Forests of the southern longleaf pine (Pinus palustris) once covered an estimated 90 million acres across the Southeastern Coastal Plain states. Often called yellow pine, heart pine, southern pine, hard pine, and pitch pine by loggers and lumbermen who years ago made it an important part of their lives, mature longleaf pine forests were described as beautiful stands of pines towering over an understory of mostly grasses. Often, one could see for a great distance into the forests, making it easy to travel and to hunt wildlife, which was remembered as abundant.

Characteristics of longleaf pine ecosystems include: minor hardwood component, mostly oaks; grass-dominated groundlayer; high plant species richness; frequent surface fire; occurrence across a wide geomorphic and hydrologic gradient; and natural stands ranging from even-aged to all-aged trees. Animal life is abundant; a few examples are

"What I was impressed with — as a young kid — watching the mules pull the logs out to the road ... all the leather and chains and everything going together and hearing the mule skinner with the whips and what have you ... they had the big chain wheels, you know, so high ... sand wheels and they'd back over the logs ... That was something to see. I can hear it and see it just as plain as you and I talking right now."

- Mark Bateman, Alva, Florida; interviewed by the author during research at Hickey's Creek.
This old photo, with a man standing at the base of a longleaf pine, shows how in the old-growth longleaf forests, the trees towered as giants. Photo from state archives.

gopher tortoise, eastern diamondback rattlesnake, fox squirrel, white-tailed deer, screech owl, red-cockaded woodpecker, and bobwhite quail. Longleaf pine is easily distinguished from other southern pines because it produces the longest needles — up to 18" — and the largest cones — 6 to 10" in length.

In researching the pre-settlement geographic distribution of longleaf forests, one issue has been the southern extent of these forests. Most reconstructed distributions depict longleaf as halting at the Caloosahatchee River, and this seems to be the current perception of Florida's environmental agencies. Just the other day, a south Florida ecologist said to me that he does not recommend longleaf reforestation projects south of the river because the trees never occurred there. My research, combining oral history, archival searches, and archaeology, disagrees with this common perception.

Rather, the closest approximation for a pre-settlement southern distribution is more likely presented in a map by Moore and Goodwin showing the pine far south of the Caloosahatchee River.

The disappearance of the old-growth forests throughout the Southeastern United States followed the progression of Euro-American settlement through time. Virginia, mostly in the 18th century, was the first region to lose the longleafs on a massive scale. South Florida was the last region to lose longleafs, beginning in the 1920s. The last of South Florida's old-growth longleafs were being logged as late as 1956. What became of the majestic longleaf forests is a story of dynamic interplay between numerous environmental and cultural factors. Generally, the same process of change happened across the entire southeastern distribution of the longleaf pine.

The process began when an area's first settlers learned — many from Native Americans — that purposely set fires in the longleaf forests would produce succulent forage for their livestock, while not harming the tall pines. Although fire was a natural and even necessary element of the longleaf ecosystem, livestock, obviously, was not. Cattle, hogs, and even sheep fed on the many grasses in these open woodlands, free from fencing as late as the 1950s in South Florida. The ever-rooting feral hog population, in particular, was responsible for the destruction of countless longleaf seedlings, preventing forest regeneration. A single hog, in one hour, can root as far as 30 feet from a tree trunk, eating some eighty starch-laden longleaf seedlings.

Settlers soon realized more lucrative uses for the longleaf pine forests. The naval stores industry used longleaf resin for the production of rosin, pitch, tar, and turpentine. The most lucrative and most destructive of all the
longleaf industries was lumbering. The tall, straight trees with their rot- and insect-resistant wood made the best shipmasts money could buy. In European, Caribbean, and South American markets, southern longleaf pine had the reputation of being North America’s strongest wood.

Logging the longleaf was at first a slow process, for transporting the logs to the mills was a difficult task. Transportation problems disappeared with the arrival of railroads and the steam-driven locomotive to the southern forests. Steam-powered log skidders and sawmills also contributed significantly to new logging technology. Almost as soon as main rail lines were laid by the railroad companies, lumber companies leased logging rights or bought extensive acres of forested lands adjacent to the lines. Logs were taken from the woods all the way to the sawmills by railcar pulled by a steam locomotive. This acceleration of the logging industry, primarily due to steam technology, spelled ecological disaster for the longleaf pine forests.

Many of the logged southeastern lands resulted in serious erosion and flooding. Combined with poor agricultural practices, the south’s navigable rivers became muddied and even clogged up. Beginning in 1911, the federal government began to buy the logged lands, with the rationale that the south’s water-sheds needed to be protected for the greater good of all people. Over 10 million southern acres were added to the National Forest system, and trained foresters took on forest management responsibilities. However, many millions of longleaf acres were not allowed to regenerate. Perhaps the most critical barrier to regeneration was what might be called the “Smokey the Bear Myth.” In the 1950s, the U.S. Forest Service, with their Smokey Bear campaigns, had successfully convinced Americans that all forest fires were bad and were not to be allowed under any circumstances.

Frequent surface fire is a characteristic of the longleaf ecosystem, where fires are fueled by dried longleaf pine needles and dried grasses. Some of the more prominent grasses in the understory are the wiregrass and bluegrasses. While not harming the longleaf pine, fire controlled the growth of saw palmetto, scrub oaks, and other plants, keeping these to a minimum. When allowed to grow unchecked, without periodic fire, these plants — and in South Florida, especially the saw palmetto — crowd out the longleaf seedlings and eventually the entire longleaf forest. Because foresters did not understand the ecological role of natural fires, they unknowingly contributed to the demise of the southern longleaf forests.

In other areas, longleaf forests were clearcut and planted in slash or loblolly pines, plantation-style, as early as the 1920s. Slash and loblolly were thought to be fast-growing compared to the longleaf, and thus considered more economical to grow. Plantations with rows of slash and loblolly became the accepted management approach in forestry practices. In central and south Florida, citrus replaced much of the sandhill longleaf communities, and agriculture or open-range cattle grazing overtook the longleaf flatlands.

Many cattlemen followed age-old burning practices so that their stock could graze on new grass growth, but wild hogs, at all-time population highs in the 1940s and 1950s, continued to consume the longleaf seedlings.

Out of the original estimated 90 million acres of longleaf forest in the southeast, estimates of today’s acreage range from a high of 10 million to a low of 3 million. In Florida, a 1995 southeastern inventory of longleaf acreage by county shows a range similar to the pre-settlement era, with the exception of South Florida. There, the southern boundary has moved north by several counties, on the west to a point well north of the Caloosahatchee River and on the east, well north of Lake Okeechobee.

During the winter of 1996, I and my colleague, Robin Denson of the Gulf Archaeology Research Institute, surveyed a tract of Lee County-owned land just south of the Caloosahatchee River in South Florida. Much of this area is characterized by slash pine and saw palmetto flatwoods and saw-palmetto prairies. This property, known as “Hickey Creek Park,” includes the archaeological remains of a logging rail system and two logging camps dating to the 1930s and 1940s. At the beginning of the project, we believed that slash pine had been logged from the area. But in combining archival information and oral history research, it soon became clear that the logged forest was one of longleaf pine and largely grasses rather than slash pine and largely palmettos. And that the Hickey’s Creek area was a small part of what once was a vast longleaf logging network run first by McWilliams and later by the Dowling & Camp Company — a network that included what are today two major population areas, Cape Coral and Lehigh Acres.

"That was the most beautiful pine you ever seen in your life. You just go out there, and you could see a turkey and anything else ... there wasn't no palmettos. There wasn't a bit ... lots of tortoises and hogs out here ... deer, turkey, bobcat ... when I was a boy this was the best place in the world ... you could kill all the game in the world. Heart pine. Big heart pine. We cut 100,000 board feet a day."

- Mr. Dan Gomer, Alva, Florida; interviewed by the author during research at Hickey’s Creek.
Typical of the cut-and-get-out lumbering companies, the Hickey's Creek operation was an ever-evolving one. Timber lands were purchased and rail spurs laid into them on ties hewn from rot-resistant longleaf pine. A crew of about 100 men cut 100,000 board feet — about 800 to 1000 trees — a day. Logs were chained to high-wheeled carts, and then pulled, dragging one end, by teams of mules up to the rail spur.

The final year of the 1940s-logging brought the addition of power saws and caterpillar tractors to the operations, although mules continued to be the primary haulers of logs. Logs were loaded onto flatcars using steam-powered draglines; when loaded, a company-owned steam locomotive would pull the logs to the mill. As soon as an area was "cutover," the rail crews picked up the spurs and re-laid them in new, uncut areas of forest. The railroads and their rail spurs, even when taken up, left visible grades sometimes paralleled by excavation ditches as in the case of Hickey's Creek. In addition, as the logs were dragged from the woods, the dragging left linear scars in the ground, all leading to the closest rail spur. Studied from an aerial view, the spurs and log scars can be traced, revealing feather-like patterns.

One wonderful advantage I had working in South Florida — the last region to lose its longleaf — was that some of the principal individuals involved in that loss are still around to talk to today. The most detailed first-hand memories of the Hickey's Creek logging operation and its camps come from Dan Garner, who in his teens, worked with the woods crew.

Garner reported the existence of two short-lived camps, both of which were identified during the archaeological survey. Both camps consisted of railroad boxcars serving as portable homes for the woodsmen and their families. The camp crew were African American while the supervisors were European American and lived in the surrounding region. The camps had outhouses and although they were temporary, one of the camps had substantial government-built privies. The camps had commissaries for purchasing groceries. Hot sauces were a popular item, as we found several of the tell-tale bottles. The 1930s commissary, like the workers' homes, was a boxcar. The 1940s commissary, on the other hand, was a substantial one-story structure built of longleaf pine lumber. Workers were paid with company "scrip" and aluminum tokens, a common practice among logging companies. A medical doctor visited once a week and administered medicines contained in bottles; several such bottles were found during our survey. Mr. Garner describes camp life with images of children, baseball, sour orange wine, whiskey made from cane-skimmings, and good times. Vegetable gardens, commissary pork and beef, and local wildlife were central to the diet of the community.

Like so many others, the longleaf forests of the Hickey's Creek area and lands to the west, south, and east were devastated. And with the destructive feeding behavior of wild pigs, the competitiveness of other fast-growing pines and oaks, the introduction of citrus and other agricultural crops, and open-pasture cattie grazing, the longleaf forests had little opportunity to regenerate. At some point, the remaining heart pine stumps at Hickey's Creek were extracted from the land for use in naval stores products. Taking advantage of the highly desired longleaf pine to the very end, landowners even took the longleaf lumber out of the old commissary building during the 1950s. Nothing of the majestic forests remains except for the precious memories of a very few senior individuals.

Not surprisingly, most of the Hickey Creek area eventually ended up in the ownership of a development firm. A small portion of the land covered by slash pine, scrub, and saw palmetto — land that today is a Lee County park — was for a while used for cattle grazing. The development firm leased grazing rights to cattlemen, including my principal source of information, Dan Garner. Interestingly, through the 60s, 70s, and 80s, Garner and others, to provide grass for their cattle, conducted controlled burns, a tradition rooted in the original longleaf pine ecosystem.

Other areas of the logging system had a dramatically different outcome. Great portions of these logged pine lands today exist as a large suburban area of Fort Myers. The developers’ marketing strategy to lure families to this place included a 1961 promotion in which a new Lehigh Acres home was offered as Grand Prize on the TV show, The Price is Right. Similarly, the city of Cape Coral — initially a massive housing development and today rumored to become Florida's second largest city — was created in the western part of the logging system.

Closing on a positive note, longleaf pine is making a comeback today, both in the greater southeast and in Florida, thanks to restoration efforts on state, federal, and even some private lands. Burns are now routinely used in longleaf forests. New forest management plans include periodic controlled burning of the forest floor layers. University forestry departments now offer a specialization known as "fire ecology." Conservation groups such as Longleaf Alliance educate the public and landowners about the value of the native longleaf ecosystems. A few lumber companies have recognized the economic value of longleaf regeneration. And last, Lee County, Florida, where I focused my study, is — since the survey — considering the idea of replanting longleaf pines in their new Hickey Creek Park, concomitant with a public education program including on-site interpretation and volunteer-assisted reforestation.

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