

# Conservation Strategies Series

## Patch-Burn Grazing



Patch-burn grazing creates diverse grassland structure within pastures, a boon for livestock and prairie wildlife.

**H**istorically, fire and grazing acted together to shape the prairie. Fire killed encroaching woody plants and prompted the robust growth of prairie grasses and forbs. This new growth attracted herds of large herbivores, which grazed the recently burned area. The resulting landscape was a mosaic of burned areas scattered among grassland patches of varied ages since burning.

Fire suppression reduces grassland structural diversity. On the other end of the management spectrum, over-application of fire (for example, by annually burning entire pastures) also results in uniform vegetative structure. The varied structure created by patch-burn grazing increases drought resiliency, which increases livestock productivity. Diverse structure also benefits grassland wildlife because many species need varying vegetation across the landscape to complete their life cycles. Patch-burning keeps fire-intolerant woody plants at bay, significantly increasing both livestock forage and grassland wildlife habitat.



*Within a patch-burned pasture, cattle concentrate their grazing on newly burned areas, as in this photo, in which cattle are grazing on an area burned one week previously.*

## About Patch-Burn Grazing

Patch-burn grazing is a range management system in which range managers annually burn only a portion of each pasture, rather than the entire pasture (as is done in conventional prescribed burning). A single patch-burned pasture will have vegetation of varied ages—from newly burned to >2 years old. Livestock select where they want to graze within the pasture. They typically concentrate grazing in the lush growth of recently burned areas, recoupling the fire-grazing interaction that historically shaped grassland plant composition and structure.

Recent research of patch-burned pasture in south-central Kansas suggests that implementing a patch-burn grazing system, with a 4-6 year burn interval for any given patch, can achieve the combined conservation strategies of removing redcedar and increasing grassland health and structural variation.

## How To Get Started

The Natural Resources Conservation Service-led Lesser Prairie-Chicken Initiative (LPCI) provides funding assistance to farmers and ranchers to voluntarily improve habitat for lesser prairie-chickens while increasing ranch productivity and sustainability. Contact your local USDA office to speak with an NRCS range management specialist. They will work with you to assess your range and develop a plan for implementing prescribed fire and patch-burn grazing on your land. They can also talk with you about technical and financial assistance available for implementing conservation practices.



*A male lesser prairie-chicken performs his springtime mating display on a patch of pasture burned three days previously. Many wildlife species benefit from patch-burn grazing.*

*Photo: Jonathan Lautenbach.*



### Rancher Spotlight:

#### *Ed Koger, Kansas*

"I grew up in the Flint Hills in eastern Kansas," Ed Koger recalls. "My grandpa took care of a lot of acres, and from the time I was five until I was 12 or 13, I'd help him burn pastures in the spring."

When Ed began managing the Hashknife Ranch in south-central Kansas in 1974, redcedars covered the range. He's been cutting trees and burning prairie ever since. In the early 2000s, Ed tried patch-burn grazing and he's never looked back.

"It's just amazing what patch-burning does to the prairie. We burn a different 1/4 to 1/3 of the pasture each spring—and rotate around that way. We stock the pasture with the normal rate for the whole pasture. The cattle all stay on the burn itself for the grazing season. They like the lush grass, they eat everything to the ground basically. They tromple the ground and almost all their urine and their manure end up on that area, so it becomes fertilizer for the next two years."

"The more I 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."