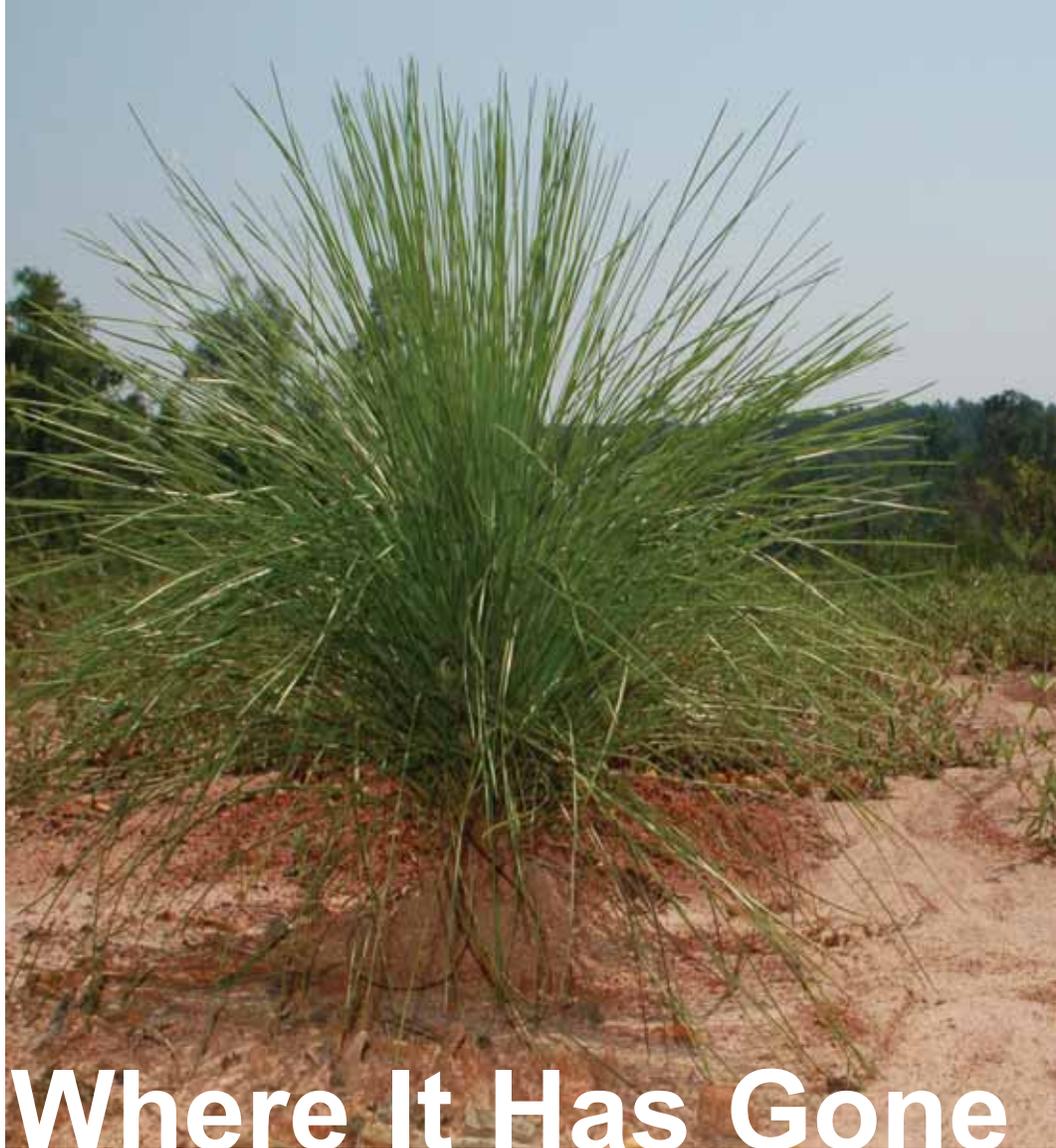


# Longleaf Pine



## Where It Has Gone How to Get It Back

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**L**ongleaf pine ecosystems, among the most species-rich ecosystems outside of the tropics, are estimated to have once covered 60-93 million acres of the Southeastern United States. Longleaf pine occurred on a variety of sites ranging from dry sandhills to wet savannahs. The range of sites occupied or capable of being occupied makes them desired habitat for many popular game and non-game species, as well as a suite of threatened or endangered species, and species of conservation need. Ideal longleaf pine ecosystems are open, park-like forests that are the result of frequent fires. Alteration of the natural fire regime, timber harvesting, conversion to agriculture, and the loss to development

are among the historical causes that have reduced this once grand ecosystem to approximately three percent of its former range.

The early exploitation of longleaf pine ecosystems began with European exploration and settlement. Naval stores and logs/lumber for settlements were some of the first uses of southern pines, including longleaf. With the settlements came the conversion of acreage to agriculture to produce food stocks to support the growing population. Early settlers tended to fence agricultural areas and let their livestock roam free. Free ranging livestock, mainly hogs, also had a detrimental effect on longleaf reproduction.

Naval stores production, which had been underway in some of the colonies since the 1700s, was increased in a destructive manner to make way for the harvesting of southern forests. These patterns of exploitation were mainly confined to the coastal areas and inland waterways, until progress in steam locomotion and power made the vast areas of longleaf forests accessible to logging by the mid-to-late 1800s.

With innovations in the process of papermaking and technological advances in timber harvesting and transport, the pulp and paper industry entered the Southeastern US. The scrappy, poorly stocked stands leftover from the late 1800s and early 1900s, as well as land

being sold for back taxes resulted in many companies purchasing or controlling vast acreages across the Southeast that were harvested for pulpwood and replanted to loblolly pine in the ensuing decades. Industrial landowners and tree improvement programs favored loblolly pine for its ease of planting and perceived superior growth rates.

Other factors affecting longleaf pine were Smokey Bear and the campaign against fire, and a shift to the limited use of dormant season fire, which resulted in substantial acreage once in longleaf pine ecosystems being overtaken by hardwoods and other pines. More recently, a significant loss of acreage was due to the development of residential housing and retail centers. There are still remnants of the longleaf pine ecosystem in Alabama and the Southeast, and plenty of opportunity to restore and enhance these ecosystems.

Longleaf pine ecosystems' history of providing goods and services for people has enjoyed resurgence over the past decade. An improved understanding of these ecosystems has created a framework to attempt to recapture the natural heritage they provided. Federal, state, non-government organizations, universities, and private landowners now work together in restoring longleaf pine ecosystems. It is hoped that these partnerships will reverse the downward trend of past years.

The actual process of restoring longleaf pine ecosystems begins with a current assessment of the ecosystem, from moderately degraded to highly degraded, and the site type and qualities. Moderately degraded systems still have longleaf pine present with native understory, whereas highly degraded systems do not have longleaf pine present and the understory is void of native species. In areas where both longleaf pine and native understory are present, the reintroduction of growing season fire and dormant season fire, as well as mechanical and herbicide removal of midstory, can restore the functionality of longleaf pine ecosystems over time. However, forest conditions created over decades will not be undone by one growing season burn!

On areas without longleaf pine but with native understory present, a combination of mechanical harvesting, growing season fire, mechanical and herbicide application, and the planting of container longleaf pine seedlings will begin the process of restoration. In areas with neither longleaf pine nor native understory, often having non-native plants present in the understory, a more intensive treatment is necessary to begin the restoration process. A combination of mechanical harvesting, mechanical site prep, herbicide treatment, planting of container longleaf pine seedlings, and the reintroduction of native understory plant material or seed will begin the restoration process. With all restoration efforts, the need for monitoring ecosystem function and change over time cannot be overemphasized.

It has been said that when the country was founded, a person could go from the Carolinas to Texas and never leave longleaf pine. These once expansive ecosystems deserve the ongoing restoration efforts. 🌲

