The Effect of Cattle Grazing on Native Ungulates: The Good, the Bad, and the Ugly

By Natalia A. Chaikina and Kathreen E. Ruckstuhl

Introduction

Livestock grazing pressure on native vegetation has been an important concept for many rangeland managers, as well as livestock owners, for many years. One particular question addresses the effects of cattle grazing on native ungulates, such as deer, elk, and bighorn sheep. Multiple studies had demonstrated that some level of cattle grazing could cause a decrease in forage availability for wild ungulates, such as mule deer (*Odocoileus hemionus*),1,2 bighorn sheep (*Ovis canadensis*),3 and elk (*Cervus elaphus*).4 Several studies indicate a direct forage competition between cattle and native ungulates, such as elk,5 deer,5 mule deer,6 and, in the Indian Trans-Himalaya, wild bharal (*Pseudois nayaur*).7 Overgrazing can also cause a change in range structure, for example by decreasing hiding cover for mule deer.8 Intense cattle grazing has been associated with lower weights and reduced fat content and reproductive rates in female white-tailed deer (*Odocoileus virginianus*); it also had negative impacts on translocation success of bighorn sheep,9 and decreased white-tailed deer survival.10

Although many examples indicate negative impacts of cattle grazing on wild ungulates, the effects of grazing on range conditions are not always clear. The objective of this review is to address the following questions:

- Has livestock grazing consistently been shown to be detrimental in the past, or are there cases where grazing had no consequences or was beneficial to native ungulates?
- In cases where grazing was found to be beneficial, what timing and intensity of the application produced the best effects?
- If grazing was detrimental, in which ways did it affect the big game animals and how is it possible to reduce or eliminate these damaging impacts?
- Is it possible to find an acceptable balance between preservation of the environment and economic benefits of cattle production?