

Land Lines



Dr. Cindy Salo is a plant ecologist who writes about science, agriculture, and natural resources for general and technical audiences. She wrote the regular Land Lines column for *Rangelands* from June 2011 to June 2012. She continues to write about issues affecting rangelands and here we share three of her recent essays. To read more of Cindy's writing see <http://sageecosci.blogspot.com/>.

Who Should Monitor Federal Rangelands?

"The fox guarding the henhouse" is the response Linda Price expects to a new rangeland monitoring program in Idaho. Linda manages the Bureau of Land Management's (BLM) office in Salmon, Idaho.

The new program was developed by the Idaho State Department of Agriculture (ISDA), to bridge the chasm of missing information on the condition of BLM rangelands in the state. Brooke Jacobson, ISDA's coordinator for the project, helps ranchers get started collecting vegetation data on their allotments. Meanwhile, the BLM's vegetation specialists are trapped at their desks by a barrage of time-sucking lawsuits.

Brooke shows ranchers how to take annual photos at BLM monitoring sites and send their data to the agency. In this pilot program, ranchers monitor only upland rangelands, not sensitive riparian areas. They don't measure or count vegetation; they collect only photographic data.

Even with Brooke training the permittees, some people might not think ranchers are up to the task. The skeptics must never have worked on a veg crew.

When I hired field crews at the US Geological Survey, I didn't ask if applicants knew how to count plants. I asked the hard question: "Can you handle a summer living out on the Sagebrush Sea?" Anyone who can tolerate boring, repetitive tasks can learn to collect data; only a few hardy souls can live in a tent all summer.

Nonscientists collecting data is nothing new. Amateur and professional scientists work together on the Breeding Bird Survey. They receive the same training and their data go into the same valuable dataset. Citizen scientists also record seasonal changes in plants and animals for the National Phenology Network. This information helps researchers identify patterns of global climate change, which helps planners address the resulting social and economic. (See [Photo 1](#).)

You might argue that ranchers might fudge the data when monitoring their grazing lands. If you did, I'd point out that anyone could be tempted to squint while reading a tape measure. Every BLM employee has an opinion on livestock. Researchers have their favorite hypotheses. Even universities listen to their supporters, legislators, and alumni, all of whom have biases.

Software developers are making data collection easier and more accurate for both citizen and career scientists. Before Amazon ever heard of drones, Terry Booth, at the USDA's Agricultural Research Service in Cheyenne, Wyoming, was photographing rangelands from light aircraft. The photos are clear enough to count plants and measure bare ground. In other words, they're detailed enough to monitor rangelands.

It's been years since I saw a rancher with a flip phone (7 months since I gave up mine). Smartphone cameras take excellent pictures and the GrassSnap app makes photographing the same spot every year ... a snap.

Ranchers and BLM employees might look through the same viewfinder, but they see different things. Most agency workers move several times during their career. Most ranchers stay put for decades; their families often stay rooted for generations. Ranchers experience many



Photo 1. Photo monitoring site. Photo courtesy of the US Geological Survey.

El Niño and La Niña years on the same land. They see swings in precipitation and note the effects on plants and livestock. Ranchers are on the land 24/7/365 and they see things.

When Jake Weltzin and Steve Archer investigated why mesquite trees were invading Texas grasslands, they asked the local ranchers. Guy and G. D. London told the researchers that mesquite moved in after they killed the prairie dogs. Jake and Steve tested the ranchers' hypothesis and found that prairie dogs keep mesquite out of grasslands by clearing away seedpods and stripping bark from seedlings.

Rumor has it that ranchers remember 3 years: this year, last year, the best year. Researchers know memories fade, so they insist on written data. In the words of Adam Savage, one of Discovery channel's MythBusters, "The only difference between screwing around and science, is writing it down."

Ranchers will go one better when they monitor their rangeland: They'll take pictures. Then they'll write down when and where they took them.

Do Sagebrush Steppe Grasses Need to Be Grazed?

A rancher in southwestern Idaho and I have been having the same conversation for years. We both enjoy it and we always have something to talk about. My friend, the rancher/cow whisperer, thinks our native perennial grasses are better off when they're grazed. By better off, he means greener and more vigorous, without old, dead leaves.

Rancher/Cow Whisperer told me about perennial grasses growing in a steep canyon, where his cattle can't reach them. The grasses are choked with dead leaves and their centers have died. Grazing would have kept the grasses trim, green, and vigorous.

I tell Rancher/Cow Whisperer that I also prefer green plants to dormant or dead ones. I'd rather see lush green lawns, pastures, and alfalfa fields than dry, brown ones. When I see big, thick summer grasses bucking and waving in the wind of the Dakotas or the Great Plains, I want to roll in them.

But are sagebrush steppe grasses embarrassed by their old leaves? Do they worry about their dead centers?

I remembered my ongoing conversation with Rancher/Cow Whisperer when I read a piece by a writing rancher. Rancher/Writer had visited one of my favorite places on the Sagebrush Sea, where management includes restrictions on grazing. She wondered if there wasn't too much bare ground and if appropriate grazing could help fill in between the plants. As a plant ecologist, I see bare ground and I'm reminded of the admirable tenacity of our native perennial grasses.

Bare ground reminds me that sagebrush steppe grasses grow in clumps so they can use the water and nutrients in the space around them. The plants have to do all their growing in the narrow time between the "too cold" of winter and the "too dry" of summer. They have to grab all the water and nutrients they can, as fast as they can, from as large an area as they can.

Our native bunchgrasses are not altruistic. They won't cut consumption so other plants can grow around them. If they left water and nutrients for others, the other might be cheatgrass, which would increase the chances of fire. Cheatgrass is fuel for fires; bare ground is a firebreak that helps protect bunchgrasses.

Rancher/Writer noticed dead grass leaves and wondered if appropriate grazing could rejuvenate the plants. I see dead leaves and dead grass centers and I'm reminded of how well the plants are protecting the soil.

Dead leaves remind me that the material will decay and release nutrients into the soil for the plant to use. When the center of a bunchgrass dies, the dead material goes on protecting the soil, its water, its nutrients. The plant cries, "It's just a flesh wound!" and keeps growing out around its edges—finding more water and nutrients.

Do our native sagebrush steppe grasses need to be grazed? If we look at it from the plants' and the soil's point of view, I don't think so.

I'll slow down to enjoy the sight of green irrigated pastures and breathe in the fragrance of a just-cut alfalfa field. Someday, I might stop to roll in the lush summer grass on the

plains. I'll also be amazed by our native perennial grasses. These bunchgrasses grow in challenging country and can do an exemplar job protecting our soil and keeping cheatgrass out of the Sagebrush Sea.

Instead of focusing on their unkempt appearance, let's thank our sagebrush steppe grasses for all the work they do.

One Mustang Adopted, 47,000 to Go

As a child, I was enchanted by "Wild Horse Annie" fighting to save America's free-roaming horses. I was desperate to bust out of junior high in snoozeville Minneapolis and make tracks west. In my geometry class daydreams, I spent all day outside on a horse and slept under the stars every night.

As an adult, I live in the West and sleep outdoors more than most people would ever want to. However, the "wild" (more properly, feral) horse question is more complicated than it seemed in junior high.

The BLM reports that 58,000 feral horses and burros roam the west. This is more than 30,000 above the Appropriate Management Level. The agency cares for another 47,000 animals in pens and pastures.

The bureau periodically rounds up and removes horses so they don't interfere with other uses of public land. The agency tries to find homes for them, but their corrals look like the Humane Society during kitten season. In 2014, only 2,222 horses and burros went to permanent homes, down from nearly 3,000 in 2012.

A National Academy of Sciences (NAS) report concluded that the free-roaming horse and burrow population is growing 15% to 20% per year. Their most discouraging finding was the reason for the rapid growth rate: the BLM's removal program. When there are fewer horses on the range, there's more food, so the remaining horses make more horses.

The Mustang Heritage Foundation works to find homes for BLM horses. The foundation's Extreme Mustang

Makeover springs a lucky handful from BLM limbo and pairs them with experienced trainers. Each duo has 100 days to get ready for the show ring, after which the horses find new homes at auction. (See [Photo 2](#).)

My friend Matt Livengood made over Bud the Mustang last year. In mid-April, Bud was still wearing his BLM neck tag. It dangled below his scraggly, uneven mane for weeks before he let Matt get close enough to put a halter on him. His tail had apparently been so badly matted that the BLM bobbed it into a sad afterthought. Bud was a rough-looking, wary guy, who stayed as far away from visitors as he could in his round pen.

Matt and his wife, Alayne Blickle, named Bud for his size and resemblance to the Budweiser Clydesdales: He looked as if he could pull a beer wagon when he trotted, furry fetlocks flying. They hoped his full name, This Bud's for You, would encourage bidders at the Mustang Makeover auction.

A group of Bud's fans gathered to see his progress at Matt and Alayne's Sweet Pepper Ranch on Memorial Day. His coarse winter coat had shed out to reveal a big, beautiful dappled horse with a still-skimpy, straggly tail. Bud had learned that people could use their upper two appendages to pick grass and bring it to him in his round pen. The day we visited, Matt was able to sit in Bud's saddle for the first time. (See [Photo 3](#).)

Our Bud was a thinker. Once he had mulled over his new life, he was in with all four feet. He watched, tried, learned, and seemed to enjoy all the new experiences. When the Makeover rolled around, the formerly free-roaming mustang was living in a stall, riding in a trailer, and behaving like a saddle horse. Bud was ready to leave Matt for a permanent home.

Somewhere along the way, Bud learned about paper. He decided it was good to eat. One bite and a large portion of the Makeover trail course diagram disappeared. Alayne said Bud just wanted to digest the information. Bud went through the obstacles as calmly as he did at home, even with a crowd of people making scary noises with their handy appendages.



Photo 2. Bud the Mustang in April 2014. Photo courtesy of the author.



Photo 3. First ride. Photo courtesy of the author.



Photo 4. Bud and Matt at the Mustang Makeover. Photo courtesy of the author.

“Team Bud,” was thrilled when our pair made it to the finals. We sprang into action and developed a beach-themed routine for the evening performance. We were sure Bud would have as much fun as we did. Matt kept these instructions away from Bud’s inquisitive chompers.

I made my horse show debut in a Hawaiian shirt, setting up beach chairs and a horse-sized beach ball in the arena. When Bud’s turn came, he saw and heard more people than he had in his entire life. He refused to go near the pack of horse-eating monsters we had set up. Bud ignored Bobby McFerrin on his sound track, telling him not to worry and to be happy. (See [Photo 4](#).)

Team Bud watched our namesake melt down and we knew we’d gotten carried away. By the time the beer ad at the end of his soundtrack suggested that “you’ve said it all,” Bud had had all he could take.

We huddled in the stands and worried about what kind of home Bud would go to after we’d upset him with our beach idea. I almost couldn’t bear to listen to the bidding for our

dappled brown, melted down Bud. Then I heard a woman in back bid on him. She seemed nice; would she get him? Yes. No. Yes—she did!

When Bud’s new human told me her plans for him, I knew she had looked through his temporary loss of composure and seen the sweet, curious, willing horse he is: Bud would be her next extreme trail riding horse. She reported a few weeks later that Bud was her “dream horse.” She didn’t say how many times her kids had used the excuse, “The horse ate my homework.”

This spring found Bud living with a young woman who can meet the lofty loving-and-doting bar set by Team Bud. She provides frequent Facebook updates, photos, and videos. I worry she might bathe and brush away his dapples, but I’m glad to see a big, strong banner of a tail rippling after him when he gallops.

Rangelands (37)6:233–236
doi: 10.1016/j.rala.2015.10.008
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