Youth Forum

Who is Monitoring Your Rangeland?

By Jenny Kossler

Editor's Note: This paper is the fourth-place winner of the High School Youth Forum contest at the Society for Range Management Annual Meeting, February 2007, Reno, Nevada.

I sit on my horse, taking in the view of the ranch, my breath catches in the splendor. The sheer beauty of the climbing mountains and the lush green grass make me thankful for what the ranch is, what it represents and the community of Ag enthusiasts I have been raised in. But I realize, firsthand, the hard work a rancher puts into a piece of land to make it beautiful. I, myself, have put blood, sweat, and tears into the ranch to make it not only beautiful but profitable. Building fence, running bison, and managing the land is all in a day's work. I know what's going on with my rangeland because I monitor it with my dad. Who is monitoring your rangeland?

"What is monitoring?" you might ask. Well, to put it in a nutshell, when you monitor you measure and/or track the health of your rangeland. The authors of *Interpreting Indicators of Rangeland Health* define it as "The degree to which the integrity of the soil, vegetation, water, and air, as well as the ecological processes of the rangeland ecosystem are balanced and sustained." One might use monitoring to identify areas where the ecological processes are functioning poorly or not at all.

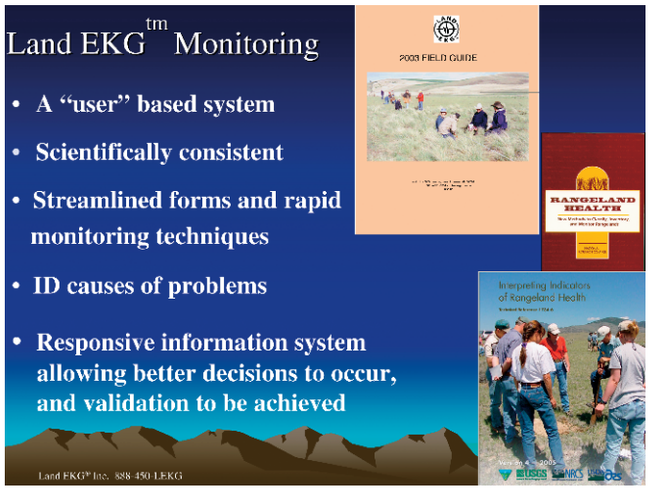
Monitoring is about respecting the past and protecting the future. Ranchers and farmers may monitor for several different reasons, but usually have some sort of goal in mind for their rangeland. Monitoring helps them reach that goal by optimizing the land's potential from a grazing and habitat perspective. Or they could monitor for the simple fact that you can't manage what you don't measure. But, like almost everything in life, it could boil down to money. Monitoring helps create or sustain the economic profit for the future generation by helping one make better management decisions to achieve his/her land goals. Also, by monitoring, the rancher or farmer can reap other benefits. They would be complying with agency policy like the Natural Resources Conservation Service, the Conservation Security Program, the Bureau of Land Management (BLM), or the US Forest Service standards for scientific monitoring. Through monitoring, they could protect private and public grazing leases to verify the methods and benefits of their management of the land. The rancher could also be building cooperation and trust with diverse groups that may have concerns about the management of the range. Also, there are opportunities for incentive and recognition awards, such as Undaunted Stewardship and extended leases.

If someone decides to monitor, there are 3 common ways to go about it. You could hire private contractors to come onto your range. The government would come onto public land to monitor a lease. But if you want to keep your kids busy and learning for a while in the summer, you and your family could monitor the land. After all, you know your range and what is happening there better than anyone else. On our ranch, my parents chose to keep the kids learning and to get a little closer to the land.

As one of the largest ranches in southwestern Montana, we had our own criteria for monitoring. A "must" was that it had to be scientifically credible. When the general

manager of the ranch was approached with the idea that we would monitor the ranch ourselves, his first questions were "Can you do it?" and "Where's the science?" We wanted, as most busy ranchers would, to spend the minimum amount of time and effort getting the result that would give us management answers. We wanted the information from our monitoring to tell us the problems on the land so we could create a game plan to achieve our economic and ecological goals. Most importantly, we wanted to do it ourselves, on our own time, and get our results. So what did we choose? We chose Land EKG.

Maybe another question pops into your head. "What is Land EKG?" EKG was developed by Wyoming rancher Charley Orchard in 1994. Right after the book *Rangeland Health* was published. Charley recognized that there were several methods to monitoring but none of them were consistent across the board and they didn't answer his question, "What do I do for this pasture next time?" *Rangeland Health* was written by several respected range experts, who said there was a new way of turning data into information so you could identify problems and come up with ways to fix them. Also, they wrote that it would take years for a system of that caliber to be developed. It took Charley a few months. He read *Rangeland Health* in January of 1994 and by the beginning of spring Land EKG was operational. Charley started figuring out how to apply questions he was asking to the land consistently. He wanted to find out the ecological pulse of what the land was saying. After a while, tinkering and testing EKG, Charley got to really find out what his invention could do in 1996. That year there was a fire on his ranch in Wyoming. Over 90,000 acres of BLM land leases went up in flames. The standard BLM policy said that there could be no more grazing for 2 years, giving the land time to rejuvenate. Charley's father asked him to visit the sites set up on the burned grounds and to get his monitoring records out. Because of previous management, monitoring with EKG, temporary fencing on burned land, Charley and his family didn't miss a day of grazing while other permitees were removed for 2 years. Along with other factors and this monitoring, Charley and his family saved close to $200,000.



In 1996, EKG got its first real test of commercialization. Several people seemed interested in what Charley had developed and asked, "Show me how to do this." Charley begin to wonder if he could make this a business. Upon realizing this, he approached the General Manager of our ranch about using Land EKG as a standard monitoring system for the ranch. This is when the manager asked "Where's the science?" This prompted Charley and others to write "Management by Monitoring," which was published in *Rangelands* in 2001. This article gave a technical overview of Land EKG and monitoring. Since 1996, Charley has spent his summers conducting workshops across the western United States and Canada on working ranches, teaching ranchers and farmers how to apply EKG on their own lands. He also teaches them that the most efficient use of sunlight will help their bottom line. And that's what it's all about. The system itself is fairly easy, and with a little training just about anyone can learn how to monitor the land. This is how my father and I learned about EKG. My Dad, Mark Kossler, went to a hands-on workshop in Big Timber, 2 hours away from the ranch which my father manages, the Flying D, and asked Charley to come conduct another workshop on the ranch. "It's fairly user-friendly. What most people don't know they can quickly learn by going through a clinic," said Mark Kossler. "The hardest thing would be the plant identification. And that's something you learn with time and practice."

Yes, in order to use EKG or any other monitoring method you need to learn plant identification but you also learn about the water and mineral, and energy flow along with plant community to come up with your first EKG graph. First you must start out with a site and a permanent site form. On the site form you record your range site, location size, historical management, GPS coordinates, and, if you choose, management goals and pictures to compare year records or to find your site again. You take 4 plot photos to verify monitoring and to also compare different years. With information that you record on your site record, you grade certain indicators on a scale from 0 to 100. You plot the respective number under its indicator and connect the series of dots. From the connected dots on the EKG graph your have peaks and valleys that tell you the range's strengths and weaknesses. "If it shows you have a problem with mineral cycling, the management decisions are fairly obvious if you know anything about ranching or livestock grazing," Kossler said. "It tells you specifically, with the graph, I'm hurting in these areas, and you can translate that very quickly."

Filing and keeping paperwork is not the most exciting job in the whole world. Keeping record books of the site can be a hassle. That is why Land EKG now has a "DataStore." This is a secure Web site that ranchers or farmers can quickly log into and plug in the numbers and images from their site to create printable site records and information. As long as you have Internet access you have access to Land EKG "DataStore," which is completely secure and

user-friendly. The great aspect of DataStore is that you can be on the phone with Charley and your ranch hand or boss, all 3 in a different state if it so happens and all of you can be looking at the same range site, all in front of a computer. You don't even need a calculator to find the averages and totals for your graph, it does it all for you. All you need to do is take a few pictures, write down data, enter it into the computer, and get a complete site summary with a click of a button.

We have used Land EKG for over 5 years. I want to share with you what Land EKG has done for us. It got us on the ground, looking at our range from a bug's point of view. We realized that we could do it ourselves, no degree necessary. EKG broke the myth that only scientists can monitor the range. I started monitoring when I was 11 or 12. We made profitable changes because we acted on the information that the EKG system gave us and we have seen the land improve towards our land goal. Most importantly, it has been an efficient use of our time. We spend 1%–2% of our working time monitoring, that is 3–5 days out of a year covering 100,000 acres and 38 range sites. Also, we have been able to communicate our monitoring information among several people using DataStore.

Land EKG got its name when Charley saw an example of a human electrocardiogram. Charley realized that his Land EKG line looked exactly like the electrocardiogram. Charley realized that he was measuring the heartbeat of the range. There is a saying, "The best fertilizer a farmer can put into his land are his own footprints." Measuring the heartbeat of the land yourself is that fertilizer. We cannot become who we need to be by remaining what we are. By making vital changes to the rangeland now, someday years from now, yet again, I will sit on my horse and admire the land once again. Still thriving and more stunning than ever, because my father and I got dirty ourselves and made decisions, because we listened to the heartbeat.

Information Sources

Interpreting Indicator of Rangeland Health Version 4, 2005

Rangeland Health
Charley Orchard, Founder and Owner of Land EKG
Bozeman Daily Chronicle, various articles
Mark Kossler, Manager of the Flying D Ranch

Author is from Gallatin Gateway, MT, and is a student at Montana State University. She is also serving as the 2007–2008 Montana FFA State Secretary.