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Forestry Bulletin No. 20: A Short History of Forest Conservation in Texas, 1880-1940

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BULLETIN 20

JANUARY 1970

A SHORT HISTORY
OF
FOREST CONSERVATION IN TEXAS
1880 - 1940

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and
JAMES W. MARTIN

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JANUARY 1970

Price 50¢

A SHORT HISTORY
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FOREST CONSERVATION IN TEXAS
1880 - 1940

*To
Roger & Charlotte
Bob*

ROBERT S. MAXWELL
and
JAMES W. MARTIN

*SD
12
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No. 20*

SCHOOL OF FORESTRY
Stephen F. Austin State University
NACOGDOCHES, TEXAS

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and
James W. Martin



W. Goodrich Jones, 1860-1950, Banker, Businessman, Father of Forestry in Texas. Photo courtesy of Texas Forestry Association.

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PREFACE

This short history of the development of forest conservation in Texas is intended primarily for the general reader. The study has concentrated on the early history of the conservation movement, dating from the beginning of commercial lumbering in the state, approximately 1880, to about 1940 and World War II. During this period such national figures as Theodore Roosevelt and Gifford Pinchot publicized and popularized the nationwide drive for conservation of natural resources. The U. S. Forest Service provided leadership and research for forest conservation. In Texas, public officials, lumbermen, and professional foresters alike eventually recognized the critical need for a systematic conservation and reforestation program. In response to this need, Texans organized two major agencies for the conservation of the forest resources of the state, the Texas Forestry Association and the Texas Forest Service (first called the Texas Department of Forestry), which have grown into important and efficient institutions.

The history of conservation, like other types of history, involves people. And, as in most major enterprises, especially at their beginning, a few people influenced the course of the lumbering industry in Texas and the conservation of forest resources far out of proportion to their numbers. Lumbermen such as John Henry Kirby, Thomas L. L. Temple, Joseph H. Kurth, and Henry J. Lutcher are important to the history of Texas and the United States. Conservationists such as W. Goodrich Jones, E. O. Siecke, Dr. W. B. Bizzell, and their successors have made great contributions to the development of the Texas of today. They deserve to be recognized and remembered alongside the political and military heroes of the standard textbook.

The authors are indebted to many people for encouragement and assistance in completing this study. Certainly our thanks should be expressed to Dr. R. W. Steen, President of Stephen F. Austin State University; Dr. L. C. Walker, Dean of the School of Forestry; and Dr. C. K. Chamberlain of the Department of History for their helpful interest and cooperation. We owe special thanks to Miss Doris Jones and Dr. Luther G. Jones for their generous action in making their father's papers available for our study. Miss Mildred Wyatt of the University Library has been most helpful in locating photographs and maps, as have

Dr. Nelson Samson of the School of Forestry and Mr. Lowell Halls of the U. S. Forest Service. In addition we appreciate the work of a large number of students at SFA who assisted in typing, proofreading, and other clerical chores.

This Short History of Conservation in Texas is only an introduction to the great history of the forest products industry in Texas, its development and expansion. It is our hope that this study will encourage the reader to make further investigations, by both readings and personal visits, into the story of the preservation and development of the East Texas Forest region.

RSM

JWM

THE TEXAS FORESTS

Texas has been blessed with a great abundance of forest resources. Contrary to the popular stereotype, Texas does not entirely consist of wide open spaces, cowboys, and longhorn cattle. The landscape is not wholly devoted to the silhouettes of oil derricks, ten-gallon hats, and bawling dogies. All sections of the state have some timber growth and the eastern ten per cent could be described as a "great forest."

The East Texas forest region includes all or parts of forty-eight counties and more than 23 million acres. Thus, it is an area as large as Indiana and larger than twelve other states. It extends from the Gulf coastal plains in the south to the Red River and from the Sabine on the east to an irregular line somewhat short of the 96th meridian where the pine forests thin out and give way to scattered groves and open prairie.¹ The commercial forest region is considerably smaller, comprising some 15 to 18 million acres, with the concentration of trees becoming denser toward the south and east.

Thus the East Texas pine forest is densest near the Louisiana border where the annual rainfall approaches or exceeds fifty inches. The stands become lighter and more open as one goes north and west until the forests disappear entirely before one reaches the line of forty-inch annual rainfall. The forest is principally pine but a variety of hardwoods abound, especially along the streams and lower elevations.²

This magnificent forest impressed visitors from the early beginnings of the state. Travelers often wrote and spoke of the majestic pines, towering one hundred to one hundred and fifty feet in the air with bases that were three, four, or even five feet in diameter. In 1828 Stephen F. Austin described the East Texas country, with an eye for attracting settlers, in this fashion:

The country on the Sabine, Neches, Trinity, and San Jacinto is heavily timbered and wooded with thick groves of good pine, cypress, oak, ash, and other timber. . . . The thickly wooded lands continue quite to the Red River north of the heads of the Sabine and the Neches, and pretty high on the Trinity.

The whole of this eastern and wooded region is very abundantly supplied with living streams of pure water, which afford many favor-

¹William T. Chambers, "Pine Woods Region of Southeastern Texas," *Economic Geography* (July, 1934), X:303.

²J. H. Foster, "Forest Resources of East Texas," *Texas A&M Bulletin* 5 (College Station, Texas, 1917), 3.

able sites for saw and other mills, either water or steam. The lumber business from this quarter will be very valuable so soon as mills are put in extensive operation.³

A few years later the anonymous writer of *Texas in 1837* described the land around Buffalo Bayou in these terms:

The land on the banks at this season of the year is generally dry, and the country back has the appearance of a plain. The soil is generally sandy, which will forever make the land of little value except for the timber, which exists in great abundance, especially the pine. . . .⁴

The great pine stands were largely free of undergrowth and travelers remarked on the park-like appearance of the forest floor. One observer pictured the forest as "in its virgin state there was little or no undergrowth save along the watercourses, but the trees rose in stately grandeur from a luxuriant carpet of the finest green." The lordly pines were certainly impressive, but most of the early settlers regarded the forest as of small value and chiefly a hindrance to agriculture.⁵

Although there is a considerable variety of merchantable hardwoods in East Texas the chief commercial timber is the pine. It was to the great stands of southern yellow pine that the lumber entrepreneurs were attracted when the white pine forests of the Lake States were exhausted in the last quarter of the nineteenth century. In Texas there are three principal native species; the longleaf, the loblolly, and the shortleaf (Fig. 1).

The longleaf area originally included about 5,000 square miles and thrust itself like a broad wedge southwestward from the Louisiana border to the Trinity River between the loblolly types on the south and the areas where shortleaf predominates on the north.⁶ By no means a solid stand, the longleaf forests included parts of Sabine, San Augustine, Nacogdoches, Angelina, Polk, Trinity, Tyler, Jasper, Newton, Orange, and Hardin counties.

³Eugene C. Barker, ed., "Stephen F. Austin's Description of Texas," *Southwestern Historical Quarterly* (October, 1924), 28:98-106.

⁴Andrew Forest Muir, ed., *Texas in 1837* (Austin, 1958), 22.

⁵Frank H. Taylor, "Through Texas," *Harper's Monthly* (October, 1879), LIX:706; George L. Crocket, *Two Centuries in East Texas, A History of San Augustine County and Surrounding Territory* (Dallas, 1932), 80-81.

⁶William L. Bray, *Forest Resources of Texas, U. S. Department of Agriculture, Bureau of Forestry—Bulletin No. 47* (Washington, 1904), 21.

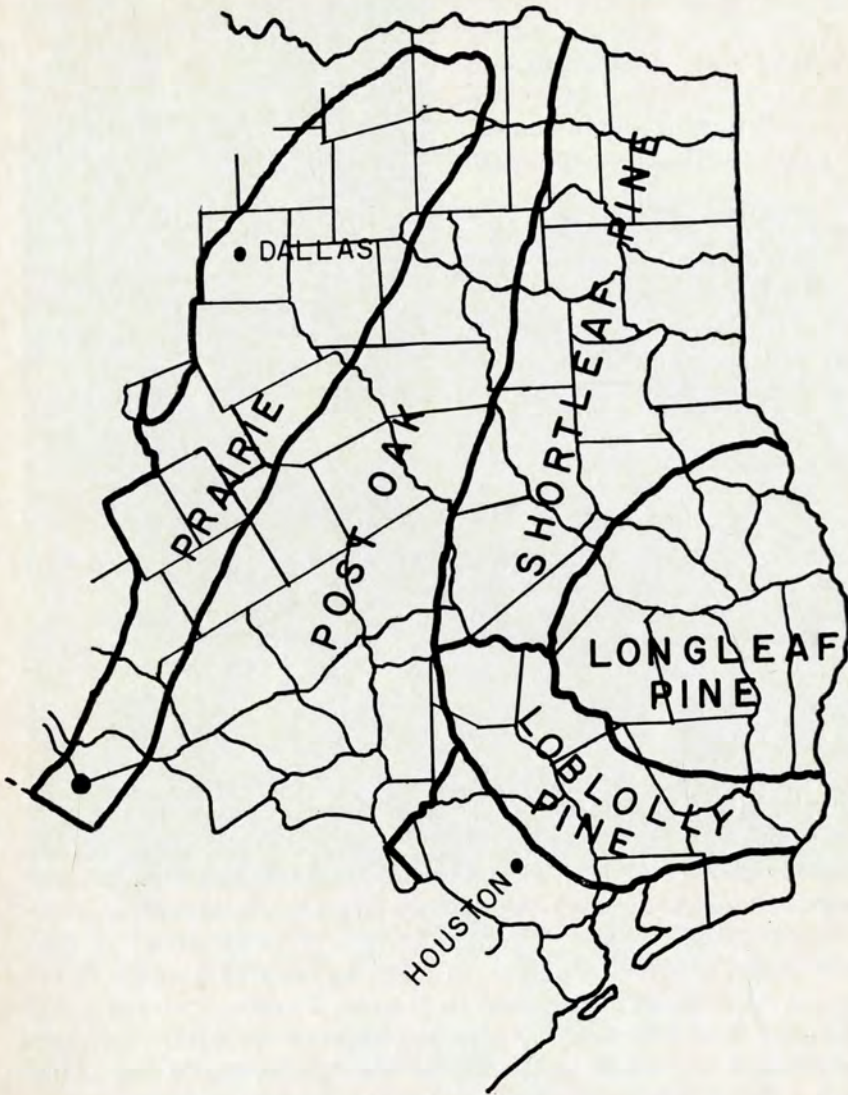


Figure 1. East Texas forest regions.

The typical longleaf country was one of relatively open, sandy soil, well-drained, with a soil texture that would permit the pine to seek the sun with its crown and to thrust its taproot far into the water bearing sands so as to be relatively independent of surface moisture conditions. On such terrain the longleaf flourished, choking out the underbrush and shrub hardwoods to produce the park-like forest floor that the early travelers de-

scribed. (Fig. 2.) Where there were depressions and poorly drained areas, hardwoods and loblolly pine penetrated into the longleaf forest. In competition with these species longleaf pine reproduces with difficulty, and the bonanza logging methods of the early period left but a scant basis for its perpetuation. Consequently, most of the longleaf stands have disappeared and have been replaced by loblolly forests or stands of mixed loblolly and hardwood.⁷

As a general pattern the loblolly forest lies to the south and west of the longleaf stands. It extends from the Gulf coastal marshes northward and intrudes into the longleaf growth at many places. The loblolly is an abundant species and in tracts

of virgin forest cuts of 12,000 to 15,000 board feet to the acre were not uncommon. (Fig. 3.) Early experts estimated that the loblolly growth covered an area of about 7,000 square miles and included all or parts of San Jacinto, Walker, Montgomery, Harris, Jefferson, Liberty, Orange, Hardin, Grimes, Newton, Jasper, and Chambers counties. In addition isolated pockets of so-called "lost pines" are found in Brazos, Fayette, Colorado, and Bastrop counties.⁸ Loblolly pine has excellent reproduction characteristics and much of the second growth forests in the southern half of the East Texas region are of this type, or a mixture of loblolly and hardwoods.

The shortleaf pine is found north of the longleaf area and



Figure 2. Virgin longleaf pines were tall, straight and clear of branches, producing lumber of superior quality. Foresters believe that centuries of frequent fires helped suppress undergrowth to produce the typical open, park-like stands. Trinity County.

⁷*Ibid.*, 22-23.

⁸*Ibid.*, 19-21; J. H. Foster, H. B. Krausz, and A. H. Leidigh, *General Survey of Texas Woodlands*, including a study of *The Commercial Possibilities of Mesquite*, *Bulletin (3) of the Agricultural and Mechanical College of Texas* (College Station, Texas, 1917), 15-17.

extends to the Red River. This region covers some 12,000 square miles and was the earliest opened to commercial lumbering because of the earlier development of railroad outlets to the north. In comparison with the longleaf and loblolly stands, the shortleaf forests are more open, more mixed with hardwoods, and were earlier invaded by agricultural clearings. As a rule of



Figure 3. Old growth stands of shortleaf and loblolly pine sometimes grew larger than longleaf, but rarely equaled it in quality. An understory of brush and young hardwoods was usually present. Photo from U. S. Forest Service.

thumb shortleaf predominates north of Nacogdoches and as far west as Hopkins and Anderson counties. From the beginning of commercial lumbering the land holdings were smaller and the timber yield per acre was considerably less than in the longleaf or loblolly areas. Often lumbering and "tree farming" were secondary rather than primary occupations of the landowner in the shortleaf belt. This is especially true as one moves north and west until the Blackland Prairies are reached."

In addition to the pines, Texas has a variety of other timber.

⁹Bray, *Forest Resources of Texas*, 24-25.



Figure 4. East Texas railroads at their peak, about 1920. More than half this mileage was abandoned before 1940.

Bordering the blacklands are considerable stands of post oak. Farther west is the cross timbers country, relieved by occasional cedar brakes. In South Texas, the High Plains, and the Panhandle, there are considerable growths of Mesquite. Indeed, the Edwards Plateau is a meeting place for plant species from the Atlantic forest belt, the Mexican highlands, and the Rocky Mountains. It has been called the "plant melting pot" of the United States.¹⁰ But these woods have had very limited commercial value, and that largely as fence posts and fuel. In general it is not inaccurate to think in terms of the familiar stereotype, the forested East Texas Piney

Woods and the forest-less plains of Central and West Texas. It is the conservation and restoration of this magnificent East Texas pine forest that concerns this study.

¹⁰James W. Martin, "A History of Forest Conservation in Texas 1900 to 1935" (unpublished Master of Arts Thesis, Stephen F. Austin State College, 1966), 8; *Texas Forest News*, September, 1947, 1.

BONANZA LUMBERING COMES TO TEXAS, 1880-1930

The development of commercial lumbering in Texas followed the pattern previously set in New England, the Lake States, and the older states of the Southeast. The great forest resources were present, waiting to be exploited by enterprising entrepreneurs who turned to the southwest when eastern and northern timber showed the threat of exhaustion soon after the close of the Civil War.

As late as 1880 the Texas pinelands remained virtually untapped. The lumber industry was valued at less than two million dollars and less than 300,000,000 board feet were annually produced. The entire region was strangely isolated and existing railroads merely skirted the Piney Woods. The rolling hills concealed soils ranging from adhesive clays to white sand. Cotton culture was the principal occupation of the farmers but the yield was poor and subsistence was marginal. As could be expected the towns were small, straggling, and unlovely. The people were insular, largely uneducated, and suspicious. The roads were poor and the rivers unpredictable, too low in summer; too violent and flooded in winter and spring.¹

Sawmilling had been carried on in the Texas region on a limited scale since the days of the earliest settlers. Successively men, mules, water, and steam had furnished the motive power. But these mills were all small and operated intermittently, frequently as an adjunct to a grist mill. Most of their products were used locally. Except for Orange and Beaumont, where lumber from logs floated down the rivers was shipped by boat via Sabine Pass, commercial lumbering was virtually non-existent.²

Soon after the Civil War, however, a number of factors combined to stimulate interest in the East Texas pineries. Eastern lumber sources had been largely exhausted and the great white pine forests of the Lake States were being rapidly depleted. In

¹Frank H. Taylor, "Through Texas," *Harper's Monthly* (October, 1879), LIX:706; T. C. Richardson, *East Texas, its History and its Makers* (New York, 1940), I; 471.

²Richardson, *East Texas*, 470; Vera Lea Dugas, "Texas Industry, 1860-1880," *Southwestern Historical Quarterly*, Vol. 59:161 (Oct., 1955); *Nacogdoches News*, July 30, 1877; March 16, 1882; *American Lumberman* (Sept. 20, 1908), 86-88.

the older southern states, production of yellow pine was increasingly profitable. The settlement of the Plains States opened new and attractive markets for lumber, and the passing of the worst features of the panic of 1873 encouraged the building of new railroads to link the sources of supply with the potential market.³ In the thirty years after 1875, new railroads criss-crossed the timber belt, opening up the pineries to enterprising lumbermen and in turn opening the outside world to the East Texas natives. Among the important roads were the Houston, East, and West Texas (to Shreveport), affectionately known as "The Rabbit," the Texas and New Orleans (Beaumont to Dallas), the notorious "Orphan Katy" (east from Trinity), and the Atchison, Topeka, and Santa Fe (opening up the eastern tier of Texas counties). Lesser roads opened still more acreage and provided connecting links with the main trunk lines. The state of Texas encouraged railroad building by granting sixteen sections of land for every mile of road built until 1882, when it was discovered that the unallotted land in Texas had been exhausted.⁴

Enterprising lumbermen, with or without previous experience, followed closely after the rail lines as they pushed into the pine forests. They rapidly acquired extensive acreage at bargain prices, ranging from as low as 50¢ to \$5 per acre. They built complete timber manufacturing plants including mill, dry kiln, yards, planer, warehouses, and frequently a tram road. In addition they developed company towns, in which the houses, streets, wells, commissary, and frequently the schools and churches, were company-owned and company-dominated. In all but legal title, each also owned a loyal work force numbering from 200 to more than 2,000 men, both white and Negro, who together with their families, were dependent on the mill owner for their livelihood. With few exceptions the workers were native Texans, largely from the Piney Woods.

Before 1900 the Texas lumber manufacturers organized themselves into trade associations. Through them the mill owners exchanged production data, comparative price lists, and privately circulated lists of malcontent or undesirable workmen. The operators also cooperated on political and legislative action

³Stanley F. Horn, *This Fascinating Lumber Business* (New York, 1943), 29-31; Robert F. Fries, *Empire in Pine* (Madison, Wisconsin, 1951), 239-241.

⁴St. Clair G. Reed, *A History of Texas Railroads* (Houston, 1941), 154-155.

and agreed on common labor and wage policies. Despite the obvious monopolistic features of their operations few owners were seriously penalized under the anti-trust laws, either state or federal.

Many of the lumber barons were bold and purposeful entrepreneurs with marked traits of stubbornness and independence. A number were interested in public affairs and some were actively engaged in politics. They were largely able to ignore or evade efforts of the state to legislate in behalf of the worker concerning merchandise checks, compulsory insurance checkoffs, commissaries, regular paydays, and for a time, responsibility for employees' accidents. During the entire half century, employees' wages remained surprisingly stable although production boomed and finished lumber prices tripled. Though they found organization very beneficial to themselves, the mill owners violently opposed the formation of any union among their employees. By means of anti-union contracts, harassment of labor organizers, company spies, cooperative sheriffs and police officers, the companies were able during this entire period to prevent unionization of any East Texas sawmill or logging workers, despite the best efforts of the Brotherhood of Timber Workers.⁵

There were far too many major sawmill operators to attempt here even to list them all. Some, such as John Henry Kirby, W. T. Carter, and John Martin Thompson, were Texas born. More, however, migrated from other states. Henry J. Lutcher and G. B. Moore came from Pennsylvania; T. L. L. Temple was from Virginia; Joseph H. Kurth was born in Germany; Wm. H. Knox was from Wisconsin; David Wingate was from Mississippi; E. B. Hayward was from Iowa; Stanley Joyce was from Chicago; Wm. B. Buchanan came from Tennessee; E. A. Frost was from Arkansas; Robert A. Long came from Kentucky. Each of these men carved out for himself an empire in excess of a hundred thousand acres. In their own vast possessions, they in truth became feudal lords controlling and governing feudal baronies.⁶

⁵Richard G. Lillard, *The Great Forest* (New York, 1947), 291-299; George Creel, "The Feudal Towns of Texas," *Harper's Weekly*, LX (Jan. 23, 1915), 76-78; John R. Commons and Assoc., "Reports of the United States Department of Labor (microfilm, University of Texas Library), 1915; Ruth A. Allen, *East Texas Lumber Workers* (Austin, 1961), 165-190.

⁶See Creel, "The Feudal Towns of Texas," 76-78.

In their logging and milling operations, most of the lumber operators were as wasteful of timber as they were of manpower. (Fig. 5.) A representative operation was that of the W. R. Pickering Company which came to Texas in 1905 from Kansas City and acquired some 120,000 acres in Shelby and Sabine counties. The Pickering mill was a typical double band rig with the most recent automatic machinery. The company logged almost exclusively by tram road, running spur lines every few hundred yards from the main line until the logging was finished and then taking up the track and relaying it again at



Figure 5. Bonanza logging removed everything that would make a profit, leaving few small trees to grow a second crop or to provide seed for a new forest. Loblolly pine stand, Trinity County.

another location. At the loading point, they used both a steam loader and a steam skidder, each operating from special trucks on the rails (Fig. 6). The skidder, invented by a Ludington, Michigan, lumberman, made its first appearance in Texas in the late nineties. The Pickering skidder was a large rehaul model with four huge drums and cables that were capable of reaching out 1,000 feet for logs and dragging them in to trackside. En route the immense logs hurtled through the forest, now



Figure 6. From temporary spur rail-road tracks, tongs on long cables were dragged into the woods by horses, to be pulled back by powerful engines, with loads of logs. Thompson and Tucker Lumber Co.

knocking down all the seedlings and young trees in the path, now swinging clear many feet in the air, until the skilled operator dumped them at the foot of the loader. The skidder soon came to be known as a mankiller as well as a timber killer. The tongs man must be both able and alert to fasten the log securely and stand clear before the skidder operator, who often was out of sight, snapped the cable taut and began to bring the log in. Woods workmen, white and black alike, darkly whispered that an "onery skidder man" could snap your neck with the cable, catch your hand or arm in the

tongs, or pull the log over you if he wished and no questions would ever be asked. The fallers or flatheads worked ahead of the trams cutting everything eight inches and up (Kirby, Carter, and some of the other companies cut only trees twelve inches and up). The Pickering Company cut out in 1931. The company transferred operations to the west coast and the workers began the task of finding new jobs in the depth of the depression. From virgin forest to cutover wasteland had taken only twenty-five years. Many companies had similar histories.⁷

The last big mill to be constructed in Texas as a new venture was built in 1917 to meet demands of World War I; thereafter the decline of the industry was rapid. As increasing numbers of mills cut out and suspended during the twenties, production fell to near the 1880 level. The counties, the state and the federal government were all concerned with the future of a vast acreage of cut-over land which was unsuitable for agriculture but in many cases had been denuded of even seed trees. The outlook

⁷*The Log of Long Bell*, 1:20 (January, 1919); Foster Lumber Company Papers; Interview with Dr. G. F. Middlebrook, Oral History Collections, Forest History Archives, Stephen F. Austin State University.

for conservation in Texas in the twenties was dismal indeed.⁸

Between 1880 and 1930 the Texas lumber industry logged some eighteen million acres of pine timber and produced more

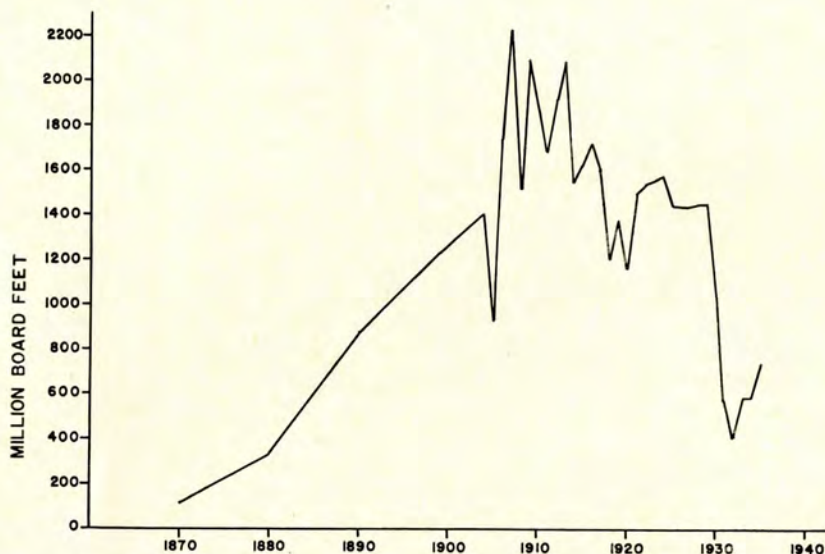


Figure 7. Texas lumber production, 1870-1935. Data from Southern Pine Association.

than 59 billion board feet of lumber (Fig. 7). Although there were more than 600 sawmills of all types in Texas, far more than half of the lumber was manufactured by the large permanent mills owned and operated by a group of less than three dozen lumbermen. During these years Texas was regularly listed among the ten leading lumber producing states and at the peak of the boom climbed as high as third place.⁹

The half century from the coming of the railroads to East Texas to the Great Depression marked a complete cycle in the Texas lumber industry. Production rose from some three hundred million board feet in 1880 to a peak of more than two billion feet in 1907 and then declined to some three hundred and fifty million feet in 1932. By 1940 the termination of opera-

⁸Oral History Collections, Forest History Archives; Lillard, *The Great Forest*, p. 278; Production File, Texas Forest Service, Regional Office, Lufkin, Texas.

⁹*Texas Almanac, 1959* (Dallas, 1959), 190; Production File, Texas Forest Service, Regional Office, Lufkin, Texas.



Figure 8. Stump fields and ghost towns were left in the wake of many bonanza logging operations in Texas. Photo by U. S. Forest Service.

tions by numerous companies had reduced dozens of mill towns to ghost towns (Fig. 8). For its first fifty years, the history of lumbering in Texas had not been markedly different from that in New England, the Lake States, or the states in the Southeast. The best efforts of the legislature, progressive reformers, professional foresters, and the workers themselves failed to alter markedly the predominately *laissez-faire* drive to exploit the forests. As a result, the pine forests of Texas were all but destroyed.

Table 1. Estimated Pine and Hardwood Volume in Texas

Year	Pine	Hardwood
	Thousands of Board Feet	
1880	67,500,000	—
1890	67,500,000	13,500,000
1892	65,000,000	—
1903	30,000,000	10,000,000
1910	30,000,000	—
1911	27,000,000	10,000,000
1912	25,000,000	10,000,000
1914	25,000,000	9,000,000
1925	18,000,000	9,000,000
1926	17,000,000	8,000,000
1928	17,000,000	7,500,000
1930	14,000,000	4,500,000
1932	14,000,000	2,500,000

Source: *Texas Almanac 1933.*

Table 2. Classification of Commercial Timber Lands in Texas

Year	Classes of Land			
	Virgin	Second Growth	Culled and Cutover	Other Uses
	Acres			
1916	2,916,000	1,720,000	7,758,000	1,606,000
1917	2,916,000	1,720,000	7,758,000	1,606,000
1920	2,500,000	1,850,000	6,000,000	3,650,000
1921	2,000,000	1,850,000	4,150,000	6,000,000
1925	1,800,000	1,900,000	7,300,000	3,000,000
1926	1,100,000	2,000,000	4,700,000	6,200,000
1928	1,100,000	2,200,000	3,500,000	7,200,000
1930	750,000	3,400,000	4,774,000	5,076,000
1932	750,000	3,400,000	4,774,000	5,076,000
1934	750,000	3,400,000	4,774,000	5,076,000
1935	392,000	3,545,000	6,200,000	3,863,000
1936	230,000	6,770,000	5,624,000	1,376,000

Source: *Texas Almanac, 1916 to 1937.*

Table 3. Status of Commercial Forest Land in Texas, 1937

Forest Condition	Longleaf	Shortleaf and Loblolly	Shortleaf—Loblolly—Hardwoods	Upland Hardwoods	Bottomland Hardwoods	Total All Types
Acres						
Old growth						
Uncut	25,900	118,900	91,600	96,200	358,200	690,800
Partly cut	102,400	75,900	88,500	163,400	339,500	769,700
Second growth						
Sawlog size						
Uncut	175,400	1,958,100	966,700	194,700	522,400	3,817,300
Partly cut	39,800	774,000	567,600	166,500	235,300	1,783,200
Under sawlog size	298,300	790,000	768,000	689,700	380,000	2,926,000
Reproduction	94,000	58,670	46,100	108,600	36,000	343,300
Clear-cut	195,600	18,000	3,100	3,200	2,400	222,300
Total, all conditions	931,400	3,793,500	2,531,600	1,422,300	1,873,800	10,552,600

Compiled from Southern Forest Experiment Station, Forest Survey Release No. 26, July 1937.

THE FIGHT FOR CONSERVATION

The conservation of natural resources ordinarily is undertaken by man only when those resources are nearly exhausted. This truism was applicable to the white pine and spruce of New England, the pineries of the Lake States, and the yellow pine regions of the older states in the South before it became applicable to Texas. Later this recognition of the need of conservation at the eleventh hour became true, also of the Pacific Northwest. Indeed, Texas might be said to have become converted to the merits of conservation somewhat before the eleventh hour and thus avoided the worst consequences of the heedless destruction of her forest resources. But Texas suffered severely because of the *laissez faire* philosophy of the state and the cut-out-and-get-out attitude of many of the early lumbermen. That there were enough pine forests left to conserve was due to the national awareness of the urgent need of conservation awakened by Theodore Roosevelt and Gifford Pinchot, the dedicated efforts of a few civic-minded men, and the remarkable recuperative powers of the loblolly and shortleaf pines in the warm, wet, climate of the East Texas region.

To the early settler the pine forest, stretching from the Sabine to the blackland prairies, appeared inexhaustible and of little value. Part of the great pine forest that had blanketed the southern states from the Atlantic westward, it was viewed primarily as an impediment to clearing the land for farming. Its worthlessness during the post-Civil War era is illustrated by the story, widely repeated in East Texas, of the sewing machine salesman who had accepted 160 acres of pine land in trade for his product, and was reduced to swapping it back to the father of John Henry Kirby for a cow.

The lumberman and early foresters were, of course, more favorably impressed. As late as the turn of the century, enough of the original forest remained to evoke an almost poetic description of its western limits:

It is a striking phenomenon, this breaking up and gradual dwindling away of so vast and vigorous a forest. Not only in Texas, but far to the north, through the Indian Territory, Kansas, Nebraska, and the Dakotas, the same thing may be seen. Like a vast wave that has rolled in upon a level beach, the Atlantic forest breaks upon the dry plains—

halting, creeping forward, thinning out, and finally disappearing, except where, along a river course it pushes far inland.¹

This western edge of the Great Forest within the state of Texas comprised an area as large as Maine or South Carolina. The splendid virgin stands of pine timber were conservatively estimated at twelve to fifteen thousand board feet per acre. It is small wonder that they attracted the admiration and attention of the lumbermen of the north and east.

To many people, government officials and lumbermen alike, this vast forest was inexhaustible. In 1880 R. L. Sargent, of the U. S. Bureau of Forestry, estimated the total Texas yellow pine stands at 67 billion board feet and the longleaf stands of the entire Gulf South at 107 billion board feet.² Taking the larger figure, Henry J. Lutcher dramatized the pine resources of the South to a Senate hearing in Washington (1890) to stress the perpetual potential of the Southern forests:

If you will refer to Professor Sargent's forestry report for the year 1880 it will show that the amount of longleaf standing timber in those states bordering on the Gulf of Mexico was one hundred and seven billion feet. If you were to take ships at 500 tons each, load them with this one hundred and seven billion feet, place them in a direct line, stern to stern, beginning at the mouth of the Sabine Pass, they would reach around the globe, and there would still be 1,600 miles of ships to come out of Sabine Pass.³

The bonanza lumbermen who followed in the wake of Henry Lutcher with technological advances soon made spectacular inroads on the Texas forests. The ax was replaced by the faster crosscut saw; steam engines became smaller, more efficient, and more portable; band saws replaced circulars; and the introduction of donkey engines for skidding and loading operations speeded up the lumber harvest.⁴ As early as 1900 serious officials began to fear an eventual shortage of timber. Writing in 1904,

¹William L. Bray, *Forest Resources of Texas*, U. S. Department of Agriculture, Bureau of Forestry, Bulletin No. 47 (Washington, 1904), 15.

²*Texas Almanac 1904* (Dallas, 1904), 145.

³Quoted in *The Texas Almanac, 1911* (Dallas, 1911), 128.

⁴James W. Martin, "History of Forest Conservation in Texas, 1900 to 1935" (Unpublished Master of Arts Thesis, Stephen F. Austin State University, 1966), 5-6.

William Bray, of the U. S. Bureau of Forestry, described the rate of destruction and made a prediction:

The longleaf pine in Texas is being cut out at the rate of some three-quarters of a billion feet of lumber each year, with a rapidly growing market and output. The ease and cheapness with which longleaf is got to the sawmill, combined with a climate which permits heavy logging throughout the year makes possible a very rapid handling of the crop. At the present rate of lumbering it should appear a reasonable estimate that the virgin pine might hold out twenty years longer.⁵

In 1912 the *Texas Almanac* reduced its estimate of standing pine to 25,000,000,000 board feet and estimated that the Texas lumber industries, "at the present rate of consumption," would cease during the next twenty years.⁶ In 1917, J. H. Foster, Texas' first State Forester, described the forest conditions at the time of his appointment:

The forests of longleaf pine originally formed nearly pure stands of remarkable quality and uniformity, covering extensive areas, and interrupted only by stream bottoms and moist depressions. On dry, sandy soils this species finds a refuge from the competition of other trees which it cannot endure on moister, better sites. With the long, clear stems of the longleaf pine and the open park-like and grass-covered condition of the forest floor, these forests in their natural condition were in a class by themselves among the timber regions of the world. . . . The greater part of this forest has now been cut and only where bodies of timber are held for higher values by land owning companies does one find extensive bodies of longleaf pine not in the process of being lumbered.⁷

Foster further explained that the then current methods of logging, with the steam skidder, destroyed most of the unmerchantable timber which formerly had been preserved. This process left nothing for a second cut and often not even enough for seed trees to restock the land. Resulting fires and the notorious razorback hog (the piney woods rooter) killed the pine seedlings and reduced the cut-over land to scrub oak thickets or stump-covered areas of grass and waste.⁸ As an example of

⁵Bray, *Forest Resources of Texas*, 23.

⁶*Texas Almanac, 1912* (Dallas, 1912), 141.

⁷J. H. Foster and others, *General Survey of Texas Woodlands, Bulletin of the Agricultural and Mechanical College of Texas, Bulletin 5, Department of Forestry* (College Station, 1917), 18.

⁸*Ibid.*

the rapidly approaching depletion of the forest resources in Texas, Foster estimated that in the County of Angelina, of some 563,000 acres of timber only 60,000 acres of virgin trees remained plus 60,000 acres of second-growth lands. More than 300,000 acres he described as culled and cut-over lands which showed "an almost total lack of longleaf pine reproduction."¹⁹ It was indeed a gloomy picture painted by the young forester.

This picture was confirmed in more matter-of-fact fashion by Robert A. Long, longtime president of Long-Bell Lumber Company, during a speech to a group in Longview, Washington in 1923. He said that the Long-Bell Company had conducted eleven large-scale lumber operations in the South, many of which were nearing the end of their timber supply, and all of which would in a few years be closed for that reason. "The timber supply of the South," he said, "is fast disappearing, and in a comparatively few years those (companies) which desire to continue in business will be forced to come to this west slope."²⁰ Such was the gloomy prospect for the future of Texas forests painted by journalists, professional foresters, and lumber barons alike. That East Texas did not completely become a wasteland of stumps, decaying tops and branches, scrub oak thickets, and voracious wild hogs was due primarily to the vision, courage, and efforts of one man who awakened the public, the state, and the more responsible lumbermen to the urgent need for a comprehensive and developing conservation program. His name was W. (William) Goodrich Jones.

Technically Jones was not a native of Texas. He was born in New York, November 11, 1860, where his parents, Mr. and Mrs. William Maxwell Jones, had spent the summer visiting relatives and friends. However, the elder Jones had lived in Galveston since 1838 where he was established as a jeweler and clock-maker. Despite the looming outbreak of the Civil War, William M. Jones shortly returned to Galveston to protect his business interests. The next summer Mrs. Jones, with three small children including the infant Goodrich, made the trip south by ship to New Orleans. From there, she took passage in a small schooner

¹⁹J. H. Foster and others, *Forest Resources of Eastern Texas* (Bulletin of the Agricultural and Mechanical College of Texas, third series, vol. 3, no. 10, May 15, 1917), 9.

²⁰*Lumber World Review*, vol. 45, p. 38 (July 25, 1923), 38, 138.

and ran the Union blockade to reach Galveston and rejoin her husband. There the family lived during the remaining years of the war.¹¹

Because of his wife's ill health, Jones sold his business in Galveston soon after the war and took his family to Europe. While there young Goodrich was enrolled in a school at Dresden where he studied for some two years. Included in his studies was some elementary instruction in botany and experimental projects of growing plants from seeds. During holidays he took several trips through the Black Forest with his father and the two visited forestry schools and conversed with the resident foresters. This early training did much to mold the direction of his interests in later life. He developed a deep appreciation for both the beauty and the commercial value of well-managed forests. As he explained at a later date, "I became impressed with the benefits to a nation in growing trees on a large scale."¹²

The Jones family returned to the United States and to Galveston, but young Goodrich was sent to New York where he attended school in preparation for entering university. Upon reaching college age, he entered Princeton University where he was graduated in 1883 with a degree in business.¹³ Upon his return to Texas, W. Goodrich Jones entered the banking business in Galveston and for the next four years learned the rudiments of that profession, first at Galveston and then at San Marcos. In 1888 a Galveston friend, Frank M. Ball, opened a new bank in Temple, Texas, and invited Jones to take over its management as president. Thus W. Goodrich Jones moved to Central Texas, where he became established and influential.¹⁴

¹¹Anna Jones, "Early Days of W. Goodrich Jones," W. Goodrich Jones Papers, Forest History Archives, Stephen F. Austin State University Library; "The Life and Work of W. Goodrich Jones," *Texas Forests and Texans*, May-June, 1964.

¹²"Life and Work of W. Goodrich Jones"; W. Goodrich Jones, Speech at dedication of the W. Goodrich Jones State Forest, Conroe, Texas, May 19, 1949, Jones Papers.

¹³"Life and Work of W. Goodrich Jones"; Jones, "Early Days, of W. Goodrich Jones."

¹⁴"Life and Work of W. Goodrich Jones"; "W. Goodrich Jones, Father and Friend of Texas Forestry, succumbs at 89," *The Gulf Coast Lumberman*, XXXVIII (August 15, 1950), 18. In 1890 Jones married Miss Zollie Luther, the daughter of the President of the Baylor Female College (now Mary Hardin-Baylor College). There were four children, Luther, Grace, Doris, and Riette. They continued their father's interest in forestry and conservation.

"My first impressions of Temple were unfavorable," wrote Jones at a later date, "as not a tree was to be seen." The tree idea so possessed him that he planted pecan trees in some large tin cans which he placed on his hotel window sill. As he said, "this was the town's first tree planting." He soon interested others in planting trees, and young seedlings of many varieties began to appear throughout the city. By some, Jones was nicknamed "the Tree Crank," but he continued his crusade with increasing success.¹⁵

Shortly afterward, Jones played a leading part in securing the designation of February 22 as the official Texas Arbor Day. In a speech during the fall of 1888, Governor L. Sul Ross advocated that Texas should have an Arbor Day like many other states—a day of tree planting and conservation. Temple as well as a number of other cities took individual action but each chose a different day. Under the leadership of Jones the citizens of Temple in a mass meeting passed a resolution setting aside Washington's birthday as Arbor Day and urging the legislature to so designate it officially. With the aid of the local state representatives and the governor, such a bill was unanimously passed by the legislature and signed by the governor on February 22, 1889. Within a year a "Texas Arbor Day and Forestry Association" was established with Governor Ross as president and W. Goodrich Jones as secretary. Its purpose was declared to be:

... to encourage tree planting and on Arbor Day in the State, the conservation, management and renewal of forests, the climatic and other influences that affect the state's welfare, the collection of forest statistics and the advancement of educational and legislative tree knowledge, or other measures tending to the promotion of such objectives. It shall especially endeavor to diffuse the knowledge thus gained and create a wide spread interest in the subject.¹⁶

In the meantime Jones had extended this interest and knowledge of conservation to the great pine forest of East Texas. Soon after he had returned from Princeton, Jones had made a trip by horseback through part of East Texas to locate and survey some lands that belonged to his father. He viewed the magnificent stands of virgin timber and became concerned by

¹⁵"Life and Work of W. Goodrich Jones."

¹⁶Jones, "Early Days of W. Goodrich Jones"; "Texas Arbor Day and Forestry Association Constitution," Jones Papers.

their exposure to fire hazards and their obvious need of management. At this time large scale lumbering was just beginning in the Piney Woods and companies had not begun to employ the mechanized practices which later denuded such extensive areas of the young growth as well as mature trees. Following his exploratory trip, Jones wrote numerous letters to *The Galveston News* and to private citizens, propagandizing for greater fire protection and scientific forest management for the Piney Woods.¹⁷ Thus he became widely known as a conservationist throughout the state and in forestry circles in Washington.

Because of his reputation the conservation leaders of the federal government turned to Jones for accurate information concerning the Texas forests. Dr. B. E. Fernow, Chief of the U. S. Bureau of Forestry, visited Jones in Temple in 1898 and after a conference asked him to make a survey of the region and a report on the condition and future of forestry in Texas. The next spring (1899) Jones spent several weeks traveling through East Texas by train, mail coach, and horseback. He talked to many lumbermen and individual citizens in the towns he visited. The resulting report contained some twenty pages and contrasted his findings with those of his first trip through East Texas in 1885. Denouncing what he called the flagrant waste, Jones described "mowing and harvesting" that was taking place with improved machinery and methods that would leave no mother trees to reforest the earth and would "rob the tree-tops of their cadences forever." "We can safely say," he estimated, "that 40 per cent of the tree is wasted. . . . Shingle mills could cover every house in Texas with the waste of extra fine wood left in the stump. Every city in the state could be paved with the sound heartwood left to rot. . . . Dozens of factories could be employed in East Texas making pickets, barrel staves, boxes, furniture, toothpicks, and hundreds of other products from the waste."

Jones urged that the state and the U. S. Government take action before it was too late. Quoting the current estimate of the life of the forests at twenty-five years, Jones was of the opinion that unless action was taken the estimate might well prove to be too long. "What escapes the big mill is caught by the little mill and what the little mill does not get the tie cutter and

¹⁷W. Goodrich Jones, *Father and Friend of Texas Forestry*, Succumbs at 89"; Jones, "Early Days of W. Goodrich Jones."

rail splitter soon has chopped down. They are going and going fast—big buffalos, mother buffalos, and little buffalos.”¹⁸

It was Jones' recommendation that the State of Texas and the U. S. Bureau of Forestry should cooperate to bring a more reasonable and judicious cutting of the timber which would prolong the forests indefinitely and bring greater prosperity to everyone. The pine belt should be held by companies and in large tracts. The lands should be fenced in, only the best timber cut out, and a systematic reforestation program pursued. Cattle could graze in the protected forests (either on a lease basis or owned by the company) which would bring additional revenue to the investor. In short, the cut should be limited and supervised, reforestation should be systematically required, the fire danger should be effectively controlled by a state agency, and the cooperating large holders should be encouraged to develop auxiliary means of revenue.¹⁹

The rise of Gifford Pinchot on the national conservation scene did much to encourage W. Goodrich Jones in his promotion of forest conservation in Texas. Yaleman Pinchot was trained in Germany in forestry and forest management. As America's first trained professional forester he emphasized many of the same concepts of conservation which Jones had acquired from his own reading and observations. After a brief experience in private forest management (the Vanderbilt estate at Biltmore, North Carolina), Pinchot entered government service in the Division of Forestry, U. S. Department of Agriculture. In 1905 President Theodore Roosevelt appointed Pinchot to be Chief of the U. S. Forest Service, still within the Department of Agriculture but elevated to a new semi-autonomous status. Roosevelt and Pinchot did much to promote conservation in the United States, setting aside millions of acres of forest and mineral lands from the public domain and encouraging the states to take action within their own boundaries.

To dramatize and popularize the conservation movement, Roosevelt called a White House Conference of Governors to meet in Washington in the spring of 1908.²⁰ Among the public officials, conservation experts, and interested private citizens

¹⁸From copy of report to U. S. Bureau of Forestry, Jones Papers.

¹⁹*Ibid.*; the report is reproduced as Appendix C of this publication.

²⁰Gifford Pinchot, *Breaking New Ground* (New York, 1947), 344-355.

present was W. Goodrich Jones. There he listened to speeches by the President, Pinchot, and others, and in the absence of Governor Campbell, made a short speech himself. In addition, he conferred with representatives from other states regarding their problems and plans of action.²¹

One effect of the White House Conference was to stimulate conservation activity in the states. In Texas the "Texas Arbor Day and Forestry Association" had declined and become inactive. Accordingly a new society, called the Conservation Association of Texas, was organized which called a meeting of a Conservation Congress to meet at Fort Worth in April 1910. At this congress representatives of the State government, the lumber industry, professional conservationists, and concerned citizens heard speeches by a number of prominent figures, including a representative from the U. S. Forest Service (J. C. Gips), and J. Lewis Thompson, president of the Yellow Pine Association.²² At this meeting the association adopted a constitution and by-laws stating as its objectives "the development and conservation of all the natural resources of this state." The Congress also proposed that the State of Texas create a state agency to supervise conservation work, either a "commissioner of conservation" or "a state department of forestry." At this meeting of the Conservation Congress W. Goodrich Jones served as secretary; Edward R. Kone, state Commissioner of Agriculture, presided as president.²³ Unfortunately, despite its well-publicized beginning, the Conservation Association of Texas also soon languished and by 1914 was largely defunct. Undaunted, W. Goodrich Jones sought again to form a voluntary

²¹*Proceedings of a Conference of Governors in the White House, Washington, D. C., May 13-15, 1908.* Edited by Newton C. Blanchard and others (Washington, Government Printing Office, 1909), XIX-XXXI, 190-191.

²²J. Lewis Thompson was one of the earliest major lumbermen to take an active part in the conservation of forest resources. In his speech, "Attitude of Lumbermen Toward Forestry," Thompson argued that the great virgin forests were all but depleted and fires and razorback hogs would prevent natural reseeding. He called on lumbermen to support the state and the Conservation Association in promoting reforestation and forest protection. *American Lumbermen's Review*, vol. 48, no. 8 (April 25, 1925), 30; *Dallas Morning News* (Dallas, Texas), April 7, 1910.

²³"Texas Conservation Congress Opens," *Dallas Morning News*, April 6, 1910; memoranda, Jones Papers.

organization which would provide the mass membership and broad support needed to prod the legislature into effective action.²⁴

The idea of a state department of forestry had been proposed to Jones by B. E. Fernow of the U. S. Division of Forestry back in 1898 at the time of Jones' East Texas Survey. Increasingly, especially after the White House Conference experience, Jones had directed his energies toward the establishment of such a department as the best means to promote his goal of conservation.

Early in November, 1914, Jones called a meeting of some twenty conservation-minded citizens at the Carnegie Library in Temple. This group organized the Texas Forestry Association (TFA) with the avowed objective of creating a state forestry department and the development of a comprehensive forest conservation program. Of this group Jones became president and Jack Dionne, of the *Gulf Coast Lumberman*, was elected secretary. That periodical was named as the association's official organ. The group at once took steps to enlarge its membership to statewide proportions. They set dues at the nominal figure of twenty-five cents for annual membership, five dollars for patron members, and ten dollars for life members. The group also drew up a model bill creating a department of forestry and designated Jones as chief delegate to go to Austin and get the bill introduced and passed. Thus Jones became the leading lobbyist for the creation of the forestry department and for the employment of a state forester, both of which would require a considerable legislative appropriation.²⁵

Jones and his colleagues prepared for the coming legislative session with care, mustering support from many sources. Jones had written to the U. S. Forest Service, explaining what the Texas Forestry Association had begun and asking for assistance. To help in the preparation and presentation of the bill came J. Girvin Peters, Chief of the State Cooperation Division of the U. S. Forest Service.²⁶ Once the bill was completed, Jones

²⁴"The Life and Work of W. Goodrich Jones."

²⁵W. Goodrich Jones, "The Dawn of Texas Forestry Conservation," address to the Texas Forestry Association, May, 1947, Jones Papers.

²⁶P. S. Ridsdall to Jones, December 18, 1914, Jones Papers. The Texas Forestry Association was committed to pay Peters' expenses amounting to some \$350. The TFA raised this by contributions from its members.

Table 4. Early Presidents of the Texas Forestry Association, 1915-1941

W. Goodrich Jones	1914-1921
Richard F. Burges	1922-1924
R. A. Gilliam	1925-1926
R. W. Weir	1927-1928
E. L. Kurth	1929
O. M. Stone	1930
Leonard Tillitson	1931
Paul T. Sanderson	1932-1934
J. Will Oliphant	1935-1936
H. M. Seaman	1937-1938
P. C. Kenley	1939
H. W. Whited	1940-1941

and Peters visited a number of major cities and lumber company headquarters soliciting support for the measure. The officials of A&M College were enthusiastic in favor of the project. President W. B. Bizzell and Dean E. J. Kyle, volunteered to go to Austin and talk to legislators about the bill. From the University of Texas, geology Professor J. T. Phillips also agreed to be a lobbyist in behalf of the forestry program. J. Lewis Thompson favored the bill but declined to take an active role as sponsor, saying that he was out of town too much and too busy with his own affairs "to do the bill any good." John Henry Kirby assured Jones that he supported the bill but thought that the measure would fare better if he stayed in the background.²⁷ United States Senator Morris Sheppard (who had been at the White House Conference) offered his support and arranged to have Peters' report, "A Forest Policy for Texas," published in all the state's leading newspapers.²⁸ Jones had yet one more ally in his fight for the establishment of a department of forestry. The newly elected governor, James E. Ferguson, was a fellow citizen of Temple and a personal friend. Ferguson had progressive leanings and favored the conservation program. At Jones' urging, he had included a paragraph on Texas forestry needs in his inaugural address.²⁹

²⁷Jones, "The Dawn of Texas Forest Conservation"; J. Lewis Thompson to Jones, December 14, 1914; John Henry Kirby to Jones, November 30, 1914, Jones Papers.

²⁸Morris Sheppard to Jones, December 5, 1914, Jones Papers. Peters' report "A Forest Policy for Texas," is reprinted in Martin, *A History of Forest Conservation in Texas, 1900 to 1935*, Appendix D.

²⁹Jones, "The Dawn of Texas Forestry Conservation."

Despite the advanced planning the forestry department bill faced a hard struggle and considerable amending before it finally emerged into law. Richard F. Burges of El Paso (a member of the TFA who would later serve as president of the association) agreed to introduce the bill in the House of Representatives and act as its sponsor. The House Committee on Forestry, to which the bill was referred, was composed of men who were not identified as conservationists and none had become members of the TFA. They were slow to act and more than a month passed before the bill was reported, after considerable prodding by Jones, the Governor, and others, with the recommendation that it be passed with a number of amendments.³⁰

By this time it was apparent that the lawmakers were in no mood to establish a new department or independent agency to administer the conservation program. To meet this objection, Bizzell and Kyle proposed that the department be administered by the Board of Directors of Texas A&M and the headquarters be located on the campus. Some supporters of the measure, including lumberman J. Lewis Thompson, were opposed to linking it with Texas A&M but Jones and Peters had no major objections and hoped that this would end most opposition to the bill. On the motion of Burges this and other amendments were incorporated into the bill and after close test votes, the Act passed the House in mid-March by a margin of seven votes and was sent to the Senate.³¹

In the upper house the conflict was sharp but quick. After further amendments and clarification, the bill survived the crucial test by the margin of one vote. Evidently Jones and his fellow lobbyists had carefully lined up support in the Senate while the bill was being considered in the House. The conference committee quickly agreed to the Senate changes and the approved measure was sent to the governor for his signature on March 20, 1915.³²

³⁰*Ibid.*; *House Journal of the Texas Legislature*, 34th Legislature, regular session, 1915, 109.

³¹Both Bizzell and Kyle had proposed such an arrangement earlier, pointing out that both the State Chemist and the State Entomologist had headquarters at Texas A&M. Kyle to Peters, November 11, 1914, Jones Papers; *House Journal*, 34th Legislature, regular session, 1915, 908-909, 1080.

³²*Senate Journal of the Texas Legislature*, 34th Legislature, regular session, 1915, p. 38, 1221, 1230.

Feeling that their work was done and the forestry department act was law at last, Jones, Peters, and Kyle all left Austin and returned to their respective homes. President Bizzell, however, remained in Austin to conduct other business and to see the conservation measure through. It is fortunate that he did. After several days went by without the governor signing the bill, it became apparent that members of the opposition had persuaded him that a salary of \$3000 was too much to pay the state forester and that some A&M graduate would be glad to take the job for half that amount. The total appropriation of \$10,000 was said to be too high and wasteful. Bizzell at once recalled Jones, Kyle and Phillips and the four met with Governor Ferguson. After Jones had explained what the professional qualifications of the state forester were and the necessity for establishing the forestry department without further delay, Ferguson agreed to sign the measure. Jones quickly loaned him his own pen and the bill was signed into law. Thus the Texas State Forestry Department was established.³³

Although the authorization had been made and the appropriation had been approved, the department had to be organized and made to function. One of the first tasks was to find a "technically trained forester with no less than two years experience" who would want to take on the job of inaugurating the program at the salary offered. In the June, 1915, issue of the *Gulf Coast Lumberman* Jones placed the following advertisement:³⁴

HELP WANTED

The applicant must be a "Chesterfield!" an orator, a lecturer, a mixer, a highly trained specialist in the theory of forestry and withal a practical woodcraftsman. Salary \$3000 annually.

Whether in response to this somewhat whimsical ad or to more conventional communications, John H. Foster of Vermont applied for the position, and was appointed. Foster held a Master of Forestry degree from Yale (1907) and had several years experience as a forester in his native New England. One of his

³³Jones, "The Dawn of Texas Forestry Conservation"; Bizzell to Jones, March 22, 1915, Jones Papers; the Jones pen used by Governor Ferguson to sign the original forestry bill is now on exhibit at the Texas Forest Service headquarters in College Station.

³⁴*Gulf Coast Lumberman*, June, 1915; Edward R. Wagner, "The Green Gold of Texas," *Texas Forestry Association 50th Anniversary* (reprinted from *American Forests*, September, 1964). . . .

first acts as State Forester was to apply to the federal government for matching funds for fire protection under the three-year-old Weeks law. He promptly organized Texas' first system of forest fire protection, embracing some 7,500,000 acres. Six fire patrolmen, with headquarters at Lufkin, Livingston, Longview, Linden, Jasper, and Tenaha, rode through their districts and talked with the citizens about fire protection. In an effort to educate the public regarding fire protection and forest management, Foster gave some twenty-five lectures to a variety of groups, such as lumbermen, stock raisers, women's clubs, and teachers' groups. He prepared a display for the State Fair in Dallas, and he wrote some fifteen hundred letters on forest-related subjects.³⁵

At the same time Foster wore at least three additional hats. He served as secretary-treasurer of the TFA, he carried the designation of Chief, Division of Forestry in the Texas Agricultural Experiment Station, and Professor of Forestry in the teaching division of Texas A&M. Beginning in the fall of 1916 Foster taught six courses in forestry and conservation to agricultural majors at the college. In addition to these numerous duties, Foster found time to write and edit no less than six bulletins on forest conditions in Texas. In his second annual report, he described what he had done and requested that the legislature appropriate not less than \$20,000 to advance the work thus started.³⁶

Not everyone was pleased and impressed by the work that Foster had begun during the first two years. Many of the legislators considered that a forestry department was a fad and the \$10,000 provided for its establishment had been wasted. Indeed, when the legislature met in 1917, the House Committee on Appropriations passed a resolution to cease allocating funds to the Department of Forestry because they considered the agency useless and the expenditure of funds of no benefit. Again

³⁵J. H. Foster, H. B. Krausz and George W. Johnson, *First Annual Report of the State Forester*, Bulletin of the Agricultural and Mechanical College of Texas (Bulletin 4, Department of Forestry, College Station, 1916), 1-7. John A. Haislet, "Texans Evolve a State Forestry Agency," *Texas Forests and Texans*, May-June, 1964, 6.

³⁶J. H. Foster, *Second Annual Report of the State Forester*, Bulletin of the Agricultural and Mechanical College of Texas (Bulletin 8, Department of Forestry, College Station, 1916), 1-7. Martin, "A History of Forest Conservation in Texas, 1900 to 1935," 95-97.

President Bizzell was the first to hear of this action and he promptly called Jones and Phillips to College Station where, with Dean Kyle, they swung into action. As Jones later said:

We then made the wires hot, in sending telegrams to all the leading newspapers in Texas, asking them for their cooperation in restoring the appropriations.³⁷

Jones personally sent a letter to the editor of the *Houston Post* asking for an editorial in support of the forestry program. He again asked John Henry Kirby to appear with him before the House and Senate committees in behalf of the Department of Forestry. Kirby again declined but assured Jones that he was entirely in support of the conservation program. He remarked that if he came out strongly in favor of the project the legislators would probably think he was after some selfish gains, since they thought that he already owned half of East Texas. He promised, however, to work for the measure quietly in the background.³⁸

Within a few weeks Jones and his colleagues had secured the endorsement of the Texas State Teachers Association, Texas Farmers' Institute, Farmer's Congress, Texas Cattle Growers Association, the General Manager's Association of Texas Railways, and others. When these organizations, the influential papers of the state, and Jones' persuasive arguments converged upon the lawmakers, the opposition wilted. The final appropriations bill restored the Department of Forestry to the list and raised its budget to \$12,000. Though still short of the \$20,000 which Foster had requested, the work of Jones, Bizzell and their fellow members of the TFA had ensured the survival of the program and had won a small increase in funds. The principle of a state-supported conservation agency was secure.³⁹

At the end of 1917 Foster resigned as State Forester and the A&M Board of Directors had to find a successor. As the first

³⁷Jones, "The Dawn of Texas Forestry Conservation," 3; Martin, "A History of Forest Conservation in Texas, 1900-1935," 97-98.

³⁸Jones to H. T. Warner, April 23, 1917; Kirby to Jones, May 17, 1917, Jones Papers.

³⁹Jones to the Senators and Representatives of the Thirty-fifth Legislature, February 19, 1917, Jones Papers; Jones, "Dawn of Texas Forestry Conservation," 3-4.

Texas State Forester and director of the Department of Forestry, Foster had done well in setting up the program and inaugurating the fire protection service. But Foster was not happy in Texas, he was overworked with a multitude of duties, and he was discouraged by the almost successful efforts of the 1917 legislature to destroy the conservation program. Foster returned to his native New England where he served as State Forester of New Hampshire for more than thirty years.¹⁰

The second State Forester was Eric O. Siecke, who took the job in 1918, after eight years experience as Deputy State Forester of Oregon (Fig. 9). Born and educated in Nebraska, Siecke had worked in the United States Forest Service under Pinchot, and in 1910 had served as an assistant professor at Oregon Agricultural College. Not without humor, Siecke enjoyed telling a story of his wife's initial reaction to Texas. After he had accepted the position, his wife and family traveled by train from Oregon and California to join him. Riding east of El Paso, Mrs. Siecke looked out at the barren, treeless, semi-desert of the West Texas Plains. A stranger in the next seat politely inquired about her destination and her husband's occupation. She replied that he was the new State Forester of Texas. The amazed stranger gazed out the window at the sage brush and cactus, and then remarked, "Well, lady, all I can say is that Texas doesn't need a State Forester or else they need one awfully bad!" As Texas State Forester Siecke worked well with W. Goodrich Jones and the two became warm friends. He also won the respect of the A&M administration and the state legislature for his ability, his devotion to the cause of conservation, and his staunch character. It seemed a happy case of the man meeting the job, for Siecke remained head of the Texas conservation program for twenty-five years, until he retired in 1942.

Handicapped, like his predecessor, by teaching duties and speaking engagements which left him little time to promote the work of his Forestry Department, Siecke sought to free his hands for the more important tasks. In 1921 Representative Gary Stanford of Timpson, a member of the House Appropriations Committee, attached a rider to the general appropriations bill which prohibited the officials at Texas A&M from requiring

¹⁰Haislet, "Texans Evolve A State Forestry Agency," 6.



Figure 9. E. O. Siecke, State Forester of Texas, 1918-1943. Photo courtesy of Texas Forestry Association.

the State Forester to teach classes in the college. Years later Siecke related that the initiative for this had come from the State Forester himself, for he had proposed the rider to his friend Stanford and had largely supplied the language.⁴²

Under Siecke the Texas Forestry Department progressed and expanded. More land was put under fire protection, more patrolmen were employed, fire towers were added, and an assistant forester became necessary by 1925. The department's budget rose from the \$12,000 in 1918 when Siecke arrived, to \$52,000 in 1924-1925, and \$64,000 in 1932. In addition, the Clarke-McNary Law of 1924, liberalizing some provisions of the Weeks Law, provided another \$40,000 in federal matching aid for fire control work. This law stimulated the participation of private funds in the fire protection work and "protection units" were formed. Principal landowners, led by Arthur Temple and others, contributed two cents per acre which augmented the state and federal funds to provide intensive protection for these units.⁴³

The year 1926 was a major milestone in the development of forest conservation in Texas. In that year the Texas A&M Board of Directors recognized the agency as one of the four major divisions of the college and changed the name of the Department of Forestry to The Texas Forest Service. Siecke was given the title of Director of the Texas Forest Service.⁴⁴

During the Siecke years Texas made progress in other areas of forest conservation. The state acquired its first state forest in 1924 when 1,720 acres of cutover land was acquired in Newton County (this was named the E. O. Siecke State Forest in 1951). The next year the Texas Prison Board transferred 2,630 acres in Cherokee County to the Department of Forestry which created the I. D. Fairchild State Forest, named for the

⁴²Conversation with E. O. Siecke, Galveston, May 23, 1967; Wagoner, "The Green Gold of Texas," 4; Haislet, "Texans Evolve a State Forestry Agency," 6.

⁴³Haislet, "Texans Evolve a State Forestry Agency," 6; "Fortieth Anniversary of the Texas Forest Service," *Texas Forest News*, 34:2 (March-April, 1955), 4-7, Martin, "History of Forest Conservation in Texas, 1900 to 1935," 101-103. Under the fire protection program fire losses in Texas declined from 1,131,500 acres in 1916 to 244,536 acres in 1930.

⁴⁴Haislet, "Texans Evolve a State Forestry Agency," 6.

prominent Texas State Senator and longtime friend of conservation. In 1927 the state purchased 1,725 acres in Montgomery County (this was dedicated as the W. Goodrich Jones State Forest in 1949). John Henry Kirby donated 600 acres in Tyler County for the John Henry Kirby State Forest in 1927. These formed the nucleus of the state forest system.

During these years, the Texas Forest Service took steps to promote reforestation. W. Goodrich Jones had been calling for a comprehensive tree planting campaign since the turn of the century, but progress had been slight. Siecke, with the backing of Governor Pat Neff, initiated a project to supplement the efforts of private citizens by establishing tree nurseries which would provide seedlings for reforestation at cost. In 1926 the Texas Forest Service developed a tree nursery on the E. O. Siecke State Forest and in 1928 another on the W. Goodrich Jones State Forest. By 1930 the combined nurseries produced one million seedlings annually. The availability of pine seedlings



Figure 10. By 1940 second-growth forest, natural and planted, occupied hundreds of thousands of East Texas acres, providing the basis for the expanding plywood, pulp and related wood industry of the 1960's. Photo by U. S. Forest Service.

greatly encouraged lumbermen with an eye on the long-range future, such as Temple, Kurth, Carter, and Kirby, to reforest parts of their cutover acreage. Though the state did not pass legislation requiring the lumbermen to plant a tree when they cut one, the campaign of education, fire protection, and reforestation by the Texas Forest Service did much to produce a vigorous second-growth pine forest in East Texas within one generation after the bonanza era (Fig. 10).⁴⁵

As part of the program to combat the Great Depression, the Civilian Conservation Corps established some seventeen CCC camps in East Texas. Soon these young men were performing a variety of conservation tasks under the administration of the Texas Forest Service. They built roads and fire lanes through the forests, strung hundreds of miles of telephone wire, erected fire lookout towers, and spent several thousand man-hours fighting forest fires (see Tables 5 and 6). At little cost to the State, the CCC made a valuable contribution to forest conservation in Texas (Fig. 11).

Conservation in the Lone Star State received yet another major boost when the federal government established the Texas



Figure 11. Thousands of acres were planted to pines under CCC and other programs of the 1930's.

⁴⁵Martin, "History of Forest Conservation in Texas, 1900-1935," 104-106; Jones, "Speech at dedication of the W. Goodrich Jones State Forest."

Table 5. *Civilian Conservation Camps Administered by the Texas Forest Service, 1933-1935*

Camp No.	Location	Establishment Date	Discontinued Date
P-51-T	Center	6/9/33	10/31/35*
P-52-T	Pineland	6/14/33	4/28/35*
P-53-T	Kirbyville	5/25/33	11/25/35
P-54-T	Maydelle	6/17/33	— **
P-55-T	Honey Island	6/10/33	1/15/36
P-56-T	Woodville	6/17/33	— **
P-57-T	Lufkin	5/26/33	— **
P-58-T	Weches	6/20/33	5/14/35*
P-59-T	Trinity	5/26/33	— **
P-60-T	Oakhurst	6/11/33	4/28/35*
P-61-T	Livingston	5/25/33	— **
P-62-T	Conroe	6/15/33	1/1/36
P-70-T	Woden	10/12/33	5/2/34
P-71-T	Groveton	11/10/33	4/26/34
P-72-T	Jasper	10/30/33	5/27/34
P-73-T	Cleveland	10/18/33	4/26/34
P-74-T	Huntsville	10/18/33	5/6/34

*Camps transferred to the U. S. Forest Service.

**Camps discontinued after January, 1936.

Source: E. O. Siecke, "Eighteenth and Nineteenth Annual Reports of the State Forester," *Texas A&M Bulletin 25* (College Station, 1935).

National Forests in 1936. Authorization for the federal government to purchase lands for this purpose had been granted by the legislature in May 1933, with the approval of a measure sponsored by Senator John S. Redditt of Lufkin, and supported by the state's conservation agencies and influential lumbermen. Using funds allocated by the President under the Emergency Relief Act, representatives of the U. S. Forest Service appraised lands offered for sale by private owners within the designated boundaries, and purchased those offered at acceptable prices.

The legislature also had the responsibility for establishing the purchase area boundaries for the four national forests, as required by the Clark-McNary Law. The Texas bill, however, simply delegated this authority to the State Forester (Texas

Table 6. Work Projects Completed by the Civilian Conservation Corps in Texas, 1933-1934

Camp No.	Roads and Fire Lanes (Miles)	Telephone Line (Miles)	Lookout Towers Erected ^o	Man Days Spent Fighting Fires
P-51-T	149.7	45.6	4	1,260
P-52-T	214.7	90.0	5	1,026
P-53-T	73.1	64.8	2	2,969
P-54-T	109.1	36.7	2	1,873
P-55-T	122.4	33.0	2	2,275
P-56-T	122.7	53.4	5	2,221
P-57-T	187.2	79.7	5	1,377
P-58-T	124.0	85.1	2	629
P-59-T	148.0	96.0	4	846
P-60-T	116.6	112.2	5	784
P-61-T	229.7	81.5	4	2,146
P-62-T	99.2	55.2	4	1,128
P-70-T	58.0	5.0	—	899
J-71-T	37.8	—	—	166
P-72-T	177.6	—	—	929
P-73-T	41.2	—	—	807
P-74-T	52.4	—	—	201
Totals	2,082.1	838.2	44	21,476

^oIncludes tree cabs and lookout towers.

Source: E. O. Siecke, "Eighteenth and Nineteenth Annual Reports of the State Forester," *Texas A&M Bulletin* 25 (College Station, 1935).

was one of the few states to do so) who blocked out the boundaries for the proposed national forests. The irregular outlines of the boundaries indicate that State Forester Siecke drew the boundaries to coincide with the private land available for purchase. Loren L. Bishop became the first supervisor of the National Forests in 1936 with headquarters in Houston. The forest office was later moved to Lufkin.

The federal government acquired more than 90% of its National Forest land in Texas from eleven lumber companies which were happy to find a market for their cutover lands. Most lands were conveyed to the U. S. Forest Service between July 10, 1935, and September 2, 1936. The principal purchases and the average prices paid were as follows:

Angelina National Forest

Kirby Lumber Company	57,025 acres
Long-Bell Lumber Company	73,880
Pickering Lumber Company	3,922
Cameron Lumber Co.	14,116

148,943 acres average price \$2.91

Davy Crockett National Forest

Houston County Lumber Co.	94,126 acres
Trinity County Lumber Co.	61,419

155,545 acres average price \$8.90

Sabine National Forest

Pickering Lumber Company	85,699 acres
Temple Lumber Company	80,974
Trinity County Lumber Co.	61,419

179,182 acres average price \$2.82

Sam Houston National Forest

Delta Land & Timber Co.	82,774 acres
Foster Lumber Company	32,183
Gibbs Brothers & Co.	30,440

145,397 acres average price \$4.00

The U. S. Forest Service acquired additional small tracts of privately held lands to amass a total of some 658,015 acres within boundaries totaling 1,716,964 acres. Thus the total net acreage of the four national forests in Texas has remained less than the acreage held by some of the large private companies, such as Kirby. With the announced purpose of providing (a) protection of repeated crops of forest products for use by residents and local industries; (b) recreational possibilities extensively developed for public use and enjoyment; (c) experimentation with, and demonstration of, forestry practices; and (d) protection of watersheds for the prevention of erosion, President Franklin D. Roosevelt, in October, 1936, proclaimed the four national forests in Texas and officially gave them their names. In addition to U. S. Forest Service personnel, young men of the Civilian Conservation Corps also worked on the Texas National Forests improving timber stands, planting trees, building access roads, and constructing recreational sites.

Since the 1930's the Texas National Forests have provided welcome recreation areas and wildlife sanctuaries, and a continuing demonstration of the value of scientific management

practices in producing a profitable second growth forest in the East Texas region. After more than thirty years the Texas National Forests remain a modest but valuable asset to the Piney Woods.⁴⁶

The names of men who who promoted the cause of conservation in Texas read like a roll of honor of Texas forestry. In addition to serving as State Forester and Director of the Texas Forest Service from 1918 to 1942, E. O. Siecke was Secretary of the TFA from 1918 to 1936. He also was the first chairman of the Gulf States Section of the Society of American Foresters and a member of the editorial staff of the *Journal of Forestry*. After his retirement he was elected President Emeritus of the Texas Forestry Association. Among governors, in addition to James Ferguson and Pat Neff, Dan Moody and James Allred were quite knowledgeable about forestry matters and showed a genuine concern for the future of conservation. Among prominent lumbering figures who served as president of the Texas Forestry Association have been Ernest L. Kurth, R. W. Weir, Paul Sanderson, H. W. Whited, Hoxie H. Thompson, N. D. Canterbury, S. W. Henderson, Jr., and Thomas L. Carter.⁴⁷

But at the end of the story of the "Fight for Conservation" in Texas one must go back to W. Goodrich Jones. Though a banker and businessman in the central Texas town of Temple, Jones would not let the conservation movement die. It was his vision, courage, and determination which set both the Texas Forestry Association and the Texas Forest Service on the road to at least partial success in the areas of conservation, reforestation, and forest management.

At the W. Goodrich Jones State Forest in Montgomery County stands a plaque which reads in part:

This plaque, dedicated in 1949 by the Texas Forestry Association in honor of its founder and in appreciation of his great contribution to the cause of forestry in the state of Texas, is offered in the hope that future generations will remember and honor the name of W. Goodrich Jones.⁴⁸

⁴⁶"Texas National Forests," file, U. S. Forest Service, Forest Supervisor's Office, Lufkin, Texas; Carolyn Frances Hyman, "A History of the Texas National Forests" (unpublished M.A. thesis, University of Texas, 1948).

⁴⁷Conversation with E. O. Siecke, Galveston, May 23, 1967; *Texas Forests and Texans*, May-June, 1964, 4.

⁴⁸*Ibid.*, 2.

APPENDIX A

(The First Conservation Organization in Texas)

**CONSTITUTION OF THE TEXAS ARBOR DAY AND
FORESTRY ASSOCIATION, 1889**

- ARTICLE I. This Association shall be known as the Texas Arbor Day and Forestry Association, and it shall meet annually at such place as designated at any former meeting.
- ARTICLE II. The annual meeting shall be held during the month of January.
- ARTICLE III. The object of this Association shall be to encourage tree planting and an Arbor Day in the State, the conservation, management, and renewal of forests, the climatic and other influences that affect the state's welfare, the collection of forest statistics and the advancement of educational and legislative tree knowledge, or other measures tending to the promotion of such objectives. It shall especially endeavor to diffuse the knowledge thus gained and create a wide spread interest in the subject.
- ARTICLE IV. Any person may become a member of this Association by the payment of one dollar, which shall be the annual dues.
- ARTICLE V. The officers of this Association shall be a President and Vice-President; one vice-president from each congressional district and ten vice-presidents at large; a Secretary and a Treasurer, and an executive committee consisting of the president and secretary, and five other members to be appointed by the president.
- ARTICLE VI. The President shall preside at all meetings of the Association and in his absence the vice-president.
- ARTICLE VII. The Secretary shall receive all funds of the Association and in his absence the vice-president.
- ARTICLE VIII. The Treasurer shall have charge of all funds and can pay out same on an order from the president countersigned by the secretary.
- ARTICLE IX. At each annual meeting there shall be an election of officers for the ensuing year and they shall remain in office until their successors are chosen. In cases of vacancies occurring in the intervals between the annual meetings, they may be filled by the executive committee until others are elected. In case of absence of an officer at a regular meeting his place may be deemed vacant.
- ARTICLE X. This constitution may be amended by a two-thirds vote of the members present at any annual meeting.

APPENDIX B

PROCEEDINGS OF THE CONFERENCE OF GOVERNORS

Washington, D. C., May, 1908

Address by W. Goodrich Jones

Mr. President and Gentlemen:

In the unavoidable absence of our Governor, who regrets very much that he is unable to attend this Conference, and as one of his advisors, I beg to bring you from Texas a message of cordial greeting and esteem, and of hearty cooperation in this great work.

Texas is a great State and has a bright future, but we recognize that her future welfare can be advanced and maintained only with your cooperation and assistance.

Even as Atlas of old upheld the world, so does Texas, at the base of this great Nation, uphold on her mighty shoulders the greatest aggregation of free and enlightened citizens the world has ever beheld. With one arm in the Gulf of Mexico, and one arm encircling the Rockies, she feels her responsibility not only to uphold, but to clothe and feed the entire population of this great Union, if occasion demand. (Applause.) She has the territory, the soil, and the climate, but what she needs is water—water falling as rain, water flowing in from the rivers through irrigating ditches. Our rainfall and our river-flow is connected with the forests. We want our forests, and your forests, whether owned by corporations or by the Government, reserved for our children's children by scientific cutting, forest extension, and reforestation. We want to see checked the present method of wholesale cutting, waste, and fire-swept sterility. We want our farming lands saved from erosion, our rivers deepened and made navigable and saved from the destructive floods rolling down from the hillsides. We want our harbors deepened so as to admit the largest vessels, and we wish kept back so far as possible on the rich uplands the millions of tons of rich soil that are now swept down yearly through the rivers into our harbors, and that block entrance to our ports.

We promise to join with you most heartily and earnestly in whatever future work this Conference may outline. We are in sympathy with you in your Appalachian-White Mountain Forest Reserve, the great contemplated waterway from Lake Michigan to the Gulf, the drainage of the Everglades of Florida, and the

conserving of the river sources in the great western forest reserves.

Texas claims a citizenship of the brightest, bravest, and truest men, drawn thither from North, East, and West. Our soil, our climate, our natural resources, and our productiveness are unparalleled in any country today of equal territory and under one flag. In no other section of the world will you find such crops of cotton, corn, oats, wheat, rice, sugar, tobacco, semi-tropical and tropical fruits and vegetables, fish and oysters, sheep, swine, cattle, lumber, oil, coal, and all mineral wealth.

These little flowers, the "Cape Jessamine" grown at Alvin near the Gulf, and presented to this Conference with the compliments of our State, carry in their white and fragrant petals the token of our esteem.

In the hour of necessity, when Galveston lay wrecked and bleeding from a great hurricane and tidal wave, Gentlemen, from your every State came substantial tokens of brotherly love and assistance. We of Texas have never forgotten the hands extended to us in our hour of dire distress; and we stand ready to cooperate with you in any movement for the good of the Nation. (Applause.)

On motion of Governor Noel, at 5:25 p.m., the Conference rose.
Washington, D. C., May 14, 1908.

APPENDIX C

PAPER BY W. GOODRICH JONES ON TEXAS TIMBER RESOURCES

c. 1900

The topography of Texas may be likened to a toboggan slide, laid out for the use of the ancient Titans. Starting their sleds from the Rocky mountains, they had over a thousand miles gradual descent to the gulf. Certain it is, that enormous fields of ice, in melting and floating seawards, wore down the lime stone hills and ancient seabeds, and deposited a rich silt where now is the garden spot of Texas.

Covering as it does some two hundred and seventy thousand square miles, Texas encompasses all varieties of clime and soil, fauna, flora, and minerals.

The state may be divided into four divisions, classed by the rainfall. In the Panhandle and far west division, we have high plateaus and mountains, four to six thousand feet elevation, and barren of trees. Here along the water courses are found some few trees as Cotton-wood, Willows, Mesquite, Pecan, Oak, etc. The rainfall is less than twenty inches per annum, falling mostly in the Winter and Spring. The Eastern boundary of this division may be said to run in a North and South line through the town of Big Springs on the Texas and Pacific railroad. Where irrigation is used, crops of corn, wheat, oats and sorghum, alfalfa and Johnson grass grow well. The country is generally sparsely settled, there being large ranches for stock raising. The winters are cold and the winds high.

The second division or West Central, may be said to extend on the East to a North and South line running from Fort Worth to Lampasas, San Antonio, and thence South East to the gulf.

This section is largely a high prairie belt with elevation from three thousand to five hundred feet. The soil is adapted to all kinds of crops but the rain fall is not constant nor sufficient at all times to guarantee them. Lime stone prevails. The rainfall in this division averages from twenty to thirty five inches. Most of the rivers of the state rise in this division. The streams are clear and spring fed, the water being hard. The rivers are subject to sudden and high rises, as the country is mostly treeless and the prairies shed water like a roof. Timber is found in a few localities in this belt, but mostly in scattered patches. On the prairies, Mesquite abounds, indicative of a rich soil. Since

prairie fires have ceased, the pastures are rapidly growing up in mesquite. The mesquite bean is invaluable for stock. We find here scattering stretches of Post Oaks and Black Jack, especially where the soil is broken and thinned with considerable sand. The Spanish Oak and Live Oak abound in places, their acorns doing much damage to cattle, making them thin in a short time. Along the water courses the valleys are narrow with intermittent stretches of timber and a sparse under-growth. The finest Pecans grow in this belt. Along the streams we find a great variety of hard wood such as Elm, Hackberry, Ash, Pecan, Cotton-Wood, Box Elder, Walnut, Oak, etc. Grey moss is occasionally found on the trees, but very short. The Prickly Pear and other varieties of cactus abound, while the voice of the rattle snake is heard in the land.

The next division or the Central, is bounded on the East by an irregular line following the Pine belt. Starting from Paris, the line runs South West towards Dallas, thence South East to Tyler and Nacogdoches, thence South West through Crockett, Bryan, Brenham, and thence to the coast at the mouth of the Brazos. Here the rain fall is from thirty five to fifty inches. This is the garden spot of the state, and the rain fall is much influenced by the proximity to the Pine belt, where the Gulf vapors are cooled and condensed. The altitude of this section is from one thousand feet to sea level. We find considerable stretches of timber, all hard wood, and prevailing largely in the broad extensive valleys of many rivers and their tributaries. These bottoms are at times subject to serious floods and overflows. The uplands are prairie, and now largely in cultivation, growing cotton, corn, wheat, oats and fruit, except in the Southern part where the cereals do not grow well. The river water is seldom clear, being brown and red, due to the clay subsoil. The bottoms are fast being cleared of their wood, as it is shipped by rail to the cities, and used for fuel, bringing three to four dollars a cord at destination. On the lime stone hillsides, and where the soil is thin, are found many stretches of cedar. This timber has been hacked and slashed into, and injured by fire, for fifty years, and the prospect is now good for its total extinction. The greatest injury has been done by fire. As posts the timber is indestructible. A cedar brake once on fire, is a devastating furnace, the trees being utterly ruined, and mostly burned to the ground. This timber has largely been stolen and sold at from six to ten cents per post. Great havoc has also been done by

charcoal burners, as the cedar makes the finest grade of charcoal. Where the Cedar is cut for posts, and fire not allowed to get in, the trees renew themselves rapidly, but the growth is extremely slow. One of the greatest sights in the Cedar brakes, is to see the northern robin wintering by the million, under the genial protection of the evergreen boughs.

Boisdarc is grown in the Northern part of this central belt and is servicable for posts and ties, and street paving. Further South where the winters are less severe the Boisdarc becomes a menace to the land when once planted. It is almost impossible to kill it and chopping, burning and digging seems to stimulate it to greater efforts. The Northern part of this belt occasionally gets snow, with none towards the centre and South. The winter temperature often drops to ten or fifteen degrees above zero. The Live Oak is abundant especially south towards the coast and in the bottoms grey moss hangs to the trees in long and graceful lines. The soil is of a black waxen consistency varying to chocolate brown. In Bell County, this black humus can be found six feet deep above the clay subsoil. The soil is inexhaustible and holds moisture wonderfully through months of drouth if kept from cracking or harrowing on the surface to a dust blanket. The rain fall is sufficient to produce abundant crops and often a crop of wheat or oats followed immediately by one of cotton.

The Hackberry tree is most commonly seen and it has spread all over the uplands along the border fences of farms. The Hard shell of the seed has a sweet palatable covering which makes it much sought after and distributed by birds and small boys. The prevailing winds in this section are from the Gulf with severe northers or West Texas winds springing up suddenly in the winter. North East winds bring rain.

The Eastern division comprises the great Pine belt and is bounded by the Texas East line and Sabine River. The rainfall here is over fifty inches. The elevation is from three hundred feet to sea level. The soil is sandy and chocolate loam with black humus in the river bottoms. This is the fruit belt par excellence although great crops of cotton and corn are grown with fertilizers. The coast land is well adapted for rice, vegetables, fruits and berries with proper irrigation and drainage. Mixed in with the Pine we find all varieties of hard wood some two hundred and fifty being represented. The needle shaped conifers are the familiar Yellow Pine which stretches West across the continent

from Virginia and approaches to within fifty miles of the coast, extending no further South nor West than Houston. The Pine has largely disappeared in the North, it having been of the Short Leaf variety and farms and orchards now cover this district. The climate is mild, the cold of winter and the heat of summer being tempered by the proximity to the forests. With the cutting down of the forests the standing water is disappearing, the rivers are getting shallower and chills and fever are growing scarcer.

This Texas, this empire of four great divisions, is mighty of bulk and hard of description, containing as it does samples of every kind of man, beast, bird, fish and vegetation found in the United States. Three fourths of all varieties of wood found in the U.S. are here growing.

The easiest way to see the state and its four subdivisions is from the car window of the G.C. & St. Fe railway. Start from Galveston, a city seven feet above ocean tide, thence North West to Sommersville where a branch will take you into the midst of the Great Short Leaf Pine belt; thence to Temple where a branch to the West runs to San Angelo and the high treeless plateaus twenty five hundred feet elevation; thence North from Temple over the rich uplands until at Paris on the Red River you encounter a sandy belt which could have been an eden or diverging from Fort Worth to the North and West you climb the great Panhandle, a limitless, lumberless prairie and staked plains, where the ranches are as extensive as Rhode Island and the crops as uncertain as a maiden's fancy.

Most of the streams in Texas rise in the prairie section although the Sabine and Neches and their tributaries rise from the forested areas. These Pine belt waters are soft but discolored brown by the Pine needles.

The connection between tree growth and rain fall is intimate as outlined in the above division.

In South Texas, many streams burst boldly from the ground born full fledged rivers, notably the San Marcos, Comal, San Antonio tributaries to the Colorado and others. The uniform temperature of these streams winter and summer is seventy four degrees, the water clear and hard.

No attempts have yet been made in Texas towards forestry protection or renewal. However a public interest is being built up in forestry matters which promises ere long to engage the

active concern of the legislator who has always an anchor to windward.

While hard woods abound, they are scattered, do not run in groves and are not easily and cheaply accessible to the railroads. The Hard Woods are only being used at present in a limited way as in the making of tool handles while many logs of Ash are shipped abroad. Only one mill in the state has turned its attention to hard wood and there is but one furniture factory and that small.

A leveling process is going on among the hard woods and Pines that is certain before long to denude the state of its timber. As the timber disappears the future outlook for floods, drouths, and great overflows is threatening.

Manufacturing comes slowly, there being connected only with a few mills establishments for the making of sashes, doors, blinds, fences, staves, etc.

The timber empire of Texas is more lasting than the Alaskan gold fields, but the state is not yet alive to this fact and to the rapid destruction and waste of the timber. We have many men that know many things, and but few that know their forestry catechism and the sympathy between forestry growths and rain fall. Josh Billings said: "I'd rather know less, than know so many things that ain't so." The speeches & writings of many loyal Texans have for years bruited the erroneous statements that our timber supply was inexhaustible & that future generations to the vanishing point would have their needs supplied. These statements have been less frequent of late & the time limit has been covered more by a rolling of the eyes & a wave of the hands. The ghosts of our hacked, scorched, & wasted forests are already beginning to walk the land, and orators, expansionists, & future legislators are invited to listen to facts. Some who have tolled the death knoll of the forests have been called "Cassandra prophets," cranks, & calamity howlers. Recently a change has taken place & the men who have known so many things that were not so are no longer exploiting their learning. The crime of 1900 will go down to history & will be laid at the doors of Texas who cannot longer plead ignorance or lend an inattentive ear. The butchery of our timber & the shocking waste has sped on from year to year at an ever increasing rate and today we stand no longer as prophets but pointing to the end which comes in sight. When the forests are gone, great will be the lament from coast to western ranch, & to governors, legis-

lators & mill-men will come to choice anathamas & invectives of an outraged people.

It is a splendid sight to see a reaper in a vast field of wheat, cutting the golden grain & leaving no stalk to rear again its silken head. Our fathers cut their grain by hand & many a stalk escaped the sweeping blades, & many a grain fell back to earth, to sprout again or minister to bob-white.

Until within the last five years the timber of Texas was cut in the latter way, in a careless haphazard fashion. The great abundance of the timber & its low value, unimproved machinery & a desire for only the largest & most accessible of the trees which were hauled out by oxen, left fully one half of the trees in the woodman's circle untouched. What was then left has within the last twenty years filled out & become splendid timber, & covetous eyes are now scanning this cut over field for second cuttings. Much of the state school lands that was cut over years ago & thought to be of only nominal value has been sold at a low valuation & on forty year's time. The purchasers make the first payment & before the second is due have cleared out all but the best timber for ties & rails. A mowing & harvesting is now taking place with improved machinery & methods that leaves no mother trees to reforest the earth & that will rob the treetops of their cadences forever. Everything that has a diameter of from 10 to 12 inches at from 40 to 60 feet above the ground is cut, & after the saw comes the tie cutter & rail-splitter. The felling of the trees has bruised & broken most of the smaller trees & with fires twice a year, eating and gnawing into the stumps & littered tops & withered leaves, & with the sawyer worm attacking all this sap-soured wealth, alack & alas 'tis a sad reckoning & accounting the present will have with the future. Hurricanes could not bring greater destruction. After seeing the enormous forest farms of Europe & the care with which each scrap of timber is preserved one forms a sad commentary on the waste & improvidence of our methods. We are waking up & we will wake up, but unfortunately the damage will be irreparable before the people move. Millions of buffalos were killed, just for the delicacy of their tongues, & now their lament speaks volumes.

The lament of the pine is not on what is used, the outrage on this God-given wealth is not on what has been consumed, but the crime committed & that is daily being enacted is on what is wasted. The tree is cut from two & a half to three feet above

the ground. Above the stump, say four logs, each 16 feet long are sawed. From the lowest branches to the top, say thirty to forty feet, is rejected & left on the ground to rot & be destroyed by fires & worms. When these logs reach the mill another waste of from 10 to 15% takes place, as the outside bark & sap-wood, or "scantlings" are burned by the hundreds of cords at each mill. We can safely say that 40% of the tree is wasted. No turpentine, no resin, no wood-alcohol, no charcoal, no attempt what so ever to utilize the waste. Shingle mills could cover every house in Texas with the waste of extra fine wood left in the stump. Every city in the state could be paved with the sound heart wood left to rot in the stumps. Every household in Texas could be furnished fuel against the chill of winter by what is burned at the mills. Dozens of factories could be employed in East Texas making pickets, barrel staves, boxes, furniture, tooth-picks, & hundreds of other products from the now encumbered waste.

No class of men regret this terrible waste & the rapid destruction of our timber more than do our mill-men. They however are not there for their healths, have only short lives to live like the rest of us & have not the capital, time nor knowledge, to undertake expensive experiments in economy & manufacturing. Competition forces them to tread the path & follow the ways of competitors. All lament the passing of the pine, the concensus of opinion placing the lifelimit of the forest at 25 years more. Where will the mill men then go? Possibly to Cuba or South America. In twenty-five years more, Louisiana & Arkansas will also be cut out. Over 200 mills are now ripping the lofty forests into clean resinous wood. Each mill will average say 2000 acres per annum. One mill in Beaumont cuts 5000 acres or feet per annum. Averaging the cut at 2000 acres means 400000 acres of pine laid low & turned to waste per annum. A mill of 60000 feet daily capacity used to be considered a monster & now it is but an average; yet such a mill will use up from 1500 to 3000 acres per annum. New mills are projected every month & many timber holders are offering flattering inducements for new mills to enter upon their lands. Stumpage sold to the mills will now run about \$1.75 per thousand which will realize to the land owner from eight to fifteen dollars an acre. Lumber has gone up to fancy prices as compared with two or three years ago, & the dividend is the dirge that makes the pine's lament, & covers the forest with a resinous smoke. The

past has been a rough cradle for the mill man & he is hastening, now to secure his dividends as there is no telling whether prices will keep up. The present is full of good cheer & the song of the saw has drowned the lament of the pine. Countless reapers are leveling a crop that will never again be reared in Texas. New machinery, new inventions that facilitate the running of the mill, more skillful labor, extended tramway facilities, less dependence on water for the obtaining of logs, more capital for the handling of large contracts & better shipping facilities for the finished lumber, & with all & over all Texas, Mexico, the North, Europe & South Africa, all throwing bouquets at the lumberman trying to get their products; these are a few of the reasons why the present speaks to the mill-man & timber owner in no unsympathetic voice.

All is activity, rush & good cheer in the piney woods, but the dial hand has not much longer to turn.

At a low figure eight hundred million feet of lumber is the annual output of Texas mills. Last year the mills averaged on this say \$9 per thousand. This year the average will be \$10 or more which will bring to the lumber man say eight million of dollars. The Texas railroad commission figures on the lumber hauled by Texas railroads for 1899 gives: 3330774 tons. Allowing three pounds of wood to a foot will give us say, two billion two hundred feet hauled, or over two million thousand feet. Granting the mills \$10 per 1000 for this product gives them for last year twenty two million dollars. But a large part of this lumber is Louisiana cut handled by Texas mills. Granting one half of this to belong to Louisiana would give the Texas cut per annum at over one billion feet. In 1898 the U. S. Dept. of Forestry roughly estimated the standing pine of Texas, long leaf, short leaf & loblolly, to be forty six billion feet. The best posted lumber men & timber estimators whom your correspondent met in East Texas charge these figures as much too high. Taking a more conservative & reasonable estimate we will say that there is remaining of timber still uncut say twenty five billion feet. Granting from the figures of the railroad commission that Texas hauls say one billion feet per annum of her own timber will give us the life limit of our forest at twenty five years. This twenty five year's limit may be too long, yet certain it is that most of our people will attend the burial & last disappearance of the pine.

Our state has been lax & uninterested in our great forests, & the U. S. government has been occupied with timber problems

near home & in the National forestry reserve; hence statistics & authentic figures on our great pine belt are few & inaccurate.

Your correspondent must be pardoned for unintentional errors of omission & commission that may occur.

There are some forty counties comprised in the pine-belt, & in only ten of these is the long leaf found to any great extent. The short leaf or short straw is found in about thirty counties. The loblolly is generally found with the short leaf. The long leaf counties are Newton, Jasper, Sabine, San Augustine, Tyler, Angelina, Hardin, Polk, Trinity, & Nacogdoches. The long leaf is the monarch of the wood, has the greatest tensile strength, the most heart, is the darkest wood & is used mostly in outside work for bridge timber & ship building. The long leaf counties comprise the nucleus of the pine belt. The long leaf grows in larger forests & with a greater volume of timber to the acre. The soil on which this tree grows is sandy & poor & there is very little hope of the forest renewal unless assisted by man.

The short leaf belt is to the north & west of the long leaf belt. The Short leaf grows on richer soil adaptable for farming & mixed in with it are a great variety of hard woods. In the northern part of this belt the short leaf has been pretty thoroughly cut out & there are but few mills located here. Some of the best short leaf still standing is found in the counties of Montgomery, Liberty, & San Jacinto.

It is rare now to find a good body of pine standing along the railroad, the best now must be sought ten & 15 miles back. The ceaseless battle on the pines is being kept up by tramways whose course through the forests is marked by blackened stumps, smouldering tree tops, wanton waste, worm eaten & blackened trunks fifty feet high, & that once were noble trees but bruised & crushed in the fall of their fellows. The hope of the forests is that the state or the United States government will intervene, & pass laws limiting the cut to certain sizes, also employing a forestry patrol to guard against fires & waste. Stock raisers regularly fire the grass for the small nourishment thus furnished their cattle, in its renewal. The mill man will welcome such a law as they are alive to the need of same & if all are treated alike their interests will not suffer but be enhanced. The smaller mill man will not welcome such legislation as he will not have sufficient capital to handle only the largest timber. The only economy practised by the mills at present is the burning of the sawdust as fuel.

Worms, tree borers & disease fungi have increased enormously & even attack new healthy timber standing near the bruised & fallen tops & stumps. Insects, fire, storms, fungi, & man seem bent on the total destruction of the pine. The woodpecker stands the only & sole guardian to the old monarchs, & even he is surfeited & fat with an over abundance of flies & worms, & he would have to multiply by the million to keep down the ravages of the pests. If the timber were only cut in the winter the spread of disease & insects would be limited. No distinction is made between winter & summer cut, yet winter cut when the sap is down will long outlast summer cut timber. The railroads use 2700 ties to the mile & they would do well to select only winter cut ties. There are creosoting plants at Beaumont, Houston, & Summerville for the treatment of ties & piling. This is a wise move on the part of the railroad towards durability & safety & one step toward forest preservation. The sappy parts of the pine & the second growth opens its pores & takes creosote better than the long leaf heart. Small mills are now rushing into the forest from all sides & the pioneer engines for railroads are close behind. What escapes the big mill is caught by the little mill & what the little mill doesn't get the tie cutter & rail-splitter soon has chopped down. They are going & going fast, big buffalos, mother buffalos & little buffalos.

The value of pine land has doubled within the last few years & is now bringing from \$8 to \$16 for long leaf & from \$3.50 to \$7 for loblolly.

The long leaf will average from seven to eight thousand feet to the acre, while the short leaf will average from three to four thousand. The short leaf does not run evenly, being mixed up largely with hard woods. The under growth in the short leaf forest is largely hard wood & when the pines are cut down these spring up rapidly into trees. The needle of the short leaf is four inches long, that of the long leaf being from 6 to 8 inches, while the long leaf needle runs to 10 inches. The short leaf has two needles to the leaf, while the loblolly & long leaf have three. The varieties of hard wood are innumerable, being largely holly, ash, elm; white—red—pin—cow—Spanish—& live oak. Beech, dogwood, bay, gum, magnolia, iron, hickory, walnut, cypress, hackberry & etc. The best of the oaks where accessible for railroads have been cut out for foreign shipments. The only mill in the state that cuts up hard woods, complains that it cannot get a sufficiency of logs. The hard woods do not run in large bodies,

are scattering & expensive to handle, yet they will come into prominence in a few years when the pines are gone. Nature has made great efforts to reforest the devastated areas, & with but little success in the long leaf section. The timber is cut so close that few seed trees remain. Cattle, sheep & goats tread out such of the young growth as fires do not scorch. Could the young trees be protected up to three or five years a second growth of inferior quality with little heart & resembling loblolly would quickly come up in the longleaf districts. By a judicious system of cutting, selection & care in felling the life of the forest could be extended indefinitely. The age of the pines being cut at present probably runs from 150 to 300 years. Thinning out the forest judiciously will mature more rapidly the young making it available for timber at from 75 to 100 years of age. In the long leaf it is supposed to take thirty years to convert a sap ring into heart.

The problem of reforestry is easier in the short leaf belt. Here the soil is richer & the young growth springs up in great brakes, where mother trees are left near by for seed. The young growth is a sappy loblolly, yet future generations should be thankful for even this. At about 10 years of age this dense growth of seedlings mostly die out, having impoverished the soil & only the fittest & strongest of the young trees continue to live over the fallen bodies of their comrades. These become fine trees in from forty to fifty years.

While the problem of reforestry can be solved in the Short Leaf belt, no one has any idea that the owners of the land will set aside their holdings for this length of time.

Fire seems to do very little damage to the standing forests. On individual trees there can occasionally be found a "cat face" caused by leaks of sap during this time due to some wound in the tree, and which being fired has eaten into the trunk. In the Short Leaf district, fire injures the young growth less as the seedlings come up in such dense masses that the grass is choked out. There is much cut over land being offered for sale and but few buyers. These lands can be bought at from one to three dollars an acre. Some little farming is being done but mostly near the mills where the fruits and vegetables can be sold. A good thrifty class of farmers will never locate on these cut over lands and when the Pines are gone, and the mills are forced to leave, a market for their product will also be gone.

Rosy pictures are drawn but one vital point and the only

question involved is forgotten. The rain fall of the future will not be the rain fall of today. Already the Sabine river is becoming unnavigable. In twenty five years when the Pines have disappeared from Texas, Louisiana, and Arkansas the rain fall over our whole state will undoubtedly be reduced and become unevenly distributed. Showers will turn to floods. The Pine district of today will become a desert of white sand with its streams filled up with a blowing washing sand. This great Pine belt acts now as a modifying cooling agency and storage reservoir. The rain fall here is the greatest in the state and it grows less as we go West and the timber becomes scarcer. The little pools of water that the forest holds after a rain are fed out slowly to the rivers. The future is forbidding. The gulf breezes then with moisture laden, will find no more a counter and cool current where once stood the Piney woods and that never failed to bring Rains over Texas in times of greatest need. In time all will become like the naked sand dunes of New Jersey and like those parts of Spain, Russia and Asia, where the massacre of timber has brought ruin and a desert. Why should this calamity be in store for us? Why when the preservation and the judicious cutting of the timber means greater wealth to the timber owner and a continuance of prosperity and of rain fall over the broad expanse of Texas? The Pine belt should be held by companies and in large tracts. The land should be fenced in, only the best of the timber cut out, while over these broad tracts cattle raising could be carried on in connection with the farming of the timber. There is no better cattle breeding section of the state than in the shelter of these woods. The stock could be shipped as yearlings to the richer grass uplands. Some timber and cattle farms will require considerable cattle capital, but would pay the investors handsomely. If some such remedy is not resorted to soon, if our government or state does not step in to limit and supervise the cut, then and then indeed will the Pines lament become erelong hushed in an everlasting silence. Those who would see the forests ere they are extinct and but a memory, must not delay too long their visit.

To destroy, pull down, consume, and dissipate, has been the history of man. Nature has made the world fair, has nurtured and renewed it, and has filled it with trees, animals, birds and fish, yet the hands of a destroyer keeps at the leveling task forever and without ceasing. Whole species of flora and fauna have become extinct in the desire to kill and acquire. Will the

twentieth century usher in a change? Will songs then replace sighs? Will drops of rain fall on the sterile land and will the fresh green grass replace the desert where man has trod?

APPENDIX D**EARLY FEDERAL CONSERVATION LEGISLATION
AFFECTING TEXAS**

Federal legislation in the conservation field supplemented local efforts to develop a forest conservation program for Texas. Below are outlined the federal laws which were most influential to the Texas program:

Weeks Law, 1911

Senator John Weeks of Massachusetts introduced a bill in Congress on July 23, 1909, which was to have a greater impact on national conservation than he ever imagined. The measure was entitled:

An Act to enable any State to cooperate with any other State or States, or with the United States, for the protection of the watersheds of navigable streams and to appoint a commission for the acquisition of lands for the purpose of conserving the navigability of navigable rivers.

This bill, signed into law by President Taft on March 11, 1911, established a pattern of state-federal cooperation in protecting watershed lands from fire and erosion and enabled the federal government to buy land for new national forests.

The Weeks Law established the National Forest Reservation Commission to approve the purchase of forest lands. The commission was composed of two senators, two representatives, and three cabinet members. This commission approved the purchase of over 16 million acres throughout the nation, mostly in the south and east. The Weeks Law was strengthened by the Act of March 4, 1913, granting greater purchase power for the acquisition of land subject to rights-of-way and easements. Then the Act of June 30, 1914, amended the original bill and increased revenue payments to the counties in lieu of taxes from 5 to 25 percent of the gross receipts.

This law was the basis for both fire protection by the Texas Forest Service and the purchase of forest land in Texas by the U. S. Forest Service. Not only in Texas, but most of the national forests in the south owe their existence, at least in part, to John Weeks.

Smith-Lever Act, 1914

The Smith-Lever Act of 1914 formed the basis of most of the farm-forestry Extension Services in the Agricultural Depart-

ment to be administered by the land-grant colleges. Forestry for the first time became a part of the Extension Service's program.

Clarke-McNary Act, 1924

This Act, passed on June 7, 1924 strengthened the Weeks Law. Now lands necessary for timber production as well as watershed protection could be purchased by the federal government. State-federal fire protection cooperation was enhanced with larger appropriations. The Act, like the Weeks Law, played a role in developing the Texas National Forests.

Capper-Ketchum Act, 1928

The Capper-Ketchum Act was approved in 1928, making available additional appropriations for extension work. This Act allowed each state's land-grant college \$10,000 annually for extension work in forestry. After 1930, the Act was further amended so the colleges could receive funds above the \$10,000 level on a matching basis.

McSweeney-McNary Act, 1928

The role of forest research was formally recognized by the passage of the McSweeney-McNary Act of 1928. It established a 10-year research program, which included a forest and range experiment station system, a forest products research program, and a national survey of forest resources and consumer requirements. It was after 1940 that Texas obtained a forest research center, by an independent act of Congress, but the act did provide a resource survey for the state.

Knutsen-Vandenburg Act, 1930

This federal act of 1930 authorized a larger national forest tree-planting program, primarily carried out by the CCC. The act's provisions did not apply to Texas until 1939 when the first trees were planted on the four national forests in Texas with these funds.

National Industrial Recovery Act, 1933

Although the "Act" was declared unconstitutional within two years of its passage, its forestry code did establish some far-sighted management standards. It provided a better understanding of sustained-yield management, the advantages of selective logging, and essential silvicultural measures.

The Emergency Conservation Act, 1933

Of major importance in the fight for conservation in Texas was the passage of the Emergency Conservation Act in March, 1933. Under this law the Civilian Conservation Corps was organized and some 2,500,000 young men were soon put to work on a variety of conservation projects throughout the nation. In Texas much of the CCC activity was on the newly acquired Texas national forests but CCC workers also engaged in land reclamation, flood control, tree planting and erosion control on private lands also under specific contracts.

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