Grazing Costs: What's the Current Situation?

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Interest in the federal grazing fee seems to fluctuate with political and economic changes. Recently, there has been an upswing in the level of interest in grazing fees and non-fee grazing costs. In this article, we will provide a historical perspective of grazing fee policy, with the total cost of grazing at the center of the issue. We review literature on the issue, highlighting the fee formula enacted in the Public Rangeland Improvement Act of 1978. We also explore a means of updating grazing costs and conclude that indexing these to current costs has serious shortcomings, but may be the only feasible approach.

Theoretical Background

The concern about total grazing costs goes back to the 1960's and formed the basis for an extensive survey of ranchers in the western United States in 1966. The goal of policy makers and federal agencies was to extensively gather public and private grazing costs throughout the west. They hypothesized that public grazing costs would be less than private costs, primarily due to higher lease rates on privately leased grazing lands. The goal was to equalize total grazing costs by charging a fee on public lands equal to the cost differential. The 1966 survey found the cost difference to be $1.23/Animal Unit Month (AUM), when cost differences were weighted by the relative use of public lands by cattle and sheep. In other words it was $1.23/AUM cheaper to run livestock on public lands and the fee that would equalize public and private grazing costs would be $1.23/AUM. Critical to this Total Cost Approach was the assumption that the investment in the grazing permit (or, permit value) was not appropriate for consideration in this approach. Table 1 summarizes the 1966 study results in terms of public and private land grazing costs and the implied forage value on public land at that point in time. An extensive analysis of the data was done and a uniform westwide fee was recommended because there was as much variation in grazing costs within regions studied as there was between regions.

The Public Rangeland Improvement Act of 1978

After the completion of the 1966 study, politics took over for a period of 12 years, with proposals and counter-proposals on fee systems for public lands. The dialogue ended in 1978 when Congress passed an omnibus public rangeland law. The only time that the U.S. Congress has acted on the issue of grazing fees on federal lands was with the passage of the Public Rangeland Improvement Act (PRIA, PL 95-514) in 1978. The passage of PRIA set forth a grazing fee formula which built upon the 1966 study and established "fair market value" of public land grazing from 1978 through the present. The formula was modified in 1986 through an Executive Order (12548), setting a floor of $1.35/AUM.

The formula used the $1.23/AUM cost difference from the 1966 survey and updated it by indexing annual changes in the private grazing lease rates, cattle prices and prices paid to produce cattle. More information on the basis for public land grazing fees and a critical review of the formula are available in Bartlett, et al. (2002) and Torell, et al. (2003).

The PRIA grazing fee formula is depicted in the following formula:

$$\text{Grazing Fee}_{t+1} = \$1.23 \times \frac{(FVI_t + BCPI_t - PPI_t)}{100}$$

where:
FVI = Forage Value Index, or an index of private grazing lease rates in the 11 western states, with 1964-68 as the base period
BCPI = Beef Cattle Price Index, or an index of cattle prices with 1964-68 as the base period
PPI = Prices Paid Index, or an index of the prices paid by producers to purchase inputs, with 1964-68 as the base period

So, the private-public land grazing cost difference detected in 1966 ($1.23) is adjusted by annual changes in cattle prices, prices paid and private grazing lease markets. Another proposal suggested was to adjust by using only the FVI and economists argued that including all three indices double counted in the formula (Torell et al. 2003).

Table 1. Summary of Fee and Non-Fee Grazing Costs, 1966.

	Cattle	**Cattle**	**Sheep**	**Sheep**
Item	**Public**	**Private**	**Public**	**Private**
Lost Animals	$ 0.60	$ 0.37	$ 0.70	$ 0.65
Association Fees	$ 0.08	$ -	$ 0.04	$ -
Veterinarian	$ 0.11	$ 0.13	$ 0.11	$ 0.11
Moving Livestock	$ 0.24	$ 0.25	$ 0.42	$ 0.38
Herding	$ 0.46	$ 0.19	$ 1.33	$ 1.16
Salt and Feed	$ 0.56	$ 0.83	$ 0.55	$ 0.45
Travel	$ 0.32	$ 0.25	$ 0.49	$ 0.43
Water	$ 0.08	$ 0.06	$ 0.15	$ 0.16
Horse Cost	$ 0.16	$ 0.10	$ 0.16	$ 0.07
Maintenance	$ 0.43	$ 0.40	$ 0.20	$ 0.24
Development Depreciation	$ 0.11	$ 0.03	$ 0.09	$ 0.02
Other Costs	$ 0.13	$ 0.14	$ 0.29	$ 0.22
Private Lease Rate	$ -	$ 1.79	$ -	$ 1.77
Total Non-Fee Costs	$ 3.28	$ 4.54	$ 4.53	$ 5.66
Cost Difference/Forage Value		$ 1.26		$ 1.13
Weighted Cost Difference			**$ 1.23**	
(weighting by relative AUMs of cattle and sheep on public lands)				
Source: USDI and USDA. 1977. Study of Fees for Grazing Livestock on Federal Lands. Table 5, Page 2-22				

Grazing Fee Task Group Study of 1992

In 1991-92, the authors, Tom Bartlett, Professor at Colorado State University (at that time) and Larry VanTassell, Professor at University of Wyoming (at that time), were asked by the Bureau of Land Management (BLM) and U.S. Forest Service (FS) to take another look at the grazing fee issue. We decided that we needed to do what we could to repeat the 1966 study, given the sound theoretical basis of that study. Given budgetary constraints and areas that could be covered by project staff, we chose to study those costs in New Mexico, Wyoming and Idaho. Random samples of private and public grazers were drawn in each state and face-to-face interviews conducted with permittees/lessees of public and private forage resources during 1991-92. Several publications summarize the findings of this study (Torell, et al. 1993; Bartlett, et al. 1994; Rimbey, et al. 1994; VanTassell, et al. 1997). It was enlightening and surprising to the authors and others involved in the project to find that the cost differential between public and private lands had declined to $0.13/AUM in 1992 in the three study states. The study also indicated changes in cost structure between 1966 and 1992, with higher proportion of costs associated with items such as herding, meetings and less relative cost associated with veterinary and depreciation of improvements (Table 2).

Today's Situation

Since no information concerning grazing cost comparisons between private and public lands has developed through the literature since 1993, we will attempt to provide a method to update that information to current costs. We recognize the shortcomings of this update, given substantial changes that have occurred in the last 19 years in relation to public land policy, national economic issues and changing societal values. These changes have undoubtedly had impacts on the cost structure of both private and public grazers. We will highlight those concerns and cautions at the conclusion of this piece. Nielsen (1991) provided a method for updating the 1966 study to 1990 figures, including references to specific USDA-NASS indices used in his analysis. We applied that same methodology to the updates of the 1992 costs to current dollars included here. We accept Dr. Nielsen's designation of the appropriate indices to use in this analysis.

Table 2 presents 1992 grazing costs for cattle and sheep on public and private lands in New Mexico, Wyoming and Idaho. We use that information and the appropriate USDA-NASS indices to update costs to current (2010) figures. For example, 1992 cost for lost animals on public land cattle operations was $3.65/AUM. The NASS index indicated that the Prices Received Index for Meat Animals had increased 1.35 times since 1990-92. We multiplied the 1992 value by the index/inflation factor to derive the estimate of cost in 2010 dollars. We repeated the same exercise with sheep. We adjusted these cost items by the relative weight of cattle and sheep leasing in the 1992 study (88% cattle and 12% sheep) and derived the combined 2010 cost of $5.21/AUM for lost animals. The same methodology was repeated for other cost items included in Table 2. For items with 2 indices listed, we averaged the 2 indices and calculated the resulting inflation in cost based upon the combined, average index.

Private leases on the private land costs were inflated to 2010 dollars using the relative change in the Forage Value Index (FVI). In other words, the FVI for 1992 was 2.75 and was calculated at 4.44 for 2010, or a ratio of 1.61. The same process was followed for developing the private

grazing costs presented in Table 2. Indexing the lease rate found in the 3-state 1992 study meant a $12.35/AUM private lease rate estimate for 2010 (Table 2). The 2010 average lease rate reported by USDA/NASS (2010) for the 3 study states was a dollar per AUM more, $13.37/AUM.

Total Public Land 2010 Cost was estimated to be $33.24/AUM. Comparable private land cost was estimated to be $32.04/AUM. So the fee that would equalize total costs of grazing in 2010 would be a payment to public land ranchers of $1.20/AUM. In others words in 2010, public land grazers are paying $1.20/AUM more than those leasing private land. If current NASS lease rates for the 3 study states are used a payment of $0.20/AUM would be warranted, not unlike the $0.13/AUM difference found in 1992 (Torell et al. 1994).

Table 2. Summary of Fee and Non-fee Grazing Costs, 1992 and 2010

Item	1992 Public Cattle	1992 Public Sheep	1992 Private Cattle	1992 Private Sheep	NASS Indices	2010 Index	2010 Public Cost	2010 Private Cost
Lost Animals	$3.65	$5.39	$2.10	$2.63	meat animals/prices received	1.35	$5.21	$2.92
Association Fees	$0.48	$0.04	$ -	$ -	production items	1.95	$0.83	$ -
Veterinarian	$0.10	$0.22	$0.12	$0.20	wage rates	1.92	$0.22	$0.25
Moving Livestock	$3.35	$4.74	$1.93	$2.51	(auto & trucks)+(wage rates)	1.53	$5.36	$3.05
Herding	$4.31	$8.89	$2.94	$3.05	wage rates	1.92	$9.33	$5.67
Salt and Feed	$1.29	$1.62	$1.80	$1.53	(auto & trucks)+(feed)	1.62	$2.15	$2.85
Travel	$0.69	$0.77	$0.18	$0.34	(auto & trucks)+(fuel & energy)	2.11	$1.47	$0.42
Water	$0.39	$0.39	$0.11	$0.16	production items	1.95	$0.76	$0.23
Horse Cost	$0.31	$0.47	$0.15	$0.22	feed	2.10	$0.69	$0.33
Maintenance	$3.18	$2.12	$1.84	$2.22	(wage rates) + (building & fencing)	1.80	$5.48	$3.38
Development Depreciation	$0.45	$0.26	$0.15	$0.24	production items	1.95	$0.83	$0.31
Other Costs	$0.34	$1.36	$0.11	$0.35	production items	1.95	$0.90	$0.27
Private Lease Rate			$7.71	$7.18	Forage Value Index	1.61	$ -	$12.35
Total Non-Fee Costs	$18.54	$26.27	$19.14	$20.63			$33.24	$32.04
Grazing Fee	$1.86	$1.86	$7.71	$7.18			$1.35	
Total Cost	$20.40	$28.13	$26.85	$27.81			$34.59	

Notes:

Cost items with more than one index listed were updated using an average of the indices listed.

Combined Public and Private 2010 Costs accomplished by weighting based upon the relative leased AUMs of cattle and sheep from the Grazing Cost Survey: 88% cattle and 12% sheep (Torell, et al. 1993).

1992 Private Lease Rates indexed using Forage Value Index (FVI) from USDA-NASS (Ag Prices, January, 2011). 2010 FVI of 441 divided by 1992 FVI of 275, or 1.61.

All indices provided by USDA-NASS (Ag. Prices, January, 2011).

Caveats and Cautions

A major shortcoming of the indexing process used here is that we are essentially assuming no major changes in the cost structures of private and public land grazers since 1992. Using the indices will account for inflationary pressure on fuel prices, for example. However, it does not account for changes in quantities used over the past 19 years. We hypothesize that legal expenses have risen since we sampled lessors/permittees in 1992. We also think that costs for lost animals may be low in the 3 states, given the reintroduction of wolves which occurred in the mid 1990's in several western states. The shift of maintenance responsibilities to public land permittees was occurring at about the time that we surveyed people in 1992 and those expenses may be understated in relation to others. Numerous other factors have changed and the resulting cost differences may or may not reflect what has taken place on public and private rangelands of the west.

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