

A Landscape Sustained by Fire



NPS Photo

Although Congaree National Park is best known for its floodplain forest, a small sliver of the park is dominated by an entirely different forest type. This area of slightly elevated land above the floodplain possesses the remnants of a vast longleaf pine forest that once stretched across the Southeast.

Longleaf Pine Savannahs

Longleaf pine savannahs once dominated the southern landscape with an estimated 60-90 million acres. Today, longleaf pine forests are a globally threatened vegetation community, with less than 3.8 million acres remaining. This decline is

due to past logging, agricultural practices, replanting with other pine species, and fire suppression. There are several rare, threatened, and endangered animal and plant species that depend on healthy longleaf pine forests to survive.

Fire: An Essential Tool

It may seem strange, but one of the best tools in preventing destructive wildfires is fire itself. As leaves, branches and trees fall to the ground, they become fuel for fires as they slowly build up. In areas where fire naturally occurs, these fuels are regularly consumed and the nutrients they contain are returned to the soil, which maintains the forest ecosystem’s health. Without regular fires these fuels build up, which can lead to catastrophic wildfires. The resulting unhealthy ecosystem can negatively impact the wildlife that calls the forest home.



FWS PHOTO



FWS PHOTO

Open longleaf pine forests with low shrub density and a dense herbaceous layer of grasses and forbs (flowering plants) were prevalent before logging and other agricultural practices altered the park’s uplands. Red-cockaded woodpeckers (left), a federal endangered species, were last seen nesting in Congaree National Park in the 1990s. Wildlife biologists believe there is currently not enough high-quality longleaf pine habitat in the park to support a viable population. However, the park utilizes prescribed fires to help make the habitat more suitable in the future for red-cockaded woodpeckers.

Adapted to Fires

Prescribed fires are used to reduce forest floor leaf litter, underbrush, and small trees, restore and maintain upland forests favored by fire-adapted plants and wildlife, enhance wilderness conditions, and increase growth of native grasses and plants. Fire is essential to maintain fire-adapted ecosystems and the diversity and abundance of fire-dependent species they support. Fires remove competing woody vegetation and release nutrients, allowing the rich diversity of plant and animal species found in longleaf ecosystems to thrive. Trees and plants that are adapted to fire survive and the risk of a destructive wildfire that could cause long-lasting damage is reduced.



KEITH COFFER, NPS

The southern fox squirrel (above) is one of many species that depend on upland forests for their survival. As you can see, their fur’s coloration helps them blend into areas that experience regular fires.



JOHN MAXWELL, USFWS

Mature longleaf pines are well adapted to periodic fires. However, even young longleaf pines in the earlier stages of development, such as the one shown to the left, are able to withstand the intense heat by allowing the needles to quickly burn away while still protecting the bud from the fire. As a seedling, longleaf pines grow a large root system and long needles that surround the buds. As an individual longleaf pine ages, the bark begins to thicken and become scaly, which improves the tree’s insulation and helps to dissipate heat during fires. Without these recurring fires, fuels build up and the resulting wildfires may burn hot enough to kill even mature longleaf pines.

Improving Visitor Experiences Through Fire

Through using prescribed fire effectively, visitors to Congaree National Park benefit as well. A healthy upland forest improves popular recreational opportunities, including birding, camping, wildlife viewing, and hiking. The park’s upland forest is also the stage where one of Nature’s more unique phenomena takes place each year. For two to three weeks in the spring, usually in May and/or June, synchronous fireflies (right) emerge from the leaf litter and put on a nightly display for visitors to enjoy. This unique mating ritual and spectacular visual experience would not be possible without a healthy upland forest sustained through regular prescribed fires.



JON MANCHESTER, NPS

Prescribed Fires for the Future



NPS PHOTO

Each year you may see fire being used to protect and restore longleaf habitat for future visitors to enjoy.

Since 1984, Congaree National Park has used prescribed fire to help in the restoration of the longleaf pine ecosystem. It is the hope that through the use of fire, the trees and the entire ecosystem will once again thrive in this landscape. The use of prescribed fire also protects the park from other threats, including reducing the risk of dangerous wildfires and reducing invasive plant species that could overwhelm native plants.

Fire has been an important tool that the National Park Service has used to protect, preserve and restore the landscape at Congaree National Park. Using prescribed fire today helps ensure that future visitors get the opportunity to experience a healthy and vibrant upland forest for generations to come.