

Our Disappearing Rangelands

Katelyn Huskins

Representing the Colorado Section of the

Society for Range Management

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Rangelands are an intrinsic part of our landscape. They are centered at the heart of our culture, being the basis of the ranching and hunting way of life and an incredible source of natural beauty. They are also the home to 84% of mammalian and 74% of avian species in the United States. And today, rangelands, the foundation of recreation, food, fiber, and natural beauty, are besieged by urban developers and the land fragmentation which follows. Every hour, 175 acres of ranch and farmland is lost due to urban sprawl. Now, as our rangelands continue to dwindle, a variety of organizations are valiantly rallying to curb the effects of urbanization and to support agricultural producers in their ensuing struggle with mental health and the rising costs of production in urban areas.

Rangelands are lands which support forbs, shrubs, and grasses and provide a variety of resources including, but not limited to, forage, fiber, biofuels, open space and biodiversity. Hunting and ranching are two of the biggest industries dependent upon rangelands. In 2001, profits from hunting earned \$25 billion, while in 2016 farm cash receipts for cattle and calves exceeded \$67 billion. Rangelands also provide functional watersheds, regulate water quality, and feed aquifers.

Between 1982 and 2012, 31 million acres of U.S. agricultural land has been lost due to urban expansion, 10.7 million acres of which were rangeland. There are two main causes for the

loss and degradation of this land: urban sprawl and land fragmentation. Sprawl is a developmental pattern that is described as low-density, haphazard, spiraling development that spreads away from urban centers in two major patterns: dispersed development and ribbon development. Fragmentation is the disconnection of pieces of land that were once whole, restricting access of both people and animals to resources, especially vegetation and water. The foremost influencing factor upon urban development and rangeland degradation is population growth. As our population continues to grow, more people desire to live in low-density neighborhoods. Further contributing factors include the continuing rise in income, decrease in commuting costs, improving infrastructure, and lower land prices along urban borders.

Today, the most productive land in our country is under siege. One hundred and seventy-five acres of farm and ranch land are lost *every hour* to the greedy demands of developers. As highways are built, energy is harvested, urban development's spread, and tourism increases, more and more species are coming under threat. Fragmentation, whether caused by buildings, fencing, or roads, disrupts nesting, increases predation, and disrupts wildlife movement. The limited range of movement many organisms have in urbanized areas causes a limited gene pool flow between populations, leading to a decrease in genetic diversity. Non-native and invasive species, as well as human tolerant species, may also begin to outcompete endemic species. Rangelands are one of the most endangered ecosystems in the world, and the organisms that depend on them are as endangered as the land they call home. Since 1966, the population of birds endemic to rangelands has decreased by approximately 40% while pollinators like the Mining Bee, Monarch, and Regal Fritillary Butterfly remain at risk as their natural habitat continues to dwindle. Not only are wildlife at risk, but the entire hydrologic cycle of rangelands is also threatened by urbanization. Urban areas concentrate storm water, increasing the risk of

erosion, flooding, and water pollution as well as the spread of invasive plant species such as the Russian Olive and Tamarisk. The increase in bare ground caused by urban developments also leads to a depletion of aquifers, as water is unable to infiltrate the soil and replenish both alluvial and deep aquifers.

Minimizing the debasement of our rangelands is a top priority that has no single solution. Zoning and building permits, subdivision regulations, urban growth boundaries, and federal acts such as the Farm Bill, North American Grasslands Conservation Act, and Conservation Reserve Program are only a few of the many ways that urban growth management is being tackled. Educational outreach programs have also been shown to have great success. Karla Melgar, a Colorado State University Extension Small Acreage Management Specialist from Longmont, hosts workshops for the public to attend and learn about land management techniques, including soil health, cover crops, and plant life cycles. Other methods of conservation include Open Space programs such as the Boulder County Parks & Open Space program. Citizens of Boulder County have voted several times to raise their own taxes in order to buy and conserve rangeland and other agricultural land. As one of the oldest Open Space programs in the country, Boulder County Parks & Open Spaces boasts 26,000 acres of land with 128 different leases and 65 different private tenants. Of this land, 7,500 acres are rangeland and an additional 2,000 acres of former dryland cropland that has been restored to native rangeland.

Now, as we are summoned to the fight for conservation, it is not only the land itself which is suffering: it is the lives and livelihoods of the farmers and ranchers who are deeply rooted to the land. Currently, less than two percent of the United States population work on a farm or ranch and the average age of an agricultural producer in the US is 65 years old, one of the highest average ages of any industry in our nation. Fewer and fewer people are taking up the

mantle of their forebears and entering the ranching or farming industry due to the strain caused by urban sprawl. Not only are ranchers dealing with traditional burdens such as livestock predators and extreme weather, but also neighbors who complain about noise, dust, and land-management practices. Others struggle with the rising cost of living, labor, and production in urban areas. Fragmented rangeland, lack of livestock facilities, and heavy traffic makes it difficult to rotate livestock from pasture to pasture. The combination of increased costs, heavy traffic, and the difficulty of timing management in urban areas leads to an overall decrease in the quality of the products and profit ranchers earn. The mental health of our agricultural producers suffers as significantly as the land on which their lives depend and their roots are grown.

Today, in an overwhelmingly complacent society, we must take action to sustain the many ecosystem goods and services our rangelands provide. We must take a stand and do our part to conserve our limited resources in order that every man, woman, and child may know, see, and understand the value of life and the agriculture which feeds and clothes them. Nature, including rangelands, are an intrinsic part of humanity, as deeply ingrained in us as the fear of the dark or the desire to be loved. It is imperative for us to be aware of the plight of our rangelands and achieve an understanding of their value in the cycle of life. Whether through Open Space programs, educational outreach programs, or other conservation methods, we must conserve our rangelands, not only for ourselves, but for future generations and the wildlife which call them home.