

begun to rotate their herds in the southeastern area of the Nation. The formation of these "grazing associations" and their implementation of basic grazing management is achieving very positive results in terms of range condition. These and other examples prove that land *can* be grazed and produce beef, hide, and bone, as well as wood and wildlife, and still improve in condition.

The rangelands on the Tohono O'odham Nation are a tremendous resource for the people. The results of their deterioration can be seen and felt in the deserted villages, eroded bottom lands, dying animals and trees, flooding and droughts. Yet the potential to improve is there and these lands can become fruitful again.

The challenges of the future are many. There are limits to the land's ability to support large animals. Problems involving historic use areas and communal use must be resolved. Fair and equitable grazing privileges must be addressed. Restraint in the harvest of wildlife, wood, and plants must be practiced to insure survival and reproduc-

tion of those species. Some feel that changes of this nature threaten their rights and way of life. The real threat is to continue misusing the land and destroy its productivity entirely.

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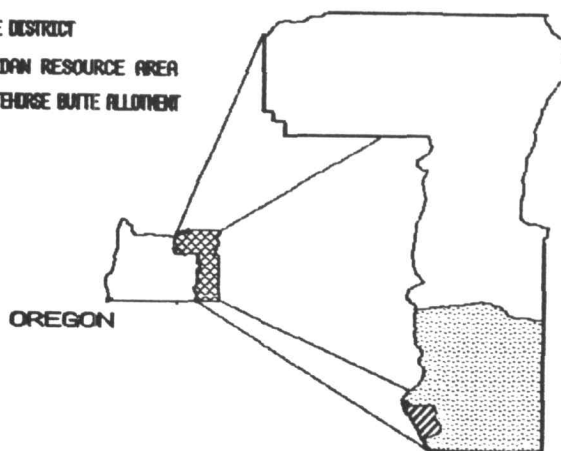
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## Whitehorse Butte Allotment— Poor Public Range Policy?

George Wuerthner

There is substantial evidence that suggests that livestock grazing is one of the major sources of environmental degradation in the West, particularly on public lands. However, public land management agencies seldom consider eliminating domestic livestock grazing even when such an alternative would clearly enhance other public values and resources. To illustrate this point, I examined a recent Environmental Assessment completed by the Bureau of Land Management for its 126,982-acre Whitehorse Butte Allotment in the Trout Creek Mountains of southeastern Oregon. The principles and questions I raise could easily apply to thousands of other grazing allotments throughout the West and given the changing uses and value of public lands, one can question if livestock grazing is still an appropriate use of our public rangelands.

In its Environmental Assessment of the Whitehorse Butte allotment the BLM admits that past and present



livestock management in this area has contributed to a downward trend and loss of quality for many public resources including recreation, wildlife, and fisheries. To mitigate the impacts attributed to livestock grazing, the BLM suggests some management changes including expensive range developments to correct the problem (Vale BLM 1989). The remedy will cost taxpayers hundreds of thousands of dollars and return almost no money to the federal treasury. Since the single justification for the improvements is to mitigate negative impacts from livestock grazing, one can question if the best solution



*Trout Creek Mountains in eastern Oregon.*

from a public policy perspective might not be to eliminate the source of the impact—domestic livestock grazing.

### **Setting and Other Values**

The Trout Creek Mountains are located in southeast Oregon on the Nevada-Oregon border within the Great Basin ecosystem. The area is very arid, with average annual precipitation between 8-inches.

Though livestock grazing is the dominant economic use of these public lands, the Trout Creek Mountains are recognized for a number of other important public resources. For example, in this arid region, the range is relatively well watered with a number of perennial streams including Whitehorse Creek, Willow Creek, Antelope Creek, and McDermitt Creek.

These creeks are home to the Whitehorse trout, a relatively rare subspecies of cutthroat trout that was isolated by changing climate after the close of the Ice Age approximately 12,000 years ago. It is only one of 11 subspecies of native trout in the intermountain West which has escaped hybridization with non-native trout. There are presently sufficient trout to support a minor sport fishery, but due to its limited range and a declining population trend, this species is a candidate for federal designation as an Endangered Species.

The Trout Creek Mountains are also home to a number of game animals which are eagerly sought by sportsmen, including mule deer, sage grouse, pronghorn antelope, and chukar partridge. California bighorn sheep have also recently been reintroduced into the area.

In addition, 113,000 acres of the Trout Creek Mountains

are roadless and under study for potential addition to the National Wilderness Preservation System. According to the BLM study results, the Trout Creek Mountains have all the necessary components for wilderness designation, including overall natural appearance, opportunities for solitude and a variety of recreational opportunities.

The area also supports a greater diversity of plants than most other areas in southeastern Oregon and several are considered rare or endangered (Vale BLM 1989).

### **The Problem**

Domestic animals have grazed the area for more than a hundred years and as a result there has been a corresponding decline in range productivity and quality.

There are several reasons for the apparent range declines. One is the ecosystem's evolutionary history. The Great Basin ecosystem evolved without large grazing mammals. There were no great herds of bison, nor elk (Mack and Thompson 1982). The largest native ungulates were antelope, bighorn sheep, and deer. Very likely the major plant communities can not support even moderate numbers of livestock without substantial degradation.

In addition, due to aridity, the overall net primary biological production of the desert shrub ecosystem which dominates the Great Basin region including the Trout Creek Mountains is among the lowest of the world's major biomes. Due to this general aridity, riparian zones represent the only areas with high plant productivity rates, plus abundant water and shade. As a result a disproportionate amount of livestock grazing is concentrated in these areas.

However, for the same reasons that livestock seek out riparian zones, they are also of significant ecological importance to wildlife of arid regions. One study of wildlife in Arizona and New Mexico concluded that 75–80 percent of all wildlife species in these states were partially or fully dependent upon riparian areas for their survival (Johnson 1989). A similar proportion of species are dependent upon riparian habitat in southwestern Oregon. It is estimated that of the 363 terrestrial species found in the region, 298 were directly dependent on riparian areas for their survival (Thomas et al. 1979). As a consequence of their ecological significance, any impacts to the productivity and condition of these riparian areas has a disproportionate impact on wildlife.

An almost unresolvable conflict arises because livestock, particularly cattle, are dependent upon abundant and freely accessible water sources. As a result, they tend to concentrate along streams. Since cattle avoid steep terrain and will not wander far from water, the terrain in the Trout Creek Mountains with its narrow canyons and limited water supplies tends to funnel livestock into a very small portion of the overall area available for grazing. Hence the topographical features magnify livestock impacts to riparian zones.

Livestock eat not only grasses, but many of the smaller trees and shrubs. Most shrub species can recover from periodic browsing, but repeated browsing, year after year, will eventually lead to their local extinction.

These vegetative losses set up downward trends in wildlife numbers and diversity. For example, livestock utilize many of the same riparian shrub and tree species that beaver seek. Reduction of these food sources results in declines in beaver numbers. As a consequence, there is a resulting change in stream hydrology as the number of beaver dams—important for erosion control and wet meadow formation—declines. This in turn causes a reduction in summer stream flows and a loss of fish and other wildlife habitat (Vale BLM 1989). One of the costs associated with livestock grazing not normally accounted for in cost-benefit analysis is this loss of the natural flood control and wildlife habitat created by beaver activity. (Wuerthner 1989).

Other impacts from livestock grazing on riparian zones are the loss of shade, which in turn increases water temperatures to a range unacceptable to trout. Temperature changes along with major modification of stream channel characteristics attributable to the influence of grazing can substantially reduce game fish populations. Five studies comparing trout productivity of streams grazed by livestock compared to ungrazed sections of the same streams determined that the average trout populations were 184 percent higher in ungrazed stream segments compared to those under grazing influence (Bowers et al. 1979). A BLM study of the Whitehorse Butte allotment documented similar changes in fisheries due to livestock impacts on riparian vegetation and subsequent increases in erosion.

During the 1970's the Vale District embarked on a fish

habitat improvement project in the Trout Creek Mountains. Thousands of willow seedling were planted, 49 small trash collector dams were created to improve pool habitat and several miles of fencing were built to keep livestock out of some riparian areas. Despite this great effort and expense, by 1980 nearly all the willow plants were gone. Flooding destroyed 60 percent of the trash catcher dams and siltation reduced the habitat effectiveness of the remainder. By 1981 the BLM estimated that most of the fisheries habitat in the Whitehorse Basin was "in fair to poor condition." A 1988 survey of 55.75 miles of stream found that 70 percent of the stream was in poor condition, 26 percent was in fair, and only 4 percent could be considered in good condition. There was no segment that rated excellent (Vale BLM 1989).

Livestock grazing also impacts terrestrial wildlife. Pronghorn antelope are native to the region and eagerly sought by sportsmen since this is one of the few areas in Oregon with huntable numbers of these animals. One study in southeastern Oregon documented that competition for forage exists between antelope and livestock when rangelands are in poor condition. The same study found that 83 percent of the available forage on the Vale District was consumed by livestock, while less than one percent was used by antelope, presumably due to competitive exclusion by livestock (Kindschy et al. 1982).

Impacts by livestock are not restricted to game animals. Research conducted at the nearby Malheur Wildlife Refuge in similar habitat demonstrated a decline in bird abundance and diversity correlated with increasing grazing intensity (Taylor 1984).

Another problem associated with livestock grazing in riparian areas is impacts on water quality. BLM inventories conducted in 1979 and 1980 indicated that "most water quality problems on public lands were associated with livestock grazing" (Vale BLM 1989). These public water quality losses and opportunity costs are not reflected in the price paid by BLM permittees nor is it in any cost-benefit analysis.

All of the above wildlife, aesthetic, recreational values are compromised within the Whitehorse Butte allotment by livestock grazing. A 1989 evaluation of range condition of the Whitehorse Butte allotment showed that the overall trend was downward (Vale BLM 1989). Riparian zones were in very poor shape.

Acknowledging these above impacts, the BLM has failed to consider the option of eliminating livestock grazing and has instead proposed major changes in the range management of the Whitehorse Butte allotment in an effort to accommodate grazing while presumably alleviating some of the worst abuses cited above. These include changes in grazing distribution, stocking levels, changes in season of use, construction of stock ponds, fencing, seeding, and other developments to mitigate the affects of livestock grazing on these resources.

The preferred alternative proposed range developments include: 15 miles of new fencing, two wells and 15 miles of pipeline, construction of one reservoir. The estimated

maximum cost of all projects is \$174,000—most of this cost will be borne by the taxpayer; however, the permittee and Grazing Advisory Board will make small contributions as a result of their share of grazing fees and/or labor. The maintenance of the pipeline will cost an estimated \$14,000 dollars annually, while fence maintenance will be the responsibility of the permittee.

### The Proposed Solution and Conclusions

At present the permittees, the Whitehorse Ranch, run 1,900 head of cattle on the 126,000 acres of public lands within its grazing lease. In total it is allotted 10,978 AUMs a year. For the forage available annually to the Whitehorse Ranch livestock, the federal government receives from the permittee approximately \$18,000 a year (\$1.64 current rate per AUM times 10,978 AUMs).

However, not all this money reaches the federal treasury. Under the present federal formula, for each dollar collected by the BLM for grazing, 50% goes back to the BLM District. The BLM must then spend these funds on future range improvements—improvements which benefit the permittees themselves. Another 12.5% goes to the County Grazing Board. Ultimately only 37.5% goes to the federal treasury to pay for administration and monitoring of grazing leases and other resources impacted by livestock grazing. This means that after subtraction of these other payments, the federal treasury receives only \$6,750 from the Whitehorse Ranch for use (and degradation) of more than 126,000 acres of public land.

This payment does not even come close to covering the federal government's cost associated with monitoring and administration of this grazing lease, much less reimburse the taxpayer for the other losses associated with livestock grazing. In addition, this annual payment by the Whitehorse Ranch to the federal government will not cover the estimated \$14,000 annual maintenance cost of the proposed pipeline or come close to paying back the \$174,000 dollars the BLM may spend on its proposed range developments.

However, since most grazing is concentrated in riparian zones, and because riparian areas represent only 1% of the 250 million acres of public rangelands in the West (GAO 1988), the actual cost to the public may even be greater than these figures suggest. In a study of eastern Oregon rangelands, Elmore and Beschta (Elmore and Beschta, 1987) estimated that riparian vegetation occupied 4 acres of land for each mile of stream. These researchers concluded that at the current price charged by the BLM for grazing public lands, the revenue produced for grazing in riparian zones is approximately 35–40 cents per mile of stream! Considering the environmental damage wrought by livestock grazing, it is difficult to argue that 35–40 cents per mile of riparian zone is adequate compensation for damages that occur to other riparian zone resources.

The above costs do not consider the non-monetary losses upon the quality and quantity of other resources available on these public lands. The recreational value of these lands alone is worth more to the public than the

dollars the government receives for its grazing leases on these lands. One could easily argue the highest value of these public lands is not as range for livestock but their value for watershed, recreation, wildlife habitat, and biological diversity.

Nevertheless the BLM EA proposes that public funds be invested in range developments which are aimed at reducing impacts from private livestock on wildlife, fisheries, recreation, and water quality of the Whitehorse Butte Allotment, when none of these impacts would exist if these lands were not grazed to begin with. Nowhere in the document does the BLM make any claim that such an investment will completely eliminate all the negative impacts associated with grazing; therefore the public will be left with a landscape that is far below its true biological potential and recreational potential, and as a result will be in affect subsidizing the operational costs of the Whitehorse Ranch.

The Whitehorse Butte allotment is not an isolated case, but is typical of the present public lands range policy. By adopting such an absurd policy, the BLM is transferring many of the operational costs of the western livestock industry to the public at large. If all the costs associated with livestock grazing, including the non-monetary costs such as impacts upon water quality, wildlife habitat, recreation, and wildlands values, were assessed against the western public lands grazer, it is almost certain, that many ranchers would be unable to compete with producers from other parts of the U.S.—mainly in the Mid-west and East—where the majority of our nation's meat is already produced.

Since livestock producers are attempting to profit from their use of public lands (as opposed to a citizen using and enjoying their lands for recreation or other non-profit use) they should be fully assessed the forage consumed by their livestock as well as the full cost of all range developments. In addition, the public should be reimbursed for losses in water quality, recreational opportunities, wildlife observation opportunities that result from livestock grazing. Any management alternative which does not consider these public costs is nothing more than a subsidization of the western livestock industry, consequently poor public policy and an unwise use of our public domain lands.

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## SRM Quick Response Procedure

From time to time, issues arise which warrant quick response and action by SRM.

The four SRM Officers (President, 1st Vice President, 2nd Vice President, and Executive Vice President) will collectively serve as the focal point to determine and implement a quick response:

- 1—Any SRM member in good standing can call any officer to signal an alert or request action.
- 2—Any officer can trigger response by requesting the Executive Vice President to arrange an immediate conference call with officers (and others if appropriate).
- 3—The conference call will be utilized to determine nature and timeliness of response and action appropriate to the situation.

Procedure established by SRM Officers May 9, 1990

## CODE OF ETHICS Society for Range Management

Each Member will:

1. foster an environment where people regardless of sex, creed, religion, sexual orientation, race, color, age, national origin, economic status, cultural mores, physical handicap, or organizational affiliation are encouraged to participate in the Society and the management and enjoyment of rangelands;
2. use her/his knowledge, skills and training when appropriate to find ways to harmonize people's needs, demands, and actions with the maintenance and enhancement of natural and managed rangeland ecosystems;
3. promote competence in the field of range management by supporting high standards of education, employment, and, performance;
4. manage or perform services consistent with the highest standards of quality, integrity, and with respect for the rangeland plant, soil, water, air and animal resources, the employer, and the public;
5. disseminate information to promote understanding of, and appreciation for, values of rangelands to those with a direct involvement in range management, and to the general public as well;

6. offer professional advice only on those rangeland issues in which they are informed and qualified through professional training and experience;
7. in any communication, give full and proper credit to, and avoid misinterpretation of, the work, ideas, and achievements of others; and
8. encourage the use of sound biological information in management decisions.

## Frasier's Philosophy

We continue our effort to make each issue of *Rangelands* as appealing and informative as possible. This includes both the type of articles published and the way the material is presented in the publication. Many of the articles published are volunteer papers frequently prepared on an author's own time and expense. The present policy is that papers are selected on their merit and that the availability of funds for publication (page charges, currently \$80–100 per journal page) are not a factor in determining the suitability of the paper for publication. We will continue this policy.

We are very pleased with the response we have received with respect to the past changes in *Rangelands*, most notable the addition of color photographs. The color provides a dimension that cannot be obtained by any other means. Adding color photos to an article is expensive. Printing articles with color requires a higher quality of paper in the journal plus major expenses associated with the preparation and press setup for color photographs. We have been very fortunate that various federal and state agencies have agreed to pay the additional costs associated with the color in this and past issues of *Rangelands*. Without their support we would not be able to include these improvements.

We want to provide the best publication possible within our resources. We will continue to select articles for *Rangelands* based on merit without a consideration for publication funds, but we do hope that all contributors to *Rangelands* will assist our effort by agreeing, when possible, to defray part of the costs by paying the associated page charges. This will allow us to maintain our standards of publication without imposing a financial burden on the Society.

*"Quality is never an accident; it is always the result of intelligent effort"*

John Ruskin