

Woody Plant Removal: Eastern Redcedar



When eastern redcedar encroaches on rangelands, productivity and profitability plummet. Financial and technical support from the Lesser Prairie-Chicken Initiative (LPCI) helps ranchers control redcedar through mechanical removal and prescribed fire.

Historically, regularly occurring fires burned away most woody plants that took root on the prairie. Since settlement, fire suppression and urban development have dramatically changed this natural dynamic. In the absence of fire, eastern redcedar is overtaking prairie grasslands at a phenomenal pace. In Oklahoma alone, redcedars have encroached on 8 million acres of the state's 17 million acres of grasslands, spreading at the rate of more than 278,000 acres a year—the equivalent of 762 acres a day.

That encroachment threatens both agricultural producers and grassland-dependent wildlife. Redcedar cuts deep into the rancher's bottom line. The more redcedars cover the range, the fewer grasses and forbs are available for cattle. A 2002 study estimated that Oklahoma's redcedar encroachment resulted in a loss of \$100 million in annual forage production for livestock. Simply put, wherever redcedars encroach, a rancher is paying taxes on land that cattle can no longer graze. If stocking rates remain stable as the grassland base shrinks, overgrazing can result, further reducing grassland productivity, biodiversity, and resiliency.



When redcedars move in, lesser prairie-chickens move out. Specifically, research shows that lesser prairie-chickens stop nesting in grasslands that have just one tree per acre. Why? Most likely because prairie chickens steer clear of vertical structures where predators can hide and perch. Many other grassland-dependent wildlife species have a similar aversion to redcedar encroachment.



Managing Redcedar

A one-two punch of mechanical removal followed by prescribed fire can restore open grasslands. If trees are small, fire alone can effectively remove trees. Methods of mechanical removal range from chainsaws to a machine-mounted circular blade or mechanical tree shears. While initial mechanical removal is costly, regular use of prescribed fire is cost-effective way to maintain prairie habitat.

LPCI field staff work one-on-one with landowners to determine the most effective action plan for their particular situation. When a landowner enters a voluntary contract with LPCI, he or she can receive financial assistance to partially cover costs of both mechanical removal and prescribed burning.

When removing redcedars, treat low-density sites first, as these will yield the greatest return on investment, for both wildlife and ranch operations.

Rancher Spotlight:

Ed Koger, Kansas

When Ed Koger began managing the Hashknife Ranch in 1974, redcedars covered much of the range. He's been cutting trees and burning the prairie ever since, and estimates that he's removed millions of redcedars in the process. "The more I cut and burned, the more [prairie] chickens there were, along with quail, and grasshopper sparrows, and everything else," he says. "As long as I incorporate fire in my management of the prairie on this ranch, I'm going to have more wildlife, and I'm going to produce more pounds of beef."



Benefits of Management

Removing redcedar will increase:

- grassland acreage and productivity, meaning more forage for cattle and more grassland habitat for wildlife.
- nutrients and water available for grasses and forbs.
- grassland health and biodiversity.
- surface water flow and groundwater recharge for springs.



To learn more about LPCI assistance, contact your local NRCS office, www.offices.sc.egov.usda.gov.