



## *Meeteetse Conservation District*

P.O. Box 237 • Meeteetse, WY 82433

2103 State Street

(307) 868-2484 • [mcd@tctwest.net](mailto:mcd@tctwest.net)

November 6, 2008

Mr. David Waterstreet  
Wyoming DEQ/WQD and Wyoming EQC  
Herschler Bldg., 4<sup>th</sup> Floor West  
122 West 25<sup>th</sup> Street  
Cheyenne, WY 82002

**RE: Oral Comments on proposed revisions of Chapter 1 of the Wyoming Water Quality Rules and Regulations including Appendix H, Thermopolis, Wyoming.**

### **Key Points of Emphasis Regarding the Revised Chapter 1 and Appendix H**

**1) Non severability** - The final rule must be “all or nothing” with regards to EPA approval. Slight changes by the regulatory agency could have immense effects on the rule’s ultimate actual impact on the agricultural use of produced water.

**2) If this rule is in actuality for the purpose of Agricultural Use Protection**, then the MCD asserts that the EQC must recognize the input and comment of mainstream agricultural associations including Wyoming Stockgrowers, Wyoming Farm Bureau Federation, Rocky Mountain Farmers Union, and Wyoming Woolgrowers. The MCD recognizes that much activism has come from minority entities whose goals are not **for** agricultural use protection, but rather are **against** the discharge of produced water.

**3) The MCD asserts that enabling legislation** for the Wyoming Department of Environmental Quality, Water Quality Division ( Wyoming Statute 35-11-302 ) requires:

“(vi) In recommending any standards, rules and regulations, or permits, the administrator and advisory board shall consider all the facts and circumstances bearing upon the reasonableness of the pollution involved

Including:

- (A) The character and degree.....
- (B) The social and economic value of the source of pollution;”

**4) The MCD furthermore asserts that full consideration under W.S. 35-11-302 has not yet been given** and enters into its testimony the attached economic analysis provided by Brett Moline, Director, Governmental and Public Affairs, Wyoming Farm Bureau Federation showing that the total direct economic impact to agriculture producers, should produced water no longer be available in the Big horn Basin, would be \$4.8 million (cattle plus hay production) in output, \$1.1 million in wages and salaries, and roughly 119 full-time equivalent jobs.

5) The MCD furthermore asserts that relatively small losses in range availability may be amplified to the degree that while one AUM of federal grazing in Park County in 2005 had a direct impact of \$73.55, on a ranch production perspective it had a value of \$161.05 and on a ranch viability perspective it had a value of \$361.40. Cited from The Economic Impact of Federal Grazing on the Economy of Park County, Wyoming, Taylor, Coupal, and Faulke, U.W. Department of Agricultural and Applied Economics, August, 2005, hereby incorporated by reference.

6) The MCD asserts that the land classification “naturally irrigated lands” must be removed from Chapter 1, including Appendix H the reasons provided in previous testimony on prior iterations of the process,

These comments respectfully submitted,



Steve Jones

Resource Management Coordinator, Meeteetse Conservation District

-----  
**Attachment:**

### **Estimated Economic Impact of Agriculture's Use of Produced Water Big Horn Basin, Wyoming**

Based on a report entitled “The Economic Significance of the Hamilton Dome Oilfield”, prepared for Merit Energy Company, produced water is extremely important to ranchers along Cottonwood Creek in Hot Springs County. This report found that if this produced water was not available, agricultural production from 35 ranchers would produce 4,000 fewer tons of hay and would decrease their cow herd by 3,200 cows. This information was used as a basis to estimate the economic impact if produced water was no longer available to Big Horn Basin ranchers.

Using 1997-2006 information contained in the Wyoming Agricultural Statistics, each cow has a value of production of \$622.38 and each ton of hay has an average value of \$82.00. A ten year average was used to reduce the potential yearly fluctuations associated with agricultural production.

A minimum of 73 Bighorn Basin ranchers utilize discharge water from oil and gas production. If, for some reason, ranchers were not able to utilize this water, production of agricultural output would decrease. Using the previously mentioned study as a basis, 6,643 fewer cows would be in the Big Horn Basin cow herd, reducing agricultural output roughly \$4.1 million, wages and salaries paid to agricultural operators reduced by \$790,000 and reduced employment in the agricultural sector of 108 full-time equivalent jobs. If produced water could not be used for irrigation, hay production would decrease 8,340 tons, valued at \$684,000. Decreased hay production would cause wages and salaries paid to agricultural operators to decline \$350,000



and employment to drop 11 full-time jobs. The total direct economic impact to agriculture producers, should produced water no longer be available, would be \$4.8 million (cattle plus hay production) in output, \$1.1 million in wages and salaries, and roughly 119 full-time equivalent jobs.

Table 1. Percentage of Lost Production Without Produced Water

Total Value of Cattle Production	\$ 51,844,000
Value of Lost Cattle Production	\$ 4,123,000
Percentage of Total Cattle Production	7.95%
Total Value of Hay Production	\$28,381,743
Value of Lost Hay Production	\$684,000
Percentage of Total Hay Production	2.41%

The non-agricultural sectors of the economy would also face negative economic impact. Ranchers must make purchases in order to produce and a large number of these purchases are made in the locally. These local purchases generate additional economic activity in the local economy. If total output in the ranching industry decreases \$4.8 million, the total economy would decrease its output \$12.1 million. This lowering of sales would decrease wages and salaries \$3.2 million, and employment would decrease an estimated 261 full-time equivalent jobs. All of the economic impact figures are based on a years' production, not just a one-time production change. The economic impact would occur for each year the water was not available.

Produced water is vitally important to many Big Horn Basin ranchers. Should this water become unavailable, agricultural production would greatly decrease. This decreased production would not only affect ranchers, but also every economic sector in Wyoming, public or private. Any management change must be carefully examined to minimize the economic effects of these changes on local and state economies. Based on a study conducted on the Bighorn Mountain Region (Big Horn, Washakie, Sheridan and Johnson Counties), *Economic Contributions of Federal Lands Within the Big Horn Mountain Area Fletcher et al, Department of Agricultural and Applied Economics, College of Agriculture, University of WY, 1994,* losses in grazing can also have a multiplier effect. This study found that if USDA Forest Service grazing was reduced by 1 Animal Unit Month (AUM), total grazing would be reduced 1.61 AUM in the short run. Loss of 1 DOI Bureau of Land Management AUM would decrease total AUM's 1.51 in the short run. The multiplier effect is because ranchers must reallocate resources. This study estimated, in the longer term, the effect would trend to a 1:1 ratio. Given the location used by the study, the same effects would likely be seen in the Big Horn Basin.

The economic impact shown above was estimated using an input-output model developed by University of Wyoming Agricultural and Applied Economics Department personnel for a Master of Science thesis, *The Impact of Increased Range Cattle Production on the Wyoming Regional Economies*, Brett R. Moline. These figures are to be used as estimates only.

Brett Moline  
Director, Governmental and Public Affairs  
Wyoming Farm Bureau Federation  
(307) 721-7711  
[bmoline@wyfb.org](mailto:bmoline@wyfb.org)



**From: The Economic Impact of Federal Grazing on the Economy of Park County, Wyoming, Taylor, Coupal, and Faulke, U.W. Department of Agricultural and Applied Economics, August, 2005, pp. 15-18:**

### **Economic importance of federal grazing**

Federal grazing is an important part of livestock production in Park County. The 1997 Census of Agriculture found that 111 ranches in the county held grazing permits with over 75 percent of these permits being from the Forest Service or the Bureau of Land Management (BLM). These ranches represent about 50 percent of the ranching operations in the county. These ranches are particularly important because they manage a total of nearly 832,000 acres of land including private, state, and isolated federal leases. This represents 82 percent of the total agriculture land in the county.

Although most ranches are typically only partially dependent on federal land grazing for forage, this forage source is a critical part of their livestock operation. Greer (1994) and Taylor et al (1992) both found that while the reliance of ranchers on forage from federal land grazing can appear relatively unimportant when calculated on an acreage or AUM basis, they become quite important when calculated on a seasonal dependency basis. The rigidity of seasonal forage availability means that the optimal use of other forages and resources are impacted when federal AUMs are not available, Torell et al (2002). Bartlett (1983), Gee (1983), Hahn et al (1989), Bartlett et al (1979), Gee (1981), Perryman and Olson (1975), Rowe and Bartlett (2001), Torell et al (1981), and Van Tassell and Richardson (1998) have all found that potential reductions in income and net ranch returns are greater than just the direct economic loss from reductions in federal grazing.

Results from the ranch level analysis in the previous section quantifies the economic importance of federal grazing to ranching operations in Park County. Because ranching operations have economic linkages with other sectors of the county's economy, changes in federal grazing also have implications for the overall economy in Park County. Results from the ranch level analysis suggest that there are at least three possible approaches to evaluating the economic importance of federal grazing to local communities: 1) evaluating federal AUMs only, 2) evaluating federal AUMs and the effects on total production, and 3) evaluating federal AUMs and their effect on the economic viability of the ranch operation. Which of these approaches is the most relevant in a particular situation depends on a number of factors including the individual ranch's level of dependency on federal grazing, the magnitude of the proposed change in grazing, the financial solvency of the ranch, the availability of alternative sources of forage, and the desire of the rancher to remain in ranching. The following considers the economic impact of federal grazing in Park County on the local economy under each of the three perspectives.

### **Impact of federal AUMs only**

Allotment information from the Forest Service for the Clarks Fork, Greybull, and Wapiti Ranger Districts of the Shoshone National Forest and the BLM's Cody Field Office indicates that in 2004 there were 85,594 AUMs of federal livestock grazing permitted for use by ranching operations located in Park County. This total includes 51,518 AUMs from the BLM and 34,076 AUMs from the Forest Service. For purposes of this analysis it is assumed that all these AUMs are for cattle grazing. In any given year the actual grazing use will generally be somewhat less than the permitted use, however the difference will vary by year.



Table 4 summarizes the estimated economic impact of an AUM of grazing for Park County. This information was estimated from the 2002 IMPLAN model that was modified by the authors for Park County. These estimates are based on 2003 average value of production for cow/calf operations in the Basin and Range region of the United States (USDA – ERS), which includes Park County. On a per AUM basis, the 2003 value of production was \$37.65. Due to economic linkages between ranching and the rest of the Park County economy, the total economic impact of an AUM of production was estimated to be \$73.55. This represents the total economic activity that occurs within the Park County economy as a result of an AUM of livestock production. The relationship between the \$37.65 of production and the \$73.55 of total economic impact is often referred to as the “multiplier effect”. As a result of this economic activity it is estimated that about \$20.00 of labor earnings are generated per AUM and 0.000817 jobs are supported in the Park County economy. The 0.000817 jobs represent about one job for every 1,224 AUMs of grazing. Average earnings per job for this employment were \$24,492 per year.

From the Federal Grazing Only Perspective, the 85,594 AUMs of federal grazing results in \$3.2 million of production, \$6.3 million of total economic activity, \$1.7 million in labor earnings, and 70 jobs in the Park County economy. This perspective assumes that the only affect on the ranching operation from federal grazing is the direct production associated with the federal AUMs.

#### **Impact of federal grazing on ranch production**

As noted in the discussion of ranch level analysis above, estimating the economic impact of federal grazing based solely on federal AUMs in many cases underestimates the actual importance of federal grazing. The results from the Park County ranch model indicate that, in terms of ranch production, one AUM of federal grazing actually generates \$82.44 of livestock production. This assumes that since federal AUMs are part of an overall grazing system, a change in federal grazing affects the optimal use of the rest of the forage resources. Under this scenario, the total economic impact of the production associated with a federal AUM of grazing throughout the Park County economy is \$161.05. As a result of this economic activity it is estimated that about \$43.81 of labor earnings are generated per AUM and 0.001789 jobs are supported in the Park County economy. The 0.001789 jobs represent about one job for about 560 AUMs of grazing. Average earnings per job for this employment were \$24,489 per year.

From the Ranch Production Perspective, the 85,594 AUMs of federal grazing results in \$7.1 million of production, \$13.8 million of total economic activity, \$3.7 million in labor earnings, and 153 jobs in the Park County economy. This perspective considers the change in total ranch production resulting from the change in federal grazing assuming the ranch still remains in operation.

#### **Impact of federal grazing on ranch viability**

Previous research and the results from the Park County ranch model indicate that the availability of federal grazing may be critical to the economic viability of many federal grazing dependent ranches. As was seen in the ranch level analysis, the net profits for federal grazing dependent ranches without federal grazing approaches zero. This finding is consistent with other research conducted in Wyoming and other parts of the western United States.

The results from the Park County ranch model indicate that if changes in federal grazing affects ranch viability, one AUM of federal grazing actually represents \$184.99 of livestock production. Under this scenario, the total economic impact of the production associated with



the federal AUM of grazing throughout the Park County economy is \$361.40. As a result of this economic activity it is estimated that about \$98.31 of labor earnings are generated per AUM and 0.004014 jobs are supported in the Park County economy. The 0.004014 jobs represent about one job for about 250 AUMs of grazing. Average earnings per job for this employment were \$24,492 per year.

From the Ranch Viability Perspective, the 85,594 AUMs of federal grazing represent in \$15.8 million of production, \$30.9 million of total economic activity, \$8.4 million in 18 labor earnings, and 344 jobs in the Park County economy. This perspective assumes that the ranch ceases production without the availability of federal grazing.

### Summary

The results from this analysis indicates that livestock grazing, as part of Park County's agricultural sector is the dominant form of land use for private land in the county. Federal livestock grazing is an important part of livestock production in terms of the number of producers affected, the acres of land affected, and economic effects on the individual agricultural operations. Federal livestock grazing also has important implications for the overall Park County economy. The total economic impact estimates for federal grazing in Park County range from 70 to 344 jobs and \$1.7 to \$8.4 million in labor income. Since ranching and related businesses are often family enterprises, this employment and labor income is important not only to the individual owners and employees but to their whole families as well.

**Table 4. Economic Impact of Federal Livestock Grazing in Park County**

	Federal Grazing Only	Ranch Production Perspective	Ranch Viability Perspective
<b>Per AUM</b>			
Value of Production	\$37.65	\$82.44	\$184.99
Total Impact	\$73.55	\$161.05	\$361.40
Labor Earnings	\$20.01	\$43.81	\$98.31
Employment	0.000817	0.001789	0.004014
Ave. Earnings/Job	\$24,492	\$24,489	\$24,492
<b>Total AUMs</b>	85,594	85,594	85,594
Value of Production	\$3,222,614	\$7,056,369	\$15,834,034
Total Impact	\$6,295,439	\$13,784,914	\$30,933,672
Labor Earnings	\$1,712,736	\$3,749,873	\$8,414,746
Employment	70	153	344
Ave. Earnings/Job	\$24,492	\$24,489	\$24,492

Livestock grazing is an important source of employment in the Park County economy. However, in addition to quantity of employment there is the issue of quality of employment. Although there a number of factors that affect the quality of a job, the one that is most readily measurable is the wage rate. As shown in Table 4, the average earnings for jobs directly or indirectly associated with livestock production in Park County were about \$24,500. This annual earnings rate was nearly 90 percent of the County average in 2002 - \$27,163 (U.S. Department of Commerce, 2005).