Livestock Grazing, Wildlife Habitat, and Rangeland Values

By Paul R. Krausman, David E. Naugle, Michael R. Frisina, Rick Northrup, Vernon C. Bleich, William M. Block, Mark C. Wallace, and Jeffrey D. Wright

Livestock managers make and implement grazing management decisions to achieve a variety of objectives including livestock production, sustainable grazing, and wildlife habitat enhancement. Assessed values of grazing lands and ranches are often based on aesthetics and wildlife habitat or recreational values, which can exceed agricultural values, thus providing additional economic bases for effective grazing management. Perhaps more basic is the intention of many producers and managers to pass on the land in as good or better condition than when it was first acquired.

Grazing management plays a large role in the quality and extent of wildlife habitat. Livestock grazing is the most widespread land management practice in the world, affecting 70% of the land surface in the western United States. Chronic overgrazing is detrimental because it reduces primary productivity, impedes plant growth and survival, and alters species composition of the grasses, shrubs, and forbs that provide wildlife with food and cover. Past efforts to increase livestock production have also homogenized the natural variability of grasslands upon which wildlife populations depend.

Some have questioned the value of rotational grazing based largely on vegetation and animal production while also recognizing a lack of conclusive research that might support other benefits, such as wildlife habitat enhancement. Conclusive experimental results showing a direct cause and effect between rotational grazing and enhancements to wildlife production or survival are indeed limited. This is more likely a product of the difficult nature of deriving this type of information with suitable rigor than it is an indication that rotational grazing does not influence certain wildlife values. Researching the effects of different grazing schemes with sufficient sample sizes at geographic scales reflective of a subpopulation’s geographic extent can be demanding, particularly considering the overriding role that fluctuating weather events and other short-term factors can play in wildlife abundance.

The emergence of competing land uses that alter western rangelands are a sign of the times—and debates over livestock and wildlife values should be placed within this broader context. Ranchers and conservationists in the West realize that debates over grazing systems and stocking rates are of little consequence if rangelands continue to be lost or fragmented due to subdivision, farming, weed invasion, catastrophic wildfire, and energy development. However, impacts of domestic grazing that diminish land value via reduced range productivity and wildlife habitat quality can also lead to alternative land uses and habitat conversion. Maintaining the multiple values of western rangelands will require a shift from local to landscape conservation to match the scale of land use change that threatens grazing, rural ways of life, and wildlife habitat.

The future of western rangelands is in developing partnerships that help keep sustainable grazing the prevailing land use. Indeed, as rangelands are lost to other land uses, overlapping interests will make conservation partners out of otherwise odd associates—ranchers need open space for grazing and wildlife biologists, managers, and other conservationists want to maintain or enhance the wildlife values on working ranches.

In this paper, we review a representative sampling of scientific literature to document grazing impacts on wildlife and its habitat to better understand the roles of grazing strategies in wildlife habitat conservation. Further, we explore commonalities between grazing and conservation interests and provide a vision for advancing wildlife and habitat management and conservation.

Synthesis of Grazing Impacts

Grazing by domestic livestock can impact wildlife habitat in numerous ways. Composition and structure of a plant community are directly linked to qualities of wildlife habitat. As much as livestock grazing can affect vegetation characteristics, it will affect wildlife habitat structure and productivity. We consider these impacts at annual or short-term and long-term time scales.

Herbaceous vegetation provides hiding cover for a variety of grassland birds, amphibians, reptiles, small and large