Hardwood	43.6	5.1	.2	1.0	10.6	60.5	49.9
	Total	54.8	5.9	.3	1.5	10.9	73.4	62.5
South Delta	Softwood	31.2	1.7	.1	.1	4.2	37.3	33.1
	Hardwood	84.6	8.3	.4	.4	34.0	127.7	93.7
	Total	115.8	10.0	.5	.5	38.2	165.0	126.8
Northwest	Softwood	208.5	23.0	2.1	7.8	13.2	254.6	241.4
	Hardwood	74.2	11.7	.4	1.1	10.7	98.1	87.4
	Total	282.7	34.7	2.5	8.9	23.9	352.7	328.8
Southwest	Softwood	196.6	28.9	2.7	7.4	10.2	245.8	235.6
	Hardwood	58.2	7.9	.3	.6	6.1	73.1	67.0
	Total	254.8	36.8	3.0	8.0	16.3	318.9	302.6
Southeast	Softwood	72.2	6.2	.5	2.5	11.7	93.1	81.4
	Hardwood	23.5	2.8	.1	.3	7.7	34.4	26.7
	Total	95.7	9.0	.6	2.8	19.4	127.5	108.1
All regions	Softwood	519.7	60.6	5.5	18.3	39.6	643.7	604.1
	Hardwood	284.1	35.8	1.4	3.4	69.1	393.8	324.7
	Total	803.8	96.4	6.9	21.7	108.7	1,037.5	928.8

Table VII. *Summary of volume-change statistics, 1973*

Resource region	Species group	Growing stock			Sawtimber		
		Net growth	Removals	Net change	Net growth	Removals	Net change
		Million ft³			*Million fbm*		
North Delta	Softwood	12.6	17.7	− 5.1	55.2	97.0	− 41.8
	Hardwood	49.9	36.7	+ 13.2	192.9	175.5	+ 17.4
	Total	62.5	54.4	+ 8.1	248.1	272.5	− 24.4
South Delta	Softwood	33.1	3.9	+ 29.2	129.8	19.1	+110.7
	Hardwood	93.7	24.8	+ 68.9	330.3	114.7	+215.6
	Total	126.8	28.7	+ 98.1	460.1	133.8	+326.3
Northwest	Softwood	241.4	170.9	+ 70.5	1,129.4	820.1	+309.3
	Hardwood	87.4	51.1	+ 36.3	293.5	227.9	+ 65.6
	Total	328.8	222.0	+106.8	1,422.9	1,048.0	+374.9
Southwest	Softwood	235.6	185.8	+ 49.8	940.3	866.6	+ 73.7
	Hardwood	67.0	33.7	+ 33.3	243.7	161.1	+ 82.6
	Total	302.6	219.5	+ 83.1	1,184.0	1,027.7	+156.3
Southeast	Softwood	81.4	62.9	+ 18.5	399.2	332.7	+ 66.5
	Hardwood	26.7	13.9	+ 12.8	90.1	58.8	+ 31.3
	Total	108.1	76.8	+ 31.3	489.3	391.5	+ 97.8
All regions	Softwood	604.1	441.2	+162.9	2,653.9	2,135.5	+518.4
	Hardwood	324.7	160.2	+164.5	1,150.5	738.0	+412.5
	Total	928.8	601.4	+327.4	3,804.4	2,873.5	+930.9

Timber Products Output

Louisiana forests contributed more than 561 million cubic feet of roundwood to forest industries in 1973 (fig. 7). This harvest is an increase of 59 percent over the one reported for 1963. However, not all products have shared in the growth in output. Softwoods showed gains in all three of the major product classes—pulpwood, saw logs, and veneer logs. Hardwood, however, showed an increase only in pulpwood. The decline in the hardwood saw log and veneer log production is the result of the prolonged deterioration of the quality of the resource.

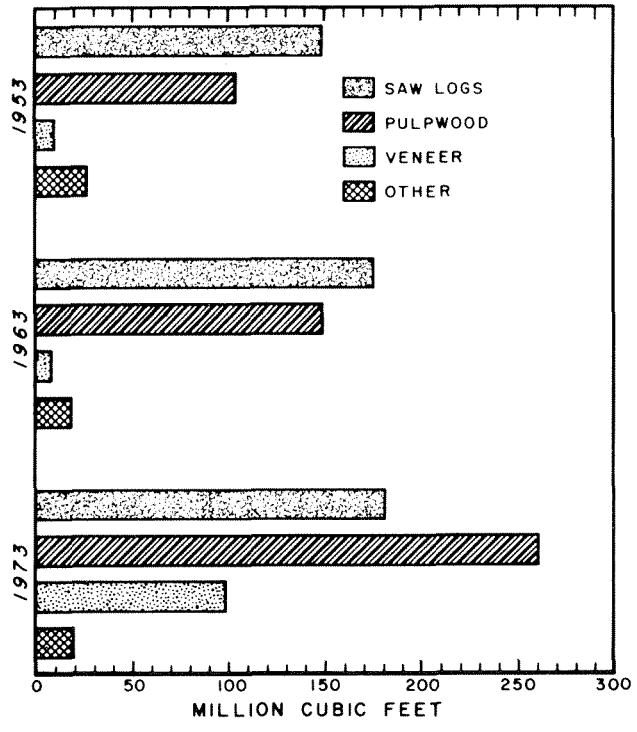

Figure 7.—*Output of Louisiana roundwood by product, 1973.*

TIMBER HARVEST

Pulpwood

Pulpwood is Louisiana's leading forest product. Production of pulpwood roundwood was a record 3.2 million cords in 1973, which was 46 percent of the State's industrial timber harvest and a 64-percent increase over 1963.

Southern pine was over three-fourths of t total harvest. The oaks made up 40 percent the hardwood harvest; the gums, 34 percent. T reason that oaks were such a large percentage the 1973 harvest is that new technology a production methods have enabled pulp industr to use a larger amount of firm-textured hai woods.

Roundwood production increased rapidly un about 1970 when coarse softwood byproduc began to be used in place of pulpwood chi The increased use of softwood residue can attributed to the recent widespread use of t chipping headrig and to the installation of cc ventional chipping equipment in many sawmil Chipping headrigs conserve wood by reduci the amount of sawdust produced during t manufacturing process. About 92 percent coarse residue generated by the State's sawmi in 1973 was sold to the pulp industry.

Louisiana exported 400,000 cords and impo ed 1 million cords of pulpwood in 1973. Most the movement was with adjacent States. Abo 87 percent of the pulpwood harvested in Loui ana was processed here.

The increase in pulpwood production has be accompanied by an increase in pulpmill capacit The construction of four new plants and expa sion of existing facilities has increased Loui ana's daily pulping capacity from 5,935 to 11,6 tons. The capacities of the State's 14 mills ran from 130 to 1,625 tons daily.

Saw Logs

About 1 billion board feet of saw logs fro Louisiana's forests were received by the Stat forest industries in 1973. This constitutes abo a 6-percent increase since 1963. Two-thirds this volume was softwood, mainly pine. The 19 softwood production of 761 million board fe represents a 13-percent increase over 196 Hardwood saw log production decreased duri the same period; the 1973 harvest of 348 m lion board feet represents an 11-percent declir Oak was the leading species with over half of t volume, the gums ranked second.

The industry has undergone important changes during the decade. There were 164 sawmills in Louisiana in 1963 but only 138 in 1973 (fig. 8). However, sawmill capacities have increased considerably. A decade ago the average yearly production for a sawmill in Louisiana was 5.8 million board feet; by 1973 the average had climbed to 7.5 million. In 1973 the yearly production for sawmills ranged between 6,000 and 55 million board feet. Sixty-seven plants produced at least 3 million board feet annually and were classed as large; 29 of these produced over 10 million board feet in 1973. Large sawmills processed over 94 percent of the lumber, and seven-tenths of their production was softwood.

Interparish movement of saw logs reflects the increased size of Louisiana's sawmills. Most small sawmills draw their supplies from their own parish; however, over half of the saw logs harvested crossed parish boundaries before being processed. More than 12 percent of the saw log harvest was shipped to neighboring States, and 62 million board feet of logs were brought into Louisiana.

Most large mills and some small ones sell wood chips to the pulp industry. Almost 48 million cubic feet of coarse residues were produced by the State's sawmills in 1973, and 92 percent of it was sold to the pulp industry.

Veneer Logs

Some 642 million board feet of veneer logs were produced in Louisiana in 1973, which is a thirteen-fold increase over the 1963 production. The gain is due to the beginning of the pine plywood industry in Louisiana. The first plant began production in 1965. By 1969, 11 plywood plants were in operation, and softwood veneer log production in that year was 454 million board feet, or 94 percent of the total veneer log harvest. By 1973, there were 13 plants, and softwood veneer log output was 627 million board feet. Today, Louisiana is first in pine plywood production in the Midsouth. In 1972, when the last regional canvass of the industry was made, Louisiana produced over 60 percent more pine veneer logs than its nearest competitor, Texas, and accounted for 30 percent of the Midsouth's production.

Hardwood veneer log production totaled only 16 million board feet in 1973, which is a 10-year decline of 68 percent. The number of plants has gone from 11 to 6. This industry has been badly hurt by the scarcity of high-quality hardwood timber and by the introduction of substitute products. The decline of the hardwood veneer industry in Louisiana is part of a regional pattern that has continued for some time.

Other Products

All other products comprised less than 4 percent of the roundwood harvest. Poles and piling accounted for 3 percent. Almost 800,000 trees were cut for poles, and over 7 million linear feet of piling was cut. Posts, handlestock, cooperage, and miscellaneous dimension accounted for the remainder.

PLANT RESIDUES AND BYPRODUCTS

Louisiana forest industries generated 134 million cubic feet of various wood residues during primary processing in 1973. Seventy percent of the volume was coarse and suitable for chipping. The remainder was comprised primarily of sawdust and shavings.

Ninety-six percent of the coarse and 74 percent of the fine residues were used for some form of plant byproduct. Over 97 million cubic feet of byproducts were used in pulpmaking. Nine million cubic feet were burned as fuel, and about 14 million cubic feet were used as studs, charcoal, animal bedding, and soil mulch. The bulk of the unused material was fine particles.

More than 1.8 million tons of bark were accumulated from primary manufacturing. About 75 percent was used for fuel; the remainder was unused.

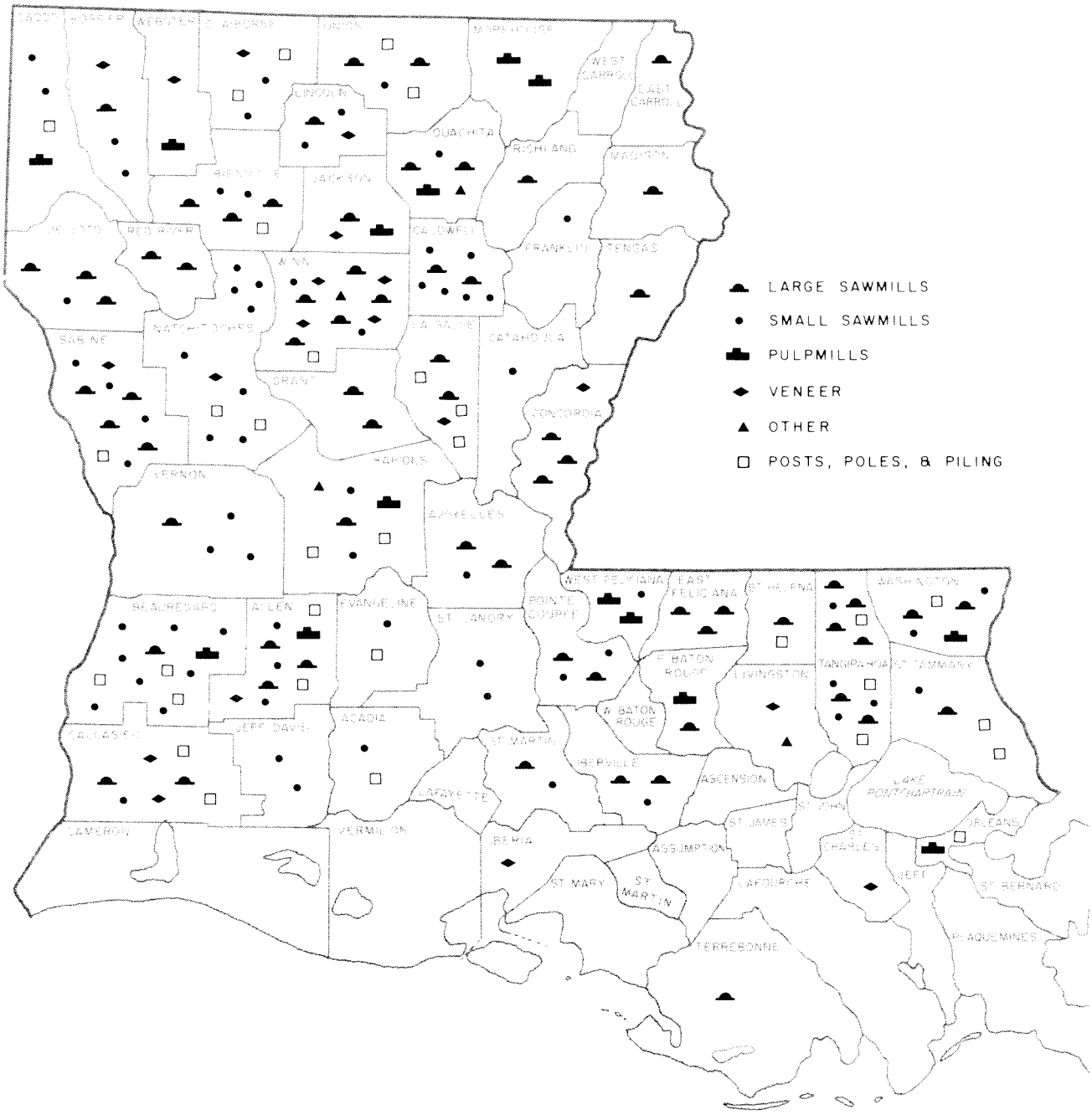

Figure 8.—*Primary wood-using plants in Louisiana, 1973.*

Timber Supply Outlook

Continued expansion of Louisiana's wood industries requires estimating how much timber might be available. Two projections—prospective cut and potential cut—were made for the State.

PROSPECTIVE CUT

In the prospective cut, annual removals were gradually adjusted so that net growth equaled removals at the end of the 30-year projection period. The other assumptions were a stable land base and no change in growth, mortality, or removal rates.

The margin of growth over cut for softwood was 1.4 for growing stock and 1.2 for sawtimber at the start of the projection period. This margin diminished until growth and cut were equal at the end of 30 years (fig. 9). The net growth of growing stock in 2003 would be 695 million cubic feet—an increase of 15 percent. The growth-cut margin for softwood sawtimber decreased until 2003, when the softwood growth of 3.1 billion board feet slightly exceeded the cut.

The growth-cut ratios for hardwood in 1973 were 2.0 for growing stock and 1.6 for sawtimber. Growth and cut for growing stock increased during the projection period, and both reached 474 million cubic feet in 2003 (fig. 10). The growth-cut trend for hardwood sawtimber diverged from the one set by growing stock. Although growth exceeded cut at the start of the projection, cut equaled growth in 1981 and exceeded it throughout the remainder of the period. In 2003, the deficit of growth to cut was about 120 million board feet.

The softwood inventory for 2003 had a fairly good distribution of tree sizes (fig. 11). Excessive removal of hardwood sawtimber resulted in a stand structure with a deficit of trees in the upper diameters. There is an increase in both softwood and hardwood inventories in the prospective cut, and the softwood-hardwood proportion remains relatively constant.

POTENTIAL CUT

For the potential cut, it is assumed that the commercial forest area will not change, that all

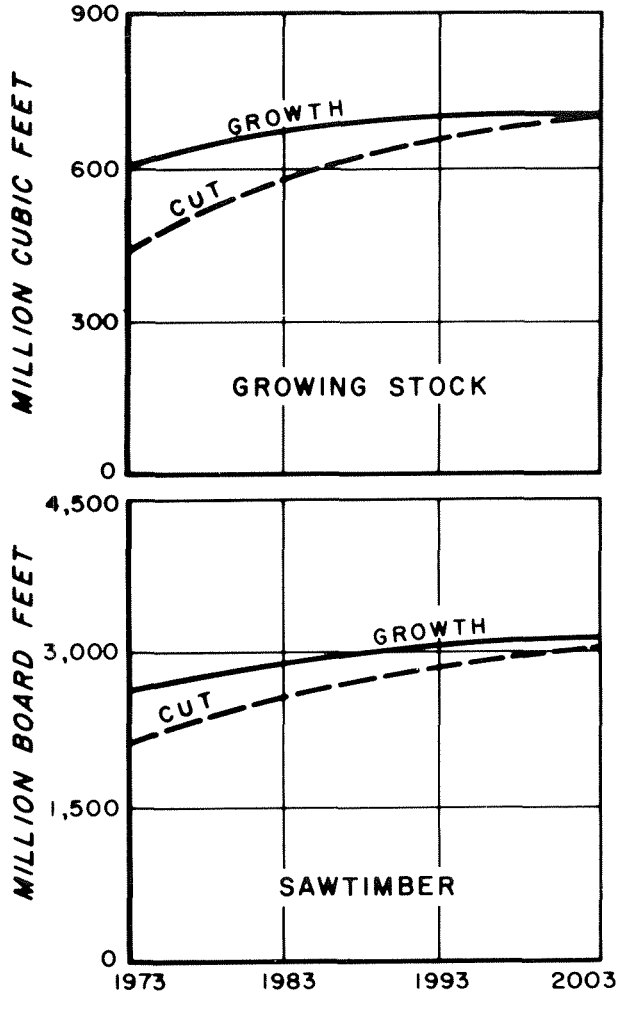

Figure 9.—*Prospective growth and cut of softwood, 1973-2003.*

pines sites will be converted to pure pine, and that mortality and growth rates will remain stable. Another premise is that more intensive management will reduce the proportion of rough and rotten trees, thus creating more space for growing stock. The present cull tree proportion for hardwood of 31 percent will be reduced to 15 percent in the potential cut. The softwood growing stock proportion is to be maintained at its current level of 97 percent. The objective for both softwood and hardwood is a basal area of 90 square feet per acre for all live trees.

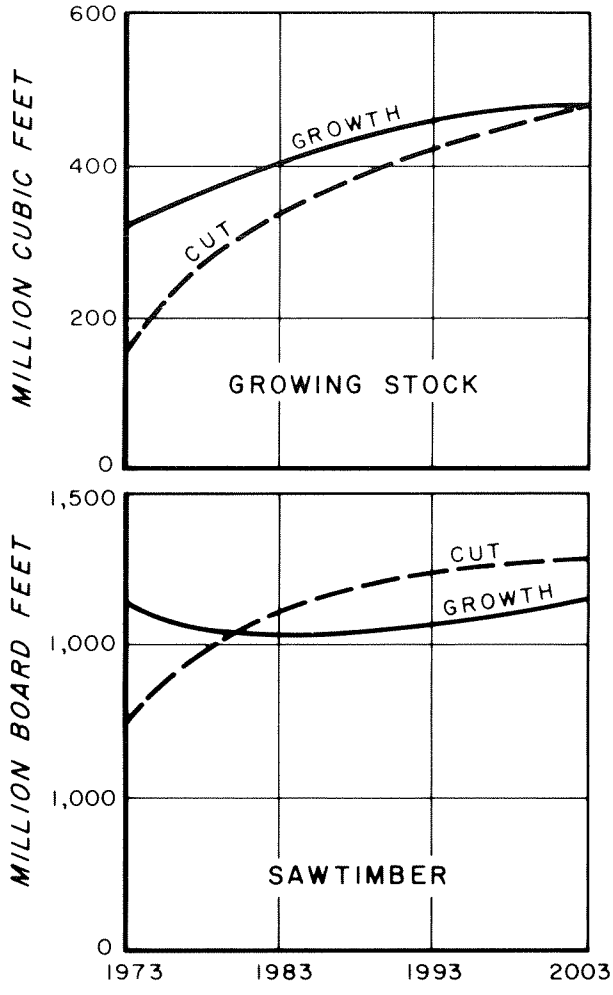

Figure 10.—*Prospective growth and cut of hardwood, 1973-2003.*

A desired stand structure for 2003 was determined for each species group. With this stand table and the one for 1974 as the basis, diameter distributions for each year of the projection period were found by interpolation. The cut each year was adjusted so that the interpolated stand structure was left.

Louisiana's forest could produce 1.2 billion cubic feet of wood annually under the assumptions of the potential cut. The potential cut and prospective cut inventories would be similar, but the proportion of hardwood to softwood differs greatly in the two projections (figs. 11 and 12).

Figure 11.—*Prospective inventories of softwood and hardwood, 2003.*

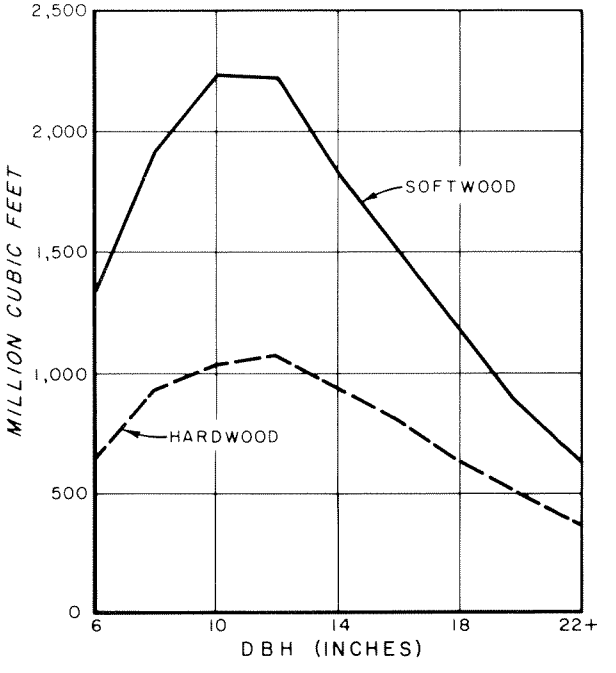

Figure 12.—*Potential inventories of softwood and hardwood, 2003.*

Management Opportunities

PINE RESOURCE

There are 8.8 million acres of pine sites in Louisiana, but about 3.7 million support many low-value hardwoods. Because most suitable nonstocked areas have been planted to pine, converting these hardwood stands is the best way to increase the pine timber supply. Priorities for conversion can be assigned on the basis of cost.

About 1.2 million acres of pine sites are poorly stocked with growing-stock trees and should be regenerated immediately. Some 454,000 of these acres have a pine seed source that is adequate for natural regeneration. On some such sites, pine reproduction is already present and can be released by deadening or harvesting the competing overstory. On the others, adequate natural reproduction can be established with seed trees before the overstory is removed. Site preparation is essential, but such areas can be converted at relatively little cost. In many cases the hardwood overstory will be merchantable.

On 752,000 acres artificial regeneration must be used. Some of these sites have scattered overstories of a few large trees that can be deadened inexpensively. Most, however, have dense overburdens of different size trees, which requires heavy equipment for site preparation. On such sites, conversion may be quite expensive.

HARDWOOD RESOURCE

Some 5.7 million acres of forest land in Louisiana are hardwood sites. The hardwood resource has great potential, but it has been neglected. All but a few acres need some form of stand improvement.

To appraise the condition of the resource, forest land in Louisiana was classified according to the amount of desirable trees present. A desirable tree is growing stock that is vigorous, has no defects that would seriously limit its use, and contains no pathogens that would cause death or serious degrade before rotation age. Growing stock not classed as desirable is called acceptable.

Only about 24,000 acres of hardwood sites are well stocked with desirable trees. No stand treatments are necessary except for thinning to reduce overstocking in some stands.

There are 235,000 acres that are medium stocked with desirable trees. Many of these acres need no treatment. On 191,000 acres, however, desirable trees have significant competition, and cull tree removal and thinning will improve desirable tree stocking.

About 3.4 million acres are poorly stocked with desirable trees but have enough growing stock to maintain periodic removals. The stands can be improved by killing culls and favoring desirable trees in improvement cuts.

Some 2.1 million acres of hardwood sites are poorly stocked with growing stock trees. For these stands natural regeneration will take a long time but may be speeded by removing culls. Where such sites are on good quality bottom lands, they might be improved immediately by planting such species as sweetgum, cottonwood or sycamore.

The magnitude of the hardwood treatment task requires that priorities be assigned. Harvesting undesirable but merchantable trees should be the first priority because it is the least costly stand treatment. The second priority would be deadening large cull trees. The cost of deadening a tree is proportional to its diameter but the growing space a tree occupies is proportional to its basal area. Hence, the greatest return will come by concentrating on large stems. Clumps of small weeds or cull trees would be treated last. Blanket treatments, such as chemical spraying or clearing with heavy machinery are usually the only recourse. Such treatments entail risks—sprouting can occur and there may not be prompt regeneration of desirable trees. Most important, blanket treatments are expensive.

Appendix

SURVEY METHODS

The data on forest acreage and timber volume were secured by a 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. In Louisiana, 116,831 photographic classifications were made and 6,657 ground sample locations were visited.

The initial estimates of forest area that were obtained with the aerial photographs were adjusted on the basis of the ground check.

A cluster of 10 variable-radius plots were installed at each ground sample location. Each sample tree on the variable-radius plots represented 3.75 square feet of basal area per acre. Trees less than 5.0 inches in diameter were tallied on fixed-radius plots around the plot centers. Together, these samples provided most of the information for the new inventory.

The plots established by the prior survey were remeasured to determine the elements of change and were the basis for estimating growth, mortality, removals, and changes in land use.

A special study was made to determine product output. It consisted of a canvass of all primary wood-using plants active in Louisiana during 1973. Out-of-State firms known to use Louisiana roundwood were also contacted. Additionally, fuelwood and other domestic uses were determined from an area sample.

RELIABILITY OF THE DATA

Reliability 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 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, or recording, and from limitations of method or equipment. Its effects cannot be appraised mathematically, but the Forest Service attempts to hold it 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 commercial forest area, 1.5 percent for total cubic volume, and 1.9 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 timber volume and area estimates are liable, two chances out of three.

Sampling errors for commercial forest area, growing-stock and saw timber volumes, Louisiana, 1974

Commercial forest area	Sampling error[1]	Cubic volume[2]	Sampling error[1]	Board-foot volume[3]	Sampling error[1]
Thousand acres	*Percent*	*Million ft³*	*Percent*	*Million fbm*	*Percent*
14,526.6	0.3				
1,307.4	1.0	16,697.5	1.5	60,815.4	1.9
326.8	2.0	9,392.3	2.0	54,885.9	2.0
145.3	3.0	4,174.4	3.0	24,393.7	3.0
81.7	4.0	2,348.1	4.0	13,721.5	4.0
52.3	5.0	1,502.8	5.0	8,781.7	5.0
13.1	10.0	375.7	10.0	2,195.4	10.0
5.8	15.0	167.0	15.0	975.7	15.0
3.3	20.0	93.9	20.0	548.9	20.0
2.1	25.0	60.1	25.0	351.3	25.0

[1] By random-sampling formula.
[2] Growing-stock volume on commercial forest land.
[3] Sawtimber volume on commercial forest land.

The sampling error to which the estimates of growth, mortality, and removals are liable, on a probability of two chances out of three, are:

Sampling errors for net annual growth and timber removals sampling error, Louisiana, 1973

Net annual growth				Annual removals			
Cubic volume	Sampling error[1]	Board-foot volume	Sampling error[1]	Cubic volume	Sampling error[1]	Board-foot volume	Sampling error[1]
Million ft³	*Percent*	*Million fbm*	*Percent*	*Million ft³*	*Percent*	*Million fbm*	*Percent*
928.8	1.6			601.4	1.2		
594.4	2.0	3,804.4	2.1	216.5	2.0	2,873.5	2.6
264.2	3.0	1,864.2	3.0	96.2	3.0	2,158.3	3.0
148.6	4.0	1,048.6	4.0	54.1	4.0	1,214.1	4.0
95.1	5.0	671.1	5.0	34.6	5.0	777.0	5.0
23.8	10.0	167.8	10.0	8.7	10.0	194.2	10.0
10.6	15.0	74.6	15.0	3.8	15.0	86.3	15.0
5.9	20.0	41.9	20.0	2.2	20.0	48.6	20.0
3.8	25.0	26.8	25.0	1.4	25.0	31.1	25.0

[1] By random-sampling formula.

DEFINITIONS OF TERMS

Forest Land Class

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

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

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

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 currently 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 longleaf or slash pine, singly or in combination, comprise a plurality of the stocking. Common associates include other southern pines, oak, and gum.

Loblolly-shortleaf pine.—Forests in which southern pine and eastern redcedar except longleaf or slash pine, singly or in combination, comprise a plurality of the stocking. Common associates include oak, hickory, and gum.

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

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

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

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

Class of Timber

Growing stock trees.—Sawtimber trees, poletimber trees, saplings, and seedlings; that is, all live trees except rough and rotten 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 favored in silvicultural 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 12-foot 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.

Rough and rotten trees.—Live trees 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 16.7 percent stocked with growing-stock trees, with half or more of this stocking in sawtimber or poletimber trees, and with sawtimber stocking at least equal to poletimber stocking.

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

Sapling-seedling stands.—Stands at least 16.7 percent stocked with growing-stock trees, with more than half of this stocking in saplings or seedlings.

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

Stocking

Stocking is a measure of the extent to which the growth potential of the site is utilized by trees or preempted by vegetative cover. Stocking is determined by comparing the stand density in terms of number of trees or basal area with a specified standard. Full stocking is assumed to range from 100 to 133 percent of the stocking standard.

The tabulation below shows the density standard in terms of trees per acre, by size class, required for full stocking:

D.b.h. (inches)	Number of trees	D.b.h. (inches)	Number of trees
Seedlings	600	16	72
2	560	18	60
4	460	20	51
6	340	22	42
8	240	24	36
10	155	26	31
12	115	28	27
14	90	30	24

Volume

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

Volume of growing stock.—Volume of sound wood the bole of sawtimber and poletimber trees from stu to a minimum 4.0-inch top outside bark or to the p where the central stem breaks into limbs.

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

Area Condition Class

A classification of commercial forest land based u stocking by desirable trees and other conditions affect current and prospective timber growth.

Class 10.—Areas 100 percent or more stocked w desirable trees and not overstocked.

Class 20.—Areas 100 percent or more stocked w desirable trees and overstocked with all live trees.

Class 30.—Areas 60 to 100 percent stocked with sirable trees and with less than 30 percent of the a controlled by other trees, inhibiting vegetation, slash, nonstockable conditions.

Class 40.—Areas 60 to 100 percent stocked with sirable trees and with 30 percent or more of the a controlled by other trees, or conditions that ordinar prevent occupancy by desirable trees.

Class 50.—Areas less than 60 percent stocked w desirable trees, but with 100 percent or more stocki of growing-stock trees.

Class 60.—Areas less than 60 percent stocked w desirable trees, but with 60 to 100 percent stocking growing-stock trees.

Class 70.—Areas less than 60 percent stocked w desirable trees and with less than 60 percent stocki of growing-stock trees.

Miscellaneous Definitions

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

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

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

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

Log grades.—A classification of logs based on exter characteristics as indicators of quality or value.

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

Net annual growth.—The increase in volume of a spe fied size class for a specific year. Components of

annual growth include the increment in net volume of trees at the beginning of the specific year surviving to its end plus volume of trees reaching the size class during the year minus the volume of trees that died during the year minus the net volume of trees that become rough or rotten during the year.

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

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

Timber products.—Roundwood products and plant byproducts. Timber products output includes roundwood products cut from growing stock on commercial forest land; from other sources, such as cull trees, salvable dead trees, limbs, and saplings; from trees on noncommercial and nonforest lands; and from plant byproducts

Roundwood products.—Logs, bolts, and other round sections cut from trees for industrial or consumer uses Included are saw logs, veneer logs and bolts, cooperage logs and bolts, pulpwood, fuelwood, piling, poles and posts, hewn ties, mine timbers, and various other round split, or hewn products.

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

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

Plant residues.—Wood materials from manufacturing plants not utilized for some product. Included are slabs, edgings, trimmings, miscuts, sawdust, shavings, veneer cores and clippings, and pulp screening.

STANDARD TABLES

NOTE: Regional tables, identical in format to standard State tables 1-22, are available for each of the five forest resource regions in Louisiana. They are free on request to the Southern Forest Experiment Station.

Table 1. *Area by land classes, Louisiana, 1974*

Land class	Area
	Thousand acres
Forest:	
Commercial	14,526.6
Productive reserved	38.2
Unproductive	...
Total forest	14,564.8
Nonforest:	
Cropland[1]	5,842.3
Other[2]	8,359.2
Total nonforest	14,201.5
All land[3]	28,766.3

[1] Census of Agriculture.
[2] Includes pasture and range, industrial and urban areas, other nonforest land, and 197,200 acres, classed as water by Forest Survey standards, but defined by the Bureau of the Census as land.
[3] United States Bureau of the Census.

Table 2. *Area of commercial forest land by ownership classes, Louisiana, 1974*

Ownership class	Area
	Thousand acres
Public:	
National forest	579.5
Bureau of Land Management	1.3
Other federal	132.7
State	298.7
Parish and municipal	9.8
Total public	1,022.0
Private:	
Forest industry[1]	3,761.4
Farmer	2,096.8
Miscellaneous private:	
Individual	5,131.6
Corporate	2,514.8
Total private	13,504.6
All ownerships	14,526.6

[1] Not including 618.8 thousand acres of farmer-owned and miscellaneous private lands leased to forest industry.

Table 3. *Area of commercial forest land by stand-size and ownership classes, Louisiana, 1974*

Stand-size class	All ownerships	National forest	Other public	Forest industry	Farmer and misc. private
	Thousand acres				
Sawtimber	7,880.5	417.0	294.5	2,056.1	5,112.9
Poletimber	3,409.8	68.1	73.5	722.8	2,545.4
Sapling and seedling	2,911.1	94.4	66.7	946.8	1,803.2
Nonstocked areas	325.2	...	7.8	35.7	281.7
All classes	14,526.6	579.5	442.5	3,761.4	9,743.2

Table 4. *Area of commercial forest land by stand-volume and ownership classes, Louisiana, 1974*

Stand-volume per acre[1]	All ownerships	National forest	Other public	Forest industry	Farmer and misc. private
	Thousand acres				
Less than 1,500 fbm	4,394.5	94.6	114.9	1,019.5	3,165.5
1,500 to 5,000 fbm	5,349.9	138.4	169.3	1,273.2	3,769.0
More than 5,000 fbm	4,782.2	346.5	158.3	1,468.7	2,808.7
All classes	14,526.6	579.5	442.5	3,761.4	9,743.2

[1] International 1/4-inch rule.

Table 5. *Area of commercial forest land by stocking classes based on selected stand components, Louisiana, 1974*

Stocking percentage	Stocking classified in terms of					
	All trees	Growing-stock trees			Rough and rotten trees	Inhibiting vegetation
		Total	Desirable	Acceptable		
	Thousand acres					
160 or more	...	...	...	...	...	...
150 to 160	182.1	48.1	6.1	...	...	...
140 to 150	404.0	113.6	11.8	...	...	...
130 to 140	1,147.1	305.5	45.6	5.1	...	...
120 to 130	1,988.4	709.7	57.3	22.4	6.1	...
110 to 120	2,501.1	1,155.2	166.5	54.7	6.3	...
100 to 110	2,703.0	1,641.0	212.5	118.4	11.2	...
90 to 100	2,054.0	1,883.8	363.8	448.5	23.1	...
80 to 90	1,333.3	1,972.6	381.7	724.1	52.7	...
70 to 80	887.4	1,897.8	576.0	1,066.1	127.1	...
60 to 70	451.4	1,529.2	947.1	1,673.7	291.6	...
50 to 60	286.5	1,178.0	1,026.4	2,210.6	614.5	...
40 to 50	202.0	850.4	1,361.3	2,377.8	1,191.7	12.1
30 to 40	142.8	493.3	1,806.6	2,092.8	1,974.6	22.6
20 to 30	86.4	370.1	1,936.7	1,482.0	2,447.0	16.8
10 to 20	69.0	216.2	2,434.5	1,226.9	3,419.5	67.5
Less than 10	88.1	162.1	3,192.7	1,023.5	4,361.2	14,407.6
All areas	14,526.6	14,526.6	14,526.6	14,526.6	14,526.6	14,526.6

Table 6. *Area of commercial forest land by area-condition and ownership classes, Louisiana, 1974*

Area-condition class	All ownerships	National forest	Other public	Forest industry	Farmer and misc. private
	Thousand acres				
10	369.2	11.0	4.5	178.6	175.1
20	130.6	11.1	...	51.3	68.2
30	712.8	40.4	4.6	306.3	361.5
40	1,555.8	85.7	43.2	495.2	931.7
50	2,051.6	124.3	48.1	515.0	1,364.2
60	6,436.5	250.9	190.0	1,566.5	4,429.1
70	3,270.1	56.1	152.1	648.5	2,413.4
All classes	14,526.6	579.5	442.5	3,761.4	9,743.2

Table 7. *Area of commercial forest land by site and ownership classes, Louisiana, 1974*

Site class	All ownerships	National forest	Other public	Forest industry	Farmer and misc. private
			Thousand acres		
165 ft³ or more	419.8	6.0	20.2	118.0	275.6
120 to 165 ft³	1,889.3	90.0	32.5	562.1	1,204.7
85 to 120 ft³	5,406.4	213.3	130.6	1,468.3	3,594.2
50 to 85 ft³	6,088.4	249.1	190.0	1,466.2	4,183.1
Less than 50 ft³	722.7	21.1	69.2	146.8	485.6
All classes	14,526.6	579.5	442.5	3,761.4	9,743.2

Table 8. *Area of commercial forest land by forest types and ownership classes, Louisiana, 1974*

Type	All ownerships	National forest	Other public	Forest industry	Farmer and misc. private
			Thousand acres		
Longleaf-slash pine	1,022.6	97.4	14.8	346.7	563.7
Loblolly-shortleaf pine	4,073.4	272.7	91.8	1,371.5	2,337.4
Oak-pine	2,207.6	115.6	40.9	657.5	1,393.6
Oak-hickory	1,725.5	39.7	9.4	490.7	1,185.7
Oak-gum-cypress	4,956.6	54.1	262.2	799.8	3,840.5
Elm-ash-cottonwood	540.9	...	23.4	95.2	422.3
All types	14,526.6	579.5	442.5	3,761.4	9,743.2

Table 9. *Area of noncommercial forest land by forest types, Louisiana, 1974*

Type	All areas	Productive-reserved areas	Unproductive areas
		Thousand acres	
Longleaf-slash pine	35.0	35.0	...
Loblolly-shortleaf pine	3.2	3.2	...
All types	38.2	38.2	...

Table 10. *Number of growing-stock trees on commercial forest land by species and diameter classes, Louisiana, 1*

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	19.0-20.9	21.0-28.9	2(a lar
	Thousand trees										
Softwood:											
Longleaf pine	37,515	11,344	6,797	6,104	5,890	3,655	2,160	1,030	378	153	
Slash pine	111,616	69,704	27,012	7,854	4,462	1,752	650	116	33	33	.
Shortleaf pine	119,145	45,907	31,342	19,043	11,210	6,010	3,348	1,386	661	234	
Loblolly pine	487,325	187,101	122,594	68,037	43,945	28,230	15,924	10,471	5,613	5,227	1
Spruce pine	5,534	1,460	1,090	998	607	691	329	186	62	101	
Cypress	68,427	16,168	15,677	8,453	8,502	7,370	5,261	3,163	1,748	2,012	
Redcedar	160	91	48	...	...	21	...	...	...	...	.
Total	829,722	331,775	204,560	110,489	74,616	47,729	27,672	16,352	8,495	7,760	2
Hardwood:											
Select white oaks[1]	30,325	11,754	6,175	3,899	3,191	2,149	1,498	875	355	377	
Select red oaks[2]	14,556	5,758	2,195	2,514	1,152	943	883	472	251	359	
Other white oaks	51,569	18,649	12,404	7,504	4,347	3,093	2,246	1,243	789	1,189	1
Other red oaks	136,107	46,915	32,676	20,881	12,463	9,029	5,521	3,309	2,305	2,692	3
Pecan	28,289	9,360	6,313	4,354	2,579	1,925	1,681	769	465	740	1
Other hickories	21,770	8,565	4,123	3,788	1,960	1,332	820	509	250	381	
Sweetgum	154,549	67,141	36,917	20,627	12,798	7,510	4,868	2,495	1,176	988	
Tupelo and blackgum	113,620	33,478	27,219	22,249	9,750	9,246	5,537	3,127	1,711	1,204	
Hard maple	557	317	184	...	24	22	...	...	10	...	.
Soft maple	26,712	13,826	6,685	3,547	1,002	878	458	177	82	57	.
Beech	6,454	609	871	1,130	986	919	733	430	440	325	
Ash	43,989	17,339	9,290	7,502	3,268	2,359	1,661	1,186	669	675	
Cottonwood	5,683	1,451	1,637	810	623	337	207	212	89	228	
Basswood	1,157	672	267	153	30	...	16	11	...	8	.
Yollow-poplar	1,783	565	115	482	147	205	118	59	42	45	
Black walnut	169	88	...	48	25	...	...	...	8	...	.
Black cherry	1,791	1,082	359	153	84	62	20	13	10	8	.
Willow	24,669	8,726	4,456	2,826	2,082	2,441	1,697	986	664	773	
Magnolia (*Magnolia* spp.)	7,820	3,299	1,558	1,205	997	338	183	136	56	48	.
American elm	14,540	5,522	3,257	2,149	1,241	998	548	461	156	195	
Other elms	14,926	5,612	3,617	2,286	1,688	618	537	227	122	211	
Hackberry	23,250	7,987	5,000	3,806	2,217	1,659	1,339	669	316	253	
Sycamore	4,385	1,488	1,568	577	181	209	142	90	54	73	
Other hardwoods	22,464	13,679	4,157	2,085	764	860	436	172	175	136	.
Total	751,134	283,882	171,043	114,575	63,599	47,132	31,149	17,628	10,195	10,965	9
All species	1,580,856	615,657	375,603	225,064	138,215	94,861	58,821	33,980	18,690	18,725	1,2

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

Table 11. *Volume of timber on commercial forest land by class of timber and by softwoods and hardwoods, Louisiana, 1974*

Class of timber	All species	Softwood	Hardwood
	— *Million cubic feet* —		
Sawtimber trees:			
Saw-log portion	10,321.3	6,272.5	4,048.8
Upper-stem portion	1,788.0	824.5	963.5
Total	12,109.3	7,097.0	5,012.3
Poletimber trees	4,588.2	1,943.0	2,645.2
All growing stock	16,697.5	9,040.0	7,657.5
Rough trees	1,716.2	129.1	1,587.1
Rotten trees	751.0	116.3	634.7
Salvable dead trees	.8	.8	...
All timber	19,165.5	9,286.2	9,879.3

Table 12. *Volume of growing stock and sawtimber on commercial forest land by ownership classes and by softwoods and hardwoods, Louisiana, 1974*

Ownership class	Growing stock			Sawtimber		
	All species	Softwood	Hardwood	All species	Softwood	Hardwood
	— *Million cubic feet* —			— *Million board feet* —		
National forest	910.0	700.1	209.9	4,074.9	3,431.0	643.9
Other public	499.2	199.1	300.1	1,997.6	953.1	1,044.5
Forest industry	4,429.0	2,623.7	1,805.3	17,271.8	11,186.9	6,084.9
Farmer and misc. private	10,859.3	5,517.1	5,342.2	37,471.1	21,421.7	16,049.4
All ownerships	16,697.5	9,040.0	7,657.5	60,815.4	36,992.7	23,822.7

Table 13. *Volume of growing stock on commercial forest land by species and diameter classes, Louisiana, 1974*

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	19.0-20.9	21.0-28.9	29.0 and larger
	— *Million cubic feet* —										
Softwood:											
Longleaf pine	484.7	27.0	40.5	69.5	107.0	89.6	74.0	46.2	19.1	11.2	0.6
Slash pine	589.8	164.0	149.4	99.1	91.0	50.6	26.3	5.2	1.8	2.4	...
Shortleaf pine	1,217.4	112.2	190.4	233.6	219.6	175.0	140.8	74.8	46.8	23.5	.7
Loblolly pine	5,507.5	426.2	695.1	753.3	796.1	767.4	598.7	546.4	378.4	509.0	36.9
Spruce pine	92.1	4.2	7.5	11.1	11.5	19.0	13.4	10.0	4.0	9.0	2.4
Cypress	1,147.5	39.5	86.5	92.4	147.0	187.1	189.4	140.7	97.3	155.2	12.4
Redcedar	1.0	.2	.3	...	...	.5	...	...	...	...	...
Total	9,040.0	773.3	1,169.7	1,259.0	1,372.2	1,289.2	1,042.6	823.3	547.4	710.3	53.0
Hardwood:											
Select white oaks	329.4	25.1	31.6	38.8	50.9	52.1	47.3	33.2	18.0	26.0	6.4
Select red oaks	189.6	13.5	12.7	26.5	19.1	22.7	28.7	19.5	13.6	29.0	4.3
Other white oaks	510.7	39.3	61.8	67.1	59.7	61.0	58.7	42.7	34.7	73.8	11.9
Other red oaks	1,536.8	115.7	184.8	200.4	194.1	202.4	167.4	128.2	112.9	190.5	40.4
Pecan	344.1	21.3	33.4	38.7	36.8	42.7	51.6	30.3	22.6	53.3	13.4
Other hickories	225.3	18.0	20.0	34.4	29.2	27.3	25.0	21.4	13.3	30.5	6.2
Sweetgum	1,598.7	138.8	197.7	210.0	219.9	193.0	171.4	114.1	69.2	80.8	3.8
Tupelo and blackgum	1,176.7	76.4	140.1	210.9	151.3	188.4	153.0	107.1	70.9	67.2	11.4
Hard maple	3.4	.8	1.2	...	.3	.7	...	...	.4	...	...
Soft maple	153.8	33.4	35.4	30.2	13.1	17.5	11.6	5.7	3.4	3.5	...
Beech	143.3	1.7	4.9	12.8	16.5	22.0	22.6	17.7	23.1	20.6	1.4
Ash	405.5	40.4	49.3	70.6	47.7	47.0	43.2	40.2	27.4	36.1	3.6
Cottonwood	106.3	4.0	9.1	10.0	10.9	7.9	6.5	10.6	5.4	23.3	18.6
Basswood	6.6	1.8	1.4	1.3	.7	...	.6	.5	...	.3	...
Yellow-poplar	27.9	1.7	.8	4.9	2.5	5.1	4.2	3.0	2.0	2.9	.8
Black walnut	1.5	.3	...	.4	.5	...	...	...	.3	...	...
Black cherry	11.2	2.3	2.0	1.7	1.4	1.6	.4	.5	.3	1.0	...
Willow	329.6	18.6	22.4	26.4	30.0	50.8	54.4	38.9	32.7	53.2	2.2
Magnolia (*Magnolia* spp.)	72.6	8.9	8.9	14.0	16.3	7.1	5.5	5.4	2.8	3.7	...
American elm	129.6	13.0	15.4	18.1	17.6	18.6	14.1	14.2	6.6	11.0	1.0
Other elms	144.4	12.7	21.7	21.5	26.4	14.9	16.1	10.2	7.0	12.9	1.0
Hackberry	229.1	19.3	22.6	32.5	30.5	34.5	36.2	23.9	14.7	14.5	.4
Sycamore	51.4	4.7	10.8	6.5	3.0	6.4	4.7	5.2	3.1	6.2	.8
Other hardwoods	130.0	27.2	22.8	17.8	9.8	17.3	11.2	6.0	8.2	9.7	...
Total	7,657.5	638.9	910.8	1,095.5	988.2	1,041.0	934.4	678.5	492.6	750.0	127.6
All species	16,697.5	1,412.2	2,080.5	2,354.5	2,360.4	2,330.2	1,977.0	1,501.8	1,040.0	1,460.3	180.6

Table 14. *Volume of sawtimber on commercial forest land by species and diameter classes, Louisiana, 1974*

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	19.0-20.9	21.0-28.9	29.0 and larger
	Million board feet								
Softwood:									
Longleaf pine	2,138.8	290.3	531.5	470.5	409.6	259.7	108.5	65.1	3.6
Slash pine	1,395.3	424.6	479.4	287.3	151.0	28.4	9.9	14.7	...
Shortleaf pine	4,872.1	1,020.3	1,136.6	982.6	841.4	447.0	293.8	146.7	3.7
Loblolly pine	23,429.0	3,066.3	3,914.0	4,153.9	3,387.0	3,256.0	2,270.8	3,140.1	240.9
Spruce pine	413.9	40.3	53.4	96.8	74.2	57.0	21.9	53.5	16.8
Cypress	4,741.3	306.2	579.4	874.1	900.0	703.8	485.9	818.1	73.8
Redcedar	2.3	...	...	2.3	...	...	...	...	...
Total	36,992.7	5,148.0	6,694.3	6,867.5	5,763.2	4,751.9	3,190.8	4,238.2	338.8
Hardwood:									
Select white oaks	1,147.2	...	207.0	251.6	242.4	167.6	96.8	142.5	39.3
Select red oaks	681.3	...	71.9	104.8	141.3	101.7	74.9	161.0	25.7
Other white oaks	1,707.3	...	246.7	286.9	293.0	235.3	173.3	401.7	70.4
Other red oaks	5,018.0	...	755.0	934.5	806.7	651.8	591.3	1,051.3	227.4
Pecan	1,268.1	...	158.8	202.2	257.5	153.9	118.4	296.4	80.9
Other hickories	755.1	...	108.6	123.5	126.7	115.8	69.8	173.3	37.4
Sweetgum	4,025.3	...	823.0	886.0	874.2	590.9	371.4	456.7	23.1
Tupelo and blackgum	3,123.2	...	476.3	712.6	676.3	502.2	353.6	337.6	64.6
Hard maple	6.9	...	1.2	3.4	...	...	2.3	...	...
Soft maple	234.3	...	47.5	73.6	50.1	27.2	18.3	17.6	...
Beech	652.7	...	73.5	111.8	116.6	91.1	131.8	118.2	9.7
Ash	1,096.4	...	172.4	208.0	193.8	187.3	137.8	176.3	20.8
Cottonwood	454.7	...	45.1	36.3	30.8	58.9	28.9	139.2	115.5
Basswood	11.4	...	2.8	...	3.0	3.4	...	2.2	...
Yellow-poplar	99.2	...	10.8	21.9	22.4	16.5	7.8	14.6	5.2
Black walnut	3.4	...	2.4	...	...	...	1.0	...	...
Black cherry	24.8	...	7.2	8.0	2.0	1.8	1.4	4.4	...
Willow	1,357.2	...	121.5	239.8	286.3	211.9	181.7	302.6	13.4
Magnolia *(Magnolia* spp.*)*	185.7	...	63.7	34.2	28.6	28.9	13.7	16.6	...
American elm	406.3	...	68.9	86.3	71.2	76.7	37.0	59.6	6.6
Other elms	415.1	...	109.6	66.9	76.2	48.4	39.9	68.1	6.0
Hackberry	693.8	...	116.2	147.1	166.3	112.4	70.6	78.2	3.0
Sycamore	152.1	...	13.0	31.6	23.2	31.1	16.6	31.1	5.5
Other hardwoods	303.2	...	40.9	80.9	53.9	33.3	42.0	52.2	...
Total	23,822.7	...	3,744.0	4,651.9	4,542.5	3,448.1	2,580.3	4,101.4	754.5
All species	60,815.4	5,148.0	10,438.3	11,519.4	10,305.7	8,200.0	5,771.1	8,339.6	1,093.3

Table 15. *Volume of sawtimber on commercial forest land by species and log grade, Louisiana, 1974*

Species	All grades	Grade 1	Grade 2	Grade 3	Grade 4
			Million board feet		
Softwood:					
Yellow pines	32,249.1	2,679.4	3,765.0	25,804.7	...
Cypress	4,741.3	748.9	1,045.4	2,947.0	...
Other softwoods	2.3	2.3	...	...	...
Total	36,992.7	3,430.6	4,810.4	28,751.7	...
Hardwood:					
Select white and red oaks	1,828.5	184.4	329.1	856.3	458.7
Other white and red oaks	6,725.3	441.7	1,058.3	3,181.2	2,044.1
Hickory	2,023.2	237.6	454.5	953.5	377.6
Hard maple	6.9	...	...	4.6	2.3
Sweetgum	4,025.3	377.5	734.3	2,052.1	861.4
Tupelo and blackgum	3,123.2	254.2	730.2	1,800.5	338.3
Ash, walnut, and black cherry	1,124.6	163.1	234.0	601.6	125.9
Yellow-poplar	99.2	6.2	21.3	50.3	21.4
Other hardwoods	4,866.5	468.3	913.6	2,397.0	1,087.6
Total	23,822.7	2,133.0	4,475.3	11,897.1	5,317.3
All species	60,815.4	5,563.6	9,285.7	40,648.8	5,317.3

Table 16. *Annual growth and removals of growing stock on commercial forest land by species, Louisiana, 1973*

Species	Net annual growth	Annual removals
	Million cubic feet	
Softwood:		
Yellow pines	567.5	432.5
Cypress	36.5	8.5
Other softwoods	.1	.2
Total	604.1	441.2
Hardwood:		
Select white and red oaks	25.4	16.1
Other white and red oaks	99.8	56.6
Hickory	20.4	14.7
Hard maple	.2	...
Sweetgum	56.4	26.7
Tupelo and blackgum	35.7	10.1
Ash, walnut, and black cherry	16.7	8.4
Yellow-poplar	1.2	.2
Other hardwoods	68.9	27.4
Total	324.7	160.2
All species	928.8	601.4

Table 17. *Annual growth and removals of growing stock on commercial forest land by ownership classes and by softwoods and hardwoods, Louisiana, 1973*

Ownership class	Net annual growth			Annual removals		
	All species	Soft-wood	Hard-wood	All species	Soft-wood	Hard-wood
	Million cubic feet					
National forest	39.7	31.7	8.0	23.6	22.8	0.8
Other public	20.3	9.4	10.9	12.3	5.7	6.6
Forest industry	251.9	180.7	71.2	241.7	193.2	48.5
Farmer and misc. private	616.9	382.3	234.6	323.8	219.5	104.3
All ownerships	928.8	604.1	324.7	601.4	441.2	160.2

Table 18. *Annual growth and removals of sawtimber on commercial forest land by species, Louisiana, 1973*

Species	Net annual growth	Annual removals
	Million board feet	
Softwood:		
Yellow pines	2,508.3	2,096.3
Cypress	145.5	38.6
Other softwoods	.1	.6
Total	2,653.9	2,135.5
Hardwood:		
Select white and red oaks	105.8	82.7
Other white and red oaks	388.1	271.2
Hickory	78.4	76.7
Hard maple	.3	...
Sweetgum	186.1	102.6
Tupelo and blackgum	106.9	47.6
Ash, walnut, and black cherry	43.0	38.8
Yellow-poplar	3.8	.6
Other hardwoods	238.1	117.8
Total	1,150.5	738.0
All species	3,804.4	2,873.5

Table 19. *Annual growth and removals of sawtimber on commercial forest land by ownership classes and by softwoods and hardwoods, Louisiana, 1973*

Ownership class	Net annual growth			Annual removals		
	All species	Soft-wood	Hard-wood	All species	Soft-wood	Hard-wood
	Million board feet					
National forest	208.1	182.0	26.1	120.7	118.4	2.3
Other public	102.9	54.1	48.8	65.3	28.6	36.7
Forest industry	1,108.9	829.1	279.8	1,239.4	1,010.7	228.7
Farmer and misc. private	2,384.5	1,588.7	795.8	1,448.1	977.8	470.3
All ownerships	3,804.4	2,653.9	1,150.5	2,873.5	2,135.5	738.0

Table 20. *Mortality of growing stock and sawtimber on commercial forest land by species, Louisiana, 1973*

Species	Growing stock	Sawtimber
	Million cubic feet	*Million board feet*
Softwood:		
Yellow pines	35.7	116.0
Cypress	3.9	16.2
Other softwoods	(1)	.9
Total	39.6	133.1
Hardwood:		
Select white and red oaks	1.5	5.6
Other white and red oaks	10.4	35.5
Hickory	6.2	26.7
Sweetgum	8.7	24.6
Tupelo and blackgum	6.7	22.2
Ash, walnut, and black cherry	5.0	13.8
Yellow-poplar	(1)	...
Other hardwoods	30.6	103.0
Total	69.1	231.4
All species	108.7	364.5

[1] Negligible.

Table 21. *Mortality of growing stock and sawtimber on commercial forest land by ownership classes and by softwoods and hardwoods, Louisiana, 1973*

Ownership class	Growing stock			Sawtimber		
	All species	Softwood	Hardwood	All species	Softwood	Hardwood
	— Million cubic feet —			*— Million board feet —*		
National forest	3.2	2.2	1.0	9.3	7.3	2.0
Other public	4.6	1.4	3.2	15.7	4.7	11.0
Forest industry	26.9	13.3	13.6	98.5	48.1	50.4
Farmer and misc. private	74.0	22.7	51.3	241.0	73.0	168.0
All ownerships	108.7	39.6	69.1	364.5	133.1	231.4

Table 22. *Mortality of growing stock and sawtimber on commercial forest land by causes and by softwoods and hardwoods, Louisiana, 1973*

Cause of death	Growing stock			Sawtimber		
	All species	Softwood	Hardwood	All species	Softwood	Hardwood
	— Million cubic feet —			*— Million board feet —*		
Fire	1.0	0.4	0.6	3.6	0.9	2.7
Insects	2.7	2.7	...	11.6	11.6	...
Disease	.5	.4	.1	1.1	.6	.5
Other	18.6	5.6	13.0	76.3	23.0	53.3
Unknown	85.9	30.5	55.4	271.9	97.0	174.9
All causes	108.7	39.6	69.1	364.5	133.1	231.4

Table 23. *Total output of timber products by product, by type of material used, and by softwoods and hardwoo Louisiana, 1973*

Product and species group	Standard units	Total output		Roundwood products		Plant byproduc	
		Number	M ft[3]	Number	M ft[3]	Number	M f
Saw logs:							
Softwood	M fbm[1]	819,357	128,213	760,887	123,340	58,470	4,8
Hardwood	M fbm[1]	348,402	58,427	348,402	58,427	...	
Total	M fbm[1]	1,167,759	186,640	1,109,289	181,767	58,470	4,8
Veneer logs and bolts:							
Softwood	M fbm	626,595	96,245	626,595	96,245	...	
Hardwood	M fbm	15,541	2,608	15,541	2,608	...	
Total	M fbm	642,136	98,853	642,136	98,853	...	
Pulpwood:							
Softwood	Std. cords[2]	3,469,387	281,020	2,463,287	199,526	1,006,100	81,4
Hardwood	Std. cords[2]	965,914	77,273	767,214	61,377	198,700	15,8
Total	Std. cords[2]	4,435,301	358,293	3,230,501	260,903	1,204,800	97,8
Piling:							
Softwood	M linear ft.	7,078	6,120	7,078	6,120	...	
Hardwood	M linear ft.	...	...	...	...	...	
Total	M linear ft.	7,078	6,120	7,078	6,120	...	
Poles:							
Softwood	M pieces	777	11,373	777	11,373	...	
Hardwood	M pieces	...	...	...	...	...	
Total	M pieces	777	11,373	777	11,373	...	
Commercial posts (round and split):							
Softwood	M pieces	2,232	1,253	2,232	1,253	...	
Hardwood	M pieces	...	...	...	...	...	
Total	M pieces	2,232	1,253	2,232	1,253	...	
Other[3]:							
Softwood	M ft[3]	4,700	4,700	77	77	4,623	4,6
Hardwood	M ft[3]	5,509	5,509	802	802	4,707	4,7
Total	M ft[3]	10,209	10,209	879	879	9,330	9,8
Total industrial products:							
Softwood	...	...	...	...	...	437,934	... 90,9
Hardwood	...	...	...	...	...	123,214	... 20,6
Total	...	...	...	...	...	561,148	... 111,5
Fuelwood:							
Softwood	Std. cords	102,055	7,654	6,428	482	[4] 95,627	[4] 7,1
Hardwood	Std. cords	199,949	14,996	160,429	12,032	[4] 39,520	[4] 2,9
Total	Std. cords	302,004	22,650	166,857	12,514	[4]135,147	[4] 10,1
All products:							
Softwood	...	...	...	...	...	438,416	... 98,1
Hardwood	...	...	...	...	...	135,246	... 23,5
Total	...	...	...	...	...	573,662	... 121,7

[1] International ¼-inch rule.

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

[3] Includes cooperage logs and bolts, handlestock, miscellaneous dimension and other minor industrial products. A ditionally, byproducts include material used for livestock bedding, mulch, etc.

[4] Includes plant byproducts used for industrial and domestic fuel.

Table 24. *Output of roundwood products by source and by softwoods and hardwoods, Louisiana, 1973*

Product and species group	All sources	Growing-stock trees[1]			Rough and rotten trees[1]	Salvable dead trees[1]	Other sources[2]
		Total	Saw-timber	Pole-timber			
	Thousand cubic feet						
Industrial products:							
Saw logs:							
Softwood	123,340	122,471	122,340	131	136	...	733
Hardwood	58,427	56,923	55,919	1,004	1,325	...	179
Total	181,767	179,394	178,259	1,135	1,461	...	912
Veneer logs and bolts:							
Softwood	96,245	94,810	94,810	...	874	...	561
Hardwood	2,608	2,563	2,563	...	34	...	11
Total	98,853	97,373	97,373	...	908	...	572
Pulpwood:							
Softwood	199,526	187,689	155,308	32,381	1,369	...	10,468
Hardwood	61,377	55,608	43,068	12,540	1,326	181	4,262
Total	260,903	243,297	198,376	44,921	2,695	181	14,730
Misc. industrial products:							
Piling:							
Softwood	6,120	6,093	6,093	...	...	...	27
Hardwood	...	...	...	...	...	...	...
Total	6,120	6,093	6,093	...	...	...	27
Poles:							
Softwood	11,373	11,289	9,985	1,304	...	...	84
Hardwood	...	...	...	...	...	...	...
Total	11,373	11,289	9,985	1,304	...	...	84
Commercial posts (round and split):							
Softwood	1,253	1,142	...	1,142	...	...	111
Hardwood	...	...	...	...	...	...	...
Total	1,253	1,142	...	1,142	...	...	111
Other:							
Softwood	77	77	76	1	...	...	...
Hardwood	802	794	790	4	4	...	4
Total	879	871	866	5	4	...	4
All misc. industrial products:							
Softwood	18,823	18,601	16,154	2,447	...	...	222
Hardwood	802	794	790	4	4	...	4
Total	19,625	19,395	16,944	2,451	4	...	226
All industrial products:							
Softwood	437,934	423,571	388,612	34,959	2,379	...	11,984
Hardwood	123,214	115,888	102,340	13,548	2,689	181	4,456
Total	561,148	539,459	490,952	48,507	5,068	181	16,440
Fuelwood:							
Softwood	482	349	111	238	12	39	82
Hardwood	12,032	8,696	5,492	3,204	293	979	2,064
Total	12,514	9,045	5,603	3,442	305	1,018	2,146
All products:							
Softwood	438,416	423,920	388,723	35,197	2,391	39	12,066
Hardwood	135,246	124,584	107,832	16,752	2,982	1,160	6,520
Total	573,662	548,504	496,555	51,949	5,373	1,199	18,586

[1] On commercial forest land.

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

Table 25. *Timber removals from growing stock on commercial forest land by items and by softwoods and hardwoods, Louisiana, 1973*

Item	All species	Softwood	Hardwood
	— *Thousand cubic feet* —		
Roundwood products:			
Saw logs	179,394	122,471	56,923
Veneer logs and bolts	97,373	94,810	2,563
Pulpwood	243,297	187,689	55,608
Piling	6,093	6,093	...
Poles	11,289	11,289	...
Posts	1,142	1,142	...
Other	871	77	794
Fuelwood	9,045	349	8,696
All products	548,504	423,920	124,584
Logging residues	32,780	15,531	17,249
Other removals	20,122	1,773	18,349
Total removals	601,406	441,224	160,182

Table 26. *Timber removals from live sawtimber commercial forest land by items and softwoods and hardwoods, Louisiana, 1*

Item	All species	Softwood	Har wo
	— — *Thousand board feet* —		
Roundwood products:			
Saw logs	1,102,203	757,659	344,5
Veneer logs and bolts	632,780	617,702	15,(
Pulpwood	829,735	613,778	215,9
Piling	36,140	36,140	
Poles	57,698	57,698	
Other	5,323	420	4,9
Fuelwood	27,401	551	26,8
All products	2,691,280	2,083,948	607,3
Logging residues	115,488	42,551	72,9
Other removals	66,774	9,003	57,7
Total removals	2,873,542	2,135,502	738,(

Table 27. *Volume of plant residues by industrial source and type of residue and by softwoods and hardwoods, Louisiana, 1973*

Species group and type	All industries	Lumber	Veneer and plywood	Other
	— — — — *Thousand cubic feet* — — — —			
Softwood:				
Coarse[1]	1,793	1,203	...	590
Fine[2]	5,511	3,338	885	1,288
Total	7,304	4,541	885	1,878
Hardwood:				
Coarse[1]	2,112	2,008	48	56
Fine[2]	4,025	3,929	12	84
Total	6,137	5,937	60	140
All species:				
Coarse[1]	3,905	3,211	48	646
Fine[2]	9,536	7,267	897	1,372
All types	13,441	10,478	945	2,018

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

Table 28. *Projections of net annual growth, available cut, and inventory of growing stock and sawtimber on commercial forest land, Louisiana, 1973-2003*[1]

Item	Growing stock				Sawtimber			
	1973	1983	1993	2003	1973	1983	1993	2003
	Thousand cubic feet				*Thousand board feet*			
Softwood:								
Cut	441,200	589,100	653,300	695,000	2,135,500	2,554,000	2,852,000	3,069,000
Growth	604,100	670,000	693,700	695,000	2,653,900	2,891,000	3,085,000	3,123,000
Inventory[2]	9,040,000	10,031,500	10,617,000	10,799,000	36,992,700	40,594,000	43,475,000	44,860,000
Hardwood:								
Cut	160,200	336,100	417,300	474,200	738,000	1,127,000	1,248,000	1,276,000
Growth	324,700	403,900	454,400	474,200	1,150,500	1,012,000	1,087,000	1,156,000
Inventory[2]	7,657,500	8,460,600	8,972,400	9,163,900	23,822,700	23,566,000	22,034,000	20,633,000
Total:								
Cut	601,400	925,200	1,070,600	1,169,200	2,873,500	3,681,000	4,100,000	4,345,000
Growth	928,800	1,073,900	1,148,100	1,169,200	3,804,400	3,903,000	4,172,000	4,279,000
Inventory[2]	16,697,500	18,492,100	19,589,400	19,962,900	60,815,400	64,160,000	65,509,000	65,493,000

[1] Based on the assumption that the cut of growing stock will be in balance with growth by the year 2003, and that forestry progress will continue at the rate indicated by recent trends.

[2] Inventory as of January 1 of the following year.

Murphy, Paul A.

1975. Louisiana forests: status and outlook. South. For. Exp. Stn., New Orleans, La. 31 p. (USDA For. Serv. Resour. Bull. SO–53)

Between 1964 and 1974, forest area in Louisiana declined 9 percent to 14.5 million acres. Softwood volume increased 31 percent to 9 billion cubic feet, and hardwood declined 7 percent to 7.7 billion. All softwood size classes had increases in volume, and all hardwood size classes had decreases.

Additional keywords: Timber volume, forest acreage, timber cut, timber growth, forest industries.

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