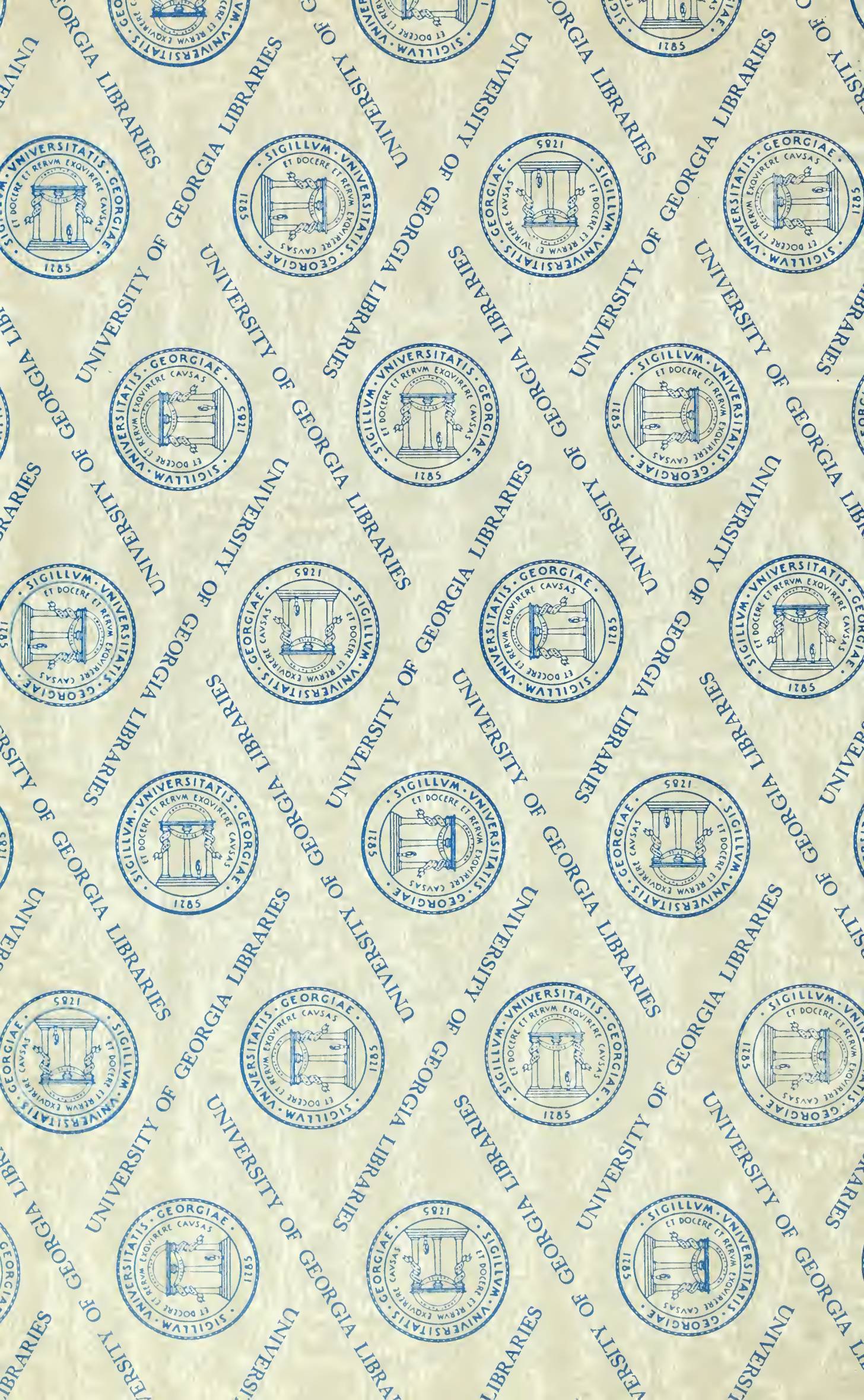


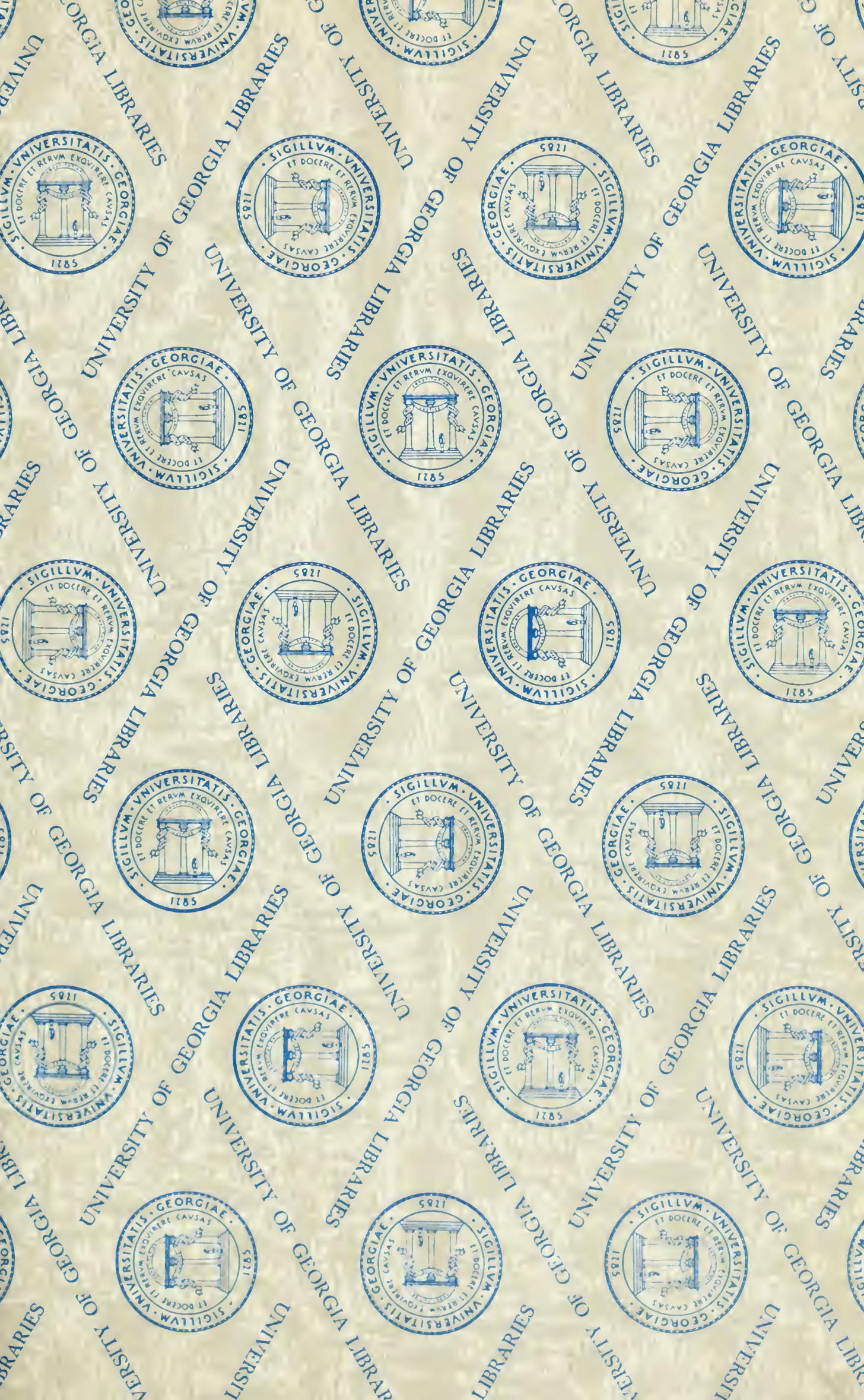
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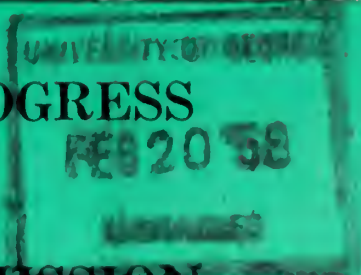
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FORWARD IN FORESTRY



BIENNIAL REPORT OF PROGRESS
1949 - 1950

GEORGIA FORESTRY COMMISSION



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FORWARD IN FORESTRY



BIENNIAL REPORT OF PROGRESS

1949 - 1950

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GUYTON DeLOACH
DIRECTOR

GEORGIA FORESTRY COMMISSION
STATE CAPITOL
ATLANTA

January 1, 1951

To Honorable Herman E. Talmadge, Governor
The General Assembly
The People of Georgia

In accordance with Section 9 of the Act approved March 5, 1947 (as amended), I take pleasure in submitting this report of progress of the Georgia Forestry Commission for the calendar years 1949 and 1950.

Record strides have been made in the protection, development and wise use of Georgia's forests during the last biennium. Activities of the Georgia Forestry Commission have been greatly expanded, giving to all Georgians increased economic and social benefits from the state's great forest resource. The value of both the raw and manufactured forest products, and the income returned to land-owners and forest industries, stand today among the dominant factors in the economy of the state. An adequately protected, well managed, and wisely utilized forest resource is vital to the economic well-being of Georgia.

The progress and accomplishments during the period of this report constitute a major advance in state forestry, but the Commission's work in forest fire protection, nursery production and reforestation, management, and public education must continue on an ever-increasing scale if the full productivity and maximum economic contribution of the state's forest lands are to be realized.

Respectfully submitted,
Guyton DeLoach
Guyton DeLoach, Director



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INTRODUCTION

The forest is Georgia's most extensive agricultural crop and one of her greatest natural resources. Sixty-six percent—two out of every three acres—of the total land area of the state supports a forest crop of some description.

Georgia's landowners receive more annual income from forest products than from any other agricultural crop. The state's woodlands provide the raw materials for manufacturing operations which return to landowners and industry almost \$300 million dollars a year. More than 120,000 Georgians are directly employed in forest activities, and many thousands more are indirectly dependent upon the forest for a livelihood.

Every county in Georgia has one or more wood-using industries, and in the past few years the forest products industries have been among the leaders in the construction of new plant facilities.

Georgia leads or ranks high in the production of many forest products. During both 1948 and 1949, the state led the entire south in the production of pulpwood, with the record-breaking totals of 1,770,600 and 1,790,486 standard cords, respectively. This represented one-tenth of the total United States output of pulpwood during 1949.

The state's naval stores industry accounted for more than 74 percent of the total nation's supply of gum naval stores during 1949.



GUYTON DeLOACH
Commission Director and State Forester

In lumber production Georgia is among the leaders in the south, and the state's forest lands yearly produce a large quantity of poles and piling, veneer, cross ties and other wood products.

Georgia's forests comprise a total of 25,178,962 acres. Small, private ownership predominates with more than 70 percent of all the state's woodlands in holdings of less than 1,000 acres, and more than 95 percent privately owned. Georgia ranks first in the nation in privately-owned forest area and in the number of forest landowners.

Every Georgian has a large stake in the protection and wise utilization of the forest resource. The productivity and conservation of the state's timberlands affects the welfare and daily life of all her citizens.

The Georgia Forestry Commission was created by action of the State Legislature, and July 1, 1949, the Commission replaced the previously existent Georgia Department of Forestry.

The Commission is composed of five members who are appointed by the Governor and confirmed by the Senate. Three of the members of the Board of Commissioners are owners, or representatives of owners, of fifty acres or more of forest land within the State of Georgia. Two members are manufacturers or processors of forest products, or their representatives. The Commission members are appointed for varying terms of office of three, four, five, six and seven years, with present terms dating from January 1, 1949. Successors to the present members will be appointed for terms of seven years. Vacancies occurring on the Board of Commissioners are filled by appointment of the Governor, subject to confirmation by the Senate. The Commissioners serve without compensation, but receive per diem and mileage allowances when attending Board meetings.

The administrative officer and Executive Secretary of the Commission is the Director, who is appointed by the Board of Commissioners with the consent of the Governor. The Director, with the approval of the Board of Commissioners, has the power to adopt all rules, regulations, and other procedures of administration necessary for the efficient operation of the Commission and the carrying out of its functions.

In moving steadily toward the full production, best development and wisest use of woodlands, activities of the Georgia Forestry Commission have been expanded by record proportions during the last biennium. In fact, the expansion of forestry activities of the Commission during the past two years has been roughly equal to the expansion during the previous ten years.

The greatest strides have been made in the field of forest fire control. In December, 1948, there were 43 counties and 8,591,196 acres



Some of the many products from Georgia's forests.

of Georgia forest land under organized fire protection. At the present time, organized Forest Protection Units are operating in 86 counties and 16,291,577 acres are protected. Not only has the number of protected counties been doubled, but strength of the existing Protection Units has been increased and protection has become more nearly adequate.

The record expansion of fire protection activities and the great increase in protected acreage has been an undertaking of great proportions and has been carried out despite numerous difficulties and uncertainties. Organization of the new Forest Protection Units has been a tremendous job. Fully-qualified and experienced, or technically-trained, personnel had to be employed to fill the position of County Forest Ranger in all newly-protected counties. Once employed, the new protection personnel had to be trained in the techniques of fire prevention and fire suppression.

Detection is the first step in fire suppression, and to make possible the rapid detection and location of wildfires, a total of 97 new forest fire lookout towers have been erected and placed in operation in protected areas.

A total of 266 new fire-fighting vehicles, plows and trailers have been purchased, equipped, and supplied to Forest Protection Units. These vehicles have been fitted with tanks, power pumps, two-way radios and other mobile equipment at the Commission workshops at Waycross.

Enforcement of Georgia's forest fire laws has been intensified with the placing of seven additional fire investigators in the various areas of the state. The efforts of these personnel are primarily directed toward combatting malicious incendiarism.

The Commission's forest management services to landowners in the state have been increased during the past two years. Management Foresters have been placed in the districts to provide on-the-ground assistance to small forest owners upon request. These management services consist principally of recommendations as to harvesting practices, marking of stands prior to cutting, and furnishing marketing advice.

Further upbuilding of the Commission's management program has been greatly hampered by the turnover of personnel during the current period.

There has been an increase in the management practices on Georgia's two State Forests during the past two years. A technical forester is now in charge of the Waycross State Forest, and plans have been



Georgia's forests are the playground of millions and the guardian of the state's invaluable water resource.

completed for both this area and the Baxley State Forest to be established as continuous demonstrations of good forest management.

Reforestation and nursery production of seedlings has gone forward at a record rate. Production of seedlings in the state's nurseries during the 1949-50 planting season reached the all-time high, record figure of 44,767,000, placing Georgia in the lead among southern states in the production of seedlings from state nurseries. These seedlings were distributed to landowners, and served to reforest more than 60,000 acres of idle, non-productive land in the state. Production during the past two planting seasons reached the total of 79,987,000 seedlings, a sufficient number to reforest more than 95,000 acres.

The Commission's information and education program has been broadened and intensified with the excellent cooperation of the state's press, radio stations and other agencies. These information and education activities are directed toward obtaining the public understanding and cooperation that is essential to the success of forest protection and development in Georgia.

An acute need exists for full-time Information and Education specialists in each of the nine forestry districts. The services of these personnel are essential as a primary step in making the educational program adequate throughout the state.

Fire prevention is of basic importance in the state's fire protection program, and fire prevention is largely dependent upon a constant public awareness of fire danger and destructiveness. This fire consciousness is best maintained through information and education activities.

FIRE PROTECTION

Fire control is basic to all forestry in Georgia, and fire protection work constitutes the most important phase of the Commission's activities. Today, the total area of protected forest land in the state stands at the all-time high figure of 16,291.577 acres.

In Georgia there are 23,645,653 acres of state and private forest land. The 14,758,268 acres protected by Commission forces constitutes 62 per cent of this total. The remaining 1,533,309 acres is under protection by other public agencies. This represents an increase in protected forest area of 6,167,022 acres since January 1, 1949. At present, there are 86 County Forest Protection Units, as compared with only 43 Units operating as of January 1, 1949.

During the fire season 1949-1950, Georgia and the south experienced the worst fire season in the past ten years. This was contributed to by the unusual drought conditions during the winter and spring months. Normally, the fire season ends during April, but this past spring the season extended into June.

From July 1, 1949 through June 30, 1950, 9,641 wild fires burned over 291,502 acres of forest land in the protected counties of the

Fire is the greatest enemy of Georgia's forests.



state. Despite the unusual dry conditions and long season, only two acres out of every hundred acres under protection were burned. There is no record of the number of acres burned in unprotected counties. It is estimated that in the counties without protection, 24 acres burned for each acre destroyed in counties under protection. This fact strongly emphasizes the need for every county to have organized protection. The Georgia Forestry Commission must continue striving to extend protection to all of the state's 159 counties.

The County Forest Protection Unit has as its advisory body five prominent local citizens and landowners who are appointed by the Director of the Commission to comprise the Forestry Board for the particular county. The County Forestry Board assists the Commission Director in carrying out the forestry program in the county. The Protection Unit is headed by a County Forest Ranger.

The Ranger is the key man in the Unit and is charged with the responsibility of carrying out the fire control work under the direct supervision of the District Forester. His responsibility demands that he direct the forces under his supervision in such a manner that the fire protection policy is efficiently fulfilled. The Ranger is assisted by one or more patrolmen in each county. In addition to fire prevention work, these crew members assist the Ranger in the inspection and maintenance of fire fighting equipment, and in the construction and maintenance of the communication system.

In addition to the patrolmen, the Ranger is assisted by the tower-men who are charged with the responsibility of detecting and reporting forest fires and maintaining the tower units.

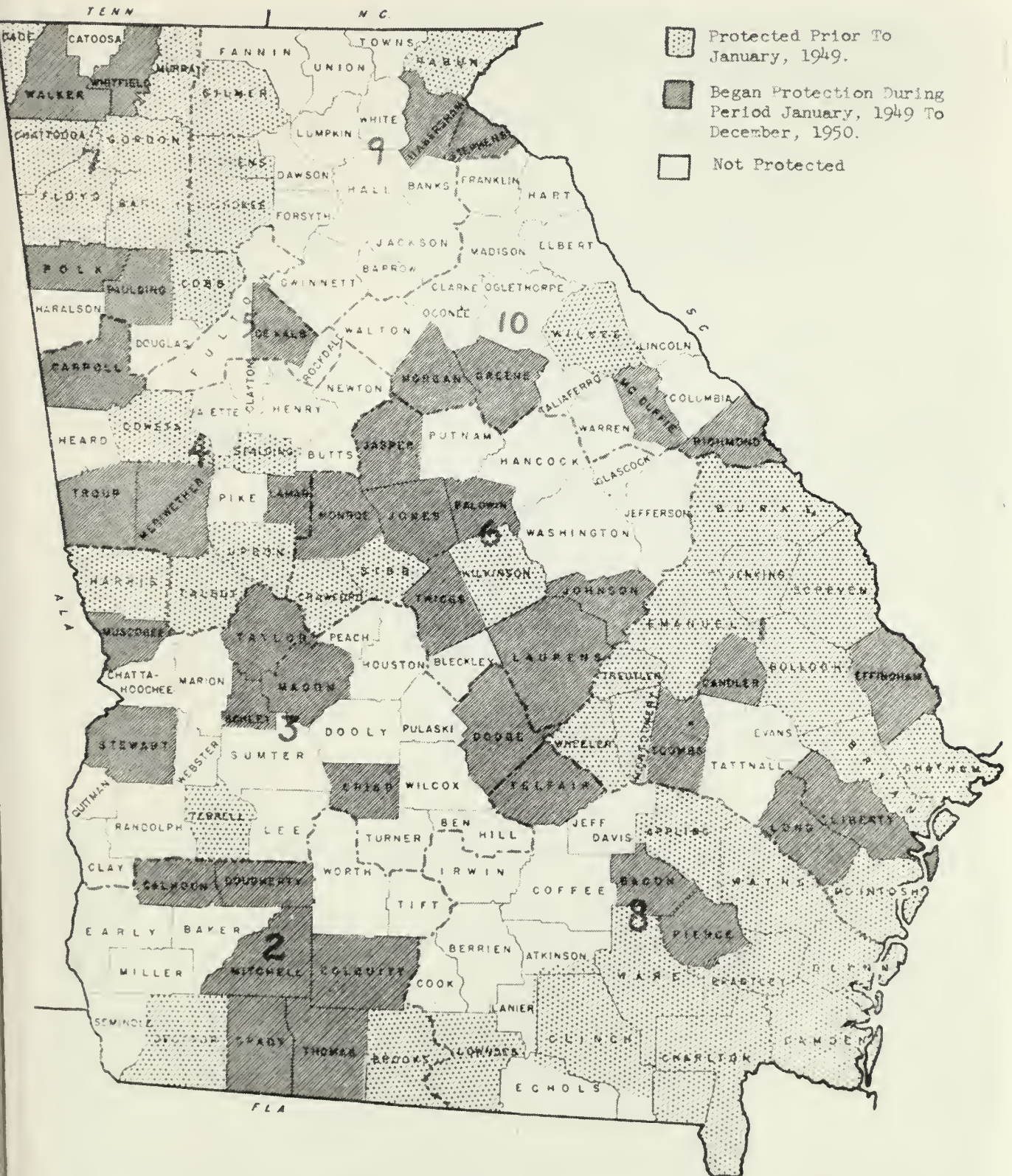
County fire protection is financed on a $66\frac{2}{3}$ percent, $33\frac{1}{3}$ percent basis. The State supplies $66\frac{2}{3}$ percent of the cost of the operation, and the County $33\frac{1}{3}$ percent. Construction of forest fire lookout towers in the counties is financed by the State.

Fire protection is not a 40-hour-week job. In many instances fire crews are on fire fighting duty round-the-clock without rest or sleep. There are no weekends or holidays for the fire fighters during fire season.

A good Forest Protection Unit, in addition to having the full cooperation of every citizen in the county, must constantly maintain its vehicles and equipment in excellent working condition. The personnel must be well qualified to perform their duties.

Forest fire fighting and detection equipment is selected according to the requirements of fire fighting in the individual counties. In the southeastern part of the state the ground cover is composed of palmetto, gallberry, and ty-ty. Here the heavy track-type tractor and heavy disc plow are the most effectively used, whereas, a lighter

FIRE PROTECTION MAP



More Georgia forest land is now under organized fire protection than ever before. Protection has been extended to more than six million additional acres in the last two years.



Rapid detection of fires is the first step in efficient fire suppression. There are now 209 towers guarding woodlands in the state.

tractor and plow is very effective in the mountainous counties. In the Piedmont section, the $\frac{1}{4}$ -ton jeep equipped with a hydraulic plow has proved very satisfactory. In addition to the above types of plows, another effective means of suppressing fire is through use of the one-half ton and one-ton trucks, equipped with water tanks and high pressure pumps. These pumps are driven either from the engine of the truck or from a separate motor. The capacities of the tanks vary with the size of the trucks and the amount of additional equipment that is carried on the truck. In addition to the above, all vehicles carry hand tools such as rakes, fire swatting flaps, back pumps, axes, and shovels.

Preventive maintenance is continuously practiced to insure that trucks and equipment will be ready whenever a fire occurs. Rangers and their assistants make many repairs on their equipment, thus effecting a substantial yearly saving. Much stress is put on the fact that fire fighting equipment must be in the very best possible condition at all times.

Detection of forest fires is the first step in fire suppression. Rapid, accurate detection and location is essential to efficient fire control. Fire cannot be fought until it has been discovered. Forest fire lookout towers are located throughout the state to provide maximum coverage. All towers are purchased and constructed by the State in counties cooperating under the fire protection program. At present there are 209 towers in operation, 97 of these having been built during the last two years.

If too much time elapses between the start of the fire, and the time it is sighted and the fire fighters arrive at the scene, the blaze may have spread over a large area, making suppression difficult. The job of the detection force is to locate the fire while it is still small. This is usually done in the following manner: A towerman spots the smoke, obtains an alidade reading, and relays information as to size and location of the fire to the dispatcher. In the meantime another towerman has spotted the same smoke. He relays similar information from his tower to the dispatcher. With this information the dispatcher determines the location of the fire by triangulation on his dispatcher's map, and immediately dispatches the necessary equipment and men to the fire. Upon arrival at the scene and during the fire fighting, the fire fighting crew keeps the dispatcher posted as to their progress in extinguishing the blaze.

In addition to forest fire lookout towers, air patrol has been used

Towermen use alidades to obtain bearings of smokes and locate fires.

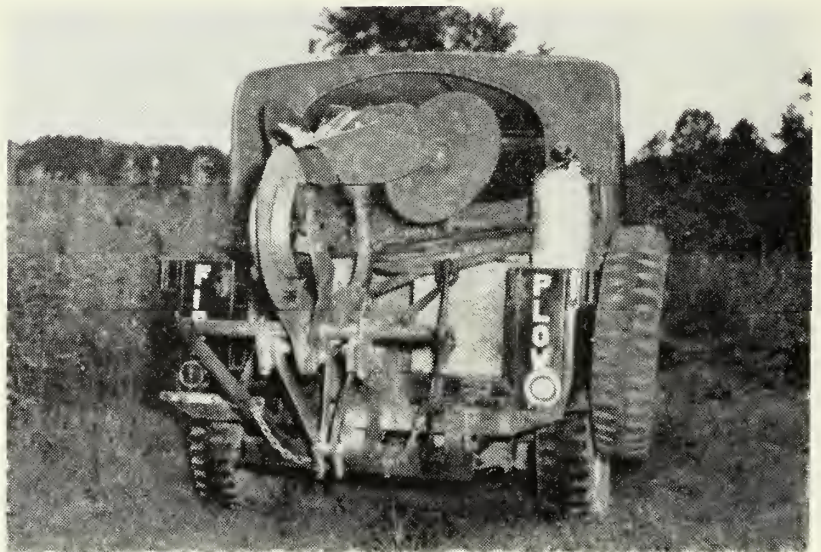


VARYING CONDITIONS NECESSITATE THE USE OF MANY DIFFERENT



Light suppression plow and tractor unit utilized in fire suppression in upper Piedmont and mountain areas.

Quarter-ton Jeep with suppression plow used in fire fighting in Piedmont and in certain areas in north Georgia.



Rugged, low-geared power wagons equipped with power water pumps and tanks for fire fighting in Coastal Plain and lower Piedmont.

TYPES OF VEHICLES IN FOREST FIRE SUPPRESSION IN GEORGIA

Heavy suppression plow and tractor unit for construction of suppression firebreaks in Coastal Plain.



Bulldozer used in road building and construction of permanent firebreaks.

Low-geared pickup truck used in direct attack on fires in upper Coastal Plain and Piedmont.



effectively in many sections of the state. Air patrol is used to supplement towers when the fire danger is high and visibility is limited.

To augment the above systems of detection, the Unit Ranger may have part of his personnel doing fire patrol duty in hazardous areas during days of high fire danger. These men spot smokes, make rapid investigations and quickly inform the dispatcher of the situation.

Many landowners report fires to the Ranger or dispatcher. The Commission has distributed tags which are attached to telephone books and city directories, bearing the Ranger's name, address, and headquarters and tower telephone numbers. Telephone users are urged to "Report Forest Fires Immediately."

During the fire season the detection organization is keyed to its utmost vigilance. Danger periods are determined by use of weather stations which measure wind velocity, temperature, and amount of moisture in the air, soil and forest litter.

Rapid, dependable communications are essential to efficient forest fire control. Two-way radio had been installed in all new fire towers and all fire suppression trucks. Two-way radio has proved the most effective means of communication, though in some areas telephones as well as radios are used. The building and maintenance of telephone lines is more expensive than radio communication. Radio is more flexible than telephone communication, and enables fire fighting personnel to carry on work such as road and bridge repair, maintenance of equipment and buildings, and at the same time be imme-

Air patrol aids in locating and suppressing fires during hazardous periods.



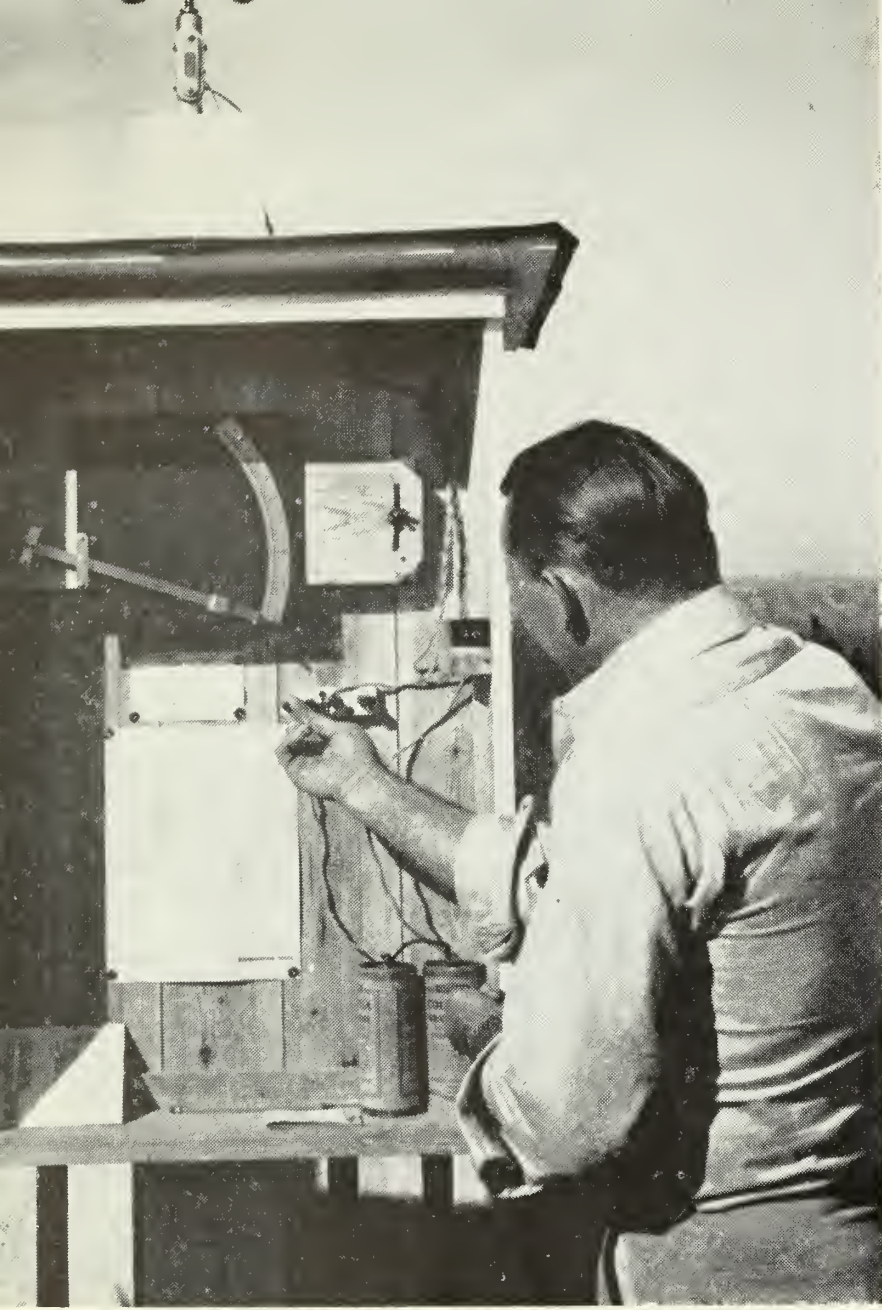
Two-way radio provides rapid, dependable, efficient communications for fire suppression.



diately available for fire suppression work. Frequency modulation radio is being placed in service in most areas. The use of radio results in a shorter lapse of time between spotting, reaching and suppressing fires. It provides a means of getting additional men and equipment to fires without delay.

Many pre-suppression activities are carried on during the year by Commission personnel. In early fall, miles of fire lines are constructed by tractors and plows. These lines are plowed at the request of the landowner with the landowner paying for the actual cost. Roads and bridges are built during the slack season and telephone lines are repaired.

It is generally recognized that training is necessary in any field of endeavor. This is particularly true in fire protection, as preventive measures are dealt with as well as suppression methods. Familiarizing the personnel with their various duties in prevention work is rather complex as every available method of reaching the



Weather stations in each forestry district give the daily fire danger measurement.

public must be employed. Training in the use of each kind of approach is necessary if the desired result is to be obtained. The same holds true in suppression. To obtain the desired results of holding fire damage to a minimum, much training in suppression work is necessary. All personnel must be trained to handle fires under the most extreme conditions, and to meet any fire emergencies. To provide this training, periodic personnel meetings are held during the year in the various districts.

A well-rounded forestry educational program in each county is essential to fire prevention. A constant, intensive program of public education will result in a reduction of forest fires in the state. Information is disseminated by use of radio, newspapers, public meetings, personal contacts, forestry motion pictures, and by distribution of literature and posters. A planned schedule of educational activities is followed. Continuous personal contracts in any community by the Unit personnel will result in a reduction in fire occurrence and develop better cooperation on the part of landowners.

Throughout the state, a number of fire danger measurement stations have been erected. The information gathered several times daily from these weather stations enables the district and county personnel to better plan the activities of their organization, and makes it possible for them to determine in advance where fire occurrence will be the highest. The approximate degree of fire hazard can be anticipated from the information obtained, thus providing a timely warning to all fire suppression personnel in advance of a possible critical situation.

Even though various educational media are used in reducing the number of fires, the arm of the law is one of the best methods of reaching those who refuse to cooperate. Extreme care is exercised in investigating fires in order that the person responsible can be apprehended. If enough evidence is secured to obtain a conviction, the person held responsible for willfully or negligently setting a fire is brought to trial under the State Fire Laws.

The State Forest Law Enforcement is headed by the Chief Forest Fire Investigator. In each congressional district, there is an Assistant

County protection units plow many miles of pre-suppression fire-breaks. Landowners are assessed actual costs.





All fires are carefully investigated to determine responsible parties. Willful violators of fire laws are prosecuted.

Forest Fire Investigator. This man is employed on his merits as an experienced law enforcement officer. He is under the direct supervision of the Chief Investigator, and works out of the District Forester's Office.

FIRE CONTROL PERFORMANCE CHART

ITEM	FISCAL 1948	FISCAL 1949	Fiscal 1950
Budget	\$ 676,047	\$ 735,690	\$ 1,589,622
Organized Units	43	79	86
Area Protected	8,591,246	8,873,189	13,925,716*
Area Burned	58,522	78,499	291,502
Average Size of Fire	25	13	22
Number of Fires	2,296	3,357	9,641

EQUIPMENT

Trucks	124	160	307
Tractors	24	25	47
Pre-Suppression			
Construction Plows	10	10	9
Suppression Plows	12	18	50
Towers	112	116	209
Telephone Lines (miles)	1,653	1,653	1,644
Radios (Fixed and Mobile)	117	124	511
Weather Stations	11	12	16
Pre-Suppression			
Maintenance Plows	15	15	18
Transport Trailers	7	14	26
Jeep Plows	2	48	72

PERSONNEL (Year Round)

Technical Foresters	21	29	72
Trained Personnel	169	203	239

* As of June 30, 1950.

LAW ENFORCEMENT

	1948	1949	1950
Number of Investigations	472	661	434
Number of Prosecutions	127	403	112
Number of Convictions	97	390	51
Cases Pending	50	36	40

* January 1 through September 30, 1950.

FOREST FIRE SITUATION SUMMARY

July 1, 1949 through June 30, 1950

GEORGIA DISTRICTS	Total Fires	Area Burned	Average Size	Percent Burned	Total Area Protected
		(Acres)	(Acres)		(Acres)
Congressional #1	2,778	60,689.20	21.84	2.189	2,771,545
Congressional #2	890	33,592.50	37.74	2.984	1,125,516
Congressional #3	809	29,737.50	36.76	2.790	1,064,084
Congressional #4	317	25,909.38	31.71	2.391	1,083,642
Congressional #6	870	36,511.50	41.97	2.275	1,605,013
Congressional #7	1,038	38,528.13	36.85	2.418	1,581,497
Congressional #8	1,616	45,135.15	27.93	1.389	3,252,068
Congressional #9	471	10,694.80	23.92	1.523	699,683
Congressional #10	352	10,704.70	30.42	1.441	742,668
TOTAL	9,641	291,502.86	30.24	2.093	13,925,716

TABLE SHOWING NUMBER OF FIRES BY VARIOUS CAUSES
ON PROTECTED LANDS

CAUSES	FISCAL 1948		FISCAL 1949	
	Number Fires	Acres Burned	Number Fires	Acres Burned
Lightning	19	1,227	19	146
Railroad	237	2,971	344	4,015
Campers	54	2,254	41	799
Smokers	291	4,248	353	3,942
Debris Burning	519	11,434	954	17,154
Incendiary	720	21,910	1,547	42,101
Lumbering	78	2,109	108	1,631
Miscellaneous	167	3,338	484	12,870
Unknown	364	11,090	1,016	28,939
TOTAL	2,449	60,581	4,866	111,597

FOREST MANAGEMENT

The goal of complete forest management in Georgia is getting closer each year. It is true that we still have a long hard road to travel. However, definite progress has been made in this important part of the work in the past two years.

The management part of the Commission's activities has also suffered from the personnel turnover brought about by the war situation. A great deal of time and effort has been put into training personnel only to have them leave for the armed forces, or better paid jobs with industry just when their efficiency and ability to do the job were reaching top level.

At the present time, it is the Commission's policy to have an Assistant District Forester, in Charge of Management, in each of the nine districts. This policy was put into effect July 1, 1950, and personnel already in the Commission were notified of their promotions to this important post. Within a month's time four of these new men left the Commission, making replacements necessary. As this position

When tracts of timber need cutting, technical foresters mark the stands for selective harvesting.





Well managed, wisely cut, adequately protected woodlands furnish sustained cash incomes to landowners.

requires technical training, a degree from an accredited forestry school, and at least one year's experience, it is very difficult to immediately fill all of these openings. An adjustment in the Commission's pay scale so that it would equal that of industry would go a long way in helping this situation.

In 1950, a very important addition was made to the management staff in the Atlanta Office. During the past few years, the reforestation and nursery program has been given a great deal of emphasis, requiring the full time attention of the Assistant Director in Charge of Management. As a result, the nursery program was greatly expanded, but the management phase of the work correspondingly suffered. To correct this situation, a technically trained forester was hired in 1948 and placed at the Herty Nursery to gain the necessary nursery experience. In July, 1950, this man was transferred to the Atlanta Office and placed in charge of all nurseries. He is on the management staff and has the title of Nursery Assistant. This greatly relieves the Assistant Director in Charge of Management from nursery work, and allows more time to be spent on management in

Improperly cut, unprotected woodlands grow few marketable products, and do not provide sustained incomes.



the supervision and training of field personnel. It is another step in the progress of forest management in the state.

The service offered to the landowners of Georgia is essentially the same as it was two years ago. Even though additional personnel have been added, the job to be done is still a very large one.

Commission policy still confines management work to 150 acres, or a maximum of four days spent with any landowner in one year. The general procedure followed gives maximum assistance with a minimum of time and personnel. Immediately when received, each request is acknowledged and a permanent case record made on the particular tract. At the time of acknowledgement, a definite date is established as to when the landowner (or his representative) can meet with the Commission personnel. A thorough reconnaissance is made before any decisions as to treatment concerning the tract are reached. As nearly as possible, the treatments recommended are made to fit in with the economic conditions of the landowner and still be considered good forest management. If the tracts are in need of a cutting, the

forester marks and estimates each tree to be removed. His particular aim in this marking is:

1. To meet the economic requirements of the landowner as nearly as possible.
2. To improve the quality of the stand left after cutting.
3. To furnish the landowner with necessary information to negotiate with prospective buyers of his products.

It is mutually understood between Commission personnel and all landowners, that either the landowner and/or his representative will accompany the Forester at all times while working on a tract. Also, that the information obtained by the Forester is public information available to buyer and seller alike. In this way, confidence is being built up over the state in the "better forest practices" that are advocated. Buyers are becoming more and more willing to cut marked timber, "marked and estimated by Commission personnel." This is resulting in ever-increasing demands for our services.

The Georgia Tree Farms System recognizes and honors forest owners who practice good forest management. More than one-half million acres of land in the state is now in certified Tree Farms.



As money and trained personnel have become available, additional Assistant District Foresters in Charge of Management, have been added as field men in the Districts. At the present time, there are nine men doing this type of work in the state. This is more than a 200 per cent increase in the past two years. Definite progress—but closer examination shows how inadequate is the number of available Management Foresters. With approximately 23 million acres of privately-owned forest land in the state, this gives each of these men an average of 2,600,000 acres on which to render assistance. This is at least ten times the area required of other related public agencies, such as County Agents and Soil Conservation Service Technicians. As the demands for our services multiply, it will become mandatory that this phase of our work increase.

In the past two years, additional services have been made available to the forest landowners of the state as outlined in the table below:

ACTIVITY		1949	1950
Technical Forester spending 90 percent of time on private land management work	Number	3	8
Requests for assistance, Landowners	Number	362	694
Requests for assistance, Operators	Number	109	224
Woodland owners advised only	Number	210	418
Land owned	Acres	48,880	126,568
Woodland owners given assistance	Number	143	184
Number acres	Acres	11,826,	16,918
Sawtimber marked for cutting	M.Ft.B.M.	12,206	16,508
Pulpwood marked for cutting	Cords	1,726	7,880
Approximate area on which cutting complete	Acres	9,652	12,172
Fence Posts marked	Number	1,080	2,300
Fuelwood marked	Cords	28	2
Estimated landowner income as result of our efforts	Dollars	\$163,379	\$251,242
Estimated area saved from improper harvest	Acres	21,975	46,216
Cases on which Consulting Foresters were recommended	Number	62	112
Requests pending as of January 1, 1951	Number	—	63

The Georgia Tree Farms System, sponsored jointly with the Georgia Forestry Association and the Southern Pine Association, continues to make progress. During the year 1949, ten Tree Farms, representing 8,753 acres were certified. In 1950, 17 new Tree Farms, representing



Proper harvesting methods insure good restocking and continuous forest crops.

552,257 acres, were certified. Altogether there are now 46 certified Georgia Tree Farms, totaling 881,966 acres. Plans are being made to continue and expand this important phase of our work.

Due to economy moves by the Federal Government, the Cooperative Management Specialist that we had in the state has been recalled. This Forester's salary was paid by the U. S. Forest Service, and travel expenses were paid by the State. This project was designed particularly to give aid to the larger landowners. Every effort was made to arouse interest among this class of ownership in managing their forests on a sustained yield basis. The loss of this man will definitely hamper the management program and it is hoped that sufficient State funds can be found to make a replacement in the near future. During the short two and a half year period this project was operative, an excellent record was established. The Commission and better forest management gained many friends. The table that follows more specifically outlines the services rendered by this man:

ACTIVITY		1949	First Six Months 1950*
Request for assistance, Landowners	Number	58	39
Request for Assistance, Operators	Number	11	12
Woodland owners given advice only	Number	36	43
Number of Acres	Acres	106,857	185,850
Sawtimber marked	MBF	498,000	1,506,000
Pulpwood marked	Cords	68	341
Estimated landowner income resulting from service	Dollars	\$ 62,500	\$ 31,000
Estimated area saved from improper cutting practice	Acres	7,570	10,828
Cases on which Consulting Foresters were recommended	Number	19	23

* This man was recalled by the U. S. Forest Service, effective July 1, 1950.

State forests in Georgia comprise 39,000 acres in two tracts. The Baxley State Forest in Appling County consists of 1,000 acres, and the Waycross State Forest, consisting of 38,000 acres, is located in Ware and Brantley Counties. In March, 1950, a technically trained Forester was placed in charge of the Waycross Forest under the administration of the District Forester in Waycross. Since that time approximately 400 acres of young timber have been thinned and placed in condition to produce a maximum of high quality forest products. Other areas are being located through the use of aerial photographs, and are being set up on a long time plan for various silvicultural treatments. Plans completed in 1950 call for this area, together with the one at Baxley, to be set up as a living and continuous demonstration of good forest management in southeast Georgia.

It is hoped that this management program can be continued on

Georgia's two State Forests are being established as management demonstration areas.



State Forests and that more forests can be added in other sections of Georgia. These areas are invaluable to the public as continuous demonstrations. People from a radius of 50 miles can be taken directly to the State Forest and shown conditions similar to their problems at home. Demonstrations can be set up showing the proper treatment of various portions of good forest management. It is believed that this would be a valuable medium through which to further sustained forest management on the valuable timberlands in Georgia.

In the past year, the Commission has assisted in the cutting of timber from State Parks. The timber removed in this work is entirely utilized in the repair and maintenance of State Parks facilities. Plans and surveys were completed in 1950 to reforest all open lands on all State Parks in Georgia. This program is a cooperative one between the Department of State Parks and the Georgia Forestry Commission. It is believed that during the next five years the reforesting of these areas can be carried on efficiently with a minimum of personnel and with highly satisfactory results.

REFORESTATION AND NURSERIES

More than two and one-half million acres of Georgia land must be planted to trees if this land is to become productive. To make possible and speed up the restocking of these lands has been the overall objective of the nursery and reforestation operations of the Commission.

Nursery production and the distribution of seedlings to landowners has been increased to record proportions during the past two years. During the last two years, the 1949-50 and 1950-51 planting seasons, the state's three nurseries at Davisboro, Albany and Flowery Branch grew and shipped 79,987,000 healthy, vigorous seedlings, a quantity sufficient to reforest more than 95,000 acres of idle land. The seedlings were furnished to landowners at less than the cost of production. The 1949-50 production established a record, all-time high for production of seedlings by the state's nurseries, and placed Georgia in the lead among all southern states in the production of seedlings from state nurseries. During the 1950-51 season the production of seedlings is expected to total 35½ million.

Artificial reforestation is continuing to show good results in Georgia. Pulpwood is now being harvested from some of the earliest plantings in the state. This pulpwood finds a ready market and returns good dividends to the landowners.

A crop of seedlings at Georgia's Herty Nursery near Albany.



NURSERY OPERATION IS MECHANIZED FOR



Bed-shaper makes seed beds rapidly and accurately, greatly reducing time and cost involved.



Seeder deposits correct amount of seeds to give full stands of seedlings in all beds and avoid waste of seed.

MAXIMUM EFFICIENCY AND HIGH PRODUCTION



Sprays are used for grass and weed control, to further reduce time and costs.



Straw spreader mulches beds after seed is planted.



mechanical planters have reduced time and costs of large-scale planting operations.

The reforestation program began in 1929, with a production of only 263,000 seedlings. From that date, production increased steadily until the war years when demand dropped and production was cut. In 1948 the seedling output was only 19 million. During that year the state's third and largest nursery was placed in operation at Davisboro, and by the end of the 1949-50 planting season production had been raised to the all-time high figure of 44½ million seedlings. In this single planting season of the winter of 1949-50, Georgia's three nurseries grew nearly two-thirds as many seedlings as had been furnished to landowners during the previous twenty years.

This increase can be attributed in great part to the advent of mechanical planters which have markedly reduced the cost and the time involved in many large-scale planting operations. A two-man planting crew can in equal time plant an area which would require twenty men using hand planting methods.

A severe shortage of pine seed was faced in the spring of 1950. The 1949 seed crop of Longleaf pine, Slash pine, Loblolly pine, and Shortleaf pine was exceptionally poor, both from the standpoint of supply and quality. Every effort was made to obtain seed without regard to price, but it was impossible to obtain a supply sufficient to meet the need. For the first time in several years it was impossible to increase the production of seedlings, and consequently the 1950-51

production of seedlings dropped to approximately 35½ million. Furthermore, the poor seedling supply continues to be a limiting factor in seedling production. In an attempt to partially rectify this situation, Commission personnel have collected some seed. The cost of such work has proved prohibitive, however, because the Commission is not equipped to handle a sufficient number of cones. Cone drying sheds, cleaners and extractors are necessary for the processing of large amounts of seed.

Equipment and irrigation at the Commission nurseries are meanwhile being improved with a view to increasing production to more than 60 million seedlings, once sufficient, good quality seed become available, and provided the demand for seedlings is sufficient to warrant such expansion. It is anticipated that the demand will level off between 40 and 50 million seedlings. The increasing number of planters will in some measure compensate for the seedlings formerly planted by large landowners who have to a large extent now completed their replantings. It is believed desirable to keep demand slightly in excess of supply, rather than to overproduce as was the case in 1949. Due to dry weather with a resultant hesitancy to plant on the part of landowners, we had a surplus of more than 11½ million seedlings. These were a total loss from a monetary standpoint and were not utilized in restocking idle land.

The additional irrigation which has been installed is an essential,

Every year Georgia landowners replant thousands of their idle acres to trees.





Planted stands grow rapidly to produce marketable forest products.

if seedling production is to be maintained at the present level. In prior years, extended drought has killed many seedlings. Irrigation has been steadily added at the Davisboro nursery during the past two years, and in 1950 an electric motor was installed to replace the original gasoline power unit. This reduced the operation costs of the water system by more than half, and provides sufficient irrigation which will allow for closer control of seedling production. This additional irrigation will also make for better seed germination and survival, factors which are becoming of much importance with the increasing seed costs and scarcity.

To maintain and improve the productivity of the nursery lands, a constant soil building program is being practiced. Crop rotation, adding soil humus, fertilization, and construction of improved drainage are some of the things being done to aid seedling production. A crop of pine seedlings removes up to 16 tons of organic matter per acre, or about five times as much as a crop of corn or cotton.

A tiller has been purchased for use at Davisboro. This will be used to combat the heaviness of the soil and the tendency to clot. The tiller has a dual purpose as a destroyer of grubs which every year take their toll of seedlings. New insecticides are also being used on

an experimental basis to destroy grub pests, and during the last two years a new fungicide has been used as a protection against blister rust with some degree of success.

Of the record 1949-50 seedling output, the Albany nursery produced 21,631,750, the Davisboro nursery 18,067,900, and the Flowery Branch nursery shipped 4,787,425. These seedlings were planted during one of the most severe winter droughts the state has ever experienced, but preliminary surveys indicate that in spite of the dry conditions a good survival was obtained in South Georgia. In a program which began in 1949 for the reforestation of State Parks, the Commission supplied the Department of State Parks with 250,000 seedlings and provided technical assistance in planting these seedlings in the Magnolia Springs State Park.

In view of the increasing interest in proper land use on the part of the state's landowners and the continued drain on timber in the state, the present outlook is that the nursery and reforestation activities will continue to constitute a vital part of the Commission's activities.

NURSERY REPORT

PRODUCTION AND COST

	1949	1950
Number Nurseries	3	3
Number of Seedlings	46,237,075	35,500,000*
Cost Per Thousand	\$ 2.93	\$ 3.00**

EQUIPMENT ON HAND

	1949	1950
Tractors	5	6
Spray Machines	3	3
Wagon Trailers	6	6
Straw Spreaders	1	2
Grading Tables	3	3
Tillers	0	1
Trucks	6	8
Harrows	3	3

NURSERY PERSONNEL

	1949	1950
Technical Foresters	2	1
Trained Personnel	11	11

* Estimated Production
** Cost based on estimated production

DISTRIBUTION OF PLANTING STOCK, 1949 *

	<i>Number Seedlings</i>	
<i>Lumber Industry</i>		
Planted on Industrial Lands	7,831,000	
Distributed for planting on Private Lands	39,000	
TOTAL		7,870,000
<i>Pulp and Paper Industries</i>		
Planted on Industry Lands	10,228,200	
Distributed for planting on Private Lands	3,229,800	
TOTAL		13,458,000
<i>Other Industries</i>	1,849,000	1,849,000
<i>Private Owners</i>	21,310,075	21,310,075
		<hr/>
	GRAND TOTAL	44,487,075

*1950 Figures not available

INFORMATION AND EDUCATION

Public understanding and cooperation are essential to forest protection and forest development in any county or state. Especially is this true in Georgia where more than 95 percent of the total forest area is privately owned and more than 70 percent of the forest land is in holdings of less than 1,000 acres.

Understanding and cooperation on the part of all the citizenry is in turn dependent upon an educated and fully-informed public. The information and education activities of the Commission are primarily directed toward this objective, and as such constitute an extremely vital phase of the Commission's work.

The Commission's information and education work serves two other purposes. First, it provides the means for the Commission, as a tax-supported, public service agency, to keep the people informed as to the activities, accomplishments and objectives of their state forestry organization, and to render an accounting for the funds expended. Secondly, the entire prevention phase of fire protection is largely a matter of public education to maintain a constant public awareness of forest fire danger and destructiveness.

To accomplish these objectives and serve these purposes, the Commission has conducted a steadily expanding, full-scale information and education program. Media employed in reaching the public include the press and radio, publications and display material, motion pictures and color slides, demonstrations, exhibits, personal appearances before many different groups, and personal field contacts.

Forestry movies teach fire prevention and good woodland management.





Commission personnel work closely with editors and press representatives throughout the state.

The information and education program is organized mainly on the district and county level, with the District Foresters and County Rangers carrying on the bulk of the activity. A very acute need exists for full-time information and education personnel in each area as assistants to the District Foresters.

Georgia's newspapers and radio stations cooperate enthusiastically in the Commission's information and education work, and lend vigorous support to the forestry program throughout the state. Editors of both daily and weekly newspapers continue to devote increasing amounts of space to informational and educational articles, editorials and illustrations on woodland protection and management. This is seen in the fact that the number of articles published in the state as the result of activities of Commission personnel has increased from approximately 3,000 in 1948 to more than 4,200 in 1950.

This volume of newspaper material consists of several different types. A substantial number of news articles, and special features are prepared in the Atlanta Office and submitted to the daily and weekly newspapers, magazines, newsletters and other periodicals throughout Georgia and the southeast. In addition, a number of photographs are supplied to newspapers and magazines.

In the protected counties of the state, the County Forest Rangers

prepare weekly news articles and informative material for the local papers. These articles relate the weekly activities of the Forest Protection Units and provide means for the Forest Ranger to establish himself as a personality and his organization as an entity in the community and county. It is through this medium that the County Forest Ranger has his best opportunity to impress upon the public the large returns realized from the investment in organized forest fire protection.

Radio stations throughout the state render a large public service in their ever-increasing support of the Commission's fire protection and forest management program.

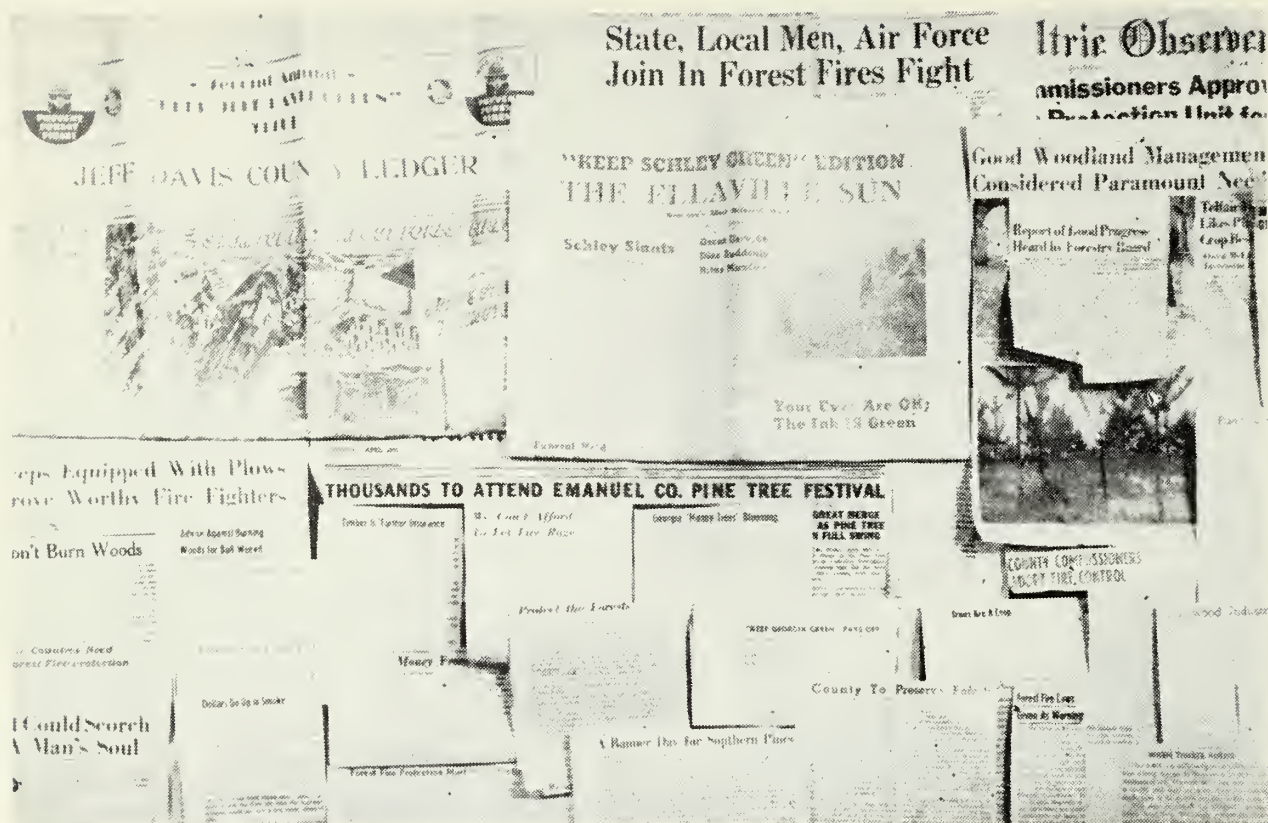
District Foresters and County Forest Rangers are now participating in regularly scheduled programs on more than 30 stations throughout the state. These weekly programs are devoted to all phases of practical forestry, and scripts are furnished to field personnel.

Of particular significance are the timely, highly-effective broadcasts by stations over the state during forest fire emergencies or periods of high fire danger. At these times many stations have devoted much valuable air time to special warnings, prevention messages, fire news reports and recorded interviews. In some areas, stations broadcast fire danger ratings hourly on dry days throughout the fire season.

A highly effective use made of radio for the first time in the state was the broadcasting of the Jelly Elliot series of hillbilly recordings

Georgia radio stations aid in promoting fire protection and good woodland management.





Georgia editors devote much news and editorial space to forestry activities.

which carried fire prevention messages interspersed with musical entertainment. Stations throughout the state transmitted the full series of quarter-hour recordings which were produced under the Cooperative Forest Fire Prevention Program. The use of these recordings is indicative of the attempts to carry the doctrine of fire prevention direct to the thousands of small landowners throughout the state, and to present the fire prevention plea in a manner which will appeal to this group.

"Georgia Forestry," the Commission's monthly publication, continues to be enthusiastically received, as evidenced by a continually increasing circulation that now numbers in excess of 6,000. The publication is distributed to landowners, industry officials, foresters, businessmen, and all other interested individuals and organizations.

In the field of visual education, the Commission attempts to make full use of all available materials. The film library has been enlarged to include 39 forestry films in addition to a number of short fire prevention trailers and comedies for use with children's groups. Each of the nine forestry districts is supplied with an individual sound projector for showings in that particular area. Commercial movie houses have been supplied with a few fire prevention trailers and it is anticipated that this activity will be increased as additional 35-milli-

meter material becomes available through the Cooperative Forest Fire Prevention Program and by purchase from other agencies.

In addition to a sound movie projector, each district has a slide projector and a set of color slides for use in illustrated lectures on fire protection and forest management.

A large volume of publications and display materials are distributed by Commission personnel both personally and by mail. Comprising a large portion of this is the poster and display material produced under the auspices of the Cooperative Forest Fire Prevention Program, in which the Commission actively participates.

Distribution of literature, posters, cards, folders, blotters and miscellaneous materials increased from about 79,000 in 1948 to more than 312,000 during 1949, thereby showing a steadily increasing demand for information about Georgia's woodlands and forest industry.

Personal contacts with the public — oftentimes the most effective means of stimulating public interest and enlisting public support — takes several forms.

More than 265 practical forestry demonstrations were held in the

Signs urging public cooperation with the protection program have been placed on principal roadways in all protected counties.





Woods demonstrations teach proper harvesting and utilization.





Forestry field days, tower dedications enliven public interest.



different areas of the state with a cumulative attendance of more than 17,500. Many of these are woods demonstrations of proper thinnings and timber harvesting practices, fire fighting fundamentals and equipment, and methods of reforestation. These gatherings have proved highly effective in furthering better forestry practices among farmers and other woodland owners.

Forestry exhibits are used to carry the essentials of good forestry to the public. These showings are made at county and regional fairs, during community observances and celebrations, and as circulating exhibits in commercial houses and public buildings.

Youth education in forestry is being increasingly stressed in the work of the Commission. This is centered in the public schools of the state, for it is among the school-age group that some of the most effective and most lasting lessons in forest conservation can be taught.

Many programs are presented before school groups. These consist mainly of talks, illustrated lectures, and combined talks and showings



Boys learn practical
forestry at summer
camps.

Field personnel effectively place large quantities of posters, literature and other information and educational materials.



of forestry motion pictures. A large amount of literature is distributed in the schools of the state, both in connection with personal appearances and at other times.

Constituting another outstanding phase of youth education are the boys forestry camps that have been conducted each year by the Commission. The Macon Kraft Company, Union Bag and Paper Corporation, Brunswick Pulp and Paper Company, and the Southern Paperboard Company have cooperated in sponsoring and financing these camps. Delegates have been selected for attendance at these camps through forestry competitions in their counties, and during their stay at camp the boys are taught, and gain experience in, the fundamentals of fire protection, reforestation and good forest management.

The Commission also cooperates in the operation of other forestry camps for youth training by furnishing instructors and equipment and aiding in the planning and preparations. Typical of these camps are those held yearly by 4-H Clubs and similar groups.

Forest fire prevention has become a byword on the state's highways. The Commission has erected 350 roadside signs urging fire prevention and soliciting public support for the protection program. The signs have been placed along the principal roadways in all protected counties, and these, together with more than 300 Keep Green signs erected by the Georgia Forestry Association, serve to keep motorists and wayfarers constantly fire conscious.

There are a number of specialized educational activities in which the Commission participates annually, such as aiding in the planning and presentation of forestry festivals, resource-use workshops and



Exhibits promote fire prevention and foster public support.

forestry field days. In connection with the extensive construction of new forest fire lookout towers, County Forest Rangers have held a number of impressive tower dedications and special observances when the towers have been placed in service. The dedication ceremonies have been attended by hundreds of landowners in the various counties and have proved to be an effective means of centering public interest on fire prevention and enlisting support for the protection program.

During the period of this report, the Commission has cooperated with the Tennessee Valley Authority in carrying out a specialized educational project in several Georgia counties that lie within the Tennessee Valley area. The project has consisted of an intensive, concerted educational campaign directed toward showing all the citizens and landowners of the area the value of the organized forest fire protection program of the Commission. Designated as "The Joint Project for Fire Control," the campaign began in the fall of 1949 in Walker and Catoosa Counties, with an Educational Forester assigned to full time duties on this project. The fire prevention problem in the area was analyzed, a comprehensive work plan evolved, and every available means was utilized to reach the public and to enlist the cooperation and support of all persons. The people were shown the substantial contribution made to their welfare by the wood lands of the area and the need for good fire protection. In June 1950, this project was shifted to Towns, Union and Fannin Counties, where

a similar intensified educational campaign has been carried out. The results of this work have been gratifying in all areas and have served to demonstrate the substantial value of educational activities in fire prevention and in soliciting public support of the protection program.

Another prime function of the information and education work is the training of Commission personnel. Special training sessions have been held at intervals to teach the fundamentals of fire fighting, fire prevention, and administration. During the summer of 1949 a three week's Rangers' School was conducted for the training of 32 newly-employed County Forest Rangers who headed Forest Protection Units as the expansion program began.

Another phase of the Commission's information and education work is directed toward aiding and facilitating the activities of the Georgia Forestry Association. A substantial volume of publicity has been placed on behalf of the Association and Commission personnel have handled many of the details in arranging for annual meetings of the membership and advancing projects of the group.

INFORMATION AND EDUCATION

	1949	1950
Talks	576	680
Attendance	33,809	31,050
Combination Talk and Film	490	443
Attendance	33,938	28,750
Radio Programs	1,391	1,632
Different News Articles		
Prepared and Published	1,955	1,893
Exhibits	114	551
Literature Distributed, Pieces	191,771	312,994
Demonstrations	265	268
Attendance	15,524	17,593
Informational Letters Written	16,949	18,731
Personal I & E Contacts	54,298	76,402
Meetings attended	926	1,491
Highway Signs Erected	30	365
Radio Stations Carrying Programs	26	35

FINANCIAL REPORT

(Extracted from Public Report of Department of Audits)

Years ending June 30th

INCOME RECEIPTS	1949	1950
State Appropriation Funds	\$173,350.00	\$ 890,000.00
Federal Grants	254,494.83	269,032.61
County Protection Units	258,282.35	257,583.07
Earnings	110,092.65	143,318.58
	<hr/>	
TOTAL INCOME RECEIPTS	\$796,219.83	\$1,559,934.26
Less: Transfer Herty Foundation	10,000.00	34,257.50
	<hr/>	
NET INCOME RECEIPTS	\$786,219.83	\$1,525,676.76
EXPENDITURES		
Heat, Lights, Power, Water	\$ 2,195.50	\$ 4,002.57
Travel Expenses	34,888.63	43,785.81
Personal Services	493,965.08	719,226.63
Supplies and Materials	115,926.87	182,017.58
Communication Service	11,958.80	18,815.05
Printing—Publicity	4,598.88	9,421.88
Repairs—Alterations	24,308.42	31,811.23
Insurance and Bonding	2,125.56	2,402.45
Rents	2,139.70	95.46
Indemnities	563.16	1,948.19
Equipment	130,010.96	344,590.31
Miscellaneous	648.18	1,225.65
	<hr/>	
TOTAL EXPENSE PAYMENTS	\$823,329.74	\$1,359,342.81
Outlay:		
Buildings and Permanent Improvements	43,380.17	139,360.27
	<hr/>	
TOTAL COST PAYMENTS	\$866,709.91	\$1,498,703.08
Number of Employees	232	311

BALANCE SHEET

June 30, 1949

ASSETS

CASH ASSETS

Available Cash\$33,925.66

ACCOUNTS RECEIVABLE

Due from U. S. Government on Reimbursements\$ 957.71

County Unit Assessments due and unpaid 37,927.53

Warehouse Inventory

Supplies and Equipment for Sale 12,495.44

\$85,306.34

CURRENT BALANCE SHEET

June 30, 1950

CASH ASSETS

Available Cash\$ 60,780.59

ACCOUNTS RECEIVABLE

Due from U. S. Government on Reimbursements\$ 3,048.29

Warehouse Inventory 23,856.40

\$ 87,685.28

LIABILITIES, RESERVE, SURPLUS

LIABILITIES

Accounts Payable\$ 39,309.35

RESERVE

County Unit Deposits Unused\$ 12,373.22

Miscellaneous 181.25

SURPLUS

Available for Budget Approval\$ 11,965.06

Warehouse Inventory 23,856.40

\$ 87,685.28



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1949-50



