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FULLERTON, LA: HISTORY OF A REMARKABLE SAWMILL AND TOWN OF THE EARLY 20TH CENTURY

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Cover:
A photo of the Gulf Lumber Company sawmill complex at Fullerton, LA, from the files of the Southern Forest Heritage Museum and Research Center.

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Abstract:
The town of Fullerton, home of the Gulf Lumber Company, was noteworthy for several reasons. It was the largest sawmill built west of the Mississippi River in the early 20th century and was established in the historic Neutral Strip area of western Louisiana. But it is the nature of town that is most noteworthy. All homes had access to water and electricity. The management residences were provided with indoor plumbing and sewage capability. The nature of the town was described as the most beautiful in the state with a swimming pool, theater, hospital, churches, commissary, and parks. The mill itself was the most modern as it was efficient to develop. In 1927, 20 years after establishment the mill closed, and the town disappeared. Workers and their families dispersed to other employment across the region, but in 1960 began to return for the Fullerton Reunion. Former residents began to realize the uniqueness of the town of Fullerton and began to come back to reflect on their noteworthy town. Although the town has disappeared, the Kisatchie National Forest established the Fullerton Lake Recreation Complex on the site to honor the historic town.

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FULLERTON, LA: HISTORY OF A REMARKABLE SAWMILL AND TOWN OF THE EARLY 20TH CENTURY

INTRODUCTION

Why study a sawmill town in rural southwest Louisiana that shut down and disappeared a century ago? One must remember the role in such towns in the economic recovery of the rural South devastated by the Civil War of the 1860s. Most of the war was fought in the southern soil and there was significant devastation to the economy of the South. Little economic recovery occurred in the Western Gulf Coast Plain during the remainder of the century. Much of the land was covered with the virgin longleaf pine (*Pinus palustris*) forests and with scattered plantations that had not recovered from the destruction of their livelihood. Little, if any, industrialization had developed in this western portion of the South.

Two things begin to happen that provided the source for recovery. The first was the development of railroad capability. It became economically feasible to build railroad tracks and operate steam locomotives in almost any portion of the southern coastal plain. Second, the vast government owned timber resource available in five southern states (Arkansas, Alabama, Florida, Louisiana, and Mississippi) provided lumbering opportunities at an amazingly low cost.

As a result, the "golden age of lumbering" began in the early 20th century (Caldwell 1975). By 1907, over 7,300 sawmill towns were operating in the South (Steuart and others 1908). In Louisiana alone, during the early 20th century about 1,300 sawmills were in production (Barnett and Carter 2017). To harvest and mill the timber, mill towns had to be established to provide housing for workers. This required the sawmill owners to develop housing, commissaries, schools, medical care, and churches were none previously existed.

The magnitude of the sawmill industry began to change the South. Poor Whites from hardscrabble hill farms and Black families from the servitude of plantations begin to pour into these towns for employment where they learned to live and work together. Began, then, was the move into an industrial economy and the development of a new society and culture (Barnett and Lueck 2020).

Fullerton provides a rare opportunity to view the development of such a sawmill town because we have access to years of documentation from families who worked and lived there. What makes Fullerton special is the combination of its location and the dedication of the families whose lives were influenced by the unusual town (Burns 1979).

The objective of this document is to tell the history of the town of Fullerton and how such sawmill towns began to influence the movement of the rural South into the industrial age and change their society and culture by living and working together these small towns with a unified focus.

A typical pineywoods home in the early 20th century with a picket fence to protect its yard from roaming hogs and other animals. This type of home was common throughout the rural area of southwestern Louisiana and was described by Smith (1999) as "a good home for a poor man."

LAND AND PEOPLE RESOURCES

During the late 1800s, the availability of prime timberland in the Northeast and Midwest was declining and lumbermen looked South for new sources of timber. Sargent (1884) reported that: "The southern pine forests, although stripped from the banks of streams flowing into the Atlantic, are practically untouched in the Gulf States, especially in those bordering the Mississippi River. These forests contain sufficient material to long supply all possible demands which can be made upon then."

Although no reliable timber inventory methods existed at the time, he estimated that Louisiana had 7.321 billion board feet of longleaf pine in the region north of the Red River, 13.351 billion board feet southwest of the Red River, and 5.826 billion board feet east of the Mississippi River. It is interesting to note from Sargent's estimates; southwest Louisiana had twice the amount of longleaf than the rest of the state. However, within the northern portion of the state, the longleaf forest transitioned into large amounts of loblolly (*P. taeda*) and shortleaf (*P. echinata*) pines (Carter and Barnett 2017).

A sense of the original extent of the pure virgin longleaf may be found in a 1921 report from the Louisiana Department of Conservation, which estimated 7.4 million acres of longleaf pine and 4.4 million acres of shortleaf (combined shorter needled species of loblolly and shortleaf pine) (Forbes 1921). According to a 1931 account of the southern pine industry approximately 71 billion board feet of yellow pine lumber—which included all pine species—was produced in

Louisiana from 1869 to 1929, with an average of over 6,000 board feet for every acre of pine timberland in the state (Carter and Barnett 2017).

Map of Louisiana by Sargent (1884) illustrating the status of forest pine land within the State.

The longleaf forests were in pure stands and were remarkable in their clean, open appearance, almost free of undergrowth. In contrast to the tall, thin pines of today, the pines then were thick trunked and extremely tall. Their first branches began some fifty to sixty feet above the forest floor. This created park-like woods of little underbrush with a surface of pine straw and grass. This open woodland stretched for seemingly endless miles (Smith 1999).

An early traveler described the forested area as: “When I was a boy, I could ride a horse a hundred miles cross-country through Louisiana and Texas in virgin timber, pine timber. And it was longstraw, we called it longhaired pine, longleaf pine—wasn’t a limb on it for fifty feet. You could see a deer a half mile across the Piney Woods” (Sitton in Smith 1999). The forests were a logger’s dream, clear and open, promising cheap and rapid logging operations.

The unending pine provided a unique atmosphere. Many sources mentioned the almost constant low murmur of the wind. “A slight breeze always sighs in the elevated tops of the pines, and flickered mixtures of light and shade creates a pleasant mixture appearance with a delightful freshness of air. With any gust, a roar of pine branches would interrupt the forest’s stillness” (Smith 1999). Truly these forests were a magnificent sight to behold and enjoy.

A typical stand of virgin longleaf pine in western Louisiana showing the open understory that made harvesting simple and productive (Louisiana Office of Forestry).

The prevailing opinion has been that these forest conditions occurred as a natural process, but Fickle (2001) provides ample documentation that these forest conditions were the result of Native American intervention.

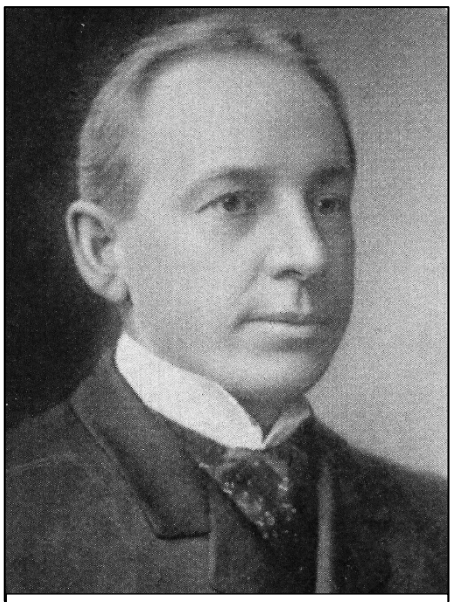
Availability of public lands in the State

In decades following the Civil War, the economy of the South remained in shambles—its agrarian society had been destroyed. The entire Nation was suffering from major war debt. Congress was desperate to find an affordable means to promote the economy and relieve the suffering of people, especially those in the war-torn regions of the South. At the time, the Federal Government owned nearly 46 million acres in five southern public land states—Alabama, Arkansas, Florida, Louisiana, and Mississippi (Gates 1979), and Congress passed the Southern Homestead Act of 1866 hoping to provide a pathway to land ownership and improve the economy of the region (Lanza 1990).

Within a decade, less than a third of the acres had been homesteaded and many of these were turned over lumber and mining companies. Most of the available land was not suitable for row-crop agriculture. The best agricultural land had long since been removed from the public domain by colonial land grants and 100 years of Federal land sales and grants to States and individuals (Carter and Barnett 2017). Finally in 1880, the remaining public land in the South was made

available for sale at a minimum price of $1.25 per acre—this was timberland with virgin stands of southern pines.

Lumbermen and other capitalists seized upon the opportunity to speculate in timberland acquisition. Timber cruisers, mill owners, and land agents descended on the Gulf South in droves, causing one to comment, “The woods are full of Michigan men bent on the same mission as myself” (Gates 1979). In Louisiana, where 44 percent of all large sales (5,000 acres or more) occurred, buyers from the North outnumbered buyers from the South by nearly five to one. Some of the large purchases were by lumbermen from the North planning to relocate their mills. But most large sales went to lumbermen and other capitalists planning to hold the land and sell it later when the stumpage value increased.



James D. Lacey became wealthy as a land speculator. He bought huge amounts of timberland and resold it to lumbermen at a significant profit (American Lumberman 1906).

Gates (1979) stated that offering the public lands for sale at such a low price had resulted in “…opening the door for northern capitalists to skim off the cream of the best remaining timberlands.” A prominent figure in “skimming the cream” of public lands in the South was James D. Lacey who was “one of the first lumbermen in Louisiana and Mississippi to realize the profits to be made in estimating and grouping lands and reselling them in blocks to investors and operators.” A conservative estimate of the transactions of this sort conducted by Lacey and his associates amounted to over 5 million acres (Carter and Barnett 2017).

It was Lacey and other land speculators who made available the timberland for sale in quantities needed for development of the lumber industry. Northern lumbermen rushed into the South to make their fortunes. With land, they still needed another crucial resource, workers. The nature of the workforce varied with the location of the mill. The majority of Crowell and Spencer Lumber Company’s workers at Long Leaf in central Louisiana were Black because the mill was close to the Red River floodplain where there was a struggling agrarian-based economy (Barnett and Lueck 2020). Less than 50 miles farther west, the situation changed dramatically when reaching the area known as the Neutral Strip.

The Neutral Strip: Its history and people

In western Louisiana there is a unique mixture of cultures resulting in following the signing of the Louisiana Purchase in 1803. The settlement of the Vernon Parish area (the eventual site of Fullerton) was delayed by the political maneuvering and intrigue of European nations from across the Atlantic. This area became known as Louisiana’s Neutral Strip or No Man’s Land had become home of a distinct culture, the region was a disputed area between Spanish Texas and the United States' newly acquired Louisiana Purchase from France. The question of the official

boundary between Louisiana and Texas hinged on Spain and France's failure to officially settle the issues prior to 1763. Instead, the Spanish commander of the presidio of Los Adaes and the French commandant at Natchitoches reached an unwritten agreement to temporarily withdraw the area from the jurisdiction of either country. The neutral ground agreement gave neither France, and later the United States, nor Spain a solution to the issue. But actually, local diplomacy triumphed where international diplomacy failed and provided a unique solution to a complex set of problems.

The area, now in western Louisiana, had neutral status from 1806 to 1821. Since neither country provided law enforcement for the area, it was common for families with similar backgrounds to gather in areas or communities because of cultural similarities and to provide protection from criminal elements.

While settlers in the region included French, Native Americans, African Americans, and Cajuns and the region's cultural traditions exhibit this diversity, a critical part of the region's character connects it to its Spanish history.

This map from 1814 shows Louisiana with the Neutral Strip highlighted. Courtesy of Louisiana State Museum (Townes 2017).

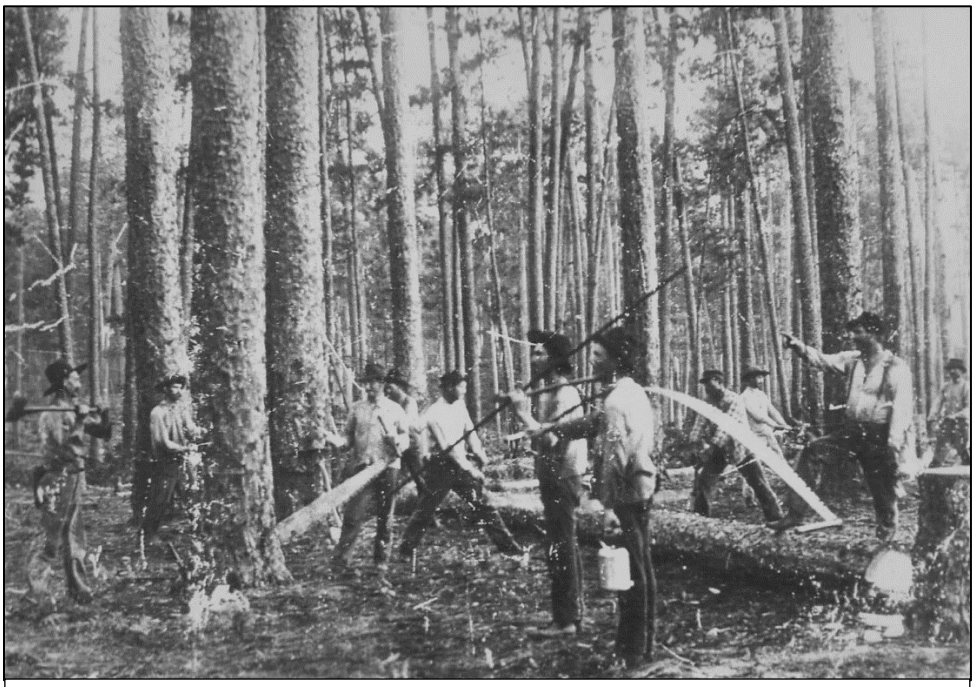
The boundary issue between the two states was resolved in 1821 (the Sabine River became the boundary, so most of the disputed land became part of western Louisiana), it took real courage and moral fiber to settle in this area during these early times. There were few settlements, stores, schools, and churches. But the desire of men for a home of their own was stronger than all dangers and inconveniences (Smith 1999).

Understanding the region involves first understanding its history and then the people and the lore that this history has shaped (LeJeune 2015). It was in this culture that the lumbering industry imposed its influence beginning in the early 20th century.

Influence of the mills on the local economy

Most of the wealth resulting from lumbering in the early 20th century went to out-of-state speculators and lumbermen. Louisiana citizens and state and local governments did receive some of the benefits. Millions of dollars were invested in lumbering manufacturing facilities, and infrastructure that was built to move logs to mills and lumber to markets. Mainline railroad tracks increased 650 miles in 1880 to 5,554 miles in 1910.

Logging and sawmill operations provided jobs, and lumbering became an economic driver for the South's economy. However, out-of-state mill owners generally brought their skilled craftsmen and supervisory personnel with them, leaving mostly the lower paying jobs for local residents (Stokes 1954).



Timber cutters, called flatheads, were typically local workers who received little pay for their hard work. Here they are planning their harvesting effort.

Brister (1968) summed up the benefit from the mills this way: "A sawmill in Central Louisiana was looked upon as a town's greatest asset as well as benefactor because it provided opportunities for work. Even though the hours of work were long, and the wages were small when compared to the profits made, and when compared to wages and hours for similar work at this time, having a job in order to feed and clothe a family was the important thing."

THE AFFECT OF STEAM-POWERED LOGGING EQUIPMENT

Prior to about 1880, timber production in Louisiana was small, meeting local needs. Milling and logging were confined largely to areas along waterways. However, in the second phase of lumbering, the industrial phase was large in its output. “These were the days of giant trees, giant mills, and giant lumber men” (Burns 1979). In 1880, Louisiana ranked thirtieth in the United States for the dollar value of its timber product. By 1890, it ranked tenth in the nation, and by 1920, second. In some years in the 1910s the state led the country in timber production (Fricker [n.d.]).

Several factors came together to make industrial development possible: (1) the availability of large tracts of timberland at low prices, (2) demand for lumber needed to the expand the nation into the Midwest, (3) the arrival of railroads, and (4) the development of equipment to efficiently move the cut timber to the mills.

Louisiana had few railroads prior to the Civil War. The years of tremendous railroad construction were between 1880 and 1910, when five thousand miles of mainline track were laid. This development in growth opened previously sparsely settled parts of the state, creating new towns, and made timber harvesting on an industrial scale (Fricker [n.d.]).

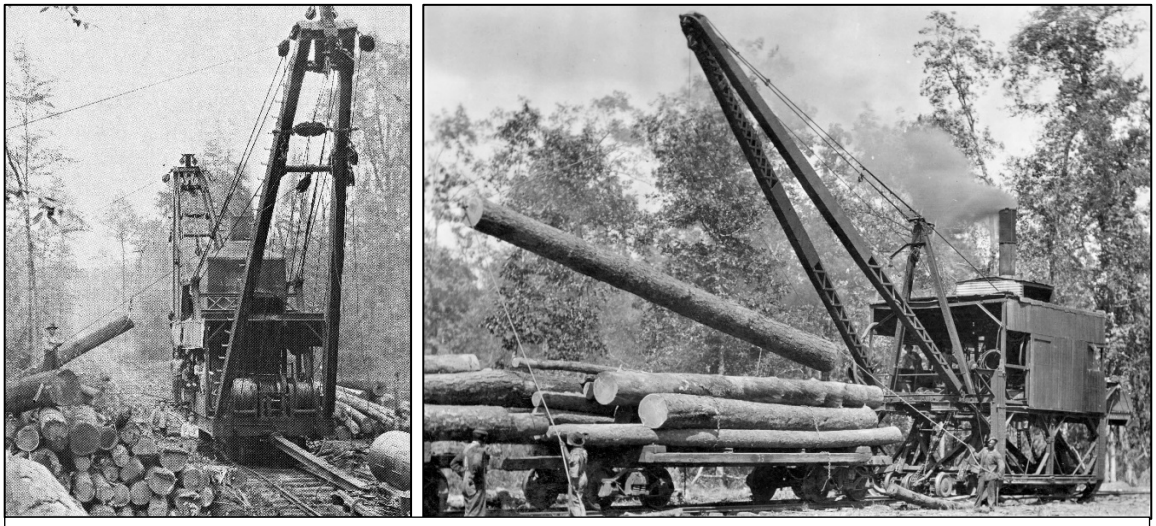
Log train of Crowell Lumber Company on its way to Long Leaf, LA (colorization of the photo by Wimbley Vu).

The development of railroad capability greatly improved the transport of logs and lumber for sawmills, but the skidding of cut timber and loading on log cars by use of mules or horses still greatly slowed the amount of lumber that could be produced. It was steam-powered skidding and log loading equipment that increased the quantity of lumber that could be produced in a day.

It was this steam-powered equipment that made logging so efficient that large lumber companies could produce nearly a million board feet of lumber daily (Lind 2021). This would require logs transported from 60 or more acres of timberland per day. The Clyde skidder was so powerful that

This photo shows the method of loading log cars with horses pulling logs onto a rail car using cross haul technique. This method was replaced using the more efficient steam-powered skidding and loading equipment.

the skidding process would destroy any unmerchantable pines. Lueck (2021) provides an excellent photographic description of such a harvesting operation in the woods. This process would eliminate trees being left as a seed source for natural regeneration, but few lumbermen believed that another crop of trees could be grown anyway.



The Clyde skidder (left) was a massive piece of equipment that could skid logs from 1,000 feet in four directions to the rail track. The McGiffert loader (right) would travel on the track and load the skidded logs on log cars. This equipment increased to capability of the mill to produce large quantities of lumber and timbers (Lind 2021).

It was this steam-powered technology that resulted in lumbermen like Samuel H. Fullerton buying timberland and developing sawmills in the South. They could envision the profits that would be made from such sawmills—there was a great demand for lumber for the developing Midwest. And, they had the financial resources to buy the land, develop the mills, build the towns necessary to support such enterprises.

SAMUEL HOLMES FULLERTON

Samuel H. Fullerton, who was born in Ireland in 1852, the son of a sea captain, migrated to the United States when he was seventeen and became involved in the lumber business. In 1883, he and brother Robert began operating a string of lumber yards in Kansas along the Santa Fe and Rock Island railroads (American Lumberman 1906).

In the late 1880s and early 1890s when southern pine was first marketed in the prairie states, the Fullerton brothers were among the first to realize the merits of southern pine lumber and began investing in mills in Arkansas and Louisiana. After Fullerton visited southwest Louisiana in the early 1900s where he saw magnificent timber stands still available, he decided to become a lumber producer and not just a retailer (Burns 1979). In 1906, he organized the Gulf Lumber Company and began buying tracts of virgin timber in Vernon and surrounding Parishes.

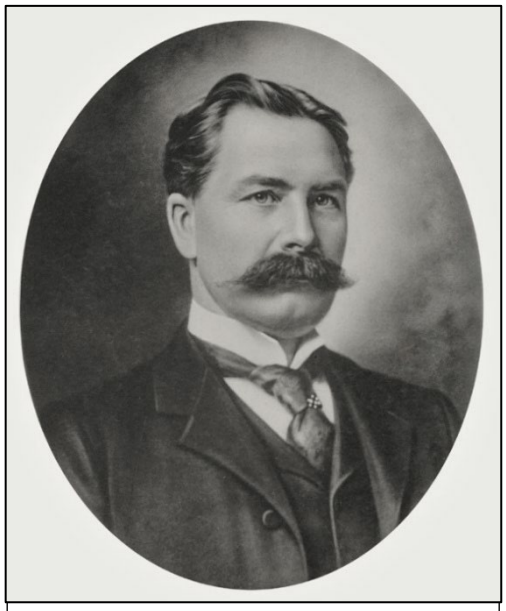


Photo of Samuel H. Fullerton from the *American Lumberman* in 1906.

Fullerton, who had successfully become the manager and owner of the Chicago Lumber Company, continued to expand his business and had made an investment in a sawmill at Logansport, LA. The move then to purchase timberland in southwest Louisiana continued. Like most lumbermen at the time, he viewed the 106,000 acres of virgin pine he purchased as a limited resource to be harvested once (Burns 1979). Apparently, he gave little thought to try to maintain the town he created after the timber was harvested.

It is interesting to note the price Fullerton had to pay for his timberland. Fullerton had commented to a fellow lumberman who had earlier purchased timberland in Louisiana at about $10.00 per acre saying: “you paid a lot for that damn land.” Yet when he bought his land several years later, he paid almost $60.00 per acre. The profit margin in the lumbering industry was so great that the cost of the land became of little consequence.

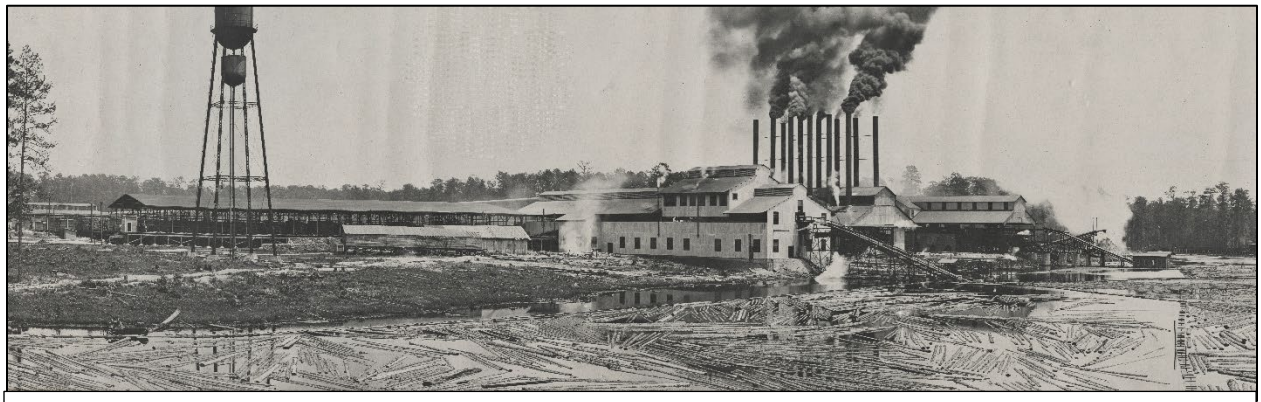
THE GULF LUMBER COMPANY MILL OPERATION

Samuel Fullerton accumulated pine timberland in Vernon, Calcasieu, Rapides, Allen, and Sabine Parishes in 1906 and began the development of his sawmill complex and town. An article in the Beaumont Enterprise written in November 1907, provides a look at the development of the mill

facilities in Vernon Parish (Block 2010): “This magnificent plant of the Gulf Lumber Company … is the most beautiful mill site… Immense oaks and other deciduous trees are found in abundance. The ground is a series of knolls, furnishing the perfect sites for houses. The water is pure, spring feed streams… The plant has been laid out with great care by a most competent engineer. A town of 3,500 people will spring up as if by magic, with all the improvements of the twentieth century.”

The Gulf Lumber Company correspondence letterhead that represented the company in 1921.

Thus began the history of the Gulf Lumber Company and the remarkable sawmill town. Fullerton spent approximately $3.5 million in building the mill and town after purchasing the timberland for $6 million (Burns 1979). The mill superstructure was steel with concrete floors 6 inches thick. It consisted of two stories with a large filing room overhead and was equipped with two double-cutting band saws and a band resaw. All machinery was of the latest available. The mill really operated as two separate mills. One cut the large timber and the other boards for lumber. The carriage on the long side provided for cutting timber up to 90 feet long and on the short side had the capacity to cut material to 40 feet long. The mill was lit by electricity to provide for night operations. During World War I years, two shifts operated daily to meet the demand for timber products.



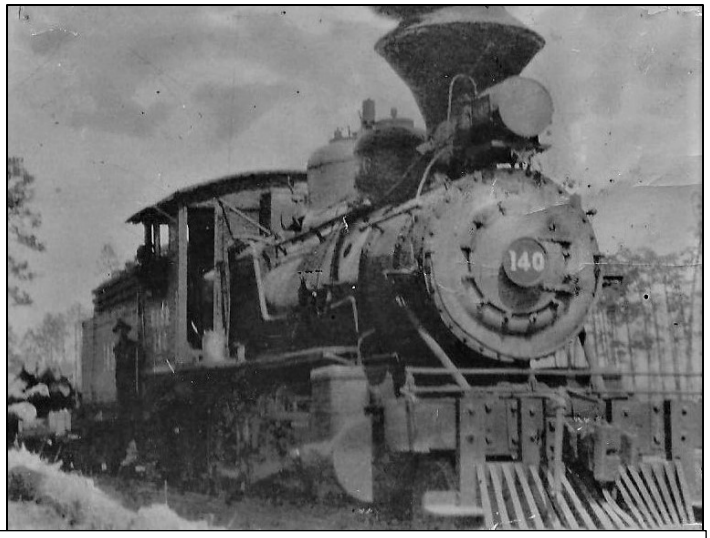
A panoramic view of the sawmill complex. The 24-acre log pond can be seen in the foreground. The mill was powered by electricity generated on site by burning wood waste. The large top portion of the water tower supplied water for the mill and generating steam to operate the mill’s Corliss engines. The smaller tank under it provided water for the town and residences. Water was piped to all the homes.

Railroad and Woods Operations

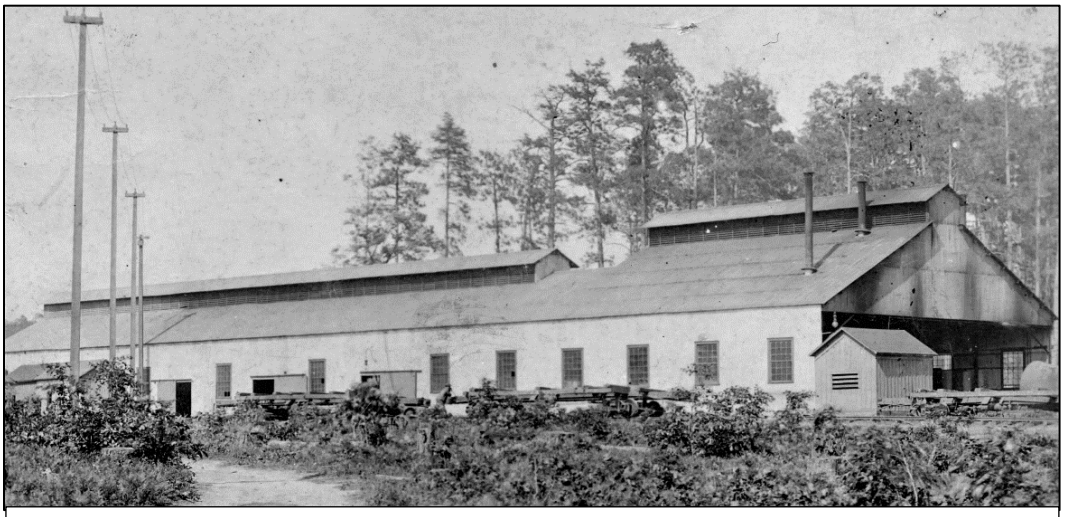
The Gulf Lumber Company railroad, the Gulf & Sabine River line, connected Fullerton, through Rustville, to the Santa Fe Railroad line to Lake Charles—less than 10 miles away. Primarily, its temporary spur lines crowfooted out into the forests in all directions, as the loggers clear-cut hundreds of acres of timber each month. According to the 1920 census, the tram & logging supervisors consisted of 5 locomotive engineers, along with others who had responsibility as loader foreman, logging superintendent, skidder foreman, steel gang foreman, bridge foreman, and pond foreman. In addition, there were 41 Mexican track laborers (Block 2010). It is believed that 3 or 4 Shay engines were used for switching cars on the spur lines and several rail operating skidders & loaders. At least 3 main line Baldwin locomotives and 100 log cars were needed to haul logs daily to the mill and to maintain passenger & freight services from Fullerton to connect with the mainline Santa Fe Railroad.

Gulf Lumber Company crew building tram lines into timberland to be harvested.

In addition to the Mexican workers who moved the tram lines and maintained the track, most of the timber cutters, called “flatheads,” were Black employees. If the logging operations were located distant from the mill, logging camps were established to provide housing, food, and other services. This would avoid the time needed to transport workers daily from and to the mill. Using double-bit axes and cross-cut saws, the flatheads cut trees and prepared logs for transport. Sawing was backbreaking work. Once trees fell, the limbs were cut off and they were cut into lengths usually 16, 20, or 32 feet, depending upon the mills needed for the day. Each 2-man team would distinctively mark the logs they cut to be credited for their work by the “scaler.” Richardson (1983) notes that scalers frequently reduced the scaled amount saying: “We always take some off and give it back when they have a bad day.” How would these things be worked out? It seems unfair, but it was a common occurrence.



Flatheads cutting a massive longleaf pine (left). The logs were loaded on to log cars by steam-powered skidders and log loaders. Loaded log cars were pulled by engines like the Gulf and Sabine River Engine #140 to transport the logs to the mill for processing.

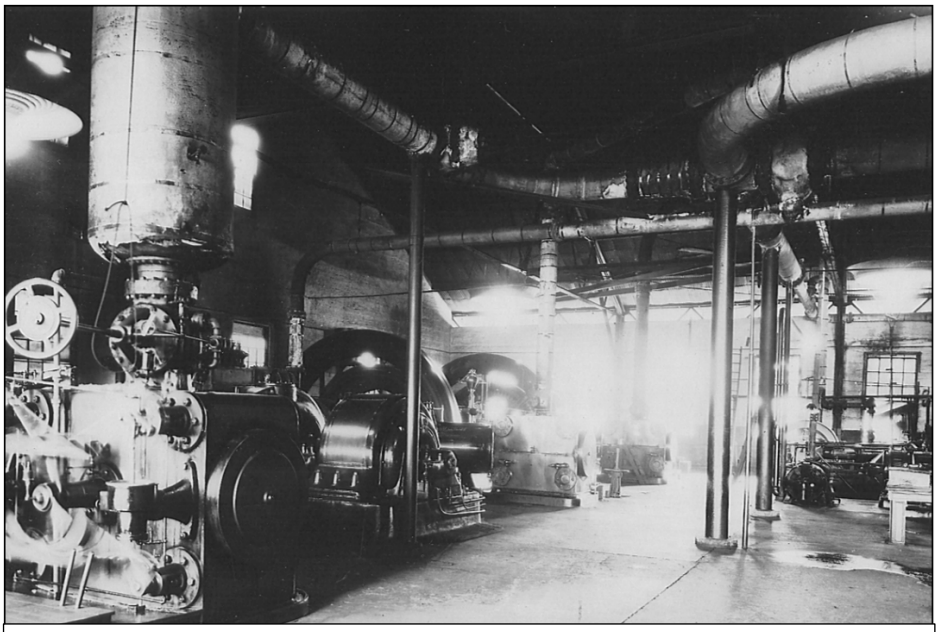


The Gulf Lumber Company round house and machine shop was key to maintaining the company's fleet of railroad equipment—critical for the functioning of the company.

The Gulf and Sabine line carried freight and passengers with connections over the Santa Fe and Lake Charles and Northern Lines. During World War I and for several years afterwards two passenger trains ran daily to Lake Charles (Burns 1970). The engines and other rail equipment were repaired and maintained in a combination round house and machine shop.

Powerhouse

Power generation at Fullerton used the newest technology, all the equipment was operated by electricity. Boilers produced steam to turn powerful Corliss engines that powered generators that supplied the mill and its equipment. The powerhouse was built of concrete and steel, so it was considered fireproof and was located between the two mills. Besides providing large amounts of power to run the mill plant, the planer mill, and the "trolley" system, the powerhouse furnished electricity for lighting the town, its streets, and residences.



In this portion of the powerhouse is located the Corliss steam engines that powered the generators that converted energy into electricity that supplied the mill and the town. This was undoubtably one of the most modern mills in the South early in the 20th century.

In addition, a tower with16 arc lamps sufficient to illuminate an area with a radius of 4,000 feet made the plant appear at night like "a veritable fairyland" (Block 2010).

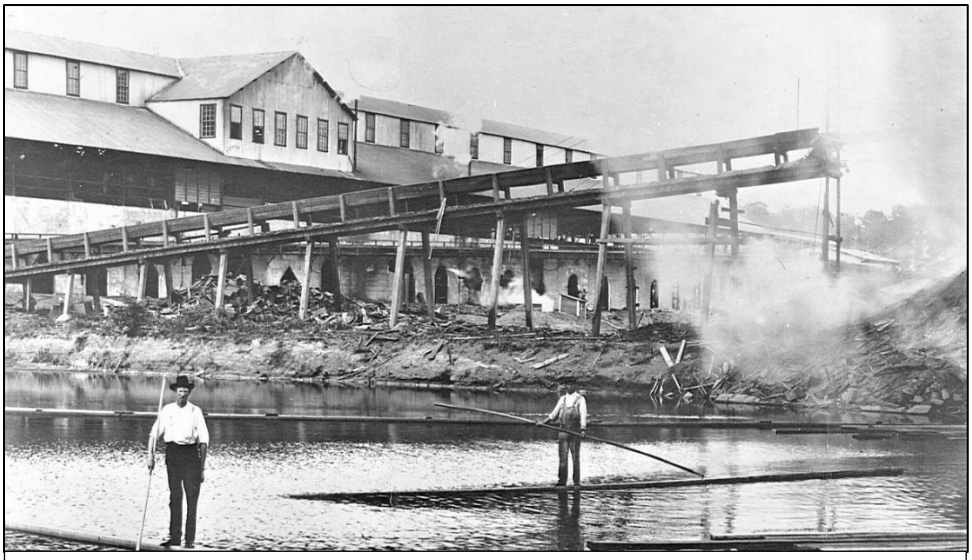
Log Pond

A log pond was created taking advantage of a natural depression in the land. Its size of 24 acres resulted from an immense embankment constructed on the west side. It was fed by a perennial stream ensuring an abundance of water. On the west side, a skidway was constructed where trains could unload their log cars.

The log pond was vital to the mill's operation. The water provided ease of unloading log cars, reduced the blue-stain fungus infection that degraded lumber quality, preserved the logs from bark beetle attacks, and washed dirt and soil from the logs, thus reducing wear on the saws (Barnett and Lueck 2020). From the pond, the logs were moved onto a conveyor chain and hauled onto the mill log deck for cutting into lumber.

An additional 2 acres of the pond were designed for storing large dimensional timbers to keep them for warping before shipment.

The log pond also became a recreational site for the town and was frequently used by fishing enthusiasts.



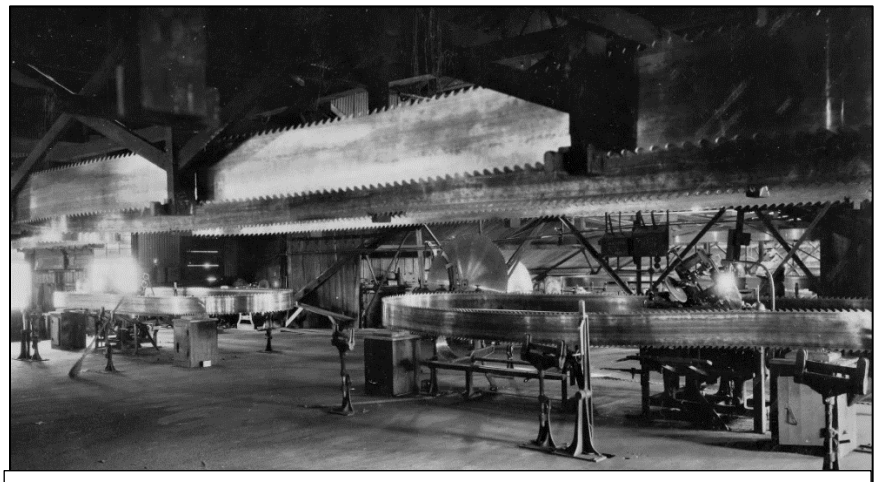
Two mill pond workers standing on logs with poles are moving logs to the conveyor where they will be hauled to the mill deck. Behind is the sawmill and a conveyor moving scrap material to the slab pit (site for burning scrap wood).

Mill Log Deck

As logs were moved to the log deck, an amazing number of decisions were made quickly based on the size and quality of the logs and the current need for lumber products. One by one, the logs were rolled on to one of the mill's carriages which moved back and forth carrying the log through the moving band saws. The sawyer within seconds made decisions on how to get the best quality of material from each log—from solid-wood timbers to dimensional lumber.

The man standing on the moving carriage turns the logs to produce the size of lumber products specified by the sawyer setting across from him. These decisions were communicated by hand signals made

Following the band saw, the rough lumber proceeded on chain driven conveyors through other decision points where workers would use levers to make cuts to maximize the quality of the lumber—areas on lumber with bark remaining and other defects would be removed.

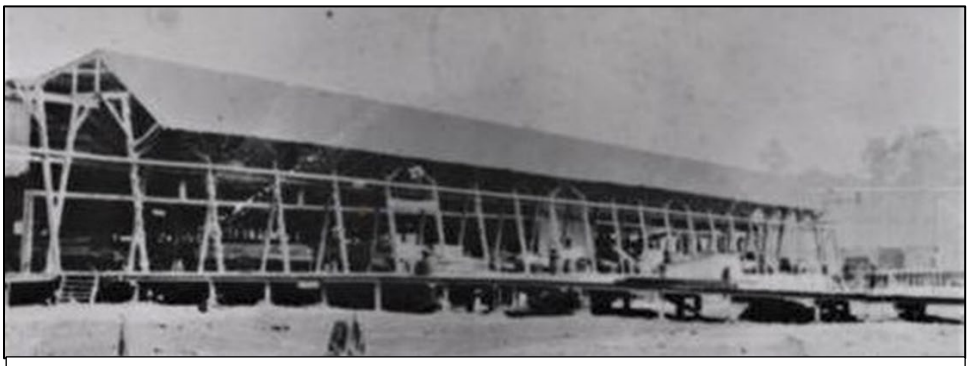


In an area above the mill band saw was the saw filing room. Here the saws were sharpened to maintain performance. Typically, the band saws were filed several times a day. The filers were among the most highly paid workers at the mill.

Sorting Table or Green Chain

Leaving the mill deck, the lumber would enter the sorting table, also frequently called the green chain because the wood was still fully saturated, that was 72 feet wide and 600 feet long and

extended from the mill to the kilns for drying. Workers along the table would pull lumber and sort it by size and length.



Exterior view of the sorting table or green chain. There freshly cut lumber was sorted by size and length, loaded on dolleys, and picked up by the monorail trolley system called the "Go Devil."

The movement of lumber from the sawmill primarily was by use of a monorail system elevated at 30 feet and connected the sorting table to the dry kilns, yard lumber storage, and the huge dry lumber storage facility. Called the "Go Devil," the system was elaborate and efficiently moved lumber around the sawmill complex—saving both time and labor costs.

This view is of the monorail system for moving lumber around the mill facility. Note that the suspended cab with operator has picked up both the dolley and the lumber stacked on it for movement.

Lumber Drying and Storage

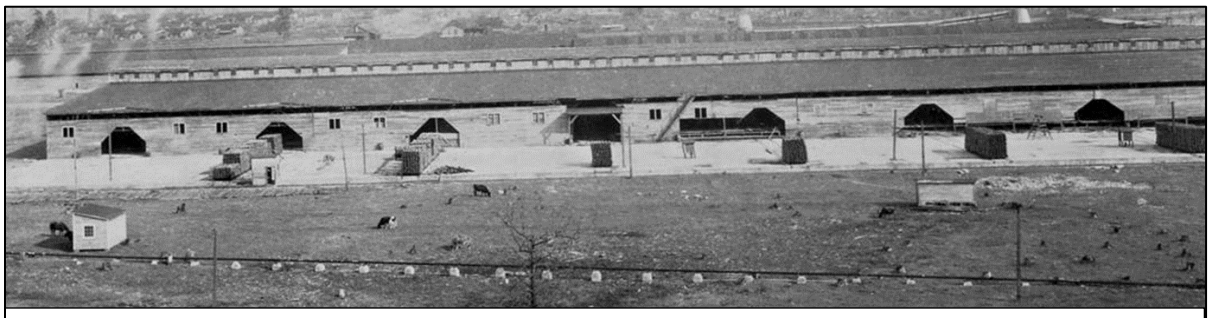
Lumber leaving the mill deck was fully saturated with moisture, called green lumber, and had to be dried to lower its moisture content before it could be planed for marketing. The mill had two options; stacking and holding it outdoors for weeks to dry sufficiently or to move the lumber into kilns heated with steam to dry the lumber within a few days.

Lumber of higher quality or that in demand was moved directly to kilns. The Gulf Lumber Company developed a large kilning capacity with 12 units, each 20 by 100 feet in size for quickly drying lumber.

In the center of the photo with lumber stacked in front of them are the dry kilns. On the right is the sorting shed and on the far left is the lumber storage shed. Lumber stacked in the open is visible in the distance, as is the monorail system.

Other lumber was stacked in the yard where it was air dried. Where kiln drying took a few days, open air storage took much longer depending upon the weather. Both methods require stacking lumber with spacers between layers to facilitate drying.

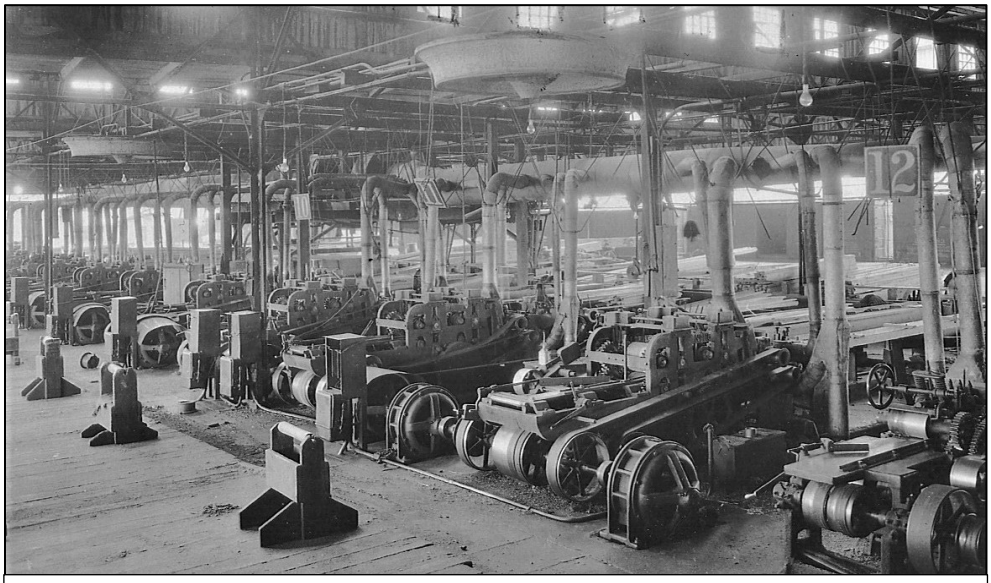
Dried rough and planed lumber was held in a large storage shed. The shed for rough lumber was 280 by 650 feet in size. For dressed (planed) lumber, it was 120 by 800 feet in size (Block 2010).



Seen here is a portion of one of the lumber storage sheds. The monorail system carried lumber to the shed for storage. This process resulted in high quality lumber products.

Planer Mill

After lumber was dried to an appropriate moisture content, it was planed to the right size and smoothness. Once though the planer mill, the products were ready for market. The company mill had an elaborate wood working system consisting of 27 separate machines powered by electricity that could plane the wood or shape it into various kinds of molding and lathing. Wood shavings from the machines were vacuumed and ducted to the boiler room to provide fuel to generate electricity.



The planer mill consisted of 27 machines, each powered by its own electrical motor. This gave the mill capacity to produce a wide array of lumber and molded products.

This view from the storage area in the planer mill shows the wide array of shaped lumber products resulting from the milling equipment.

The mill produced an average of 350,000 board feet of lumber every 10-hour shift, as well as barrel staves and headers for turpentine and alcohol storage use. It also produced lath in numerous sizes and lengths (Block 2010).

At least 20 percent of the mill's production was in timber for railroad use, erection of bridges, and factory construction. The output in timber alone, from 4x4 inch to 24x24 inch diameters, amounted to more than 20 million board feet per year.

Loading Dock

The loading dock for the mill provided covered work space for loading up to 30 rail cars at the same time. This allowed the mill workers to load cars while protected from adverse weather conditions. The monorail system delivered the lumber products on dolleys to the car siding where workers loading the cars by hand.

Dolleys with lumber parked near the rail cars under the cover of the loading dock. Note the monorail track system suspended from the ceiling.

The Gulf Lumber Company was as modern and sophisticated sawmill plant as was available when it was created in 1907.

After purchasing over 100,000 acres of timberland, an opportunity existed to obtain profit from the forests before harvesting for lumber. The naval stores industry had long used longleaf pine forests as a source for pitch, tar, and turpentine products in forests of the Atlantic and Eastern Gulf coastal states (Barnett 2019). Why not take advantage of this possibility in the forests of Louisiana?

THE COMPANY TURPENTINING OPERATION

Turpentining was a component of the naval stores industry—a product obtained from collecting the resin from longleaf pines. Early colonists in America quickly determined the value of the vast amounts of resinous wood laying on the forest floor in the virgin stands longleaf pine (Barnett 2019). By applied the techniques learned centuries earlier of steaming this material, they readily produced in tar kilns the pitch and tar needed by the English navy.

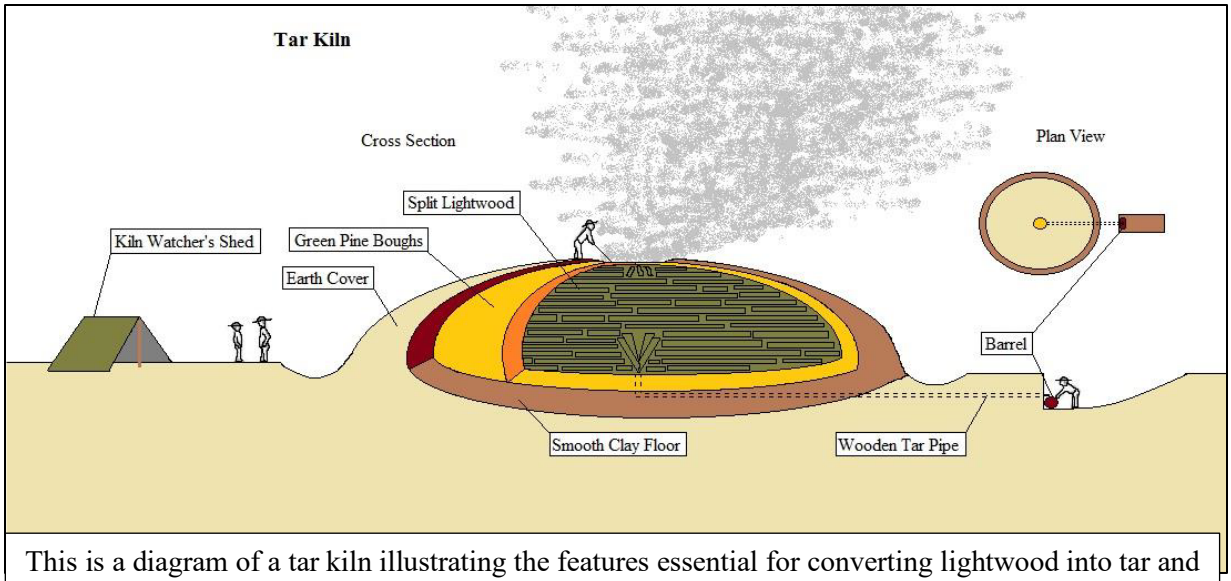
History of the naval stores industry

Naval stores is a term applied originally to the pitch and tar products obtained from the steaming of longleaf pine pitch laden wood, called commonly called lightwood because it was used to start fires for cooking and other purposes. Barrells of pitch and tar were carried on all wooden sailing ships for maintenance purposes—hence, the term naval stores. Tar was used to coat sails, ropes, and rigging to make them last longer against the effects of salt water, wind, and sun. Pitch is tar boiled to get a higher-grade substance and was used to paint the sides and bottoms and spread into cracks to make them watertight.

Tar kilns

To produce tar, it took two men at least 3 weeks to prepare a site for a kiln and to collect lightwood—the resinous boles, limbs, and stumps remaining after pines had died and decayed—to be placed in a pit, cover it with branches with green needles and clay, and then monitor oxygen-limited burning (Early 2004). By limiting the access to oxygen, the lightwood "sweated" and did not actually burn. After the tar was sweated out of the wood, charcoal remained that could be sold for blacksmith use. Pitch, a higher-grade product, was obtained by boiling the tar.

Over time lightwood became scarce and the need for tar and pitch declined due to the shift from wood to steel hulled ships. During this time, the naval stores production shifted to tapping trees to obtain the resinous material called gum and this technology became known as gum naval stores or turpentining—turpentine was the primary product. Eventually, the resinous stumps left after clearcutting the virgin forests became another source for turpentine and other valuable chemicals.



This is a diagram of a tar kiln illustrating the features essential for converting lightwood into tar and charcoal (Geer and others 2015).

Gum naval stores or turpentining

Turpentine became a major product derived from the distillation of gum resin collected from longleaf and slash pines—these species were the primary species producing copious amount of resin. Wounding of the pine to stimulate gum flow became a major industry in the South's southeastern pine forests. Turpentine was a valuable product and has many uses, including a thinner in paint, medicinal purposes, and a cleanser for grease-stained clothing and equipment.

The box collection method—The development of gum resin naval stores technology in the early 1700s required a large labor force as many trees had to be worked to obtain commercial quantities of gum resin (Vance 1896). Cavities (called a "box") could be cut into the base of pines during the winter in anticipation of the chipping operations beginning in the spring. A "crop"—the basic number needed for a profitable operation—often consisted of 10,000 "faces" or areas on the bole scarified for resin production.

Small producers may have worked less than one crop, but large producers frequently owned or leased tens or hundreds of thousands of acres of forest land for turpentining (Outland 2004).

Turpentining became a major forest industry in North Carolina and required large numbers of workers, primarily slaves who worked in camps isolated the woods. After the longleaf forests were decimated in the Carolinas, the industry moved south into Georgia, Florida, and Alabama.

The box technique for collecting gum. A hole, called a box, was cut into the base of the pine to collect the resin.