

Private Ranchlands and Public Land Grazing in the Southern Rocky Mountains

Why the private land matters when we think about public lands grazing.

By Colin B. Talbert, Richard L. Knight, and John E. Mitchell

Introduction

In the western United States, Euro-American settlement was concentrated on the most fertile, best-watered, and most desirable sites, while the unsettled mountains and deserts remained in the public domain. As a result, the public and private halves of the western landscape are not interchangeable for conservation purposes. Federal statutes require ranchers grazing livestock on federal lands to own sufficient private ranchland, known as “base ranch” or “commensurate” land, to sustain their livestock for part of each year.¹ If access to forage on public lands is curtailed, the economic viability of these ranching operations may be compromised, leading to an intensification of ranch operations on the private lands or conversion to exurban development.² Either of these outcomes could have important consequences for conservation at a regional scale.³

Residential development, once largely confined to urban fringes, is moving to rural areas at alarming rates. Already an estimated 25% of the private land in the conterminous 48 states has been converted to exurban densities (defined as 1–40 acres per housing unit), and the trend shows no sign of abating.⁴ Since amenity values and recreational opportunities are thought to be driving much of this development in the West, the private lands bordering public lands are often the most at risk of being developed.⁵

Although the ramifications of widespread land use change from ranching to housing development are not fully understood, there is increasing concern about the lasting cultural,

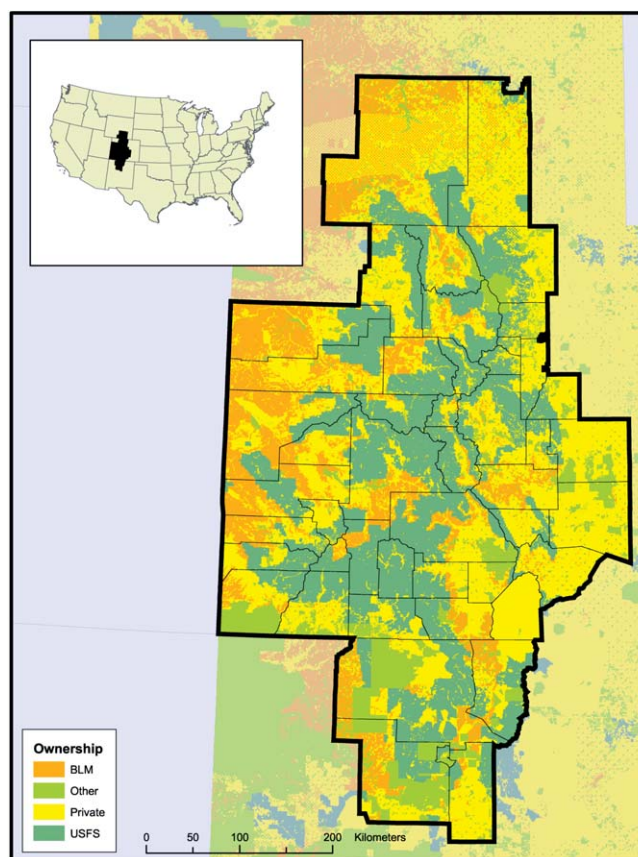


Figure 1. Land management within the study area.

economic, and ecological effects.^{6–8} Conversion of working ranches to residential development leads to an increase in the

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Table 1. Characteristics of US Forest Service and Bureau of Land Management grazing allotments and associated privately owned base ranch properties

| | Area (million acres) | Mean elevation (feet) (SD) | Mean slope (degrees) (SD) | Mean soil productivity (SD)* | Mean stream density (feet/ acre) (SD) |
|-----------------------|----------------------------|----------------------------------|------------------------------|------------------------------------|---|
| Base ranch (1,456) | 4.69 | 7,372 (981) | 6.7 (4.3) | 8.9 (3.1) | 17.2 (10.3) |
| Allotment (2,217) | 14.08 | 7,669 (1,270) | 11.4 (6.2) | 10.3 (2.9) | 9.0 (7.4) |

*Values range from 4, for the most productive soil, to 16, for the least productive soil.

number of houses and length of roads with corresponding consequences for the natural community.⁹ Research indicates that such landscapes attract nonnative, human-adapted species at the expense of specialist species and that they are avoided by predators.^{10–12} Data from the National Resources Inventory (<http://www.nrcs.usda.gov/technical/NRI>) have shown that exurban developments and urban expansion rarely, if ever, revert back to agricultural uses; thus, the ecological changes due to this land use conversion are likely to remain on the landscape. The impacts of these changes may be magnified, moreover, by the spatial distribution of private lands. Yet virtually no empirical data exist as to the biological value of these lands. The purpose of our study was to inform the public lands grazing discussion by quantitatively comparing the biological values of private ranchlands with those on public grazing lands.

Study Methods

Our study area included 48 counties that roughly comprise the southern Rocky Mountains of Colorado, southern Wyoming, and northern New Mexico (Fig. 1). This semiarid region is characterized by high-elevation mountain ranges separated by lower-elevation valleys. Mapping the private portion of public land ranches was accomplished by using publicly available county assessor records to identify large parcels owned by federal grazing permit holders. Federal grazing leases were mapped using digital data from US Forest Service (USFS) and Bureau of Land Management (BLM) field offices. Although there is uncertainty with both of these estimates of public and private lands, they represent a best available and likely conservative estimate of the actual lands of interest for our comparison.

Physical and ecological landscape traits relevant to the biological productivity and conservation value of these lands were identified from available GIS data sets. Average elevation, slope, predicted soil productivity, and stream density were calculated for both the private and the public grazing lands. Additionally, for the portion of the study area within Colorado, lands important for biological conservation, as identified by the Colorado Natural Heritage Program (CNHP), were mapped.

Results

Our study identified 4,693,000 acres of private land owned by ranchers with federal grazing permits (Table 1). These pri-

vate lands were associated with federal grazing leases totaling 14,085,000 acres. The base ranch properties averaged 600 feet lower in elevation and 4.7 degrees shallower slope than their associated public lands, and average stream density on private lands was nearly twice that of the public lands. In addition, soil productivity was higher on the private lands compared to the public lands. Lastly, in Colorado the proportional area of CNHP potential conservation areas was greater on private lands than on public lands (Fig. 2).

Since our region is characterized by its blend of private and public lands, the spatial distribution of private ranchlands might be an indicator of their regional conservation value. We compared the share of private ranchlands in 1) all private land in the study area and 2) private land within 0.6 miles (1

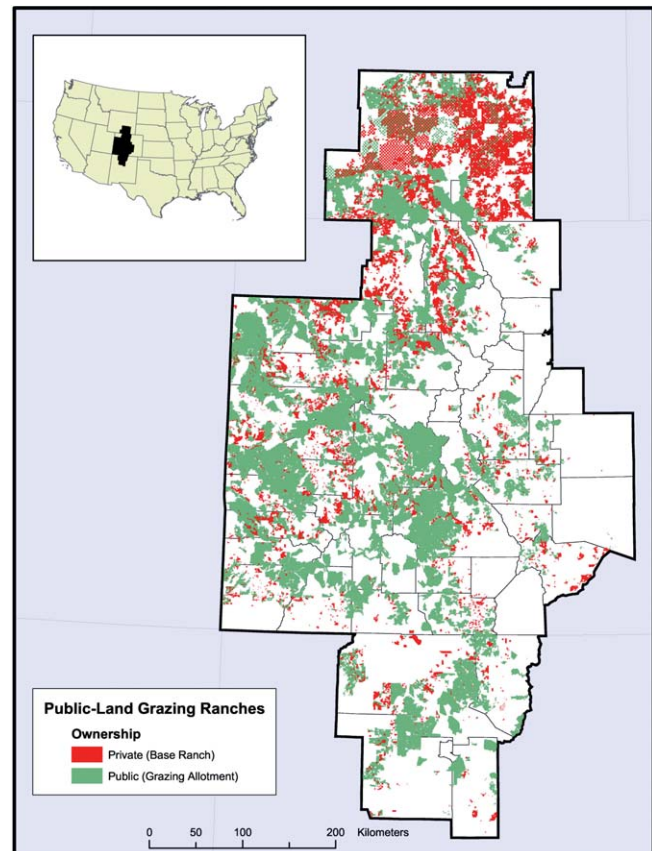


Figure 2. Base ranches with associated US Forest Service and Bureau of Land Management grazing allotments in the southern Rockies.

km) of public land grazing allotments. The 4,693,000 acres of private grazing lands represents 21% of the 21,489,000 acres of private land in our study area. But if we just look at the private land within 0.6 miles of the public land grazing allotments, the proportion of private grazing lands increases to 43%. This finding indicates that working ranchlands provide a land use buffer around our public lands.

Conservation Implications

Our study provides an accounting of differences in public and private land attributes; however, interpreting the absolute importance of differences at a regional level is beyond its scope. Nonetheless, if crucial areas for conservation in the American West tend to be on private lands, then our results indicate that base ranch properties may be important conservation targets.

The viewpoint that all livestock grazing is damaging to ecosystem health is being replaced by a better understanding of the way climate, grazing, soils, and other factors interact to shape rangeland environments.^{13,14} The use of livestock as a stewardship tool blending conservation with viable ranching on western rangelands is exemplified by the efforts of organizations such as the Malpai Borderlands Group, the Quivira Coalition, The Nature Conservancy, and other nongovernmental organizations. In light of the physical and biological limits of the public lands, conservation plans that do not incorporate private lands are only half a loaf.

In the public land grazing controversy one unanswered question persists: will the continued use of public land grazing keep the associated commensurate lands out of development? It has been argued that once the market value of land reaches some point, ranch owners will sell regardless of the availability of forage on public lands.¹⁵ Research gauging ranch owner reaction to changes in federal grazing policy indicates a more complex story.^{16,17} Public land ranchers exhibit diverse motivations for staying in ranching and differing perceived abilities to maintain their operations without public forage.¹⁸ Ironically, many ranchers persist in the rangeland livestock business, despite its marginal economic returns, for the same reason that new westerners buy 35-acre ranchettes, that is, for the lifestyle.^{16,18,19}

Simplifying the grazing debate to a choice between livestock on the public land or condos on the private lands ignores the complex socioeconomic heterogeneity of ranching in the West. Still, one important driver in the decision to retain ranching operations seems to be the continued availability of affordable public forage. It has been estimated that the 21,000 ranch families having approximately 30,000 grazing leases on BLM and USFS lands own about 107,000,000 acres of private land.¹⁸ The essence of this public-private policy dilemma can be posed in the form of a question. Is it a fair bargain if more than a hundred million acres of ecologically rich Western private lands are kept open and productive (the private half of the bargain), knowing that in order to accomplish this approximately 85% of federal lands are being grazed at some time of the year (the public half)? No one

is exactly sure of how much the public values ranching. The value might be higher if they knew that by promoting policy that maintains large tracts of natural ecosystems on private ranches, they are helping keep the West open and out of development, now the second-leading cause for the decline of federally threatened and endangered species.²⁰

Conservation easements in which development rights are retired in perpetuity while allowing for continued use of ranches as working landscapes are an emerging strategy for conservation on private lands. As evidence that stock producers often stay in the business in order to maintain a rural way of life, we note that 7 Colorado grazing associations have formed land trusts that presently have more than 1 million acres of private ranchlands in easements.²¹ The effectiveness of easements for conservation is still being assessed, but their utilization is increasing because of the pressing need to include private land in conservation strategies. Regardless, the potential for increased use of conservation easements on base ranch properties remains high, given that only an estimated 7% of federal grazing permit holders have currently implemented them on their base ranch properties.²² If reductions in public land grazing accelerates the selling of base ranch properties before land trusts have time to coordinate the purchase of development rights, this opportunity to realize permanent protection on these lands could be lost.

Federal grazing permits were implemented as a means of limiting rampant overgrazing of a communal resource and providing for improved individual stewardship of our public rangelands.²³ While past degradation of the public lands by livestock undoubtedly occurred under this system,²⁴ removal of livestock today will not necessarily ensure a return to previous ecological conditions. Instead of unilaterally eliminating livestock from federal land, conservationists might have more success working collaboratively with agency personnel and ranchers to make federal grazing more ecologically sustainable. As with many things of great import, Wendell Berry²⁵ captured the tension—and the answer—between our rural and urban public and private and public lands when he wrote,

The most tragic conflict in the history of conservation is that between environmentalists and the farmers and ranchers. It is tragic because it is unnecessary. There is no irresolvable conflict here, but the conflict that exists can be resolved only on the basis of a common understanding of good practice. Here again we need to study and foster working models: farms and ranches that are knowledgeably striving to bring economic practice into line with ecological reality, and local food economies in which consumers conscientiously support the best land stewardship.

Clearly, there is good work to be done by all.

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