

Range Management: A Big Deal?

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Abstract: Out of my two high school years of being exposed to range management I have learned a lot. However this opportunity has allowed me to really dig deep and gain more knowledge. Such as more information about range plants, types of grazing practices used, and the environmental benefits of range management.

Introduction

Today there are approximately 229 billion acres of land used in just the western part of the United States, for grazing of cattle and other grazing animals (Glaser, 2015). All of this rangeland, or open country that is used to graze or hunt animals, can vary on the type of plants growing and the terrain. However, the common denominator in all range is that the rangeland plants can be classified into increasers, decreasers, and invaders. These rangelands have a grazing practice being implemented on the land, and there are many environmental benefits associated with the practice of range management. What really determines if a rangeland plant is an increaser, decreaser or invader, what are the environmental benefits, and what are the grazing systems used in the U.S and in southern Colorado? Is range management really a big deal?

Plant Response to Grazing

All rangeland plants are classified as increasers, decreasers, and invaders. What are these? An increaser, by definition given by the American Society of Range Management in 1964, is a plant species of the original vegetation that increases in relative amount due to overuse. The decreasers are plant species of the original vegetation that will decrease in relative amount with continued overuse. Invaders are plant species that were absent in undisturbed portions of the original vegetation and will invade with disturbance or continued overuse. However, All rangelands are different in terms of their conformation and plant populations.

Some rangelands are healthier than others, and grazing animals have different forage preferences. Some sites decreasers might be plentiful, and others there is more increaser and invader plants. Examples of decreasers are big blue stem and side oats grama. Continued heavy grazing will cause these plants to decline in composition. Some examples of increasers include blue grama, saltgrass, buffalo grass, and sand dropseed. An invader plant is one that is present only in small numbers or not present at all under the reference condition. Invader plants increase in composition on an extremely heavily continuously grazed range or one that is in deterioration. Examples are barnyard grass, cheatgrass, and Russian thistle.

On a range in top condition the decreaser plants will be the first to decline due to the animals palatability (high forage preference for these plants). During this time the increaser plants will increase in composition. Under continued heavy grazing, they too will decline in composition. Eventually, under heavy continuous use, the invader plants will result. Proper range management techniques (i.e. prescribed grazing systems) prevent this from happening(Hannebaum, 1975).

Range Management Benefits the Environment

With the practice of range management, there are many benefits. The one that intrigues me the most is the environmental benefits associated with range management. The rangelands are home to wild animals that have lived there for long periods of time. The environmental values of these lands are extensive and produce many essential ecosystem services such as providing habitat (food, shelter, and open space) for native animals. Recreational opportunities are also provided on rangelands (Schmidt, 2017). Well managed rangelands provide clean water, abundant minerals, and nutritional forage. If ranchers or herders are not careful and practice proper grazing management, including proper stocking rates and rotational grazing, then wildlife habitat, and clean water for humans could be depleted. As stated by Randi Spivak (2017), the biggest widespread cause of plant and/or animal species endangerment is improper management of the grazing of livestock. Continuous grazing of the range without providing a recovery period can result in declining populations of native animals. With the good grazing practices and a proper management plan adapted for the ecological site, grazing can be beneficial for the environment.

Grazing Management on Rangelands

For many ranchers the big question might be, what type of grazing system to implement on their rangeland. There are many grazing practices applicable in the United States. The correct system depends on the site composition, the condition of the ecological site, and the

range management goals. Some of the practices used are rest-rotational grazing, deferred-rotational grazing, seasonal substituting, best pasture, short duration grazing, and mob or ultra-high stock density grazing (Frost and Mosley, 2017).

Rest-rotational grazing is the resting of one or two pastures for a whole year, while seasonally grazing the other pastures. Deferred-rotational grazing is a prescription where each pasture is periodically deferred until seed heads develop. Seasonal substituting is basically the movement of animals based on where plants grow best with the seasons. Best pasture systems attempt to match animal movement with the patterns of precipitation. Short duration grazing involves prescribing short grazing periods with adequate recovery periods to allow the grazed plants time to replenish the food storage in their root systems. This system requires multiple pastures with all livestock being placed in one herd. Mob grazing is also known as ultra-high stock density grazing. This practice involves placing very high numbers of livestock on small areas of rangeland for very short grazing periods of one day or less, and allowing very long recovery periods of several months or up to a year or longer. The idea behind mob grazing is to mimic the way native herds of bison and elk grazed the rangeland, prior to European settlement.

All of these grazing systems are used, in one way or another, in the western part of the United States. In Southeast Colorado, where I live, the main systems used are rest-rotational and deferred-rotational grazing systems. However, short duration grazing management is becoming more accepted by some ranchers. The topography is mainly flat plains with little precipitation, and averages 10-12 inches annually. The type of rangeland is mainly shortgrass

prairie. The land has also gone through many droughts, and the dust bowl not far from where I live. Making applying these grazing systems important!

Conclusion

Knowing about the range land grasses, the types of grazing systems, and the environmental impact of grazing is important. Understanding this information helps rangeland managers decide what type of grazing system needs to be implemented, and how that management system will help sustain the environment. The bottom line to ranchers is that a proper management strategy will help them be economically more successful. This will surely help insure a healthier and more productive rangeland that will allow multiple values to mankind. Now back to the big question: is range management really a big deal? Yes, range management is a big deal!

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