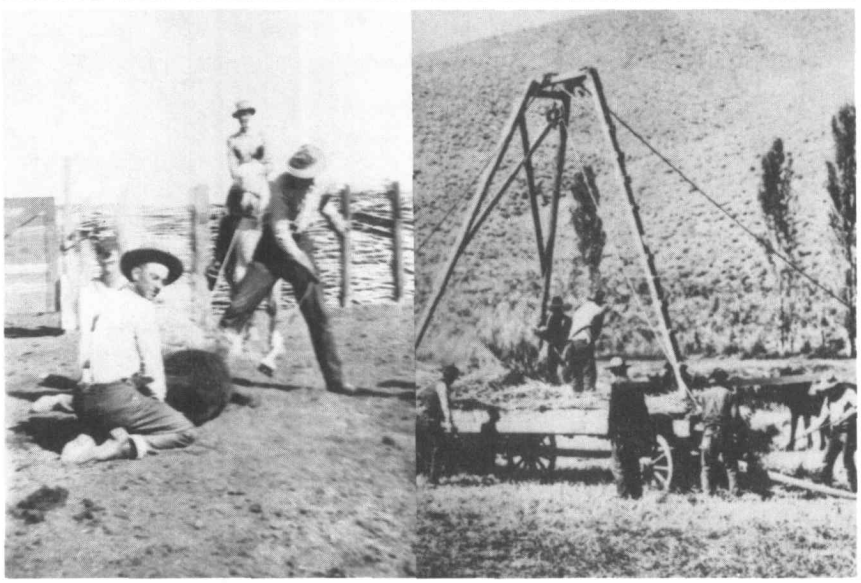
Silver State Rangelands—Historical Perspective

J.A. Young and R.A. Evans

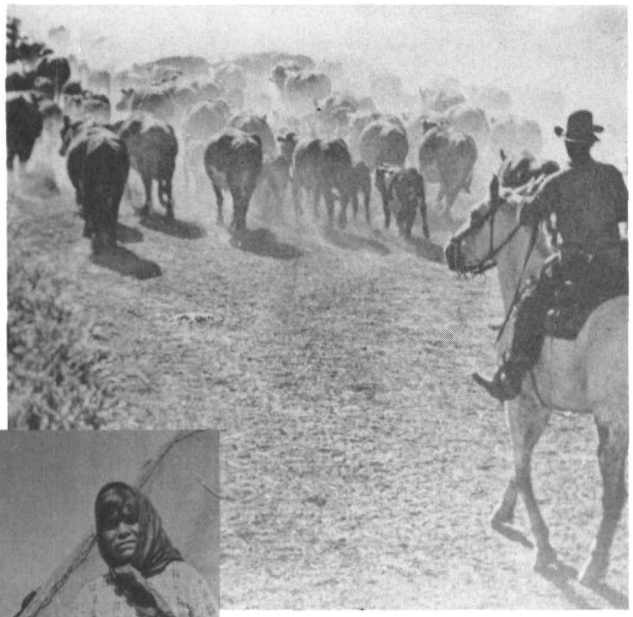
What is unique about the rangelands of Nevada? There are two interacting aspects that characterize and shape range management in the Silver State. First, Nevada is the driest state in the nation. Secondly, the rangelands of Nevada are almost entirely owned by the federal government. It has been suggested that these two aspects are interactive in that: (a) the average productivity of Nevada rangelands never made it desirable or economically feasible for the private sector to acquire title for the vast acreage necessary to conduct livestock enterprises, and (b) the federal government never evolved a land management policy that made it legally possible to acquire title to the acreage necessary for livestock production.

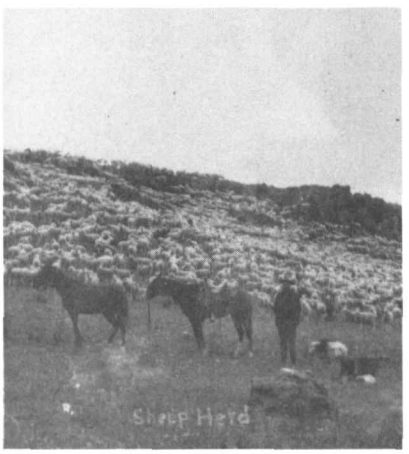
The state of Nevada had the most unique system of disposing of lands designed for support of school systems of any western state. Instead of restricting lands for support of education to sections 16 and 36 in each township, Congress allowed Nevada a grant of unspecified land that could be selected for purchase in 40-acre blocks. The state-selected school lands were concentrated on irrigated lands and stock watering points. The state has also experimented with systems of dividing the public rangelands based on the ownership of stock water. This scheme eventually proved unsatisfactory as a method of controlling rangelands because it was interpreted as being in violation of the federal constitution by the courts.

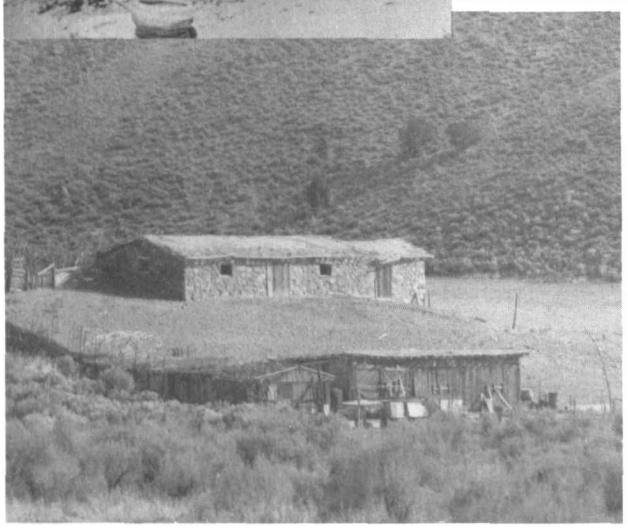
The average ranch in Nevada contains 2,000 acres of deeded lands most of which is devoted to hay production, and about 75,000 acres of public owned rangelands. Finding an example of this "average" ranch is difficult. Ranch operations range from 40 deeded acres with a spring coupled with a grazing permit to ranches with large blocks of private rangeland. Some ranches have several grazing permits spread over hundreds of thousands of acres with a few million acres of public rangelands.



(top) Crossbred steers on wet meadow in Elko County, Nevada about 1910. (middle left) Branding in Willow Corral, Elko County, Nevada. (middle right) The winter of 1889-90 resulted in an estimated 95% death loss for cattle on northern Nevada ranges. Feeding of hay during the winter became recognized as a necessary practice. Hay production involved large crews of seasonal workers. (bottom) Haying of the Glaser's Ranch, Elko County, Nevada 1908.







(top) Driving cattle from spring ranges in the sagebrush of Nevada to summer ranges on the eastern slopes of the Sierra Nevada Dangberg Ranch, Minden, Nevada. (middle left) The baskets of these American Indians native to northern Nevada identify them as grass seed collectors. (middle right) After the winter of 1889-90 range sheep operation increased in Nevada. Tramp sheep operation became a major problem. (bottom) Ranch headquarters in central Nevada with typical stone buildings with originally dirt roofs. In central Nevada, it was a long distance to sources of lumber and timbers.

Pristine Cultural Environment

Much has been written in an attempt to interpret the pristine environment of the Great Basin. Based on historical records, it would seem unlikely that the original vegetation consisted of pure grass or brush communities. The majority of plant communities of the area probably consisted of a combination of woody and herbaceous species.

The cultural society that existed in northern Nevada before contact with European man provides an interesting assessment of the environmental potential of the Lahontan Basin area which includes most of northern Nevada. Grossly divided into northern and southern Paiute ethnic groups, separated by the territory of the western Shoshone cutting diagonally across the state, the native Americans of Nevada existed as family groups as the highest social order. The endemic Indians were largely seedeaters primarily dependent upon grass seeds. The relatively low production potential of the environment did not permit the evolution of the complex tribal groups that characterized other native civilizations in western North America.

The early Lahontan Basin hunters were jackrabbit cultures, acting as predators on the most abundant herbivores in an environment that had been free of concentrations of large herbivores since the close of the Pleistocene.

At the time of contact with European man early in the 19th century, feral horses were absent from the Lahontan Basin. Horses had been reintroduced to North America by early European explorers and had moved far to the north of the Great Basin by this contact period. Tribes such as the NezPerce in the Pacific Northwest were castrating studs and breeding for the specific color pattern that made their horses famous. In the Lahontan Basin, a stray feral horse was viewed as a potential large meal if the native hunters were lucky enough to capture one.

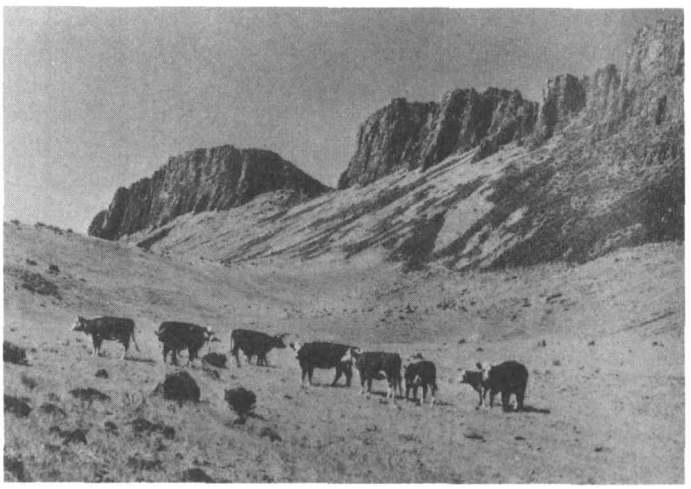
Early Historical Nevada

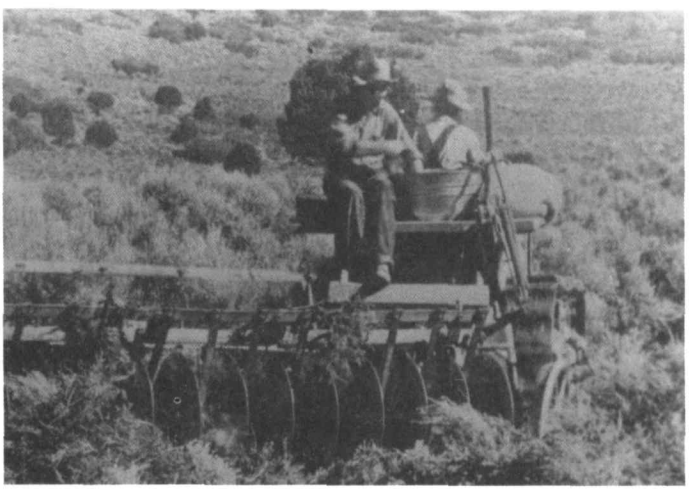
As was the case in much of the mountain and intermountain far west, it was the oxen of the freighters that were the first domestic livestock to overwinter in the valleys of northern Nevada. Oxen, horses, and mules powered wagons along

the Overland Trail following the Humboldt River lifeline across the Lahontan Basin. Most of these animals, like their masters, either left their bones on the salt flats of the Forty-Mile-Desert or hurried over the Sierra Nevada to escape the harsh environs of Nevada. Photographs of freight wagons from 19th century Nevada often show at least one of the wagons in multiple hitches behind 20 animal teams filled with hay. This hay-filled wagon was the fuel tank for the draft animals as they crossed an environment where forage availability was not dependable. It is little wonder that the western Great Basin was looked at as a place to avoid or to cross as rapidly as possible. This philosophy persists today as evidenced by the works of modern man in the rapid transport across this "no-man's-land."

Mining Booms

In contrast to the Great Plains where cattle could be driven to market across grasslands, the ranges of Nevada are rimmed by rugged mountains and barren deserts. Only after silver discoveries brought thousands of miners to the area, creating local markets, was ranching possible. This situation changed during the 1860's when the Central Pacific Railroad was completed across Nevada. The railroad followed the Humboldt River valley route, linking the productive livestock producing area with outside markets. California has always been the major market for Nevada beef. The completion of the transcontinental railroad provided another outlet for livestock raised in southeastern Oregon and central Nevada as well as the Humboldt River valley. Mini-trail drives brought thousands of animals to railroad centers such as Winnemucca.





(top) By the 1920's vast areas of formerly big sagebrush/bunchgrass rangeland were converted to cheatgrass dominance. (bottom) Early attempts at range improvement with wheatland plow and hand broadcasting of seed.

(left) CCC boys working on Grazing Service sponsored range reseeding during the 1930's. (right) Wind erosion after a wildfire on degraded range near Wells, Nevada. This is the area where halogeton was first discovered.

Stocking the Ranges

Where did the cattle come from to stock Nevada rangelands? Texas supplied tens of thousands of head of stocker cattle after the Civil War. These longhorn cattle were driven up the plains to Wyoming and across the mountains to northeastern Nevada. These were cattle of Spanish origin. The other center of the Spanish livestock industry in what later became the United States was southern California and the ranges of most of western Nevada were stocked with animals from this source. Much of the rangelands of northern Nevada were fully stocked with cattle by the early 1870's. Repeated droughts in California coupled with the development of extensive dry land farming of cereal grains in the central valleys, resulted in thousands of additional animals on Nevada ranges during the next decade. Cattle were run year-round on the ranges with little or no supplement winter feeding.

Winter of 1889-90

The hard winter of 1889 and 1890 resulted in the loss of 95% of the cattle in northeastern Nevada. Legend says that one could walk for a hundred miles along the Marys River (a fork of the Humboldt River in Elko County) and step from dead cow to dead cow without ever touching the ground. Out of this debacle grew the rule of thumb that 1 ton of hay was required for wintering each brood cow in northern Nevada. This hay requirement put a premium on land that could be irrigated to raise native hay. The average production from native hay meadows is slightly less than 1 ton per acre. Obviously, some of the large ranches, such as the Sparks and Harrell operation which ran 35,000 brood cows, required a huge acreage of meadowland. Only between 4 and 5% of Nevada is irrigated (there may be twice as much barren playa).

Sheep Industry

The devastation of the cattle industry caused by the hard winter of 1889-90 opened the door for the development of the range sheep industry in Nevada. A significant portion of the range sheep industry developed as "tramp" sheep operations; so called because the operations were not based on any deeded land. These nomad operations would cover several hundred miles in the annual circuit from salt desert shrub winter ranges to summer ranges on the Sierra Nevada or in the headwaters of the Humboldt River. Often the sheep grazed on ranges that were already overgrazed by cattle.

Forest Service

Despite the shortage of trees in Nevada some of the most productive rangelands in the Silver State are administered by the Forest Service, U.S. Department of Agriculture. The establishment of the National Forests during the first decade of the 20th century was encouraged by many of the large cattle ranchers in Nevada. The criteria under which grazing privileges were allotted including a history of prior use and ownership of commensurate property gave the cattle ranchers an advantage over tramp sheep operations. There is a folk story that when grazing histories were being established shortly after the Ruby Mountains became National Forest land, the ranchers figured that the rangers would never be able to count their cattle so they reported only half the number of cows they had traditionally run on the mountains. However, the rangers looked at the overgrazed ranges and damaged watersheds and cut the number of permitted animals below the ranchers' historic numbers.

Years of Attrition

From 1900 to 1934 much of Nevada's rangelands were in a degraded condition caused by the continued excessive utilization and improperly timed grazing. The livestock production system that had evolved in the Lahontan Basin featured a few relatively large ranches that required seasonally large crews of men for haying. This influenced and reflected in the entire culture of the state. Nevada became the most male-dominated state in the nation where gambling, excessive alcohol use and prostitution became acceptable parts of life.

Despite numerous attempts, Congress could not come to grips with a national policy for states like Nevada that were being damaged by excessive grazing of public lands. Congressional hearings that were compiled into Senate Document 199, "The Western Range", provided a forum for members of the yet-to-be recognized profession of range management to describe what was happening to these arid rangelands. The severe drought of the 1930's coupled with the economic conditions of the Great Depression and the spirit of the New Deal combined to allow for the closure of vacant lands in 1934 and the establishment of the Grazing Service.

Halogeton

Halogeton was first collected in Nevada in 1934 and was determined to be poisonous in 1943. The rapid spread of this weed across intermountain rangelands was a symptom of the terrible condition of the ranges. Several of the leading range ecologists in the intermountain area prevailed upon the public land management agencies to biologically suppress the growth of halogeton through the planting of crested wheatgrass. This effectively treated the basic problem, which was a lack of an adequate forage base because of the degraded nature of much of the rangelands, and allowed managers a way out of the spiral of continued overuse.

Halogeton, along with labor and predator problems and the failure of the industry to adapt over time, contributed to the end of the range sheep industry.

Golden Age of Range Improvement

Post World War II saw tremendous effort in range improvement practices on sagebrush-dominated rangelands. About one million acres of the 29 million acres of big sagebrush rangeland in Nevada was seeded to crested wheatgrass. Some estimates indicate that this one million seeded acres, 3% of the area, supplies 25% of the range forage base for the state. Range improvement virtually

ceased during the 1960's. Concerned conservationists believed that excess seeding contributed to a decline in wildlife habitat and values, creating unwarranted impacts on the visual and cultural landscapes. Land management agencies turned to grazing management systems that were viewed as simpler and cheaper to administer than improvement projects. Range scientists had long stressed the need for grazing management to break the cycle of continuous grazing at the improper season, year after year.

Cheatgrass

Cheatgrass *(Bromus tectorum)* was first noted in Nevada in 1905. This annual grass, native to central Asia, had increased in distribution and abundance by the 1920's so that it constituted a significant portion of the forage base for the livestock industry. Cheatgrass spread in the void created by the depletion of perennial grasses through excessive grazing. Cheatgrass matures six weeks to two months earlier in the summer than the native perennial, giving the cheatgrass a significant competitive advantage for moisture. In addition, the fine and sometimes abundant herbage of cheatgrass creates an extreme fire hazard. Changing extent, frequency, and timing of wildfires caused by the spread of cheatgrass has had dramatic influences on the ecology of sagebrush/bunchgrass rangelands in Nevada. In the 1940's, J.H. Robertson published on the closing of cheatgrass communities to the establishment of seedlings of perennial grasses. The competitive nature of cheatgrass extends to limiting the establishment of seedlings of exotic forage species as well as native perennial grasses and shrubs. As you drive across northern Nevada on Interstate 80 the aspect of foothill ranges that were historically sagebrush/bunchgrass ranges is now predominantly overlapping wildfire scars and cheatgrass-dominated land.

During the last decade there has been a sudden increase of cheatgrass in shadscale, black and low sagebrush, and big sagebrush communities growing on Lahontan sands. These communities reach down into the bottom of the internal drainage basins that compose subunits of the Lahontan Basin and formerly were considered too dry for the growth of cheatgrass. The cause of this spread may be subtle changes in climate, changes in grazing management, or changes in cheatgrass itself.

Riparian Habitat

Nevada has experienced the same controversies concerning the riparian habitats that have been sweeping across the rest of the western range. The generally arid nature of the Nevada environment may enhance the intensity of riparian conflicts in the Silver State.

The 21st Century

Faced with the rapidly growing human population within Nevada and the huge population of neighboring California, the rangelands of Nevada face increasing human pressures in the 21st century. Conflicts for finite surface and ground water resources may become the dominant issue on Great Basin rangelands. The drying of agricultural lands to provide water for export to urban areas will have far-reaching influences on the utilization of rangelands.