

Alabama-Coushatta Tribe in Texas uses fire to save a tree that is part of its identity

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Pinus palustris forest. Credit: Chuck Barger, University of Georgia, CC BY 3.0 US , via Wikimedia Commons

The longleaf pine's branches arch toward the sky, each bud bursting with spindly green fingers. As flames sweep the landscape, setting yuccas and loblolly pine saplings ablaze, the longleaf's thick bark peels but protects the solid trunk underneath.

The longleaf loves fire. More important, it can't survive without it.

Longleaf pines used to span 90 million acres of the southern United States from East Texas to Florida. Burns by Indigenous tribes and lightning fires allowed the pines to thrive in forests home to red-cockaded woodpeckers and pink Texas trailing phlox flowers.

Today, about 5 million acres remain.

In East Texas, the Alabama-Coushatta Tribe of Texas and The Nature Conservancy have teamed up to save the longleaf pines by bringing back "good fire." Many Indigenous tribes have set small fires for centuries, and the approach is now being used across the country to curb wildfires and restore native grasslands.

For The Nature Conservancy, the [burns](#) aim to preserve an ecosystem of plants and animals that rely on the longleaf. For the Alabama-Coushatta Tribe, who have long used the tree to prepare medicines and make baskets, the stakes are higher.

"It's tied to not only culture, but our identity," said Rochellda Sylestine,

the tribe's interim Historical Preservation Officer. "And when you start losing those things, or those things start disappearing ... you cease being Alabama-Coushatta."

The basket tree

Gesse Bullock grew up on Alabama-Coushatta land, biking around the lake and hunting deer and rabbits in the woods. His aunts and uncles in the tribe's firefighting program were often called away to suppress wildfires across the country. Upon their return, they captivated Bullock with tales of camping at Yellowstone or exploring mountains in Montana. By his early teens, Bullock knew he wanted to follow in their footsteps.

As a child, Bullock knew of the longleaf as the basket tree. The tribe relied on it for survival, Sylestine said, selling baskets through the Great Depression and into the 1980s, when Congress restored the tribe to federal recognition, allowing it to self-govern and receive funding for federal programs.

The tribe still weaves and sells baskets, and each basket-maker has a signature style, Sylestine said. Just from examining the pattern of stitches and colors, she said she can tell who created it. When she opens a basket's lid, she describes the scent as home.

It was only as an adult that Bullock realized longleaf forests were dwindling on tribal lands. In the early 2010s, tribal leadership worked with the National Resources Conservation Service to plant saplings across 400 acres. But that wasn't enough: The forests needed regular mowing and burning for the longleaf to return in full force.

"The longleaf were surviving," Bullock said. "They weren't thriving."

After working for the U.S. Forest Service's wildlife and fire programs for about 14 years, Bullock returned home in 2018 to lead the tribe's fire management program. The longleaf forests had grown into a thicket, overrun with vegetation so dense he couldn't see from one end to the other.

He remembers thinking: "We've got to open up these areas really quick, before we lose these trees."

Bringing back good fire

For centuries, many Indigenous tribes have burned forests to keep trade and hunting routes open, renew the landscape for livestock or clear underbrush. European settlers suppressed Indigenous burns when they arrived, and the U.S. government has long suppressed fires, including those caused naturally by lightning.

"As we see more and more fire events happening, it's important to understand how we might intervene in ways that promote healthy forests," said Kerry Thompson, an anthropology professor at Northern Arizona University.

Thompson, along with Southern Methodist University anthropologist Christopher Roos, found that Indigenous cultural burns weakened the climate's ability to cause fires for 400 years in the American Southwest. The small fires cleared vegetation that could have fed larger ones.

Indigenous tribes, nonprofits and government agencies are working to return fire to landscapes. In California, the Washoe Tribe is partnering with the U.S. Forest Service and California Tahoe Conservancy to restore a 300-acre meadow called Máyala Wáta. And at Cedar Hill State Park in Dallas, biennial burns aim to replenish the area's native grasslands.

The Nature Conservancy and Alabama-Coushatta partnership was formed about four years ago with support from the Indigenous Peoples Burning Network. The Nature Conservancy and the tribe burn together, both on tribal land and on about 6,000 acres of The Nature Conservancy's Roy E. Larsen Sandyland Sanctuary near Lumberton in East Texas.

Ninety percent of a burn's work lies in planning, said the Nature Conservancy's Shawn Benedict. Before confirming a date, the tribe and the Nature Conservancy make sure the humidity, wind speed and wind direction will keep the fire contained and the smoke from drifting into the highway.

Rather than igniting fires with a pine branch or log, as some tribes did in the past, 8 to 15 burn crew members use drip torches to drop "dots" of fire along and within the perimeter. The dots smolder, smoke and spread with the wind. Nature Conservancy and Alabama-Coushatta staff ride off-road vehicles around the fire, listening to digital radios for instructions from the "burn boss"—usually Bullock or Benedict—amid the crackling flames.

Unlike a wildfire, the burn is controlled. The crew digs a line in the dirt between the flames and the highway called a "fire break," so the fire fizzles out at the borders while logs and plants smoke within. Some large stumps or logs can burn for days.

For Bullock, fire is a family business. Among the Alabama-Coushatta burn crew are his sister-in-law Charity Battise and nephew Austin Thompson. Thompson said burns with his uncle feel like they're hanging out at home, with Bullock poking fun if he spots Thompson trip over a log or stumble into the brush.

The fire crew burns 50 to 400 acres at a time and hits the same area

every 1 to 3 years. The timing is key to allow native grasses to grow back and clear invasive species that could stunt the longleaf's growth.

After a recent burn, Alabama-Coushatta youth piled into a white fire truck and headed to a Woodville cafe to scarf down burgers and chicken sandwiches. The burn boss, Benedict, stayed behind to circle the perimeter in an ATV, snuffing out any particularly smoky bits.

Inside the burn, loblolly pine saplings keeled over, their leaves shriveling. But the baby longleafs endured, streaks of green amid the blackened dirt.

Benefits of the burn

At Sandyland Sanctuary, the Nature Conservancy collects data at over 100 locations to measure the amount of longleafs and their loblolly pine competitors as well as the amount of competing vegetation and brush.

The first planned [fire](#) at Sandyland took place in 1978 and data collection began in 2014. The Nature Conservancy has yet to wrap up analysis on changes in the forests since 2014, but the nonprofit says the forests are trending in the right direction. From 2014 to 2021, the longleaf tree density at Sandyland increased by 4%.

Since trees don't grow overnight, it could take decades to fully restore the longleaf forests, according to the conservancy.

Measuring progress at an outdoor sanctuary involves more variables than in a lab. After Hurricane Harvey in 2017, The Nature Conservancy diverted its efforts to measure how the forests recovered from flooding. And in 2020, the conservancy said the pandemic halted the burns, allowing forest brush to grow back and reversing some of the progress.

Despite the lack of data, Bullock said he's seen the benefits of the burns. Pawpaw trees and mountain mint flowers, which he hasn't seen in the forests for years, are returning. Longleaf branches dance in the wind, their needles nearly long enough to be plucked for basket weaving.

Last year, the [tribe](#) won an award from the Big Thicket Association, a southeast Texas conservation group, for its longleaf preservation efforts. Losing the forests would mean losing livelihood and history, Bullock said. He is determined not to let that happen.

"Fire has always been a part of our culture," he said. "Our people were known as the thicket-clearers, so [we're] ... ensuring that we're living up to that name."

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