

# MONITOR YOUR LAND'S HEALTH

A LAND EKG CAN SHOW YOU HOW TO MAINTAIN HEALTHY RESOURCES AND MAXIMIZE PROFITS. BY: Joan Waldoch

The theory behind range specialist Charley Orchard's program is simple, just as an electrocardiogram helps monitor the functioning of your heart, an EKG can help you track the health of your land. For the past few years, Orchard has been showing landowners throughout the west how to do their own monitoring by using his land EKG program. The benefits, he points out, include more profitable and productive land-management decisions.

Raised as a fourth-generation rancher in north central Wyoming, Orchard attended Montana State University and is now a full time range consultant based in Bozeman. The idea for the monitoring program came about in the early 1990's, Orchard explains. At the time, Montana and Colorado had both adopted grazing lands conservation initiatives, and Orchard and his family knew Wyoming wouldn't be far behind.

"Our understanding was that monitoring would be the cornerstone of this initiative," Orchard says. "How do you manage rangeland without monitoring? But our perception was that federal and state people would come in and tell us how."

Orchard was then working on a graduate degree in soils from MSU and also managing a summer stocker grazing operation along the shores of Henry's Lake Idaho.

"We were using an intensively managed, planned grazing program in an attempt to restore land health on three ranches," he says. "We really needed to pinpoint what was happening with the soils, vegetation and ecosystem health." At the same time, his father wanted to improve the forage resource on the Orchard's Wyoming lands.

That was the beginning of Orchard's quest to tailor a monitoring system for his family's ranch. Like a lot of farmers and ranchers, the Orchard's had kept records on the various aspects of their land. But, although some federal agencies and organizations had developed monitoring programs, they weren't the total answer, Orchard says.

"They gave us the numbers, but not the information on what to do with them," he says.

## **MANAGING THE ECOSYSTEM**

When the National Academy of Sciences came out with a report on range-land health 1994. Orchard took notice. The report outlined an Ecosystem-management approach that features four parts: the water cycle, mineral cycle, plant community and energy flow. Orchard took those systems and incorporated them into his land monitoring efforts.

“I had been looking for a way to put it all together. Another student came by and looked at what I was doing and, for some reason, said ‘graph it,’ So I did,” Says Orchard. “What it presented was a graph of the ecosystem function-- Much like if you go to the doctor and get an EKG. It’s really a snapshot in time of the ecological process-taking place. “We looked at the graph and wondered what could we call it, and that’s when we came up with Land EKG,” Orchard notes.

Land EKG uses permanent location transect lines to examine certain points on the land, he explains. Using a field matrix, 20 soil and vegetative indicators are assessed. With that information, the “ecograph” is created to display the health of the site.

Orchard says the program does not identify which plants are good or which are bad, because “one man’s weed is another’s gold mine. “You need to know what you want and don’t want,” he says “If you can manage for the health of the good plants, they can out-compete the weeds.

## **SELLING SUNLIGHT**

The range consultant says the monitoring concept has established common ground between diverse groups. Environmental groups get a better understanding of land management, and landowners discover that economic health flows from ecological health. “Land EKG became a communication mechanism that presents 50 years worth of research, but in a concept that makes sense to people,” he says.

Orchard’s ideas may require a mental shift for some. He likes to encourage farmers and ranchers to think of themselves as “sunlight salesmen” rather than as beef or grain producers.

“Our mission statement is to help ranchers and farmers maximize their solar profits by creating healthy soil system and diverse plant and animal communities,” says Orchard. “The only way to maximize the capture of sunlight is to maintain healthy resources.” He emphasizes that the program is aimed at the long-term health of land.

“We’re a quick-fix society but this is not a quick fix,” He says, “This is about long-term stability.”

