

United States Department of the Interior
National Park Service

**NATIONAL REGISTER OF HISTORIC PLACES
MULTIPLE PROPERTY DOCUMENTATION FORM**

This form is used for documenting multiple property groups relating to one or several historic contexts. See instructions in How to Complete the Multiple Property Documentation Form (National Register Bulletin 15B). Complete each item by entering the requested information. For additional space, use continuation sheets (Form 10-900-a). Use a typewriter, word processor, or computer to complete all items.

X New Submission Amended Submission

A. Name of Multiple Property Listing

Early Twentieth Century Logging Industry Historic Resources on the National Forests and Grasslands in Texas

B. Associated Historic Contexts

(Name each associated historic context, identifying theme, geographical area, and chronological period for each.)

An Historic Context for the Early Logging Industry in East Texas: A Planning Document for the National Forests and Grasslands in Texas.

C. Form Prepared by

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D. Certification

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this documentation form meets the National Register documentation standards and sets forth requirements for the listing of related properties consistent with the National Register criteria. This submission meets the procedural and professional requirements set forth in 36 CFR Part 60 and the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation. (____ See continuation sheet for additional comments.)

Kurt Ashce 1480 01/26/01
Signature and title of certifying official Date

USDA Forest Service Region 8
State or Federal agency and bureau

I hereby certify that this multiple property documentation form has been approved by the National Register as a basis for evaluating related properties for listing in the National Register.

Edna B. Beall 3/2/01
Signature of the Keeper Date

Table of Contents for Written Narrative

Provide the following information on continuation sheets. Cite the letter and the title before each section of the narrative. Assign page numbers according to the instructions for continuation sheets in How to Complete the Multiple Property Documentation Form (National Register Bulletin 16B). Fill in page numbers for each section in the space below.

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ATTACHMENT 2 – Historic Context (Full Document):

An Historic Context for the Early Logging Industry in East Texas: A Planning Document for the National Forests and Grasslands in Texas

E. Statement of Historic Contexts (Document historic contexts on one or more continuation sheets. If more than one historic context is documented, present them in sequential order.)

NOTE: The following sections (E-I) comprise an edited summary of the historic context for the early logging industry in Texas, for more detailed information please refer to Attachment 2, *An Historic Context for the Early Logging Industry in East Texas: A Planning Document for the National Forest and Grasslands in East Texas* (Ippolito et al. 1999).

Introduction

The history of East Texas during the last one hundred and fifty years is inextricable from that of its logging industry. The inception and growth of the commercial logging industry in East Texas brought about tremendous changes in the social, political, economic, and environmental composition of the region. The time frame under consideration runs from A.D. 1836 to A.D. 1945, with the primary focus on the period known as the "Bonanza" era, a time of great activity and growth, which lasted from the early 1890's to the late 1920's. During that time the logging industry was the primary focus of activity in the region, whether directly as in the operation of the big mills, or indirectly in the development and operation of supportive industries such as port facilities, railroads, equipment suppliers and mercantiles, down to family farms supplying produce to the growing sawmill communities. Because of its influence on the history of the region, it is important that historic sites related to the East Texas logging industry be evaluated, protected, and preserved.

(See continuation sheets Section E – Pages 1- 8)

F. Associated Property Types (Provide description, significance, and registration requirements on one or more continuation sheets..)

SAWMILLS: The sawmill and its adjacent company town dominated the landscape and economy of East Texas. In many areas, the sawmill represented the only source of cash, and two or three generations often worked in turn at the mill. The *Texas Almanac*, 1910 estimated about 625 sawmills in Texas. Truly big mills, with a capacity of 80,000-100,000 board feet per day bft/d), were a minority, probably never numbering more than 100 in Texas (Maxwell and Baker 1983:71). The majority (200-300) were permanent or semi-permanent mills with a capacity of 30,000-80,000 bft/d. The same number (200-300) were small, portable mills with a capacity of less than 30,000 bft/d.

(See Continuation Sheets – Section F. – Pages 9-15)

G. Geographical Data

Acreage of Property: National Forests & Grasslands in Texas = 675,572 acres

UTM References: Please see individual site nomination forms for specific UTM's.

Zone Easting Northing	Zone Easting Northing
1 _____	3 _____
2 _____	4 _____

Verbal Boundary Description: (See Continuation Sheet – Section G - Page 16)

Boundary Justification: (See Continuation Sheet – Section G – Page 16)

H. Summary of Identification and Evaluation Methods (Discuss the methods used in developing the multiple property listing on one or more continuation sheets..)

Resource Assessment

The cultural, social and economic structures for modern East Texas were shaped and molded by the early 20th century logging industry. Mill towns have become cities; logging railroads have become multi-lane highways; and family owned mills have become multi-national corporations, all in the last 100 years. There are few, if any, facets of modern East Texas that have not been directly affected, or influenced, by the boom-bust cycles of the early 20th century logging industry. Those resources located on the four National Forests in Texas represent the first great growth cycle of industrial logging in East Texas at the start of the 20th century. The sawmills, mill towns, front camps, and logging railroads in their current abandoned state also stand as stark reminders of the complete collapse of this industry in the 1920's as a result of, among other things, poor conservation practices driven purely by a desire for short term economic gains.

(See Continuation Sheets – Section H. – Pages 17-18)

I. Major Bibliographical References (List major written works and primary location of additional documentation: State Historic Preservation Office, other State agency, Federal agency, local government, university, or other, specifying repository.)

Bibliography (Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

Previous documentation on file (NPS)

☐ preliminary determination of individual listing (36 CFR 67) has been requested.
☐ previously listed in the National Register
☐ previously determined eligible by the National Register
☐ designated a National Historic Landmark
☐ recorded by Historic American Buildings Survey # _____
☐ recorded by Historic American Engineering Record # _____

Primary Location of Additional Data:

☒ State Historic Preservation Office
☐ Other State agency
☒ Federal agency (USDA Forest Service – National Forests and Grasslands in Texas)
☐ Local government
☐ University
☒ Other (Texas Forestry Museum – Lufkin, TX)
Name of repository: _____

(See Continuation Sheets – Section I – Pages 19-21)

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CONTINUATION SHEET**

Section E Page 1

Early Twentieth Century Logging Industry in East Texas

Statement of Historic Contexts - continued

Historic Background

THE EXPLORATION PERIOD 1519 - ca.1750

Spanish colonists from Haiti explored the Atlantic and Gulf coastlines of North America between 1513 and 1519, when Alonso de Pineda sailed along the Texas coast. In November 1528, survivors of the Narvaez expedition were cast ashore near Galveston, making them the first Europeans in Texas (Castaneda 1936). The East Texas region may have been first traversed by remnants of the Hernando de Soto expedition, led by Luis de Moscosco (Reese et al 1986:154, Kenmotsu et al. 1993). In 1679, French and Spanish competition for dominion led to several expeditions into the area, most notably by survivors of La Salle's failed colony. El Camino Real (King's Highway), also known as the San Antonio Road, was established in 1692. However, the road was in many places little more than a double horse pack trail (Maxwell and Baker 1983:12). Travel was seasonally treacherous, and the road was only a slight stimulus to settlement and development of commerce in East Texas.

SPANISH AND MEXICAN COLONIAL PERIOD ca. 1750 - 1836

In 1756, the Spanish established two missions on the lower Trinity River (Bolton 1914, Foscue 1960). By the mid-18th century, both French and Spanish traders had expanded existing exchange networks with Native Americans residing in East Texas. Settlement of Texas began under the Spanish land grant system, which was designed to provide land only to Spanish citizens of the Catholic faith. However, some Americans began to take advantage of the system by immigrating into Spanish territory. Following the Mexican Revolution in 1821, the new government decided to allow planned settlement in Texas, and in 1823 passed a new colonization law, under which, each settler received a maximum of one league (4,428.40 acres) for ranching and one labor (177.11 acres) for cultivation (Haley 1985:17). During this time, both indigenous and immigrant Texas Indians were denied land rights.

THE REPUBLIC OF TEXAS 1836-1845

On 1 March 1836, Texas declared its independence from Mexico and through armed conflict achieved independence on 12 May 1836 with the Treaty of Velasco (Haley 1985:48, 84). As a fledgling nation Texas was without any financial structure; so in order to develop a treasury it began selling land. From 1836 to 1838, Texas organized a system of public land allocation, which was based on a network of land districts. This system, among other benefits, allowed veterans of the War for Independence from Mexico or their heirs, to be paid for their services through land grants. Recent immigrants could also receive land at minimal cost. An empresario system modeled after the Spanish/Mexican colonial system was established to encourage settlement. This first land grant system allowed individual selection of tracts. This process stimulated land entrepreneurs, or speculators, to treat land as cash. As a result, some entrepreneurs began to acquire enormous landholdings, a factor that decades later would attract corporate investment in large sawmill operations.

THE STATE OF TEXAS 1845-PRESENT

Due to natural obstacles such as rivers and muddy soils, few roads in East Texas were suitable for year-round travel. Rivers, which formed the backbone of commerce in much of the United States, were in East Texas erratic in water flow and often clogged with logs, snags, and silt. Only the lower Red River (below the Great Raft), and the lower courses of the Sabine, Neches, and Trinity rivers along the Texas Gulf Coast could be reasonably exploited for shipping. As an inducement for attracting settlers, the Republic of Texas proposed to build the Central National Road in 1844. Control of this highway was taken over by the United States when Texas was admitted to the Union on 29 December 1845.

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Statement of Historic Contexts - continued

The entire region gradually grew in the decade prior to the Civil War. Overland roads, trails, and some rivers provided seasonal transportation. Centers of commerce developed along the Gulf Coast, where marine shipping interfaced with riverine steamboats and overland wagon haulers. Logging rafts, keelboats, and later steamboats operated only during optimal river flow conditions as high as Rockland on the Neches River, Marion on the Angelina River, and Logansport on the Sabine River (Sitton 1995:82-83). Baldcypress logging was an important operation for coastal plain mills, but trees had to season before they could be floated to the mill during flood stages (ibid. 90). The active development of railroads began in 1860-1861. Due to this lack of transportation, the vast pine forests of East Texas could not be fully exploited in a profitable manner. Consequently, despite the abundance of standing timber, there was a chronic shortage of lumber within Texas.

The Civil War halted settlement and economic growth in East Texas. Investment in transportation began again after the war, particularly due to the liberal policies of the State, which granted land to rail companies for each mile of track they laid. The Houston and Texas Central Railroad (H&TC) had reached the central Brazos River by the time the war broke out. Construction began rapidly in 1866, with the creation of a number of towns along this line, all focused on the production of cotton. The H&TC was completed in 1871, connecting Houston with Dallas. It also, linked Houston with St. Louis by means of a connection to the Missouri, Kansas and Texas Railroad at Denison in Grayson County. Thus, the Gulf centers of commerce were now connected to interior Texas, and to the large markets of the eastern and mid-continental United States.

By 1880, railroad main lines connected most of East Texas. At this time a new innovation in logging, the band saw, also arrived. Concurrently, the forests of the Great Lakes were being cut out, and investment capitalists were turning their attention to the forests of the south, and Texas in particular. This marked the beginnings of the Bonanza Era for Texas logging, and the rise of the big mills. Land speculators acquired lands that were unclaimed or available for back taxes, amassing landholdings that were among the largest ever seen in Texas.

By 1901, the Texas railroad system was nearly complete, with a net mileage of 10,000 miles in place. The completion of the telegraph system at the same time provided a quick, cheap, and reliable tool for the marketing of wood products (Maxwell and Baker 1983:155). This set the stage for massive investment in, and expansion of, the logging industry in East Texas.

By 1920, many of the lands acquired by the big mills were cut out, leaving tangled thickets of second growth hardwoods, mixed with a few pine seedlings. Some companies moved to the West Coast, where large tracts of lands and forest were available to sustain the cut-and-run method of logging. Others went bankrupt, letting their lands fall into receivership. Because Texas had retained title to its public lands when it became a state in 1845, there were no national parks or forests in the state. The Weeks Act of 1911 and the Clarke-McNary Act of 1924 authorized the federal government to purchase cut over lands where no national parks existed. In May 1933, the Texas legislature passed a bill, supported by both lumbermen and conservation groups that authorized the U.S. Forest Service to appraise and purchase lands in East Texas (Maxwell and Baker 1983:208-209). The majority of the lands purchased were acquired from eleven lumber companies.

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Early Twentieth Century Logging Industry in East Texas

Statement of Historic Contexts - continued

The Early Logging Industry in East Texas (History & "Big Names")

FORMATIVE LOGGING PERIOD 1820-1860

The first sawmill identified with a specific individual is the 1829 mill on Carrizo Creek, Nacogdoches County, built by Peter Ellis Bean. In 1832, Bean and Frost Thorn jointly purchased a sawmill and gristmill on LaNana Creek from Jose Mora. In 1834, Bean apparently moved one or both of these mills eight miles south of Nacogdoches on LaNana Creek. The output of these and other mills of similar technology is estimated to be 500-2000 board feet per day (bft/d). Products included lumber, scantling, boards, planks, and other building materials.

In 1830, John R. Harris, the founder of Harrisburg, purchased a mill in New Orleans, that was set up in Texas by William P. Harris, David Harris, and Robert Wilson. This mill was one of the first steam sawmills in the Buffalo Bayou region. It was described as a small steam powered circular- saw outfit with a "make-shift Arkansas smoke kiln". The lumber it produced was sold locally or shipped to Central Texas, with some wagons going as far as San Antonio.

In 1836, Robert Booth built a small sash mill north of Orange, on the Sabine River. It was capable of cutting 1500 bft/d. In the 1840's Robert Jackson had established a sash mill powered by a engine and boilers salvaged from a steamboat at Turner's Ferry on the Sabine River. A spring flood destroyed the mill in 1847, when Jackson moved the mill to Greens Bluff (Orange), reputedly the first steam sawmill in Orange.

By 1860, an estimated 200 mills were operating throughout the state of Texas, with about 1200 employees. Raw lumber was increased in price by 70% by the manufacturing process, and the annual value was estimated to be \$1.75 million. Sawmill owners in the East Texas interior were forced to settle for local trade combining a gristmill and/or general merchandise store, while coastal lumbermen had developed a considerable export trade worldwide. The Civil War disrupted the development of logging, along with many other businesses. Lumber exports fell to one-fourth the pre-war volume.

CIVIL WAR AND RECOVERY PERIOD 1860-1876

In 1852, John M. Thompson established a small mill in northern Rusk County. In 1865, with an influx of investment capital and northern loggers, Thompson built a new, larger mill and increased capacity to 8000 bft/d. With his brothers and sons, Thompson built larger and larger mills, until they had cut out their reserves and moved to Trinity County in 1881. Here, they continued to expand, becoming one of the major lumber companies (Thompson-Tucker Lumber Co.) in Texas. Mills were located at Old Willard (Woodlake) in 1890, Big Mill (1903-1923), and in 1922 The Thompson Brothers reorganized as the Rock Creek Lumber Company.

Judge David R. Wingate moved to Texas just prior to the Civil War and established a mill as a sideline venture on the Sabine River in Newton County. After the war, he moved to Orange, along with many others. In 1874, Wingate built a new steam mill with circular saw that had a capacity of 20,000-30,000 bft/d (Maxwell and Baker 1983:20).

Alexander Gilmer also immigrated to Texas before the Civil War, engaging in shipping and shipbuilding. He was a blockade runner during the Civil War. Afterwards, in 1866 he entered the sawmill business, building a mill in the Sabine River near Orange (Maxwell and Baker 1983:20). Eventually he (the Gilmer Lumber Company) owned several mills and extensive acreage. Some of their lands were incorporated into the Sabine National Forest.

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Among others investing after the war, Fritz Amsler, of Montgomery County, built a sawmill with an attached planing mill. The Gibbs Brothers created the Palmetto Lumber Company in San Jacinto County in 1874. In 1870 at Beaumont, W.A. Fletcher joined the Long Lumber Company, and by 1876 helped organize the Beaumont Lumber Company (Maxwell and Baker 1983:20). These men controlled operations averaging 25,000-40,000 bft/d.

THE "BONANZA" PERIOD 1876-1917

In 1867 William B. Cameron established a lumberyard in Warrensburg, Missouri from which he supplied the Missouri, Kansas, and Texas Railroad (MKT) with ties as well as additional products to the public. He continued to build yards as the MKT built south, opening a major yard at Waco in 1876 (Maxwell and Baker 1983:91-92). By 1890 he had over 60 retail yards and six sawmills, including two sawmills at Saron (15 miles west of Groveton) and one at Carmona. Part of Cameron's acreage was incorporated into the Angelina National Forest.

The increasing pace of development in Texas attracted two prominent western Pennsylvania lumbermen, H.J. Lutchter and G.B. Moore; who recorded detailed information of a trip through Texas in 1877 (Maxwell and Baker 1983:22-32). As they had used rivers to denude the Pennsylvania forests, they hoped to use the East Texas rivers to the same purpose; but ended up mixing river and railroad to move their timber to the mill. By the end of 1877, they had purchased a sawmill at Orange, and begun construction on a larger mill. "Early employees described it as a mill with double circular saws and a gang saw, with clippers, edgers, trimmers, and a steam-carriage operation" (Maxwell and Baker 1983:31). The capacity of the mill ranged from 80,000-100,000 bft/d, until the circular saw were replaced with high-speed band saws and a second mill was built. Lutchter and Moore purchased land on both sides of the Sabine River, from the U.S. General Land Office in Louisiana, individual counties and the Texas General Land Office in Texas, and stumpage from farmers where ever they could; choosing pine stands in uplands, and baldcypress stands in lower bottoms. Among the railroads they built were the Gulf, Sabine, and Red River; the Mississippi and Ponchartrain; and the Orange and Northwestern.

In 1879, John M. Foster established a lumber yard in Kansas, and exploited the Oklahoma land boom of 1893. He expanded his operations in 1894 to Texas, buying 1476 acres of timberland in Montgomery County. In 1896, he formed the Trinity River Lumber Company, centered in, Conroe, and eventually Houston. With the aid of investors in 1902, he purchased the Thompson/Tucker timber rights. In 1905 he built the mill town of Fostoria. Part of Foster's acreage was incorporated into the Sam Houston National Forest.

In 1882, the Josserand Brothers (Peter and Frank) bought a mill and 60,000 acres, and incorporating the mill of Colonel McDuffy, 2.5 miles east of Groveton (Block 1995:354-355). They formed the Josserand and West Lumber Company, which closed in 1909. Part of the Josserand acreage was purchased by the Trinity County Timber Company, which became part of the Davy Crockett National Forest.

In 1884, Robert A. Long formed the Long Bell Lumber Company of Kansas City. By 1902, the company had expanded, with 35 retail yards, and had moved into Texas buying timberlands and building sawmills. By 1918 they had 119 retail yards, over 12 sawmills, and controlled 600,000 acres in Arkansas, Louisiana, and Texas. The principal businesses in Texas were the Lufkin Land and Lumber Company and Fidelity Lumber Company, which were purchased in 1912 from the Thompson Family at Doucette. The core of their timberlands was located in Angelina, San Augustine, Tyler, and Trinity counties. Part of the Long Bell acreage was incorporated into the Angelina National Forest.

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Early Twentieth Century Logging Industry in East Texas

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John Henry Kirby, known as the "Prince of the Pines" was a practicing lawyer in Woodville, Texas with a passion for the pine forest. In 1887, he persuaded a group of Boston capitalists to invest in growing trees and buying timberland. They formed land companies (The Texas and Louisiana Land and Lumber Company and the Texas Pine Land Association) in Louisiana and Texas that soon acquired over 250,000 acres of virgin pinelands containing an estimated three billion board feet of lumber (Maxwell and Baker 1983:100). Kirby built the Gulf, Beaumont, and Kansas City Railroad in 1893. By 1897, the railroad was completed as far as Roganville, with plans to extend it to San Augustine, Center, and Marshall. Kirby sold the railroad to the Atchison, Topeka, and Santa Fe Railroad, and they also invested in the purchase of more timberlands. In 1901, with Patrick Calhoun, Kirby organized the Houston Oil Company of Texas and the Kirby Lumber Company. At one time, the Kirby Lumber Company controlled more than 300,000 acres of land and operated thirteen (13) sawmills. During the Great Depression, Kirby's securities became unmarketable and his liabilities exceeded his capacity to pay, forcing his bankruptcy in 1933. The Kirby Lumber Company was not involved, and continued operations, even though lumber prices had fallen below production costs (Maxwell and Baker 1983:104). Eventually, the Santa Fe incorporated the Kirby Lumber Company as a subsidiary. Part of Kirby's acreage was incorporated into the Angelina National Forest.

In 1887 Joseph H. Kurth, Sr. immigrated from Germany to Galveston, where he entered the lumber industry. He worked in a number of Gulf towns, including Seguin, Willis, and Hartley. He invested in a small sawmill in Polk County on the Houston East and West Texas Railway. Kurth purchased a sawmill from Charles L. Keltys and J.A. Ewing in 1888. It was located on the Cotton Belt Railroad about two miles west of Lufkin, and had 5000 acres of attached timberland. In order to upgrade the mill, Kurth developed an investment relationship with a Corrigan businessman, Simon W. Henderson, forming the Henderson and Kurth partnership. Joined by Sam Weiner in 1890, the three formed the Angelina County Lumber Company (Maxwell and Baker 1983:105-110). In 1900 Kurth chartered his tramroad as the Angelina and Neches Railroad, with hundreds of thousands of acres of land holdings in Angelina, Nacogdoches, and San Augustine counties.

In 1888, William Goodrich Jones, a banker from Temple, Texas began to promote "Arbor Day" in Texas. By 1888, Governor Sul Ross and Jones had established Arbor Day and The Texas Forestry Association, with the purpose of replanting trees. In 1898 Bernard E. Fernow, chief of the Bureau of Forestry, U.S. Department of Agriculture, asked Jones to take a horseback survey of the virgin pine forests of East Texas and provide a report. The bleak documentary pointed to a great need for forest conservation.

It is rare now to find a good body of pine standing along the railroad, the best must be sought ten and fifteen miles back ... The hope of the forests is that the State or the United States government will intervene, and pass laws limiting the cut to certain sizes, also employing a forestry patrol to guard against fires and waste. (Baker n.d.).

Jones helped establish the Texas Forest Service at the A&M College of Texas in 1918. In 1933, as President Emeritus of the Texas Forestry Association, Jones wrote President Franklin D. Roosevelt and Robert Fechner, Director Emergency Conservation Work requesting the formation of a Federal Forest Reserve and Game and Bird Sanctuary on the cut over pine lands of East Texas (Baker n.d.). This led to the formation of the National Forests in Texas.

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In 1890, R.M. Keith, a land purchaser for the Central Coal and Coke Company of Kansas City (presided by C.S. Keith) began to purchase lands in Houston and Montgomery counties. In 1902, the Four-C absorbed the small mill of J.H. Ratcliff and built a large ambitious plant in Houston County. The plant had a capacity of 300,000 bft/d, but the landholdings were boxed in by Kurth, Temple, and Thompson properties. Although the Four-C acquired 120,000 acres, by 1918 it had cut out, abandoned operations, and sold to the Houston County Timber Company (Maxwell and Baker 1983:157). The latter dismantled the large mill. The Houston County Timber Company was incorporated into the Davy Crockett National Forest. In 1913, the Delta Land and Timber Company, a subsidiary of the Central Coal and Coke Company of Kansas City, built a large mill south of Conroe, with 90,000 acres of timberland (Block 1995:198-199). This acreage was incorporated into the Sam Houston National Forest.

In 1890, William T. Joyce expanded the Iowa-based sawmill and retail yard complex of his father (David Joyce) by purchasing a sawmill in Groveton, including more than 75,000 acres of virgin timber, and building the Groveton, Northern and Lufkin Railroad. The Trinity County Lumber Company mill had a capacity of 300,000 bft/d and cut an estimated total of a billion board feet of lumber (Maxwell and Baker 1983:198). The mill closed in 1930, bringing instant depression to the town and surrounding county. Part of the acreage was incorporated into the Davy Crockett National Forest.

In 1893, Thomas L.L. Temple, Southern Pine Lumber Company of Texarkana, purchased 7000 acres of timberland from John C. Diboll of Louisiana. A mill site was built on the Houston, East and West Texas Railroad, with a capacity of 60,000 bft/d. Timber resources came from a strip of land along the Neches River in Angelina, Anderson, Cherokee, Houston, and Trinity counties. Temple later purchased other firms and founded the Temple Lumber Company at Pineland. Today, Temple owns over one million acres in Texas. Part of Temple's acreage was incorporated into the Sabine National Forest.

The W.T. Carter and Brother Lumber Company built the company town of Camden in Polk County and chartered the Moscow, Camden, and San Augustine Railroad in 1898 (Maxwell and Baker 1983:45-46 and 137). Carter resisted the shift to steam haul skidders, and used oxen much later than other loggers.

William H. Knox was a lumberman from the white pine forests of the Great Lakes, who moved to Texarkana around 1900, from where he operated a lumber business and began to establish retail yards in West Texas. In 1903, he purchased a large timberland and constructed a mill east of Livingston in Polk County. He built and chartered the Livingston and Southeastern Railroad, which joined the Houston, East and West Texas Railroad at Livingston. When the Polk County mill lands neared exhaustion, Knox purchased 25,000 acres in Sabine County, and began building a larger mill near Hemphill. This mill, which was finished by his son, W.H. Knox, Jr., began operations in 1913 (Maxwell and Baker 1983:111-115). The mill town was called East Mayfield, and was a model company town. The town was connected to the Santa Fe Railroad at Bronson by the Lufkin, Hemphill, and Gulf Railroad. In 1922, Knox sold the mill and most of the timberlands to T.L.L. Temple and the Southern Pine Lumber Company.

In 1913, W.R. and W.A. Pickering (father and son) of the Pickering Lumber Company built a mill at Haslam with a capacity of 200,000 bft/d. In addition to properties in Missouri, Arkansas, Oklahoma, Louisiana, and Texas, the Pickering's owned more than 100,000 acres in Shelby, Sabine, and San Augustine counties. Logging was done entirely by tramroad using mostly steam haul skidders to deliver logs to the tracks. These logging methods were devastating to the landscape and any younger trees or seedlings, leaving a wasteland (Maxwell and Baker 1983:199). In 1931, the Pickering's shut down the Haslam mill, and moved their operations to Redding, California. Pickering's acreage was incorporated into both the Sabine and Angelina National Forests.

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Statement of Historic Contexts - continued

Robert W. Wier and the Lutcher and Moore heirs combined resources to construct the last large mill in 1917. It was located at the mill town of Wiergate and the timberlands covered about 86,000 acres in Newton, Jasper, and Sabine counties. The Gulf and Northern Railroad was built to join the Orange and Northwestern Railroad at Newton. The Wiergate Lumber Company logged what was perhaps the last great Texas stand of longleaf pine (Maxwell and Baker 1983:195-196).

Maxwell and Baker (1983:155) describe the period from 1876-1917 as the "Bonanza Period" of the logging industry in east Texas. It was during this period of time that the industry began its growth and that fortunes (both personal and corporate) were made. In order to more accurately portray the chronological context of logging industry sites on the National Forests in Texas, a slightly different bracket of 1890-1920 is also used in this document to define the "Bonanza Period".

The bonanza period of the East Texas lumber industry was a time of high-level growth, high-level production, and high level political activity. At this time the nation as a whole was experiencing a period of rapid growth and industrialization following the devastation of the Civil War. The economic and political climate was favorable to entrepreneurship. There was no income tax, and until the Theodore Roosevelt administration, interstate commerce laws and anti-trust policies were largely ignored. During this time entrepreneurs such as Kirby, Kurth, Carter, Temple, Thompson, and others, became leaders in the industry creating timber-based empires that critics sometimes compared to feudal baronies (Maxwell and Baker 1983:156,165). The larger mills that had been established earlier in the period and had obtained access to the then abundant timber lands, grew larger and more powerful, while many of the smaller mills, and some of the large mills that had come too late into the region, suffered from a lack of access to timber and were forced out.

While many small mills and peckerwood mills were successfully operated during this time, the main power base of the industry lay with the large mill owners. During the bonanza period these lumber barons, and the lumber industry as a whole, were able to strengthen their positions even more by the creation of industry based associations. These associations included national, regional, and state wide organizations. They were originally formed to help promote the lumber industry by opening up communications between operators, encouraging the exchange of ideas, and providing information and statistics to its members. Associations such as the Southern Pine Association, the Lumbermen's Association of Texas, and the American Forestry Association, helped their members to improve the quality of their products, standardize sizes and grades, and make their products more desirable to both national and international markets. However, in the long run, they also became powerful political forces through lobbying and by serving as rallying points during public policy debates. One such organization, the Yellow Pine Manufacturers' Association, was disbanded in 1914 after a number of its members had been found guilty of anti-trust law violations. Another organization, the Southern Lumber Operators' Association, was active during the same period, but was composed of only the large operators. This association focused much of its energy on thwarting the efforts of union organizers (Maxwell and Baker 1983:160-165).

Toward the end of the bonanza period, the industry was beginning to suffer from a lack of available timber, partly as a result of over cutting, and partly due to a general lack of interest in conservation and reforestation practices. This situation was intensified as increasing stumpage prices and corporation taxes forced many operators to clear cut the timber and dispose of the cut over acreage to avoid the increasing tax rate on their holdings. Within the fifty year period from 1880 to 1930, some 18 million acres of East Texas pine timber had been harvested, providing an estimated 59 billion board feet of lumber. The resulting lack of harvestable timber, combined with the lack of ready capital caused by the great stock market crash of 1929, finally brought the bonanza period to a close (Maxwell and Baker 1983:164-166).

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Early Twentieth Century Logging Industry in East Texas
Name of Multiple Property Listing

Statement of Historic Contexts - continued

The Bonanza Period of industrial logging would have never occurred were it not for the introduction of the railroad to the forests of east Texas in the 1880's (Maxwell and Baker 1983). Prior to that time, transporting cut timber to the mills was a slow, tedious endeavour dependent upon draft animals (such as oxen and mules), good weather, and good fortune. The advent of steam powered small gauge trains and loaders made it possible to transport ever larger loads of logs to the mills, which in turn encouraged the mill owners to build bigger, larger capacity mills which could handle even larger loads of timber transported by rail, and so on. The McGiffert steam loader, steam powered four-cable skidders, and the Shay steam engine transformed the east Texas logging industry in the 1880's and by the 1920's the system of main lines and spurs that crisscrossed east Texas resembled a large spider web upon the landscape.

By 1930, the vast majority of the east Texas forests had been logged and tram roads became fewer in number and longer in distance. These tram lines (spur lines, tram roads or dummy lines) are preserved today in East Texas in the form of an elevated ridge of dirt that once was the rail bed for a short lived tramline, or in the form of a gully or ditch which was a cut designed to reduce grade and make timber removal easier (Skinner 1979).

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Early Twentieth Century Logging Industry in East Texas

Associated Property Types

The most important feature of the mill was the millpond. It covered several acres and could store one to four million board feet of logs. The water provided ease of loading/unloading, preserved the logs from bark beetle attacks, and washed dirt and soil off the logs reducing wear on the saws (Maxwell and Baker 1983:73-74). The logs were moved onto a jack ladder, a continuous conveyor chain, and were hauled to the log deck. If no pond was available, rail tracks were placed as a siding as close to the saws as possible. Most large sawmills were two or three story buildings with the saw machinery on the second floor. The saw filer was located on the third floor, and kept the saws sharpened. On the second floor, the scaler measured and sized the log, using the cutoff saw to section the long timber into efficient cutting lengths. The log kicker was used to force the log off the trough and onto the sloping deck. A typical mill had a double kicker sending logs to the right or left sides of the band saws at either side of the mill. From here the sawyer took over, using the log loader and deck stops to move the log onto the carriage and hold the next log in place. The carriage was similar to a small railroad car powered by steam, with cable or piston action set on tracks, and included, dogs, guides, and buffers (Maxwell and Baker 1983:75). The bandsaw was a 30-50 ft. ribbon of steel 18 inches wide, which ran by two large wheels above and below the cutting area. The sawyer cut the log into boards, rotating and adjusting the log to obtain the best grain and highest grade. Single boards fell free, and were carried by conveyor to the edger, where the wane (outside surface of the tree) was removed and the lumber graded. From here the conveyor carried lumber and trash through the "bear pit", where merchantable pieces were sorted, Waste went to the "hog and slasher" to be ground up into fuel for the burner and power supply. Lumber passed through the trimmer, and out of the mill into the rough lumber yard where it was sorted into widths and lengths. From there it was moved by wagons, carts, rail, or conveyor to the drying area or kiln. After curing, the lumber went to the planer for remanufacture.

The "Sash Saw" was the most common type of saw used in early mills. It was directly derived from the single pit saw blade. It was held rigidly in a frame that moved up and down with the saw, cutting on the downstroke, while the log was pushed against the saw by a mechanical feeder. Power included animals, water, or steam. "From the sash saw developed the muley saw, in which the sash and frame were lightened and the stroke speeded up, and the first gang saw in which additional blades were fitted into the frame to increase production. The lumber produced by any of these methods produced no more than 500-2000 bft/d, and the boards were rough and uneven." (Maxwell and Baker 1983:19).

Samuel Miller patented the first circular saw in England in 1777. It was first produced in the Americas by Benjamin Smith, a blacksmith in New York State about 1820. Although mentioned in Texas in the 1830's, they did not come into general use until just before the Civil War. "Many operators feared the risk of injury from the circular saws when they were running at high speed and objected to the loss of one-fourth to one-half inch of the boards at every cut owing to the wide kerf (cutting groove) of the average circular saw. Some manufacturers of competing saws described the circular saws of this era as sawdust-making machines that produced some lumber as a by-product. Nevertheless, the greatly increased production promised by a continuous cutting edge prompted most operators to shift to the circular saw shortly before or soon after the war" Maxwell and Baker 1983:19).

MILL TOWNS:

The company town in East Texas was usually located adjacent to the mill itself. As a result these towns were often relatively isolated, placed where tracts of timber were, and where few people lived. The mill created work where none had been available, and the owners had to provide housing, usually deducted from pay. Most workers in Texas were married, and their families accompanied them to their jobs. In the 1880's and 1890's company towns began to develop around the larger mills, and housing in these towns was composed of segregated residential areas for the black and white workers and their families.

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Early Twentieth Century Logging Industry in East Texas

Associated Property Types - continued

An example of a typical company town was Camden, the headquarters of the W.T. Carter and Brother Lumber Company. Camden was built in 1898, with no particular plans as to how the town would grow (Maxwell and Baker 1983:137). The principal streets curved around a hill, two of which formed a complete circle. They were unimproved sand. By 1914, 450 houses had been built for the employees, with a row of houses for managers and Carter's house standing apart on the hill. In the business section were located the general store or commissary, the hotel/boarding house, the company offices and the depot for the Moscow, Camden, and San Augustine Railroad. One water well served four houses, and the water was hand carried until 1926 when plumbing was introduced. The employee's house was a simple box and strip or board and batten with four rooms, and front and rear porch. They were lit by kerosene lamp until 1926 when electricity became available. Most homes had gardens, and a few chickens were kept in pens or free-ranged in the yards. Wood cook stoves and potbellied stoves provided heating and served for food preparation.

SPECIALIZED CAMPS:

In addition to the mills and milltowns, rivers and railroads provided access to stands of timber. In the forest, additional camps were needed to maximize labor. These include front camps, which resembled miniature milltowns; turpentine camps focused on harvesting pine resins and their manufacture into turpentine; tie camps for production of railroad ties; stave camps to produce barrels; tent camps along railroads or in remote settings; and the cutting front itself.

Front camps were often constructed along rail trams at locations which were convenient to stage several hundred workers. These often included a rail yard, mule and oxen yards, segregated housing, a commissary, doctor's office, and a company office. In Shelby County, the Pickering Lumber Company constructed Camp Wilburn as the logging front moved away from the Haslam Mill. Another camp, Camp Brittain, was constructed as the front went further south. Also workers were frequently housed in tent camps, including Ragtown, and unnamed camps along the tramways. Another example is Camp Nancy, built 1918 by the Angelina County Lumber Company. It contained 200 tenant houses, a post office, a commissary, company offices, logging tram roads, oxen, mules, horses, skidders, and steam loaders.

Turpentine camps were established along rail trams or spurs. These were temporary facilities, some with post offices. These consisted of collection vats for storage of pine resin, collected from trees in the vicinity, which had been tapped. Ceramic or metal tubs on the pine trees were periodically emptied, bringing the products to the camp for storage and shipment.

Stave Camps were low focus camps dedicated to the production of barrel staves. These were often located in floodplains, where oak timber was available. Since pines were less common in these areas, the facilities were often dedicated only to barrel stave production and shipment.

Tie camps were staging areas for the collection and shipment of railroad ties. These were often positioned at the front of the railroad lines, and were usually temporary. Once the rail tram passed the camp, a new camp had to be established to furnish new ties.

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Early Twentieth Century Logging Industry in East Texas

Associated Property Types - continued

Historic Sites on the National Forests in Texas

In 1993, the Texas Forestry Museum began development of a database of historic sawmills in the twelve county area defined as the Deep East Texas Council of Governments. The Museum was joined in this development by the T.L.L. Temple Archives, the Sam Houston Regional Library, the USDA Forest Service and the School of Forestry at Stephen F. Austin State University. By the end of 1994, the database listed over 5,500 sawmills and logging industry related sites, located in forty counties from the Red River to the Gulf Coast in the eastern third of Texas. By the end of 1995, a linked database of Steam Logging Rail Roads had been also been developed. In 1998, the sawmill database was made available to the general public through the Texas Historic Sites Atlas Project. The following lists were compiled principally from the information in these databases, and are supplemented with data collected by USFS researchers from specific sites on the National Forests in Texas.

According to the Sawmill Data Base, the following sawmills are either located on tracts owned by the National Forests in Texas, or possibly located within the proclaimed boundaries of the forests but not necessarily on Forest land (e.g. exact locations of the sawmills have not been determined). Those known to be located on the Forest are in **bold type**. Counties are listed first, then location, owner, dates (if known), then information, if recorded.

ANGELINA NATIONAL FOREST

Angelina County:

Zavalla ~ Boynton Brothers (aka Retsel)	1920-193	
Monterey ~ Boynton Lumber Company	1904-1908	
Southeastern part of the County ~ L. E. Biggar	1919	
Monterey ~ Townsend and Matt	1907	
West of Mill Creek ~ William M. Perkins	1846-1855	

Jasper County

Aldridge ~ Kirby Lumber Company	1906-1917	41JP82
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Aldridge ~ Kirby Lumber Company	1914-1918	41JP82
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The site of the abandoned mill and township of Aldridge is along the east bank of the Neches River in northeastern Jasper County. Aldridge Mill was built in 1903 by Hal Aldridge and was owned by the Aldridge Lumber company. The town consisted of a post office, general store, hotel, two churches, blacksmith shop, a depot. The original mill burned in 1906 (it was after all constructed of wood) and the next mill was built of concrete. These buildings are still standing today. The buildings include the boiler building, the fuel building, the drying kiln and the engine building. Recent excavations have located the blacksmith shop, concrete foundation piers near the river of unknown use, and a possible charcoal kiln. The township consisted of up to 250 families, and although most of the evidence of habitation has been destroyed, there are some features that have been documented such as wells and trash middens. Aldridge Lumber Company sold it's interests in the property at Aldridge to J. E. Keith in 1918 who, on the following day, signed over the Aldridge Lumber Company property to the Kirby Lumber Company.

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Early Twentieth Century Logging Industry in East Texas

Associated Property Types

Blox and New Blox ~ Kirby Lumber Company logging front at Blox
1902-1918 41JP115

US Forest Service archival research concluded that the Kirby Lumber Company New Blox camp was established in 1924 and abandoned in 1933. It is also described as the A.L. Mays 102 acre tract, and formerly "Exclusion No. 3" in the land acquisition records. In the deed records, there is an affidavit from a Mr. J. B. Hodges dated September 22, 1935. He states that he has been connected with the Kirby Lumber Company since 1902, and has worked in "various capacities in the logging operations" up to present day (sic. 1935). He was a superintendent of the Old Blox camp in 1924. The location of Old Blox camp is south of the Angelina River in Jasper County and north of the town of Jasper (however, the exact site of Old Blox has not been relocated). When the new Blox camp was constructed, Mr. Hodges was superintendent of both the old camp and the new camp. He supervised the building of tram lines throughout Jasper and Angelina counties (these tracks were taken up in 1933 when the New Blox camp was abandoned). The tract of land was sold to A. L. Mays along with the houses. Mr. Hodges also stated that the Kirby Lumber Company allowed collection of turpentine prior to timber harvesting. The only features that have been noted to date on this historic camp are what was probably an old street and an area that likely contained houses and other structures.

Lewis Letney 1845-1850

San Augustine County

Sturgis (White City) ~ Sturgis Lumber Company	1917-1928
White City ~ Collwood Lumber Company	1919-1928
Veach ~ Kurth-Zeagler Lumber Company	1925-1930

Bannister ~ Bannister Logging Front 1900-1928 41SA214

Turpentine Camp 1898-1903; Lufkin Land and Lumber Company front camp 1903-1905; Long Bell Lumber Company logging town 1905-1933. Foundations and features, including the main streets, associated with the logging camp and commissary are still visible. There are numerous depressions that denote house locations and wells. The site also contains New Deal Era contextual information as Camp Broadbudd and later a prisoner of war camp.

DAVY CROCKETT NATIONAL FOREST

Houston County

Tadmore ~ Boatwright	1927-1930
Tadmore ~ Chamberlain	1922-1926
Colthorp ~ J.M. Smith	1844
Colthorp ~ Jesse T. Ratcliff	1880-1900

Kennard (near Ratcliff) ~ Louisiana and Texas Lumber Company 1902-1918

The Louisiana and Texas Lumber Company was owned by the Central Coal and Coke Company, thus the name Four-C Mill. This mill site was bought by Central Coal and Coke Company of Kansas City, Missouri, from J.H. Ratcliff, who operated a mill near this location from the 1880's to the 1890's. The new mill that was built, which became known as Four-C Mill, encompassed fourteen acres. It is located west of

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Early Twentieth Century Logging Industry in East Texas

Associated Property Types - continued

the community of Ratcliff, Texas, and partially within the confines of Ratcliff Recreation Area (north of State Highway 7) and Compartment 47 of the Davy Crockett National Forest (south of State Highway 7). NPS The construction and widening of State Highway 7 in the 1940's split the mill site into two segments north and south of the highway.

With its triple-band rig and fifty-two set gang saw, the mill was rated at a capacity of 300,000 board-feet of lumber per eleven hour day, and employed over 1,500 workers in the mill and logging operation. The structures included a dock conveyor, stacker, sawdust burner, drying shed with planer, bank vault, and an office commissary. Brick and concrete foundations of some of these buildings remain on the site today, as are logging tram berms on the south side of the mill site. A residential area for mill workers sprung up east of the mill, between it and Ratcliff, but was quickly abandoned upon closure of the mill in 1918. This site also contains contextual information on the New Deal Era, as a base camp for the Civilian Conservation Corps, and a small prehistoric component (41HO126) on a terrace downstream from the location of the mill pond dam.

Ratcliff ~ Ratcliff and Dickerson

1905

Trinity County

Apple Springs ~ W. F. Davis

1907

SABINE NATIONAL FOREST

Sabine County

Little Camp 41SB219 early 1900's

Potentially part of the Rockwell Community 1847-1905. It was latter associated with Pickering Lumber Company in the 1920's. Part of the Pickering logging tram is present at this location. The noted features here comprise of linear alignments of embedded ironstone rock that may represent foundations for structures associated with the logging front, "Little Camp."

Remlig ~ Gilmer Lumber Company

The sawmill

and town location are unknown at this time but it has been suggested that the site is just west of US Forest Service Property in Sabine County. The Remlig Cemetery is located on US Forest Service Property. During the Big Thicket Survey a multicomponent site was discovered just east of the purported location of Remlig that contained historical materials that may or may not be associated with the town of Remlig.

Stringtown ~ Unknown, possibly Gilmer Lumber Company

Location is just north

of Forest Service property and may possibly have been a front camp for Gilmer Lumber Company. During the Big Thicket survey an historic site was discovered that was the homestead from 1916-1923 that may have been associated with Stringtown; 41SB146.

San Augustine County

East of Bland Lake ~ McFarland Bothers Lumber Company 1906-1908

New Hope ~ Will Nicholas

1929-1930

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Associated Property Types - continued

Shelby County

near Paul's Store ~ William Clinton Hughes	1880-1900
New Harmony or Strong Community ~ Sam Miller	1917
East Hamilton ~ W. D. Eddins	1884

Camp Brittain ~ Pickering Lumber Company 1917-1933 41SY96

This site also contains a segment of the Pickering Main Line Tram. Still visible at this site are the faint remnants of roads, trash middens, a well (this has to be near the commissary, according to an oral interview; they ran water from the one well to several houses), and artifact scatters of ceramic, glass, metal and brick. According to an oral interview with Max Brown, Camp Brittain contained a boarding house, outhouses (with pits), and shotgun style houses. The foundation piers for these houses were either concrete, local "fill stone", or wooden blocks. None of these have been observed on the site. According to Mr. Brown, there were no churches or schools here but there was a barber shop and post office.

Camp Wilburn ~ Pickering Lumber Company 1908-1917 41SY178

Camp Wilburn was used as a logging town until 1917, when it was moved to the site of Camp Brittain as the logging front progressed southward. It was noted to have a commissary, offices, mess hall and a doctor's office. Trash middens are present as are some faint roads. Some of the roads that were constructed during Camp Wilburn's days are still in use today.

Ragtown

1920(?) 41SY232

41SY232 may be a related component of Ragtown. The site was documented in 1998 in the vicinity of the reported location of Ragtown, and contained a cultural assemblage that dates to the early 1900's. The assemblage, comprised mostly of wash tubs, ceramics, and glass, was recorded in the field; also noted was a trash deposit in a shallow ravine. According to an interviewee, (Max Brown) Ragtown got it's name when five prostitutes came from Shreveport and set up tents. They used the tent ropes to hang their clothes on and the workers from Camp Brittain (several miles south) began to refer to the tent city as Ragtown.

SAM HOUSTON NATIONAL FOREST

Montgomery County

Timber (Peach Creek) ~ Peach Creek Lumber Company	1902-1912
Peach Creek ~ J. R. Bell	1901

Camp Letcher ~ Delta Land and Timber Company 1915-1928

Temporary Site number 97SH036-1. According to an affidavit by W.H. McGregor, dated July 26, 1935, this logging camp was built in 1915-1916 and consisted of a store and houses for the employees. The site of this camp is along Delta Land and Timber Company's tram road that ran northwest from Conroe along the west fork of the San Jacinto River, into what is now part of the Sam Houston National Forest. Mr. McGregor was a superintendent for Delta Land and Timber Company from 1905-1931. It was also stated in the affidavit that along all of said tram tracts (a maze running through Montgomery and Walker Counties), and at all times during the operation thereof, there were established and maintained numerous logging camps which were used by persons in the employ of the Delta Land and Timber Company, where said persons lived, had their homes, and where their livestock was kept. J. M. Hall prepared an identical affidavit to that of Mr. McGregor on July 23, 1935. He worked for Delta Land and Timber Company from 1908-1932 as a surveyor. Another identical affidavit was prepared by Robert Cherry, dated July 15, 1935. Mr.

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Early Twentieth Century Logging Industry in East Texas

Associated Property Types - continued

Cherry started to work for Delta Land and Timber Company in 1914 and became an Assistant Woods Foreman in 1917. In 1920 he became a Woods Foreman and continued to work in that capacity until 1927.

San Jacinto County

Evergreen ~ W. R. Wright	1917-1923
Coldspring ~ Needmore Mills	1903-1912
Coldspring ~ Mitchell and McGowan	1880-1892
Evergreen ~ Shropshire and Daugherty Sawmill	1900-1910

Walker County

near Plum Lake ~ Silas Gammon Mill

pre 1845 to post 1854

Also known as Barnett's Mill and as Hartwell and Stillwell Mill. The mill was bought out by Thomas Flood and Thomas Caruthers and it was reported that they built a new mill in 1854.

Dodge ~ Ball and Smithers Company	1882-1900
Kelley's Switch (near Barado) ~ B. A. Eastham	1908
Dodge ~ J. C. Hill Lumber Company	1905-1910
Dodge ~ Hall and Hall	1905-1907
Barado ~ P.G. Peterson	1879-1880
Phelps ~ Barrett and Cline Lumber Company	1905-1919
Phelps ~ Cline Brothers	1893-1893
Phelps ~ A. H. "Hutch" Steely	1900-1962
Phelps ~ J. A. Hayes and Webb	1889-1901
Phelps ~ Hays and Gossage	1882-1908
Phelps ~ Kelley and Robbins	1879-1880
Phelps ~ Phelps Lumber Company	1924-1925
Phelps ~ S. Campbell	1905-1908
Phelps ~ W. Roy Reid Lumber Company	1919-1920
9 miles SE of Huntsville ~ Angle and Stryker	1881-1884
Barado ~ E. S. Morrow and Sons	1917-1921
Dodge ~ William C. Josey	1879-1894
Phelps ~ L. T. Sloane	1879-1904

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Geographical Data

UTM References

Because of the vast area covered by this context, it is recommend that UTM's be dealt with on the basis of the individual locations for sites nominated under this multi-property listing. Verbal Boundary Description

There are actually two boundaries discussed in this historic context. The first is the broader general boundary which encompasses the area that was directly affected socially, economically, and environmentally by activities related to the turn of the century logging industry in east Texas. The second is the more limited boundary of the lands under the jurisdiction of the National Forests and Grasslands in Texas.

1. GENERAL BOUNDARIES - East Texas Pine Forest Area: The general study area boundary for this historic context is the pine forest lands or "pineywoods" of East Texas (See Map 1). This area extends from the Red River in the northeast corner of the state, southward to the region bordering Galveston Bay, and from the Louisiana border on the east, to the Black Prairie region on the west. This area includes all or portions of forty-four counties. Alphabetically, these counties are; Anderson, Angelina, Bowie, Cass, Camp, Chambers, Cherokee, Franklin, Freestone, Gregg, Hardin, Harris, Harrison, Henderson, Hopkins, Houston, Jasper, Jefferson, Leon, Liberty, Madison, Marion, Montgomery, Morris, Nacogdoches, Newton, Orange, Panola, Polk, Rains, Red River, Rusk, Sabine, San Augustine, San Jacinto, Shelby, Smith, Titus, Trinity, Tyler, Upshur, Van Zandt, Walker, and Wood (See Map 2).

2. SPECIFIC BOUNDARIES - The National Forests in Texas: The four National Forests in Texas include the Angelina, the Davy Crockett, the Sabine, and the Sam Houston. Together these four forests cover a total of 637,386 acres in south and central East Texas. They include portions of Angelina, Houston, Jasper, Montgomery, Nacogdoches, Newton, Sabine, San Augustine, San Jacinto, Shelby, Trinity, and Walker counties (See Map 3).

Boundary Justification

1. GENERAL BOUNDARIES: The general boundaries for this context were established based on environmental factors (the boundaries of the pine timber producing lands in East Texas), and on historical factors (the area in which activities related to this context took place).

2. SPECIFIC BOUNDARIES: The more specific boundaries of the context are limited to the lands included within the National Forests in Texas. The justification for limiting the focus of the context to these boundaries is simply a matter of jurisdiction. Because this historic context was produced as a planning document by the USDA Forest Service for the National Forests in Texas, the focus of the document had to be kept within those jurisdictional boundaries.

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Early Twentieth Century Logging Industry in East Texas

Summary of Identification and Evaluation Methods

The remains of the early 20th century logging industry which can be found on the four National Forests in Texas represent the full range of logging industry related sites and features. Major mills and mill towns, such as Aldridge and 4-C, represent the highest level of development, with multiple saws, large residential areas, commissaries, hotels, schools, churches, and other conveniences one would expect in a small community. Smaller front camps, such as Bannister, Brittain, Wilburn and Ragtown, while smaller and only temporarily occupied, contain equally complex features as the larger mill towns. These essentially mobile encampments were laid out in a precise pattern with primary and intersecting secondary thoroughfares lined by tents or other types of temporary housing. They were usually established next to the main lines of the logging railroads, which connected them with the primary mill and its mill town. These logging railroads, or trams, provided not only the principal means of carrying cut timber to the mill, but also functioned as a basic transportation system for the front camp workers, who usually had families living in the primary mill towns. These trams were extended as the logging fronts advanced through the virgin pine forests, often resulting in an intricate spiderweb design of cleared routes that would eventually become the basis for a fully developed rural transportation system of Farm-to-Market and County Roads. Without this infrastructure, the modern development of East Texas would not have been possible.

Generally speaking, sites associated with early 20th century logging industry on the National Forests in Texas retain sufficient integrity to yield data important to our understanding of this period of history. More specifically, they retain integrity in terms of their location, design, setting, cultural materials, and associations with persons (and corporations) who were important in the development of the modern forest products industry in East Texas. Chronologically, they are associated with the first great flourishes of commercial logging beginning in the late 1890's, and lasting until the 1920's. Architecturally, few of the sites retain substantive structural features. Those that do, most notably the Aldridge Mill in Jasper County and the 4-C Mill in Houston County, retain substantial integrity in layout and overall design components, as evidenced by the presence on both sites of literally hundreds of concrete and/or brick piers which supported drying decks, heavy machinery, and buildings. No substantive architectural remains have been noted at the locations of the various front camps or turpentine camps. However, they do retain significant densities of cultural materials which can be chronologically placed within this three decade period. Elevated berms and grade-level cuts associated with the logging trams are often found in close proximity to these front camps, contributing to the integrity of the overall setting for a particular mill or camp.

The beginnings of industrial logging in the last decade of the 19th century and the first decade of the 20th century were brought about by the aggressive entrepreneurship of men well versed in their craft. Many of the most influential lumbermen in East Texas had begun their careers in the forests of the northeast and great lakes regions, and as those forest resources began to dwindle they turned their attention to the southern pine forests of the southeast. They brought with them a well developed and efficient system for timber extraction and lumber production that changed the face of East Texas economically, socially and culturally. Their logging and sawmill operations provided steady income, something not previously available to the rather isolated residents of East Texas. The mill towns and logging camps provided a central focus for social and cultural interaction among employees and other local residents. Even though life in the mill towns was often dictated by the companies that owned them, sometimes rather severely, the sense of community that comes from shared experiences was universal and provided the solid base for further community development in East Texas in later decades. Generally, the larger and more influential mill owners, such as Lutchter and Moore, T.L.L. Temple, the Thompson Brothers, and Carter-Kelly companies, were responsible for the more well developed and advanced mill towns, with electrical power and running water available to most, if not all, mill town residents.

In assessing the significance of known sites from the early 20th century logging industry on the National Forests in Texas, there is little doubt that they meet most, if not all, the criteria necessary for being determined eligible for listing on the National Register of Historic Places. They retain integrity in terms of their locations and settings. They contain intact archeological deposits of cultural materials, in relatively undisturbed soil matrices, that will yield data important to our further understanding of this economically, culturally and socially significant industry. This data is important on both a local and state level, as the early 20th century logging industry played a critical role in providing the raw materials necessary for the growth of the state's urban centers at the turn of the century, as well as having a significant impact locally on the growth and development of the rural areas of East Texas. They are

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Early Twentieth Century Logging Industry in East Texas

Summary of Identification and Evaluation Methods - continued

associated, either directly or indirectly, with those persons crucially important to the development of the commercial logging industry in East Texas at the turn of the century, people such as T. L. L. Temple, John Henry Kirby, Henry J. Lutchter, G. Bedell Moore, W. T. Carter, Ernest L. Kurth, and John A. Thompson, to name a few. In addition, Kurth, Kirby, Temple, and Thompson, along with State Forester W. Goodrich Jones, were responsible for the bringing about the creation of the National Forests in Texas in the late 1930's.

In the future, newly discovered sites associated with the early 20th century logging industry should be assessed under the same criteria of integrity of location, setting, design, cultural materials and association with persons/corporations important to early 20th century East Texas. These criteria will be addressed primarily through principal source research, such as archived company records, oral histories, database searches, and academic publications, and field investigations. The field investigations will require the identification and mapping of any extant surface or structural features, including foundations, earthworks (such as small dams and tram berms), and dense concentrations of cultural materials (such as trash dumps or chimney fall). Where extant surface or structural features are not present, or not readily identifiable due to dense vegetation, subsurface tests may be necessary. These tests may be in the form of a series of shovel tests (40-50cm square) established in such a pattern that the investigators may be able to identify a material culture associated with the early 20th century logging industry. Such a material culture may include, but not be limited to, ceramics, glass, nails, or other materials that can be definitively placed in a chronological setting of 1890-1920. It may also include specialty tools associated with the logging and railroad industry, such as railroad spikes, blacksmith tools, and saw blades (or portions of saw blades), or such things as slag from a forge in blacksmith shop. An intermixing with materials from 1940 to the present may not necessarily negate the chronological association, but it may have an adverse effect on the site's contextual integrity if there are no other extant or structural features with which to clearly define the relationship between the site and the early 20th century logging industry. In most cases, the principal source research will initially establish the chronological, cultural, and economic associations while the field investigations will provide corroborating or conflicting material data to support or discount the initial association.

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Attachment 1

Map 1 – Pine Timber Region of East Texas
and Timber Species Areas

Map 2 – Commercial Pine Producing Counties in East Texas

Map 3 – National Forest Lands in Texas

FIGURE 1
Pine Timber Region of East Texas

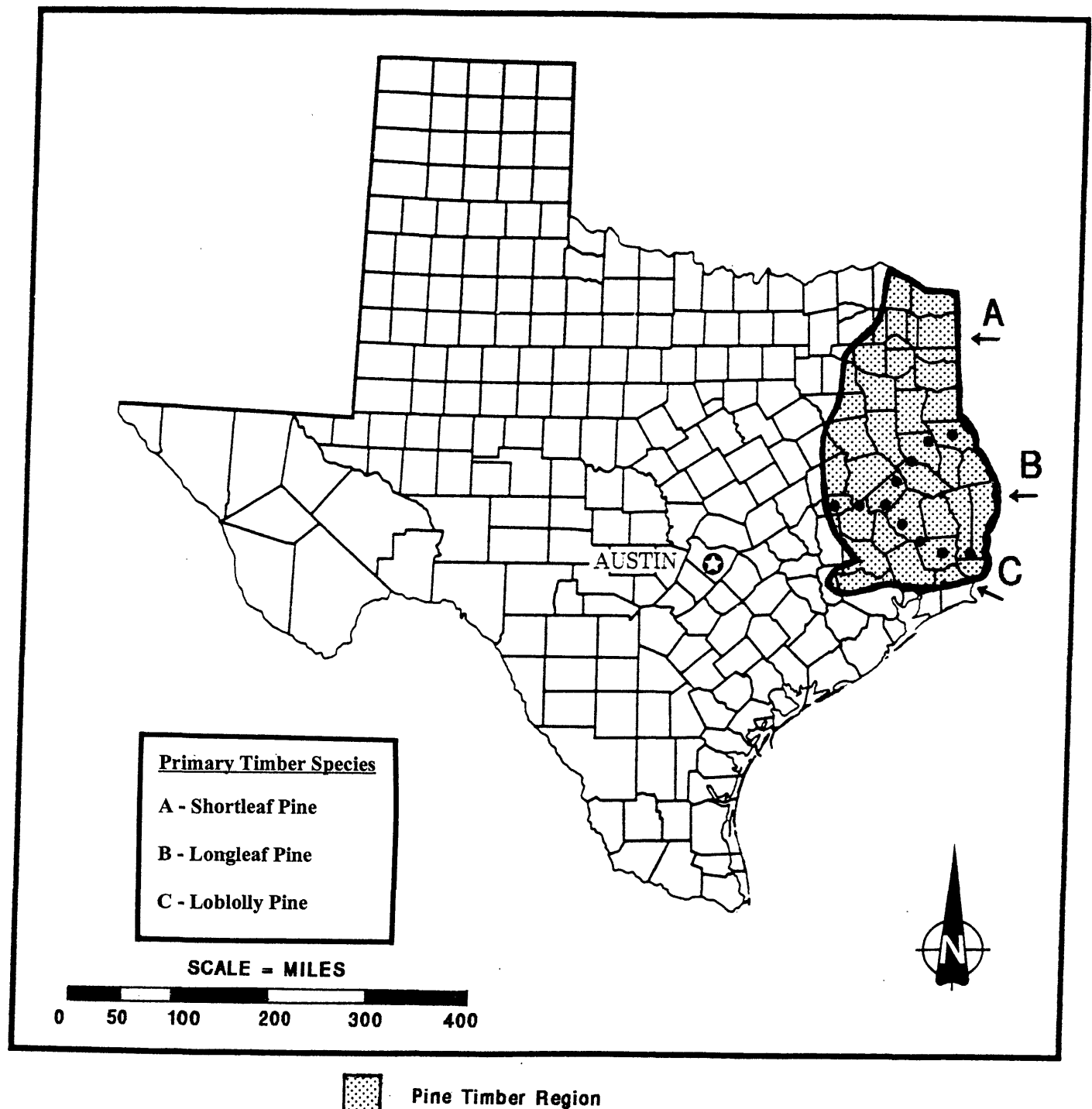


FIGURE 2
Commercial Pine Timber Producing Counties in East Texas

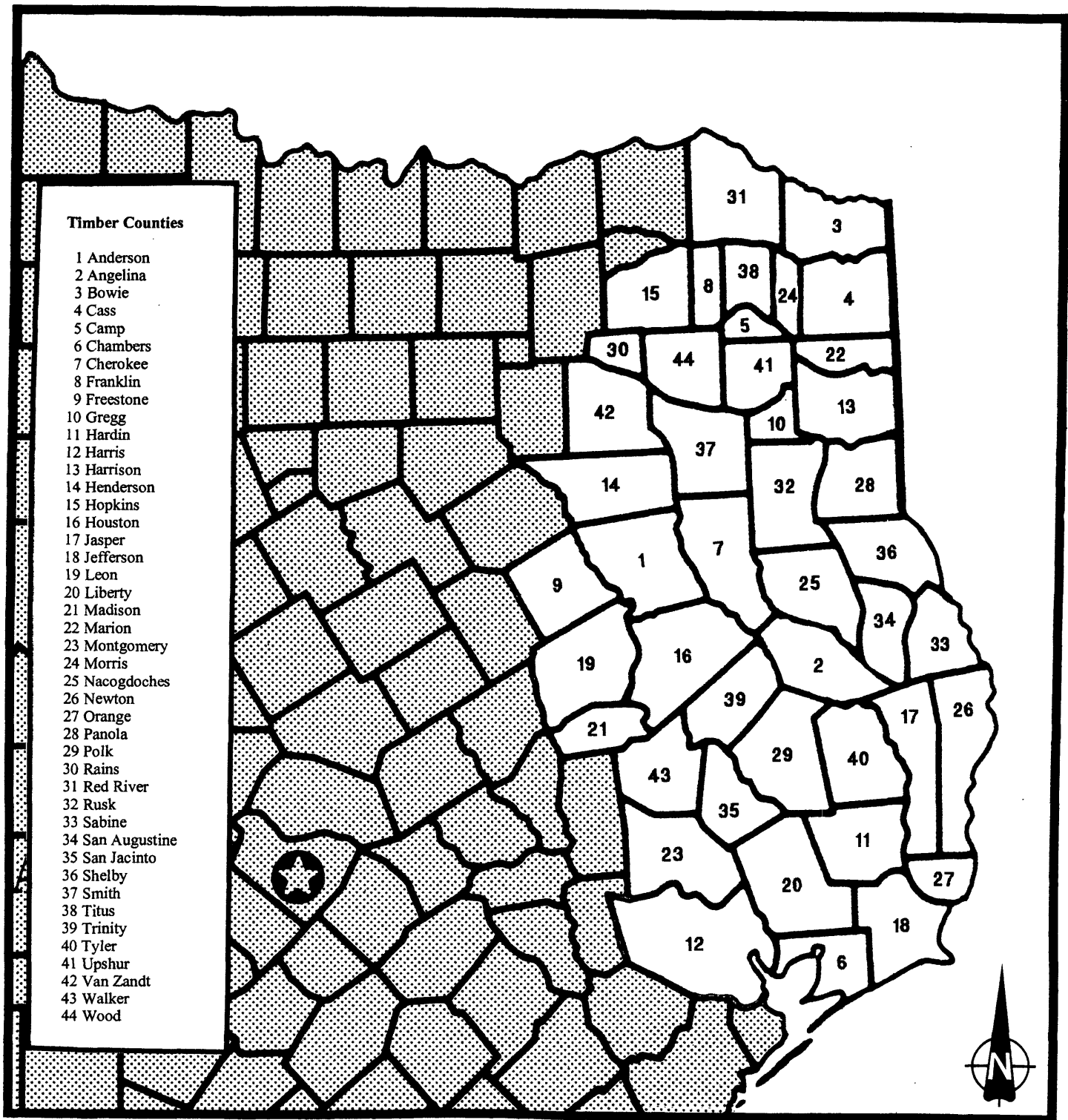
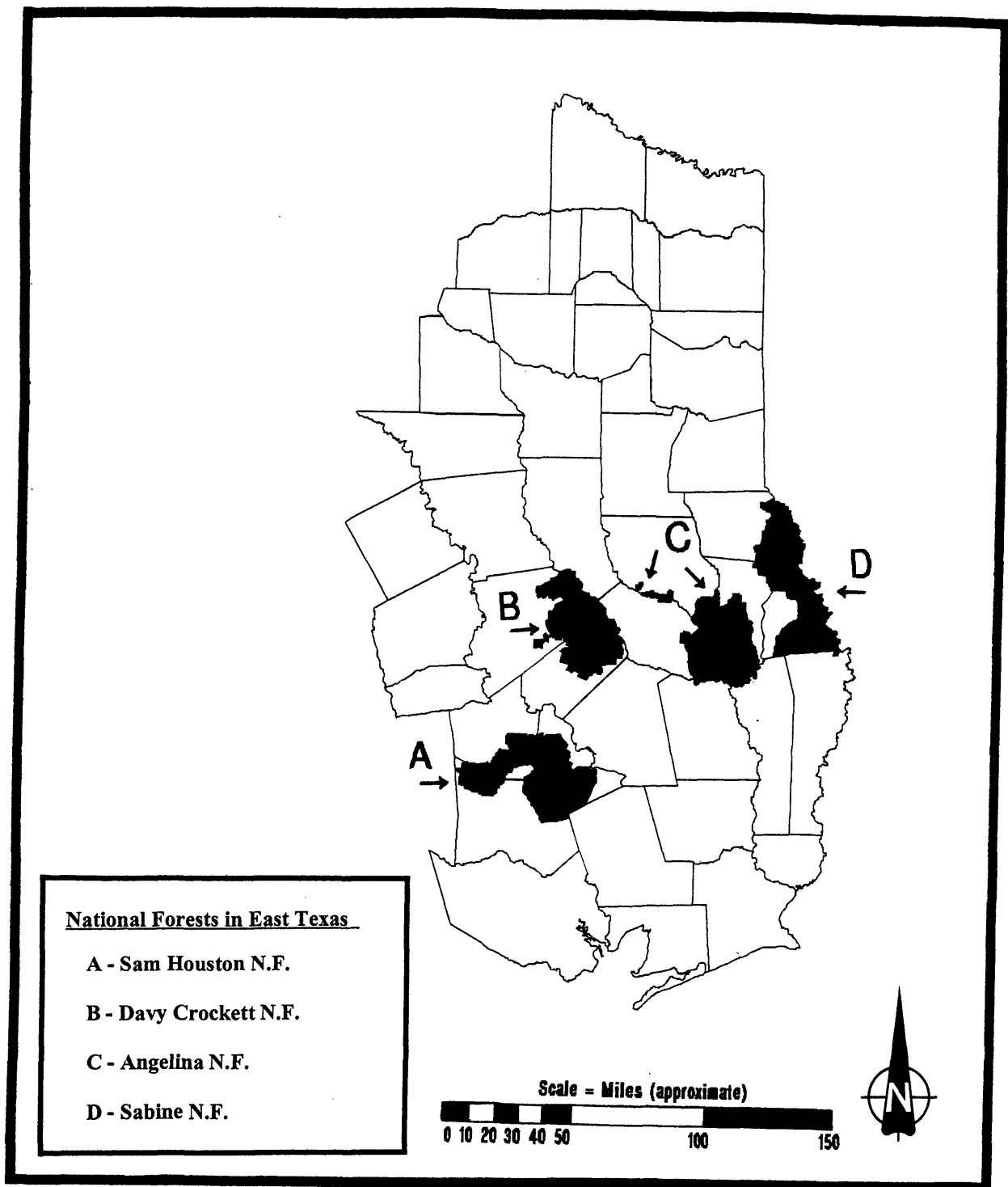


FIGURE 3
National Forest Lands in East Texas



Attachment 2

Historic Context for the
Early Logging Industry in
East Texas

**An Historic Context
for the Early Logging Industry in East Texas:
A Planning Document for the
National Forests and Grasslands in Texas**

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26 July 1999

Abstract

The cultural, social, and economic structures for modern East Texas were shaped and molded by the early 20th century logging industry. Commercial logging in the East Texas pineywoods began about 1820 with small, water driven mills producing lumber for local consumption. After the Civil War, railroads began to open up the eastern and central portions of Texas to national and international commerce, and by the early 1880's a transportation system was in place that allowed for the construction and operation of larger, more productive mills. The resource base for these mills was the great, largely untapped pine forests of the East Texas region. National growth during this "bonanza" period along with the material needs of World War I, and the depletion of northern forests, created a strong market for southern lumber. This encouraged the establishment of more, bigger, and more powerful mills. By the 1920's most of the old growth forest had been cut out, and the scant second growth was not yet merchantable. This coupled with the stock market crash of 1929 severely depressed the Texas timber industry, ending the bonanza period.

This historic context serves as a guide to assist in the identification, evaluation, and preservation of historic properties related to the early logging industry in East Texas. Historic properties located on the four National Forests in Texas include mill sites and their related communities, specialized camps, and tram grades. Most of these appear to meet the criteria necessary for being determined eligible for listing on the National Register of Historic Places, as they retain integrity in terms of their locations and settings. They also contain intact archaeological deposits of cultural materials, in relatively undisturbed soil matrices, that will yield data important to furthering our understanding of this economically, culturally, and socially significant industry.

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Sabine National Forest	
Sabine County	

San Augustine County
Shelby County
Sam Houston National Forest

Resource Assessment

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Appendix A - Table 1. East Texas Sawmill Data Base Total Entries by County
- Sawmill Distribution Maps of East Texas
from 1820 to Present

Appendix B - East Texas Sawmill Data Base List by County
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Figure 3 - National Forest Lands in East Texas	5

Introduction

The history of East Texas during the last one hundred and fifty years is inextricable from that of its logging industry. The inception and growth of the commercial logging industry in East Texas brought about tremendous changes in the social, political, economic, and environmental composition of the region. The time frame under consideration runs from A.D. 1836 to A.D. 1945, with the primary focus on the period known as the "Bonanza" era, a time of great activity and growth, which lasted from the early 1890's to the late 1920's. During that time the logging industry was the primary focus of activity in the region, whether directly as in the operation of the big mills, or indirectly in the development and operation of supportive industries such as port facilities, railroads, equipment suppliers and mercantiles, down to family farms supplying produce to the growing sawmill communities. Because of its place in the history of the region, it is important that historic sites related to the East Texas logging industry be evaluated, protected, and preserved.

This historic context is presented as a guide to assist in the identification, evaluation, and preservation of historic properties related to the early logging industry in East Texas. It has been developed as part of the larger, statewide historic context on agriculture, and will be used in developing both evaluation criteria and predictive models, as outlined in the Heritage Management Plan for the National Forests and Grasslands in Texas (Martin et al. 1995).

In this document, the history of the logging industry throughout the East Texas region will be considered in basic terms as a background for a more site specific study. This study, which is also incorporated into this document, focuses on the historic resources located on the Angelina, Davy Crockett, Sabine, and Sam Houston National Forests, and on the lands within the proclaimed boundaries of these forests.

The Study Area and its Environment

The study area for this historic context is the pine forest lands or "pineywoods" of East Texas (Fig. 1). This area extends from the Red River in the northeast corner of the state, southward to the region bordering Galveston Bay, and from the Louisiana border on the east, to the Black Prairie region on the west. This area includes all or portions of forty four counties. Alphabetically, these counties are; Anderson, Angelina, Bowie, Cass, Camp, Chambers, Cherokee, Franklin, Freestone, Gregg, Hardin, Harris, Harrison, Henderson, Hopkins, Houston, Jasper, Jefferson, Leon, Liberty, Madison, Marion, Montgomery, Morris, Nacogdoches, Newton, Orange, Panola, Polk, Rains, Red River, Rusk, Sabine, San Augustine, San Jacinto, Shelby, Smith, Titus, Trinity, Tyler, Upshur, Van Zandt, Walker, and Wood (Fig. 2). A band of hardwood forest commonly referred to as the Post Oak Belt, is located on the western border of the pine forest region. Outside the Post Oak Belt is the first true grassland, known as the Black Prairie, and characterized by a deep black lime-rich soil over limestone and marl, which deters the encroachment of pine into the area (Swanson 1995:27) (Pool 1975:11).

FIGURE 1
Pine Timber Region of East Texas

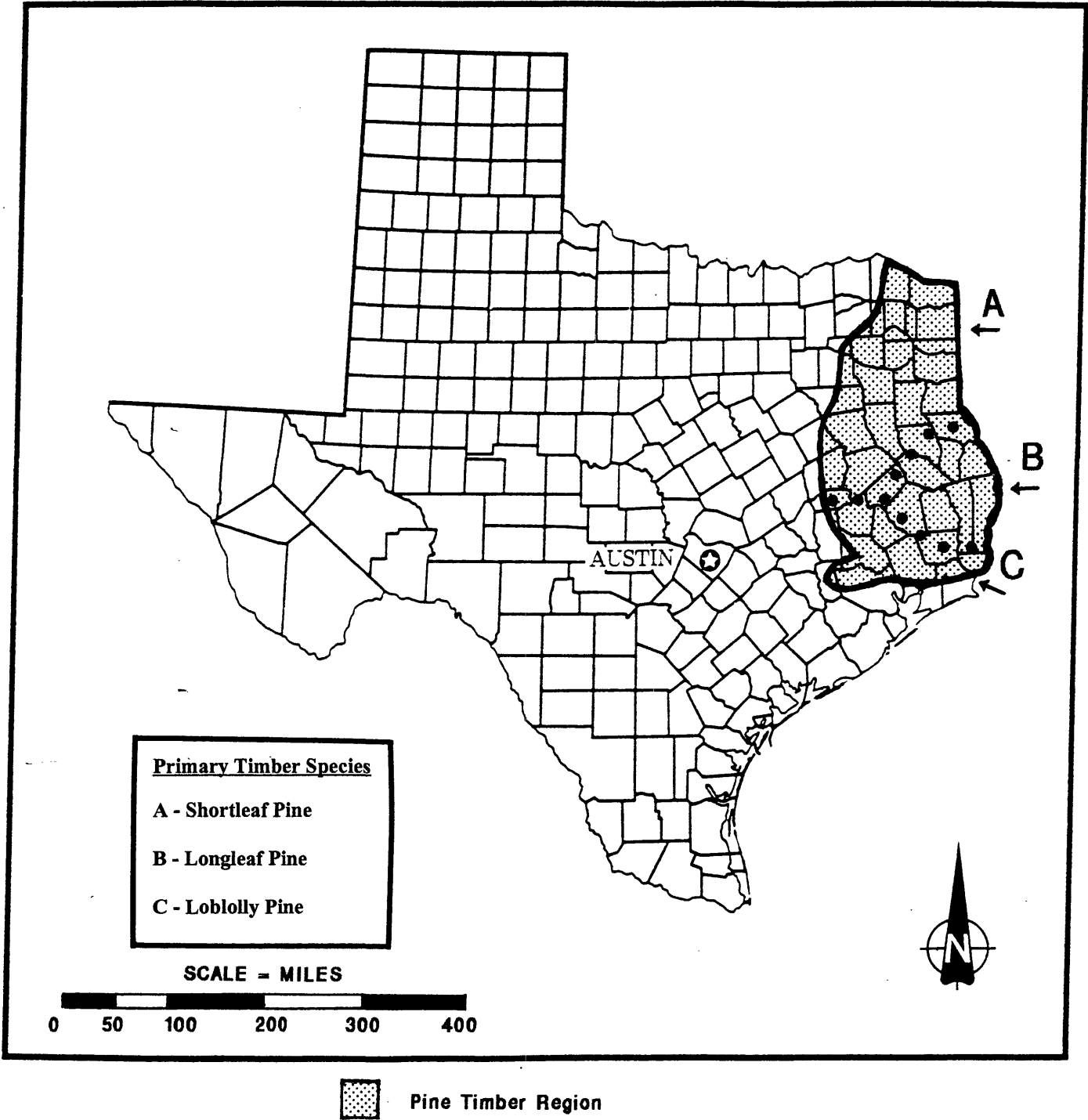
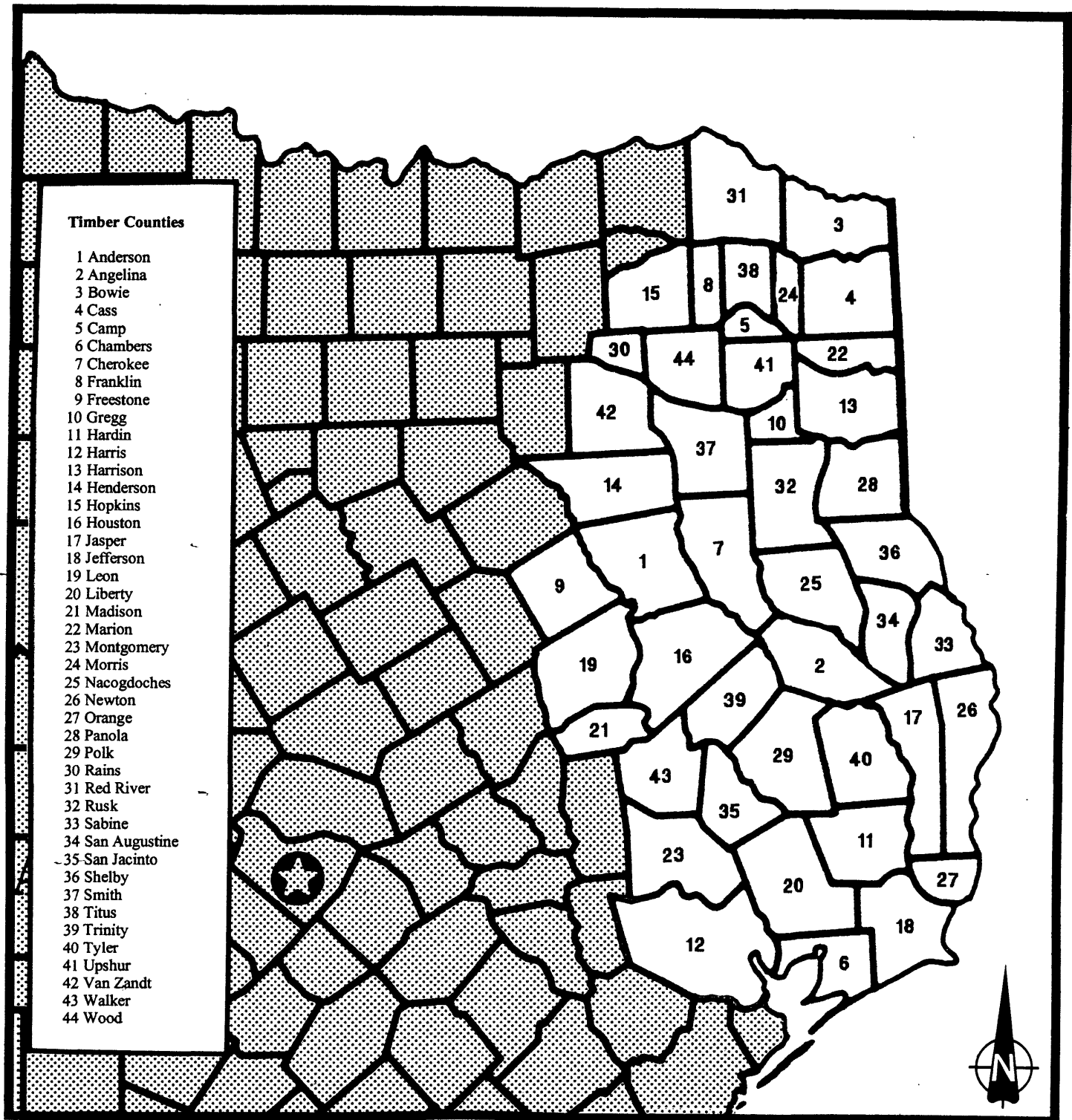


FIGURE 2
Commercial Pine Timber Producing Counties in East Texas



The four National Forests in Texas are the Angelina, the Davy Crockett, the Sabine, and the Sam Houston. Together these four forests cover a total of 637,386 acres in south and central East Texas. They include portions of Angelina, Houston, Jasper, Montgomery, Nacogdoches, Newton, Sabine, San Augustine, San Jacinto, Shelby, Trinity, and Walker counties (Fig. 3).

GEOMORPHOLOGY, SOILS, AND CLIMATE

The East Texas timber lands lie within the Gulf Coastal Plain physiographic province. In Texas, this plain rises from sea level at the gulf shore to an average elevation of 500 feet in the central and northeastern areas. Its highest elevations occur around Del Rio where it rises to approximately 1,000 feet (Swanson 1995:23-24). The topography in East Texas is gently rolling to hilly in the north and central areas, becoming flatter as you near the gulf. It is a well watered area and contains the Angelina, Neches, Sabine, and Trinity rivers as well as many creeks and bayous. The soils found in the study area include the Boswell, Bowie, Kirwin, Lakeland, Lufkin, Nacogdoches, Norfolk, and Ruston series. Upland soils tend to be well drained, light colored fine sandy loams and sand with clay subsoils, while the bottom land soils are dark colored, acidic, sandy loams and clay. (Swanson 1995:26-27; Nixon and Cunningham 1985:7; Pool 1975:4-9).

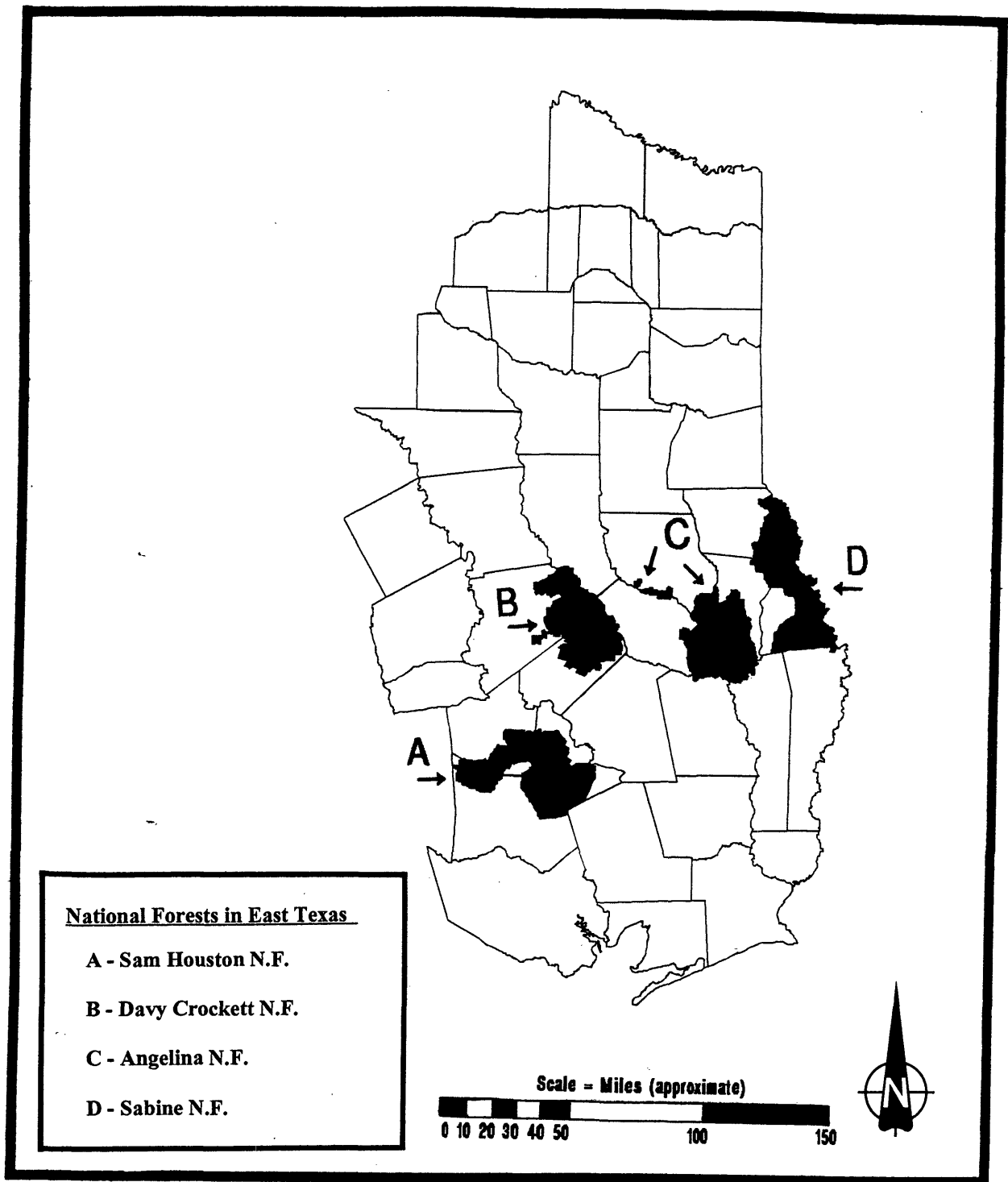
The climate of East Texas is humid mesothermal with temperatures normally ranging from a high of 105°F (41°C) to a low of 10°F (-12°C). This produces four seasons usually occurring as a warm spring, hot summer, warm autumn, and mild winter. The average growing season ranges between 228 to 270 days, and rainfall averages from 35 to 50 inches (89 to 127 cm) annually (Nixon and Cunningham 1985:7).

VEGETATION

In their illustrated volume "Trees, Shrubs, & Woody Vines of East Texas", Nixon and Cunningham (1985:8) divide the vegetation in the East Texas region into three basic community types; the Dry Upland Communities, the Mesic Upland Communities, and the Mesic Creek Bottom Communities. These communities are described as follows:

The Dry Upland Communities are those occurring on well drained deep sandy upland soils. These areas occasionally experience drought especially in the summer and fall. Hardwoods tend to be dominant in these areas, and the most common species include post oak (*Quercus stellata*), black hickory (*Carya texana*), blackjack oak (*Q. marilandica*), sandjack oak (*Q. incana*), and black oak (*Q. velutina*). Pines are occasionally co-dominant with shortleaf (*Pinus echinata*) found in the north and central area and longleaf (*P. palustris*) occurring in the southeast. Other trees found in these areas include sweetgum (*Liquidambar styraciflua*), red mulberry (*Morus rubra*), woollybucket bumelia (*Bumelia lanuginosa*), southern red oak (*Q. falcata*), sassafras (*Sassafras albidum*), winged elm (*Ulmus alata*), and rusty blackhaw (*Viburnum rufidulum*). Understory vegetation common in these areas include yaupon (*Hex vomitoria*), farkleberry (*Vaccinium arboreum*), American beautyberry (*Callicarpa americana*), wingrib sumac (*Rhus copallina*), St. Andrews Cross (*Ascyrum hypericoides*),

FIGURE 3
National Forest Lands in East Texas



and southern dewberry (*Rubus trivialis*). Commonly occurring woody vines include summer grape (*Vitis aestivalis*), pinewoods grape (*V. lincecumii*), peppervine (*Ampelopsis arborea*), muscadine grape (*V. rotundifolia*), poison ivy (*Rhus toxicodendron*), Virginia creeper (*Parthenocissus quinquefolia*), saw greenbrier (*Smilax bona-nox*), and mustang grape (*V. mustangensis*).

The Mesic Uplands hold more water within the soil, remaining moist during most of the year. These are usually rather flat areas, often associated with creeks, and having closed canopies. Loblolly pines (*Pinus taeda*) are found in these areas. Other commonly occurring species include southern red oak, Sweetgum, flowering dogwood (*Cornus florida*), mockernut hickory (*Carya tomentosa*), winged elm, water oak (*Q. nigra*), black cherry (*Prunus serotina*), sassafras, fringtree (*Chionanthus virginica*), black gum (*Nyssa sylvatica*), sugar maple (*Acer saccharum*), and American elm (*Ulmus americana*). Understory in the mesic uplands includes American beautyberry, poison ivy, dwarf pawpaw (*Asimina parviflora*), red buckeye (*Aesculus pavia*), bristleleaf blueberry (*Vaccinium amoenum*), southern wax myrtle (*Myrica cerifera*), farkleberry, Carolina holly (*Ilex ambigua*), common witchhazel (*Hamamelis virginiana*), yaupon, and arrowwood viburnum (*Viburnum dentatum*). Vine commonly found in these areas include supplejack (*Berchemia scandens*), cross vine (*Bignonia capreolata*), Carolina jessamine (*Gelsemium sempervirens*), Japanese honeysuckle (*Lonicera japonica*), Virginia creeper, cat greenbrier (*Smilax glauca*), and muscadine grape.

The Mesic Bottoms consist of flat deeply channeled creek bottoms containing well drained soils and a dense canopy. The overstory in these bottoms includes red maple (*Acer rubrum*), river birch (*Betula nigra*), American hornbeam (*Carpinus caroliniana*), bitternut hickory (*Carya cordiformis*), American beech (*Fagus grandifolia*), American holly, silverbell (*Halesia diptera*), sweetgum, sweetbay magnolia (*Magnolia virginiana*), black gum, eastern hophornbeam (*Ostrya virginiana*), white oak (*Quercus alba*), water oak, and prickly ash (*Zanthoxylum clava-herculis*). The understory primarily consists of giant cane (*Arundinaria gigantea*), American beautyberry, brook euonymus (*Euonymus americanus*), deciduous holly (*Ilex decidua*), farkleberry, common pawpaw (*Asimina triloba*), spicebush (*Lindera benzoin*), and arrowwood viburnum. The vines commonly found in the bottoms include poison ivy, Carolina snailseed (*Cocculus carolinus*), supplejack, muscadine grape, Virginia creeper, and laurel greenbrier (*Smilax laurifolia*).

FAUNA

The East Texas pineywoods support, and have historically supported, a large number of animal species. Large mammals currently found in this area are the bobcat, coyote and white-tail deer. Historically the area also provided habitat for the Louisiana black bear and the red wolf. Small mammals that are found in East Texas include over 70 species of insectivores, bats, and rodents. Fox squirrels, gray squirrels, and flying squirrels are all found in this area. Just over 300 species of birds have been recorded in the timber lands of East Texas, some of which represent annual migrations through the area. Additionally, 59 reptiles and 30 amphibians have been recorded in the area, including 19 reptiles and 8 amphibians that are closely associated with aquatic habitats (USDA Forest Service 1996:87-89).

COMMERCIAL PINE TIMBER

There are currently four species of pine timber found in East Texas; longleaf pine (*Pinus palustris*), shortleaf pine (*P. enchinata*), loblolly pine (*P. taeda*) and slash pine (*P. elliottii*). Of these, the first three are native species, and the fourth, slash pine, is an exotic (non-native) type. Slash pine is a southeastern species, found primarily east of the Mississippi River (Lohrey & Kossuth 1990:338). It originally came to East Texas in the 1930's when it was planted by the Civilian Conservation Corps (CCC) as part of a large forest regeneration effort. Slash pine was therefore, not present and not a factor in the bonanza period of the East Texas logging industry.

Longleaf pine has commonly been referred to as longstraw, yellow, southern yellow, swamp, hard or heart, pitch, and Georgia pine. It is estimated that longleaf pine once covered as much as 5,000 square miles in Texas (Fig. 2). The species develops best in association with periodic surface fires which result in open parklike stands. Although longleaf will thrive under a wide variety of conditions, in East Texas this species was primarily located on well drained sandy ridges of the south-central part of the region. Mature longleaf pine trees produce a large amount of high quality resin which made them an important resource for the naval stores (turpentine and resin) industry. Their lumber is of a high quality and is well suited for use in a variety of ways, including poles, posts, sawlogs, plywood, and pulpwood (Boyer 1990:405-411; Maxwell and Baker 1983:4).

Shortleaf pine is also referred to as shortleaf yellow, southern yellow, oldfield, shortstraw, or Arkansas soft pine. It grows well under a variety of soil and site conditions, and has the widest range of any pine species in the southern United States. In Texas, its range is primarily in the northern part of the timber region, and covers approximately 30,000 square miles extending from the Red River in the north to the edge of the longleaf range in the south-central part of the region (Fig. 2). Shortleaf pine was the first of the Texas pines to be exploited commercially due to the early expansion of the railroads into its range. It is most commonly used for the production of lumber, plywood, and other structural materials. It is also used for pulpwood, and in some cases even the taproot may be used for pulp (Lawson 1990:316-323; Maxwell and Baker 1983:5).

Loblolly pine, sometimes referred to as Arkansas, Carolina, or oldfield pine, originally covered an estimated area of about 7,000 square miles in Texas (Fig. 2). Its range was originally south and west of the longleaf area, and included all or parts of San Jacinto, Walker, Montgomery, Harris, Jefferson, Liberty, Orange, Harden, Grimes, Newton, Jasper, and Chambers counties. Because it has excellent reproductive characteristics including rapid juvenile growth, much of the current "second-growth" pine forest of southern and central East Texas is loblolly. Loblolly is used for lumber, and makes excellent habitat for both game and non-game species (Baker and Langdon 1990:497-507) (Maxwell and Baker 1983:4-5).

Historic Background

The historical era for Texas can be subdivided in numerous ways. In this discussion it is generally defined as beginning at A.D. 1519. It is then subdivided into periods based on local events and government rule.

THE EXPLORATION PERIOD 1519 - ca.1750

Spanish colonists from Haiti explored the Atlantic and Gulf coastlines of North America between 1513 and 1519, when Alonso de Pineda sailed along the Texas coast. In November 1528, survivors of the Narvaez expedition were cast ashore near Galveston, marking the first European footfalls in Texas (Castaneda 1936). The region covered by this context may have been first traversed by remnants of the Hernando de Soto expedition, led by Luis de Moscosco (Reese et al 1986:154, Kenmotsu et al. 1993). There is a gap in the record until 1679, when French and Spanish competition for dominion led to several expeditions into the study area, most notably by survivors of La Salle's failed colony.

SPANISH AND MEXICAN COLONIAL PERIOD ca. 1750 - 1836

In 1756, two missions were established by the Spanish on the lower Trinity River, within the context study area (Bolton 1914, Foscue 1960). By the mid-18th-C. both French and Spanish traders had expanded existing exchange networks with Native Americans residing in East Texas.

Although the Spanish system of land grants was designed to provide land only to Spanish citizens of the Catholic faith, some Americans began to take advantage of this system by immigrating into Spanish territory. In 1797, for example, Moses Austin immigrated into Spanish Louisiana (i.e., present-day Missouri), renounced his American citizenship, adopted the Catholic faith, and developed a strong relationship with Spanish officials (Haley 1985:9). After the Louisiana Purchase in 1803, Moses Austin began to plan trade missions to Spanish Texas. In 1819, after a financial panic, he followed Spanish requests to immigrate to Texas to secure an Anglo-American colony, with himself as empresario. The Spanish land allocation system allowed the empresario to charge fees from settlers while still obtaining land in compensation for encouraging settlement. Following the Mexican Revolution in 1821, Moses Austin and his son, Stephen, gained the opportunity to persuade the new government to allow the planned settlement of Texas, which was approved with a new colonization law in 1823. According to this new law, each settler received a maximum of one league (4,428.40 acres [1,792.11 ha]) for ranching and one labor (177.11 acres [71.67 ha]) for cultivation (Haley 1985:17).

The public domain in East Texas was first distributed during the Spanish period, particularly around the settlements of Nacogdoches and San Augustine. Notable among these early grants are the lands granted to Peter Ellis Bean. Bean exemplifies the nature

of the American frontiersmen who settled Texas, and is discussed in greater detail here to elucidate the settlement history of the area.

Peter Ellis Bean first entered Texas in 1801 as a filibuster with Philip Nolan, hunting horses and trading with Indians along the Brazos River, where they were captured by Spanish Troops. Only Bean survived. Bean was also involved in the revolts of Magee-Gutierrez (1813) and Dr. James Long (1819, 1821) which aided in the final overthrow of the Spanish government and establishment of the Republic of Mexico. Bean was appointed commander of the Mexican garrison at Fort Teran (1831-1832) in northern Polk County on the Neches River. He operated a sawmill in Nacogdoches, and resided at several locations along El Camino Real between Nacogdoches and the Neches River. He made frequent trips along this road to Mexico, practicing his trade as a entrepreneur. Bean was granted over 40 leagues of land for his services to the Mexican government.

El Camino Real, or "the King's Highway," is also known as the San Antonio Road, was first blazed in 1692. However, the road was in many places little more than a double horse pack trail (Maxwell and Baker 1983:12). Travel was seasonally treacherous, and the road was only a slight stimulus to settlement and development of commerce in East Texas.

During this time, both indigenous and immigrant Texas Indians were denied land rights, primarily through diplomatic maneuvers such as those of Joel R. Poinsett, United States Ambassador to Mexico, who prevented Richard Fields (principal civil chief of the Texas Cherokees) and John Dunn Hunter from securing the Cherokee land grant in East Texas (Drinnon 1972:xvi). Through intrigues with Stephen Austin and approval of their tribe, both Fields and Hunter were assassinated by Di Wali, The Bowl, commonly known as Bowles or Colonel Bowles, who was made a Mexican Colonel as a reward for these assassinations (Starr 1917, 1921). Generally speaking the indigenous and native groups residing in East Texas were seen as unwelcome competitors for Mexican lands desired by European Americans. Conversely, land surveyors and speculators were seen as direct threats to native American lifeways and homes.

THE REPUBLIC OF TEXAS 1836-1845

On 1 March 1836, Texas declared its independence from Mexico and through armed revolution won its independence on 12 May 1836 (i.e., Treaty of Velasco), retaining that independence for a decade (Haley 1985:48, 84). As a fledgling nation, Texas was without any financial structure. In order to develop a treasury, Texas sold its only commodity, land. From 1836 to 1838, Texas organized a system of public land allocation which was based on a network of land districts. This system, among other benefits, allowed veterans of the War for Independence from Mexico or their heirs, to be paid for their services through land grants. Recent immigrants could also receive land at minimal cost. An empresario system modeled after the Spanish/Mexican colonial system was established to encourage settlement. This first land grant system (measured in varas [1 vara = 31 to 34 inches, 78.74-86.36 cm]) allowed individual selection of tracts and fostered the empresario system which, in turn, promoted wholesale grants to citizens.

This process stimulated land entrepreneurs, or speculators, to treat land as cash. Frequently a land grant was sold several times prior to actual survey. Some people began to acquire enormous landholdings. This factor attracted corporate investment in large sawmill operations that came several decades later.

THE STATE OF TEXAS 1845-PRESENT

As further inducements for attracting settlers, the Republic of Texas proposed to build the Central National Road in 1844. Control of this highway was taken over by the United States when Texas was admitted to the Union on 29 December 1845. Due to the natural obstacles of rivers and muddy soils, few overland roads were suitable for travel at all times, particularly in East Texas. Rivers, which formed the backbone of commerce in the United States, were erratic in water flow and clogged with logs, snags, and silt. Only the lower Red River below the Great Raft, and the lower courses of the Sabine, Neches, and Trinity rivers along the Texas Gulf Coast could be reasonably exploited for shipping.

The entire region gradually grew in the decade prior to the Civil War. Overland roads and trails and some rivers provided seasonal transportation. The centers of commerce developed along the Gulf Coast, where marine shipping could interface with riverine steamboats and overland wagon haulers. Logging rafts, keelboats, and later steamboats operated only during optimal river flow conditions as high as Rockland on the Neches River, Marion on the Angelina River, and Logansport on the Sabine River (Sitton 1995:82-83). Baldcypress logging was an important operation for coastal plain mills, but trees had to season before they could be floated to the mill during flood stages (*ibid.* 90). Active development of the railroads began in 1860-1861. Due to this lack of transportation, the vast pine forests of East Texas could not be fully exploited in a profitable manner. Consequently, despite the abundance of standing timber, there was a chronic shortage of lumber within Texas.

The Civil War halted settlement and economic growth of East Texas. Investment in transportation began again after the war, particularly due to the liberal policies of the State, which granted land to rail companies for each mile of track they lay. The Houston and Texas Central Railroad (H&TC) had reached the central Brazos River by the time the war broke out. Construction began rapidly in 1866, with the creation of a number of towns along this line, all focused on the production of cotton. The H&TC was completed in 1871, and connected Houston with Dallas. Also, the H&TC joined the Missouri, Kansas and Texas Railroad at Denison in Grayson County, completing a rail line from Houston to St. Louis. Thus, the Gulf centers of commerce were now connected to interior Texas, and an alternative route was established to the large markets of the eastern and midcontinental United States.

By 1880, railroad development had reached a point where main lines connected most of East Texas. At this time an new innovation in logging, the band saw, also arrived. Concurrently, the forests of the Great Lakes were being cut out, and investment capitalists were turning their attention to the forests of the south, and Texas in particular. This marked the beginnings of the Bonanza Era for Texas logging, and the rise of the big mills. Again, land speculators combed through the court houses and land districts of East

Texas, acquiring lands that were unclaimed or available for back taxes. The landholdings that followed were among the largest seen to date in Texas.

By 1901, the railroad system was nearly complete for Texas, with a net mileage of 10,000 miles in place. The completion of the telegraph system at the same time provided a quick, cheap, and reliable outlet for the marketing of wood products (Maxwell and Baker 1983:155). This set the stage for massive investment in, and expansion of, the logging industry. Corporations built much larger mills along rail spurs in the remaining uncut areas of East Texas.

By 1920, many of the lands acquired by the big mills were cut out, leaving tangled thickets of second growth hardwoods, mixed with a few pine seedlings. Foresters and conservationists complained that the practice of free-range husbandry eliminated pine regeneration and promoted the growth of hardwood, thereby eliminating the potential for sustained yield logging. Some companies moved to the West Coast, where large tracts of lands and forest were available to sustain the cut-and-run method of logging. Others went bankrupt, letting their lands fall into receivership. Many hoped that the cotton boom would spill over into the cut over forests, and that the lands could be sold to small farmers or leased to tenants. However, the collapse of King Cotton, and the relatively poor productivity of the forest lands combined to deny this type of settlement.

Because Texas had retained its public lands when it became a state in 1845, the federal government lacked national parks and forests in the state. The Weeks Act of 1911 and the Clarke-McNary Act of 1924 authorized the federal government to purchase cut over lands where no national parks existed. As noted above, Texas had large areas of cut over land available for purchase. In May 1933, the Texas legislature passed a bill, supported by both lumbermen and conservation groups that authorized the U.S. Forest Service to appraise and purchase lands (Maxwell and Baker 1983:208-209). The federal government bought more than 90% of the lands that were to comprise the National Forests in Texas from eleven (11) lumber companies. The Angelina National Forest was purchased from the Kirby Lumber Company (57,035 acres), the Long-Bell Lumber Company (73,880 acres), the Pickering Lumber Company (3,922 acres), and the Cameron Lumber Company (14,116 acres), at an average price of \$2.91 per acre. The Davy Crockett National Forest was purchased from the Houston County Timber Company (94,126 acres) and the Trinity County Lumber Company (61,419 acres) at an average price of \$8.90 per acre. The Sabine National Forest was purchased from the Pickering Lumber Company (85,699 acres), the Temple Lumber Company (80,974 acres), and the Gilmer Lumber Company (12,509 acres) at an average price of \$2.82 per acre. The Sam Houston National Forest was purchased from the Delta Land and Timber Company (82,774 acres), the Foster Lumber Company (32,183 acres), and the Gibbs Brothers and Company (30,440 acres) at an average price of \$4.00 per acre.

Beginning in 1898, the Forestry Bureau of the U.S. Department of Agriculture began an agreement program with Texas lumber companies and private individuals to develop working plans to restore the forests and develop a sustained yield strategy. From the 1930's to the present, the U.S. Forest Service has replenished the East Texas forest reserves and developed effective sustained yield practices, while conserving soil, water, and other natural resources.

THE BIG NAMES

This section briefly describes individuals who played roles in the development of logging in East Texas. These are presented in a rough chronological sequence to parallel the discussion of historic processes that led to the logging boom. Appendix A presents a visual representation of the growth of the logging industry, in terms of the number of sawmills per county per decade, from 1820 to the present. The data for these figures was derived from information in the East Texas Sawmill Data Base by the HUES GIS Laboratory in the Department of Geography at Stephen F. Austin State University, Nacogdoches, Texas.

Undoubtedly there are many unknown people, great and small, that contributed to logging, and others that could not be mentioned in this summary. The *Handbook of Texas Online* (<http://www.tsha.utexas.edu/handbook/online.html>) provides voluminous sources of information on people, places, and events that surround the East Texas logging industry. Other sources include *East Texas Mill Towns and Ghost Towns*, Volumes I and II (Block 1994, 1995), *Sawdust Empire* (Maxwell and Baker 1983) and *East Texas: A Timbered Empire* (Foscue 1960). Finally, the East Texas Sawmill Data Base, funded by the U.S. Forest Service, in cooperation with the Texas Forestry Museum and Stephen F. Austin University, provides more specific information on the heart of the East Texas logging country. Table 1, at the beginning of Appendix A, presents a listing of the total number of entries in the data base for each county in which the National Forests are located.

Formative Logging 1820-1860

The first sawmill identified with a specific individual is the 1829 mill on Carrizo Creek, Nacogdoches County, built by Peter Ellis Bean. As noted above Bean was an important entrepreneur and land speculator. He built a waterpowered, combined sawmill (sash saw) and gristmill four miles east of Nacogdoches on the upper Melrose Road, and also ran a lumberyard in Nacogdoches. He built his home, and other early homes in Nacogdoches from this mill. In 1832, Bean and Frost Thorn jointly purchased a sawmill and gristmill on LaNana Creek from Jose Mora (Maxwell and Baker 1983:17). In 1834 Bean apparently moved one or both of these mills eight miles south of Nacogdoches on LaNana Creek. The output of these and other mills of similar technology is estimated to be 500-2000 board feet per day (bft/d). Products included lumber, scantling, boards, planks, and other building materials.

In 1830, John R. Harris, the founder of Harrisburg, purchased a mill in New Orleans, that was set up in Texas by William P. Harris, David Harris, and Robert Wilson. This mill was one of the first steam sawmills in the Buffalo Bayou region. It was described as a small steam powered circular- saw outfit with a "make-shift Arkansas smoke kiln" (Maxwell and Baker 1983:18). The lumber it produced was sold locally or shipped to Central Texas, with some wagons going as far as San Antonio.

In 1836, Robert Booth(e) built a small sash mill north of Orange, on the Sabine River. It was capable of cutting 1500 bft/d (Maxwell and Baker 1983:18). In the 1840's Robert Jackson had established a sash mill powered by a engine and boilers salvaged from a steamboat at Turner's Ferry on the Sabine River. A spring flood destroyed the mill in 1847, when Jackson moved the mill to Greens Bluff (Orange), reputedly the first steam sawmill in Orange (Maxwell and Baker 1983:18-19).

By 1860, an estimated 200 mills were operating throughout the state of Texas, with about 1200 employees. Raw lumber was increased in price by 70% by the manufacturing process, and the annual value was estimated to be \$1.75 million (Maxwell and Baker 1983:19). Sawmill owners in the East Texas interior were forced to settle for local trade combining a grist mill and/or general merchandise store, while coastal lumbermen had developed a considerable export trade worldwide. The Civil War disrupted the development of logging, along with many other businesses. Lumber exports fell to one-fourth the pre-war volume.

Civil War and Recovery 1860-1876

In 1852, John M. Thompson established a small mill in northern Rusk County. In 1865, with an influx of investment capital and northern loggers, Thompson built a new, larger mill and increased capacity to 8000 bft/d (Maxwell and Baker 1983:20). With his brothers and sons, Thompson built larger and larger mills, until they had cut out their reserves and moved to Trinity County in 1881. Here, they continued to expand, becoming one of the major lumber companies (Thompson-Tucker Lumber Co.) in Texas. Mills were located at Old Willard (Woodlake) in 1890, Big Mill (1903-1923), and in 1922 The Thompson Brothers reorganized as the Rock Creek Lumber Company.

Judge David R. Wingate moved to Texas just prior to the Civil War and established a mill as a sideline venture on the Sabine River in Newton County. After the war, he moved to Orange, along with many others. In 1874, Wingate built a new steam mill with circular saw that had a capacity of 20,000-30,000 bft/d (Maxwell and Baker 1983:20).

Alexander Gilmer also immigrated to Texas before the Civil War, engaging in shipping and shipbuilding. He was a blockade runner during the Civil War. Afterwards, in 1866 he entered the sawmill business, building a mill in the Sabine River near Orange (Maxwell and Baker 1983:20). Eventually he (the Gilmer Lumber Company) owned several mills and extensive acreage. Some of their lands were incorporated into the Sabine National Forest.

Among others investing after the war, Fritz Amsler, of Montgomery County, built a sawmill with an attached planing mill. The Gibbs Brothers created the Palmetto Lumber Company in San Jacinto County in 1874. In 1870 at Beaumont, W.A. Fletcher joined the Long Lumber Company, and by 1876 helped organize the Beaumont Lumber Company (Maxwell and Baker 1983:20). These men controlled operations averaging 25,000-40,000 bft/d.

The Bonanza Era (1876-1917)

In 1867 William B. Cameron established a lumberyard in Warrensburg, Missouri from which he supplied the Missouri, Kansas, and Texas Railroad (MKT) with ties as well as additional products to the public. He continued to build yards as the MKT built south, opening a major yard at Waco in 1876 (Maxwell and Baker 1983:91-92). By 1890 he had over 60 retail yards and six sawmills, including two sawmills at Saron (15 miles west of Groveton) and one at Carmona. Part of Cameron's acreage was incorporated into the Angelina National Forest.

The increasing pace of development in Texas attracted two prominent western Pennsylvania lumbermen, H.J. Lutchter and G.B. Moore; who recorded detailed information of a trip through Texas in 1877 (Maxwell and Baker 1983:22-32). As they had used rivers to denude the Pennsylvania forests, they hoped to use the East Texas rivers to the same purpose; but ended up mixing river and railroad to move their timber to the mill. By the end of 1877, they had purchased a sawmill at Orange, and begun construction on a larger mill. "Early employees described it as a mill with double circular saws and a gang saw, with clippers, edgers, trimmers, and a steam-carriage operation" (Maxwell and Baker 1983:31). The capacity of the mill ranged from 80,000-100,000 bft/d, until the circular saw were replaced with high speed band saws and a second mill was built. Lutchter and Moore purchased land on both sides of the Sabine River, from the U.S. General Land Office in Louisiana, individual counties and the Texas General Land Office in Texas, and stumpage from farmers where ever they could; choosing pine stands in uplands, and baldcypress stands in lower bottoms. Among the railroads they built were the Gulf, Sabine, and Red River; the Mississippi and Ponchartrain; and the Orange and Northwestern.

In 1879, John M. Foster established a lumber yard in Kansas, and exploited the Oklahoma land boom of 1893. He expanded his operations in 1894 to Texas, buying 1476 acres of timberland in Montgomery County. In 1896, he formed the Trinity River Lumber Company, centered in, Conroe, and eventually Houston. With the aid of investors in 1902, he purchased the Thompson/Tucker timber rights. In 1905 he built the mill town of Fostoria. Part of Foster's acreage was incorporated into the Sam Houston National Forest.

In 1882, the Josserand Brothers (Peter and Frank) bought a mill and 60,000 acres, and incorporating the mill of Colonel McDuffy, 2.5 miles east of Groveton (Block 1995:354-355). They formed the Josserand and West Lumber Company, which closed in 1909. Part of the Josserand acreage was purchased by the Trinity County Timber Company, which became part of the Davy Crockett National Forest.

In 1884, Robert A. Long formed the Long Bell Lumber Company of Kansas City. By 1902, the company had expanded, with 35 retail yards, and had moved into Texas buying timberlands and building sawmills. By 1918 they had 119 retail yards, over 12 sawmills, and controlled 600,000 acres in Arkansas, Louisiana, and Texas. The principal business in Texas was the Lufkin Land and Timber Company and Fidelity Lumber Company which was purchased in 1912 from the Thompson Family at Doucette. The

core of their timberlands was located in Angelina, San Augustine, Tyler, and Trinity counties. Part of the Long Bell acreage was incorporated into the Angelina National Forest.

John Henry Kirby, known as the "Prince of the Pines" was a practicing lawyer in Woodville, Texas with a passion for the pine forest. In 1887, he persuaded a group of Boston capitalists to invest in growing trees and buying timberland. They formed land companies (The Texas and Louisiana Land and Lumber Company and the Texas Pine Land Association) in Louisiana and Texas that soon acquired over 250,000 acres of virgin pinelands containing an estimated three billion board feet of lumber (Maxwell and Baker 1983:100). Kirby built the Gulf, Beaumont, and Kansas City Railroad in 1893. By 1897, the railroad was completed as far as Roganville, with plans to extend it to San Augustine, Center, and Marshall. Kirby sold the railroad to the Atchison, Topeka, and Santa Fe Railroad, and they also invested in the purchase of more timberlands. In 1901, with Patrick Calhoun, Kirby organized the Houston Oil Company of Texas and the Kirby Lumber Company. At one time, the Kirby Lumber Company controlled more than 300,000 acres of land and operated thirteen (13) sawmills. During the Great Depression, Kirby's securities became unmarketable and his liabilities exceeded his capacity to pay, forcing his bankruptcy in 1933. The Kirby Lumber Company was not involved, and continued operations, even though lumber prices had fallen below production costs (Maxwell and Baker 1983:104). Eventually, the Santa Fe incorporated the Kirby Lumber Company as a subsidiary. Part of Kirby's acreage was incorporated into the Angelina National Forest.

In 1887 Joseph H. Kurth, Sr. immigrated from Germany to Galveston, where he entered the lumber industry. He worked in a number of Gulf towns, including Seguin, Willis, and Hartley. He invested in a small sawmill in Polk County on the Houston East and West Texas Railway. Kurth purchased a sawmill from Charles L. Keltys and J.A. Ewing in 1888. It was located on the Cotton Belt Railroad about two miles west of Lufkin, and had 5000 acres of attached timberland. In order to upgrade the mill, Kurth developed an investment relationship with a Corrigan businessman, Simon W. Henderson, forming the Henderson and Kurth partnership. Joined by Sam Weiner in 1890, the three formed the Angelina County Lumber Company (Maxwell and Baker 1983:105-110). In 1900 Kurth chartered his tramroad as the Angelina and Neches Railroad, with hundreds of thousands of acres of land holdings in Angelina, Nacogdoches, and San Augustine counties.

In 1888, William Goodrich Jones, a banker from Temple, Texas began to promote "Arbor Day" in Texas. By 1888, Governor Sul Ross and Jones had established Arbor Day and The Texas Forestry Association, with the purpose of replanting trees. In 1898 Bernard E. Fernow, chief of the Bureau of Forestry, U.S. Department of Agriculture, asked Jones to take a horseback survey of the virgin pine forests of East Texas and provide a report. The bleak documentary pointed to a great need for forest conservation.

It is rare now to find a good body of pine standing along the railroad,
the best must be sought ten and fifteen miles back....The hope of the
forests is that the State or the United States government will intervene,

and pass laws limiting the cut to certain sizes, also employing a forestry patrol to guard against fires and waste. (Baker n.d.).

Jones helped establish the Texas Forest Service at the A&M College of Texas in 1918. In 1933, as President Emeritus of the Texas Forestry Association, Jones wrote President Franklin D. Roosevelt and Robert Fechner, Director Emergency Conservation Work requesting the formation of a Federal Forest Reserve and Game and Bird Sanctuary on the cut over pine lands of East Texas (Baker n.d.). This led to the formation of the National Forests in Texas.

In 1890, R.M. Keith, a land purchaser for the Central Coal and Coke Company of Kansas City (presided by C.S. Keith) began to purchase lands in Houston and Montgomery counties. In 1902, the Four-C absorbed the small mill of J.H. Ratcliff and built a large ambitious plant in Houston County. The plant had a capacity of 300,000 bft/d, but the landholdings were boxed in by Kurth, Temple, and Thompson properties. Although the Four-C acquired 120,000 acres, by 1918 it had cut out, abandoned operations, and sold to the Houston County Timber Company (Maxwell and Baker 1983:157). The latter dismantled the large mill. The Houston County Timber Company was incorporated into the Davy Crockett National Forest. In 1913, the Delta Land and Timber Company, a subsidiary of the Central Coal and Coke Company of Kansas City, built a large mill south of Conroe, with 90,000 acres of timberland (Block 1995:198-199). This acreage was incorporated into the Sam Houston National Forest.

In 1890, William T. Joyce expanded the Iowa-based sawmill and retail yard complex of his father (David Joyce) by purchasing a sawmill in Groveton, including more than 75,000 acres of virgin timber, and building the Groveton, Northern and Lufkin Railroad. The Trinity County Lumber Company mill had a capacity of 300,000 bft/d and cut an estimated total of a billion board feet of lumber (Maxwell and Baker 1983:198). The mill closed in 1930, bringing instant depression to the town and surrounding county. Part of the acreage was incorporated into the Davy Crockett National Forest.

In 1893, Thomas L.L. Temple, Southern Pine Lumber Company of Texarkana, purchased 7000 acres of timberland from John C. Diboll of Louisiana. A millsite was built on the Houston, East and West Texas Railroad, with a capacity of 60,000 bft/d. Timber resources came from a strip of land along the Neches River in Angelina, Anderson, Cherokee, Houston, and Trinity counties. Temple later purchased other firms and founded the Temple Lumber Company at Pineland. Today, Temple owns over one million acres in Texas. Part of Temple's acreage was incorporated into the Sabine National Forest.

The W.T. Carter and Brother Lumber Company built the company town of Camden in Polk County and chartered the Moscow, Camden, and San Augustine Railroad in 1898 (Maxwell and Baker 1983:45-46 and 137). Carter resisted the shift to steam haul skidders, and used oxen much later than other loggers.

William H. Knox was a lumberman from the white pine forests of the Great Lakes, who moved to Texarkana around 1900, from where he operated a lumber business and began to establish retail yards in West Texas. In 1903, he purchased a large

timberland and constructed a mill east of Livingston in Polk County. He built and chartered the Livingston and Southeastern Railroad which joined the Houston, East and West Texas Railroad at Livingston. When the Polk County mill lands neared exhaustion, Knox purchased 25,000 acres in Sabine County, and began building a larger mill near Hemphill. This mill, which was finished by his son, W.H. Knox, Jr., began operations in 1913 (Maxwell and Baker 1983:111-115). The mill town was called East Mayfield, and was a model company town. The town was connected to the Santa Fe Railroad at Bronson by the Lufkin, Hemphill, and Gulf Railroad. In 1922, Knox sold the mill and most of the timberlands to T.L.L. Temple and the Southern Pine Lumber Company.

In 1913, W.R. and W.A. Pickering (father and son) of the Pickering Lumber Company built a mill at Haslam with a capacity of 200,000 bft/d. In addition to properties in Missouri, Arkansas, Oklahoma, Louisiana, and Texas, the Pickerings owned more than 100,000 acres in Shelby, Sabine, and San Augustine counties. Logging was done entirely by tramroad using mostly steam haul skidders to deliver logs to the tracks. These logging methods were devastating to the landscape and any younger trees or seedlings, leaving a wasteland (Maxwell and Baker 1983:199). In 1931, the Pickerings shut down the Haslam mill, and moved their operations to Redding, California. Pickering's acreage was incorporated into both the Sabine and Angelina National Forests.

Robert W. Wier and the Lutcher and Moore heirs combined resources to construct the last large mill in 1917. It was located at the mill town of Wiergate and the timberlands covered about 86,000 acres in Newton, Jasper, and Sabine counties. The Gulf and Northern Railroad was built to join the Orange and Northwestern Railroad at Newton. The Wiergate Lumber Company logged what was perhaps the last great Texas stand of longleaf pine (Maxwell and Baker 1983:195-196).

MILLS AND MILLTOWNS

The sawmill town dominated the landscape and economy of East Texas. In many areas, the sawmill represented the only source of cash, and two or three generations often worked in turn at the mill. The *Texas Almanac*, 1910 estimated about 625 sawmills in Texas. Truly big mills, with a capacity of 80,000-100,000 bft/d, were a minority, probably never numbering more than 100 in Texas (Maxwell and Baker 1983:71). The majority (200-300) were permanent or semi-permanent mills with a capacity of 30,000-80,000 bft/d. The same number (200-300) were small, portable mills with a capacity of less than 30,000 bft/d.

The progress from a small mill to a big mill is illustrated by the Thompson Family. John M. Thompson built a small, waterpowered, sash-type mill in 1852 south of Kilgore in northern Rusk County, which had a capacity of 2000 bft/d (Maxwell and Baker 1983:72). This mill burned in 1853 and Thompson built a larger one with a circular saw that increased capacity to 5000 bft/d. Thompson built numerous mills in this vicinity over the next 25 years, each larger and more efficient than the others. One mill 41RK223, in the Millville vicinity of Rusk County, has been tree-ring dated to 1854, and was excavated to provide technological information on mills of this type (Jurney 1993). Thompson, his brothers, and others supplied local communities with lumber and hauled

finished lumber as far as Dallas and Fort Worth by mule and ox wagon. In 1881, Thompson cut out his acreage and moved to Trinity County on the Trinity and Sabine Railroad, in order to exploit untouched stands of longleaf pine. He built the new mill at a community called Willard. In 1888, they built a new mill with a large circular saw, a top saw, an edger, trimmers, and a gang saw, with a capacity of 80,000 bft/d. From here, the Thompsons expanded across East Texas, building new mills at Doucette, Grayburg, and Trinity under various names. When the timber at Willard was exhausted, Thompson moved to a new location on the Houston, East and West Texas Railroad, and called it New Willard. Executive offices were established in Houston.

The most important feature of the mill was the mill pond. It covered several acres and could store one to four million board feet of logs. The water provided ease of loading/unloading, preserved the logs from bark beetle attacks, and washed dirt and soil off the logs reducing wear on the saws (Maxwell and Baker 1983:73-74). The logs were moved onto a jack ladder, a continuous conveyor chain, and were hauled to the log deck. If no pond was available, rail tracks were placed as a siding as close to the saws as possible. Most large sawmills were two or three story buildings with the saw machinery on the second floor. The saw filer was located on the third floor, and kept the saws sharpened. On the second floor, the scaler measured and sized the log, using the cutoff saw to section the long timber into efficient cutting lengths. The log kicker was used to force the log off the trough and onto the sloping deck. A typical mill had a double kicker sending logs to the right or left sides of the band saws at either side of the mill. From here the sawyer took over, using the log loader and deck stops to move the log onto the carriage and hold the next log in place. The carriage was similar to a small railroad car powered by steam, with cable or piston action set on tracks, and included, dogs, guides, and buffers (Maxwell and Baker 1983:75). The bandsaw was a 30-50 ft. ribbon of steel 18 inches wide which ran by two large wheels above and below the cutting area. The sawyer cut the log into boards, rotating and adjusting the log to obtain the best grain and highest grade. Single boards fell free, and were carried by conveyor to the edger, where the wane (outside surface of the tree) was removed and the lumber graded. From here the conveyor carried lumber and trash through the "bear pit", where merchantable pieces were sorted. Waste went to the "hog and slasher" to be ground up into fuel for the burner and power supply. Lumber passed through the trimmer, and out of the mill into the rough lumber yard where it was sorted into widths and lengths. It was moved by wagons, carts, rail, or conveyor to the drying area or kiln. After curing, the lumber went to the planer for remanufacture.

The "Sash Saw" was the most common type of saw used in early mills. It was directly derived from the single pit saw blade. It was held rigidly in a frame that moved up and down with the saw, cutting on the downstroke, while the log was pushed against the saw by a mechanical feeder. Power included animals, water, or steam. "From the sash saw developed the muley saw, in which the sash and frame were lightened and the stroke speeded up, and the first gang saw in which additional blades were fitted into the frame to increase production. The lumber produced by any of these methods produced no more than 500-2000 bft/d, and the boards were rough and uneven." (Maxwell and Baker 1983:19).

Samuel Miller patented the first circular saw in England in 1777. It was first produced in the Americas by Benjamin Smith, a blacksmith in New York State about 1820. Although mentioned in Texas in the 1830's, they did not come into general use until just before the Civil War. "Many operators feared the risk of injury from the circular saws when they were running at high speed and objected to the loss of one-fourth to one-half inch of the boards at every cut owing to the wide kerf (cutting groove) of the average circular saw. Some manufacturers of competing saws described the circular saws of this era as sawdust-making machines that produced some lumber as a by-product. Nevertheless, the greatly increased production promised by a continuous cutting edge prompted most operators to shift to the circular saw shortly before or soon after the war" (Maxwell and Baker 1983:19).

The company town in East Texas was isolated, placed where tracts of timber were, and where few people lived. The mill created work where none had been available, and the owners had to provide housing, usually deducted from pay. Most workers in Texas were married, and their families accompanied them to their jobs. In the 1880's and 1890's company towns began to develop around the larger mills, and were composed of segregated groups of blacks and whites. Camden, headquarters of the W.T. Carter and Brother Lumber Company, was built in 1898, with no particular plans as to how the town would grow (Maxwell and Baker 1983:137). The principal streets curved around a hill, two of which formed a complete circle. They were unimproved sand. By 1914, 450 houses had been built for the employees, with a row of houses for managers and Carter's house standing apart on the hill. In the business section were located the general store or commissary, the hotel/boarding house, the company offices and the depot for the Moscow, Camden, and San Augustine Railroad. One water well served four houses, and the water was hand carried until 1926 when plumbing was introduced. The employee's house was a simple box and strip or board and batten with four rooms, and front and rear porch. They were lit by kerosene lamp until 1926 when electricity became available. Most homes had gardens, and a few chickens were kept in pens or free-ranged in the yards. Wood cook stoves and potbellied stoves provided heating and served for food preparation.

Fostoria, a milltown owned by the Foster Lumber Company of Kansas City was described as "the cleanest and nicest mill town in Texas" (Maxwell and Baker 1983:139). The town was self sustaining, laid out along the Santa Fe Railroad. Houses were neatly painted, and laid out in squares. The town had its own stores, post office, hotel, depot, utilities, schools, athletic field, churches, and amusement center.

Kirbyville, owned by the Kirby Lumber Company, was described as "gray dingy boxes ranged row by row in the horror that is the curse of most industrial communities" (Maxwell and Baker 1983:139). Browndell, another Kirby town was described as a collection of "rotten shacks, rotten commissary, rotten doctors, and rotten insurance" (ibid.).

SPECIALIZED CAMPS

In addition to the mills and milltowns, rivers and railroads provided access to stands of timber. In the forest, additional camps were needed to maximize labor. These include front camps, which resembled miniature milltowns; turpentine camps focused on harvesting pine resins and their manufacture into turpentine; tie camps for production of railroad ties; stave camps to produce barrels; tent camps along railroads or in remote settings; and the cutting front itself.

Front camps were often constructed along rail trams at locations which were convenient to stage several hundred workers. These often included a rail yard, mule and oxen yards, segregated housing, a commissary, doctor's office, and a company office. In Shelby County, the Pickering Lumber company constructed Camp Wilburn as the logging front moved away from the Haslam Mill. Another camp, Camp Brittain, was constructed as the front went further south. Also workers were frequently housed in tent camps, including Ragtown, and unnamed camps along the tramways. Another example is Camp Nancy, built 1918 by the Angelina County Lumber Company. It contained 200 tenant houses, a post office, a commissary, company offices, logging tram roads, oxen, mules, horses, skidders, and steam loaders.

Turpentine camps were established along rail trams or spurs. These were temporary facilities, some with post offices. These consisted of collection vats for storage of pine resin, collected from trees in the vicinity which had been tapped. Ceramic or metal tubs on the pine trees were periodically emptied, bringing the products to the camp for storage and shipment.

Stave Camps were low focus camps dedicated to the production of barrel staves. These were often located in floodplains, where oak timber was available. Since pines were less common in these areas, the facilities were often dedicated only to barrel stave production and shipment.

Tie camps were staging areas for the collection and shipment of railroad ties. These were often positioned at the front of the railroad lines, and were usually temporary. Once the rail tram passed the camp, a new camp had to be established to furnish new ties.

LOGGING METHODS

Initially logging was performed close to rivers, where water was used to ship the cut and seasoned logs to the mill. Staging areas were located at central areas. The logger cut the trees with an ax, using a saw to cut the tree to lengths. The trees were dragged by oxen or mule to the river bank where they were stacked awaiting high water. Once in the water the logs were joined into rafts, and floated to coastal mills. Once the railroad was extended into the interior, mills were constructed closer to the remaining virgin stands. A typical woods crew consisted of 40-60 men under the supervision of a foreman (Maxwell and Baker 1983:55). The crews were organized into work groups, including fallers and buckers (flatheads), skidders, loaders, tram crew members and the steel gang. Most lived

at the mill town or front camp and rode the empty train to work each day. The fallers and buckers, or flatheads, were described for the W.T.Carter and Brother Lumber Company:

One member of the team...carried a two-man crosscut saw, a double-bitted ax, and a whiskey or other bottle filled with kerosene and stuffed with a rag or cork...His companion carried an ax and a measuring stick. The leader would spot a likely tree, lay down the saw, and squint skyward to determine the extent and regularity of the crown, the list of the trunk, if any, and the probable direction of its fall. ..the lead flathead would wield his ax to chop out a wedge or undercut on the side he wanted the tree to fall... This done, they set to work on the opposite side with a crosscut saw. This was back-breaking work and a constant quarrel went on between the woods boss and the choppers over the height of the stump top to be left. A sort of rule-of-thumb evolved by which no stump would be higher than its diameter where it was cut... Once the tree was on the ground, the choppers proceeded to convert the trunk into logs...Once the job of felling and bucking was accomplished, the logs had to be moved to trackside or directly to the mill...they almost universally used horses, mules, or oxen, sometimes all of them in the same operation (Maxwell and Baker 1983:55-58)

This method allowed a driver to load 10,000 to 20,000 bft/d. A revolution occurred around 1890-1900 with the introduction of the steam loader and steam skidder. These operated on a rail car and greatly increased skidding and loading capacity. The skidder was equipped with booms, power driven drums and two to four steel cables each 800 ft. long. A man and a mule reeled out the cable, attached it to a tree with a tong or loop called a "choker". The steam skidder then drew the logs rapidly through the woods, tearing up everything in its path.

The Bonanza Period: 1876-1917

Maxwell and Baker (1983:155) describe the period from 1876-1917 as the "Bonanza Period" of the logging industry in east Texas. It was during this period of time that the industry began its growth and that fortunes (both personal and corporate) were made. In order to more accurately portray the chronological context of logging industry sites on the National Forests in Texas, a slightly different bracket of 1890-1920 is also used in this document to define the "Bonanza Period".

The bonanza period of the East Texas lumber industry was a time of high level growth, high level production, and high level political activity. At this time the nation as a whole was experiencing a period of rapid growth and industrialization following the devastation of the Civil War. The economic and political climate was favorable to entrepreneurship. There was no income tax, and until the Theodore Roosevelt administration, interstate commerce laws and anti-trust policies were largely ignored. During this time entrepreneurs such as Kirby, Kurth, Carter, Temple, Thompson, and others, became leaders in the industry creating timber based empires that critics

sometimes compared to feudal baronies (Maxwell and Baker 1983:156,165). The larger mills that had been established earlier in the period and had obtained access to the then abundant timber lands, grew larger and more powerful, while many of the smaller mills, and some of the large mills that had come too late into the region, suffered from a lack of access to timber and were forced out.

While many small mills and peckerwood mills were successfully operated during this time, the main power base of the industry lay with the large mill owners. During the bonanza period these lumber barons, and the lumber industry as a whole, were able to strengthen their positions even more by the creation of industry based associations. These associations included national, regional, and state wide organizations. They were originally formed to help promote the lumber industry by opening up communications between operators, encouraging the exchange of ideas, and providing information and statistics to its members. Associations such as the Southern Pine Association, the Lumbermen's Association of Texas, and the American Forestry Association, helped their members to improve the quality of their products, standardize sizes and grades, and make their products more desirable to both national and international markets. However, in the long run, they also became powerful political forces through lobbying and by serving as rallying points during public policy debates. One such organization, the Yellow Pine Manufacturers' Association, was disbanded in 1914 after a number of its members had been found guilty of anti-trust law violations. Another organization, the Southern Lumber Operators' Association, was active during the same period, but was composed of only the large operators. This association focused much of its energy on thwarting the efforts of union organizers (Maxwell and Baker 1983:160-165).

Toward the end of the bonanza period, the industry was beginning to suffer from a lack of available timber, partly as a result of over cutting, and partly due to a general lack of interest in conservation and reforestation practices. This situation was intensified as increasing stumpage prices and corporation taxes forced many operators to clear cut the timber and dispose of the cut over acreage to avoid the increasing tax rate on their holdings. Within the fifty year period from 1880 to 1930, some 18 million acres of East Texas pine timber had been harvested, providing an estimated 59 billion board feet of lumber. The resulting lack of harvestable timber, combined with the lack of ready capital caused by the great stock market crash of 1929, finally brought the bonanza period to a close (Maxwell and Baker 1983:164-166).

Historic Sites on the National Forests in Texas

In 1993, the Texas Forestry Museum began development of a database of historic sawmills in the twelve county area defined as the Deep East Texas Council of Governments. The Museum was joined in this development by the T.L.L. Temple Archives, the Sam Houston Regional Library, the USDA Forest Service and the School of Forestry at Stephen F. Austin State University. By the end of 1994, over 5,500 sawmills and logging industry related sites, located in forty counties from the Red River to the Gulf Coast in the eastern third of Texas, were listed on the database. By the end of 1995, a linked database of Steam Logging Rail Roads had been also been developed. In 1998, the sawmill database was made available to the general public through the Texas

Historic Sites Atlas Project. The following lists were compiled principally from the information in these databases, and are supplemented with data collected by USFS researchers from specific sites on the National Forests in Texas.

According to the Sawmill Data Base, the following sawmills are either located on tracts owned by the National Forests in Texas, or possibly located within the proclaimed boundaries of the forests but not necessarily on Forest land (e.g. exact locations of the sawmills have not been determined). Those known to be located on the Forest are in **bold** type. Counties are listed first, then location, owner, dates (if known), then information, if recorded. A complete compilation of all Sawmill Data Base entries for the counties in which the National Forests are located is attached to this document as Appendix B.

ANGELINA NATIONAL FOREST

Angelina County:

Zavalla ~ Boynton Brothers (aka Retsel)	1920-193
Monterey ~ Boynton Lumber Company	1904-1908
Southeastern part of the County ~ L. E. Biggar	1919
Monterey ~ Townsend and Matt	1907
West of Mill Creek ~ William M. Perkins	1846-1855

Jasper County

Aldridge ~ Kirby Lumber Company	1906-1917	41JP82
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Aldridge ~ Kirby Lumber Company	1914-1918	41JP82
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The site of the abandoned mill and township of Aldridge is along the east bank of the Neches River in northeastern Jasper County. Aldridge Mill was built in 1903 by Hal Aldridge and was owned by the Aldridge Lumber company. The town consisted of a post office, general store, hotel, two churches, blacksmith shop, a depot. The original mill burned in 1906 (it was after all constructed of wood) and the next mill was built of concrete. These buildings are still standing today. The buildings include the boiler building, the fuel building, the drying kiln and the engine building. Recent excavations have located the blacksmith shop, concrete foundation piers near the river of unknown use, and a possible charcoal kiln. The township consisted of up to 250 families, and although most of the evidence of habitation has been destroyed, there are some features that have been documented such as wells and trash middens. Aldridge Lumber Company sold it's interests in the property at Aldridge to J. E. Keith in 1918 who, on the following day, signed over the Aldridge Lumber Company property to the Kirby Lumber Company.

Blox and New Blox ~ Kirby Lumber Company logging front at Blox

1902-1918	41JP115
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US Forest Service archival research concluded that the Kirby Lumber Company New Blox camp was established in 1924 and abandoned in 1933. It is also described as the A.L. Mays 102 acre tract, and formerly "Exclusion No. 3" in the land acquisition records. In the deed records, there is an affidavit from a Mr. J. B. Hodges dated September 22, 1935. He states that he has been connected with the Kirby Lumber Company since 1902, and has worked in "various capacities in the logging operations" up to present day (sic. 1935). He was a superintendent of the Old Blox camp in 1924. The location of Old Blox

camp is south of the Angelina River in Jasper County and north of the town of Jasper (however, the exact site of Old Blox has not been relocated). When the new Blox camp was constructed, Mr. Hodges was superintendent of both the old camp and the new camp. He supervised the building of tram lines throughout Jasper and Angelina counties (these tracks were taken up in 1933 when the New Blox camp was abandoned). The tract of land was sold to A. L. Mays along with the houses. Mr. Hodges also stated that the Kirby Lumber Company allowed collection of turpentine prior to timber harvesting. The only features that have been noted to date on this historic camp are what was probably an old street and an area that likely contained houses and other structures.

Lewis Letney 1845-1850

San Augustine County

Sturgis (White City) ~ Sturgis Lumber Company	1917-1928
White City ~ Collwood Lumber Company	1919-1928
Veach ~ Kurth-Zeagler Lumber Company	1925-1930

Bannister ~ Bannister Logging Front 1900-1928 41SA214

Turpentine Camp 1898-1903; Lufkin Land and Lumber Company front camp 1903-1905; Long Bell Lumber Company logging town 1905-1933. Foundations and features, including the main streets, associated with the logging camp and commissary are still visible. There are numerous depressions that denote house locations and wells. The site also contains New Deal Era contextual information as Camp Broaddus and later a prisoner of war camp.

DAVY CROCKETT NATIONAL FOREST

Houston County

Tadmore ~ Boatwright	1927-1930
Tadmore ~ Chamberlain	1922-1926
Colthorp ~ J.M. Smith	1844
Colthorp ~ Jesse T. Ratcliff	1880-1900

Kennard (near Ratcliff) ~ Louisiana and Texas Lumber Company 1902-1918

The Louisiana and Texas Lumber Company was owned by the Central Coal and Coke Company, thus the name Four-C Mill. This mill site was bought by Central Coal and Coke Company of Kansas City, Missouri, from J.H. Ratcliff, who operated a mill near this location from the 1880's to the 1890's. The new mill that was built, which became known as Four-C Mill, encompassed fourteen acres. It is located west of the community of Ratcliff, Texas, and partially within the confines of Ratcliff Recreation Area (north of State Highway 7) and Compartment 47 of the Davy Crockett National Forest (south of State Highway 7). The construction and widening of State Highway 7 in the 1940's split the mill site into two segments north and south of the highway. With its triple-band rig and fifty-two set gang saw, the mill was rated at a capacity of 300,000 board-feet of lumber per eleven hour day, and employed over 1,500 workers in the mill and logging operation. The structures included a dock conveyor, stacker, sawdust burner, drying shed with planer, bank vault, and an office commissary. Brick and concrete foundations of

some of these buildings remain on the site today, as are logging tram berms on the south side of the mill site. A residential area for mill workers sprung up east of the mill, between it and Ratcliff, but was quickly abandoned upon closure of the mill in 1918. This site also contains contextual information on the New Deal Era, as a base camp for the Civilian Conservation Corps, and a small prehistoric component (41HO126) on a terrace downstream from the location of the mill pond dam.

Ratcliff ~ Ratcliff and Dickerson	1905
Trinity County	
Apple Springs ~ W. F. Davis	1907

SABINE NATIONAL FOREST

Sabine County

Little Camp 41SB219 early 1900's

Potentially part of the Rockwell Community 1847-1905. It was latter associated with Pickering Lumber Company in the 1920's. Part of the Pickering logging tram is present at this location. The noted features here comprise of linear alignments of embedded ironstone rock that may represent foundations for structures associated with the logging front, "Little Camp."

Remlig ~ Gilmer Lumber Company

The sawmill and town location are unknown at this time but it has been suggested that the site is just west of US Forest Service Property in Sabine County. The Remlig Cemetery is located on US Forest Service Property. During the Big Thicket Survey a multicomponent site was discovered just east of the purported location of Remlig that contained historical materials that may or may not be associated with the town of Remlig.

Stringtown ~ Unknown, possibly Gilmer Lumber Company

Location is just north of Forest Service property and may possibly have been a front camp for Gilmer Lumber Company. During the Big Thicket survey an historic site was discovered that was the homestead from 1916-1923 that may have been associated with Stringtown; 41SB146.

San Augustine County

East of Bland Lake ~ McFarland Bothers Lumber Company	1906-1908
New Hope ~ Will Nicholas	1929-1930

Shelby County

near Paul's Store ~ William Clinton Hughes	1880-1900
New Harmony or Strong Community ~ Sam Miller	1917
East Hamilton ~ W. D. Eddins	1884

Camp Brittain ~ Pickering Lumber Company 1917-1933 41SY96

This site also contains a segment of the Pickering Main Line Tram. Still visible at this site are the faint remnants of roads, trash middens, a well (this has to be near the

commissary, according to an oral interview; they ran water from the one well to several houses), and artifact scatters of ceramic, glass, metal and brick. According to an oral interview with Max Brown, Camp Brittain contained a boarding house, outhouses (with pits), and shotgun style houses. The foundation piers for these houses were either concrete, local "fill stone", or wooden blocks. None of these have been observed on the site. According to Mr. Brown, there were no churches or schools here but there was a barber shop and post office.

Camp Wilburn ~ Pickering Lumber Company 1908-1917 41SY178

Camp Wilburn was used as a logging town until 1917, when it was moved to the site of Camp Brittain as the logging front progressed southward. It was noted to have a commissary, offices, mess hall and a doctor's office. Trash middens are present as are some faint roads. Some of the roads that were constructed during Camp Wilburn's days are still in use today.

Ragtown 1920(?) 41SY232

41SY232 may be a related component of Ragtown. The site was documented in 1998 in the vicinity of the reported location of Ragtown, and contained a cultural assemblage that dates to the early 1900's. The assemblage, comprised mostly of wash tubs, ceramics, and glass, was recorded in the field; also noted was a trash deposit in a shallow ravine. According to an interviewee, (Max Brown) Ragtown got it's name when five prostitutes came from Shreveport and set up tents. They used the tent ropes to hang their clothes on and the workers from Camp Brittain (several miles south) began to refer to the tent city as Ragtown.

SAM HOUSTON NATIONAL FOREST

Montgomery County

Timber (Peach Creek) ~ Peach Creek Lumber Company 1902-1912
Peach Creek ~ J. R. Bell 1901

Camp Letcher ~ Delta Land and Timber Company 1915-1928

Temporary Site number 97SH036-1. According to an affidavit by W.H. McGregor, dated July 26, 1935, this logging camp was built in 1915-1916 and consisted of a store and houses for the employees. The site of this camp is along Delta Land and Timber Company's tram road that ran northwest from Conroe along the west fork of the San Jacinto River, into what is now part of the Sam Houston National Forest. Mr. McGregor was a superintendent for Delta Land and Timber Company from 1905-1931. It was also stated in the affidavit that along all of said tram tracts (a maze running through Montgomery and Walker Counties), and at all times during the operation thereof, there were established and maintained numerous logging camps which were used by persons in the employ of the Delta Land and Timber Company, where said persons lived, had their homes, and where their livestock was kept. J. M. Hall prepared an identical affidavit to that of Mr. McGregor on July 23, 1935. He worked for Delta Land and Timber Company from 1908-1932 as a surveyor. Another identical affidavit was prepared by Robert Cherry, dated July 15, 1935. Mr. Cherry started to work for Delta Land and Timber

Company in 1914 and became an Assistant Woods Foreman in 1917. In 1920 he became a Woods Foreman and continued to work in that capacity until 1927.

San Jacinto County

Evergreen ~ W. R. Wright	1917-1923
Coldspring ~ Needmore Mills	1903-1912
Coldspring ~ Mitchell and McGowan	1880-1892
Evergreen ~ Shropshire and Daugherty Sawmill	1900-1910

Walker County

near Plum Lake ~ Silas Gammon Mill pre 1845 to post 1854
Also known as Barnett's Mill and as Hartwell and Stillwell Mill. The mill was bought out by Thomas Flood and Thomas Caruthers and it was reported that they built a new mill in 1854.

Dodge ~ Ball and Smithers Company	1882-1900
Kelley's Switch (near Barado) ~ B. A. Eastham	1908
Dodge ~ J. C. Hill Lumber Company	1905-1910
Dodge ~ Hall and Hall	1905-1907
Barado ~ P.G. Peterson	1879-1880
Phelps ~ Barrett and Cline Lumber Company	1905-1919
Phelps ~ Cline Brothers	1893-1893
Phelps ~ A. H. "Hutch" Steely	1900-1962
Phelps ~ J. A. Hayes and Webb	1889-1901
Phelps ~ Hays and Gossage	1882-1908
Phelps ~ Kelley and Robbins	1879-1880
Phelps ~ Phelps Lumber Company	1924-1925
Phelps ~ S. Campbell	1905-1908
Phelps ~ W. Roy Reid Lumber Company	1919-1920
9 miles SE of Huntsville ~ Angle and Stryker	1881-1884
Barado ~ E. S. Morrow and Sons	1917-1921
Dodge ~ William C. Josey	1879-1894
Phelps ~ L. T. Sloane	1879-1904

The Bonanza Period of industrial logging would have never occurred were it not for the introduction of the railroad to the forests of east Texas in the 1880's (Maxwell and Baker 1983). Prior to that time, transporting cut timber to the mills was a slow, tedious endeavour dependent upon draft animals (such as oxen and mules), good weather, and good fortune. The advent of steam powered small gauge trains and loaders made it possible to transport ever larger loads of logs to the mills, which in turn encouraged the mill owners to build bigger, larger capacity mills which could handle even larger loads of timber transported by rail, and so on. The McGiffert steam loader, steam powered four-cable skidders, and the Shay steam engine transformed the east Texas logging industry in the 1880's and by the 1920's the system of main lines and spurs that crisscrossed east Texas resembled a large spider web upon the landscape.

Some of the earliest logging railroads in the state were made of wooden rails over which draft animals pulled carts and wagons of logs to small sawmills for regional consumption. One of these was called the T&MC, or Two Mules and a Cart (Gerland

1995). Later, other early wooden trams were built from sweetgums for the wheels of the Shay Engine (Maxwell 1963). From 1882-1883 there were eight of these engines bought in Texas.

Ante-bellum railroads were chartered northward from Liberty and Sabine Pass into the East Texas piney woods during the 1850's, but most notable, perhaps, was the building of the Texas and New Orleans Railroad from Houston to Orange in 1861 (Gerland 1995). The Louisiana segment of the line was finally completed in 1881, and the line would eventually play an important role in the growth of the east Texas logging industry.

Several other railroad charters were planning to build through to the piney woods prior to 1860 (Maxwell 1963). The Eastern Texas Railroad, chartered in 1858 as a successor to the Mexican, Henderson and Gulf Railroad Company, planned to run from Sabine Pass via Beaumont and Nacogdoches to Henderson. It was completed through to Beaumont and construction was continuing north until the Civil War broke out in 1861, which halted all construction. During the war, the rails were pulled up and used for the construction of forts, and the Eastern Texas ceased to exist (Maxwell 1963:4)

Paul Bremond pushed to build under the charter of the Houston East and West Texas (HE&WT) Railway in 1875, and by 1878 was running regular service from Houston to New Caney, in Montgomery County. In that same year it was reported that there were five sawmills operating in the railroad right of way. By 1879 the railroad was to the Trinity River and there were 19 sawmills along the way. The HE&WT railroad direct route from Houston to Shreveport and the numerous feeder lines which connected with it gave "Bremond's Road" a great advantage in the contest to control the shipments of the Texas lumbering industry which was just entering its bonanza period at the turn of the century. Within the next decade, lumber production in the East Texas region rose to more than 2 billion board feet annually and a large part of the cut was shipped via the HE&WT railroad (Maxwell 1963).

As rail shipments became more common and cost-effective, the mill owners started developing shorter trunk lines to connect with the HE&WT and T&NO for shipping their products to markets across the country. Among these lines were the Beaumont and Great Northern Railroad which ran from Trinity to Livingston; the Texas and Southeastern Railroad (owned by Southern Pine Lumber Company) which ran in initially in Angelina and Trinity Counties beginning in 1900 and expanded in 1908 to Houston County; the Texas Louisiana Railroad, begun in 1900 to serve the properties of Lufkin Land and Lumber Company in Angelina and San Augustine Counties, eventually reaching White City, where it transected the Texas and New Orleans (which was eventually taken over by Southern Pacific); and the Sabine and East Texas Railroad bought in 1882 by C. P. Huntington from the Koontze timber interests, and incorporated into the Texas & New Orleans line. Of the many short lines constructed during the bonanza period, only the Angelina and Neches River Railroad and the Texas Southeastern Railroad still run today.

By 1930, the vast majority of the east Texas forests had been logged and tram roads became fewer in number and longer in distance. These tram lines (spur lines, tram roads or dummy lines) are preserved today in East Texas in the form of an elevated ridge of dirt

that once was the rail bed for a short lived tramline, or in the form of a gully or ditch which was a cut designed to reduce grade and make timber removal easier (Skinner 1979).

The following is a list, compiled from the Steam Logging Railroad Data Base (Texas Forestry Museum), of railroads and trams that have crossed the US Forest Service lands. First listed is the name of the railroad, then the owner, date and county(ies). As many of these cross Forest boundaries, they have not been organized according to a specific National Forest. A complete compilation of logging trams from the Steam Logging Railroad Data Base can be found in Appendix B.

Angelina and Neches River Railroad ~ Angelina County Lumber Company; pre 1890,
Angelina County

Boynton Lumber Company Railroad ~ Boynton Lumber Company; 1904-1908, 1910-1920
Angelina and San Augustine Counties

Collwood Lumber Company tram road ~ Luke E. Wright; 1918-1930
San Augustine and Angelina Counties

Eastern Texas Railroad ~ Louisiana and Texas Lumber Company (4-C); 1900-1921
Houston and Angelina Counties

Groveton, Lufkin and Northern Railway Company ~ Trinity Lumber Company, Joyce Lumber Company, other industry interests; 1890-1932
Trinity and Angelina Counties

Louisiana and Texas Lumber Company tram road ~ Louisiana and Texas Lumber Company (4-C); 1900-1924
Houston, Trinity and Angelina Counties

Texas-Southeastern Railroad ~ Southern Pine Lumber Company, Temple Lumber Company, Temple-Eastex, Inc., Temple Inland Forest Products, Inc.; 1894-1996
Angelina, Trinity and Houston Counties

William Cameron and Company ~ William Cameron and Company, formerly Aldridge Lumber Company, Spring Creek Lumber Company; 1887-1912
Angelina and Jasper Counties

Aldridge Lumber Company tram road at Aldridge ~ Aldridge Lumber Company; 1907-WWI
Jasper County

Burr's Ferry, Browndell and Chester Railway Company (Texas and New Orleans Railroad) ~ Kirby Lumber Company; 1907-1927
Jasper County

Jasper and Eastern ~ Gulf, Colorado and Santa Fe; 1904-1996
 Jasper and Sabine Counties

Gulf and Pacific ~ Foster Lumber Company, Texas Tie and Lumber Company; 1896-1930
 Walker and Montgomery Counties

Trinity River Lumber Company ~ Trinity River Lumber Company, a division of Foster Lumber Company; 1885-1906
 Montgomery County

Kirby Lumber Company ~ Kirby Lumber Company; 1905-mid 1920's
 San Augustine County

Kirby Lumber Company, Mill P ~ Kirby Lumber Company; 1902-1928
 San Augustine and Sabine Counties

Martin Wagon Company ~ Martin Wagon Company, Kurth-Zeagler Lumber Company 1925-1928
 San Augustine County

Sturgis Lumber Company ~ Sturgis Lumber Company, also known as Boynton Lumber Company; 1912-1928
 San Augustine County

Trinity Valley Southern Railroad ~ Columbia Lumber Company; 1899-1936
 Walker and San Jacinto Counties

W.R. Pickering Lumber Company ~ W. R. Pickering Lumber Company; 1909-1928
 Shelby and San Augustine Counties

Texas and Gulf Railway Company ~ Waterman's Lumber Company; 1877-1930
 Shelby County (leased by Gulf, Colorado and Santa Fe after 1910)

Conroe, Byspot and Northern Railroad ~ Conroe Lumber Company, Delta Land and Timber Company, Tom Lee Lumber Company, J. A. Bennette Lumber Company, Kirby Lumber and Santa Fe Lumber and Tie Company; 1900-1939
 Walker and San Jacinto Counties

Resource Assessment

The cultural, social and economic structures for modern East Texas were shaped and molded by the early 20th century logging industry. Mill towns have become cities; logging railroads have become multi-lane highways; and family owned mills have become multi-national corporations, all in the last 100 years. There are few, if any, facets of modern East Texas that have not been directly affected, or influenced, by the boom-bust cycles of the early 20th century logging industry. Those resources located on the four National Forests in Texas represent the first great growth cycle of

industrial logging in East Texas at the start of the 20th century. The sawmills, mill towns, front camps, and logging railroads in their current abandoned state also stand as stark reminders of the complete collapse of this industry in the 1920's as a result of, among other things, poor conservation practices driven purely by a desire for short term economic gains.

The remains of the early 20th century logging industry which can be found on the four National Forests in Texas represent the full range of logging industry related sites and features. Major mills and mill towns, such as Aldridge and 4-C, represent the highest level of development, with multiple saws, large residential areas, commissaries, hotels, schools, churches, and other conveniences one would expect in a small community. Smaller front camps, such as Bannister, Brittain, Wilburn and Ragtown, while smaller and only temporarily occupied, contain equally complex features as the larger mill towns. These essentially mobile encampments were laid out in a precise pattern with primary and intersecting secondary thoroughfares lined by tents or other types of temporary housing. They were usually established next to the main lines of the logging railroads, which connected them with the primary mill and its mill town. These logging railroads, or trams, provided not only the principal means of carrying cut timber to the mill, but also functioned as a basic transportation system for the front camp workers, who usually had families living in the primary mill towns. These trams were extended as the logging fronts advanced through the virgin pine forests, often resulting in an intricate spiderweb design of cleared routes that would eventually become the basis for a fully developed rural transportation system of Farm-to-Market and County Roads. Without this infrastructure, the modern development of East Texas would not have been possible.

Generally speaking, sites associated with early 20th century logging industry on the National Forests in Texas retain sufficient integrity to yield data important to our understanding of this period of history. More specifically, they retain integrity in terms of their location, design, setting, cultural materials, and associations with persons (and corporations) who were important in the development of the modern forest products industry in East Texas. Chronologically, they are associated with the first great flourishes of commercial logging beginning in the late 1890's, and lasting until the 1920's. Architecturally, few of the sites retain substantive structural features. Those that do, most notably the Aldridge Mill in Jasper County and the 4-C Mill in Houston County, retain substantial integrity in layout and overall design components, as evidenced by the presence on both sites of literally hundreds of concrete and/or brick piers which supported drying decks, heavy machinery, and buildings. No substantive architectural remains have been noted at the locations of the various front camps or turpentine camps. However, they do retain significant densities of cultural materials which can be chronologically placed within this three decade period. Elevated berms and grade-level cuts associated with the logging trams are often found in close proximity to these front camps, contributing to the integrity of the overall setting for a particular mill or camp.

The beginnings of industrial logging in the last decade of the 19th century and the first decade of the 20th century were brought about by the aggressive entrepreneurship of men well versed in their craft. Many of the most influential lumbermen in East Texas had begun their careers in the forests of the northeast and great lakes regions, and as those forest resources began to dwindle they turned their attention to the southern pine forests of the southeast. They brought with them a well developed and efficient system for timber extraction and lumber production that changed the face of East Texas economically, socially and culturally. Their logging and sawmill operations provided steady income, something not previously available to the rather isolated residents of East Texas. The mill towns and logging camps provided a central focus for social and cultural interaction

among employees and other local residents. Even though life in the mill towns was often dictated by the companies that owned them, sometimes rather severely, the sense of community that comes from shared experiences was universal and provided the solid base for further community development in East Texas in later decades. Generally, the larger and more influential mill owners, such as Lutchter and Moore, T.L.L. Temple, the Thompson Brothers, and Carter-Kelly companies, were responsible for the more well developed and advanced mill towns, with electrical power and running water available to most, if not all, mill town residents.

In assessing the significance of known sites from the early 20th century logging industry on the National Forests in Texas, there is little doubt that they meet most, if not all, the criteria necessary for being determined eligible for listing on the National Register of Historic Places. They retain integrity in terms of their locations and settings. They contain intact archeological deposits of cultural materials, in relatively undisturbed soil matrices, that will yield data important to our further understanding of this economically, culturally and socially significant industry. This data is important on both a local and state level, as the early 20th century logging industry played a critical role in providing the raw materials necessary for the growth of the state's urban centers at the turn of the century, as well as having a significant impact locally on the growth and development of the rural areas of East Texas. They are associated, either directly or indirectly, with those persons crucially important to the development of the commercial logging industry in East Texas at the turn of the century, people such as T. L. L. Temple, John Henry Kirby, Henry J. Lutchter, G. Bedell Moore, W. T. Carter, Ernest L. Kurth, and John A. Thompson, to name a few. In addition, Kurth, Kirby, Temple, and Thompson, along with State Forester W. Goodrich Jones, were responsible for the bringing about the creation of the National Forests in Texas in the late 1930's.

In the future, newly discovered sites associated with the early 20th century logging industry should be assessed under the same criteria of integrity of location, setting, design, cultural materials and association with persons/corporations important to early 20th century East Texas. These criteria will be addressed primarily through principal source research, such as archived company records, oral histories, database searches, and academic publications, and field investigations. The field investigations will require the identification and mapping of any extant surface or structural features, including foundations, earthworks (such as small dams and tram berms), and dense concentrations of cultural materials (such as trash dumps or chimney fall). Where extant surface or structural features are not present, or not readily identifiable due to dense vegetation, subsurface tests may be necessary. These tests may be in the form of a series of shovel tests (40-50cm square) established in such a pattern that the investigators may be able to identify a material culture associated with the early 20th century logging industry. Such a material culture may include, but not be limited to, ceramics, glass, nails, or other materials that can be definitively placed in a chronological setting of 1890-1920. It may also include specialty tools associated with the logging and railroad industry, such as railroad spikes, blacksmith tools, and saw blades (or portions of saw blades), or such things as slag from a forge in blacksmith shop. An intermixing with materials from 1940 to the present may not necessarily negate the chronological association, but it may have an adverse effect on the site's contextual integrity if there are no other extant or structural features with which to clearly define the relationship between the site and the early 20th century logging industry. In most cases, the principal source research will initially establish the chronological, cultural, and economic associations while the field investigations will provide corroborating or conflicting material data to support or discount the initial association.

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Table 1. East Texas Sawmill Data Base Total Entries by County

<u>Counties</u>	<u>Number of Mills</u>	<u>Number of Trams & RRs</u>
Angelina	178	34
Houston	151	9
Jasper	98	25
Montgomery	272	35
Nacogdoches	272	25
Sabine	98	9
San Augustine	217	16
San Jacinto	86	6
Shelby	273	10
Trinity	37	19
Walker	125	19