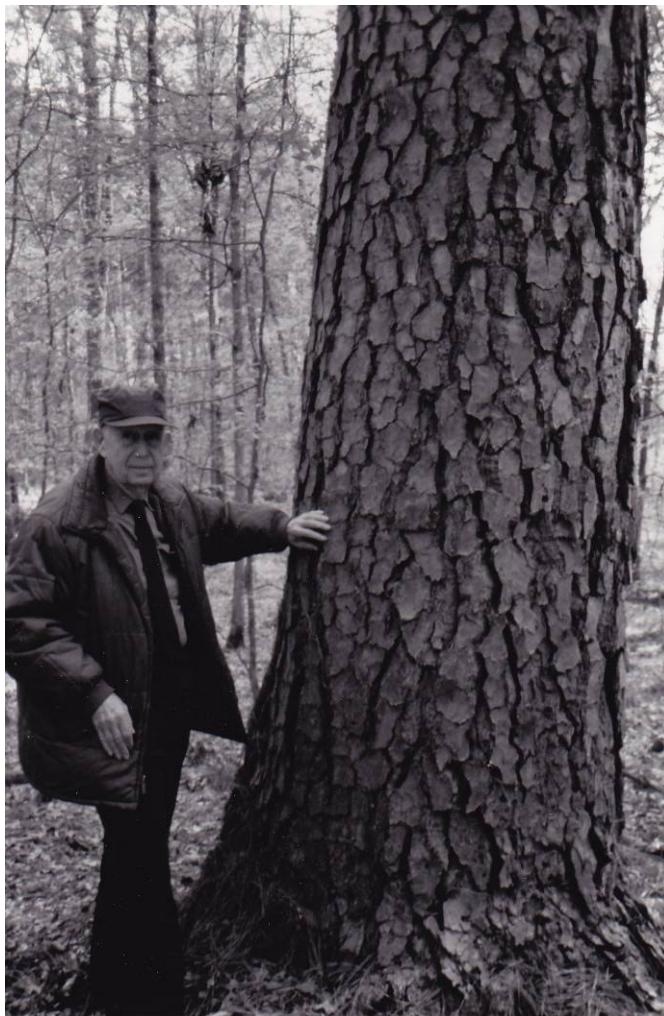


MY SIXTY-FIVE YEAR STUDY OF PROGRESS IN MANAGING PINE-OAK FORESTS (*PINUS ECHINATA*) IN SOUTHEASTERN OKLAHOMA -

A PHOTOGRAPHIC SUMMARY



By
Elbert L. Little, Jr.

Oklahoma Department of Agriculture, Food and Forestry
Forestry Services

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Cover Photo

One of the largest wild trees of loblolly pine (*Pinus taeda*) in southeastern Oklahoma is this cover girl! She is about 37 inches in trunk diameter and 105 feet tall and has an estimated age of 100 years. One of several large pines in a mixed valley forest about 1/2 mile northeast of the district forester's office at Broken Bow on state-owned land not logged. Foresters have improved upon nature by developing better races that grow faster than native shortleaf pines. (I am the cover boy and "measuring stick!" Section 7, Township 6 South, Range 25 East, March 1992)

Acknowledgments

Many persons, some deceased, have kindly given me assistance and support during various stages of this lengthy research project. In December 1929, George R. Phillips, Oklahoma's first state forester, whom I first met in 1926, took me on a trip to southeastern Oklahoma. Afterwards he was forester with the U.S. Department of Agriculture, Forest Service and Soil Conservation Service, and died in 1992. He invited me to begin this study while a new Ph.D. looking for a job. He and Paul B. Sears, head of the department of botany at the University of Oklahoma (afterwards a noted ecologist), prepared an outline for this project for the summer of 1930. Charles E. Olmsted, student under Dr. Sears and graduate of the University of Nebraska, was my indispensable coworker that summer. Afterwards he was chairman of the department of botany at the University of Chicago. His untimely death in 1977 prevented his sharing my follow-up work.

Various officials of Oklahoma Forestry Services contributed to my field work through the years, providing support, transportation, and information. First in 1930 was Glen R. Durrell, district forester at Broken Bow (afterwards state forester and founder and first chairman of the forestry department at Oklahoma State University). Others were his assistant, William ("Bill") Mitchell, rangers, and wardens.

Beginning upon my return in September 1950, an important supporter has been John Bain, southeast area fire control officer and later program director of the Forest Heritage Center, now retired. That trip was financed by a grant of \$100 from the American Association for the Advancement of Science through the Oklahoma Academy of Science.

Plans for a 50-year check were made upon my return in 1977. The detailed follow-up in September 1981 was under the Oklahoma Forestry Association. The Weyerhaeuser Company through Harry ("Wayne") Plummer provided Stephen R. Emerson and other foresters as well as transportation and funds. Afterwards the Oklahoma Forestry Services has given technical and financial support. Roger L. Davis, director and state forester since 1982, assistant director Kurtis L. Atkinson, and others have helped in various ways. Alan K. Myatt, area forester, has prepared the photographs, enlargements, and slides from my negatives.

Oklahoma Department of Agriculture, Food and Forestry
Forestry Services
2800 North Lincoln Boulevard
Oklahoma City, Oklahoma 73105
(405) 522-6158



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Foreword

Elbert Little has had the unique opportunity to study southeastern Oklahoma's forests over a 65-year period. As a Muskogee resident, from early childhood he has taken a personal interest in our forests. His report that follows provides a summary of his lifelong perspective. We are fortunate to have been able to work with him over the years.

Oklahoma's forests have come a long way since the early days of logging the big timber. In those days, loggers would construct railroad spurs into undeveloped forest lands, cut and haul the merchantable timber, and move on up the next valley. Few, if any, gave much thought to the future of these forests. They merely exploited them for the rapidly developing eastern states, and moved on.

Uncontrolled wildfires, which burned throughout the forested region of Oklahoma, are well documented. Their effects helped shape the forests that greeted the early settlers to the area. Because pines are more fire tolerant than hardwoods, pines prospered on the droughty uplands. And yet, even pines suffered immeasurably from the frequent and devastating fires which scarred the landscape.

Initiation of forest fire control in southeastern Oklahoma in 1926 began the healing process for the forest. Under good fire protection, risk was reduced enough for some to begin practicing forest management. Over the years, these two principles - fire protection and forest management - have brought Oklahoma's forests back from the devastating days of the early 20th Century.

A complete set of 35-millimeter slides depicted in this publication is available for loan from the Oklahoma Department of Agriculture-Forestry Services, 2800 N. Lincoln Boulevard, Oklahoma City, OK 73105, (405) 522-6158.

It is our hope that by publishing Dr. Little's marvelous story of 65 years of forest development, not only through words, but through pictures as well, that a better appreciation will develop for the resilience of the forest and of the efforts of those who helped make possible the legacy of healthy, productive forests we enjoy in Oklahoma today.

Roger L. Davis
State Forester and Director, Forestry Services
Oklahoma Department of Agriculture, Food and Forestry

The Author

An authority on New World trees and a writer of tree books, Elbert L. Little, Jr., is proud to be an Okie from Muskogee! The same age as Oklahoma, he was born at Fort Smith, Arkansas, on the state line on October 15, 1907 and moved with his family to Muskogee in 1909. He has B.A. (botany) and B.S. (zoology) degrees from the University of Oklahoma and M.S. and Ph.D. degrees (botany, both in 1929) from the University of Chicago.

His lengthy career of more than 70 years has been mostly as a forest botanist. His researches with United States Department of Agriculture, Forest Service, began in 1934 in the Southwest and followed from 1942 to 1976 as the dendrologist or tree identification specialist in Washington, D.C. Continuing as a volunteer in retirement, he is also a research associate, department of botany, Smithsonian Institution. His field work has extended from Alaska and Canada throughout the United States south to Patagonia. It includes 7 years in tropical America beginning with forest surveys in World War II (1943-45).

His 25 tree books, both popular and technical, some with coauthors, include the *Checklist of United States Trees*, the 6-volume *Atlas of United States Trees*, and the *Audubon Society Field Guide to North American Trees* (2 volumes). He prepared the last revision of *Forest Trees of Oklahoma* (1981). *Southwestern Trees* (1950) for New Mexico and Arizona is now being revised. Similar references were prepared for Alaska, Hawaii, and Puerto Rico and the Virgin Islands, also others in Spanish for Venezuela, Esmeraldas Ecuador, and Paraguay.

His university teaching career began as biology professor at Southwestern Oklahoma State University (1930-33). As a visiting professor he has taught dendrology both in English and Spanish. Pinyon or two-leaf pinyon (*Pinus edulis*), which he first studied at Black Mesa in the Oklahoma panhandle in 1926, is his favorite tree.

Among Dr. Little's many honors are professional achievement alumni awards. The United States Department of Agriculture gave him superior, distinguished, and 40-year awards, the Forest Service its outstanding award. A member or fellow of several scientific societies, he has received awards from the Society of American Foresters, American Forests, Oklahoma Forestry Association, and Oklahoma Academy of Science. Named for him are the Oklahoma grove in the Harrell Arboretum at Muskogee and a room in the Oklahoma Forest Heritage Center at Beavers Bend State Park near Broken Bow.

Photographs

All photographs of 1930 were taken with my Zeiss-Ikon camera using cut film 3 1/4 x 4 1/4 inches, black and white. Charles E. Olmsted, my coworker, and I were "measuring sticks" in these photos. Later photographs were made with modern 35-mm cameras and color film.

MY SIXTY-FIVE YEAR STUDY OF PROGRESS IN MANAGING PINE-OAK FORESTS (*PINUS ECHINATA*) IN SOUTHEASTERN OKLAHOMA -- A PHOTOGRAPHIC SUMMARY

By Elbert L. Little, Jr. ^{1/}

Foresters and other professionals are doing a good job of managing the pine-oak forest lands of southeastern Oklahoma, according to my personal observations and photographs over a period of more than 65 years. These commercial forests are shortleaf pine (*Pinus echinata* Mill.) and loblolly pine (*Pinus taeda* L.), the latter uncommon except in plantations. The location is near the western limit of the vast commercial pine forests of the southeastern United States. This photographic summary serves as a slide talk.

During the summer of 1930, I made a study of the pine-oak forests of southeastern Oklahoma with the late Charles E. Olmsted for the Oklahoma Forest Service (now the Oklahoma Department of Agriculture--Forestry Services). A preliminary trip was made in December 1929. At the time, I was an Okie from Muskogee and a recent botany graduate of the Universities of Oklahoma and Chicago.

In October-November of 1981, after 51 years, I had the unique experience of reexamining and photographing again the same 30 pine-oak areas first studied in 1930. Also, in June and October of 1990, and again in April 1995, I made short trips to update the observations to 65 years. Several brief returns were made earlier, for example in 1936, 1950 and 1977.

A main objective in 1930 was description of the vegetation of the Southeastern Oklahoma Protective Unit as an aid in management. However, as a temporary employee I was not involved in management. Other aims were preparation of a list of trees and shrubs, collection of plant specimens, and establishment of small experimental plots at Carter Mountain. The plant specimens were deposited at the Bebb Herbarium (OKL), University of Oklahoma, Norman. Two notes on plant records and the following list were published: Trees and Shrubs of the Southeastern Oklahoma Protective Unit (Proc. Okla. Acad. Sci. 16: 52-61. 1936). The report on the vegetation with numerous photographs was not published, but a small photocopy printing is planned. A revised list of the trees and shrubs of McCurtain, Le Flore, and Pushmataha Counties of southeastern Oklahoma awaits publication.

In 1930, the analysis of vegetation involved location of areas with different histories of logging or cutting, burning or fire, and grazing by livestock, mainly cattle. However, some possible combinations were not found. Because of widespread woods burning, few areas were unburned more than five or six years. Grazing by livestock under open range was negligible at that time.

For comparison of different conditions of logging and burning, 30 representative pine-oak forest areas were selected in 1930, many in pairs, side by side. These areas were scattered within the Ouachita or Kiamichi Mountains within Oklahoma's three southeastern counties: 6 in southern Le Flore, 4 in eastern Pushmataha, and 20 in northern to central McCurtain. No follow-up studies were planned at the time.

Fire merits special mention because of its importance in history and management. The fire problem in southeastern Oklahoma in 1930 followed increased and widespread woods burning by settlers from eastern United States, especially after statehood in 1907. In 1930, it was difficult to find upland areas unburned more than five or six years, as shown by age of oak and hickory sprouts. However, some wildfires have been caused by lightning over many millions of years, whenever the plant cover became dry enough to burn. Also, American Indians probably set some fires. Certainly, the goal of no fires is better than the excessive fires of the early 1900's. However, in some areas, light, controlled or prescribed burning may be beneficial in favoring pines over competing non-commercial hardwoods.

In this summary, only 10 representative areas are illustrated. The photographs published here, mostly paired, show first, the area in 1930, and second, the same area in 1981. Several photographs dated 1990 and 1995 and a few extras have been added.

These 30 representative areas illustrate several methods of land management during the past 65 years. Continuous fire protection has benefited all areas. The increased leaf litter has reduced soil erosion and increased water quality. Under fire protection and similar management, past differences among areas have gradually disappeared.

^{1/} Collaborator, Oklahoma Forestry Services

Only one of eight virgin areas in 1930 remains uncut, within the McCurtain County Wilderness Area, a state-owned wildlife preserve. Only 2 of the 30 are individually owned. The other 27 are now managed by professional foresters and other specialists for multiple use and high yield forestry, especially wood, wildlife, and recreation. Five areas in southern Le Flore County are now within nearly 200,000 acres of cutover lands purchased by the federal government in the 1930s at about \$2.50 an acre and now managed as the Choctaw and Kiamichi Ranger Districts of the Ouachita National Forest. The remaining areas are within the 850,000 acres purchased in 1969 by the Weyerhaeuser Company.

Based upon my personal observations over the 65-year period, it is quite evident that foresters and other professional land managers are doing a good job in managing the forest resources of Oklahoma. Good management and other factors have restored the productivity of Oklahoma's forests more than I ever thought possible when making my first observations in 1930.

Set of 35-mm Slides

The following photographic summary is arranged as a slide talk with legends numbered as figures. With two slide projectors and separate screens, the 1930 photographs in black and white on the left can be compared with the 1981 slides (also some from 1990 and 1995), all in color, on the right. In a slide talk, the speaker may wish to shorten some legends.

The arrangement of 35-mm slides in two projectors side by side follows. The cover photograph and title slides have been added to the slide set. The numbers shown below correspond to the Figure numbers in this publication.

Black and White Photos <u>From 1930</u>	Color Photos From 1981, <u>1990 and 1995</u>
Forestry Services logo	Title slide
Figure 1 (map)	-
2	Figure 3
4, 5	-
6	7
8	9
10	11
12	13
14	15, 16, 17
18	19
20	-
21	22, 23
24	25, 26
27	28, 29
30	31, 32, 33
34	35, 36, 37
38	39, 40
-	41, 42, 43

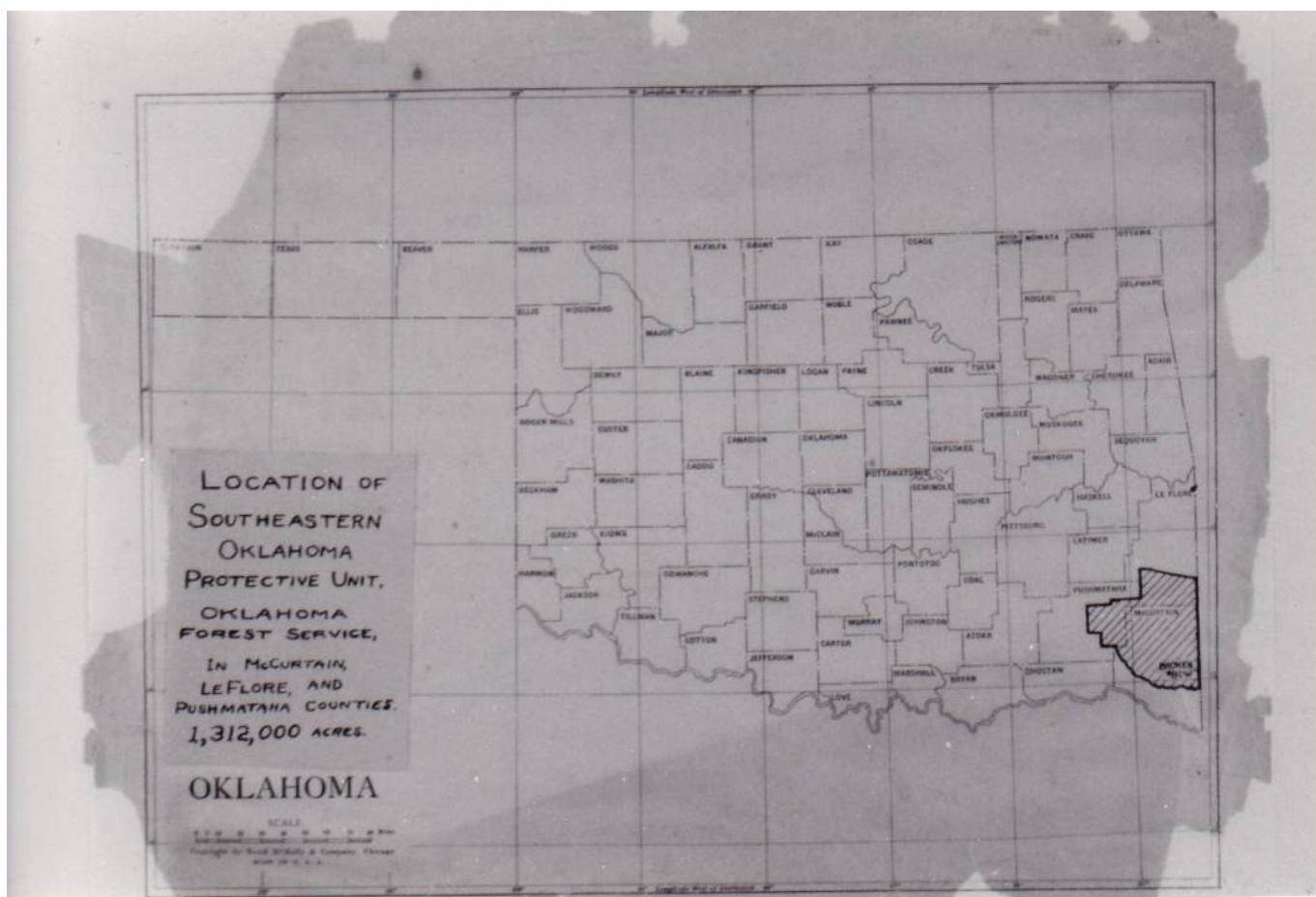


Figure 1. My ragged old 1930 map shows the Southeastern Oklahoma Protective Unit, Oklahoma Forest Service. This Unit for fire protection on privately-owned forest lands was organized in 1926, soon after establishment of the agency. Coverage included 1,312,000 acres in southern Le Flore, eastern Pushmataha, and northern to central McCurtain Counties.

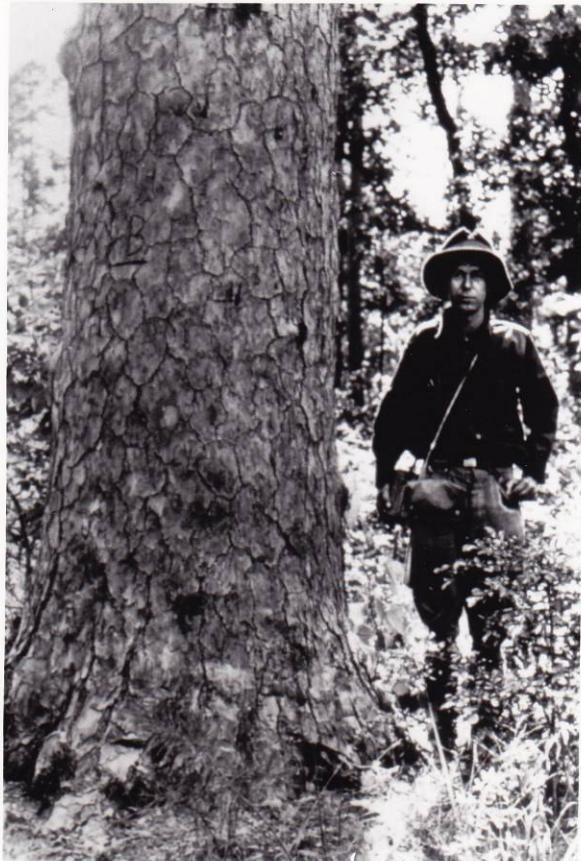


Figure 2. A giant shortleaf pine, 36 inches in trunk diameter and 106 feet high, with me in 1930. The location is the road to Alikchi, Township 3 South, Range 24 East. The largest pine seen measured 42 inches in diameter breast height (dbh).



Figure 3. Another giant shortleaf pine, 34 inches in trunk diameter, with me in 1981. The current state champion measures 35 inches. However, a few loblolly pines are larger, with the present state champion 44.5 inches in diameter.



Figure 4. Forest fires are of two kinds, crown and surface. A crown fire, shown here, consumes leaves and branches and spreads across tree tops or crowns. It occurs mainly in dry summers after logging and can become very destructive if tree tops are left on the ground and slash is not properly disposed. In southeastern Oklahoma, crown fires are becoming rare. (Sections 13-14 and 23-24, Township 4 South, Range 24 East, June 17, 1930)



Figure 5. Surface fire at edge of the same crown fire in Figure 4. Surface fires spread slowly along the ground in dead leaves and leaf litter, and occur throughout the year. Hardwood sprouts and young pines are killed, and the forest understory remains open. (June 17, 1930)



Figure 6. The first areas shown are in southern Le Flore County. Here, I was at camp in a virgin pine-oak forest unburned 6 years. Transportation was by this old Model T Ford (about 1925 model), without top. My plant press, an early one with corrugated cardboard driers for heat, was on the runningboard. (Section 11, Township 2 North, Range 23 East, July 20, 1930)

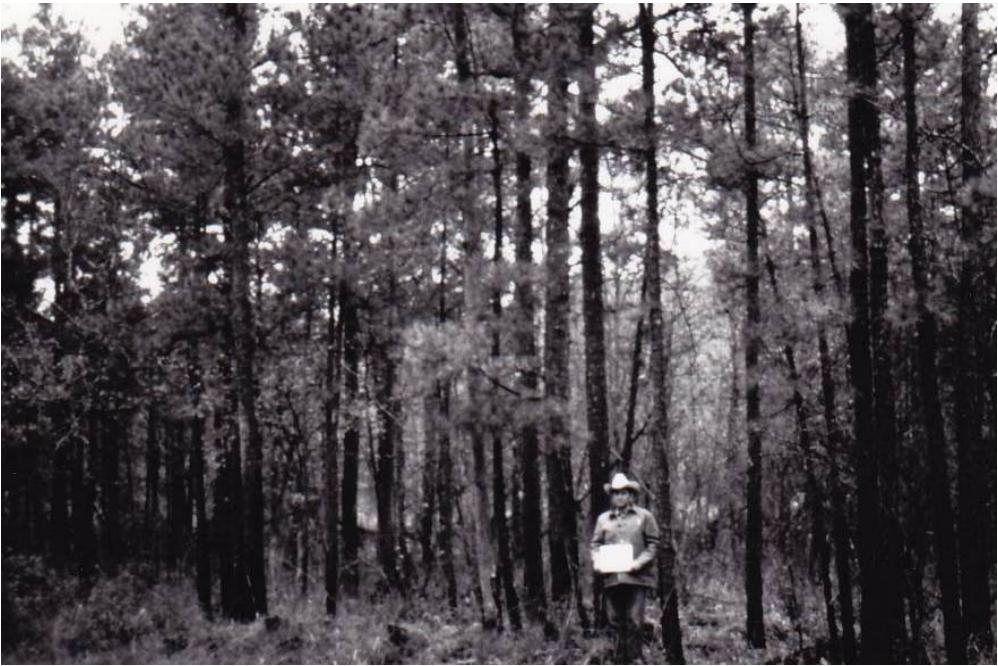


Figure 7. Same area as in Figure 6, in October 1981, after nearly a half century within the Ouachita National Forest. It had been logged about 1965 and now was a cutover, unburned pine-oak forest. It had had selection cuts and hardwood control and now was within a wildlife management unit. This is a good example of recovery after "cut clean and get out" and after uncontrolled burning.



Figure 8. Virgin pine-oak forest along road, at left, burned in April 1930, and, at right, unburned since 1925. Looking north, west end of Rich Mountain. (Section 2, Township 2 North, Range 25 East, June 9, 1930)



Figure 9. The same area as in Figure 8, in 1981, now within the Ouachita National Forest and a wildlife management unit. Some land has been set aside for the wide paved highway and its right-of-way.



Figure 10. In 1930, the same virgin forest at right of the road in Figure 8, showing beautiful shortleaf pines about 80 feet high. In opening in the foreground were young pines 6 to 8 feet high and undergrowth of sprouts of oaks, hickories, and flowering dogwood. I took this photograph from a lone oak tree.

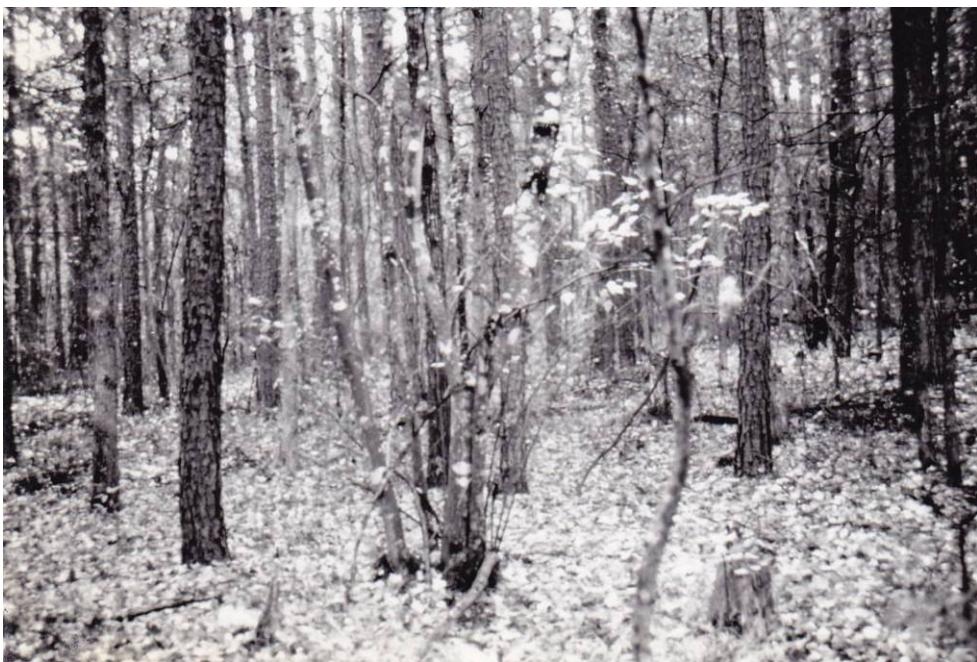


Figure 11. Same area as Figure 10, in 1981. After cutting, this pine-oak area had timber stand improvement with oaks killed by girdling.

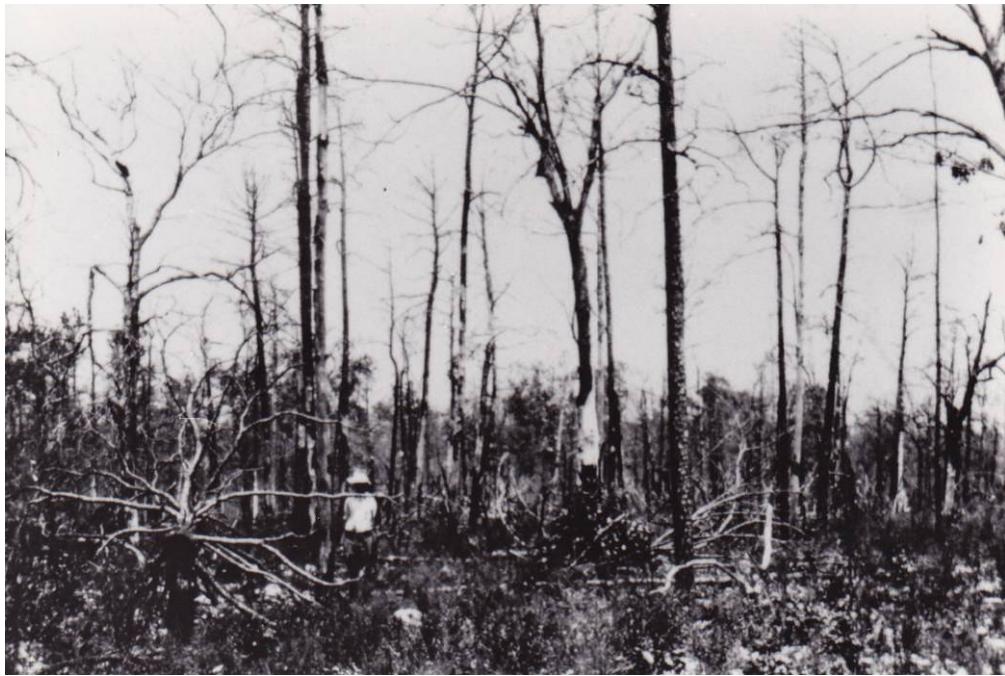


Figure 12. This area, in 1930 had been cut and severely burned by a crown fire in the summer of 1929. Dead pines were 40 feet high and 4 to 8 inches dbh. A black oak 35 feet high and 10 inches dbh was killed back to the trunk and produced sprouts. At left is burned top of pine tree left after logging. The annual herbs were fireweeds, which appear after fire.



Figure 13. Same area as Figure 12, in 1981. This area was one of two still privately owned. Not managed by foresters, it was also the least productive. However, under fire protection it too had recovered from the crown fire of 1929. After logging, it was an unmanaged oak-hickory forest with scattered small shortleaf pines. The rocky land unsuitable for agriculture apparently was held for investment.

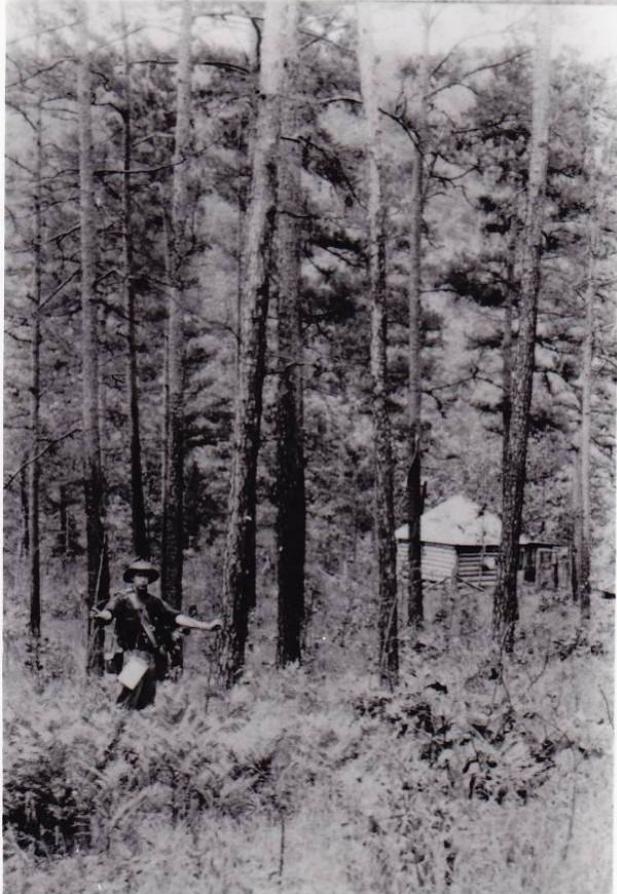


Figure 14. All remaining areas shown in this summary are from McCurtain County. Figures 14 through 19 are from the McCurtain County Wilderness Area, managed by the Oklahoma Department of Wildlife Conservation. This virgin pine-oak forest was burned in the summer 1929, as indicated by dead undergrowth sprouts to 7 feet high and new sprouts of 1930. Looking southeast at cabin and Pine Mountain. I am in the foreground of this and the following photographs showing cabin at the right. (Section 12, Township 3 South, Range 25 East, July 1, 1930)

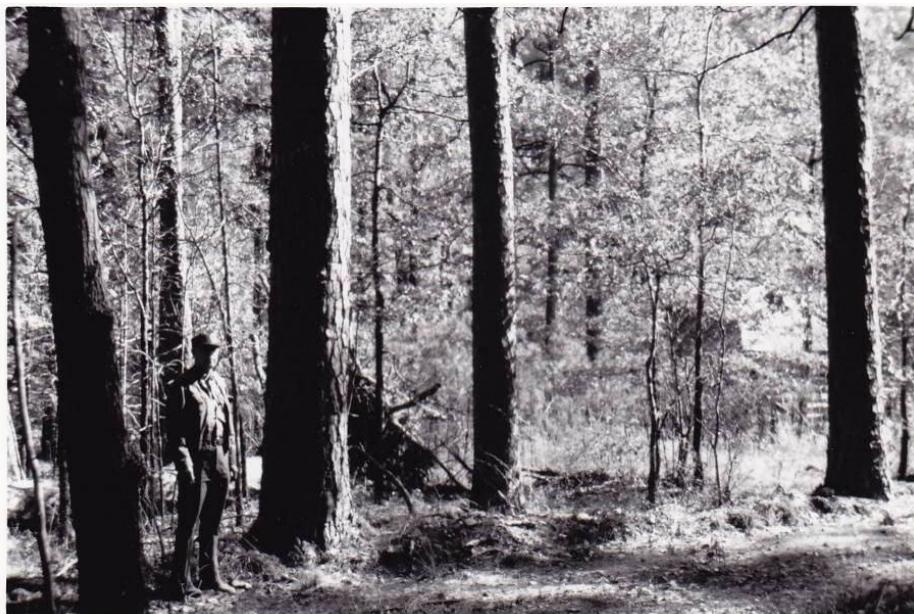


Figure 15. In 1981, this was the only uncut area of the 8 virgin pine-oak forest areas studied in 1930. This state-owned area of about 14,000 acres continues to be preserved as a wilderness for wildlife. The same pines were somewhat larger, and the undergrowth denser. However, a few trees had been removed for road construction, and others by a windstorm. On the nearby upland, several large over-mature pines had been lost to lightning, bark beetles, and windstorms through the years. The cabin is barely visible at right.



Figure 16. In June 1990, the same virgin pine forest of Figures 14 and 15, still without fires, is shown. The undergrowth of hardwood sprouts was denser, so thick that the old cabin at right was barely visible. In this good valley site the pines had grown, the largest now 116 feet high and 23.5 inches dbh.



Figure 17. In April 1995, after 65 years the largest pine is now over 24 inches dbh.

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Figure 18. In 1930, this shortleaf pine about 24 inches dbh had a large old fire scar, or "catface," 8 feet high and nearly through the trunk at its base. Located in open virgin forest on upland about one mile west of the cabin shown in Figures 14 through 17, this area had been unburned about 5 years.

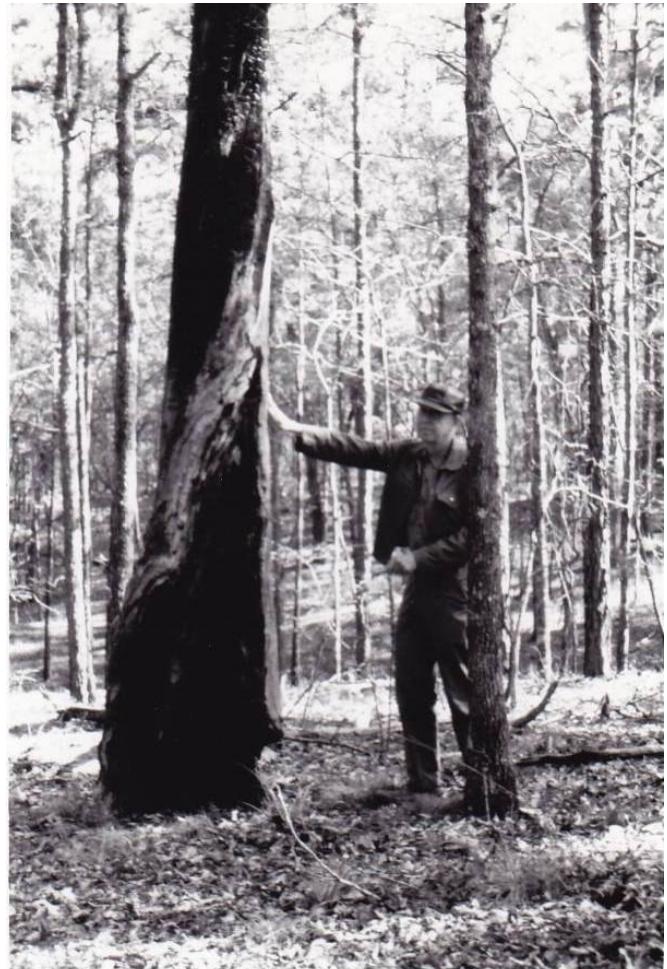


Figure 19. In 1981, the same fire-damaged pine was dead with the top broken off, but the base of the trunk with fire scar was standing. Hardwood sprouts in the unburned undergrowth of this virgin forest were more numerous.



Figure 20. Virgin shortleaf pines 70 to 80 feet high along highway near south base of Carter Mountain lookout tower. (Section 1, Township 3 South, Range 24 East, August 31, 1930) This and all the following areas illustrated were within lands purchased by Weyerhaeuser Company in 1969.



Figure 21. Same area and date as Figure 20, as seen from the highway. The open undergrowth had sprouts after the last fire in March 1928.



Figure 22. Same areas as Figures 20 and 21, in 1981. The forest had been clearcut at the end of 1930. The large pines of the unburned second forest were nearly ready for cutting.



Figure 23. Same areas as Figures 20 through 22, taken in October 1990. The second pine forest had been clearcut about five years before. Site preparation included ripping (like deep plowing) and removal of hardwoods and brush. This plantation of loblolly pine, the third forest, was now about 5 years old and 10 feet high.



Figure 24. Cutover areas along road in 1930 after clearcutting about 1922 or 1923. Area at left of road had been unburned for several years. Area at right was burned severely in summer 1929. (Section 27, Township 5 South, Range 26 East, June 16, 1930)



Figure 25. In 1981, the third pine forest of trees 50 to 55 feet high was uneven-aged. The pines had been selectively cut, and logs and posts had been removed. Oaks were killed by the prescribed use of herbicides.



Figure 26. In October 1990, the same area as Figures 24 and 25.



Figure 27. In 1930, the same area as Figures 24 through 26, on right side of road, showing bare, eroding, rocky soil and ashes a year after severe summer fire. A pine 50 feet high and 7 inches dbh in the center was killed. At the time, I wrote: "The land is now almost worthless for any purpose, and it will be some time before it will be of any value."



Figure 28. Same area as Figure 27, taken in 1981. The pine forest had a thick litter of needles and old leaves and dense undergrowth. I wrote: "Under fire protection, I wish I owned some of that land now!"



Figure 29. Same area as Figures 27 and 28, taken in October 1990. The pines were much larger, 35 to 40 feet high and 8 to 12 inches dbh, and almost ready for harvest.



Figure 30. Same area, first in 1930, showing three black oaks 30 to 40 feet high and 6 to 12 inches dbh, killed back to trunk by the hot summer fire the year before.

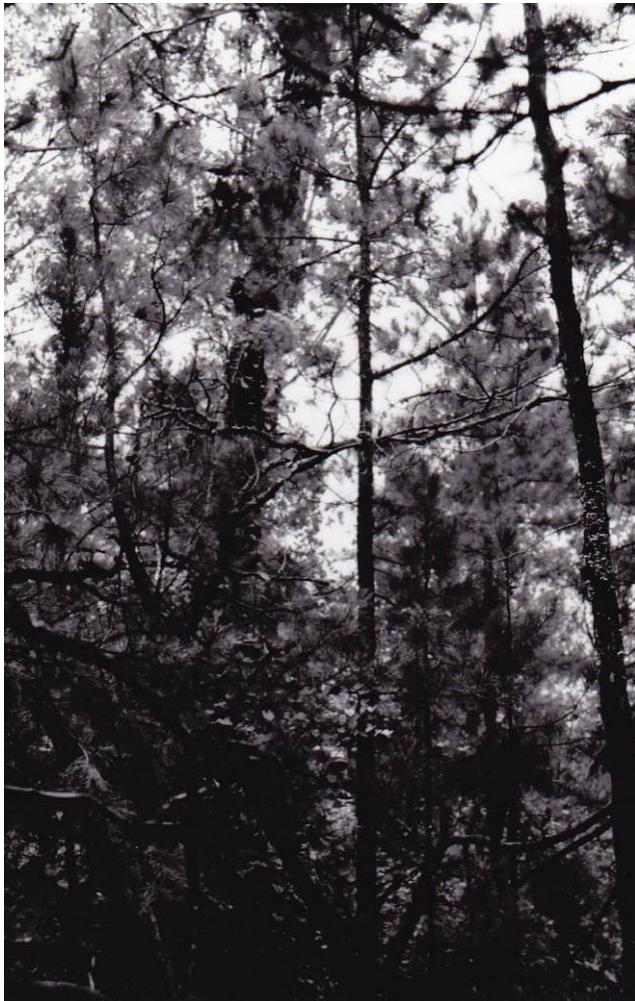


Figure 31. In 1981, the three black oaks, now much larger, had been killed by herbicides. Because of the thick tree growth, they were more visible in close-ups. This photograph shows the trunk of the left black oak.

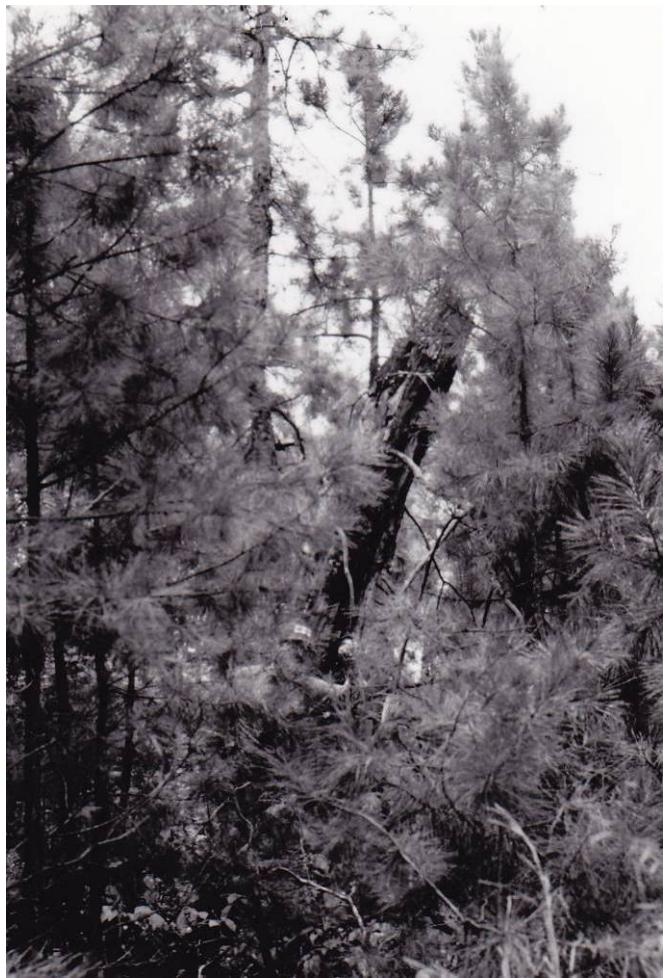


Figure 32. Same area, taken in 1981, showing trunk of the middle black oak.

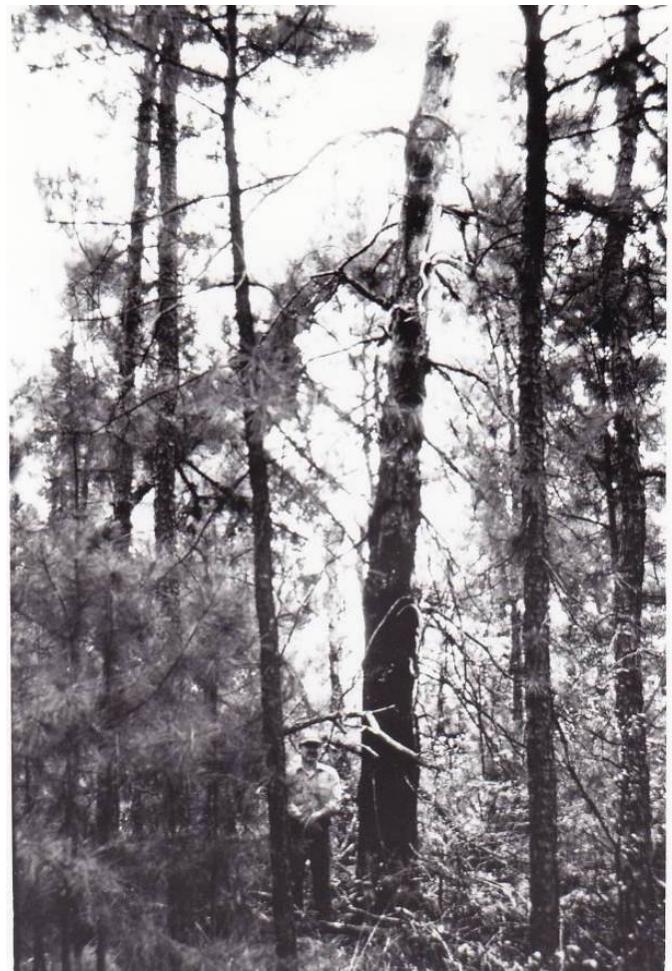


Figure 33. Same area, taken in 1981, showing trunk of the right black oak.



Figure 34. Photographed in 1930, this pine-oak area had been clearcut many years before and was severely burned in the summer of 1929. Now it had a cover of fireweeds, annual herbs that commonly appear in burned areas, apparently from buried seeds or windborne seeds or both. Examples were daisy fleabane, horseweed, black-eyed susan, and broomsedge. Oak and hickory sprouts and young pines were present also. (Section 35-36, Township 4 South, Range 24 East)



Figure 35. Same area as Figure 34, taken in 1981. Now, though it had pines to 65 feet high, this area was more valuable for recreation sites than forest trees. The bordering road was now a highway. A new reservoir, Broken Bow Lake, and Beavers Bend State Park were only a few miles away.



Figure 36. Same area as Figures 34 and 35, in October 1990. Now privately owned, it had been divided into residential lots. Handsome recreation homes/cabins were scattered among the tall pines.



Figure 37. Same area as Figures 34 through 36, with recreation homes/cabins, in April 1995.



Figure 38. In 1930, this area, moderately cut about 1926 and unburned afterwards, now had oak and hickory sprouts and scattered young pines 1 to 3 feet high.

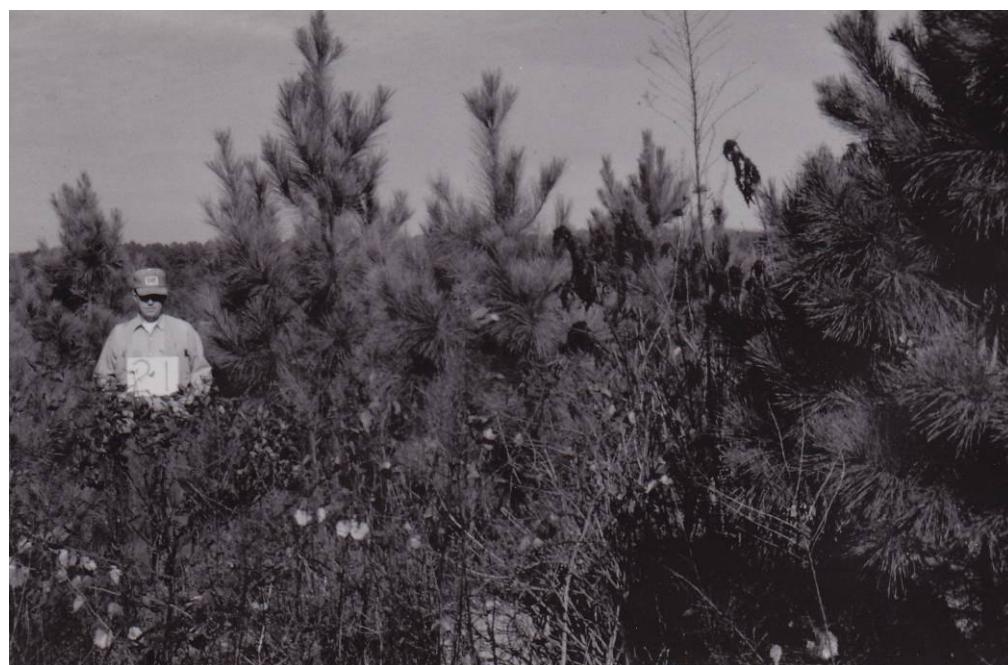


Figure 39. Same area as Figure 38, in 1981. The second pine forest had been clearcut. The area now was a plantation with superior loblolly pines, 4 years old and 6 to 8 feet high.



Figure 40. Same area as Figures 38 and 39, in October 1990. The growing loblolly pine plantation now had saplings 20 to 30 feet high and 4 to 8 inches dbh.



Figure 41. The last three photographs show one of the oldest plantations of the Weyerhaeuser Company in southeastern Oklahoma. This loblolly pine plantation on a good Coastal Plain site near Alikchi was set out in March 1970. In October 1981, the trees were 12 years old, 25 to 30 feet high, and 6 inches dbh. (Section 24, Township 4 South, Range 21 East)

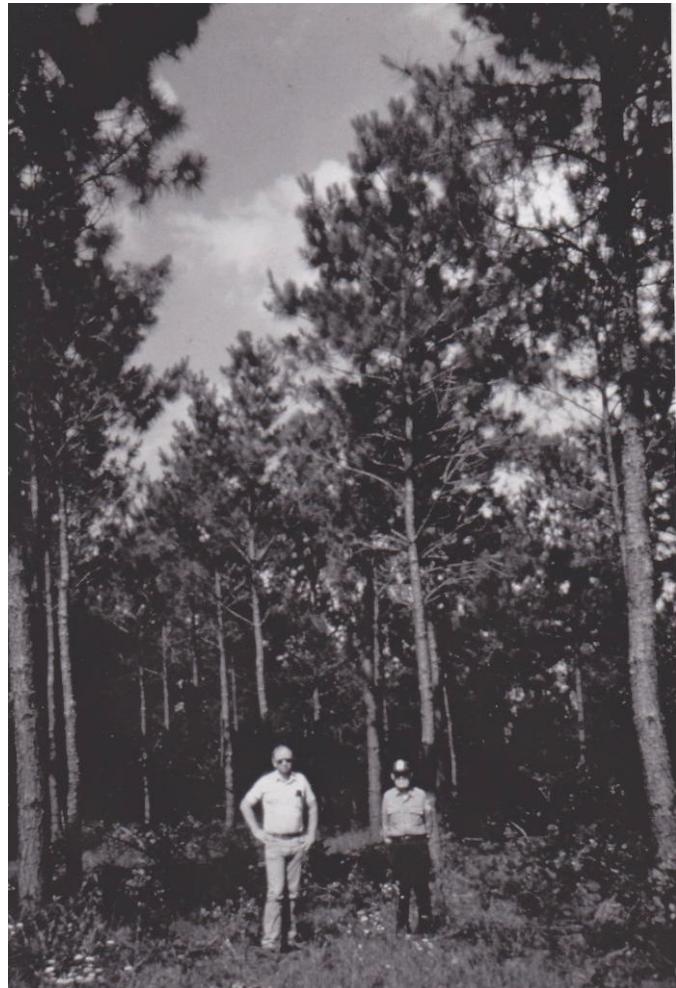


Figure 42. The same area as Figure 41, in June 1990. At about 21 years of age, the loblolly pines were 40 to 45 feet high and 8 to 11 inches dbh. This plantation had been thinned and pruned.

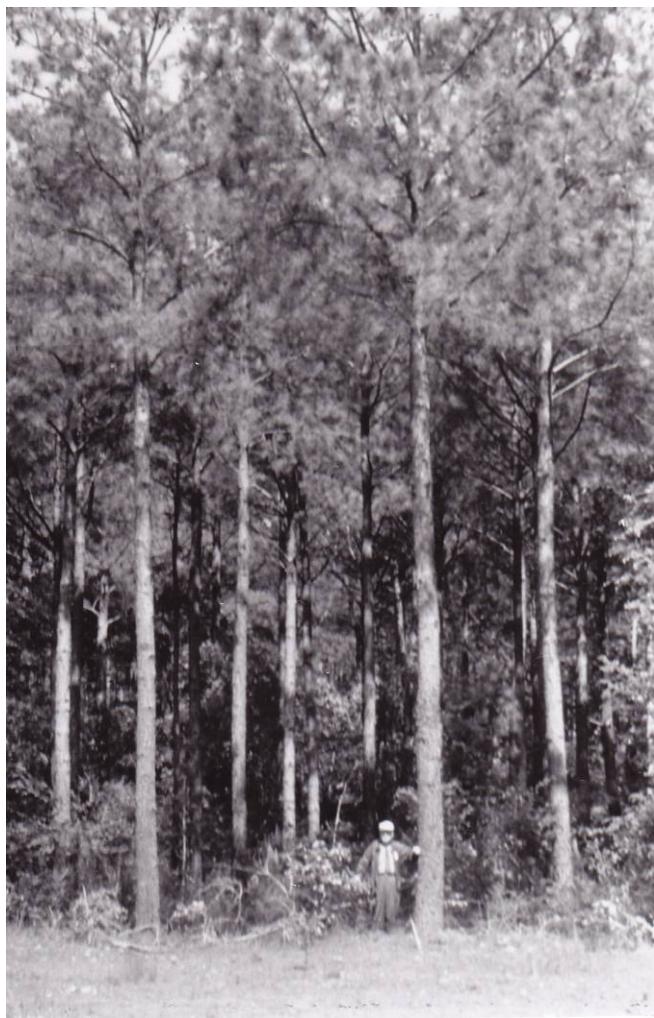


Figure 43. The last photograph, same area as Figures 41 and 42, in April 1995. At 25 years of age, the loblolly pines were 50 to 55 feet high and 10 to 14 inches dbh.

Conclusions

Several conclusions can be made from my unique experience of reexamining and photographing again the same pine-oak forest areas in southeastern Oklahoma over a 65-year period, from 1930 to 1995.

1. First, foresters and other professionals are doing a good job in land management and conservation. In 1930, there was only one professional forester in southeastern Oklahoma. Now there are many, as well as specialists in other fields of land management including wildlife, soil conservation, range, recreation, and hydrology.
2. The most important change, as shown by all areas, has been continuous wildfire protection. Ownership of forested lands would still be a great risk or gamble, if forest fires were uncontrolled. However, the properly applied prescribed burning does have limited use as a tool.
3. Also, southeastern Oklahoma has a favorable climate for tree growth. The growing season is long, winters are mild, and precipitation (mostly rain) is high, as much as 55 inches annually in the mountains. Some credit should be given to high rainfall for quick recovery from fire damage, excellent survival of seedlings and nursery stock, and rapid growth of young trees to early maturity.
4. Through the years, areas managed alike tend to become similar in forest vegetation. Under fire protection and good management, recovery from fire damage is relatively fast. Thus, the areas compared now differ mainly in ages and sizes of trees, both in uneven-aged forest and plantations.
5. Forested lands now are managed for their renewable natural resources, not as nonrenewable resources like mines or formerly as "cut clean and get out." Many areas are managed as tree farms.
6. Under intensive forestry, plantations are replacing the natural uneven-aged forests. Site preparation is followed by increased growth in these tree farms. Under forest genetics, seed from selected trees and geographic races is used. A major change is the introduction of superior loblolly pine to replace the common native shortleaf pines.
7. Multiple use is practiced to grow and harvest together various renewable resources of useful and needed products of the forests, namely: wood and other products from trees; wildlife including fish and game; water for consumption, recreation, flood control, and power; outdoor recreation; and range or forage for livestock.
8. Intensive forestry is practiced to increase tree production and to assure a perpetual supply of wood and other forest products. Lands converted to fast-growing loblolly pine plantations from superior seed sources produce more wood in less time, as much as two or three times as much wood in half the time between harvests (due to stocking, genetics)! Needed forest products are distributed and marketed in Oklahoma and nearby states.
9. Productive forest lands provide steady income for landowners and taxes for governmental services.
10. One of the greatest values of southeastern Oklahoma's pine-oak forest lands is as a source of labor. Under intensive management for many uses, these lands provide employment, both fulltime and seasonal, for thousands of local residents at a higher standard of living than most other rural occupations. Transportation and manufacture of forest products support additional jobs.
11. One notable change in land use has been the great expansion of outdoor recreation, especially tourism, with scenic highways, paved roads, reservoirs, and state parks. The Ouachita National Forest and many other forests are accessible to the public. Under good management, wildlife, including game, has increased, and rare and endangered animals and plants are protected.

So, my 65-year study confirms that foresters and other professionals are doing a good job in land management and conservation! Let's keep up the good work!

Oklahoma Forestry Services

The State of Oklahoma created the Oklahoma Forest Service as an agency of government in 1925. Its early charge was to educate citizens about managing and protecting the state's forests and to stop the wildfires that ravaged the countryside each year. As Dr. Little observed at that time, many of our forests were decimated by harvesting without plans for regeneration, and by frequent wildfires that prevented small trees from becoming established. Over the years, cooperation between the State Forest Service, private forest industry, private landowners, other agencies and the public at large has helped Oklahoma's forests recover. In the 70 years since the agency was established, the breadth of state forestry programs and services has adapted to address needs the public felt were important.

In 1982, the State Forestry Division held a series of public meetings to identify the most important forestry issues facing Oklahoma. These issues were summarized and presented in the report titled *Oklahoma's Forest Resource Issues - An Assessment of Concerns and Opportunities Facing Forestry in the 1980's*. The results of this process were then used to develop *Program Direction Through 1995 - Oklahoma's State Forest Resource Plan* in early 1983. This Plan contains goals and strategies that remain the basis for the Division's annual work planning process and program delivery.

In 1984, the Division developed and hosted the Governor's Forum on the Future of Forestry in Oklahoma. This Forum enabled the participants to identify the most critical needs in forestry in the state. Governor George Nigh presented the keynote address, and the group developed a vision of forestry in the year 2020. Information and education was identified as a critical need in fully one-third of the Forum recommendations.

The agency is now known as Oklahoma Forestry Services, or the Forestry Services Division of the Oklahoma Department of Agriculture. It is a decentralized agency, with a small headquarters staff working in close cooperation and support of five Administrative Areas. The Division maintains 16 office locations across the State. These include the State Office, four Area offices, five District offices, four Service Forester offices, the State Forest Tree Improvement Center at Idabel, and the Forest Heritage Center in Beavers Bend State Park north of Broken Bow. The Goldsby office includes the Area Headquarters for Rural Fire Defense and Central/Western Area, and the Forest Regeneration Center. Our goal of providing technical forestry assistance to landowners, homeowners, communities and groups statewide is delivered through field foresters provide assistance in from one to eleven counties.

Forestry Services works in concert with the U.S. Forest Service to deliver a wide variety of federal cooperative programs to the state's landowners and citizens. Under federal law and cooperative agreement, State Foresters are the technical delivery arm of federal forestry programs administered by the Forest Service. In addition, the Oklahoma Forestry Code, Title 2 Article 16 of the Oklahoma Statutes, further guides agency services.

The Mission of Forestry Services is to conserve, enhance and protect the forest resources of Oklahoma for present and future generations.

This mission and the agency vision are delivered through a wide variety of programs that generally fall under one of five major program areas: Forest Resource Protection, Technical Forestry Assistance, Forest Regeneration, Forest Water Quality, and Environmental Education. These services offer quality assistance to all Oklahomans, whether they live in rural areas, urban areas, small communities, or all places in between. To learn more about Oklahoma's forest resources and the technical and financial assistance available to the residents of the state, contact your local forester or the State Forester's office in Oklahoma City.

To learn more about Oklahoma's native trees, Forestry Services publishes the handbook *Forest Trees of Oklahoma*, a field guide which contains an identification key, descriptions of the State's trees, range maps, and other information. This book, also authored by Elbert L. Little, Jr., is available for \$3.00 from any Forestry Services office, or for \$4.00 by mail.

Oklahoma Department of Agriculture, Food and Forestry
Forestry Services
2800 North Lincoln Boulevard
Oklahoma City, OK 73105
405-522-6158

www.forestry.ok.gov



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