

# Colorado Rangelands: A Land Manager's Historical Perspective

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This is the history of Colorado rangelands as I saw it happen. I was a teenager during the "Dust Bowl" of the dirty '30s. The drought and depression came at the same time. We lived on what was then the northwest side of Denver. My dad drove a team of horses and a milk wagon for the Windsor Farm Dairy. Each day he made a trip from the dairy out to our place delivering milk on the way. What was then the Windsor Farm is now called Windsor Gardens with townhouses and condominiums.

**The plains of eastern Colorado**, for years before the drought, were loaded with cattle. In addition to the locally owned herds, there were transient herds moving in all directions. These transient herds were usually managed by a trail boss and owned by speculators. The objective was to make as much gain as possible on free grass. Cowboys were paid \$1 a day and keep. I always wanted to go with one of those herds to Montana. Dad said, "I don't want you out there getting all busted up and making money for some Easterner."

The plains area I know best is the blue grama range north and east of Denver. Herds moving up from the south went through on the way to Wyoming and Montana, as well as to Nebraska and the Dakotas. The ranges in Weld and Larimer counties were very heavily grazed.

Local ranchers, in an attempt to limit the number of transient animals that could use the public grazing lands, had been trying to get Congress to pass a grazing law to restrict animal numbers. Farrington Carpenter, a lawyer-rancher from Hayden, Colorado, was instrumental in drawing up what was to become the Taylor Grazing Act. They were unsuccessful in getting it passed until the dust from the Dust Bowl blew into Washington, D.C., and New York City. The Act was passed in 1934, and Carpenter became the head of the Grazing Service, which is now the Bureau of Land Management.

**Under the Taylor Grazing Act**, exclusive grazing permits for designated areas of public domain were given to grazing associations. The first association to form under the Taylor Grazing Act was the Crow Valley Grazing Association. It consisted of about 50 ranchers. They had the grazing permits for the 200,000-acre Colorado Land Utilization Project 21, currently designated as the Pawnee National Grassland.



The Crow Valley Association eliminated transient herds from their areas by enactment of the Association bylaws. To become a member, one had to have his home in the area, individual herd size could not exceed 250 mother cows, and no individual member had an exclusive right to any portion of the permitted area.

Ranchers in the Association believed the dust that blew from the ranges in their areas was not the result of drought, but was caused by overgrazing. They believed that to manage the range effectively, one needed to determine how much grass should be left in order to prevent soil blowing. The northwest 12,000 acres of the Colorado Land Utilization Project were designated as the Central Plains Experimental Range. The U.S. Department of Agriculture, cooperating with the Crow Valley Grazing Association, conducted grazing trials to determine how best to manage grama grass ranges in the 10- to 15-inch precipitation areas of the Central Plains. Research was also conducted on how to establish range plants on abandoned cropland in the area.

It was my good fortune to work on the Experimental Range with the ranchers of the Association in 1946 and 1947, and again from 1955 until 1973. During that time, we found it best on the upland grama range to always leave at least 300 pounds per acre of dry forage ungrazed. This meant animals did not go into a pasture until there were more than 300 pounds available, and that they were taken out when they grazed back down to where 300 pounds per acre of forage were left. We learned how much grass to leave. The Crow Valley Ranchers were right. There hasn't been a dust bowl from those ranges since the dirty 30's.

Approximately the eastern one-third of Colorado is rolling plains. The rest of the state is a mixture of semi-desert, mountains, and plateaus.

My experience with the semi-desert, mountains, and plateaus started in 1928 when I was 10 years old. My great aunt and uncle had a ranch between Bayfield and Durango in southwest Colorado. They didn't have any children, and when I was big enough to drive a team of horses on a dump rake, I was sent down to help with the hay. They would put me on the wide gauge train in Denver. I would transfer to the narrow gauge train at Alamosa, and my uncle would meet me at Oxford Junction just north of the Ute Indian Reservation.

**The only deeded part of the ranch** was 320 acres, which included about 80 acres of irrigated grass hay, the house, barns, and corrals. It was located in the transition zone between the pinyon-juniper and ponderosa pine. The irrigated hayland had been in sagebrush. The irrigation water came from the Pine River. They originally ranched as part of a cattle pool, spending summers in the mountains, fall in the pinyon-juniper sagebrush, winters in the semi-desert to the south sometimes into New Mexico, then back to the pinyon-juniper in the spring before going to the mountains again.

This area, like the plains, became heavily over-stocked and there wasn't enough feed for all animals. My uncle gave up trying to operate on the public lands and kept only a small herd on his deeded land. At the time of the Dust Bowl on the eastern slope, he tried to ship cattle by rail to Kansas City. They had to go to Alamosa on the narrow gauge, transfer to the wide gauge in Alamosa, then to Denver and Kansas City. The cattle were unloaded every 36 hours for feeding, water, and rest. In Kansas City, the cattle brought less than \$4 per head, which didn't even pay the freight bill. He owed the railroad for the trip for several years.

**Most of the sagebrush ranges**, after the drought and heavy grazing, were in terrible shape. Many of them had only sagebrush, cheatgrass brome, and lupine. My uncle sold the place in 1935, and I didn't return to the San Juan Basin until after 4 years at Colorado A&M, 6 years in the Army, and another 2 years at Colorado State College on the G.I. Bill.

In 1948 I took a job with the Soil Conservation Service as a range conservationist working on the Dolores, Dove Creek, and Mancos Soil Conservation Districts. In the Dove Creek District, most of the heavily grazed sagebrush areas had been plowed and as dryland farms were producing beans and wheat. Range work there was mostly planting grassed waterways in the cultivated fields. On the Dolores and Mancos Districts, we tried to clear the heavily grazed sagebrush ranges by plowing, burning, and herbicides. The objective was to get rid of the sage, cheatgrass brome, and lupine and plant crested wheatgrass.

The reduced grazing pressure resulting from the Taylor Grazing Act failed to restore the damaged sagebrush ranges as it had the grama grass ranges of the eastern

plains. On the Mancos Soil Conservation District, I worked with an older rancher, George Menefee, who's family was the first group of settlers to come to the Mancos Valley, bringing livestock. It was July 1877, George and two other boys were riding in a covered wagon, driven by his mother, when they first saw the valley from Mancos Hill. The cattle and horses had gone in ahead of the wagons. George told me it was a wonderful sight with the sea of grass waving in the wind and the cattle grazing. The men thought it was a perfect place with all the free grazing land anyone could want. The grass waving in the wind, George told me, was bluestem. When he showed me some, it was what we call western wheatgrass. He said it made the best hay for horses, stayed with them like grain, and had real strength to it. He said there used to be lots of it all over the country, but it couldn't withstand the heavy grazing by cattle and horses and gradually disappeared.

The first winter, they wintered their cattle on the plentiful bluestem grass about 6 miles west of where Mancos is today. It was good, stout feed and brought them through in good shape. They had trouble with the cattle drifting west and south, so the next year they formed a cattle pool with 6 ranchers. Each rancher furnished a man to help work the cattle back away from the San Juan River. Cattle numbers continually increased until there were many cattle pools in the area. George worked for the Mancos pool for years and then leased and improved a township down in New Mexico on the reservation. He lost everything on that operation and returned to his father's ranch, which then had a forest permit. With animal numbers limited by forest and BLM permits, things got better for the livestock operators in the Four Corners area. George Menefee's story is recorded in *Cow Talk, The Memoirs of George Menefee*, by Lottie W. Redert, 1976.

When I first came to work for the Soil Conservation Service on the Mancos Soil Conservation District, I did a range survey on an area near Mesa Verde National Park. It was the typical heavily grazed sagebrush site with cheatgrass brome and lupine. This area was never reseeded. I left Mancos in 1952 and was transferred to northwest Colorado at Craig. In 1973, after retiring from the Agricultural Research Service at the Experimental Range, I returned to our place at Mancos. That heavily grazed sagebrush site looked like what George Menefee had seen back in 1877.

**The change I saw** had taken place in 21 years. Here's what happened. The place had been grazed by cattle until it was purchased by a sheep rancher, who then used it to pasture sheep during fall, winter, and spring. The sheep came to the area from the high country in the fall and returned to the high country in the summer. They were fed in the winter. That grazing pattern eliminated the cheatgrass and lupine and almost eliminated the sagebrush. It is a beautiful stand of western wheatgrass. The grazing pressure in spring, winter, and fall, with no grazing during the summer, made the difference.

After my 60 years of working with ranges and livestock,

I think we have made the serious mistake of trying to manage our ranges in terms that are far too general. I think we need to be more specific. We need to know how the vegetation responds to the time and intensity of grazing it gets, and we need to know how the animals respond to the quantity and quality of vegetation that is available to them. We must understand this animal-vegetation relationship in order to answer the basic management questions of when should animals go into an area, how many should be there, when should they be taken out, and where should they go. I use the term "animals" to include wildlife as well as livestock. Our objective must be to balance animal numbers with the available vegetation. To do this effectively, we must know when to adjust animals numbers.

The more general terms used in range management for many years are stocking rate based on acres, climax plant community, range condition, and percent utilization. Stocking rates based on acres required to support an animal for a month or year are extremely variable on these semiarid ranges. Animals do not eat acres, they eat vegetation that grows on those acres, and the quantity and quality of that vegetation on any given acre changes from week to week and year to year. Stocking rates need to be based on the vegetation, not the acres.

The climax plant community is assumed to be static, and changes from static plant community are caused by grazing. Plant communities and semiarid ranges are not static, and changes in the relative abundance of plant species are caused by many things, the least of which may be grazing. Weather causes most of the changes in plant composition and forage production.

Range condition is defined in terms of departures of the present plant community from the perceived climax plant community. It is assumed that only increased grazing

pressure causes successional changes in the plant community and that changes from the lower condition can be reversed by reducing grazing pressure. Plant composition changes caused by weather may actually be very little affected by changes in grazing pressure. My definition of excellent condition range in this area is one that has the potential to produce an optimum amount of forage from good perennial forage species when a growth opportunity occurs.

**Today, many of our ranges using the climax system** are rated in poorer condition than they really are. The recovered area I described above rates only good condition. According to the range guide for that site, it should have more sagebrush to be in excellent condition. We need to be more realistic, more accurate, and more specific in our development of recommendations for effective range management.

Percent utilization is not a useful range management tool. It is difficult to make a management decision based on how much of the vegetation is gone. If you move out of a pasture when 50% of the production is used, how do you know when to move? You don't know what 50% is until you know what 100% is, and you don't know what 100% is until the end of the growing season. By the end of the growing season, it is too late to make adjustments. Decisions to move animals should be based on how much vegetation is left, not on how much has been removed.

In my time, I have seen Colorado rangelands go from the worst in the 1930's to what, in many areas of the state, has been the best in 1992. It is important now to accurately define the range plant community we want on a given site, and then be specific about what it takes to get there and stay there. We need to understand precisely the animal-vegetation relationship for each important range type.