

GEORGIA FOREST RESEARCH PAPER

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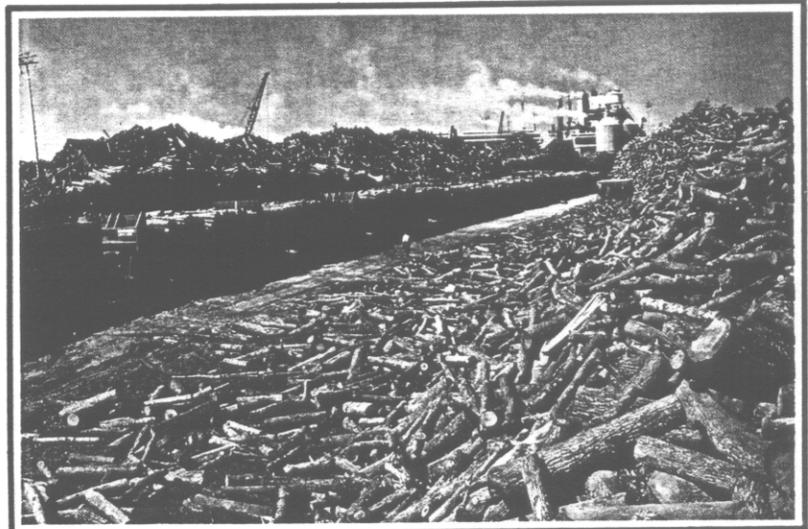
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THE PATTERN OF OWNERSHIP AND...

CONTROL OF GEORGIA'S FOREST RESOURCE

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ABSTRACT

The lack of productivity-improving forest management on the part of nonindustrial timberland landowners is threatening the future timber supply in Georgia and all of the economic structure in the state that depends upon that supply. A solution to this problem is to modify the nonindustrial landowners' management behavior with the economic incentives of a rising level of stumpage prices and government programs offering tax relief and other types of cost-sharing. Reinforcing this solution is a gradual change in the pattern of the forest ownership and control.

On comparing the 1982 Georgia Forest Survey with that taken a decade earlier it was found that of the timberland shifting ownership, the forest industry and other corporate timberland owners were the principal recipients, jointly gaining 11.1 million acres. The other corporate ownership is a subcategory of nonindustrial landownership that leases 400 thousand acres to the forest industry. Additionally, 500 thousand acres are owned by companies, such as naval stores operators, that manage timberland in supply of forest industry's wood-using

companies. From all nonindustrial landowners the forest industry leased 972 thousand acres under long term contracts. This study found 105.9 thousand acres being leased to industry for less than 30 years and, thus, not included in Survey totals. Counting acreage under short and long leases and the acreage of other corporate ownership being managed in supply of the forest industry, 6.5 million acres are under direct or indirect industry management, 28 percent of the commercial timberland in the state. However, even if industry's increased timberland ownership and control is entirely benefited from productivity-improving management, the resulting gain for the future timber supply will not compensate for loss of the timber on 1 million acres of pine forest lost to other land uses over the past decade. Much less will this shift in ownership and control of the forest to companies who will benefit it with adequate forest management compensate for the lack of adequate management on the part of farmers and other individuals owning and controlling 14.7 million acres of timberland.

INTRODUCTION

Georgia's forest has become an increasingly valuable economic resource. The recent annual harvest of sawtimber, pulpwood, naval stores, and other forest products was worth \$1 billion as valued at the first point of delivery. By the same valuation, Georgia has a wealth of standing timber worth \$20 billion. More than this by severalfold is the capital investment and income created in the manufacturing, distribution, and service industries that are based upon the forest resource. Directly and indirectly, forestry annually employs 80,000 persons and creates \$8.6 billion of economic activity in Georgia.

The growing economic importance of forestry for Georgia is due both to the physical growth of timber and to a growing forest industry presence in the state. As revealed in the latest Forest Survey, the volume of timber inventory, especially that of valuable sawtimber, has grown over the past decade. Albeit slower than in the 1950's and 1960's, the annual growth of the forest continues to exceed the volume of timber lost to fire, insects, disease, and the annual harvest. But the growing presence of industry in Georgia is beginning to press the annual harvest against the limits of the annual growth. In 1982, 93 percent of the net annual growth of the pine forest was harvested, up from 69 percent just 10 years earlier. Reflecting the growing industry demand, pine timber prices have been rising even faster than inflation in the important timber-producing regions of the state. Since 1977 the inflation-adjusted prices of pine pulpwood stumpage in the Coastal Plain and those of pine sawtimber in the Piedmont have been increasing at a 1 to 1½ percent annual rate. Therefore, the total economic value of the timber harvest has been growing not only because of its increasing physical size but also because of a rising real economic price for timber.

The timber harvest's economic value has been enhanced as well by a shift in its product mix from pulpwood to more valuable sawtimber. Lumber production in Georgia has doubled over the past decade to a volume rivaling the timber requirements of the pulp and paper industry of the early 1970s. The maturation of the pine plantations made under the Soil Bank Program in the 1950s has increased the supply of sawlogs and to take advantage of that increased sawlog availability industry has made a heavy investment in efficient, high-volume, sawmills. Only 6 sawmills produced 20 million or more board feet of lumber in 1971 and they accounted for only 18 percent of that year's 1.1 billion board foot output. In 1983, 40 high-volume sawmills produced 73 percent of that year's 2.4 billion board foot output. Accordingly, the stumpage market is no longer dominated by industry's demand for pulpwood and the landowner is benefiting from a more valuable

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market for his timber. Granted, Georgia is still the Nation's leading producer of pulp and paper. Indeed, the daily pulping capacity in the state has grown from 13,888 to 17,341 tons over the past decade as a result of existing mill expansion and the location in Georgia of two new pulp mills. But increasingly Georgia's pulp mills are being supplied with chips and residues from sawmills, as the rising real economic price of pine timber has encouraged industry to utilize the forest's output more efficiently.

Improved utilization notwithstanding, forestry's economic growth in Georgia is being threatened both in the short run and long run by the scarcity of pine timber. Already Georgia is a significant net importer of timber from adjacent states. If this net inflow of timber had been supplied instead out of the net annual growth of Georgia's pine forest, it is estimated from the Survey that in 1982 the pine harvest would have taken 97 percent of that growth statewide as compared with the reported 93 percent. This dependence upon imports from adjacent states and the fact that the Survey found a decline in the acreage and volume of young pine stands that will be reaching merchantable size over the next decade or two probably means that industry's investment in pulp and lumber mill capacity in Georgia has reached its zenith for the time being. As for the long run, there is reason for concern as to whether the forest resource in Georgia will be able to supply even the existing industry capacity.

Over the past decade the 1982 Survey found that an average of a half million acres of timberland were being harvested annually, of which only 188,000 acres were being adequately regenerated to pine forest types. Pine regeneration by productivity-improving plantations averaged only 155,000 acres, of which three-fourths was accomplished by the forest products industry on land it owns or leases. While industry's efforts to manage timberland under its control have been more than adequate, the Survey found a serious deficit in the pine harvest-regeneration relationship on the part of private, nonindustrial landowners who own two-thirds of the Georgia forest. Compared with 189,000 acres annually harvested on private, nonindustrial land, only 66,000 acres were adequately regenerated and only half of these were benefited by productivity-improving plantation management. Obviously, this management lack on the part of the nonindustrial landowner threatens the future timber supply and all of the industrial structure that depends upon that supply. Lately, however, there have been signs of improvement, if not a fully satisfactory resolution of the nonindustrial landowner problem. Especially since the completion of the Survey, there has been an apparent response by this ownership class to the economic incentives of the market and of

various government programs. Pine regeneration by plantation and other artificial means has been encouraged not only by the incentive of a rising real economic price for timber but also by the Forest Incentive Program, FIP, in which the federal government shares as much as 75 percent of reforestation costs, and by a 1980 federal tax law, which permits an investment tax credit as well as tax amortization of reforestation costs. Additionally, the Georgia Forestry Commission services the Agricultural Stabilization and Conservation Service cost-sharing program under which more than 10,000 acres annually benefited by reforestation and timber stand improvement.

The effect of these economic incentives has been reinforced by the changing pattern of the forest's ownership and control. Insomuch as nonindustrial landowners have not modified their behavior in response to the economic incentives of the market and of government programs, they have been willing, in some instance, to sell or lease their timberland to those who will practice the needed forest management practices. The purpose of this study is to examine the pattern of the forest land ownership and control from the standpoint of assessing the importance of this pattern to the problem of the lack of better management on nonindustrial land and to provide information that allows the Georgia Forestry Commission to better concentrate its work in areas offering the best opportunity for improving the productivity of nonindustrial land.

PROCEDURES

Forestry Commission personnel visited each of Georgia's county land and tax record offices to obtain the timberland acreage owned by or leased to forest product companies in 1982. This data gathering procedure differed from that employed by the Survey in several respects. For one, data of forest industry leased land was obtained by the Survey from the industry, while this study relied on a search for timberland leases recorded in each county. By Survey definition, forest industry leased land is land under contract to the forest industry from owners for periods of one forest rotation or longer, i.e. 30 years or longer. Land under cutting contracts are specifically excluded. By this study's procedure, land leased to industry management for less than 30 years was obtained, exclusive of cutting contracts. One purpose of the study was to ascertain whether industry's ownership or control of the forest was being significantly extended in recent years without that fact being noted by the Survey because of its definition of leased land.

The Survey defines forest industry land to be land owned by companies or individuals operating wood-using plants. By this study's procedure the definition

Table I

Area of Georgia's Commercial Forest Land, By Ownership, 1972 and 1982

Year	All Ownerships	Government	(Thousands of Acres)			
			Forest Industry	Nonindustrial Other Corporate	Private Farmer	Other Individual
1982	23,733.1	1,583.7	4,963.7	1,884.7	6,120.3	9,181.3
1972	24,839.0	1,571.5	4,318.2	1,451.1	8,410.1	9,088.1
1972-82 Abs.Chg.	(1,105.3)	12.2	645.5	433.6	(2,289.8)	93.2
% Chg.	(4.4)	0.8	15.0	29.9	(27.2)	1.0

Source: Southeastern Forest Experiment Station, Forest Service, USDA

included timberland managed by companies such as naval stores operators, pulpwood dealers, insurance companies, public utilities, and the like who do not operate wood-using plants but who are managing their timberland to supply those plants. Accordingly, by including these wood-supplying companies the study obtained data for land included by the Survey in its other corporate ownership category. After consultation with Survey personnel it was determined that the study's procedures and those of the Survey resulted in reconcilable data sets. Thus, this study will rely upon Survey definitions and data using its own data to supplement the analysis.

FINDINGS

The 1982 Survey found 23.7 million acres of commercial forest land in Georgia, down from 24.8 million acres in 1972, Table I. The loss of 1.1 million acres of commercial timberland to other land uses continued a trend declining forest land use observable since the 1960's; but the forest still commands 64 percent of the State's land area. The most dramatic change in the ownership pattern since 1972 was the 2.3 million acre decline in farmer owned timberland. Less than 900,000 acres of this decline in farmer ownership of timberland was due to the conversion of timberland to agricultural purposes and even less was due to timberland reversion to other land uses. The major share of the decline was due either to a change in ownership from farmers to nonfarm individuals or corporations or to a change in the occupational status of the landowners from farming to other occupations, such as retirement from active farming. In the rural timber-producing areas of the state, many of the landowners found in the other individual category are retired farmers.

Significantly, however, the other indi-

vidual ownership class increased only 93.2 thousand acres from 1972 to 1982. Even as timberland was shifting to this ownership class from farming, timberland owned by other individuals was shifting to other owners or was reverting to other land uses. Of the timberland shifting ownership during this decade, the forest industry and other corporate owners were the principal recipients, jointly gaining 1.1 million acres. Forest industry land owned in fee simple was virtually 5 million acres in 1982, 645.5 thousand acres greater than ten years earlier. Other corporate ownership increased 433.6 thousand acres to 1.9 million acres in 1982.

Because the forest industry has done more than an adequate job of managing its timberland, the increase in its landholding has obvious beneficial implications for the future timber supply. Less obviously, the increase in timberland ownership by other corporate owners is a good portent for the future timber supply as well. Other corporate owners leased 403 thousand acres to the forest industry under long term contracts in 1982. Additionally, it is estimated from this study's findings that 500.0 thousand acres of other corporate timberland is owned by companies managing it in supply of the forest industry. Thus, virtually half and possibly an even larger share of the 1.9 million acres of other corporate land is being managed for forestry either by the forest industry under lease or by the corporate owners themselves.

The forest industry also leases land from individuals under long and short term management contracts. By 1982 the forest industry had leased from all other owners a total of 972.5 thousand acres under long term contracts. Although this total was only 23.8 thousand acres more than was leased up to 1972, it was being augmented by acreage being leased under short term contracts not recorded by the Survey.

This study found 105.9 thousand acres being leased to industry for management under contracts of less than 30 years

duration. Counting this leased acreage, the forest industry controls and manages virtually 6.0 million acres of timberland, 25.5 percent of the commercial forest. If the acreage of the timber-supplying companies in the other corporate ownership class is included, the forest industry controls and manages 6.5 million acres of Georgia's timberland, 27.6 percent of the forest.

But these findings need to be put into perspective. Even if the 1.1 million acre increase in timberland ownership by the forest industry and other corporations was entirely benefited from productivity-improving forest management, the resulting gain in productivity over that of previous management would not compensate the future timber supply for the loss of the timber on 1 million acres of pine forest diverted to other land uses over the past decade. Much less is this shift in ownership and control of the forest to companies that will manage it productively adequate compensation for the lack of adequate pine forest regeneration and management on the part of farmers and other individuals controlling 14.7 million acres of timberland.

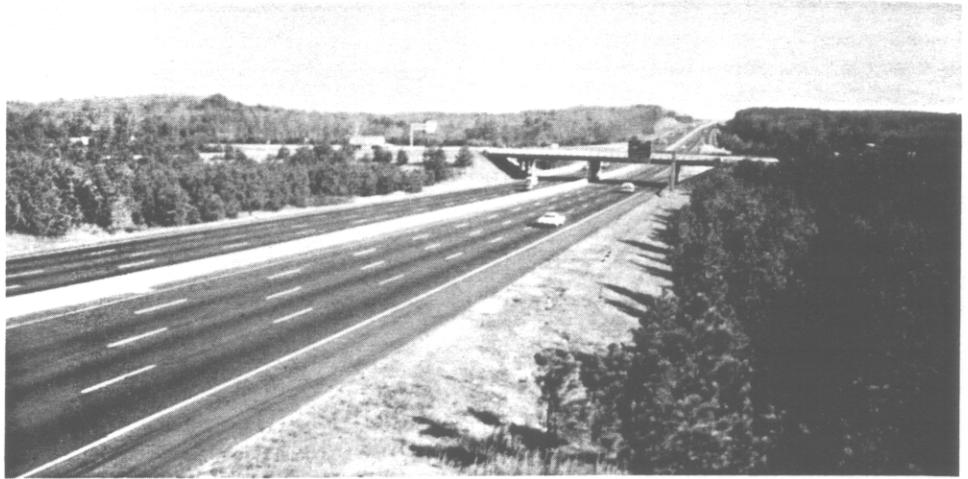
Furthermore, while it might be economically beneficial for Georgia if the forest products industry would continue to expand its ownership and control of the forest, there is very limited potential for this in the future. For one thing, the forest products industry is still hounded by the myth that the forest is owned by and managed for the selfish benefit of timber barons, notwithstanding that the forest is mainly owned by individuals and farmers numbering well in excess of 100,000. Even more importantly, industry's acquisition of timberland is limited by the financial concerns of its stockholders, investors who can be as shortsighted as any individual landowner. Indeed, recently more than one forest industry company has put its Georgia timberland on the market for sake of short term profit even though forestry has proven by history to be an excellent long

term investment.

The location of the forest industry's manufacturing capacity is of obvious importance to the geographic pattern of the forest's ownership and control. Of 61 large wood-using plants in the state, the greatest concentration is found in the Southeast Forest Survey Unit, Map 1. In addition to 8 pulp mills, most of which are among the world's largest, there are 18 sawmills and 1 plywood mill located in Southeast Georgia, each of which processes more than 20 million board feet of lumber annually. Indeed, half of the large sawmills process more than 40 million board feet annually. Central Georgia has the second largest concentration of large wood-using plants with 5 pulp mills, 7 sawmills larger than 40 million board feet in capacity, 2 plywood mills larger than 40 million, and 7 sawmills with less than 40 million but more than 20 million board feet of capacity. At the other extreme, the North and North Central Survey units have but 1 pulp mill and 4 large saw and plywood mills. But the northern third of Georgia is within easy distance of a number of large mills in the Central unit as well as being within the wood-drawing area of several large plants located in adjacent states.

Quite logically, the geographic pattern of industry's ownership and control of the forest follows the location of its manufacturing capacity. Forty percent or 2.9 million acres of the 7.2 million acres of commercial forest in Southeast Georgia is owned or leased by the forest industry, Map 2. Well over half of the forest land in the ten most southeastern counties is controlled by industry. However, even with the large industry presence in this survey unit, it is seen there are a number of southeastern counties in which industry's ownership and control is minimal. Central Georgia is the location of 2.0 million acres of timberland under industry management, 29 percent of the 7.0 million acres of forest in that region. This region has the largest concentration of land leased to industry for less than 30 years, 76.8 thousand of the 105.9 thousand acres of short term leases found statewide. Even with the considerable industry manufacturing capacity located in Southwest Georgia, only 369,916 acres there is under industry management, 14 percent of the total forest acreage. Similarly, less than a million acres of timberland in the northern third of the state is owned or leased by the forest industry, only 8.7 percent of the 9.3 million acres of commercial forest in the two northern survey units.

The most discernable concentration of timberland owned by miscellaneous other corporations is found in or near the Atlanta metropolitan area, Map 3. However, of the 1.5 million acres owned by miscellaneous corporations that are not leased to the forest industry, 800 thousand acres are scattered throughout the southern



During the past ten years, 1.1 million acres of commercial timberland was converted to other uses. But the forest still commands 64 percent of the states land area.

two-thirds of the state and thus have importance to the future timber supply of industry located there. The 1.6 million acres of timberland owned by federal, state, and local governments is also of considerable importance for the future timber supply because of the likelihood that as much as two-thirds of this ownership will receive proper forest management. However, 715 thousand acres of the government land is located in the North Georgia Survey Unit and thus considerably distant from the concentration of Georgia's forest industry manufacturing capacity.

Excluding 491 thousand acres under long term lease to the forest industry, 8.7 million acres of commercial timberland is owned and managed by miscellaneous individuals, Map 5. The largest holding by this class of owner is found in the Central Survey Unit, 2.8 million acres. But the greatest relative concentration of ownership by miscellaneous individuals is found in the North Central Survey Unit, where the 2.1 million acres owned by this group comprises 54 percent of the commercial forest there. Disregarding the boundaries of the survey units, it is seen that miscellaneous individuals dominate the owner-

ship of the forest in the northern half of the state's.

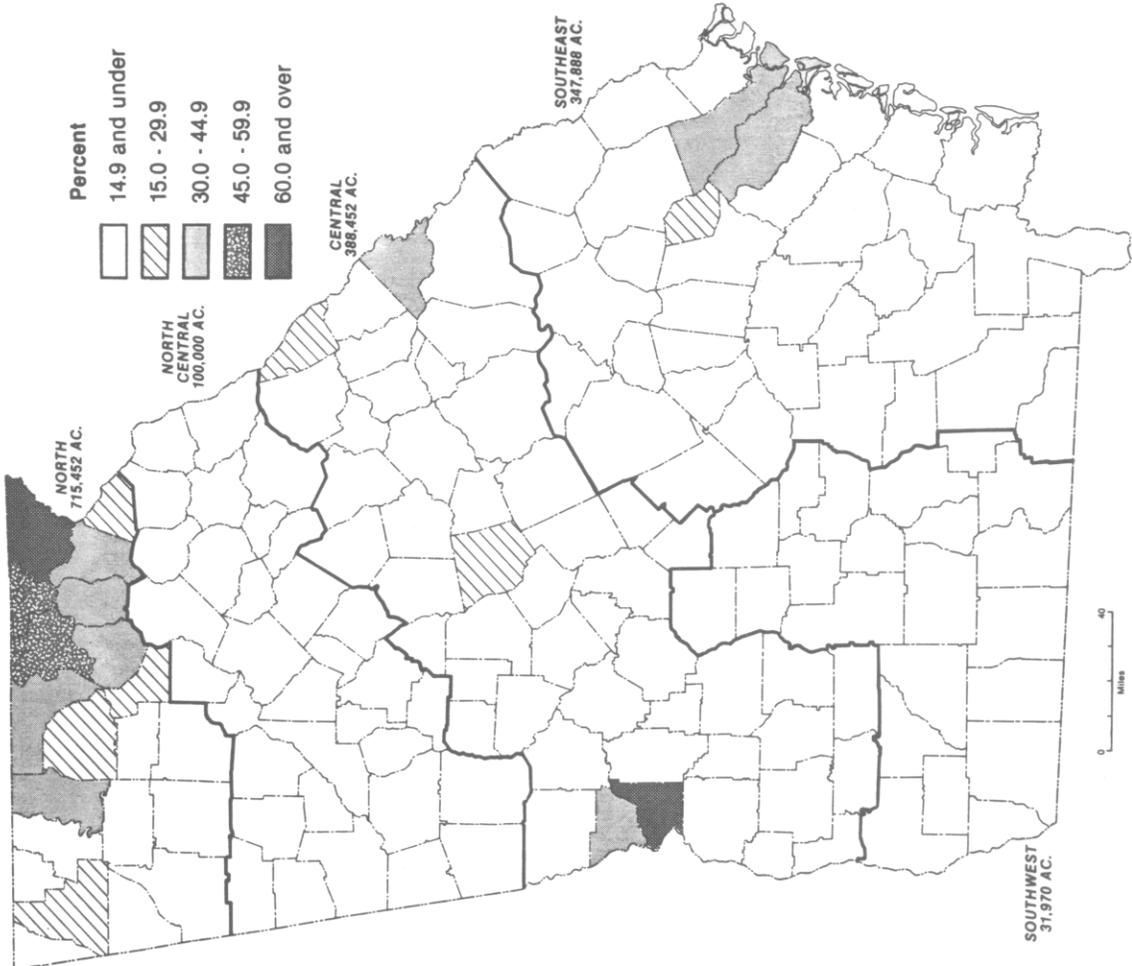
As in the instance of the miscellaneous corporate ownership, the most discernable concentration of miscellaneous private individual ownerships is in or near the Atlanta metropolitan area. Conversely, with the exception of three or four counties, this ownership is not dominant in the southern areas of Georgia where the concentration of industrial capacity and land control is greatest.

On the other hand, the second largest ownership class, the 6.0 million acres owned by farmers, is concentrated in south Georgia, especially in the Southwest Survey Unit where the 1.4 million acres owned by farmers comprise well over half of the timberland ownership there. Generally speaking, then, in the localities of the forest critical to industry farmers hold the key to the future timber supply. The success or lack of success of agriculture in the southern half of the state, as well as the future direction taken by farmer-oriented federal programs would appear to dominate the prospects for bringing the management of the forest up to the level of productivity called for by the market.

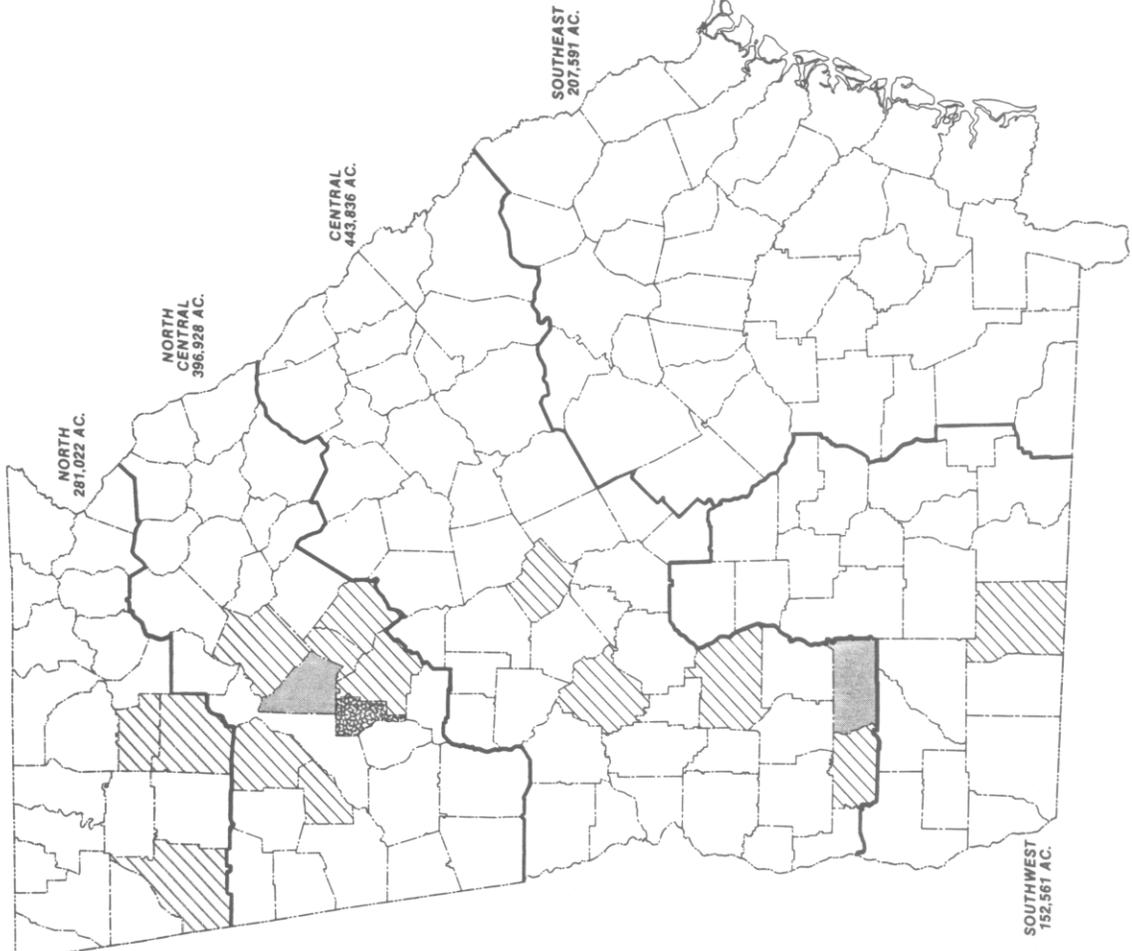


Georgia's forest is mainly owned by individuals and farmers numbering well in excess of 100,000.

MAP 4
GOVERNMENT OWNED FOREST
ACREAGE, 1982
 (TOTAL OF 1,583,762 ACRES)



MAP 3
FOREST ACREAGE OWNED BY
OTHER CORPORATIONS, 1982*
 (TOTAL OF 1,481,938 ACRES)



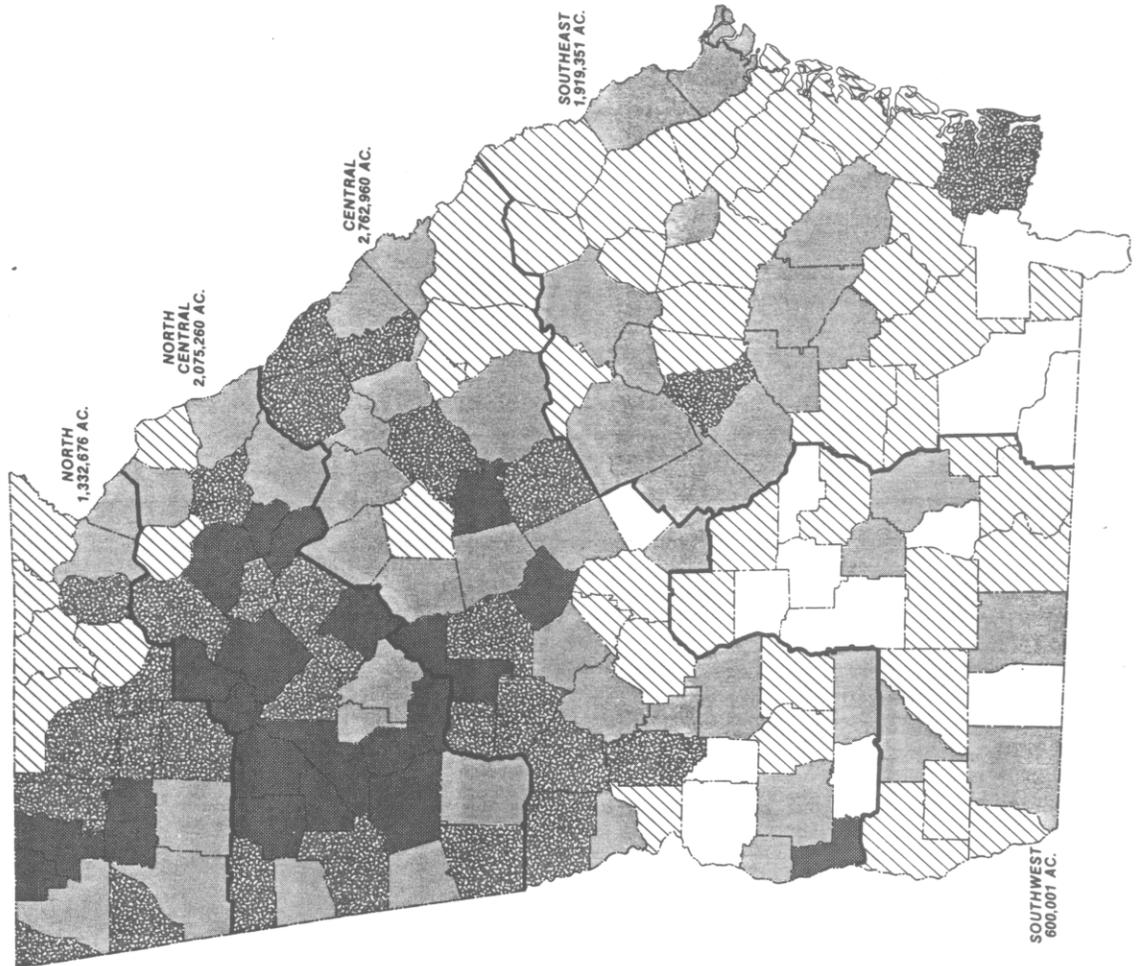
* Not including acreage leased to forest industry under long contracts.

SOURCE: Southeast Forest Experiment Station, Forest Service, USDA

MAP 5

FOREST ACREAGE OWNED BY MISCELLANEOUS INDIVIDUALS, 1982*

(TOTAL OF 8,690,248 ACRES)

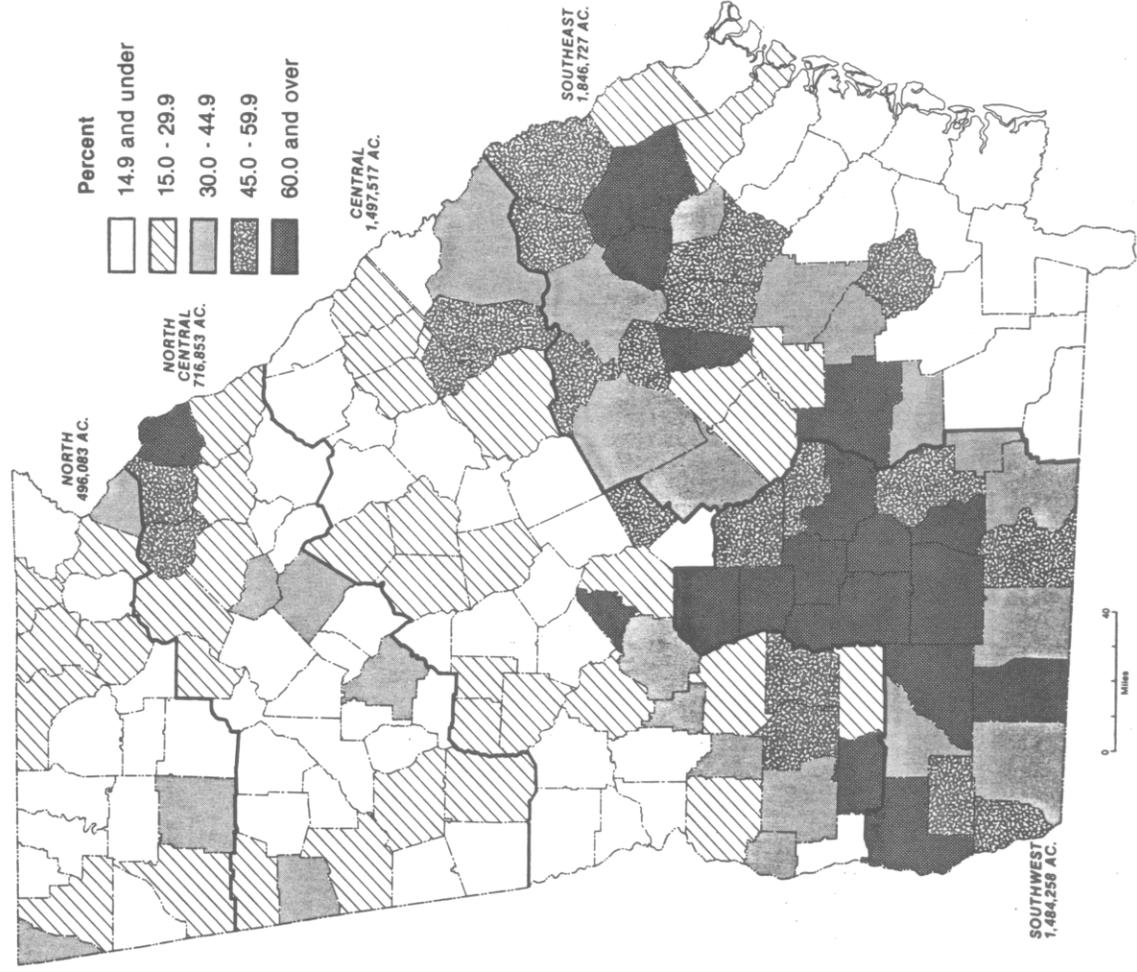


* Not including acreage leased to forest industry under long contracts.

MAP 6

FOREST ACREAGE OWNED BY FARMERS, 1982*

(TOTAL OF 6,041,488 ACRES)



SOURCE: Southeast Forest Experiment Station, Forest Service, USDA

SUMMARY AND CONCLUSIONS

While the future timber supply will continue to benefit somewhat by the shift in ownership and control of the forest to those who will manage it productively, the solution to the nonindustrial landowner problem mainly depends upon motivating a change in management behavior on the part of farmers and indivi-

duals toward this end. The rising real economic price of timber is an important economic incentive for improved forest management by nonindustrial landowners as are the various government and industry landowner assistance programs. In light of coinciding geographic patterns of industry's wood-processing facilities and farmer ownerships, there would appear to

be close connection between the resolution of the nonindustrial landowners' forest management problem and that of the broader farm problem. As was true years ago, the level of forest management in Georgia over the foreseeable future may depend importantly upon the direction of government programs supporting farmers.

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