



Back row (left to right): Donald Jaques, Utah; Todd Martin, Texas; Marc Kincaid, N. Mex.; Pete Karajanis, WY; Russ Linhart, Mont.; Jason Johnson, Texas
Front row: Melissa Crenwelge, Texas; Judy DeBock, Fla; Mary Kimball, Calif.; Susie Bolstad, Mont.; Stephanie Haupt, Alberta, Canada

Florida's Range for Ecology and Economy

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Judy De Bock

The term *range* is defined as "all lands producing native forage for animal consumption and lands that are revegetated naturally or artificially to provide a forage cover that is managed like natural vegetation." The predominant use of Florida's range is livestock grazing.

Over 400 years ago, Ponce de Leon and other early Spanish explorers introduced the first cattle into the state. Prior to the Civil War, with the establishment of large Southern plantations and European settlements, cattle production assumed considerable importance. The early rancher viewed himself as a free spirit who tended his herds and flocks on a limitless sea of grass. His thoughts were on his livestock with little or no concern for the perishable nature of his basic resource. He no more tried to manage the rangeland, seemingly so vast and immutable, than the sea captain, under stress of storm, tried to manage the ocean instead of tending his ship. Needless to say, such views no longer prevail.

Today's strict economic climate makes cost containment of vital importance for the continued existence of the rancher. We are witnessing an evolution. Range is again of paramount importance to the cattle rancher. The total acreage of range pastures in Florida in 1985 amounts to some 3,383,000 acres—approximately 29% of the total Florida land area. This is somewhat less than it was a few years ago due to crops and groves, highways, housing develop-

ments, and recreation and conservation areas.

Florida's native vegetation has a production potential exceeding most areas in the United States. The state has a mild climate with 50 inches or more annual rainfall providing an opportunity for 12 full months of grazing, more than any other state. The land is predominantly a sandy soil.

Basic good range management dictates that 4 to 5 acres of good range land is required per cow and 15 to 20 acres per cow of poor range land. In the early days of the livestock industry in Florida, native grasses, legumes, and other vegetation were the principal sources of forage. Grass is still a basic item. Nearly 322 native species occur in Florida. In any one area, you can find at least 75 varieties with 12 to 15 usually contributing to the livestock diet. The desirable species of native plants, such as maidencane, creeping blue stem, chalky blue stem, and others make up a considerable amount of the feeding requirements of the cattle. Land mismanagement allows increasers such as pineland "wiregrass" and other species to thrive. When invaders such as palmetto, waxmyrtle, and gallberry are allowed to take control, the native range will be left with little or no grazing value. Animal reproduction rate also is closely tied to the natural nutrition available.

A basic factor in range ecology is plant succession. In one sense of the word, it is crop production. Harvesting the crop is no problem. We do not need large amounts of capital to purchase or lease mammoth equipment. Cattle can easily, efficiently, and economically harvest range forage. The growing, management, and harvesting can be done with the lowest possible input of energy of any grassland enterprise.

It is now more clearly understood how ecology fits into the picture of Florida's range goals. Range management is both an art and a science founded on ecological principles with economic results. The United States, with only 6% of the world's population uses over one-third of the world's energy. All of the United States' population is well-informed of the fossil fuel energy crisis. Fossil fuels and irrigation are essential to improved pasture. This improved pasture, the apple of the eye of many ranchers, is a major user of both fossil fuels, for fertilization and cultivation, and labor. The introduction of good range management techniques has considerably reduced the use of these expensive commodities.

In the not-too-distant future, water for pasture irrigation may be prohibited by both cost and legislation. The quality and availability of irrigation water in Florida is questionable. The range must rely on the God-given precipitation—an average of 50 inches a year—at NO cost. The native species of grasses and legumes are able to withstand the extremes of flood and draught. Florida's climate only encourages the natural functions of plant growth. With proper management, insects and disease are easily controllable. The pesticide and veterinary bills are kept to a minimum.

Among good management techniques, controlled burning every two or three years helps to maintain the forage stand and improve the quality of forage on the native range. Burning is used to remove unpalatable or dead vegetation, make forage and browse more available, improve forage quality, maintain a diverse herbaceous population, and reduce the size and density of shrubs which impede the working and grazing of cattle.

Benefits of proper range management and planning should be used to maximize net returns per acre. The ratio of grazed to rested land must be finely balanced, with strict adherence to proper stocking rates. A free choice mixture of minerals, proteins, and vitamins is advised. Good management techniques of the range have definite economic superiority over improved pasture methods. High interest rates, possible lack of usable capital, cost of fossil fuels and irrigation, and the colossal price of heavy farm equipment make range a common-sense approach to farming in Florida in the twentieth century, and the approach must be convincing if range programs are to continue into the twenty-first century.

The evidence is all around us that our native range resources are neither limitless nor immutable. It is clear to everyone that careful management is necessary because the penalty for failing is great. A proper management job is like walking a tight rope requiring resolution and determination, modern knowledge and modern technology, but human ingenuity is equal to the task. The Florida rancher is well known to have these characteristics; he recognizes that his primary occupation is husbandry of the range and that tending his livestock is secondary. Thus has the spirited cowboy, famous in both legend and song, become, in the end, a humble grower of grass. He is a practicing ecologist and an avid economist. He follows ecological principles but is limited to low cost measures as dictated by today's economics. Florida is number 8 on the list of beef producers in our great nation. Success is written in statistics.

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Prescribed Burning in California Brushlands

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The Huey helicopter swept low over the ridge, the engine noise reverberating up the canyon, shattering the stillness of the afternoon. As it reached the crest of the skyline, it

dumped its explosive cargo of napalm into the vegetation, quickly turning the canopy into a blazing inferno. This wasn't a scene from the movie "Rambo," nor news footage from Vietnam, but a common range management practice used every year in California's brushlands, the prescribed burn.

Fire is a natural factor on California brushlands. In fact, there's probably no range site in California that has developed without being influenced by fire. Due to California's hot, dry climate, various brush species such as manzanita and ceanothus have developed with fire being an important part of their life cycle. Biswell, a noted range scientist, considers fire as nature's way of keeping rangelands open and in a stable equilibrium, and less susceptible to intense, out-of-control fires. Biswell further concluded that fire exclusion is something new and unnatural in brushland environments.

Burning is the oldest known practice used by man to manipulate the vegetation on grazing lands. Fire has been used as a tool for at least a quarter of a million years. The Peking man is the earliest known man to have controlled fire, 500,000 years ago. Deliberate burning was used by primitive man for hunting by increasing the visibility for finding game animals, and to attract them after the burning by vegetative resprouting.

Burning was also used to reduce woody plants for improved pasture for livestock grazing, and for clearing land for cultivation of crops. The California Indian was a prime example of man using fire for his advantage. As a result, equilibrium was maintained in the California brushlands, with both naturally and Indian set fires. This continued until the 1950's when fire exclusion, also known as the "Smokey Bear Mentality", greatly decreased the occurrence of fires in the brushland ecosystem, thereby upsetting the delicate ecological balance. The result was a fuel accumulation and an increase in the severity of wildfires. This, coupled with a decrease in accessibility for grazing animals, adversely affected California's brushlands. This has caused a shift back to the use of periodic burning by range conservationists. Although fire is not a cure-all for all range problems, burning can be an effective and practical tool in range improvement.

What is prescribed fire? Prescribed fire can be defined as fire used under particular conditions of weather and fuel to achieve specific management objectives in the California brushlands. These management objectives are numerous, and affect many sectors of the public. One objective, which affects all of us, is to decrease the fuel buildup that occurs in brushland where fire has been excluded. The resulting accumulation of tinder dry brush makes for severe wildfires that cause not only millions of dollars in damage to buildings and property, but also the loss of human lives. For example, in 1968, the Canyon Fire in Los Angeles County killed 20 firefighters and caused 10 million dollars in damages. It is more advantageous to have numerous prescribed burns than to risk one out-of-control wildfire. Another objective, which is most important to the livestock industry, is improving the grazing capacity of the lands. California's rapidly growing population has created an increased demand for food. As a result, the livestock industry has to more effectively utilize previously unproductive brushland. One efficient way to improve this brushland, and thus the grazing, is through prescribed burning.