

Abstract of
Managed Grazing Versus Grazing Exclusion Impacts on Rangeland Ecosystems:
What We Have Learned
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This paper provides a review of the impacts of carefully managed livestock grazing versus grazing exclusion on rangeland ecosystems focusing on arid and semi-arid areas. A total of 18 studies were found that evaluate the effects of managed grazing versus grazing exclusion on rangeland vegetation. These studies support the conclusion that managed livestock grazing can enhance rangeland vegetation by accelerating plant succession, increasing plant diversity, increasing plant productivity, and reducing plant mortality during drought. These positive impacts of livestock grazing are most likely to occur when grazing intensities are light to conservative. Although over 30 studies are consistent in showing heavy grazing adversely impacts soils through increasing compaction, reducing infiltration and increasing erosion, these impacts are of small magnitude under light or conservative grazing and are ameliorated by natural processes that cause soil formation, soil deposition and soil loosening. Plant seedling establishment and mineral cycling can be increased by livestock treading. Several studies show many desirable wildlife species can benefit from managed livestock grazing. Research from the Chihuahuan Desert indicates moderately grazed mid seral rangelands support a higher diversity of wildlife species than those lightly grazed in near climax condition. Rapid riparian habitat improvement has occurred under carefully timed grazing at light to conservative intensities. Direct effects of managed grazing on fish populations have not been studied, but there is increasing evidence that fish habitat can be maintained or improved under managed grazing. In conclusion, there is strong scientific evidence that managed grazing plays a critical role in maintaining and improving rangelands in arid and semi-arid regions for a variety of uses and ecosystem services. However, more and better-designed research is needed on this subject. Claims that managed, information-based livestock grazing is unsustainable in arid and semi-arid areas are refuted.

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