

# GREAT PLAINS GUARDIANS OF THE GRASSLANDS



OKLAHOMA



KANSAS



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SOUTH DAKOTA





Photo: Tarra Gray

In 2022 and 2023, Cattlemen to Cattlemen featured the Great Plains Grasslands Initiatives and focused on the battle against woody encroachment in Kansas, Nebraska, Oklahoma, and South Dakota.

National Cattlemen Beef Association’s flagship TV show, Cattlemen to Cattlemen, delivers cattle industry news, education, and information to beef producers, ranchers, and industry professionals. As part of cooperative work between NCBA and the USDA-NRCS, NRCS regularly provides content ideas for the show.

segments shot at multiple locations in Kansas, Nebraska, Oklahoma, and South Dakota. The program centers around rancher leaders in each state as well as NRCS leadership and field staff, WLFW scientists, and partners like Pheasants Forever and the U.S. Forest Service.

In 2022 and 2023, Cattlemen to Cattlemen featured the NRCS Great Plains Grasslands Initiatives, with

*The following articles were written by Brandi Buzzard and edited by Brianna Randall for WLFW.*



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# OKLAHOMA

## Goats, Shears, Fire & Teamwork: The Recipe Saving Oklahoma's Grazing Lands

*Ranchers are adopting a combination of methods to fight woody encroachment with help from the Great Plains Grassland Initiative.*



### Scott Westrup

Brass Oklahoma Ranch  
Freedom, Oklahoma

Seven decades. That's how long Oklahoma State University Extension has been monitoring and researching woody encroachment on the state's grasslands. During that time, eastern redcedar trees have increased by more than 200 percent in some areas.

The trees' takeover of valuable grazing lands is alarming. These woody shrubs reduce profits for agricultural landowners when they outcompete native grasses that feed livestock. They also reduce the amount of water available and diminish wildlife habitat.

This unwanted invasion has sparked action from counties, conservation groups and ranchers alike to remove them from Oklahoma's prairies. And while the mode of action for tackling encroaching redcedars has evolved a bit over the past seven decades, the goal remains the same: keep grasslands covered in grass.

### Fire: The Old Standby

Scott Westrup and his wife, Connie, ranch in Freedom, Oklahoma. Nearly 30 years ago, Westrup and his father worked alongside progressive ranchers in Kansas who used

prescribed burns to control the spread of eastern redcedar. The Westrups brought this practice south to their ranch and have successfully used it to keep troublesome trees confined to draws and canyons.

Unfortunately, Westrup, like so many others across the Great Plains, is dealing with a multi-year drought. He has de-emphasized fire due to the increased hazard and instead incorporated other methods to fight woody encroachment.

For example, Westrup has a full lineup of mechanical tactics to battle encroachment when redcedar are still young, ranging from shearing to pulling to mowing the seedlings. For larger trees, he says it's important to burn the cleared trees after they've been cut. Fire kills any seeds, which prevents the regrowth of new trees down the road.

"Where stands are thick, a fire alone won't get you a good kill, so it takes both cutting and burning. You've got to have both tools," Westrup explains.

### Early Adoption Leads to Quick Results





Photo: Tarra Gray

*Tree-free grasslands, like this, are critical to wildlife and producers.*

Westrup was one of the first ranchers in Oklahoma to enroll in the Great Plains Grassland Initiative when it launched in 2021. The GPGI is part of the USDA Natural Resources Conservation Service with support from Working Lands for Wildlife. The GPGI's goal is to help landowners remove encroaching trees to re-create tree-free, seed-free prairies that are more profitable for ranchers and more productive for wildlife.

"It's kind of a new way to attack an old problem," says Westrup. "I like the idea of cleaning up your ground, seeing success and then continuing to go at the tree infestation."

Westrup appreciates the collaborative, cross-boundary aspect of GPGI because he believes that neighbors across county and state lines need to work together to fight woody encroachment.

"We're trying to fight back. And this program is helping us to meet that enemy as it's coming at us," Westrup explains.

## New Partners for New Solutions

Laura Goodman, a rangeland extension specialist with Oklahoma State University Extension, is excited to be working with GPGI and the NRCS to solve problems facing Great Plains ranchers. "We're learning a lot from each other and it's been a

fantastic experience," Goodman says.

This trifecta – GPGI, NRCS, and OSU Extension – are working together to provide information to landowners in Oklahoma on novel approaches for controlling woody encroachment and brush growth.

One of these approaches is patch grazing, where landowners burn a portion of pasture and allow livestock to access that portion shortly after the nutritious new grass grows back. This helps ranchers stockpile forage in areas where livestock aren't grazing, letting native grasses grow until they are needed.

Another profitable strategy that enables landowners to keep woody species from re-sprouting on grasslands is to graze multiple species. Goats are gaining traction in the Great Plains because they will eat brush and woody perennials, leaving more valuable grass for cattle. Plus, raising and selling goat kids can be lucrative for ranchers.

This kind of "thinking outside the box" in Oklahoma braids grasslands, wildlife, and livestock together into a cohesive system that is both sustainable and profitable.

"The thing that gets me the most excited about working with the GPGI is the partnership," says Goodman. "A concerted effort with all of us working together toward the same goal is something that is unique. I think it's going to make this a really successful program across the Great Plains."

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## Russell Blew

Nichols Ranch  
Medicine Lodge, Kansas

## Resetting The Gypsum Hills' Grasslands With Fire

*Ranchers in Kansas are teaming up to get rid of trees using prescribed burns.*

When Russell Blew stands on the Nichols Ranch in the Gypsum Hills, he notices how much the rugged landscape of south-central Kansas has changed over 10 years.

A decade ago, 35 percent of this ranch was covered in trees because woody encroachment had taken over his pastures. This was bad news for livestock, water availability, and wildlife in these Great Plains grasslands.

Today, the Nichols Ranch looks drastically different, thanks to Blew's efforts to remove trees and to the Anderson Creek wildfire of 2016.

### Get those trees down

Woody encroachment is a time-consuming challenge for ranchers. Removing trees that invade prairies is imperative for maintaining healthy grasslands and livestock herds. As woody plants take over, science shows there is less grass and water available for cattle and wildlife.

Blew is a proponent of combining science with "any means necessary" to restore grazing lands and rid the ranch of trees.

"In terms of mechanical means, we've used anything from a skid steer with attachments, hydraulic saws, excavators and a pair of D-7 dozers with a chain between them. Our strategy has been 'whatever it takes' to get those trees down," Blew says.

Like many ranchers in the Great Plains, Blew also relies on prescribed fire to manage woody encroachment. Strategically burning his pastures every three years repairs grasslands that have suffered due to crop production, overgrazing, and fire suppression.

Regular prescribed burns increase the amount of native grass, Blew says. This land management strategy allows him to move cattle to areas that were previously under-used or under-stocked.

### Fire Cleanses and Resets

Blew is both appreciative and respectfully wary of fire – especially when it's a wildfire. The Anderson Creek Fire of 2016, while devastating for many landowners, has helped tremendously in fighting woody encroachment.

“It hit the fast-forward button 30 years for us,” Blew says. Encroaching redcedar trees suck up to 35 gallons per day per tree, which can dry up streams. Just three days after the Anderson Creek fire, Blew says “we started to see springs open up in areas where we hadn’t seen water previously”.

Dusty Tacha is a rangeland management specialist with the USDA Natural Resources Conservation Service. He says that the Anderson Creek fire, while bringing heartache along with it, reset the region ecologically.

“The Anderson Creek fire accomplished what we couldn’t have done in probably a generation of ranchers working on the land. The fire gave us a leg up in moving forward toward large areas of intact grassland,” Tacha says.



Photo: Tarra Cray

*Direct technical assistance is a cornerstone of how the NRCS and Working Lands for Wildlife work with landowners to improve their operations and benefit wildlife.*

## Teamwork Makes the Dream Work

Blew is also a member of the Kansas Great Plains Grassland Initiative advisory committee. This rancher-driven, science-based effort – led by NRCS with support from Working

Lands for Wildlife – helps landowners reduce vulnerability to woody plant encroachment in core grasslands. The Great Plains Grassland Initiative is also working to manage woody encroachment in Oklahoma, Nebraska and other prairie states.

One of the most important tenets of the Initiative is collaboration, says Tacha. It’s important for ranchers and agencies to work together, as well as counties and states.

“Woody encroachment doesn’t care where the state line is. It doesn’t care where the fenceline is between one property owner to the next. Those things are abstract. It’s important that we have consistency and work together, from one political boundary to the next,” Tacha explains.

Blew attests that teamwork has been key to restoring the Gypsum Hills’ grasslands. No single person is responsible for the impressive transformation that has taken place over the last decade.

He notes that the technical support from experts at the NRCS like Dusty Tacha are a huge help to landowners. “I can’t be a water expert, but I know one. I can’t necessarily be a grass expert, but I call on one when I have questions.”

“The most important person is obviously the landowner,” Blew says. “He has a passion for putting things back the way they need to be.”

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## Cole & Chris Mushrush

Mushrush Ranches  
Strong City, Kansas

## Ranchers Use New Strategies to Preserve Prairie Lands

*Old problems require creative tools to improve working grasslands*

The menace of woody encroachment looms large on the horizon of the tallgrass prairie, literally and figuratively. An alarming increase in trees like eastern redcedar threatens the livelihood of generational ranchers. Livestock producers rely on these precious grasslands to provide food for their cattle herds.

Woody encroachment makes working rangelands less productive for livestock. It also increases wildfire risk and threatens animals that need intact prairie habitat. Plus, woody encroachment makes grasslands less diverse because fewer native plants can grow beneath the trees.

### Keeping the Prairie Tree and Seed Free

The Kansas Great Plains Grassland Initiative is helping landowners reduce their vulnerability to woody plant encroachment in core grasslands. This rancher-driven, science-based effort is led by the USDA Natural Resources Conservation Services with support from Working Lands for Wildlife.

Since the inception of the initiative, NRCS has dedicated several million dollars to keeping the prairie tree-free. When Dean Krehbiel, NRCS state resource conservationist for Kansas, pitched the Great Plains Grasslands Initiative to Kansas ranchers, he asked if they “had an interest in keeping prairie, prairie.”

Once ranchers were on board, the NRCS first helped them map where trees were encroaching on their land. Next, they strategically removed these woody shrubs by cutting them down. Lastly, they utilized prescribed fires to incinerate any sources of seeds in the prairie landscape to prevent new trees from sprouting.

“For that ranching community, along with our partners, to step up and say grasslands are important and we have threats and we need to address them, that’s probably what makes me most proud,” Krehbiel says.

### Multi-Generation, Multi-Strategy Approach

Chris Mushrush is one of three generations who lives and works on Mushrush Ranches located near

Strong City, Kansas. He recalls looking through his grandparents' old photos of grazing lands, which were absent of trees. However, much of those same lands have become thick with trees. Many of the ranch's draws and streams have disappeared.

"We noticed that we were cutting more and more trees every year and we felt like we were losing," Mushrush explains. Once his family started working with the GPGI, he says the collaboration gave them "a way to make strategic wins so we can actually see progress and know that we are making headway on the landscape."

Cole Mushrush, Chris' brother, is also excited to see the outcomes of their work to preserve the grassland ecosystem. Removing trees and woody shrubs allowed waterways to flow again on their grazing lands. It also made it easier for the Mushrushes to navigate their pastures when looking for or moving cattle.

## Using Virtual Fencing to Improve Grazing Lands

Another facet of the Mushrushes' conservation work with NRCS has been to start a virtual fencing project in partnership with the Nature Conservancy and Kansas State University. Virtual fencing is a new tool to solve the old problem of erosion and overgrazing.

"The major frameworks of this project are to increase habitat for upland game birds and try to repair erosion along waterways," says Mushrush. "We want to see the benefits of grazing in collaboration with burning, and if there's better ways to rotate through burned areas."



*Chris and Cole Mushrush walk past cattle wearing GPS collars as part of the virtual fencing system they implemented.*

Virtual fencing collars push cattle out of riparian areas to prevent erosion, Mushrush explains. The collars also move cattle toward areas that aren't grazed as intensely to give other pastures a needed break.

The Mushrushes are able to preload the collars with grazing perimeters. This means they map their entire grazing plan for the year by utilizing satellite images. Each year, they decide which pastures to rest, then keep their cattle away to allow the grasses to regenerate.

So far, the fencing collars have been successful, Cole says. He is excited to see the results five years from now as their work with the GPGI continues.

"We need to be able to utilize our grasslands to their fullest potential while also preserving them for future generations," Cole says. "We are trying to perpetuate the family business and that's the right thing to do, to be stewards of the land."

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# NEBRASKA

## Saving Nebraska's Sandhills, One Tree at a Time

*"Little Miss Clearcut" is restoring the prairie with loppers and a handsaw.*



### Barb Cooksley

Cooksley Ranch  
Anselmo, Nebraska

The Sandhills grasslands in Nebraska are the world's most intact prairie. It's home to cattle and generational ranchers as well as grassland birds, antelope, and many other critters. But over the past several decades, the Sandhills have undergone an unappealing change as trees multiplied across the once-open landscape.

To battle the intrusion of trees, Barb Cooksley always travels her pastures with a set of lopping shears and a collapsible handsaw.

"I've set a personal goal over the past eight years of personally cutting 1,000 trees. It's so easy, it's like cutting thistle: you see it, you take care of it," says Cooksley, who is the co-owner of Cooksley Ranch in Anselmo, Nebraska, as well as the Region VII vice-president for the National Cattlemen's Beef Association.

Cooksley understands the urgency of returning the Sandhills to its original status. "We're one of the last intact grasslands left. If we lose this, it impacts our grazing and that impacts the consumers down the road," she explains.

### Working Together for a Common Goal

Pairing the joint goals of wildlife conservation and healthy grazing lands has been a win-win for Nebraska landowners like Cooksley. For instance, habitat management grant programs have helped many landowners reinstate native grasses on their ranches. This includes programs funded through the USDA Natural Resources Conservation Service and supported by Working Lands for Wildlife, says Jeff Nichols, state range management specialist for NRCS in Nebraska.



*Thanks to Barb Cooksley's perseverance and dedication, the grasslands on her ranch are remarkably free from trees, which benefits her operation and grassland-dependent wildlife.*

“The popular saying is ‘what’s good for the bird is good for the herd’ and that’s really true,” says Nichols. “Landowners in this area are using wildlife species to leverage dollars and get grant funding.”

The Nebraska Great Plains Grassland Initiative is a rancher-driven, science-based effort through NRCS, that helps landowners identify and address threats to the landscapes that fuel their livelihood. This includes providing resources for landowners to reduce woody encroachment in core grasslands.

“Great Plains grasslands are being lost to one of two things: the plow and woody encroachment. Only 16 to 18 percent of the Great Plains hasn’t been farmed or covered by trees,” Nichols says.

## The Real Threat of Trees

The collapse of the grassland biome is a legitimate threat as prairies transition to monoculture forests of redcedar, says Dirac Tidwell, associate professor of rangeland and forage sciences at the University of Nebraska-Lincoln and WLFW Science advisor.

“We’re seeing the collapse of livestock production and we’re seeing impacts to water,” Tidwell explains. “We’re either going to figure out how to solve this or we’re going to deal with the consequences. It’s not just production on a ranch—it’s affecting a host of ecosystem services that we depend on.”

Part of Cooksley’s management goals on her pastures is to improve habitat for grassland birds like prairie chickens, which need tree-free landscapes to thrive. More birds and

healthier prairies also benefit the people who enjoy recreating in the Sandhills, including hunters. “A lot of people who come out to hunt will help me cut trees while they’re out here,” she says.

Cooksley emphasizes that she doesn’t want to completely rid the Sandhills of trees, just remove the ones that don’t belong on the prairie. “I love trees, but they need to stay right where you put them. They either need to be a shade tree in a yard or in a windbreak.”

As for any trees that creep out onto her grasslands, Cooksley will readily lop or chop them down to save the Great Plains.



Photo: NCBA

*Barb Cooksley takes her loppers out on a mission. With a goal of cutting 1,000 trees per year, Cooksley has earned her nickname - “Little Miss Clearcut.”*

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## Sarah Sortum

Switzer Ranch  
Burwell, Nebraska

Throughout the Great Plains you'll hear the axiom: "What's good for the bird is good for the herd." For Nebraska Sandhills rancher Sarah Sortum, this rings especially true. Not only do the Sortums rely on the grasslands to feed their cattle herd, they also need healthy, native prairie to support a nature-based tourism enterprise on their ranch.

Sarah owns and operates the Switzer Ranch near Burwell, Nebraska, in partnership with a host of family members. This includes her husband and their children, as well as Sortum's parents and her brother and his wife and children. The ranch was homesteaded in 1904 as part of the Kincaid Act. The family is proud to be raising the fifth generation on their section of heaven in the Sandhills.

About 20 years ago, the family launched a business called Calamus Outfitters, which specializes in hunting, river trips, bird watching, and ranch habitat ecotours.

"We started to make management goals around wildlife on our ranch. It's such a win-win situation because anything that we do to benefit wildlife benefits the system as a whole, which

supports our ranching business as well," Sortum explains.

### Stopping the spread of redcedars

The ranch relies on the rolling Sandhills and its native grasses to produce both cattle and wildlife. However, over the decades, unwelcome visitors have put down their roots. Literally.

When Nebraska was homesteaded, settlers were encouraged to plant trees around their homes to provide a windbreak, according to Shelly Kelly, executive director of Nebraska Sandhills Task Force.

"It's really important to have a little bit of a break from the wind now and again. However, if the windbreaks included cedar trees, those trees did not stay in their neat little rows," Kelly explained.

When redcedar trees sneak out of windbreaks, they transition from purposeful to problematic. Eastern redcedar are fast-growing, water-guzzling trees that spread quickly and are difficult to eradicate. They pilfer precious water resources and outcompete native prairie plants.

# NEBRASKA

## Lighting a Match to Preserve the Prairie

*A Nebraska family uses prescribed fire to generate healthy grasslands for their cattle and their nature-based tourism business.*

“On a scientific level woody encroachment is fast, although it looks slow in our eyes. We can look back at pictures and see the encroachment happening,” Kelly says.



Photo: NCBA

*Prescribed fire brings numerous benefits to grasslands. In addition to helping remove encroaching trees, fire recycles nutrients and promotes plant growth.*

## Using fire to kickstart healthy native grasses

The Sandhills Task Force is enhancing the prairie and surrounding communities by partnering with the Nebraska Great Plains Grassland Initiative to address woody encroachment. This rancher-driven, science-based initiative is led by USDA Natural Resources Conservation Service with support from Working Lands for Wildlife.

“The GPGI is bringing together landowners and different organizations to tackle woody encroachment,” says Kelly. “We need to keep our grasslands intact, keep our wildlife populations healthy, and keep communities thriving.”

The Switzer Ranch, among others, adopted prescribed fire as a tool to battle back the trees. In the spring of 2022 five different burns helped restore grasslands throughout the Sandhills, according to Kelly.

The idea of setting fire to precious resources initially gave Sortum trepidation. “It’s hard to make yourself light that match,” Sortum admits, “but after you see what happens, how great the grass looks, and how the cattle love it, you know it was the right thing to do.”

## Grasslands are assets for future generations

Sortum is passionate about the ways that cattle and wildlife coexist in the Sandhills. Through careful stewardship and management, her family is positively impacting the landscape in a way that will yield benefits far into the future.

“We can use our cattle as a tool to enhance the environment for our wildlife species,” Sortum explains. “Take grassland birds—they need grazers on the land. Grazing has shaped the Great Plains for eons. If you take grazing off the land, the wildlife is going to suffer.”

In addition to enhancing habitat for wildlife, stewarding natural resources can boost rural economic development. Natural resources are rural communities’ biggest asset, Sortum says, and are what will keep future generations in the Sandhills.

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# SOUTH DAKOTA



Photo: NCBA

## Justin Bailey

Bailey Ranch  
Bonesteel, South Dakota

## Iconic South Dakota Ranch Removes Trees To Restore Waving Grass

*Healthy grasslands = healthy cows + healthy wildlife*

Tim Steil, owner of the Mule Head Ranch near Bonesteel, South Dakota, doesn't mince words when describing how crucial conservation is to the grasslands of the Great Plains. "The backbone here is ranchers," Steil says. "If ranching goes away, the backbone of the community falls apart."

Steil has always been a conservationist and saw the Mule Head as a good investment. The ranch is prestigious in South Dakota because of its size, heritage, and the prevalence of wildlife and water. "It's one of my favorite places on the planet," Steil says.

But he needed a partner to manage the Mule Head to achieve his plans for restoring the ranch to its full glory. Steil had to battle woody encroachment and remove invading eastern redcedar trees to return the land to waving grass.

Enter Justin and Sarah Bailey, who lease Mule Head Ranch from Steil. The Baileys are just as committed to conserving and restoring grazing lands as Steil. "There's nothing prettier than seeing grass—beautiful grass without weeds and without all the trees," Justin says.

### Tackling trees with fire, cutting and grazing

Scattered woody plants may look harmless, but the expansion of trees like redcedar makes rangelands less productive for ranchers and wildlife. Invading trees outcompete and displace grasses and forbs, reducing rangeland production by up to 75%.

Emily Helms, NRCS state rangeland specialist in South Dakota, says multiple agencies have been working together to combat woody encroachment across the state. According to scientists with Working Lands for Wildlife, a collaborative effort led by the USDA Natural Resources Conservation Service, every state in the Great Plains lost out on valuable forage production due to woody encroachment in 2019. The total loss of grass forage to encroaching trees was 22.4 million tons.

A production loss of that size makes a significant impact on stocking density, which translates to a smaller return on investment on grazing land. "We need a multitude of practices working in concert in order to

really hit the issue head-on,” said Helms. “I would call it tactical brush management, where they’re doing some tree cutting followed up with prescribed burns.”

Fire and grazing go hand-in-hand, according to Helms. Without those two things on the prairie landscape, issues pop up that harm the ecosystem, such as invasive woody species.

Steil, who dedicates his monthly visits to the Mule Head to brush and tree control, cites fire as the main tool in his toolbox. “The only way for me to control woody encroachment is by fire, and by selectively cutting where I can produce the heat to control those woody species,” he explains.

### Teamwork Gets the Job Done

Justin Bailey believes that teamwork between local, state, and federal agencies is important for making headway on battling back the trees and other brush. Gaining support and buy-in from neighboring ranchers is also crucial. Two examples of groups catalyzing landowner-led teamwork are the NRCS’s Great Plains Grassland Initiative and local burn associations.

“If there are neighbors that border each other, they could plan to have a burn at the same time. Helping each other is huge that way,” Justin explains.

Teamwork is also the name of the game on the Mule Head Ranch. Steil’s trust in the Bailey’s land management approach has empowered Justin and Sarah to clear out trees. This has made a huge difference for boosting



Photo: NCBA

*When landowners and the NRCS come together to work across property lines, amazing things happen.*

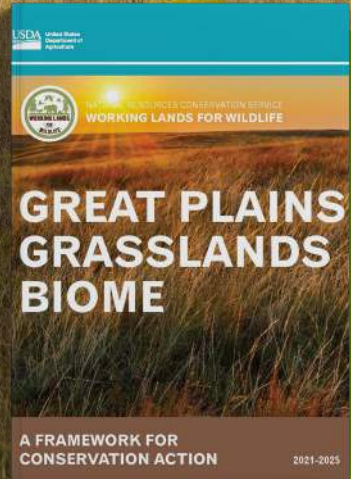
both grass and cattle production. “He wants to make the place better. He wants the habitat better, and I do, too,” Justin says.

As the landowner, Steil attests that the Baileys take care of the Mule Head as if it were their own. Both parties want to see the prairie remain unspoiled, wide open, and natural, which makes them great partners for conservation. “The whole is greater than the sum of its parts,” Steil says.

Helms agrees, particularly when the ‘whole’ refers to an intact Great Plains ecosystem. “It’s not just about more grass,” says Helms. “Our real big goal is to get back to having healthy grasslands so we can have healthy cows, healthy habitat, and healthy birds.”

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