

# Ranchers Monitor Montana Rangelands

Kim Enkerud

Imagine if you will...a scene from the future, a scene which every rancher hates to think about. A rancher in a courtroom setting. The charge: overgrazing of the public land upon which the rancher's future depends. The accuser: it does not matter who it is, no one is going to believe the rancher has taken care of the range resource.

Or has he? It just so happens a rangeland monitoring program has been in place the past 5 years. The data and photos indicate that the range condition has been improving while the livestock utilized the resource. What does the accuser have? Nothing which stands up to the rancher's information. The judge determines the accusations are not justified and because the rancher is taking care of the resource, the livestock can remain. This realistic example shows how rangeland monitoring can pay off.

Mention the words "rangeland monitoring" and most ranchers used to say, "all the monitoring I need to do is what I see and record in my memory." Well, that would be nice if we were still living in the 1960's. However, we are not. More and more, the livestock industry is defending the use of livestock as a tool to improve our rangelands and provide food. Rangeland monitoring is a proactive strategy that ranchers can use to prove their livestock grazing is sustainable use of our private and public rangelands.

Rangeland monitoring received a jump start in Montana in 1992 with the Pole Creek Grazing District monitoring project in south central Montana. District President Gary Eliasson and Musselshell-Golden Valley County Extension Agent John Pfister were instrumental in getting "the show on the road." Gary gave the following speech during the 1992 Montana Association of the State Grazing Districts annual meeting. His version of this rangeland monitoring program is a success story in itself.

I live and work on our ranch near Roundup where I have a partnership with my brother Don raising cattle and hay. We also assist our parents on their ranch in the same area. Both outfits consist of a combination of deeded, state, and federal lands as is quite common in central and eastern Montana.

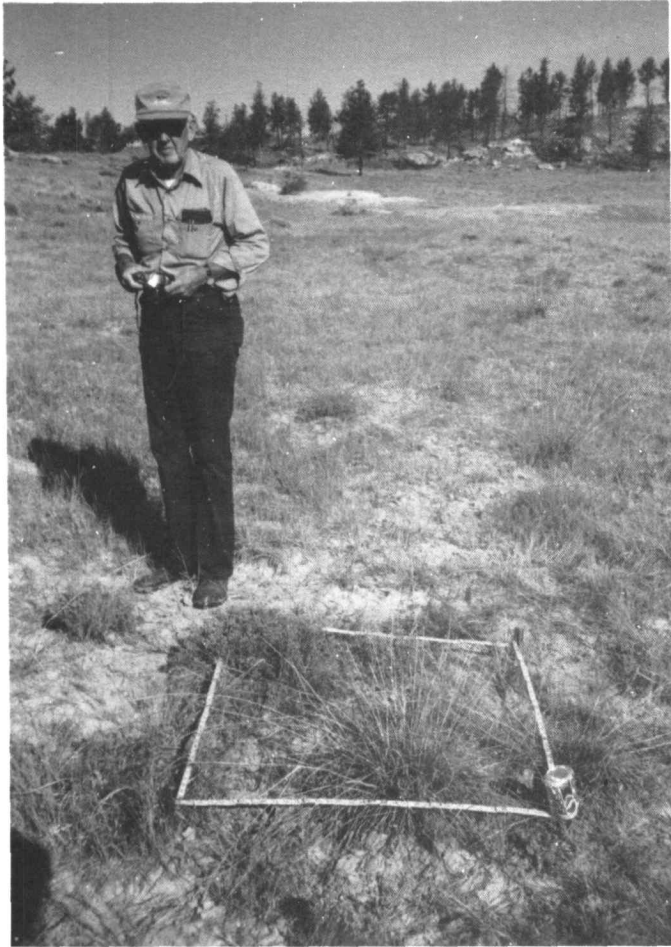
Like many others here today, I am concerned about the frequency of attacks on the land stewardship of livestock producers in the western United States. I don't believe that there has ever been a time when the livestock industry has been under such close scrutiny as today. We are only recently learning that instead of always being on the defensive, we should explore opportunities to take the offensive in proving that the livestock industry is environmentally sound. When these opportunities also provide us with a chance to analyze our businesses in terms of grazing systems, water development, composition of the forage, or the utilization of the grass which provides us with our livelihood, then it looks like a win-win situation to me. As we have all heard many times, we are marketers of grass who use cattle and sheep to harvest it.

What is meant by the term *range monitoring* anyway? The idea of collecting data on rangeland and measuring the change in condition is certainly not new. During the Lewis and Clark expedition, nearly 200 years ago, Captain Lewis did a fairly extensive botanical survey of the country they crossed. Based on an analysis of these journals by Dr. John Taylor, (Professor Emeritus, Montana State University), the early explorers described conditions which were far from an abundance of excellent range condition as it is measured by today's standards. Later in the 19th century as cattle were brought into this region, early day stockmen were quick to recognize which areas and which species of grass added the most pounds. No doubt there have been times when ranges suffered from overuse due to lack of water distribution, ability to control livestock, or extended periods of drought.

There is no question in my mind, that if ranchers would have had a system of range monitoring in place over the course of the last 50 years, resembling the approach developed and recommended by Montana State University (Monitoring Montana Rangeland Cooperative Extension Bulletin #369), they would have documented a substantial improvement on the grazing lands of Montana. I have heard many older ranchers say that they feel much of the range is in better shape now than they can ever remember. Well that's enough history.

Those of us in the ranching history have a vested interest in seeing to it that we continue to maintain or improve our ranges. It was with that in mind that the Pole Creek Grazing District, at our annual meeting last January, had a short workshop on range monitoring. The Extension Service was instrumental in helping put this together. The Bureau of Land Management (BLM) Billings Resource office explained the monitoring that they currently do on BLM land in the area. Kim Enkerud indicated that the Montana Stockgrowers Association, Public Lands Council, and Montana Association of State Grazing Districts encourages ranchers to monitor their lands. We followed up with an outdoor session in May. The Montana Extension Range Specialist gave a hands-on demonstration of the monitoring system which we subsequently used in our Pole Creek project. We applied for a grant through the Department of Natural Resources and Conservation HB 223 grant program. The funds were requested to get a monitoring project going on the right track as we wanted an experienced individual to assist us during the first 2 years. Our grant application was successful (thanks to the statewide support from many individuals and organizations) and in mid-September we hired Chuck Hitch to work with the ranchers who were interested in setting up sites. Chuck is no stranger to Montana's ranges. He formerly was employed as a district conservationist by the SCS and he was a consultant for the Montana Association of State Grazing Districts.

Pole Creek is a relatively small grazing district. It is made up of 20 permit holders. They harvest a total of approximately 8,000 aums on 128,000 acres. These are individual allotments which vary from 36 to 1,820 aums in size. All of the Pole Creek members were encouraged to not limit monitoring to BLM land; instead, state or deeded land should be included. I should stress that the project we are working on at Roundup is

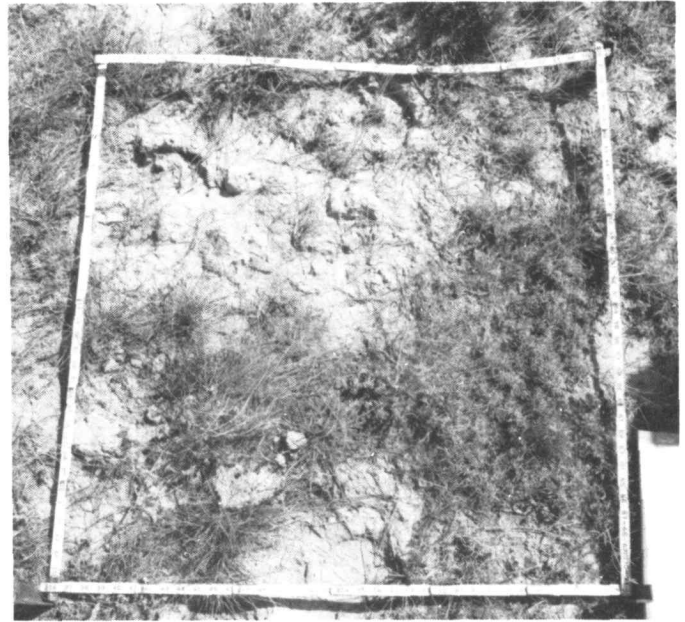


**Fig. 1.** Chuck Hitch standing by the 3-foot square monitoring plots used in the Pole Creek project.

strictly voluntary. There is probably very little to be gained if a rancher participating in range monitoring is not interested or does not feel that they are accomplishing something. If that were the case, the odds of them following up in subsequent years might be quite small.

We are very pleased with the degree of participation which we have had so far. Twelve of the 20 operators in Pole Creek Grazing District have set up monitoring sites. Eight other individuals have participated as members of the Lake Mason Grazing Association. The project was expanded to allow 4 additional ranching operations, located adjacent to the Pole Creek boundary, to participate. All together, about 130,000 acres of private, state, and federal land have been established as monitoring sites. As we were setting up the project, it was decided that the ranchers would receive the only set of monitoring data (cards and photographs). The fact that these are in sole possession of the ranchers makes it quite important that care is taken so they are not misplaced. The information recorded on the 3 cards and the photographs would be irreplaceable and defeat the entire purpose if they were lost.

One point that is important to emphasize is monitoring involves a lot more than photographing a 3-foot square plot. In talking to people, several asked, "How much can you determine from a  $3 \times 3$  square area?" While the photo plot is a very important part of the process, much of the data collected using the MSU system involves looking at the entire pasture or



**Fig. 2.** An example of a 3-foot plot.

management system. Topography, weather data, wildlife population, insects, livestock utilization, and other items are recorded. If we stick with it over the years, we each will have some valuable information to evaluate our range management decisions, to provide a historical perspective, or to defend our position as a vital player in the multiple use of public lands.



**Fig. 3.** Picture of Valley County, Montana ranchers at rangeland monitoring workshop.

In conclusion, I would state that monitoring does not in itself insure successful range management. There are large numbers of excellent range managers who have monitored with an experienced eye for years with excellent results, just as there will be some who use a more scientific system and find their ranges might decline. If done properly, we feel it is another tool to compliment proper forage utilization and provide some useful data that will become increasingly important for sustainability and the integrity of the livestock industry. I personally feel that it is important that ranchers work to insure that it is ourselves who control our future."

Gary's story should make ranchers want to get their camera out, pack a lunch, jump in a pickup with a local extension agent, SCS, BLM, Forest Service (FS) employee

or whomever, and start a monitoring program. The process has caught fire in Montana where ranchers realize the importance of monitoring. Through the efforts of the Governors Rangeland Resource Executive Committee, Montana Riparian Association Education Committee, Montana Stockgrowers Association, Montana Public Lands Council, and Montana Association of State Grazing Districts, ranchers are becoming very active in developing monitoring projects.

One example is the Badland, Buggy Creek, North Valley County, and Willow Creek Grazing Districts in north-eastern Montana. A workshop was conducted in mid-July 1992 by Montana State University, BLM, and SCS individ-

uals. Individual ranchers then spent the remainder of the week setting up plots on their individual ranches.

In addition, the Highwood Mountain Grazing Association in central Montana, held a workshop which dealt with riparian area monitoring in August of 1992. Plans are already underway for a monitoring workshop in July of 1993 with the Williams Coulee Grazing District also in central Montana.

There are no longer glazed looks when monitoring is mentioned. Instead, the response is one of interest, curiosity, and genuine appreciation that there is something ranchers can do to insure themselves a future.

## Economic Multipliers: A Comment

E. Bruce Godfrey and Martin K. Beutler

An article by Martin K. Beutler in the February 1992 issue of *Rangelands* entitled "Economic Multipliers" contained many of the basic ideas associated with the use of this concept. However, a major reference was omitted (Figure 1 was from the publication by Coppedge and Youmans 1970),<sup>1</sup> some important items were not covered in the article, and some relevant references were not included. This article was written to eliminate these deficiencies.

### Type of Multiplier

The article by Beutler emphasized income multipliers. Other multipliers can also be developed and used. The most common include output, value-added, and employment multipliers. The different types of multipliers are not interchangeable because they measure different variables. As a result, the type of multiplier used must be appropriate to the impact of interest (e.g., income, sales, employment).

### Size of Multiplier

A commonly misunderstood concept concerns the size of a multiplier. Empirical estimation is the only valid way to determine the size of a particular type of multiplier for a specific area or region because each region has different "leakages" (leakages represent the degree that local purchases—imports—are made "outside" the region), but the following generalizations will be valid for most areas.

First, income multipliers should rarely be larger than 2.0, especially for small regions where leakages are commonly large. The exception to this general rule will

occur when the personal income in a sector is small and it purchases a large portion of its inputs from other local businesses. An output or employment multipliers for a particular sector or industry will usually differ from the income multiplier for that industry and may be greater than 2.0.

Secondly, because small regions generally have high leakages, their multiplier(s) will usually be smaller than those of a larger more self-sufficient region. For example, a multiplier for a state will generally be larger than the multiplier for any region within a state.

Third, "basic" sectors will generally have the largest multipliers. These "basic" industries generally purchase a high portion of the inputs (e.g., labor, natural resources) from locally *owned* businesses, and their sales are primarily to "outsiders." An industry that purchases most of its inputs from outside the region (large leakages) would have a smaller multiplier than a sector that relies more on locally owned resources. Conversely, a new firm that did not increase exports but simply took business from existing firms would have a very small multiplier effect (*net* effect in the region), even if the sales associated with this firm were relatively large.

Fourth, if the structure of a regional economy changes (e.g., a new industry or major firm is established or leaves an area), the multipliers that existed before the change will generally no longer be valid.

### Measurement of Change

A commonly misunderstood concept associated with multipliers concerns whether they represent marginal or average values—most are average values. As a result, the total impact of a marginal change will commonly be overestimated when an average multiplier is used.

Multipliers include the direct as well as indirect effects

<sup>1</sup>Utah State University Agricultural Experiment Station journal paper 4394. This reference was inadvertently omitted from the original article. Beutler offers his apology for this omission.