

# **A History of State Forestry in Alabama**

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## **PREFACE**

### **FIRST EDITION**

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The Association of State Foresters has been engaged in assembling material for a History of State Forestry in the United States. Each state was requested to prepare its own history for inclusion in the book that is planned for publication.

The manuscript "A History of State Forestry in Alabama" was submitted to the Association in March 1961. It will probably be necessary to eliminate certain portions and condense other portions prior to publication. On the assumption that an unabridged version may have some merit, a limited number of copies has been reproduced by the Department of Conservation for distribution within the state to answer requests for materials of this type.

The history is not complete. There are many unfilled gaps. Perhaps further research may bring to light additional material that would warrant a revised edition at some future time.

This is a history of the forest resource rather than an account of the contributions made by individuals to the state's forestry program.

### **PREFACE TO THE SECOND EDITION**

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Since the History was published in 1961, it has been copied numerous times for use by different groups. On the occasion of the seventieth anniversary of the original State Commission for Forestry, the Alabama Forestry Commission has decided to revise and reprint this important document.

In this process, the sources of quotations in the book were checked and other sources of historical information researched. This book follows the same format as the original. New material on the status of Alabama's forests before 1900 was added to give a better representation of the forest conditions prior to industrialization.

As in the original, this volume ends with the conditions of the forest and the Division of Forestry in 1960.

A History of State Forestry in Alabama  
by  
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and  
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# A HISTORY OF STATE FORESTRY IN ALABAMA

## PROLOGUE

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ALABAMA-The name itself stimulates one's imagination and suggests a link with the dim past, the unrecorded history of several thousand years prior to the discovery of the new world by adventurous Europeans.

It has generally been accepted that the word "Alabama" came from the Indian language, for there dwelt in Central Alabama a noted southern Indian tribe by that name. The greatest river in the state received its name from this tribe, and from the river, in turn, the name of the state was derived.

Several of the early writers and historians claimed that "Alabama" when translated meant "Here We Rest," but they made no particular effort to explain the derivation. Subsequently, a student and scholar who was a direct descendant of the Choctaw Indian Tribe stated in one of his articles that "Alabama" in the Choctaw tongue means "Thicket Clearers," being compounded of "alba," a thicket or mass of vegetation, and "amo," to clear, to collect or to gather up.

This interpretation is significant for it is in keeping with the agricultural character of the Indians, who were not the wild and unbridled creatures of nature that the historians have led us to believe inhabited Alabama and the Southeast. While fish and game were important foods, the Indians were farmers and grew, besides "maize" (commonly called corn), beans, squashes, pumpkins, sweet potatoes, tobacco, gourds, and sunflowers. The agricultural practices of the Indians, including their widespread burning of the land, kept the natural vegetation under control—particularly the trees—and provided an excellent habitat for game. By way of example, in 1693 Don Carlos de Sequenza, in describing the area between Pensacola and Mobile reported, "the meat and game which are eaten include deer, buffalo, bear and native hens, which have the same shape and are as large as the European turkey."

A chronicle of state forestry in Alabama properly begins, not with the enactment of legislation establishing the State Forestry Agency, but with the time the first European visited the area. For thousands of years the Indians employed a pattern of land use that influenced the character of plant growth. When the white man moved in and dispossessed the Indian of the better lands, land management practices changed. This has a pronounced effect on the type of vegetation that occupied the unused lands.

It is doubted that a complete or accurate history of Alabama's forest resource will ever be written. Much valuable and illuminating information is buried deep in the musty archives and may never come to light. A few exceptionally good libraries contain references translating or

quoting the journals of early travelers including members of DeSoto's ill-fated expedition through Alabama in 1540.

William Bartram, who visited Alabama from 1773 to 1778, was a keen observer and an excellent writer. His comments on trees and forests are noteworthy. Dr. Charles Mohr, who wrote "The Timber Pines of the Southern United States" in 1897, gives much valuable data on the pine timber that proved to be the incentive for the lumber industry to develop and expand in Alabama. One of the most interesting references in recent times is a paper entitled "The Myth of a Natural Prairie Belt in Alabama: An Interpretation of Historical Records," by Erhard Rostlund, University of California, Berkeley. This article was published in the *Annals of the Association of American Geographers*, Vol.47, December 1957.

The popular conception of the so-called virgin forests, which were supposed to exist in Alabama at the time the first white man visited the territory is not substantiated by the historical records. The few remnants of mature and over-mature longleaf that remain today are not indicative of the timber growth that existed over a vast area. Also, unless one reads between the lines, an erroneous conclusion can be drawn from Dr. Mohr's writings. We must, of course, rule out the bottomland hardwoods. On the low, wet sites, which were frequently flooded by high water, the hazards of fire and wind were negligible. Since these areas were not suitable for farming by the Indians, a natural plant succession was permitted to take place. For the most part, the tree growth was undisturbed by the hand of man.

## EARLY HISTORY OF THE FOREST RESOURCE

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1773-1778

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William Bartram traveled extensively in Alabama from 1773 to 1778. At that time the maps available to the wayfarer left much to be desired; consequently it is rather difficult to trace his route. However, from some of the landmarks mentioned, it seems that he made his way down the Tallapoosa River to the vicinity of Montgomery, thence southwesterly to the Escambia River, thence to Mobile and up the Tombigbee river to what is now Clarke County. His comments on the trees observed along his route of travel are interesting and informative:

**Region of Tallapoosa Valley** “immediately after leaving the plains, we enter the grand high forests. There were stately trees of *Robinia pseudacacia*, *Tilia*, *Morus*, *Ulmus*, *Juglans exaltata*, *Juglans nigra*, *Pyrus coronaria*, *Comus Florida*, *Cercis*, etc. Our road now for several miles led us near the Alabama, within two or three miles of its banks; the surface of the land is broken into hills and vales, some of them of considerable elevations, covered with forests of stately trees, such as already mentioned, but they are of a much larger growth than those of the same kind which grow in the southern or inhabited parts of Georgia and Carolina.”

“The Indians gather great quantities of grapes, which they dry and store.”

**Near Montgomery** “We now left the river at a good distance, the Alabama bearing away southerly, and entered a vast open forest which continued above seventy miles east and west, without any considerable variation, generally a level plain... the forest consist chiefly of Oak, Hickory, Ash, Sour Gum (*Nyssa syhatical*), Sweet Gum Uiquidambar styraciflua), Beech, Mulberry, Scarlet Maple, Black Walnut, Dogwood (*Comus Florida*), *Aesculus pavia*, *Prunus Indica*, *Ptela* and an abundance of Chestnut (*Fagus castanea*)...”

**South of Montgomery** “We now entered a very remarkable grove of Dogwood trees (*Cornus Florida*), which continued nine or ten miles unalterable, except here and there a towering *Magnolia grandiflora*; the land on which they stand is an exact level; the surface a shallow, loose, black mould, on a stratum of stiff yellowish clay. These trees are about twelve feet high, spreading horizontally; the limbs meeting and interlocking with each other, forming one vast, shady, cool grove, so dense and humid as to exclude the sunbeams, and prevent the intrusion of almost every other vegetable, affording us a most desireable shelter from the fervid sunbeams at noonday. This admirable grove by way of eminence has acquired the name of the Dogwoods.”

About twenty miles south of the dogwoods, Bar-tram’s party forded the Schambe (Escambia) River which empties into Pensacola Bay. Then he traveled over a level country:

“a vast, flat, grassy savanna and cane meadow, intersected . . . with narrow forests and groves, on the banks of creeks and rivulets, or hummocks and swamps at their sources; ... with longleaved pines, scatteringly planted, amongst the grass...”

Passing up the river from Mobile 30 miles or so, Bartram observed cypress of “astonishing

magnitude. "He wrote that the *Magnolia grandiflora* "reigns sovereign of the forests." Bartram made his way up the Tombigbee.

**"... came to at a very high steep bluff of red and partecoloured tenacious clay... Opposite the bluff, on the other side of the river, is a district of swamp or lowland, the richest I ever saw, or perhaps anywhere to be seen: as for the trees I shall forbear to describe them, because it would appear incredible; let it suffice to mention that the Cypress, Ash, Platanus, Populus, Liquidambar and others, are by far the tallest, straightest, and every way the most enormous I have ever seen."**

When Bartram was at Taensa, about 30 miles up the river from Mobile, he was stricken with a fever. Later he went about 30 miles farther up the river to the higher hilly land in search of a plant that was supposed to have extraordinary medicinal virtues. He spent the night at a plantation near the river and noted the following:

**"The man and his three sons are famous hunters. I was assured, from good authority, that the old gentleman, for his own part, kills three hundred deer annually, besides bears, tygers (sp) and wolves."**

7878-7879

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During the years 1818 and 1819, a man by the name of John Landreth was employed by the US Board of Navy Commissioners as a surveyor of Live Oak and Red Cedar. The wood of these two species was essential to the shipbuilding industry-particularly the construction of warships.

His job was to reserve for the public domain certain sections of land on which Live Oak and Red Cedar occurred in abundance. He journeyed to the southern part of Clarke County, which was then a part of Monroe County. The following excerpts have been taken from his journal:

**Visited Cedar Creek; T.6,R.4E, Monroe County, Sections 1, 2, 3, 4, 5, 9, 10, 11 and 12 should be reserved - 5,760 acres containing Red Cedar.  
T.7,R.4E, Monroe County, Sections 32, 33, 34 and fraction Section 29 should be reserved - 2,320 acres contain Red Cedar  
Red Cedar trees 1 to 3 feet in diameter and 40 to 50 feet in height, clear of limbs. On the 8,080 acres, there are 80,000 tons or 3,200,000 feet of prime Red Cedar. Yellow heart pine 3 to 6 feet in diameter and 60 to 70 feet clear of limbs. Also considerable quantity of elegant White Oak.**

Although Landreth did not qualify his estimate, it is believed that he was referring to cubic feet rather than board feet and to merchantable volume in squared timbers rather than in standing trees. The term "board foot" was not in common use at the time. Instead, "superficial foot" (surface foot) was used in describing the contents of planks and boards.

Excerpts from "Travels Through North America During the Years of 1825 and 1826," English Edition, by his Highness, Bernhard, Duke of Saxe-Weimar Eisennach:

**Enroute from Macon to Montgomery.** Immediately after leaving Norfolk and travelling in the woods where there was little accommodation for travelers, we had every night seen bivouacs of wagoners or emigrants moving to the western states-the backwoods. The horses of such a caravan are tied to the side of the wagon, and stand feeding at their trough; near the wagon is a large fire lighted up of fallen or cut timber. At this fire people sleep in good weather; in bad they lay themselves in or under the wagon. After leaving Augusta, we encountered several of these bivouacs which consist partly of numerous families with harnessed wagons. They intend to go to Alabama, the district of country lately sold by the United States, and there to set themselves down and fall to hewing and building. I saw three families sitting on a fallen tree to which they had set fire in three places. These groups placed themselves in a very picturesque manner; but their way of acting is very dangerous. The night before we saw the woods on fire in three different directions and the fire was without doubt occasioned by such emigrants as these. The lofty pine trees look very handsome while burning, when they are insulated, but the owner of the forest has all the trouble attending it himself.

**By Water from Montgomery to Mobile.** The journey by water from Montgomery to Mobile is four hundred miles, and as we intended to go this way, we took a look at two steamboats lying there, the Steubenville and the Hornet, bound for Mobile. We chose the Steubenville which gave out to start on the next day. The construction of both these boats, and their arrangement, was far inferior to that of the steamboats in the North; everything was coarser, and displayed a difference between the civilization of the two different sections of the Union. The town is so new that the original forest still stands between the houses. In a street there was a well digging: I discovered by this that the earth was exceedingly well adapted to brick making, and that an industrious man, who should establish a kiln here, must make a handsome profit on the business. The bricks they sell here are ten dollars a thousand, and scandalous. Of the inhabitants, I heard nothing commendable; and how can this young town, whose situation at least in summer, is unhealthy, have a fixed character; how can it attain a high degree of cultivation. All come here for the purpose of amassing property, or are driven here by the prostration of their fortunes in their old residence!

In "The Timber Pines of the Southern United States," 1897, Dr. Charles H. Mohr stated that as early as 1850 there was a feeling in Alabama that fires were the greatest evil to be combatted in forest conservation. He described the longleaf forests between the Alabama and Tombigbee Rivers as being unsurpassed within the range of the species.

**By careful estimates made upon a number of plots, selected at random, the yield of a single acre will vary from 10,000 to 18,000 feet and over of merchantable timber.**

**The lowlands of the flood plain of the Alabama and Tombigbee Rivers and of their larger tributaries are heavily timbered.**

**From estimates made in various districts it appears that fully 6,000 feet of merchantable timber (hardwoods) can be safely assumed as to the average yield per acre.**

Upon these clearings, made scarcely two-thirds of a century ago, Cuban Pine has already attained the dimensions of useful timber, the trees averaging from 18 to 24 inches in diameter with a height of from 85 to 100 feet. A number of trees felled upon one of these old clearings in the suburbs of Mobile furnished sticks of merchantable timber 30 to 40 feet in length, none of them having reached an age of over 60 years.

In describing the cypress that occurred in the bottomlands along the Mobile River and the Tombigbee and Alabama Rivers, Dr. Mohr said:

**The mighty trunks rise to a total height of from 100 to 120 feet and over, with a diameter, measured above the buttresses which expand the bases, of from 3 to over 5 feet, The annual rings of growth are extremely narrow and difficult to count. On close examination the age of full grown trees can be estimated to vary between 300 and 500 years.**

According to Dr. Mohr, the growth of pine timber in respect to quality and quantity per acre was remarkably uniform through South Carolina, Georgia and Alabama, but while the immense resources of Georgia and the early prominence of that state in its production and coast wise shipment gave the name "Georgia Pine" to the product, the average density, if not the quality of growth, increased toward the west. Thus the Georgia forests produced higher averages per acre than those of South Carolina, and the Alabama forests were denser than those of Georgia or Northern Florida; while still heavier were the longleaf forests of Mississippi; and in Mississippi the western portion of the forest, lying west of the Pearl River, were the heaviest.

## **1901**

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Dr. Charles H. Mohr, who wrote "Plant Life of Alabama" had this to say about the timber in the Southern part of the state:

**The forest of longleaf pine of this Lower Pine Region furnish principally the enormous supplies of timber used by the sawmills situated in the tide-water region of Alabama and western Florida, with Mobile and Pensacola for the chief ports of export, and they are also the source of the resinous products which find their market at Mobile. The depletion of their timber wealth with no heed given to their maintenance, and their destruction by the barbarous methods practiced in the extraction of their resinous product, together with the ravages of the fires which one season after another destroy the seedlings and youngest timber, and with the injuries inflicted by herds of domestic animals which roam through these forests, not only are exhausting their present resources but will inevitably and within a comparatively short time result in its extermination, not with standing the fact that in no other region within the wide range of distribution of the longleaf pine are conditions more favorable for the spontaneous reproduction of this most valuable timber tree**

7905

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In 1905, Dr. Henry Gannett, Geographer, (among other things he wrote the forestry text contained in the Twelfth Census Report) described the timber growth in Alabama in these words:

**Alabama-the northern part of the state, including nearly three-fourths of it, is covered with a timber growth of which hardwoods form the principal component. . .The southern fourth of the state is covered with nearly pure growth of yellow pine, mainly of the longleaf species. In the marshes around Mobile Bay, however, this gives way to cypress.**

7906

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In writing of the entire southern pine region, DeFebaugh in his "History of the Lumber Industry," which was published in 1906, sounded a warning when he said:

**But as the pines cover more or less solidly so wide a range of country, and as their rate of growth is so rapid, there appears to be no reason why with conservative management they should not supply indefinitely a consumption as great as the present. However, only the beginnings of conservative lumbering have been made; in fact, the perpetuation of these wonderful resources is only beginning to be considered by the owners of forests and by lumber producers.**

**All past estimates as to the amount of standing timber in the United States have been grossly inaccurate. Without exception, they have been far too low, as has been demonstrated by experience.**

**The most valuable of all the southern pines, though perhaps not adapted to the most diversified uses, is the longleaf pine; the famous American pitch pine of foreign trade, or the Georgia Pine of domestic commerce up to the time when the more definite term, longleaf pine, was adopted. This wood is principally confined to a belt about 125 miles in width roughly following the coast from the mouth of Chesapeake Bay to the Trinity River in Texas. The distribution of this wood was continuous from the first named point to Western Mississippi...**

# FOREST RESOURCES OF ALABAMA

## THE FOREST OR WOODLAND AREA

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The original forest area of Alabama has been estimated by some authorities at 32 million acres. In light of some historical records this estimate is entirely too high.

The Indian burned the woods for thousands of years before the coming of the white man. In order to survive he had to protect himself from the trees. Left undisturbed by human hands, a climax timber type would have developed and along with it a biological desert. Severe burning kept the forest open and free of underbrush, which encouraged the growth of grass and other plants that provided food for deer, bear, and buffalo. Also the Indian was much more of a farmer than is generally supposed. The fields adjacent to the ancient Apalachula in Russell County were described by Bartram as "stretching beyond the scope of sight."

The Indian population of Alabama when DeSoto traveled through the area is a matter of conjecture. Undoubtedly it was much greater than generally supposed. At the battle of Maubila in Clarke County in 1540, between the armies of DeSoto and Tuscaloosa, it is recorded that six to eleven thousand Indians were slain.

The Virginia Indians, according to one authority, "by means of clearings and burnings had deforested from 30 to 40 acres for each individual in the tribes." Without manure or fertilizers, the Indians were continually clearing new land and abandoning old fields. Burning the woodlands as well as open tracts was so common that it is doubtful if the abandoned fields escaped uncontrolled fires. Thus the processes of natural reforestation were held in check.

Dr. Rupert B. Vance in his book, "Human Geography of the South," wrote:

**Hints at the fertility of soils underlying southern forest communities are furnished in some observations made by E.W. Hilgard. If cotton is grown continuously on longleaf areas, the early settlers observed that the yield decreased over half from the first year to the third. Where shortleaf is found intermingled with longleaf, production held out from five to seven years. On sites supporting hickory intermingled with oak, steady crops could be grown as long as twelve years."**

According to Erhard Rostlund, "the pathless and difficult forest with its tangle of brush that gave its name to the Wilderness Campaign of 1864 in Virginia, occupied the same land as did Captain John Smith's 'open groves with much good ground between without any shrubs.' Paradoxical as it may seem, there was undoubtedly much more 'forest primeval' in 1850 than in 1650." It can be inferred that this description of the terrain is applicable to the entire Southeast, including Alabama.

From these early records, it is a reasonable conclusion that much of the so-called virgin timber, outside of the bottomlands, developed after the coming of the first Europeans to America. While early settlers did some burning, many areas and pockets of tree growth escaped the annual ravages of fire and provided a source of seed to reforest the open lands. Given some protection, the trees began to multiply and grow remarkably well.

In the Twelfth Census Report (1900) the forest area was placed at 24,512,000 acres. Reliable data on forest land area prior to that time are not readily available. More than likely, when DeSoto came through Alabama, the area of forest land was closer to 24.5 million acres than to 32 million acres. In 1905, the estimate was 23,680,000 acres or 72.5 percent of the total land area of the state.

In 1902, Dr. Fernow, Chief of the U.S. Forest Service, took issue with Dr. Henry Gannett, Geographer, who wrote the forestry text contained in the Twelfth Census report, in regard to the area which supported merchantable timber or was capable of growing timber within a generation. Dr. Fernow prepared a table which showed 74 percent of Alabama's land area as "brush, forest and waste land." He indicated that 53 percent was probably forest.

In 1913, Roland Harper of the Geological Survey of Alabama published a "Geographical Report of Forests" (Monograph 8), in which he estimated that 62 percent of Alabama's land area (or 20,347,500 acres) were woodlands. He also split Alabama's forests into 20 "natural regions," ranging from the Highland Rim along the Tennessee border to the Coastal Strip along the Gulf of Mexico.

The Alabama State Commission of Forestry estimated the forest area as follows: in 1924, 20 million acres; in 1926, 22 million acres; in 1929, 22 million acres; in 1933, 22.5 million acres; and in 1937, 20,879,460 acres. The estimate for 1926 was quite reliable for it was based on a special statistical report prepared by the Bureau of the Census for the Commission of Forestry. The cost of preparing this report was paid from state funds. From the base figure of 22 million acres for 1926, subsequent annual estimates were prepared on observations of field men as to changes in the pattern of land use. Beginning with the calendar year 1938, the Forest Survey estimate of forest land was used in all statistical compilations. In order to avoid confusion, the State Commission of Forestry discontinued the preparation of its own annual estimate.

The First Forest Survey was made by the U.S. Forest Service in 1935 and 1936. It reported the total forest area of Alabama at 18,877,725 acres. For statistical purposes this estimate remained static until the Second Forest Survey, the field work for which was completed during the period 1951-1953. Beginning with the calendar year 1954, the new estimate of 20,756,200 acres of commercial forest land as reported by the Second Forest Survey has been used in all reports and statistical compilations.

The planting of trees on land retired from agricultural use under the Conservation Reserve phase of the Soil Bank Program will add several thousand acres to the State's forest land area by the time all tree planting contracts have been completed, unless the program is extended beyond 1960, in which case the area of forest land will be further increased. Other than this change, the area of forest land should remain fairly stable.

# THE AGE, DIAMETER, HEIGHT AND PER ACRE VOLUME OF THE VIRGIN PINE TIMBER



The following has been taken from "The Timber Pines of the Southern United States" (Mohr, 1897):

The quality of the merchantable timber in conformity with mill standards in 1860 and the relation of age to growth is illustrated by five trees felled near Wallace in Escambia County. The average of the five trees follows:

Diameter breast height . . . . .	19.6"
Total height . . . . .	111.0'
Rings on stump . . . . .	193
Diameter below crown . . . . .	14.5"
Mean diameter of timber . . . . .	17.0"
Length of timber free of limb knots . . . . .	51.0'

(Largest tree 26" diameter, 106' tall, 216 rings, 50' clear)

At a lumber camp near Lumber-ton, in Washington County, 9 timber trees were measured showing on the average a mean diameter of 17 inches, the clear sticks averaging 40 feet in length.

Upon 1 acre, selected at random in the untouched forests north of Springhill, Mobile County, very open and free from smaller trees or undergrowth, 16 trees were counted above 16 inches in diameter at breast height, namely:

<u>No. of Trees</u>	<u>D.B.H.</u>	<u>Length of Timber</u>
2	23"	40 feet
2	30"	40 feet
12	16" to 18"	35 feet

Estimated yield 5,000 feet board measure.

Upon another acre plot in the same quarter section, 64 trees above 12" in diameter at breast height were found with the following measurements:

<u>No. of Trees</u>	<u>D.B.H.</u>	<u>Length of Timber</u>
2	20"	40 feet
26	17"	36 feet
36	13"	24 feet

Upon a third plot exceptionally heavily timbered, 45 trees were counted of the following measurements:

<u>No. of Trees</u>	<u>D.B.H.</u>	<u>Length of Timber</u>
5	25"	50 feet
12	22"	50 feet
28	16" to 18"	30 feet

Estimated yield 15,000 feet board measure, to the acre.

For five trees felled near Thomasville, Clarke County, the average measurements were as follows:

Diameter breast height . . . . .	21.2"
Total height . . . . .	106.2'
Rings on stump . . . . .	171
Diameter below crown . . . . .	15.4"
Mean diameter of timber . . . . .	18.2"
Length of timber free of limb knots . . . . .	39.0'

(Largest tree 26" diameter, 111' tall, 160 rings, 40' clear)

Many of the trees of larger size were found affected by wind shake in the direction of the rings of growth in many instances impairing greatly the quality of the timber. The forests on these hills (Clarke County) are open, with a comparatively small number of young trees. Upon 1 acre selected at random, 46 trees were counted. They had the following measurements:

<u>No. of Trees</u>	<u>D.B.H.</u>	<u>Length of Timber</u>
4	25"	40 feet
10	22"	36 feet
26	18"	30 feet
6	15"	25 feet

On another acre 44 trees were found differing in their average dimension but slightly from the above, and indicating a yield of between 18,000 and 19,000 feet of lumber to the acre.

Modern lumbering methods have reduced woods waste by utilizing the full length of the tree. At the turn of the century, the common practice was to cut only clear logs, consequently, the timber estimates were based on clear length of the stem to the first limb. To illustrate the improvement in utilization, the board foot volume of the 46 trees on the 1 acre sample above was computed using a Scribner Decimal C. Volume Table prepared in Coosa County for virgin longleaf pine based on diameter and total height. Heights for the 46 trees were assumed. The estimate came to 26,820 board feet for the acre which is about 50 percent more than the estimate by the old standards. The following table gives the computations:

<u>No. Trees</u>	<u>D.B.H.</u>	<u>Height</u>	<u>Volume per Tree</u>	<u>Total volume</u>
4	25"	111'	310	1,860
10	22"	113'	500	13,000
26	18"	115'	780	7,800
6	15"	111'	1,040	4,160
			Total	26,820 bf

## THE VOLUME OF TIMBER

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There is no record that gives a dependable estimate of the amount of timber which made up the forests of the state at the time the white man came to the area and began to dispossess the Indians. The timber in the bottomlands and river swamps could quite correctly be referred to as virgin timber, but to apply that term to the timber on the uplands and well drained soils is misleading, as a large percentage of the area was subject to the agricultural practices of the Indians. More than likely the average stand per acre was considerably less than is generally admitted, notwithstanding the fact that some pine stands may have run as heavy as 25,000 board feet per acre and the bottomlands up to 50,000 board feet per acre.

For the Twelfth Census Report (1900), Dr. Gannett very cautiously estimated the average stand at 3,000 board feet per acre for the pine forests which extended from the Carolinas to Arkansas. For that same year, it was reported that the lumbermen of Alabama owned 1,224,835 acres of forest land having an average stand of 4,200 board feet per acre.

In 1924, the State Commission of Forestry estimated the timber stand at 50 billion board feet; in 1926, the estimate was 48 billion board feet; in 1929, 44 billion board feet and in 1933, 33 billion board feet.

Prior to 1935, various estimates were made of the amount of standing timber in Alabama. None of these estimates are well founded. Beginning in the summer of 1934 and extending into the summer of 1936, a comprehensive field study was undertaken by the Forest Survey, which functions as an activity of the Southern Forest Experiment Station. The work in Alabama was part of the nation-wide forest survey conducted by the U.S. Forest Service, as authorized by the McSweeney-McNary Forest Research Act of 1928. The purpose of the survey was:

**"(1) to make an inventory of the present supply of timber and forest products; (2) to ascertain the rate at which this supply is being increased through growth; (3) to determine the rate at which this supply is being diminished through industrial and local use, windfall, fire and disease; (4) to determine the present requirement and the probable future in the requirement for timber and other forest products; and (5) to correlate these findings with existing and anticipated economic conditions."**

The results of the survey, particularly the inventory of the forest resource, were published in Forest Survey Releases Nos. 35, 47, 48, 49, and 50. For the first time, dependable data were available on timber volume, growth and drain.

In 1945, a reconnaissance of the timber resources in eight southern states which placed an estimate on timber volumes as of January 1, 1946, was completed by the Southern Forest Experiment Station. Although the data were not considered as having the degree of accuracy attributed to the 1934-1936 survey, nevertheless the estimates had value as indicating trends.

Beginning in 1951 a new forest survey was commenced in Alabama by the U.S. Forest Service operating through the Southern Forest Experiment Station. Seventeen years had elapsed since the start of the field work for the first survey. During that period, Alabama had recovered from an industrial recession and had experienced an industrial expansion. The commercial drain on forest lands of the state had kept pace with the times. Lumber production had increased from 800,000,000 board feet in 1934 to 1,943,000,000 board feet in 1951. The total drain of lumber, pulpwood and other timber products was greater from 1934 to 1951 than any previous period in the state's history.

The effect of this heavy cutting on timber volume, quality, and size was a matter of opinion and mild controversy. When it appeared that the field work of the new Forest Survey would not be completed within a reasonable length of time, and that fact was brought to the attention of industry and the Department of Conservation, steps were taken to speed up the work. In October 1952 ten additional field crews were organized and trained by members of the staff of the Southern Forest Experiment Station. Foresters and assistant cruisers were furnished by industry, by the Alabama Forest Products Association, and by the Department of Conservation. Field work was started in November 1952 and completed by April 1, 1953.

Despite the exceedingly heavy commercial drain during the seventeen years between surveys, the sawlog growing stock for the state as a whole decreased only 280,400,000 board feet, dropping from 38,491,000,000 board feet to 38,210,600,000 board feet. The pine decreased while the hardwood increased. Changing the standard for a hardwood sawlog from 13 inches d.b.h., to 11 inches d.b.h. accounts in part for the hardwood increase. Had this standard remained unchanged, the decrease in sawtimber volume would have been much greater. The data follow:

	<u>1935(1)</u>	<u>1946(2)</u>	<u>1951-1953(2)</u>
Pine	25,304,500,000	26,472,000,000	21,928,900,000
Hardwoods	13,131,865,000,000(3)	12,889,000,000(3)	<u>16,281,700,000(3)</u>
Total	38,491,000,000	33,361,000,000	38,210,600,000

- (1) Green Lumber Tally
- (2) International 1/4" Rule
- (3) Includes Cypress

### **Total Growing Stock**

Total growing stock is the net volume in cubic feet or cords of sawtimber and pole timber trees from stump to a minimum 4.0 inch top diameter (of central stem) inside bark. Between surveys, the pine growing stock decreased 18 percent, the hardwoods increased 19.7 percent, while the total volume decreased 0.9 percent.

### Total Growing Stock - Cords

	<u>1935</u>	<u>1951-1953</u>	<u>Change</u>	<u>Percent Change</u>
Pine	91,449,000	74,880,000	-16,569,000	-18.12
Hardwoods	75,959,800	90,989,000	+15,039,000	+ 19.79
<b>Total</b>	<b>167,408,000</b>	165,869,000	1,539,800	- 0.92

### Total Growing Stock - Cubic Feet

	<u>1936</u>	<u>1951-1953</u>	<u>Change</u>	<u>Percent Change</u>
Pine	6,975,900,000	5,616,100,000	-1,359,800,000	-19.49
Hardwoods	5,051,370,000	6,096,300,000	+1,044,930,000	+ 20.69
<b>Total</b>	<b>12,027,270,000</b>	11,712,400,000	-314,870,000	- 2.60

It will be observed that the percent change in the total growing stock when expressed in cords is slightly different than when the cubic foot is used as the unit of measurement. This is probably due to differences in conversion factors and the methods of computation.

The First Forest Survey (1934-1936) reported that for the state as a whole, 54.63 percent of the volume of total growing stock was pine and 45.37 percent hardwood. The Second Forest Survey (1951-1953) reported the total growing stock as being 45.14 percent pine and 54.86 percent hardwood.

# EARLY FOREST INDUSTRIES

## THE PRODUCTION OF NAVAL STORES

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The following excerpts were taken from “The Timber Pines of the Southern United States” by Dr. Charles Mohr:

The tapping of the trees for the crude turpentine and the manufacture of tar and pitch was first resorted to by the earliest settlers of North Carolina, and in later colonial times these products furnished the largest part of the exports of the colony. Most of the crude turpentine was shipped to England. Later the distillation of spirits of turpentine was carried out in clumsy iron retorts in North Carolina and in northern cities. The introduction of the copper still in 1834 resulted in a largely increased yield of spirits of turpentine and the industry received a great impetus. With the new demand for spirits of turpentine in the manufacture of rubber goods, and its increased use as an illuminator, the number of stills increased greatly, and turpentine orcharding was rapidly extended south and west beyond its original limit. The large consumption caused such an increase in its production that the residuary product, rosin, became largely in excess of the demand, and, in consequence, much depreciated. This reduction of profits in the business caused the transfer of the stills from the leading markets to the source of the raw material, the forest. From that time, 1844, dates the great progress made in the extension of this industry. Up to that time more than half of the crude turpentine was distilled in North Carolina, but thenceforth the industry spread into the States of South Carolina, Georgia, Florida, and the Gulf States to the Mississippi River.

Bartram, in the year 1777, in his wanderings along the western shore of Mobile Bay, had his attention attracted by:

... three vast pots or kettles, each with a capacity of many hundred gallons contents... near the remains of an old fort or settlement, which he was informed were used for the purpose of boiling down the tar to pitch, there being vast forests of pine in the vicinity of this place... In Carolina the inhabitants pursue a different method; when they design to make pitch, they dig large holes in the ground, near the tar kiln, which they line with a thick coat of good clay, into which they conduct a sufficient quantity of tar, and set it on fire, suffering it to flame and evaporate, a length of time sufficient to convert it into pitch, and when cool, lade it into barrels and so on until they have consumed all the tar, or made sufficient quantity of pitch for their purpose.

As Mohr wrote again:

The first statement of the production of naval stores in Alabama is that reported to the census of 1850, mentioned in that year as of a value of \$17,800. In 1870 the production had increased to 8,200 casks of spirits of turpentine and 53,175 barrels of rosin, valued at \$280,203. In 1873 the receipts in the market of Mobile had fully doubled, amounting to nearly 20,000 casks of spirits of turpentine and to from 75,000 to 100,000 barrels of rosin, besides 1,000 barrels of tar and pitch of a total value of \$750,000. The largest

production was reached in 1875, when the receipts reached a value of \$1,200,000 up to the present only approximated in 1883 with 43,870 casks of spirits of turpentine and 200,000 barrels of rosin valued at \$1,109,760. Since 1888 a steady decline in the receipts of these products has taken place, due to the exhaustion of the supplies near the commercial highways.

As of the year 1897 and prior to that time, the legal standard weight of the commercial package of rosin was 280 pounds gross while a cask represented 50 gallons of turpentine. According to present day standards, a barrel of rosin is considered to weigh 500 pounds and a barrel of turpentine to contain 50 gallons.

A barrel of crude turpentine weighs approximately 400 pounds. One hundred pounds of average crude turpentine will yield about 2.5 gallons of spirits of turpentine and 70 pounds of rosin.

A crop of 10,500 boxes will yield from 29 to 46 barrels of turpentine and from 163 to 234 barrels of rosin.

The early census reports placed a value on lumber production. Consequently it is possible to show the economic importance of naval stores compared to lumber production. For this purpose, the following table has been prepared:

<u>NAVAL STORES</u>		<u>LUMBER</u>	
<u>YEAR</u>	<u>VALUE OF PRODUCTS</u>	<u>YEAR</u>	<u>VALUE OF PRODUCTS</u>
1850	\$ 17,800	1849	\$1,103,481
1870	280,203	1869	1,359,083
1873	750,000		
1875	1,200,000	1879	2,649,634
1883	1,109,760	1889	8,507,971

A comparison between the production of naval stores in 1883 and 1956 is rather enlightening. During the former year, 43,870 casks of spirits of turpentine (50 gallons per cask) and 200,025 barrels of rosin (280 pounds per barrel) were produced. By conversion, this amounted to 2,193,500 gallons of turpentine and 56,007,000 pounds of rosin.

According to the Severance Tax reports, Alabama produced 40,134.6 barrels of crude gum (400 pounds per barrel) in 1956. On the assumption that 100 pounds of gum yield approximately 2.5 gallons of turpentine and 70 pounds of rosin, the state's production for 1956 amounted to 401,346 gallons of turpentine and 11,237,688 pounds of rosin. Present day production in Alabama therefore is approximately 20 percent of the peak production of 1875.

## THE PRODUCTION OF LUMBER

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By the 1860's there had grown a good annual timber trade in the state and the first census report giving quantity of lumber cut stated that 97,192,000 board feet were produced in 1869. Alabama ranked 25th in lumber production for the nation, By 1913 production climbed to 1,523,936,000 board feet and Alabama ranked eighth. The annual production figure in 1925 was 2,235,738,000 board feet and the state ranked fifth. This proved to be the peak year for lumber production for Alabama. For the next four years the annual lumber production decreased slightly and by 1930 the impact of the industrial recession became clearly evident when the cut dropped to 1,341,624,000 board feet. The year 1932, with a production of 544,000,000 board feet, proved to be the low point. Thereafter production began to climb and by 1936 reached 1,152,859,000 board feet and by 1943, 2,189,000,000 board feet.

The year 1943 also proved to be a peak. Production for the next few years was rather erratic, dropping to 1,594,000,000 board feet in 1945 and climbing to 1,943,096,000 board feet in 1951, then declining each subsequent year to 1,189,109,100 board feet in 1957. This was the lowest production since 1936. The business recession which first became evident during the last quarter of the calendar year 1956, competition from substitute and alternate materials and imported lumber, unavailability of stumpage in some localities and several other factors helped to depress the lumber market and reduce production. Many small sawmills suspended operations. Shortly after January 1, 1959, lumber production started to pick up, indicating that the country may be slowly recovering from the recession.

## THE PULP AND PAPER INDUSTRY

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In a paper titled "The Pulp and Paper Industry in the Southwest Alabama Forest Empire," prepared by Mr. Harry Roller, Jr., for presentation at the Alabama Academy of Science meeting in Birmingham, April 1, 1958, the early history of the industry in Alabama is reported. The following is quoted from Mr. Roller's paper:

**Southwest Alabama might well lay claim to having had the first paper mill in the South. Although most historical discussions on the development of this industry in the South refer to the paper mill established in 1864 at Marietta, Georgia, as being the first in the region, there are indications that a mill at Mobile preceded that one by some eight years. Mr. J. Finley McRae, in a publication of his address given before the Newcomen Society meeting in Mobile in 1956, mentions court records of 1856 referring to a paper mill on Three-Mile Creed, near Mobile. McRae states, "This mill might well be, in some way, the predecessor**

**of the Gulf Paper Mill Company plant built about 1917 on Three-Mile Creek, generally recognized to be the first paper mill in the State of Alabama.” Even though Texas claims the birth of the southern pulp and paper industry to have occurred with the development of the mill at Orange, Texas, in 1909, Alabama can point with pride to this early paper mill at Mobile!**

**The Gulf Paper Mill Company plant at Three-Mile Creek, after its establishment about 1917, operated periodically. It is presently (1958) owned and operated by the Stone Container Corporation. The first permanent mill or continuous operation in the state was the establishment of the Gulf States Paper Corporation at Tuscaloosa in 1927.**

**International Paper Company’s Mill at Mobile is the oldest continuous operation in Southwest Alabama. This mill was built in 1929 and has been expanded and modernized continually ever since. An approximate fifty million dollar expansion program has just recently been completed, making this mill the largest in the world devoted exclusively to the manufacture of paper.**

In 1940, the Hollingsworth & Whitney Company built a mill in Mobile. The company was later merged into the Scott Paper Company and now operates as the Hollingsworth and Whitney Division of Scott Paper Company. In recent years, an expansion program enlarged the productive capacity of the mill.

With regard to expansion of the industry in Alabama, Mr. Roller states:

**The tremendous post war expansion of the pulp and paper industry in the South has included three more pulp and paper mills in Southwest Alabama—two of which have just recently begun operations, and another presently under construction. Gulf States Paper Corporation built its second Alabama mill at Demopolis in 1957, and Container Corporation of America selected Brewton as the site for its newest mill which began operations at the beginning of this year. The Marathon Corporation, now part of the American Can Corporation is currently building a mill at Naheola in Marengo County.**

In 1957, pulpwood production in Alabama was computed from the Severance Tax reports to be 2,223,781 cords of round wood. This includes other wood products sold by the cord. According to Forest Survey Release No. 53, entitled “1957 Pulpwood Production in the South,” the pulpwood drain for Alabama was reported to be a total of 2,134,367 cords, of which 1,997,190 cords were pine and 137,177 cords were hardwood. Wood residues produced for pulp manufacture from sawmill slabs, veneer cores, pole and piling trim, cull crossties, etc., accounted for an additional 159,800 cords.

## THE PRODUCTION OF FOREST PRODUCTS

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Act No. 169, approved June 23, 1945, known as the Forest Products Severance Tax Act, placed a tax on the business of manufacturing and producing forest products. The measure of the tax is at the following rates:

1. On pine lumber, twenty (20) cents per thousand feet board measure lumber tally. Where the timber is sold as logs and is not converted into lumber in Alabama, the rate shall be twenty (20) cents per thousand feet log scale (Doyle Rule) except that logs under eight inches in diameter inside bark at small end shall be scaled as containing one foot log scale for each foot of length.
2. On hardwood, cypress and all other species of lumber, eight (8) cents per thousand feet board measure lumber tally. Where the timber is sold as logs and is not converted into lumber in Alabama, the rate shall be twenty (20) cents per thousand feet log scale (Doyle Rule) except that logs under eight inches in diameter inside bark at small end shall be scaled as containing one foot log scale for each foot of length.
3. On pulpwood, chemical wood, bolts, six (6) cents per standard cord of one hundred twenty eight (128) cubic feet.
4. On cross ties, 0.6 of one cent per piece, and on switch ties one (1) cent per piece.
5. On mine ties and coal mine props, five (5) cents per 100 pieces,
6. On pine ore mine props, thirty (30) cents per thousand feet log scale (Doyle Rule) and on hardwood ore mine props, twenty (20) cents per thousand feet log scale (Doyle Rule) except that props under eight inches in diameter at small end shall be scaled as containing one foot log scale for each foot of length. In lieu of the foregoing schedule of taxes on ore mine props, the taxpayer may elect to pay the taxes due at the rate of one dollar and twenty five cents (\$1.25) per thousand linear feet regardless of species.
7. On piling, three fourth (3/4) of one percent (1%) on invoice value at loading out point which shall be based on the amount paid for the pilings at the stump.
8. On poles, one half (1/2) of one percent (1%) on invoice value at loading out point which shall be based on the amount paid for the poles at the stump.
9. On turpentine (crude gum), six (6) cents per barrel of 400 pounds.
10. On stumpwood (tarwood), five (5) cents per ton (2,000 lbs.)

The original act was amended by Act 843, approved September 12, 1951; Act No. 695, approved September 17, 1953; Acts No. 385 and 530, both approved September 9, 1955.

This tax on forest products was levied for the purpose of helping finance the State's forest fire control program, particularly at the county level, as eighty percent of the tax must be credited to and spent in the county in which collected.

During the first thirteen-year period, October 1, 1945 - September 30, 1958, that the law was in effect, the manufacturers and producers of forest products have paid a total tax of \$5,181,385.16. The amount retained by the Department of Revenue for collecting the tax and administering the law came to a total of \$322,281.55. The remainder of the \$4,859,113.31 was credited to the Special State Forestry Fund and used to finance the State's forest fire control work and other forestry activities.

The gross amount of the tax (100%) reached a peak of \$472,683.86 during the 1950-1951 fiscal year and a low of \$357,739.90 for the 1957-1958 state fiscal year. Since the severance tax is highly sensitive to economic conditions, the decline is consistent with the period of adjustment which this country has been going through since the last quarter of the calendar year 1956.

The following table gives the amount of the tax collected during the thirteen-year period by state fiscal years:

<u>State Fiscal Year</u>	<u>Total Tax</u>	<u>Collection Expense Dept. of Revenue</u>	<u>Amount Credited to Special State Forestry Fund</u>
1945-1946	\$234,452.11	\$11,722.63	\$222,729.48
1946-1947	405,139.38	20,256.98	384,882.40
1947-1948	437,230.06	21,861.51	415,368.55
1948-1949	380,903.32	19,116.43	361,786.89
1949-1950	405,387.87	20,269.44	385,118.43
1950-1951	472,683.86	23,634.20	449,049.66
1951-1952	429,324.97	23,500.00	405,824.97
1952-1953	414,075.61	19,257.75	394,817.86
1953-1954	404,706.58	53,044.62	351,661.96
1954-1955	418,351.14	69,618.29	348,732.85
1955-1956	427,819.10		427,819.10
1956-1957	393,581.26		393,581.26
1957-1958	<u>357,739.90</u>	<u>40,000.00</u>	<u>317,739.90</u>
Totals	\$5,181,395.16	\$322,281.85	\$4,859,113.31

From the Severance Taxes paid, the Division of Forestry prepares a report showing the quantities of products cut each calendar year by counties. The state production for calendar year 1958 is given in the following table:

<u>Product</u>	<u>Unit</u>	<u>1958 Production</u>
Pine Lumber	Ft. B. M	726,613,000
Hardwood Lumber	Ft.B.M.	409,812,900
Pulpwood	Std.Cords	2,398,673
Cross Ties	Pieces	853,793
Mine Ties	Pieces	25,140
Mine Props	Pieces	779,800
Crude Turpentine	400 lb. bbls.	32,647
Stumpwood	Tons	329,724
Poles and Piles	Pieces	385,177

# STATE FORESTRY AGENCIES

## EARLY FORESTRY LEGISLATION

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In 1775, James Adair, in the appendix of his “History of the American Indians,” wrote:

**As British legislators must be convinced that honesty is the best policy, it is hoped that they will studiously apply themselves to promote the general good of their fellow subjects, and engage the northern colonists cheerfully to band their force in supplying Great Britain with such staple commodities as bountiful nature has given to them, but which through a strange kind of policy she now purchases from foreigners, particularly timber and iron. The North Americans are better in quality that those which are brought from the Baltic, and in far greater variety; and ships of a proper construction might soon carry American timber to England as cheap as she has it from thence...**

The vast tracts of fertile woods which are now shamefully allowed to be the haunts of wild beasts and wolfish savages seeking for prey might far easier be turned into valuable pine plantations by bounties than the marshes and barren lands in Britain were.

As he pointed out, there was a great reserve of timber not only in Alabama but in the whole of the country, which would be of great value to the white man in years to come.

The first pioneers into the Mississippi Territory of which Alabama a part, until becoming a state in 1819, were interested principally in clearing and cultivating the land.

There appeared to be little commercial value in the large volume of old growth timber which was found in the area, so it was cut down and burned or pushed aside to make room for crops which were more valuable at the time than the tree crop,

What might have been the first glimmer of an idea of the value of preventing forest fires was embodied in a territorial law of 1803 preventing “fire hunting” or use of a gun with the aid of pine torches at night within four miles of any settlement under a penalty of a \$20 fine. A slave caught fire hunting received 39 lashes and his owner was fined \$10. Whether the law as aimed at protection of game or was meant to help stop forest fires was not recorded.

**These forest fires, spreading far beyond their intended limits, destroy entirely the youngest progeny of the pines, stunt the growth of more advanced trees and cause the ruin of a large number of older ones.. .**

**PAGE MISSING**

In 1831, The Timber Trespass Act was passed by Congress to protect Live Oak and Red Cedar reserved by the Federal Navy. This act became the basis of present-day law for the prevention of timber trespass on Government lands.

In 1881, the U.S. Department of Agriculture established a Division of Forestry. It was given permanent rank in 1866, with Dr. Bernhard E. Fernow as its first Chief. The National Forest System was Authorized in 1891. The Division became the Bureau of Forestry in 1901, under Gifford Pinchot, and the Forest Service in 1905. The Weeks Law of 1911 allowed the Federal government to purchase forest land necessary to protect the flow of navigatable waters. This resulted in the creation of new National Forests in Alabama and other Eastern states.

## **PAGE MISSING**

Referring to the status of the timbered lands in the state in 1897, Mohr wrote:

**The opportunities which existed during the last twenty-five years for acquiring longleaf pine lands, which were open to purchase by the hundreds of thousands of acres, have now in great measure ceased to exist. The greater part of this property passed into the possession of capitalists, and the rest will soon be similarly controlled. Under this new order of things the prices of timber lands is gradually approaching figures more in proportion to their true value. The depredations committed unblushingly on public lands, and on the lands of railroad companies and private owners, are rendered less easy each year under a mutual protection of interest. Reckless waste and devastation, heedless of the interests of the future, are giving way to a more economical management of the timber resources in the logging camp and in the mill. No measures have been attempted to maintain these resources by sparing the younger timber in its best stage of growth from the ax, or to provide in any other way for the protection and preservation of the younger growth.**

**For the present, however, the economic conditions are hardly yet ripe for any artificial reforestation, but the great importance of this valuable forest resource to the industrial and commercial development and prosperity of the people living within its limits should be apparent enough to keep them at least from preventing its natural reproduction.**

## **THE FORESTRY COMMISSION OF 1907**



John Wallace, a state representative from Madison County, who wrote the Alabama law setting up a Game and Fish Commission, became the Commission's first head and was instrumental in setting up the Forestry Commission in 1907. This law was a natural result of the growing demand for forest protection.

The first effort at state forestry was not very successful. The Forestry Commission of 1907

was composed of ex-officio members and very little was done for lack of funds. The law setting up the first Commission provided that it be composed of the Governor, a member of the State Tax Commission, the State Game and Fish Commissioner, the Commissioner of Agriculture and Industries, one practical lumber manufacturer, a member of the U.S. Forest Service and one professor of forestry at Alabama Polytechnic Institute, Auburn.

Wallace became the secretary of the new Commission. This body was directed by law to conduct a survey of Alabama forests and publish annually a report on forest conditions, to set up areas which could be used to demonstrate the value of good forest practices and designated game and fish wardens and most of the peace officers of the state as deputy forest wardens. The statewide law also gave the Commission power to exempt lands denuded of trees from property tax for 10 years if the owner would cooperate and plant or grow useful timber trees on such land.

It authorized the counties of the state to appropriate a sum not to exceed \$250 annually to pay for forest protection, and directed that all money collected from penalties for firing the woods without five days notice to adjacent landowners should be placed in a Forest Reserve Fund. The State Legislature, in addition, appropriated \$500 annually to carry out the Act.

Wallace reported in the yearly Commission Report in 1908 that there had been great progress by the new Forestry Commission toward discouraging annual burning of forests, and encouraging better timber management. The Commission continued to function as best it could during the following years.

In September 1922, I.T. Quinn, Commissioner of Game and Fish, headed a statewide conservation congress at Montgomery, Alabama. Approximately 100 citizens attended and made recommendations for new state laws which they believed would protect the resources of Alabama.

This group of citizens made no suggestion how it could be done, but recommended that “the Legislature of Alabama be called upon to enact such laws as necessary for the protection, conservation and perpetuation of our forest.”

This recommendation was aimed principally at preservation of the forests as natural habitat for game and to insure pure waters for the fish life of the state. However, it demonstrated the interest which was arising from persons interested in wildlife as well as timber owners and mill men.

A few days before the Congress met at Montgomery, the State Democratic Convention met at the Capitol City on September 7, 1922. Among the resolutions of the Democratic Committee was one which read as follows:

**A wise policy of conservation of the natural resources of Alabama, and the preservation without waste and damage of the gifts so abundantly given us in trust by the All-wise Creator, is not only our duty but should engage our most serious and thoughtful consideration.**

**Our vanishing forests must be replaced and given care; state forest reserves must be created to protect our watersheds and supply our rainfall.**

**All to the end that we may as good tenants deliver over to succeeding generations this land more beautiful, more useful and more tolerable in which to live than when we received it in trust as mere sojourners here for a time.**

## **THE STATE COMMISSION OF FORESTRY**

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The foregoing recommendations to the Legislature no doubt stimulated the State's lawmakers to enact the Forestry Act of 1923, the actual beginning of a forestry program on a statewide basis. The law provided for the establishment of the State Commission of Forestry and the employment of a technical and administrative staff. Col. Page S. Bunker was appointed state forester in 1924 and served until shortly after the enactment of the Department of Conservation Act of 1939. The State Commission of Forestry comprised the following men:

**Hon. William W. Brandon, Governor - Chairman**  
**E.F. Allison - Vice Chairman**  
**John L. Kaul**  
**J.W. LeMaistre**  
**J. Lee Long**  
**I.T. Quinn**  
**W.M. Spencer**  
**Page S. Bunker, Secretary and State Forester**

Field work was started in January 1924, shortly after the employment of Col. Bunker, who was instructed to organize the office of the Commission and proceed to carry out duties prescribed by statute.

Alabama's basic forestry law gives the state agency the necessary authority to advise and assist private landowners in all phases of forest culture, preservation and use; to promote among all classes of the population an appreciation of all the benefits to be derived from productive woodlands; to take such measures as may be reasonable and practicable to prevent and suppress forest fires and other influences harmful to forest growth; to acquire and develop state forests; and to perform other duties as may be imposed upon it by law. This law is quite comprehensive and permits the formulation of a complete forestry program. The objective of the program is to protect and develop the forest resource so that it can be utilized wisely and conservatively. The continued prosperity of Alabama will depend to a considerable extent on how well the state develops its renewable natural resources and encourages the processing of these resources into consumer goods.

In 1927, the Legislature passed a State Land Act which gave the State Commission of Forestry responsibility for the development and operation of state parks and administration of other state lands. The Bureau of Parks and Recreation was formed by the Commission to manage state park lands.

In 1930, there was only one state park. By 1933 there were eleven. In that year, the State Commission of Forestry, in cooperation with the National Park Service and the U.S. Forest Service, secured the assistance of the Civilian Conservation Corps for constructing park facilities, fire control improvements, and a new forest tree seedling nursery. Manpower as well as funds for purchasing materials, supplies and equipment were provided by the federal government through a special agency designated Emergency Conservation Work. After several years the name of the agency was changed to the "Civilian Conservation Corps of the Federal Security Agency." In 1933 the Commission administered the work programs of twelve CCC camps assigned to forestry work, four camps assigned to state park development, and two camps to erosion control. A list of the camps is as follows:

<u>Forestry</u>	<u>State Parks</u>	<u>Erosion Control</u>
S-51, Rt. 4, Oxford, AL	SP-1, Hacoda, AL	PE-57, Glencoe, AL
S-52, Chunchula, AL	SP-2, Munford, AL	PE-58, Clayton, AL
S-53, Forala, AL	SP-3, Uriah, AL	
P-54, Brewton, AL	SP-4, Weogufka, AL	
P-55, Vredenburgh, AL		
S-56, Townley, AL		
P-59, Rt. 3, Northport, AL		
P-60, Chatom, AL		
P-61, Bay Minette, AL		
S-62, Bessemer, AL		
P-63, Jackson, AL		
P-72, Fort Payne, AL		

During the nine years of the CCC program, twenty CCC camps worked at various periods on forestry projects. These camps were as follows:

<u>Camp</u>	<u>P.O. Address</u>	<u>Established</u>	<u>Discontinued</u>
Camp S-51	Oxford, AL	June 3, 1933	April 15, 1934
Camp S-52	Chunchula, AL	June 14, 1933	April 30, 1939
Camp S-53	Floral, AL	June 15, 1933	November 23, 1934
Camp P-54	Brewton, AL	June 28, 1933	November 27, 1934
Camp P-55	Vredenburgh, AL	June 25, 1933	December 3, 1934
Camp S-56	Townley, AL	June 3, 1933	May 18, 1934
Camp P-59	Northport, AL	June 22, 1933	November 13, 1934
Camp P-60	Chatom, AL	July 18, '1933	May 31, 1938
Camp P-61	Bay Minette, AL	June 25, 1933	January 7, 1936
Camp S-62	Bessemer, AL	June 22, 1933	October 5, 1934
Camp P-63	Jackson, AL	June 29, 1933	November 26, 1934
Camp P-72	Fort Payne, AL	November 16, 1933	April 15, 1934
Camp P-73	York, AL	May 18, 1934	October 12, 1938
Camp P-75	Chapman, AL	July 15, 1935	November 30, 1939
Camp P-76	Vredenburgh, AL	September 29, 1938	July 10, 1942
Camp P-77	Uriah, AL	May 1, 1939	November 14, 1941

<b>Camp</b>	<b>PO. Address</b>	<b>Established</b>	<b>Discontinued</b>
<b>Camp P-78</b>	<b>Brewton, AL</b>	<b>December 1, 1939</b>	<b>January 15, 1942</b>
<b>Camp P-79</b>	<b>Robertsdale, AL</b>	<b>July 9, 1940</b>	<b>March 15, 1942</b>
<b>Camp P-80</b>	<b>Dadeville, AL</b>	<b>July 8, 1940</b>	<b>November 14, 1941</b>
<b>Camp P-81</b>	<b>Bessemer, AL</b>	<b>August 8, 1940</b>	<b>May 22, 1942</b>

The value of the work in monetary terms is rather difficult to determine, but a conservative estimate in 1942 would place it in the neighborhood of four or five million dollars. The Division of Forestry benefited by the construction of 49 towers to provide detection of forest fires, 1,090 miles of telephone line to furnish communication between towers and to fire crews, and 1,204 miles of roads or truck trails over which the crews could travel to reach remote forest areas. In addition, tower dwellings, administrative headquarters, and equipment and storage buildings were constructed. A modern forest tree seedling nursery was made possible through CCC assistance.

The State Commission of Forestry retained management of the state parks until 1939. Following the enactment of the Department of Conservation Act of 1939, A Division of State Parks, Monuments and Historic Sites was created in the Department to take over the management and development of the state park program. The forestry program was placed in the newly created Division of Forestry.

During the latter part of the 1942-1943 state fiscal year, the Division of Forestry was relieved of the job of administering state lands. This work was placed in a newly created Division of State Lands.

At the time the State Commission of Forestry was abolished in 1939, the following men were serving as members of the Commission:

**Hon. Frank Dixon, Governor - Chairman**  
**James H. Eddy, Birmingham - Vice-Chairman**  
**A.N. Grubbs, Eutaw**  
**Charles S. McDowell, Jr., Eufaula**  
**N. Floyd McGowin, Chapman**  
**I.T. Quinn, Montgomery**  
**Page S. Bunker, - Secretary and State Forester**

Other men who served as chairman of the Commission were Hon. B.M. Miller, Governor, and Hon. Bibb Graves, Governor.

In 1939, the legislature made the first direct appropriation from the State's general fund to help finance the State's forestry program. For general forestry work, \$65,000 was appropriated and for state land investigations, \$10,000. Prior to 1939, state funds consisted entirely of privilege taxes on sawmills, turpentine stills, and other wood using industries.

## THE DEPARTMENT OF CONSERVATION

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The Department of Conservation Act of 1939 placed all of Alabama's conservation work in a newly created Department of Conservation. This act abolished the State Commission of Forestry, the Alabama Conservation Board, the Alabama Oyster Commission, and the Alabama Monument Commission, and provided for the appointment of a Conservation Advisory Board and a departmental executive officer to be known as the Director of Conservation. Dr. Walter B. Jones was appointed the first director of the new department.

The first Conservation Advisory Board, which included members appointed by Governor Dixon and Certain ex-officio members designated by law, was as follows:

**Julian McGowin, Chapman - Chairman**  
**Fred Stimpson, Mobile**  
**Albert Gill, Mobile**  
**Dr. L.A. Kilpatrick, Gadsden**  
**Robert Jemison, Jr., Birmingham**  
**C.H. Jackson, Florence**  
**Major J.H. Friend, Mobile**  
**J.H. Eddy, Birmingham**

Ex-Officio

**Governor Frank M. Dixon**  
**Dr. Walter Jones, Director of Conservation**  
**Haygood Paterson, Commissioner of Agriculture**  
**P.O. Davis, Director, Extension Service**

Dr. Jones served as Director of Conservation until December 1940, when he left to enter military service. Mr. Albert Gill was appointed by Governor Sparks and served from December 1940 to July 1943, except for period December 1941 to July 1942, when Dr. Jones returned from military service. Mr. Morgan filled the position from 1943 until 1947. He was followed by Mr. Bert E. Thomas, who was named Director by Governor James E. Folsom. When Mr. Thomas resigned in 1950 to accept another appointment, Governor Folsom appointed Mr. Phillip J. Hamm, who resigned at the close of Governor Folsom's Administration. Governor Gordon Persons appointed Mr. Earl M. McGowin as Director and he served until the end of Governor Persons' Administration. Governor Folsom, who was elected to a second term, appointed Mr. W.H. (Bill) Drinkard as Director on January 20, 1955. He resigned October 1, 1958. He was succeeded by Mr. Robert Folsom, who served through the end of Governor Folsom's administration. Governor John Patterson appointed Mr. Claude Kelley as Director of Conservation on January 20, 1959. Mr. Kelley resigned April 30, 1959. He was succeeded by Mr. William Younger, who was appointed by Governor Patterson May 1, 1959.

In the Winter of 1960, the Conservation Advisory Board comprised the following members:

**Julian McGowin, Chapman - Chairman**  
**G.W. Ponder, Jr., Cullman**  
**James H. Crow, Jr., Decatur**  
**Gus Woodward, Fayette**  
**Hubert Kimbrough, Mobile**  
**C.H. Jackson, Florence**  
**Terre<sup>1</sup> Houser, Muscle Shoals**  
**Dr. Willis C. Roycroft, Bayou La Batre**

**Ex-Officio**

**Governor John Patterson**  
**William Younger, Director of Conservation**  
**R.C. (Red) Bamberg, Commissioner of Agriculture**  
**Dr. E.T. York, Jr., Director, Extension Service**

Other men who served on the Advisory Board as appointed members were: Robert K. Bell, Huntsville; Eugene Jemison, Mobile; William Deer, Claiborne; J.C. Sawyer, Anniston; W.B. Garner, Mobile; Carson G. Inscho, Birmingham; John H. Cooper, Cullman; Joe M. Pelham, Chatom; and H.M. Norwood, Birmingham.

Other Ex-Officio members were Governor Chauncey Sparks, Governor James Folsom and Governor Gordon Persons. Those who served as secretary were Albert Gill, Ben Morgan, Bert Thomas, Phillip Hamm, Earl McGowin, W.H. Drinkard, Robert Folsom and Claude Kelley. Commissioners of Agriculture who served on the Board were Joe N. Poole, Haygood Paterson, Frank Stewart and A.W. Todd. The former Director of Extension, P.O. Davis, served on the Board from its establishment to the time he resigned and was succeeded by Dr. E.T. York, Jr.

Shortly after the establishment of the Department of Conservation in 1939 and the appointment of Dr. Jones as Director of Conservation, J. Brooks Toler was appointed state forester and Chief of the Division of Forestry, succeeding Col. Page S. Bunker. Mr. Toler resigned in 1942. He was followed by J.M. Stauffer, who was appointed October 1, 1942 and has continued to fill the position of state forester and chief of the Division of Forestry (1960). (Mr. Stauffer retired as state forester in 1970.)

## STATE FORESTRY PROGRAMS

### THE NURSERY AND PLANTING PROGRAM

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In 1926, under a cooperative agreement with the U.S. Forest Service, the Alabama Commission of Forestry established the state's first forest tree nursery in Sumter County on a tract donated by a "public spirited" citizen. At the time, the state forester wrote in the annual departmental report that the nursery would not be operated for profit but to encourage landowners to reforest their lands.

This nursery, called the State Forest Nursery, served an increasing number of landowners until 1932, when a lack of funds caused restriction of nursery operations. During the worst depression years, replanting of idle lands was low, but as money again became available, nursery operations were resumed on a larger scale. Production of seedlings mounted steadily until an annual total of approximately 1,000,000 were distributed.

In the face of increasing demand for forest tree seedlings, the decision was reached in 1939 to abandon the nursery in Sumter County and establish a new nursery near Autaugaville. The low quality soil, inadequate railroad shipping facilities) a Cronartium infection in the pine timber surrounding the nursery site, and the availability of labor and funds for construction of a new nursery were some of the considerations that favored a change in location. The first year's production at the Autaugaville Nursery, later designated John A. Miller Nursery, amounted to 735,000 seedlings. Since its establishment, production has more or less steadily increased to a high of 83,298,400 for the 1958-59 planting season.

In 1949 work was begun on a second nursery near Opelika, Alabama, which is known as the Auburn Nursery and early in 1952 the development of a third nursery, designated the E.A. Hauss Nursery, was started near Atmore, Alabama. The partial completion of the Auburn Nursery and the beginning of construction of the Hauss Nursery were made possible by a General Appropriation of \$100,000 by the 1951 Alabama Legislature.

For the 1952-1953 planting season, the three state nurseries produced a total of 34,499,000 plantable trees. This was 2,476,000 in excess of demand. Some of these trees were destroyed, some given away and some held over in the nursery for another year. Useful production amounted to 32,023,000. During the early part of that shipping season, new applications were being turned down as the entire inventory had been obligated. Weather conditions, shortage of planting labor, and inflation of orders on the part of the applicants led to cancellation at the tail end of the shipping season. It was too late then to move all the surplus trees as the 1953 growing season started early that year. For the first time in recent years, the state nurseries produced planting stock in excess of demand.

The experience gained from the 1952-1953 planting season led to the belief that the normal demand for planting stock ranged from 30 to 34 million. However, unforeseen factors developed which have had a marked influence on demand. Since 1952, the relationship between supply and demand has been as follows:

<b>Year</b>	<b>State Nursery Production</b>	<b>Demand</b>
1953-54	27,023,000	33,000,000
1954-55	20,208,000	35,000,000
1955-56	34,000,000	50,000,000
1956-57	61,500,000	130,000,000
1957-58	99,494,000	200,000,000
1958-59	166,000,000	194,000,000
1959-60	140,800,000	153,376,000

In addition to the trees grown in the state nurseries, the Division of Forestry secured 28 million trees from other sources during the 1958-59 planting season. It is believed that the 194 million seedlings met the demand.

There are probably two important developments responsible for the increased interest in the planting of trees- the expansion in the pulp and paper industry and the passage of the Soil Bank Act.

During the calendar year 1955, five companies announced the establishment of new pulp and paper mills in Alabama. Two of these companies were newcomers to the state. Four companies announced expansion of existing plants. In 1939, 375,000 cords of pulpwood were cut in Alabama. Through the 1950's this increased dramatically as follows:

<b>Year</b>	<b>Pulpwood Harvest (Cords)</b>
1952	1,620,794
1953	1,817,354
1954	1,854,249
1955	1,938,486
1956	2,111,244
1957	2,223,781
1958	2,398,673
1959	2,687,512

In addition to round pulpwood, the production of pulpwood from wood residues in 1959 amounted to 348,800 cords.

On May 28, 1956, the President signed H.R. 10875, which became Public Law 540 - 84th Congress. This law is generally referred to as the Soil Bank Act. The Conservation Reserve Program, as set out in this Act, provides for a long term shift (up to 10 years) of crop land and tame hay land to conservation uses. Tree planting is an approved practice under this program.

For calendar year 1956, tree planting contracts were approved for 5,050 acres. These trees were planted. For calendar year 1957, tree planting contracts on 24,332 acres were completed. For the calendar year 1958, contracts were approved for the planting of trees on 55,238 acres.

A 1959 goal of 198,000 acres to go under the Conservation Reserve Program has been set by the state ASC office. It is estimated that 80 percent of this acreage will be devoted to the planting of trees. The cumulative goal of the four-year period ending with the calendar year 1960 has been set at 438,000 acres, of which 80 percent will probably be planted with trees.

Although the maximum sustained capacity of the three state nurseries is placed at 117 million, a total of 166 million trees were produced for the 1958-59 planting season. Plans were to produce 14 1 million for the 1959-60 planting season, and about the same quantity for the 1960-61 season. After that it may be necessary to reduce production to 117 million to avoid damage to nursery soils.

### ***The E.A. Hauss Nursery***

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The Hauss Nursery is situated north of the Atmore State Prison Farm and is approximately 12 miles north of the city of Atmore and one and one-half miles east of State Highway #21 in the western section of Escambia County. This is the newest of the three state nurseries. It has produced seven crops of seedlings and is now growing the eighth. (1960)

The nursery has a gross area of 155.37 acres of which 107.3 acres are suitable for growing trees. The remaining area is taken up by a building or work area, storage site, roads and drainage ways. Based on a 2: 1 rotation and an average yield of 1 million trees per acre, the maximum annual capacity is placed at 60 million seedlings. A 2: 1 rotation means 2 years in trees and 1 year in cover crops.

### ***The John R. Miller Nursery***

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The Miller Nursery has a gross area of 201.44 acres. The nursery is situated two miles southwest of Autaugaville in Autauga County. Approximately 100 acres can be used for seed beds. On the basis of a 2:1 rotation, the nursery has a rated annual capacity of 55 million seedlings. By modifying the rotation, the production for any one year can be increased or decreased.

### ***The Auburn Nursery***

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The Auburn Nursery in Lee County is located 5 miles south of Opelika on Highway 37. It has a gross area of 25.4 acres, of which 18.5 acres are in seed beds and under irrigation. The present annual capacity, employing a 3:1 rotation (3 years in trees, 1 year in cover crops) is placed at 12 million one-year old seedlings. When no rotation is followed, production can be increased to 18 million seedlings per year.

Ten crops of seedlings have been grown in the Auburn Nursery. The eleventh crop was sown in the spring of 1960. Some portions of the Auburn Nursery have grown trees each year that the nursery has been in production. The soil is more sandy than the other two state nurseries and does not have the tendency to compact or become lumpy from continuous use.

The nursery is operated under a cooperative agreement between the Alabama Department of Conservation and the Agricultural Experiment Station of the Alabama Polytechnic Institute. The State Division of Forestry runs the nursery and grows seedling trees for distribution throughout the state. API uses the nursery as a field laboratory for forestry students and for research work in forest nursery practices. One of the projects involves growing a crop of trees each year on the same land to determine the effect of such practice on soil fertility and quality of the planting stock.

The land comprising the Auburn Nursery is owned by API. The improvements, including buildings, wells and water mains, and the equipment were obtained with state money, federal CM-4 allotments, and Soil Bank funds.

### **TVA Cooperative Tree Planting Project**

The Division of Forestry has been engaged in a tree planting program in the TVA area of Alabama in cooperation with the Division of Forestry Relations, Tennessee Valley Authority. It is identified as Project #1 1 under contract TV 84388. Under the terms of the formal agreement, the TVA furnishes loblolly pine seedlings from their nurseries to the Division of Forestry for filling applications received from landowners in the ten counties in the Tennessee Valley area of the state. The Division of Forestry makes the same service charge for TVA seedlings as for trees produced in the state nurseries. The state in turn reimburses the TVA at the same rate per thousand.

The chief difference between seedling distribution under Project #11 and distribution from the state nurseries is the matter of delivery. The state provides transportation from the TVA nurseries to a central location in each county. Prior to the 1957-58 planting season, no charge was made for the seedlings.

During the 1957-58 planting season, a total of 5,500,000 trees were distributed under Project #11. For the 1958-59 planting season, the TVA supplied 6,500,000 loblolly pine seedlings, and for 1959-60, 7,000,000. This project was discontinued at the end of the 1959-60 season, as the state nurseries had expanded production and appeared able to meet the demand for planting stock.

## FOREST FIRE CONTROL

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Following the creation of the State Forestry Commission in 1923 and the employment of Page Bunker as state forester in January 1924, steps were taken to hire field personnel for a fire control organization. By 1925, the state forester reported that fire protection had been organized on an area totaling 5,777,640 acres. About 6.5 percent of the protected forest burned during that year.

The area under protection mounted slowly through the years until 1939 when the Department of Conservation took over forestry operations. In that year there were 7,629,494 acres of forest under protection. There were 4,461 fires that year burning a total of 199,014 acres or 2.95 percent of the protected area.

The calendar year 1950 marked an important event in the history of organized forest fire control in Alabama. For the first time Alabama had statewide protection for the 18,112,000 acres of forest land in state and private ownership which had been considered as being in need of protection.

In that year, with the full acreage of forested area organized, there were only 9,947 fires which burned 415,826 acres of wooded land, or 2.30 percent of the protected area. This was a great drop in the number of fires on lands that had been unprotected previously and suffered annually from a high loss in acreage burned.

Although Alabama has had statewide protection since 1950, the fire control organization has been spread rather thinly in some sections of the state. Consequently, there has been a sustained drive to intensify protection so that the annual burn will be brought down to 0.5 percent which is the present standard for basic protection in Alabama.

The installation of radio and telephone communications systems, the use of power equipment for fire suppression, the construction of towers for detection purposes, effective fire prevention programs, the employment of more manpower, and the increasing support of landowners and the counties have contributed to a decrease in the high loss which was common to Alabama forests prior to the start of organized protection in 1924. During that year (1924) 34 percent of the forest land in the state burned.

One hundred fifty-seven lookout towers constitute the detection system and permit early detection of forest fires. Communication is provided by 989 miles of telephone line, 104 fixed radio stations, most of which are in lookout towers, and 227 portable mobile radio units installed in trucks and cars, supplemented by 117 radio units operated by cooperating landowners on the state's assigned frequency. Until recently, standard hand tools and man power were the mainstay of the fire control organization. The Division of Forestry now operates 147 tractors equipped with fire suppression plows to assist fire crews equipped with hand tools. The fire control program is financed by state appropriation, federal funds, county appropriations, landowner contributions and the receipts from the forest fire severance tax.

## FOREST MANAGEMENT

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When Alabama embarked on a forestry program in 1924, the major effort was directed toward the prevention and control of forest fires. However, a portion of the time of members of the state forester's technical staff was devoted to encouraging landowners to cut and manage their forest lands so that they would remain in a productive condition. Detailed management plans were prepared on individual properties for demonstrational purposes. Field studies were made to determine merchantability of trees of various diameters.

In 1938 a cooperative agreement was negotiated between the U.S. Forest Service and the Commission of Forestry in the field of forest management. A full time forester was employed to work with private landowners in promoting improved timber cutting and utilization practices. The salary of the employee was paid out of federal funds, while his travel expenses were borne by the state. The project was discontinued in June 1945.

In July 1940, two cooperative farm forestry projects were begun pursuant to the provisions of the Norris-Doxey Act of 1937. One project was in cooperation with the Soil Conservation Service and the other with the U.S. Forest Service. On July 1, 1944, the latter agency took over the supervision of both projects. The last appropriation under the Norris-Doxey Act was made for the period July 1, 1950 - June 30, 1951. A new law, H.R. 7155, known as the Cooperative Forest Management Act, was signed by President Truman on August 25, 1950. This new legislation, Public Law 729 of the 81st Congress, repealed those portions of the Norris-Doxey Act which pertained to forest management assistance. Beginning July 1, 1951, all appropriations for this activity have been made under Public Law 729. Because of increased Federal funds allotted to Alabama, the Cooperative Management Program was expanded in 1960 to eight projects which has given statewide coverage.

In addition to the management assistance provided by the cooperative project, field personnel employed on fire control devote some time to this important activity.

## CURRENT STATUS OF THE FOREST RESOURCE

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As of 1953, 63.5 percent of Alabama's land area is classed as forest land. This percentage is increasing as a result of the planting of trees under the Conservation Reserve phase of the Soil Bank Act. For the same year, 1953, the sawlog growing stock was reported at 38,491,000,000 board feet and the total growing stock at 11,712,400,000 cubic feet. Growth is presently in excess of drain. This means that the forest capital is increasing.

Alabama's timber resource provides raw material for some 1,800 sawmills, 7 wood-pulp mills, and more than 100 non-lumber establishments-veneer mills, cooperage plants, wood preserving plants and others. In importance to Alabama's industrial economy, the forest industries are exceeded only by primary metals and textiles.

The trees of Alabama are at work. They are building up the state economy. They are receiving help through fire protection, timber management, and reforestation. At the present rate of progress, it can be predicted that in the not distant future, Alabama will have more timber than was growing at the time DeSoto made his way through the state.

The research programs of the federal government, the state, and many private agencies are providing information that enables the Division of Forestry to improve its service to the people of the commonwealth.

All is not rosy. Several thousand years of burning has left its mark-particularly on much of the shortleafpine in the Southeast. There is strong evidence that this species on many exposed sites has deteriorated genetically because of repeated fires. That, however, is another story.

**End of Volume 1**

## ACKNOWLEDGEMENTS

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