

Grazing: ‘People see livestock as a tool that can be used in different situations’

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Today, Madsen often charges \$700 to \$1,000 per day for his services. He has done projects for private landowners, colleges, golf courses, homeowners associations, the City of Spokane and federal agencies.

Experts say the demand Madsen is experiencing reflects a broader trend. Interest in using cattle, sheep and goats for targeted grazing is intensifying. Both the U.S. Forest Service and Bureau of Land Management are exploring the tool along with new technologies and policies that could prove transformational.

Though targeted grazing is gaining momentum, the practice faces opposition from anti-grazing organizations, and even supporters say it carries logistical challenges.

“I think it’s the wave of the future. It’ll just take time to learn about it and find the right ways to go,” said Jeff Rose, manager of the BLM’s district office in Burns, Ore.

What is targeted grazing?

David Bohnert, who directs Oregon State University’s Eastern Oregon Agricultural Research Station in Burns, defines targeted or prescribed grazing as “grazing to address a specific land management objective.”

While general grazing focuses on livestock nutrition, targeted grazing is about achieving vegetative or landscape goals: for example, controlling weeds or creating fuel breaks.

General and prescribed grazing aren’t mutually exclusive, said Chad Boyd, research leader for USDA’s Agricultural Research Service in Burns; general grazing may help reduce fuels as a secondary benefit even if that’s not the primary goal.

“There’s some overlap,” said Boyd.

Federal agency goals

Suzanne Flory, spokeswoman for the Forest Service, said the agency “has asked regional rangeland program managers to start thinking about how grazing can be used to target fine fuels and invasive species.”

Wade Muehlhof, another Forest Service spokesman, said the agency has several targeted grazing projects underway and is reaching out to livestock associations to find ranchers interested in enrolling in grazing contracts through the agency’s System for Award Management.

Brian Hires, a BLM spokesman, said BLM is similarly “expanding its practices to use livestock as a management tool” to remove invasive plants, promote perennial seeding and create firebreaks.

BLM has 10 targeted grazing fuel treatments planned in California, Colorado, Idaho, Nevada and Oregon, and Hires said there will likely be “additional opportunities for contractors.”



Roaring Springs Ranch

Stacy Davies, of Roaring Springs Ranch in Harney County, Ore., says targeted and outcome-based grazing has been beneficial for the ranch.

Potential benefits

Karen Launchbaugh, rangeland ecology professor at the University of Idaho and president of the International Society for Range Management, said targeted grazing can help manage fuels and invasive weeds.

According to a March 2022 study in the journal *Rangelands*, moderate grazing pre-fire can reduce litter buildup, increase fuel moisture and, when a fire strikes, reduce its severity.

Kelly Anderson, grazing specialist for the Minnesota Department of Agriculture and targeted grazing committee chair for the Society for Range Management, said prescribed grazing can also improve wildlife habitat.

Studies from Oregon State University, the University of Idaho, *Journal of Animal Science* and *Rangelands* journal have found that prescribed livestock grazing can improve forage for wild ungulates including elk, mule deer and pronghorn antelope and can improve bird habitats.

Critics remain

Targeted grazing, however, has critics.

“We’re skeptical about targeted grazing as a solution to any of the problems that it’s been proposed for,” said Erik Molvar, executive director of Western Watersheds Project, an environmental organization critical of grazing.

High-intensity targeted grazing often involves overgrazing, said Molvar. Several university studies suggest overgrazing promotes growth of invasive cheatgrass and medusahead while disadvantaging native perennial bunchgrasses.

Molvar said his organization also remains unconvinced that prescribed grazing or burning are effective at preventing out-of-control wildfires.

Though disagreements persist, experts predict new technologies may be game-changers for prescribed grazing and could help forge common ground between opposing groups.

Virtual fencing

Both the Forest Service and BLM are exploring a technology called virtual fencing.



Courtesy of Todd Parker/Vence

A virtual fencing base station is installed at Six Shooter Ranch in Central Oregon.

“Grazing and rangeland management (are) changing, with virtual fencing, drones, and there are even now multiple rangeland vegetation modeling programs available to help us manage for drought and fire,” said Flory, of the Forest Service.

Virtual fencing isn’t new, but researchers say the technology has developed to a point in the last five years where it’s now commercially viable.

There are many iterations among several startups.

One company is Vence.

According to Todd Parker, vice president of business development, Vence’s technology works like this: A land manager installs a solar-powered base station, which can cover up to 60,000 acres. The station communicates with GPS collars worn by cattle. If a cow tries to leave a designated area, its collar gives a warning beep. If the cow ignores the beep and leaves the boundary, it’s zapped with a mild electric shock.

Vence is running trials with commercial producers on private, state and federal lands.

Jere Hamel, who manages cattle on 38,000 acres at Six Shooter Ranch in Central Oregon, is an early adopter of Vence technology.

Hamel said that within a day of putting collars on his cows, 90% were trained.

The rancher sees many benefits to virtual fencing: It’s affordable; elk can pass through ranges without toppling physical fences; it’s easy to fence off riparian areas; and Hamel can view where cows are grazing via

an app without being on site.

“There has been nothing else that has excited me in the cattle business in the last five years,” said Hamel. “This is the only thing.”

Agencies, too, are experimenting with virtual fencing.

Hires, of the national BLM office, said virtual fences “have made flexibility in grazing easier to implement across landscapes.”

The Forest Service, meanwhile, plans to deploy virtual fences in the Rogue River-Siskiyou National Forest after mid-June to keep cattle from moving between California and Oregon. The agency’s intermountain region — Idaho, Wyoming, Utah, Nevada and Colorado — plans to install virtual fences in 2023.

One potential use of virtual fencing is in regions where wildfire has destroyed fences. For example, virtual boundaries can be used to “fence off” burned areas.

“The potential is just tremendous,” said Bohnert, of OSU.

Remote sensing

The other major technology experts say could transform grazing on public lands is remote sensing technology paired with vegetative modeling software.

Traditionally, range riders have scouted out landscapes to determine priority grazing areas.

“Rangeland monitoring can be so subjective, because you’re only testing a few plots on millions of acres,” said Stacy Davies, who manages Roaring Springs Ranch in Southeastern Oregon. The

ranch grazes about 10,000 head of cattle on more than 1 million acres of BLM land, including on some targeted grazing projects.

Remote sensing, paired with modeling software, can help digitize landscape monitoring.

As with virtual fencing, there are several platforms available.

Davies, of Roaring Springs Ranch, uses Open Range Consulting.

Another program is called Rangeland Analysis Program, or RAP, a free platform blending field data, satellite imagery and the cloud-based computing power of Google Earth Engine.

Land managers can use data from RAP to map vegetation and predict fuel buildup across landscapes.

“What it’s predicting is less about fire probability — where it will strike — but rather if it does strike, how severely it will burn,” said Boyd, of USDA.

Experts say the technology helps agencies pick high-priority areas for targeted grazing and eases range riders’ workloads.

Along with technology, agencies are also experimenting with new policies.

Outcome-based grazing

According to Hires, BLM’s spokesman, the agency is set to release new grazing regulations later in 2022 or early in 2023.

BLM, Hires said, “intends to provide increased flexibilities for grazing permits and leases,” which could include more flexibility for on-off dates for permits, number of livestock and pasture rotations.

BLM has been testing these potential policies through pilot projects called Outcome-Based Grazing demonstrations.

Roaring Springs Ranch is among the participants.

“It’s been very helpful,” said Davies, of Roaring Springs Ranch, describing the new flexibilities. “It allows BLM to be much more biologically driven.”

Rather than moving livestock based on pre-set calendar dates, under the pilot program, Davies can move cows based on the landscape’s needs. If there were a grasshopper outbreak, for example, he might pull cows off an allotment sooner; during a cool, wet spring, he might leave cows on an allotment longer than planned.

Though Davies is pleased with the program, he doesn’t anticipate everyone will favor more grazing flexibility.

“(BLM has) been considering more flexibility at a broad scale, but my guess is if they have regs that are too broad, they’ll be tied up in court,” he said.

Potential opposition

Experts say if agencies expand prescribed grazing or increase regulatory flexibilities, anti-grazing groups will probably put up a fight.

Molvar, of Western Watersheds Project, commenting on BLM’s potential

changes, said targeted grazing practices “are unproven techniques, so radically expanding them would create a large, uncontrolled experiment.”

Marc Fink, public lands legal director for the Center for Biological Diversity, an organization often involved in litigation against grazing, declined to comment. The center’s website, however, states that “the ecological costs of livestock grazing exceed that of any other western land use.”

Hires, of BLM, said his agency “recognizes that there is always the potential for litigation, and that there is some opposition to using livestock for reducing fuel loads.” BLM plans to educate the public, he said, so that “use of targeted grazing will become more valued and understood by those that are not yet convinced of its use.”

Muehlhof, of the Forest Service, said targeted grazing generally faces less opposition than general grazing.

“We have not seen opposition to this thus far,” he said. “It is our experience that most environmental groups prefer this method for fuels (and) vegetation reduction or removal of noxious weeds over herbicides.”

‘Attitudes are changing’

Despite opposition, many ranchers and researchers say they’re optimistic about the future of targeted grazing, with growing public support and new technologies.

“Attitudes are changing, but the other thing that’s changing is our ability to have information we need to make good decisions at really large spatial scales,” said Boyd, of USDA.

Researchers say if ranchers want to be compensated for targeted grazing services, it may demand more studies to demonstrate the practice’s value. Often, ranchers pay to graze public lands even when they’re performing a service like targeted grazing, though it’s gradually becoming more common for governments to pay for prescribed grazing.

Katie Wollstein, Oregon State University’s regional wildlife fire specialist for Harney and Malheur counties, said if ranchers can demonstrate the service they’re providing is for “the public good,” she would like to see them either get paid or receive cost-share support.

Madsen, who runs the goat grazing service in Spokane, said he prefers projects with state, local and private entities over the federal government partly because they pay better, but he is hopeful federal agencies will place more value on targeted grazing in the future.

Since starting his business two decades ago, Madsen has seen a societal transformation he hopes will continue.

“It’s more acceptable now,” he said. “People see livestock as a tool that can be used in different situations. People even like watching the goats. It’s a joy seeing the animals graze.”

Farm: Ranch to raise millions of chickens for Foster Farms

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Bill Mattos, president of the Northwest Chicken Council, said the permit for J-S Ranch was approved following extensive review and examination by ODA and other agencies.

“This ranch, which will feed 140,000 people each year, meets all the water quality and air quality requirements in Oregon,” Mattos said. “It also will maintain American Humane certification requirements, and the building process will be reviewed and approved as it goes forward.”

Mattos added the facility will be “one of the finest in Oregon and the Northwest.”

Eric Simon, a longtime poultry farmer who has contracted to raise chickens for Foster Farms in Brownsville, Ore., since 2000, will run J-S Ranch and hopes to begin construction in July. Once finished, the farm will raise six flocks of 580,000 chickens per year.

Simon has said J-S Ranch will feature state-of-the-art technology designed to provide optimal living conditions for the chickens — such as temperature, lighting, humidity and disease control. The farm will have 11 barns each measuring 39,120 square feet, or approximately 10 acres

under roof.

“That’s all the science behind raising poultry, is how comfortable can you make that bird,” Simon told the Capital Press in an interview on May 31. “The better the condition the animals are raised in, the better it will convert its feed to growth.”

Simon said hardly any chickens are currently raised on the West Coast compared to the “chicken belt” from eastern Texas to Delaware, and farms like his are important to diversify U.S. food production.

It took nearly two years for ODA and DEQ to issue a permit for J-S Ranch after the initial application was submitted in August 2020. Even then, it came with a few added stipulations:

- Before breaking ground, Simon must obtain a stormwater construction permit from DEQ, road access permit from Linn County and water supply plan signed by the Oregon Water Resources Department.

- Before any chickens arrive, the farm must complete a ground compaction study to ensure the poultry barn floors will not allow contaminants to seep into groundwater.

- The farm must install and monitor two static wells to ensure groundwater levels remain at least 2 feet below the barn floors.

Simon must also provide data from drinking water wells, ensuring groundwater is healthful to drink.

However, the petitioners argue the permit does not go far enough to protect clean water.

Among the grounds for reconsideration listed in the petition, the coalition claims that unlined, compacted earthen floors inside the chicken houses are not sufficient, “given the overall wetness of the area and high groundwater levels.”

ODA only required 4 inches of compacted soil and no impermeable floor covering, the petition states, while other states require at least 12 inches of compacted soil in similar situations.

The petition further calls out possible pollution in streams and rivers from airborne ammonia emissions. It estimates J-S Ranch may discharge 850 to 1,190 pounds of ammonia per day, given the size of the chicken flocks.

Regulating air pollution is beyond the scope of the CAFO permit, according to ODA.

Finally, the groups say they remain concerned about the handling and treatment of 4,500 tons of chicken litter and manure generated annually at the farm.

Bureau: Shakeup characterized as an ‘unforced error’

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decade. Change was coming, he said. “I would guess John did some soul-searching about where he wanted to go.”

Davis had been the Farm Bureau’s chief lobbyist since 2012. He is now director of government relations for the Washington Forest Protection Association. He said Tuesday he parted amicably with the Farm Bureau.

Before being elected state president, Mosby was president of the King-Pierce County Farm Bureau and was one of the Farm Bureau’s more prominent speakers to non-farmers.

At the state convention, she gave a “resounding speech” and her election “went like an avalanche,” Yakima County Farm Bureau President Mark Herke said.

“She’s calling it ‘the pivot,’” he said. “My feeling is that if it’s working pretty good, don’t make big changes.”

Herke said the Farm Bureau shakeup risks squandering an opportunity for the organization to make a difference this election year. “We’re taking a misstep, and it’s an unforced error,” he said.