Rancher Response to Changes in Federally Permitted Livestock Numbers in Eastern Oregon

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The economies of rural eastern Oregon counties are dependent on the natural resource base and the livestock industry (Bromley et al. 1964, Obermiller and Miller 1983). Ranchers with federal permits depend on forage from federally managed lands for over 30% of their summer cattle requirements (Bedell and Strigham 1984). Shifts in permitted use of federal grazing allotments change the availability of this forage source. The impact these shifts have on the local economy varies according to the adjustments that local ranchers have to make within their ranch operation. If ranchers change the number of brood cows in response to a shift, the impact is considerably greater, for example, than if other forage sources are substituted. The response of local ranchers to a change in availability of forage from federal lands is of concern in federal, state, and local land management planning efforts.

As part of the Oregon Range and Related Resources Evaluation project (EVAL), actual changes in ranch operations were observed in relation to shifts in the availability of federal forage. The EVAL project was initiated in 1976 on 1.5 million acres of federal, state, and private land in the northern half of Grant County in northeastern Oregon. Range improvement practices were implemented on ranches and federal allotments through a coordinated resource planning effort of federal and state agencies and private landowners. The changes implemented by permittees as a result of increases in permitted use on the Malheur National Forest were evaluated. In addition the EVAL cooperators who did not receive an increase in permitted use were asked what changes they would make as a result of both a hypothetical decrease and increase in permitted use.

Approach

All Malheur National Forest allotments that received an increase in permitted use during the EVAL project were identified (whether permittees were EVAL cooperators or not). Subsequent to increases in permitted use, the permittees of these allotments were asked through a questionnaire and subsequent interview to provide information as to the changes in management and resource use caused by the increase and to a hypothetical 25% decrease in permitted use. In addition, EVAL cooperators with federal permits but no increase in permitted use were similarly asked to respond to a hypothetical 25% increase and a 25% decrease in federal permitted use.

Their responses were categorized according to two permit groups: those receiving an increase and those not receiving an increase. The data were summarized to reflect the actual response of ranchers to a shift in permitted use and the response to hypothetical shifts. An analysis was performed to determine possible differences between anticipated and actual changes.

Table 1. Characteristics of the two rancher groups studied.

Characteristic	Ranchers receiving allotment increase	Ranchers not receiving allotment increase
Number of ranchers	14	7
Deeded land (average):		
Total acres	5,400	9,600
Irrigated acres	400	180
Dryland acres	4,300	7,600
Tons of hay produced	560	720
Leased land (average):		
Total acres	1,000	1,100
Irrigated acres	15	40
Dryland acres	820	590
Tons of hay produced	5	120
Herd size in 1984 (average):		
Number of cows	327	*
Number of yearlings	246	*

*Not available

During the EVAL project, resource management plans were developed and implemented for 14 Malheur National Forest allotments. Range improvement practices and management changes resulted in a 20% increase in permitted use on two allotments, a 15% increase on one allotment, a 10% increase on one allotment and a 5% on another allotment after completion of the EVAL analysis. Twenty-one ranchers agreed to participate in the study. Fourteen received an increase in their permitted use on the allotments and 7 were EVAL cooperators with permits who did not receive an increase in permitted use. Together they represent 16% of the total number of permittees in Grant County.

All ranches were cow/calf operations with varying numbers of yearlings. Although the number of acres of leased land was nearly the same between the two groups, the tons of hay produced from the leased land was considerably higher on ranches without the increase (Table 1). We do not believe that the ranchers who received increases in permitted use were better managers or had the most productive lands or allotments. The mix of ranchers and rangelands in the study is believed to be representative of the diversity that exists within the ranching industry.

Discussion

When ranchers received an increase in permitted use they

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tended to expand herd size by increasing both cows and yearlings (Table 2). As an indirect consequence of the increased herd size, ranchers also increased forage availability for the nonfederal grazing season by raising or purchasing additional hay, or leasing more pasture, range, or hayland, or some combination of those. One-fifth of the ranchers who received an increase did not increase cattle numbers but instead shifted the location where their livestock summered. This reflects a shift in resource use toward a new

Table 2. Response of ranchers to an actual increase in federal grazing and hypothetical 25% increase in federal grazing.

	Actual increase[1]		Hypothetical increase[1]
	Changes Considered	Changes Implemented	Anticipated Changes
	(%)	(%)	(%)
Increase number of cows	79	79[2]	71
Increase number of yearlings (including replacements)	50	71[3]	43
Raise more hay on deeded acres	50	43	29
Irrigate more deeded acres for pasture	0	7	0
Lease more spring or fall pasture	21	21	14
Sell less hay	7	7	14
Buy more hay	36	36	14
Lease more land for hay	7	21	0
Lease less summer range	0	14	14
No changes	7	21	0

[1]Figures will not total 100% because ranchers were allowed more than one response.
[2]Ranchers increased their cow herd by 14%.
[3]Ranchers increased their yearlings by 15%.

position for least-cost production of livestock. Responses were similar from the ranchers faced with a hypothetical permit increase. The three most frequent responses (increase cows, increase yearlings, and raise more hay on deeded land) occurred in the same ranking between actual and anticipated changes (Table 2). More ranchers actually increased yearlings (71%) when given a permit increase than thought they would if provided an increase (43%). Another contrast was that all ranchers who did not receive an increase thought they would undertake one or more of the changes shown, whereas, 21% of those receiving an increase took no action except to summer additional base herd livestock on the National Forest.

Most ranchers with an increase considered increasing herd size or increasing the amount of hay purchased or raised on deeded acres to accommodate the permit increase (Table 2). Although some inconsistency occurred among the changes ranchers considered and those actually made (i.e., no rancher considered leasing less summer range, yet 14% did in fact lease less), inconsistency is not seen in the principal responses.

All ranchers were asked what changes they would make with a 25% decrease in permitted use of federal forage. Responses were quite different between ranchers with an increase and those without an increase (Table 3). Both groups would decrease the number of cows they own.

Table 3. Anticipated changes in ranch operation if federal grazing were decreased by 25%.

Ranch operation	Ranchers receiving allotment increase[1]	Ranchers not receiving allotment increase[1]
Decrease number of cows	71	43
Decrease number of yearlings	50	14
Sell more hay	29	0
Buy less hay	29	14
Lease more summer range	29	43
Lease less spring or fall pasture	14	0
Raise less hay on deeded acres	14	0
Discontinue federal allotment	7	0
No changes	0	14
Irrigate fewer deeded acres for pasture	0	0
Lease less land for hay	0	0

[1]Figures do not total 100% because ranchers were allowed more than one response.

Ranchers who did not receive an increase were intent on leasing more summer range to accommodate animals displaced from the allotment and not inclined to reduce the number of yearlings. This may be partially explained because these ranchers have a larger commitment to leased land for hay production. Consequently more of them are apparently better prepared to retain their herds if summer forage is reduced.

Ranchers were next asked what factor most limited their ability to expand herd size by 25%. Both groups of ranchers saw the availability of winter feed (amount of hay raised) as the most limiting factor (Table 4). Ranchers who had

Table 4. Response of ranchers concerning factors that limit their ability to expand herd size by 25%.

Factors	Percent of ranchers receiving allotment increase	Percent of ranchers not receiving allotment increase
Amount of hay raised	31	43
Financial ability to purchase cattle or other variable costs	15	29
Amount of spring pasture	15	14
Amount of fall pasture	8	14
Amount of summer pasture	15	0
Financial ability to purchase winter feed	8	0
All of the above	8	0
Total	100	100

received an increase reported financial considerations and the amount of spring and summer pasture as being equally limting. Ranchers who did not receive an increase were limited first by financial considerations and then by the availability of spring and fall pasture. For them, summer pasture was not a consideration.

Conclusions

Both rancher groups considered the amount of hay they

can raise to be the most limiting factor affecting their ability to expand their cow herd. They considered raising hay a viable alternative for providing winter feed, but not purchasing hay because of their financial situation. This result indicates the critical nature of the winter feeding period for eastern Oregon. Financial considerations were also an important factor associated with expansion. Ranchers who received an increase in permitted use saw more changes in the overall ranch operation when faced with a decrease in federal forage than did the ranchers who had not received an increase. Experience with changing conditions may have permitted these ranchers to better consider the induced effects of a change in federal forage.

Although the most likely response to changes in federal forage is a shift in herd size, planning agencies must consider the entire ranch operation, as well as effects induced by an increase in herd size. The most important induced effect is impact on winter feed. If the herd size increases, more winter feed is needed; if the herd size decreases, less winter feed is needed. Another important consideration in planning the changes anticipated from shifts in permitted use is the one-fifth who only change location of their summered livestock.

Literature Cited

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Are the Public Rangelands Ailing?

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The Natural Resources Defense Council (NRDC) and the National Wildlife Federation (NWF) released in December 1985 a report on range conditions on public domain lands. The study is entitled, "Our Ailing Public Rangelands: Condition Report—1985" (Wald and Albersweth 1985). Utilizing data from 116 Environmental Impact Statements (EISs) issued by the Bureau of Land Management (BLM) from May 1978 through June 1985, the report concluded that 84 million, or 71%, of the 118 million BLM acres reported in the EISs were in unsatisfactory (poor or fair) range condition.

Methodology of the NRDC-NWF Report

The NRDC-NWF report claims that statistics in BLM-EIS documents "...constitute the most current condition data available." Yet, the report omits reference to the **1984 BLM Range Condition Report** (USDI 1984) which covers 96% of BLM acreage in contrast to the 66% of BLM acreage examined in the NRDC-NWF study. Comparison of the two reports indicates the 1978–1985 figures used by NRDC-NWF understate 1984 BLM estimations of excellent and good condition range by 20% and overstate current BLM estimations of poor condition range by 40%.

The 1984 BLM data base is not definitive. Completion of current BLM monitoring studies in New Mexico, for example, is expected to show significant improvement in range conditions statewide (personal communication, New Mexico state office, BLM). The expected improvement in range conditions, however, may be more reflective of enhanced and standardized measurement techniques and methodologies than major vegetative changes.

BLM estimations of range condition have been determined by a number of techniques in the past. The different techniques have resulted in variable range condition estimations, frequently not comparable across time. For example, a range condition rating of 15 (mid-poor) was estimated in 1978 on a BLM allotment in the Las Cruces-Lordsburg Resource Area of southwestern New Mexico using the Soil Vegetation Inventory Method (SVIM). In 1981, range condition on the same allotment was estimated to be 45 (high-fair) using a modified SVIM. Such a dramatic improvement in range condition over a period of three years in which annual precipitation was below normal suggests the probable cause was changes in BLM procedures and not vegetative development.

The condition rating of 15 (mid-poor), not 45 (high-fair), was incorporated into the grazing EIS for the Las Cruces-Lordsburg Resource Area and was used in the computation of overall resource area range conditions (USDI 1981). Range condition estimations for the other allotments included in the grazing EIS for the same resource area were subject to identical inter-methodological variations. Such discrepancies in range condition estimations occurring in other resource areas and their implications for the accuracy of BLM-EIS documents West-wide highlight the inutility of the NRDC-NWF study.

The inadequacy of the NRDC-NWF data base and the question of its current validity (a criticism also applicable to the 1984 BLM data base) is of secondary importance when

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