

# Wall Creek Game Range—A Dissenting View

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As livestock grazing on public lands comes under increasing attack, livestock advocates have scurried to find examples of successful range management programs to demonstrate the compatibility of livestock range use with other resource considerations. Some of the areas selected do represent improvements in range management over past conditions. On others, however, there are far too many claims for improvement with dubious scientific facts. In many instances, there are misleading statements and false innuendos that can not be substantiated by the evidence presented.

**One recent example can be found** in a brochure collectively published by the USDA Forest Service (FS), USDI Bureau of Land Management (BLM), and Public Lands Council (PLC) titled "Livestock Grazing Successes on Public Range" (USDA 1989). The brochure features several introductory chapters on the value of livestock grazing to other resources and its role in Western land management and local economies. Several brief examples of range "successes" are presented. Range management on the Wall Creek Game Range managed by the Montana Department of Fish, Wildlife and Parks (MDFWP) is featured in the brochure as an example of how livestock grazing can "improve" wildlife habitat. But a closer scrutiny of the Wall Creek example reveals a lack of convincing evidence and almost no scientific research to back up claims.

The Wall Creek Game Range is located in southcentral Montana along the Madison River Valley south of Ennis, Montana. The range is managed by the state of Montana primarily to provide winter range for elk that summer in the nearby Gravelly Mountains.

The USDA brochure claims that livestock grazing has improved conditions for "wildlife". One immediate problem is that there is more to wildlife than elk. The brochure fails to make this distinction and the positive or negative impacts associated with livestock grazing vary from species to species. I'll discuss this in more depth later.

**Even limiting the discussion to elk**, a review of the evidence suggests that livestock grazing may not be the positive influence claimed. Indeed, another explanation is that present management reduces many of the negative impacts associated with livestock and the cumulative net reduction in negative influences may be responsible for any "improvement" rather than any presumed "benefit" associated with livestock grazing.

That many people believe that livestock is responsible

for improving the condition of this site is suggested by an article on Wall Creek Game Range in the June, 1990 *Montana Farmer-Stockman* which quoted refuge manager Fred King saying: "cattle were being used as tools to improve the basic natural resources, the soil and vegetation in the best interests of wildlife and the livestock" (Peck 1990). Is this really what is happening here? Perhaps even more important, does it really have widespread applicability to most public lands given present goals, personnel and financial limitations?

Consider the following. The brochure says "...elk did not use some areas and that forage quality had declined as old plants developed." To change this situation the MDFWP "...began to experiment with livestock grazing to improve range condition and forage-use patterns." The experiment included the construction of additional fences, water pipelines, and water developments, plus greater monitoring and coordination of livestock movements to meet range readiness parameters. The article concludes that "...changes in elk use patterns are notable, cattle are spreading out to previously ungrazed areas and regrowth of vegetation is increasing."

**One of the pieces of "evidence"** given to support the contention that livestock grazing had improved wildlife habitat is the observation that elk numbers have increased in the Wall Creek area. The brochure states that "elk wintering on the Wall Creek area increased from 6 animals in 1935 to more than 1,200 by 1987". However, since the game range was only opened to livestock use in 1982 on an experimental basis and rested in 1983, before resuming the present rest-rotation management system in 1984, much of the noted increase in elk numbers occurred prior to the introduction of livestock to game range lands. Such a distinction was artfully left out of the brochure.

In addition, elk numbers are up all over western Montana, partially due to five mild winters which have reduced winter mortality. Not only could the mild winters have contributed as much or more to the perceived elk increases than anything to do with "improvements" resulting from livestock use, but higher elk populations would also cause elk to seek out and expand use into formerly unused areas merely as a consequence of population pressures. This has been documented elsewhere in Montana (MDFWP 1989). Since elk learn and pass on information about range use to their offspring, the expansion in elk use at Wall Creek may be something that was recently acquired as increasing elk numbers necessitated expansion of winter range utilization.

Furthermore, the rise in elk numbers is part of long-term

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This paper is a part of a point-counterpoint viewpoint. The companion paper in this issue is "Coordinated Management of Elk and Cattle, A Perspective—Wall Creek Wildlife Management Area" by Kurt L. Alt, Michael R. Frisina, and Frederick J. King.



*Looking across the Wall Creek Game Range towards the Madison Range.*

population increase found, not just at Wall Creek, but throughout Montana. Since bottoming out at historic lows just after the turn of the century, elk numbers have increased all over the West, not only in areas grazed by livestock, but in many areas without livestock as well. For instance, the MDFWP notes in its recently released Draft Elk Management Plan that in 1910 there were only an estimated 3,000 elk in the entire state of Montana outside of Yellowstone National Park! Yet, today the state supports in excess of 100,000 elk, with the highest populations centered on wilderness areas where little or no competition for forage and space between elk and livestock occurs (MDFWP 1991). To imply the increase in elk numbers is a result of "improved" conditions attributable to livestock use may be inaccurate. Much of this population increase is due to better game management, transplants of elk, and natural range expansion due to increasing populations (Peek 1982). In fact, since livestock numbers HAVE DECREASED significantly on public lands throughout the West since the 1900's, one could suggest that fewer domestic animals translates into more wild animals. Because of these changes in game management as well as a reduction of livestock use of public lands, another interpretation may be that elk numbers have increased, not because of, but in spite of livestock.

**To understand what happened** on the Wall Creek Game Range, it's important to review some of the area's grazing history. Originally, the Game Range was closed to livestock use. Cattle did, however, graze the adjacent Beaverhead National Forest lands. Each year after the first snow, the cattle would leave the high country and congregate on the lower elevation pastures which were critical elk winter range lying immediately adjacent to, but

outside of, the Wall Creek Game Range. Excessive livestock grazing of these lower elevation rangelands destroyed their value as elk winter range (Per. Comm. MDFWP. 1991).

To alleviate some of these overgrazing problems, the Montana Dept. of Fish, Wildlife and Parks decided to open the Wall Creek Range to livestock, thereby increasing management flexibility as well as reducing overall livestock grazing pressure. Part of the motivation for this change in policy was political. If the ranchers were getting some forage from Fish, Wildlife and Parks lands, then they might be more tolerate of elk use and hunter access on their deeded lands. According to MDFWP officials this seems to have worked.

**The biological implications of opening** the Wall Creek Game Range to livestock was to bring a de facto REDUCTION in cattle stocking rate throughout the area since the same number of animals were spread over a much larger area (the combined game range and Forest Service allotment), effectively reducing the overall cattle numbers on the allotment. As a consequence of these changes, livestock grazing of important elk winter range on Beaverhead National Forest lands was significantly reduced, thereby increasing the value of the entire area to wintering elk.

This reduction in stocking rate may have contributed to an overall "improvement" reportedly observed. But is it really fair to suggest that mitigation of previous negative impacts of livestock grazing has "improved" elk habitat?

Since there was an improvement in elk habitat with the reduced livestock stocking rate, the question can be raised that perhaps total removal of livestock might not bring about an even greater "improvement" in elk habitat.

To further complicate the situation, there is no control. No significant portion of the Wall Creek Range is closed to livestock grazing, consequently there is no way to determine whether livestock grazing or perhaps a combination of other factors is responsible for the observed changes in elk habits and utilization. Would we have seen the same increase in elk numbers if livestock grazing of all winter range was terminated?

Another bit of circumstantial evidence used in the brochure and by livestock supporters to demonstrate that livestock "improved" wildlife habitat is the observation that elk appear to prefer to graze some portions of the range which were lightly used in the past.

**The MDFWP attributes this change** to greater palatability in recently cropped forage (Frisina, M.R. 1986). A number of studies have demonstrated that cropping will increase forage nitrogen content and palatability (Anderson, W.E. and Scherzinger, R.J. 1975; Pitt, M.D. 1986) and may indeed partially account for some of the observed elk behavior changes seen on the Wall Creek Game Range, but does this mean that livestock have "improved" elk habitat?

Such an observation does not necessarily mean that elk "need" livestock to "improve" range conditions. Elk in Yellowstone National Park and other areas where little or no overlap in livestock and elk ranges occurs do fine without the influence of cattle grazing. In fact, the highest elk populations in Montana are found in areas with little or no overlap in livestock-elk habitat use such as the Bob Marshall Wilderness and areas immediately adjacent to Yellowstone National Park (MDFWP 1991). Without a substantial control area with no livestock grazing, we don't know if elk numbers would increase to a point where the elk themselves would remove enough "wolf" plants to bring about the same increases in palatability. There is some recent evidence that this may be happening in Yellowstone Park (Singer 1991).

Furthermore, any "improvement" due to livestock, if it exists, must be weighed against all negative effects as well. For example, observations of cattle and elk interactions by biologists at the MDFWP's Mount Haggin Wildlife Management Area (which has a similar rest-rotation program as implemented at the Wall Creek Game Range) found that 94% of all elk observations were not in pastures being grazed by cattle. Elk definitely appeared to avoid any areas actively being used by livestock, although in the following rest year, in the absence of livestock, such pastures appeared to be preferred by elk. The author felt the removal of vegetation by cattle reduced cover for elk calves and reduced forage availability for adults, possibly explaining this habitat separation (Frisina, M.R. 1986). A similar avoidance of cattle by elk was observed in Arizona (Wallace and Krausman 1987).

**Thus, at least while cattle are actively grazing** a pasture, livestock use appears to displace elk from potentially useable habitat. This could have an overall negative impact upon elk fitness if they are forced to utilize habitat which exposes them to greater predation, with less ther-

mal cover, greater human disturbance, lower forage quality, less water, or other variables. These ecological "costs" must be balanced against any potential benefits derived by enhanced forage palatability as a consequence of livestock grazing. In addition, it must be noted, similar increases in palatability could be achieved by prescribed burning, which is also never mentioned as a viable alternative by livestock boosters.

Furthermore, according to the MDFWP biologists I questioned, enhanced forage palatability may not be the only or even the major factor accounting for the observed greater elk numbers and use of the Wall Creek Game Range. Other changes in the management of the game range by MDFWP may also account for some or most of the observed changes in elk habitat use. For example, the agency installed a removable electrical fence that is taken down each winter to facilitate movement of elk.

In addition, the range was recently closed to human activities between December and June. A great deal of research has demonstrated that hunted elk avoid areas with intense human use (Lyons, J. 1975).

Even if livestock grazing did influence elk habitat selection, it would be wrong to assume that this was a net benefit to elk. Were elk in any way deprived in the past? Was poor forage quality a limiting factor prior to the introduction of livestock to the game range? Or was the reduction in winter range quality really the most important factor? Certainly this would have eliminated the earlier competition and overgrazing problem of elk in winter. Competition for forage between elk cattle has been documented elsewhere (Skovlin et al. 1968). And how many elk could the Wall Creek Game Range support if livestock were removed from both the adjacent portions of the Beaverhead National Forest as well as on the game range?

But even if livestock grazing as practiced on the Wall Creek Game Range were found to be a positive influence on elk numbers, is such management really practical on most public lands? Very likely not for several reasons.

**First, grazing fees paid by livestock** permittees do not cover the administrative and monitoring costs incurred by the Fish, Wildlife and Parks to manage the Wall Creek Range. In the case of the Wall Creek Range, this includes the cost of a year round full-time manager (Per. Comm. FDFWP 1990). One reason livestock impacts are mitigated better on Wall Creek than on other public lands is due to close monitoring of range readiness, livestock utilization and other factors by the MDFWP on an almost daily basis. Monitoring of allotments on federal public lands may not occur yearly, much less on any kind of daily basis. According to a recent General Accounting Office study, most BLM allotments in Nevada are visited only once every three years (GAO 1990). To provide daily or even weekly monitoring of federal range allotments would significantly increase administrative costs and is not likely to be adopted as public range policy.

Another factor which distinguishes the Wall Creek area from other federal lands is that management is specifi-



cally designed to benefit elk, not cattle. This results in a significantly reduced season of use by livestock on the state lands than on comparable nearby federal lands where management emphasis is not on elk production.

It may well be that the management policies at Wall Creek mitigate many of the negative impacts typically associated with livestock production on public lands, and consequently may be responsible for the "improved" conditions observed. Indeed if this is occurring on the Wall Creek Range, then it could be questioned whether mitigation of negative impacts should be presented as a "benefit".

**As mentioned earlier**, the brochure deceives the public by using the collective term "wildlife" loosely. Whether livestock improves wildlife habitat depends greatly on what species we are discussing. Not all benefit equally, some not at all. No one at Wall Creek, for example, has looked at the impacts of livestock grazing on other native species. For instance, cows tend to congregate on wet meadows and seeps in the summer months. These same areas are important nurseries for sage grouse chicks which depend upon these relatively rare areas for cover from predators. In addition, since chicks feed mostly on insects in their first few weeks of life, these same wet meadows are an important food source (Call and Maser 1985). What is the impact of livestock grazing on sage grouse? How about impacts to rodents, butterflies, songbirds and the host of other species which also use the Wall Creek Game Range? It is doubtful that livestock grazing has "improved" wildlife habitat for all these species.

Other environmental "costs" which may be present as a consequence of livestock use, such as impacts upon soil lichens, soil compaction, or plant community structure, have not been inventoried or accounted. And even the underlying assumptions about what is range health can be challenged. What ecological role do wolf plants play in ecosystem function? Can we assume that it is desirable to eliminate these kinds of grasses from our rangelands?

The present management regime of the Wall Creek Game Range and adjacent Forest Service lands is, collectively, a tremendous improvement over past management in the area, and for this the MDFWP deserves credit.

However, too many questions are unanswered for anyone to make broad generalizations that cattle have improved range condition or "wildlife" habitat. In absence of good scientific controls, another interpretation of perceived "improvements" in elk habitat and use at Wall Creek could be that negative livestock impacts on winter range as well as a general reduction in stocking, when combined with changes in other non-livestock related management changes at Wall Creek such as closure to public entry in the winter months, could explain the higher elk numbers and purported "improvements" in range condition.

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