

# The New Ranch at Work

## The Quivira Coalition's First Annual Conference



January 18-19, 2002  
La Posada Hotel  
Albuquerque, NM

# The Quivira Coalition's First Annual Conference

## *The New Ranch at Work*

### Conference Agenda

**Friday, January 18, 2002**

7:00 a.m. Registration

8:15 a.m. Welcome *The Hon. Ray Powell, Jr. New Mexico State Land Commissioner*

#### *Session I: Grazing as a Natural Process: Just the Facts, Please*

*Session Moderator: Dan Dagget*

8:45 a.m. **Grazing in Complex Environments**

Kris Havstad, Brandon Bestelmeyer, USDA, Jornada Experimental Range, and  
Joel Brown, NRCS, Las Cruces, NM

9:45 a.m. **Ranching as Sustainable Agriculture**

Kirk Gadzia, Resource Management Services, Bernalillo, NM

10:15 a.m. *Break*

10:30 a.m. **Ranching: Natural Processes in an Economic Setting**

Bob Budd, Red Canyon Ranch, WY

11:00 a.m. **Lessons from the Malpai Borderlands: Ecological Science and Sustainable Grazing**

Jim Brown, Dept. of Biology, UNM

11:30 a.m. *Speaker Panel Discussion*

12:00 p.m. LUNCH (Provided by The Quivira Coalition.)

**Session II: The Principles of the New Ranch: Case Studies in Success**  
**Session Moderator: Kirk Gadzia**

- 1:30 p.m.    **The CS: A Work in Progress**  
Julia Davis-Stafford, CS Ranch, Cimarron, NM
- 2:15 p.m.    **Profit Is Not a Dirty Word**  
Roger Bowe, Rafter F Ranch, San Jon, NM
- 3:00 p.m. *Break*
- 3:15 p.m.    **Dormant Season Grazing at Macho Creek:  
Is There a Seasonal Benefit to Birds?**  
Gail Garber, Hawks Aloft, Albuquerque, NM
- 3:45 p.m.    **Working with the Federal Government**  
David James, James Ranch, Durango, CO
- 4:15 p.m.    Speaker Panel Discussion
- 8:00 p.m.    **Special Presentation:**  
**Rethinking Protected Areas: The Case of the Buenos Aires Wildlife Refuge**  
Nathan Sayre, Jornada Experimental Range, Tucson, AZ

**Saturday, January 19, 2002**

**Session III: Grazing and Biodiversity: We Can Get Along!**  
**Session Moderator: Merle Lefkoff**

- 8:15 a.m.    **Speaking Western: Honest Conversations about  
Biodiversity on Protected Areas, Ranches and Subdivisions**  
Richard Knight, Dept. of Biology, Colorado State University
- 9:00 a.m.    **Ranching for Biodiversity**  
Tony Malmberg, Twin Creek Ranch, Lander, WY
- 9:45 a.m.    *Break*

*Session III: Grazing and Biodiversity: We Can Get Along!*  
*Continued*

- 10:00 a.m. **Prairie Dogs, Cattle and Conventional Wisdom**  
Ben Brown, Gray Ranch, and Charles Curtain, Arid Lands Project,  
Animas, NM
- 10:45 a.m. **The U Bar Ranch, Conventional Wisdom and the  
Southwestern Willow Flycatcher**  
Scott Stoleson, Rocky Mountain Research Station, Albuquerque, NM
- 11:15 a.m. Speaker Panel Discussions
- 11:45 a.m. LUNCH (Participants will be on their own.)

*Session IV: Building the Radical Center: Good News*  
*Session Moderator: Nathan Sayre*

- 1:30 p.m. **Why It's Time to Demand Results**  
Dan Dagget, Ecoresults! Flagstaff, AZ
- 2:00 p.m. **The Reconnection of People and Land - How Warriors Become Healers**  
Tommie Cline Martin, Higher Ground, Payson, AZ
- 2:30 p.m. *Break*
- 2:45 p.m. **Soil First!: Putting 'grass' and 'roots' into Grassroots Environmentalism**  
Courtney White, The Quivira Coalition, Santa Fe, NM
- 3:15 p.m. **The Nevada Governor's Sage Grouse Conservation Team: an Effort in  
Environmental Democracy**  
Merle Lefkoff, Lefkoff and Associates, Santa Fe, NM
- 3:45 p.m. Speaker Panel Discussion
- 4:30 p.m. Conference Conclusion



Saturday, January 19, 2002 at 6:30 p.m., La Posada Ballroom

## *Clarence Burch Award Banquet*

Keynote address by **Bill deBuys**

### **The Valles Caldera and the Road Ahead**

Bill deBuys is Chair of the Valles Caldera National Preserve Board of Trustees and Director of the Valle Grande Grassbank .

The Quivira Coalition is pleased to announce that its First Annual Clarence Burch Award is being given to the Southwestern Willow Flycatcher Research Project, located on the U Bar Ranch, near Silver City, NM.

This award honors a partnership between scientists, ranchers, private land owners, and public land managers in a project whose goals has been to gain a better understanding of the complex ecological issues involving the critically endangered Southwestern Willow Flycatcher.

The U Bar Ranch, home to the largest population of SW Willow Flycatchers in the United States, has important lessons to teach about the positive relationship between scientific research, habitat restoration, progressive ranch and farm management, and private and public land owner support. In many ways, it is a model of cooperation in service to the recovery of an endangered species.

The honorees have demonstrated an eagerness to share the lessons they have learned from their work on the U Bar. For this eagerness, and for their integrity, dedication, and unfailing good humor, sometimes in the face of adversity, the Quivira Coalition wishes to honor the following individuals:

**Ty Bays, Phelps Dodge Corp.**

**Paul Boucher, Gila National Forest**

**Deborah Finch, USFS Rocky Mountain Research Station**

**David Ogilvie, U Bar Ranch**

**Ralph Pope, Gila National Forest**

**Roland Shook, Western New Mexico University**

**Scott Stoleson, USFS Rocky Mountain Research Station**

The stipulations of the Burch Award, named in honor of a pioneering rancher and conservationist from Oklahoma, are that the \$15,000 cash award be invested back into the project, either in the form of continued research or another on-the-ground activity.

**Congratulations to the winners!**

# The New Ranch at Work

## **Session I: Grazing as a Natural Process: *Just the Facts, Please***

Session Moderator:  
**Dan Daggett**

Kris Havstad, Brandon Bestelmeyer and Joel Brown  
**Grazing in Complex Environments**

Kirk Gadzia  
**Ranching as Sustainable Agriculture**

Bob Budd  
**Ranching: Natural Processes in an Economic  
Setting**

James Brown  
**Lessons from the Malpai Borderlands:  
Ecological Science and Sustainable Grazing.**

# **Brandon Bestelmeyer, Joel Brown and Kris Havstad**

The Jornada Experimental Range and the NRCS  
Las Cruces, NM

**Brandon Bestelmeyer** is currently a post-doctoral ecologist with the United States Department of Agriculture (USDA), Agricultural Research Service (ARS) science unit based at the Jornada Experimental Range in Las Cruces, New Mexico. He earned his Ph.D. in Ecology from Colorado State University. Generally, his research is directed towards understanding why species and ecosystems respond the way they do to human influences, and how the 'ecological background' of landscapes and biogeography determines these responses. This work has involved studies of ants (that's right, ants) and other animals in thornscrub, tropical forest, and grassland agroecosystems of North, Central, and South America. His current work is centered on understanding the causes of thresholds of change in desert grassland ecosystems and systematizing this understanding to aid land managers.

**Joel Brown** is a special assistant to the Chief of the USDA, Natural Resource Conservation Service (NRCS) and the leader for the NRCS for global change activities. His research interests include ecosystem health assessment and management, applications of ecology to land management and technology transfer in extensively managed agroecosystems. He has over 40 referred publications and book chapters in the areas of ecology and land management. Joel's prior professional experience included 5 years as an NRCS Field and Area Range Conservationist in Kansas, 5 years as California NRCS State Rangeland Specialist, 5 years as CSIRO (Australia) Project Leader and Senior Principal Research Scientist, and 4 years as NRCS Cooperating Scientist with the USDA, ARS science unit at the Jornada Experimental Range. His education includes a Bachelor of Science Degree in Agriculture/Botany from Fort Hays State University, Kansas, a Master's Degree in Grazing Ecology from Texas A&M University and a Ph.D. in Shrubland Ecology from Texas A&M University.

**Kris Havstad** is the supervisory scientist for the ARS unit based at the Jornada Experimental Range. He has held this position since 1989. Prior to this position he spent 8 years on the faculty in the Department of Animal and Range Sciences at Montana State University in Bozeman, Montana.

## **Grazing in Complex Environments: the Details Matter**

Rangeland ecosystems are complex environments for several reasons. They are composed of physical, biological, economical and social elements, and these are driven by thousands of variables with millions, if not billions, of interactions. Our understanding of these systems is incomplete, at best, and it has been very difficult to develop predictive models with sufficient precision that describe how these systems will behave in response to management. Within this setting, livestock grazing is a reasonable use on many rangelands, although it may not be appropriate in some environments. The sustainability of livestock grazing in western rangeland environments is dependent upon appropriate management of this activity, and requires an understanding of the basic workings of these ecosystems. Although these are complex systems, understanding some key processes related to soils, plants and animals provides a basis for maintaining ecological integrity of grazed rangelands. How these processes operate varies with different environments, conditions, years, histories, production inputs, and other factors. Many of these considerations are subject to variations in space and time. Clearly, good grazing management requires close attention to the details of the managed system. Not all landscapes can be managed similarly. We need to understand what is possible for given systems, what is real, and monitor our effects in order to manage grazing in a truly adaptive and sustainable manner.



# Kirk L. Gadzia

Resource Management Services  
Bernalillo, NM

**Kirk Gadzia** works with ranchers across the United States and internationally to improve the sustainability of their operations. In looking at their business as a whole, his work involves financial planning, grazing management, wildlife interactions, improving land health and human resource management. Kirk also offers and conducts a wide variety of resource management training courses on a public and private basis. He is co-author of the important National Academy of Sciences book: *Rangeland Health*, and has developed and implemented range monitoring techniques to provide early warning indicators of deteriorating rangeland health. He holds BS degree in Wildlife Biology and a MS in Range Science and has over 20 years experience in working on rangeland health issues. The foundation of Kirk's approach is that profitable ranching isn't about harder work; it is about making better decisions.

## Ranching as Sustainable Agriculture

Before one can discuss Ranching as a form of sustainable agriculture, it is important to first define what we mean by “sustainable”. Although many definitions exist, most people understand sustainable agriculture as a form of food production that can continue to provide for human and resource needs far into the foreseeable future. Long-term sustainability of any form of agriculture must first be defined as retaining the options for the future. These options rest on the ability of the ecosystem to maintain production of the various values that humans place on the ecosystem over time and include measures such as food production, wildlife habitat, watershed stability, aesthetics, recreation and others. The sustainability of any of these values depends on the long-term integrity of ecosystem process and ultimately the conservation of soil. Likewise, for ranching to be defined as sustainable agriculture, it must ultimately be measured by the yardstick of soil conservation.

Throughout the popular and “politically correct” sustainable agriculture movement, animal production has often had a bad name. A philosophical rejection of livestock often stems from a reaction to management abuses from the past and from factory-type food production systems. However, the pollution associated with feedlots, or land degradation caused by over-grazing should not be blamed on animals, any more than groundwater pollution, siltation, and erosion from conventional agriculture should be blamed on the plants. Abundant evidence exists to show that ranching can be sustainable in terms of soil conservation and the preservation of options for the future. The difference between sustainable and non-sustainable is based on human management and understanding of ecosystem process. These sustainable management principles are what ranchers, for ranching to be truly sustainable, must utilize.



# **BOB BUDD**

Red Canyon Ranch  
Lander, WY

**Bob Budd** is the Director of Science, Stewardship and Planning for The Nature Conservancy in Wyoming. He began his work with TNC as manager of the 35,000 acre Red Canyon Ranch near Lander, and continues to coordinate management of that ranch, along with the Winchester Ranch near Crowheart. The Red Canyon Ranch project has become a recognized site for integration of the art and science of rangeland ecology and management, and for cooperative approaches to resource management. Prior to his move to The Nature Conservancy in 1993, Budd spent 15 years with the Wyoming Stock Growers Association and Wyoming Beef Council, ten as executive director. He has a Master's degree in Range Management, and BS degrees in Animal Science and Agricultural Business, all from the University of Wyoming. He is trained in Holistic Resource Management and as a facilitator in Coordinated Resource Management.

Budd has been recognized for his work in rangeland management and ecology in the western United States, receiving stewardship awards from the U.S. Forest Service, Bureau of Land Management, Wyoming Riparian Association, and ReNew America. He is currently Second Vice President of the Society for Range Management, and served three previous years on the Board of Directors for SRM. He also serves on dozens of advisory committees in Wyoming and the West. He is a member of the Wildlife Society, Society for Soil and Water Conservation, Ecological Society of America, Wyoming Stock Growers Association, and National Cattlemen's Beef Association.

Budd is an accomplished writer and photographer. He has written four business histories and two popular books of western humor, *Send Fresh Horses* (1987), and *A Wide Spot in the Road* (1990). He has contributed to numerous popular and scientific publications, most recently *Nature and the Human Spirit* (1996), and has three essays in *Ranching West of the 100th Meridian* (Island Press - in print). Bob is a fifth-generation Wyomingite. He and his wife Lynn have three children, Joe - 12, Jake - 10, and Maggie -9.

## **Ranching: Natural Processes in an Economic Setting**

Traditional models for management of natural resources have been largely predicated on stability and removal of dynamic change. While this may lead to short-term economic and biological stability, the long-term effects are largely unknown, and often disastrous. Managers need to begin looking at chaos and complexity theory, and include dynamic change in planning and management of natural resources. Working at scale is critical, and scale is often not defined or considered. In many cases, working at the correct scale will require highly integrated approaches that include multiple landowners and other interested agencies and entities. Understanding system potential is fundamental to planning and monitoring of systems - in many cases, resources are exhausted on "problems" we cannot impact, while others are not addressed. Emphasis on energy flow and dynamics that maintain high levels of energy in systems, balanced with adequate periods for recovery is critical. A potential means for having greater positive influence on natural systems and biodiversity lies in understanding and managing animal behavior.



# James H. Brown

UNM Dept. of biology  
Albuquerque, NM

**James H. Brown** received his Bachelor's Degree from Cornell University (1963) and his Doctor's Degree from the University of Michigan (1967). He has been on the faculty of the University of California at Los Angeles (1968-71), University of Utah (1971-75), University of Arizona (1975-87), and University of New Mexico (1987-present; where he is Distinguished Professor of Biology). He has more than three decades of experience doing research in arid lands ecology. Much of his work has been concentrated in the Chihuahuan Desert of southeastern Arizona, where he has been conducting a long-term study since 1977. He has published five books and more than 100 scientific papers, has served as President of the Ecological Society of America, and is a scientific advisor of the Malpai Borderlands Group, a grass-roots organization of ranchers and conservationists in southeastern Arizona and southwestern New Mexico.

## **Lessons from the Malpai Borderlands: Ecological Science and Sustainable Grazing.**

This talk will be based on my own experience as an arid lands ecologist and as a scientific advisor of the Malpai Borderlands Group (MBG). Our long-term studies in a desert shrubland to arid grassland transition habitat in southeastern Arizona are providing valuable information on the structure and function of arid ecosystems. We have documented responses of plants and animals to changes in climate and to experimental removal of rodents and ants. Perhaps the most interesting result for this audience is the documentation of a major shift in climate (increased winter precipitation) and corresponding changes in plants (increases in woody shrubs and decreases in perennial grasses) and animals (local extinction of some species and colonization by other species). We are applying our experience and knowledge to help the ranchers of the MBG to develop ecologically and economically sustainable grazing practices. Our working framework is based on the premise that the structure and function of arid ecosystems are influenced primarily by four processes: 1) spatial variation in topography, geology, and soil; 2) temporal variation in climate, especially precipitation; 3) grazing by large herbivores; and 4) fire. Sustainable grazing can be achieved by "adaptive management" that is constantly adjusted to account for these factors. While the rancher needs to manage in response to spatial variation in substrate and temporal variation in climate, the only two factors that are subject to significant human control are grazing and fire regimes.



**Session II:  
The Principles of the New Ranch:  
Innovation in Action**

Session Moderator:  
**Kirk Gadzia**

Julia Davis-Stafford  
**The CS: A Work in Progress**

Roger Bowe  
**Profit is Not a Dirty Word**

Gail Garber  
**Dormant Season Grazing at Macho Creek:  
Is There a Seasonal Benefit to Birds?**

David James  
**Working with the Federal Government**

Nathan Sayre  
**Rethinking Protected Areas:  
The Case of the Buenos Aires Wildlife Refuge**

# Julia Davis-Stafford

CS Ranch  
Raton, NM

**Julia Davis-Stafford**, the daughter of well known Cattlemen Les and Linda Davis, was born and raised in Colfax County, NM. She manages the CS Ranch along with her four brothers and sister, headquartered near Cimarron. Julia is married to David Stafford, a attorney who practices law in Raton, and his herself “a recovering lawyer”.

## The CS: A Work In Progress

The CS Ranch has been owned and operated by the Springer/Davis family for four generations, beginning with Frank Springer who came to northeastern New Mexico in 1873. Each generation has managed through a unique time and set of circumstances, political, social and environmental. And each has shared many of the same worries; there are drought years, low cattle prices and rising costs and a good crew is always hard to find. The ranch operation and our family relationships have evolved with each layer. At the core is a love of family, our history, traditions and the land, and the intent to keep it going for the next generation.

A cow-calf herd has always been the backbone of the ranch. For decades, the cows spent the winter months on the prairie pastures. After branding in the spring, the herds would be trailed up to the mountain pastures for summer. In the fall, they would trail back down and sort off the calves to be shipped east on the train. Horses and manpower, and lots of them were essential.

After WWII, ranching at the CS changed dramatically. Vehicles, machinery and equipment became available, reducing the need for both people and horses. When he returned from the war, management of the CS passed to my father, Les Davis, from his uncle, Ed Springer. My father planned and built working facilities in strategic locations on the ranch, developed water systems, contracted out the farming operations and improved the breeding, herd health and nutrition programs for the cattle and horses. The company had been incorporated in the early 1900's. My father began purchasing shares from relatives who were not involved in the ranching operation. Over the course of his life, he and my mother reconsolidated all of the outstanding shares in the company, and passed them along to their six children.

We, four brothers and two sisters, were raised on the ranch, good friends and good hands. After college and a variety of work experiences, all six of us chose to return to the ranch. We were blessed with the opportunity and supportive parents, but we needed to diversify and grow in order to support everybody. In the early 80's, my sister Kim learned about Holistic Resource Management and introduced it to the rest of the family. We all attended HRM and other related classes and began to rethink our ideas about grazing, resource management, healthy rangeland, family relationships, communication, planning, finances, alternative enterprises and quality of life. A family joke, and truth, is that we move at a glacial pace in making any changes or decisions. Even so, looking back over the last fifteen years, we have made significant progress in all these areas. Of course, there is still tremendous room for improvement, and lots of projects are in the works.

Our focus has shifted to planning for the next generation, my nieces and nephews. We are working through how to structure things so that the ones who want to live and work on the land can do so, without either disadvantaging the ones who chose a different life or causing a family feud. We have some of the pieces in place, stock transfers, wills, buy-sell agreements and insurance. Most importantly, the kids have been raised with willingness to work and an appreciation for the land, animals, family and each other. They know their history and will be ready to meet the challenges involved in taking care of the ranch.



# Roger Bowe

Rafter F Ranch  
San Jon, NM

**Roger Bowe** has a B.S. in Agricultural Business and M.S. in Agricultural Economics and has attended numerous courses in Holistic Resource Management<sup>®</sup> and Ranching for Profit. He was a Family Farm development Specialist for University of Missouri for 3 years and has been ranching for 22 years near San Jon, NM. The ranch was first homesteaded by his grandfather in 1911 and has been in the family ever since. Roger moved to the ranch in 1979 and continued practicing conventional ranching. In 1985, after attending HRM School, Roger and his dad embarked on a new management plan based on the HRM model which included planned grazing and planned profit. The ranch now consists of more than 60 paddocks with more in the development stage hopefully to 90 in the next 2 years. Stocking rates have improved as well as profitability over the years an especially in comparison to neighboring ranches. Roger's brother Russell bought his dad out in 1990 and is a now a partner.

## **Profit is Not a Dirty Word**

Taken from pages 45-47 of the  
*New Ranch Handbook: A guide to Restoring Western Rangelands*

The Rafter F Cattle Company has been in the Bowe family for four generations. Roger and Debby Bowe manage the ranch, which comprises 14,200 acres of private land and 800 acres of New Mexico State Land. The ranch is about 4,000 feet in elevation and receives an average of fifteen inches of precipitation per year.

Prior to 1985, the Bowes ran about eighteen head per section, in keeping with the recommended stocking rate for the area. Grazing was continuous year around, and the carrying capacity was in a long, slow decline. The cattle were evenly distributed across the ranch, but their impact was uneven: They tended to graze the flat mesa tops, where sandier soils supported a sod-bound mat of blue grama grass and buffalo grass. They stayed out of the bottoms, where the soil has more clay and the vegetation was almost entirely tobosa grass. The cattle did not suffer from this arrangement, since the blue grama and buffalo grass were ample for their needs. But the plants were not vigorous. In Roger's view, the "top flats" were overgrazed because the sod never had a chance to recover from grazing and set seed. It had become a mat of low grasses. The tobosa bottoms, meanwhile, were over-rested. The plants there had become senescent: coarse and grey in color.

Economic pressures compelled the Bowes to make changes to try to increase the productivity of the ranch. They attended a seminar in Holistic Management taught by Allan Savory. Then they sent Roger's father to the same seminar in an effort to persuade him that overgrazing had more to do with timing than with the number of cattle on the ranch. Then they did exactly what Savory had told them *not* to do: built fences. Using wire salvaged from the area and their own labor, they divided the ranch into five grazing cells, each with eight pastures arrayed radially around a central water source. They installed waterlines and a few new wells to ensure that they would always have water where they needed it. They almost tripled the number of cattle, gathered them together, and commenced short-duration grazing, moving the herd every two days.

The new system encountered several problems at first. The cattle were not accustomed to moving so often or being in a herd, and they still didn't care for the coarse tobosa grass. The increased stocking rate was too much, too soon, and conception rates declined. Seventy-eight days of rest were not long enough for the grasses to recover from two days of very intense impact.

The Bowes had installed monitoring transects to measure productivity, basal cover, vegetative composition and vigor, and soil surface cover (litter). When they analyzed the data after one year, they

found that litter had declined by five percent. This was unexpected and caused them to make two changes. They cut the herd twenty percent, and they added twenty-two more pastures, bringing the total to sixty-two. This allowed them to provide 122 days' rest between grazing periods. The herd was still much larger than it had been before 1985, large enough to compel the cattle to graze and trample the tobosa bottoms. This helped rejuvenate the plants there. In all, Roger reports that it took two or three years for the new system to prove itself.

Monitoring data collected since 1985 bears out the success of the Bowes' modified system. Bare ground has decreased by a third; litter cover has increased ten percent; basal cover has doubled. The average distance between plants has declined almost two-thirds, and snakeweed has declined by ninety percent. The number of perennial grass species on the ranch has tripled, from six to eighteen. Economically, the costs of production per pound of beef produced have dropped by over fifty percent, while net income per acre of land has more than tripled. The stocking rate is more than twice what it was before.

The benefits of the system can be seen in other ways, too. Numerous springs which had dried up before 1930 began to flow again in the 1990s. Water has returned to a hand-dug well which dried up in the 1950s. Stock tanks don't fill as readily as they used to, but the water they capture is now clear instead of muddy brown. Flood run-off is also clear, even after a torrential rain dropped eight inches in thirty-six hours in 1991. Sediment continues to run off of the neighboring ranch upstream, but it is captured on the Bowe Ranch bottomlands, enriching the soil there. The Bowes can gather their entire herd with two people, one on a motorcycle and one in a pickup, because the cattle have grown accustomed to moving often and in a herd.

The Bowes' management stands out not only for its ecological and economic results, but for the central role that careful monitoring has played in making decisions. Roger also monitors his cows, of course, using the system known as Body Condition Score (BCS). But he recognizes that monitoring the land itself must come first, and his monitoring program employs methods aimed at understanding basic ecological processes.



**Gail Garber**  
**Hawks Aloft, Inc.**  
**Albuquerque, NM**

**Hawks Aloft, Inc.**, based in Albuquerque, N.M. conducts research on a wide variety of bird species within the state, including numerous surveys that document change in bird populations as an effect of land management practices. In addition to passerine (songbird) studies, the organization also monitors indicator species within particular regions including Ferruginous Hawk, Golden Eagle, Burrowing Owl, Mountain Plover, and Mexican Spotted Owl. The organization houses the NM Partners in Flight coordinator position and compiled the New Mexico Bird Conservation Plan. Gail Garber, Executive Director, has 12 years experience conducting raptor and passerine studies in New Mexico.

**Dormant Season Grazing at Macho Creek:  
Is There a Seasonal Benefit to Birds?**

Healthy riparian systems are essential for certain species of birds during all seasons: breeding, wintering, and as migration stopover habitat. Cattle grazing practices are known to affect vegetative components of riparian systems and should produce a similar effect on the avifauna linked to these communities, particularly birds that are classified as riparian obligate or semi-obligate species. A two-mile section of Macho Creek, located on New Mexico State Lands in southern Sierra County, New Mexico, was fenced in the summer of 1998. At that time cattle were excluded from the riparian area for most of the year. Grazing has occurred during the dormant season each year since that time. In 2001, trespass cattle or evidence of grazing were observed inside the enclosure area during all surveys. We have monitored bird use at Macho Creek since September 1998. Surveys were conducted during the winter (Dec.-Feb), breeding (June), and spring and fall migration seasons (May and Sept.), using point count survey methods and area search methods. Generally, 5-10 years of these data are necessary to evaluate species composition and population trends. We will present preliminary results by season, based on three years of surveys.



# David James

James Ranch  
Durango, CO

**David James** has been working with government agencies all of his adult life. Starting in 1961 he purchased (his?) the first Forest Service grazing permit just as "Multiple-Use" was becoming the "in" word. Since then, local and state agencies (the Colorado Division of Wildlife, Corp of Engineers, Department of Energy, Colorado Department of Transportation) and numerous planning commissions have all been apart of his life as he has managed the family ranch and built The Ranch Community. His sensitivity, ability to communicate effectively, and his business experiences during these years have prepared him for an understanding of Holistic Management and now the New Ranch.

The James family cattle are managed as calves on their ranch north of Durango, Colorado and the main cow herd is run in the Disappointment Valley area of Colorado. They are managed to produce a fine natural grass-finished product marketed to local customers as freezer beef, plus selling through natural food stores and restaurants.

For the last six years the Jameses have been working with the Bureau of Land Management, the U S Forest Service, the Colorado Division of Wildlife, and numerous state agencies in managing **wholistically** to enrich the land and the people living and working the land.

## Working with the Federal Government

Working with government agencies is not what it was when we began in the cattle business 40 years ago. The people we work with in the BLM, USFS, Corp of Engineers, etc. are gradually beginning to resemble the classic definition of a "bureaucrat". What has happened within the government agencies that makes the common sense, cooperative, individuals into paper buried frustrated individuals with his/her hands tied?

Since the introduction of "multiple use" in the late 50's and early 60's, the list of special interest groups putting pressure on Congress and hence government agencies, has mushroomed. Today they have to deal with legislation that is not just "multiple use" but wetlands, endangered species, archeology, etc. as well as radical and powerful militant environmental groups, making demands aimed at single agenda crusades instead of looking at the whole picture.

How do we, as ranchers, who have to make mortgage payments, know the genetics of our breeding program, make payroll, stay up all night with a heifer calving, know the market, put up our hay, etc. compete with this pressure ourselves? We rarely see the problems our friends at the BLM and USFS contend with. I think in many of these cases the external demands are so fantastic they don't want to scare us. We must realize they have problems too.

There are tools available to us through our understanding of Holistic Management and now The New Ranch values. The only way to resolve the conflict over rangeland grazing and associated issues is to sit down together and communicate about the basic values and concerns we all have in common. This is the only way I've found to begin the dialogue that can remove the barriers to harmony on our land.



# **Nathan Sayre, Ph.D.**

NMSU and the Jornada Experimental Range  
Las Cruces, NM

**Nathan Sayre** is College Assistant Professor at New Mexico State University and the Jornada Experimental Range. He holds a Ph.D. in Anthropology from the University of Chicago. He is the author of *The New Ranch Handbook: A Guide to Restoring Western Rangelands* (Quivira Coalition, 2001) and *Ranching, Endangered Species, and Urbanization in the Southwest: Species of Capital* (University of Arizona Press, 2002). His talk on the Buenos Aires National Wildlife Refuge is based on five years of research into the history of the refuge and the ranch that preceded it. Nathan has worked with the Quivira Coalition, the Altar Valley Conservation Alliance, the Sonoran Desert Conservation Plan's Ranch Conservation Technical Advisory Team, and the Malpai Borderlands Group.

## **Rethinking Protected Areas: The Case of the Buenos Aires National Wildlife Refuge**

The Buenos Aires National Wildlife Refuge was created when the Fish and Wildlife Service bought the 110,000-acre Buenos Aires Ranch, southwest of Tucson, in 1985. The primary purpose of the refuge was restoration of the masked bobwhite, an endangered subspecies extirpated from the U.S. in the 1890s. The refuge has excluded cattle since its creation, and intentionally burned large areas of the Buenos Aires in an effort to inhibit mesquite encroachment and conserve grasslands. But the masked bobwhite has not become self-sustaining, and limited data suggest that the vegetation has not changed significantly. Excessive cattle grazing during droughts in the 1890s, 1920s, and 1950s unquestionably resulted in damage to the Buenos Aires Ranch, and altered the habitat of the masked bobwhite. But it appears that range restoration efforts made by the ranch's owners in the 1970s did more to help the masked bobwhite than livestock exclusion and fire have done since 1985. Environmental change on the Buenos Aires cannot be "healed" simply by "protecting" it from cattle. A well-managed ranch may be as good or better a means of "protecting" an area than designation of a refuge and cessation of ranching.



# The New Ranch at Work

## **Session III: Grazing and Biodiversity: We Can Get Along!**

Session Moderator:  
**Merel Lefkoff**

Richard Knight  
**Speaking Western:  
Honest Conversations about Biodiversity on  
Protected Areas, Ranches and Subdivisions**

Tony Malmberg  
**Ranching for Biodiversity**

Ben Brown and Charles Curtain  
**Prairie Dogs, Cattle and  
Conventional Wisdom**

Scott Stoleson  
**The U Bar Ranch,  
Conventional wisdom and the  
Southwestern Willow Flycatcher**

# **RICHARD KNIGHT**

Colorado State University  
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**Richard Knight** is interested in the ecological effects associated with the conversion of the Old West to a New West. A professor of Wildlife Conservation at Colorado State University, he received his graduate degrees from the University of Washington and the University of Wisconsin. While at Wisconsin he was an Aldo Leopold Fellow and conducted his research at Aldo Leopold's farm, living in "The Shack." Before becoming an academic he worked for the Washington Department of Game developing the non-game wildlife program. Presently, he sits on a number of boards including The Society for Conservation Biology, the Colorado Cattlemen's Agricultural Land Trust, and The Natural Resources Law Center. He is an Assigning Editor for the journal *Conservation Biology*. Recently he was selected by the Ecological Society of America for the first cohort of Aldo Leopold Leadership Fellows which focus on leadership in the scientific community, communicating with the media, and interacting with the business and corporate sectors.

With almost 100 articles in peer-reviewed journals and 35 book chapters, Rick enjoys sharing his research findings with others. He has co-edited the following books: *Wildlife and Recreationists* (1995, Island Press), *A New Century for Natural Resources Management* (1995, Island Press), *Stewardship Across Boundaries* (1998, Island Press), *The Essential Aldo Leopold* (1999, University of Wisconsin Press), *Forest Fragmentation in the Southern Rocky Mountains* (2000, University Press of Colorado), *Ranching West of the 100<sup>th</sup> Meridian* (2002, Island Press), and *Aldo Leopold and the Ecological Conscience* (2002, Oxford Univ. Press). With his wife Heather, he works with his neighbors in Livermore Valley on stewardship and community-based activities.

## **Speaking Western: Honest conversations about Biodiversity on Protected Areas, Ranches and Subdivisions**

### **The Ecology of Ranching**

#### **Chapter 7. *Ranching West of the 100<sup>th</sup> Meridian.***

Island Press, Washington, D.C. Knight, R. L., W. Gilgert and E. Marston, editors. 2002.

Listen to this: "Livestock grazing has profound ecological costs, causing a loss of biodiversity, disruption of ecosystem function, and irreversible changes in ecosystem structure." Now this: "The trend of U.S. public rangelands has been upwards over a number of decades and the land is in the best ecological condition of this century [the 20<sup>th</sup>]." <sup>1</sup>

Could both be right, or wrong? In 1994, the research arm of America's most august group of scientists reported that inadequate monitoring standards prevented them from concluding whether livestock grazing had degraded rangelands in the West. Importantly, they concluded that, "Many reports depend on the opinion and judgment of both field personnel and authors rather than on current data. The reports cited above [this report] attempted to combine these data into a national-level assessment of rangelands, but the results have been inconclusive." <sup>2</sup>

The future of Western ranching and the role of science in shaping public policy regarding ranching is still very much a topic under discussion. What gives added urgency to this issue is the rapid conversion of rangeland to rural housing developments in much of the West. As ranches fold and reappear in ranchettes, 20 miles from town and covering hillsides, people of the West and beyond increasingly wonder what this New West will resemble. For with the end of ranching and the beginning of rural sprawl comes the question most central to conservationists, "Can we support our region's natural heritage on a landscape, half public and half private, but where the private land is fractured, settled, and developed?"

Some people might think it is a far stretch to connect livestock grazing with former-city-people-now-living-country but I see it differently. Ranching and exurban development are part of a single spectrum of land use in the West, representing the principal alternative uses of rangelands in much of the mountainous New West. This is so because the protection of open space, wildlife habitat, and the aesthetics of rural areas runs right through agriculture; at one end stands a rancher, at the other a developer. As we transform the West, seemingly overnight, we see the region's private lands reincarnated as ranchettes, those ubiquitous estates, ranging from mobile homes to mansions, that are covering hillsides faster than Herefords can exit. We have arrived at a point in Western history where conversations about Western lands and land health, grazing and ranchettes, are entwined, cannot be separated. They must be dealt with simultaneously when discussing the future of our Next West.<sup>3</sup> The science needs to be accurate, not value driven, and the conversations about cultural and natural histories need to be honest, not mythologized. Science is important in these discussions, but to be useful, the science must be done carefully so that the answers are the best we can get. Ranchers and scientists and environmentalists need to look better and listen more carefully.

### **Land-use Change on the Range**

Can ranching be done badly? Yes. Was it done wrong in the past? Most certainly. There is little doubt among plant and animal ecologists, as well as environmental historians, that the history of livestock grazing west of the 100<sup>th</sup> meridian has, in many instances and periods, been one of overstocking. Too many animals are on rangelands for too long with too little rest. To travel through the American Southwest today is to see untold thousands of acres of former semi-arid grasslands that are now in mesquite and creosote, to name just a few of the shrubs that have replaced perennial native grasses. Too many cattle, sheep, goats, burros, and, yes, even pigs, on lands coupled with little or no rest and dry years have altered soil properties and created plant communities that are quite different from those that once existed. Visit America's basins, the Columbia, the Great, and the Great Divide, and you may read the land legacy that misguided grazing practices have left behind. Vast stretches of bajadas, valleys, and canyons display signs of grazing done wrong, with cheat grass, rabbitbrush, juniper and pinon serving as billboards of rangeland misuse.

What has been the response to this? Decades long reform; that is on-going. The Taylor Grazing Act of 1934 authorized the government to create grazing districts, to formulate rules and regulations to restore the ranges, to set grazing seasons, to authorize range improvements, and to charge fees for grazing privileges. The chief advocates of the 1934 Taylor Grazing Act were ranchers who realized that sustainable use of grass was impossible until access to grass was allocated. The alternative was continued overuse by tramp herders and wildcat ranchers who had no tenure to land, using it as they could and getting everything they were able out of it.<sup>4</sup> The Taylor Grazing Act, and attempts by the U.S. Forest Service even earlier, were a beginning, albeit best described as compromises controlled by western livestock associations. Only in recent history have the efforts by stockgrowers' associations been subservient to other interests concerned with western public lands.<sup>5</sup> Despite the entrenched and self-defeating attitudes of some western grazing associations, ranchers are increasingly acknowledging that grazing public lands is a privilege, not a right, and that these lands have to be stewarded.

Range science is not the discipline today it was in the early part of the last century. Ranchers and rangeland ecologists have grown up together; learning adaptively by trying different things on private and public ranges. Changes in these ongoing reforms in grazing include fewer cows on public lands, with shorter periods of grazing and longer times of rest, moving cows out of riparian areas by herding, development of water sources away from streams, strategic placement of salt and minerals to distribute cows better, and monitoring to track changes in the plant communities and gauge rangeland health. The national forest adjacent to the valley where I live have seen the retirement of more than 60 permits in recent years. The remaining permits allow fewer cows to graze for fewer days. My friend and neighbor, Al Johnson is a permittee on the Elkhorn Creek allotment. In the 1950s the Forest Service allowed 150 mother cows and their calves on this land; today the Forest Service allows but 63 animals. In addition, the cows come off earlier. As a result, when you walk the Elkhorn permit today, it is becoming increasingly difficult to see any signs of grazing, let alone too much grazing. Indeed, an open-eyed individual might instead worry about increased trampling of vegetation by off-highway vehicles and expanding bare spots along Elkhorn Creek from campers and anglers. Wallace Stegner had it about right when he said, "The worst thing that can happen to any piece of land, short of coming under the control of an unscrupulous professional developer, is to be opened to the unmanaged public."<sup>6</sup> Have we arrived at a time in this New West where "the unmanaged public" means hordes of recreationists rather than herds of cows?<sup>7</sup>

A Wyoming rancher recently stood before an audience of non-ranchers and apologized for what his parents, grandparents, and great-grandparents did to the land. He said, approximately, "I am sorry for what my ancestors did to this land; they abused it, they were hard on it during dry years, and they kept too many animals on it for too long during lows in the beef business. I know that they taught me much about the land; they also spoke of what they had to do to make a living during the hard times. I cannot change how my relations lived on the land before I

came but I can work hard to make the land better for my children. If what you want is an apology from me when I was just a gleam in my Daddy's eye, I apologize. Now can we move on?"

There are obvious implications to this story, but for the present, we might think hard about what he asked. In forgiving him the destructive land management practices, albeit unintentional, of his forbearers, perhaps we can acknowledge our own limited understanding of what constitutes good land management practices, even today. Perhaps we can appreciate that our knowledge of good grazing practices, is evolving and that we are learning, adaptively, as we continue to better understand the interplay of wind, soil, plants, water and drought that make up the principal plant communities of the arid West, its grass and shrub lands. If we are able to understand and move beyond the incontestable fact that we harmed western lands in the past, perhaps we can refocus our energies toward working together to put right what was once torn asunder.

### **Cows: Aiding or Abetting Rangeland Health?**

Have we learned anything at all about how to use livestock to enhance and maintain the health and vitality of grass and shrublands? Ranchers and agency officials, who tend to be optimists and measure progress in decades rather than calendar years, believe that rangelands are more nearly approximating historical conditions.

But first, what about rest--the hope that rangelands will improve by removing livestock? This belief is nearly a century old, and many environmentalists and natural resource agency personnel still cling to it as their short cut to rangeland salvation. Unfortunately, rest has seldom been proven to be the solution, even over decades of time. The emerging consensus from ecologists is, amazingly, premised on the belief that functioning plant and animal communities are the product of periodic disturbance, not "pure" rest. Although we no longer doubt that riparian areas require flooding to promote the health of our streams and rivers, and that forests need fires to ensure forest health, we have been slow to acknowledge that rangelands are only healthy if fire and herbivory occur, *albeit within the historic range of natural variability*.

In other words, just as we can overgraze lands, we can also over-rest them. Rangelands are disturbance-prone ecosystems that evolved with natural regimes of fire and grazing. These regimes themselves changed over time in response to human activities, climate change, species arrivals and extinctions and other factors. We would do well to learn from the historic patterns of these disturbance regimes and try to reinstate them through active management. How long will we persist in believing in simple fixes exist for ecosystems, such as rangelands? This is particularly relevant as our understanding of how rangelands function is evolving, reflecting a level of maturity that no longer relegates them to always being the victim of such simple thinking.<sup>8</sup>

One of the most thorough analyses on the ecological effects of rest from grazing compared 26 long-term grazing exclosures with similar ungrazed areas in Colorado, Wyoming, Montana, and South Dakota.<sup>9</sup> The exclosures varied from seven to sixty years old, averaging over 30 years without livestock (once more proving the benefit of having national parks, refuges, and other protected areas across the Western mosaic of landscapes).

Not surprisingly, given what I have stated earlier, the scientists found no differences between the grazed and ungrazed areas in a number of factors: species diversity; cover by grasses, forbs, and shrubs; soil texture; and the percentage of nitrogen and carbon in the soil. The study furthermore concluded that: "1) grazing probably has little effect on native species richness at landscape scales; 2) grazing probably has little effect on the accelerated spread of most exotic plant species at landscape scales; 3) grazing affects local plant species and life-form composition and cover, but spatial variation is considerable; 4) soil characteristics, climate, and disturbances may have a greater effect on plant species diversity than do current levels of grazing; and 5) few plant species show consistent, directional responses to grazing or cessation of grazing."

A word of warning about what the results I have explained above. The West is not one place, but many places which grade into each other. In southeastern Arizona, for example, there is a subtle transition between the Chihuahuan and Sonoran deserts. They have different biological histories, and different ecological structures and functions--upon which cultural histories and landscape have been and are being superimposed. These regional and local differences in the ecology of the West have implications for grazing by large domestic ungulates. Slope matters, as does elevation and aspect, and local rainfall. On a longer view, so does the post-Pleistocene environments in the presence of large, social ungulates--bison, elk, pronghorn. At a first approximation, then some places should be more compatible with grazing by large, social, *domestic* ungulates than others.

Grass and shrubs co-evolved with herbivores, species that grazed and browsed their new growth. The West has always been defined by large populations of herbivores, although the actual identity has changed over time. Whether it was mastodons and sloths, or bison and pronghorn, or grasshoppers and rodents, grass and shrubs need the stimulating disturbance brought about by large, blunt-ended incisors clipping their above-ground

biomass. Not to mention the dung and urine incorporated by hoof action facilitating more efficient nutrient cycling. Today the mastodons are gone and there are fewer bison and pronghorn than what had once occurred. And there are cattle, though not as many as we saw in the last century. But, we have learned that grazing by livestock, when appropriately done, contributes to the necessary disturbance that rangelands require. Perhaps we have come to the point where we measure land health premised on disturbance rather than just rest and realize there is no "balance of nature," but instead a "flux of nature." Getting the disturbance patterns right is the challenge.

### **Rainfall, Grazing, and Fire: Forces That Change**

As though to verify the dangers of incomplete thinking and to emphasize one of the conclusions listed in the enclosure study described above ("soil characteristics, climate, and disturbances may have a greater effect on plant species diversity than do current levels of grazing"), recent studies in arid rangelands have begun to untangle the complex interactions among precipitation, livestock grazing, and fire. We are, according to an ever increasing body of evidence, in the midst of a global warming trend. Ecologists predict that as North America heats up a couple of degrees over the century, plant communities, from forests to grasslands, will shift to the north and upward in elevation. Less appreciated until now is the role that changes in storm frequency--and the droughts and heavier rains and snows these changes bring--can have on rangelands.

It turns out that some ecosystems respond more strongly than others to pulses in rainfall. And, importantly, these pulses of rainfall, with or without herbivory and fire, can largely determine the type of plant community that occurs in a given area. Although scientists had long suspected that fluctuations in rainfall could strongly affect plant productivity, such effects have only recently been confirmed at the ecosystem scale.<sup>10</sup> Because they are adapted to dried conditions, grassland and desert ecosystems show extreme responses to fluctuations in precipitation. In particular, wet years have a much greater effect on plant growth than do dry years. This is largely due to the ability of drought-resistant plants to resist drought and sprout new growth when well watered.

How does this relate to arid rangelands and the effects of historic overstocking? Understanding the effects of rain pulses, it now seems, is essential to understanding how herbivory and fire can reverse the effects of past desertification (increases in shrubs and declines in grasses) that have ravaged so much of the American West. Recent studies in New Mexico and Arizona have found a three-fold increase in woody vegetation across a gradient of different elevations. These changes, however, have occurred in both grazed and ungrazed (rested) sites. Importantly, these indicators of desertification appear not to be the result of grazing, but of high levels of winter rain, coupled with dry summers, all of which favor shrubs over grasses.

Work by scientists in the Malpai borderlands of Mexico, New Mexico, and Arizona using historical photographs dating back to the 1880s indicate an earlier period of desertification but also a second epoch of vegetation change early in the 20th century. Their findings suggest that these vegetation changes are climatically driven, cyclical in nature, and apparently a pervasive feature of rangelands throughout the Southwest.<sup>11</sup> Examination of tree rings indicate that the high levels of rainfall the area is presently experiencing have not occurred in nearly 2,000 years. The upshot has been an increase in shrubs and trees expanding into grasslands.

If these changes, as now suggested, are not brought about just by overstocking, then it still begs the question: how do we reverse the effects of desertification and bring back the grasslands? This is where understanding the effects of both herbivory and fire come into play, at least for those determined to restore ecosystems. Work now being done by Charles Curtin and his colleagues in the Malpai borderlands has begun to document substantial increases in grass cover in what had been a degraded Chihuahuan Desert grassland only weeks after spring fires and extensive summer rains.<sup>12</sup> Importantly, this has occurred in an area that had not been grazed for nearly seven years. It took fire, followed by heavy rains, to accelerate the recovery of grass in this particular desertified rangeland. These results are in stark contrast to those at a nearby area, where drought followed fires. Here, grasses did not replace shrubs; indeed, in some plots vegetation actually decreased. Again, these results suggest that climate, as expressed in pulses of rainfall, often have a greater impact than either grazing or fire.

Borderland studies have also documented the effects of herbivory by cattle and native species, such as small mammals. Noted desert ecologist Jim Brown and his associates have found that small mammals can play a critical role in reversing the effects of climatically driven increases in woody vegetation. In long-term study plots near Portal, Arizona they found that shrubs were more abundant in plots from which they had excluded small mammals. If small mammals can suppress increasing shrub growth, they hypothesized that livestock grazing might serve a similar purpose. They compared woody vegetation between grazed and adjacent ungrazed areas and, as expected, found that shrubs had increased six-fold in the ungrazed area and only two-fold in the grazed site.<sup>13</sup>

What are we to make of these recent findings? They certainly do not fit in our tidy stereotype of: cows→overgrazing→desertification→rest→recovery.<sup>14</sup> Instead, these discoveries reinforce what some might suggest to be the obvious: that nature is more complex than we can understand, and ecologists are continuing to learn about the inter-relatedness of climate, fire, grazing, not to mention the importance of time and space scales, in understanding ecosystems. Perhaps we should be humbled by this. After all, it was a similar appreciation of the non-linear behavior of semi-arid Southwestern ecosystems that first prompted Aldo Leopold to consider the need for a land ethic.<sup>15</sup> To heal unhealthy lands we should seek counsel from both ecologists and those whose connections to the land are long and deeply rooted. Maybe research, management, and husbanding of cows along the Malpai borders of the Southwest have something important to teach us about how ecosystems function.

### **Ranching, Ranchettes, and Biodiversity**

Earlier I suggested that ranching and ranchettes belonged on the same spectrum of Western land use. Although some have tried to deny this, their arguments suggest a strong reluctance to confront reality, for ranchette development is not only a more lucrative use of rangeland, it is also the fastest growing use.<sup>16</sup> Reconsider the statistics given in this book's second essay by Martha Sullins and her colleagues. Nine of the ten fastest growing states are Western, and have been for over a decade (accolades to Atlanta for ensuring Georgia makes the top ten list as well; thanks for keeping us from a monopoly!). In Colorado, the loss of agricultural land is sharply accelerating. From 1987 to 1997, the average annual rate of ranch and farm land loss was 141,000 acres per year. Between 1992 and 1997, the rate of conversion nearly doubled the past 10-year average, to 270,000 acres a year.<sup>17</sup> Regretfully, with Colorado's burgeoning population, most of this formerly agricultural land has gone straight into residential and commercial development.

The "deniers" on the other hand, claim that the conversion of ranchlands to rural housing developments occurs only in "pretty places," such as around Sun Valley, Taos, Bozeman, and Aspen, but not out on the real West. In some respects this is true, for much of what has come to be called "the buffalo commons" is not booming and ranches are not being avidly sought by speculators and developers. Not yet. A demographer recently declared that given enough time, there is no place in the West so remote, so poor, with such bad weather and poor roads, that it can hide from the boomers, individuals who appreciate the easiest way to make money is to buy rangeland cheap and sell it high for houses and commercial development.<sup>18</sup> And I have seen it. When you visit the outback, the West away from interstates, airports, and blue-ribbon trout streams, you can sniff it in the air; newcomers prowling, looking for a deal on land, or a place to escape from, or to live a life that has animals and land in it. We are deceiving ourselves if we believe parts of the West will be spared just by isolation and poverty; what is saved will come about from conscientious hard work, involving local communities and good land-use planning.

Importantly, to appreciate the real cost of the conversion of ranchlands to ranchettes, remember what Martha Sullins and her co-authors have pointed out, that growth in population results in *disproportionately greater conversion of land*. New Westerners are not living in cities so much as they are on sprawling ranchettes. Look at Figure 1 in her essay and consider her words, "From 1960 to 1990, annual rates of land consumption reached 7.2%-far surpassing the 2.8% annual population growth rate."

To deny that the conversion of ranchlands to ranchettes has no connection to the maintenance of our natural heritage assumes that biodiversity is no different on ranches than on ranchettes. Consider Figure 7.1 for a second. This ranch in Colorado near where I live was sold in the 1950s. Over time you can track the increase in homes and the spread of roads that allow access to these homes. The question relating to biodiversity comes down to, "Is there a house effect?" Is the wildlife near these homes the same wildlife that occupied this ground before the homes arrived? If it's not, and if homes like these are becoming ubiquitous across the New West, then it is likely that our region's biodiversity is changing to something quite different from what it was.

We addressed this question by studying the birds and carnivores that occurred near ranchettes and asking whether they differed from those that occurred away from rural homes.<sup>19</sup> We found that the birds that lived near these homes were very similar to the birds you found near homes in cities, but not in rural landscapes. For example, robins, black-billed magpies and brown-headed cowbirds were among the species most abundant near ranchettes. In terms of carnivores, we found that domestic dogs and cats were most numerous near homes, whereas coyotes and foxes were not. Indeed, they only became numerous once you were a considerable distance away from homes. Prized songbirds, such as blue-gray gnatcatchers, orange-crowned warblers and dusky flycatchers, were nearly absent near homes and their numbers did not increase until you were hundreds of yards away from the homes, in undeveloped areas.

Does this matter? Conservation biologists would say yes. The species that thrive near ranchettes, the cowbirds, robins, magpies, cats and dogs, are exactly the species that result in depressed populations of other songbirds, raptors, and small and medium-sized mammals, many of which are of great conservation concern. This happens

because these human-adapted species are superior competitors for nesting sites and food, or are skilled predators of other species. Even worse, the cowbird, doesn't even build its own nest. It locates nests of other songbirds, dumps its eggs in their nests and flies away, leaving their young to be raised by the host species. Although these other songbirds are willing to be "adoptive parents," the young cowbirds grow faster, resulting in the starvation of the host's young.

We took our studies one step further. Northern Larimer County, Colorado, where I live, is a blend of protected areas, ranches, and ranchettes. A student and I are examining the bird, carnivore, and plant communities across these three different land uses. If, as we found in the study described above, ranchettes indeed attract generalist species and repulse species sensitive to elevated human densities, then we hypothesized that biodiversity would be more similar on protected areas and ranches than on ranchettes. And that is what we found.<sup>20</sup> Generalist bird species, such as magpies and cowbirds, showed elevated populations across the ranchette land use category while species subject to conservation concern, like towhees and grassland sparrows, were common only on protected areas and private ranchlands. Similar trends existed for native plants compared to exotic and invasive weeds, and dogs and cats compared to native carnivores.

It appears that groups like The Nature Conservancy are doing the right thing when they promote ranching as a compatible land use in the New West. When ranches support viable populations of species sensitive to urbanization, they serve much the same role as protected areas because they serve as "sources" of sensitive plant and animal species. If ranchettes serve as "sinks" (places where death rates exceed birth rates) for species of conservation value, populations on these areas are kept afloat by the addition of surplus individuals dispersing from nearby protected areas and ranchlands. The value of ranchlands becomes even more obvious when one compares the productivity of these lands. Public lands, by and large, occur at higher elevations and on the least productive soils. Private ranchlands, on the other hand, generally occur at lower elevations and on much more productive soils.<sup>21</sup> This is why conservation groups concerned with the maintenance of native biodiversity see ranches as critical components in their protection strategies. Perhaps not surprisingly, results similar to ours have been reported from Europe and Latin America.<sup>22</sup>

The upshot of the biological changes associated with the conversion of ranchlands to ranchettes will be an altered natural heritage. In the years to come, as the West gradually transforms itself from rural ranches with low human densities to increasingly sprawl-riddled landscapes with more people, more dogs and cats, more cars and fences, more night lights perforating the once-black night sky, the rich natural diversity that once characterized the rural West will be altered forever. We will have more generalist species--species that thrive in association with humans--and fewer specialist species--those whose evolutionary histories failed to prepare them for elevated human densities and our advanced technology.<sup>23</sup> Rather than lark buntings and bobcats, we will have starlings and striped skunks. Rather than rattlesnakes and warblers, we will have garter snakes and robins. Is that the West we want? It will be the West we get if we do not slow down and get to know the human and natural histories of our region better, and then act to conserve them.

### **Ranching: The View from Here**

The West is a region of diverse ecosystems, cultures, and economies. Ranching as a land use, and ranchers as a culture have been with us for over 400 years, dating back to the early Spanish colonists who struggled northward over El Paso del Norte and found a home for their livestock near present-day Espanola, New Mexico. Today, more so than at any time in its history, the ranching culture is under assault. If what I have presented in this essay is true, that ranchlands are compatible with our region's natural heritage and that herbivory is a necessary ecological process in the restoration and maintenance of healthy rangelands, then why are ranchers and livestock grazing so vilified? Why have scores of environmental groups banded together for "a prompt end to public lands grazing."?<sup>24</sup>

Could it be because of different values? I began this essay reporting how a conservation biologist wrote a review of livestock grazing that universally condemned it as a land use incompatible with biodiversity. In trying to understand how his review differed from what other scientists have reported, ranging from the National Academy of Sciences to noted plant ecologists, I questioned, was it just a difference in values? Might some Westerners want the public and private lands free of manure, cows, sheep, and fences because they want them for their own uses, such as mountain biking and river rafting? Do some want ranchers and their livestock off the Western ranges because they believe what others have told them; that cows and sheep sandblast land and that cattle barons are arrogant bastards, intolerant of any but their own kind?

My own sense is that differing values and distorted mythology can obscure facts, and that at the end of the day, emotion may trump judgment. Would it make any difference if we found that ranchers are stewards of the land,

that cows are being used as a tool in the recovery of arid ecosystems, that open space, biodiversity, and county coffers are enriched more from ranching than from the rapidly eclipsing alternative, ranchettes? Perhaps.

What about the far right? The New Federalists who are obsessed with spreading their private-property rights hysteria? They are as intolerant of community-based conservation efforts in the New West that bring ranchers, scientists, and environmentalists together as the Far Left. These powerful players in the West, seldom are any of them actually ranchers, throw out incendiary remarks about wildland protection and government land grabs as easily as their counterparts reflexively oppose grazing. Thank goodness for those in the radical center who strive to build connections across landscapes that run through human and natural communities, and across socio-political chasms. Perhaps the wing nuts at either ends of this human spectrum stir up dissent because they find it easier and more profitable to simplify, divide, demean and demonize.

There are those who say the only difference between ranchers and realtors is a rancher is someone who hasn't sold his ranch yet. Do ranchers care for the land, or are they developers in sheep's clothing? Certainly, there are quite a few that see their ranch as their last cash crop, their private 401-k account. On the other hand, mounting evidence suggests that ranchers care for the West's geography every bit as much as those of us in the cities and suburbs. In Colorado the state livestock association has formed a land trust. To date, 44 conservation easements, totaling over 100,000 acres, have been entrusted to it from ranch families. Indeed, in Colorado, the cattlemen's land trust is second only to The Nature Conservancy in acres protected under conservation easements.<sup>25</sup> Considering the economies associated with Western ranching, it is evident that today's ranchers are in it for its lifestyle attributes, far more so than as a way to reap great profits.<sup>26</sup>

I overheard a conversation once between an environmentalist and a rancher. The environmentalist was laying it on pretty thick about the woes of cows and sheep on the Western range. In a near-fit of exasperation, the rancher blurted out, "You're treating us the same way we treated the Indians; you'd have us off our land and relegated to the worst places the West has to offer." The rancher, perhaps unknowingly, was raising a comparison made by others. Wallace Stegner was among those who saw similarities between the First Americans and today's ranchers. In one of his most heartrending and evocative essays, "Crow County," he observed a "cosmic irony" that connected ranchers and Indians:

Out on the plains, the tamer country onto which the Crows were forced in the 1880s turns out to contain six billion tons of strippable low-sulfur coal. An equal amount lies under the grass of the Northern Cheyenne reservation next door...The modern Crows can grow rich, if they choose to adopt white styles of exploitation and destroy their traditional way of life and forget their mystical reverence for the earth. Meanwhile the whites who now live in the heart of the old Crow country, as well as many who own or lease range within the present reservation, fight against the strip mines and power plants of the energy boom, and in the face of rising land costs, high money costs, high machinery costs, high labor costs, and uncertain beef prices work their heads off to remain pastoral...There is a true union of interest here, but it is also a union of feeling: ranchers and Indians cherish land, miners and energy companies tear it up and shove it around and leave it dead behind them.<sup>27</sup>

Stegner's point seems to resonate. After all, Western ranching has spanned the time scale from the First Americans to the astronauts, avoiding the moving-on mandate of the get-rich-quick industries of mining and logging. Charles Wilkinson, among the most distinguished of our region's scholars, has exhorted us to, "...extend an honest respect to the ranching community--virtually an indigenous society in the West."<sup>28</sup>

In the heated argument between rancher and environmentalist mentioned above, I will admit coming to the rancher's defense. In watching him squirm uncomfortably before an audience of urban, suburban, and recently exurban Westerners, it dawned on me that perhaps we could settle the New West better than we conquered the Old West if we listened to the cultures that had been here before us (and that endure still). Might we have made a better place of this region if we had slowed down enough to listen to the First Americans? Did they have something to teach us about the region's wildlife, rivers and streams, grass and forests?

So today, in our haste to remake ourselves once more into the Next West, might we avoid some mistakes if we showed respect to the ranching culture? A definitive answer to that question eludes me but my gut says yes, going slow and getting to know one's human and natural histories is essential to living well on a place.

Perhaps it all comes down to values--of the rancher, the urban environmentalist, the scientist and the government employee. Each of us is in love with the West, its punctuated geography, its rich cultures, its wildlife, and its heart-rending beauty that stretches sometimes further than our imaginings. Ranchers will have to change; they will have

to change more than any of us. They can do that, one only needs to look at their history. They have changed in the past, they have adapted, and now they are evolving to fit a land whose demographics, whose economies, and yes, even whose environment is different from what it had been. But we should change as well. Other than those of us with extremely narrow ideologies, the far right and far left, the rest of us should, perhaps, meet the ranchers half-way, or nearly so. The need of the moment is to find common ground on which to work for a common good. Good-faith efforts, and a retreat from demonization and demagoguery, are what we need today.

If it makes what I have written any more palatable, let me admit where my values come from. My wife and I live in a valley along the northern end of the Colorado Front Range. Our neighbors and friends are ranching families and those who live on ranchettes. Over the years we have come together to dance, eat, neighbor, and chart a common ground. Whether working together in our weed cooperative, developing a place-based education program in the valley school, fencing out overgrazed riparian areas, we are working together to be known more as a place where people cooperate, collaborate, and show communitarian tendencies, than as a place where they engage in ferocious combat, litigation, and confrontation. We are home, we have our hands in the soil, and our eyes on the hills that comfort us. In our imperfect lives, we work together to build a community that will sustain us and our children, for we understand that we belong to the land far more than we will ever own it. We strive together in a cooperative enterprise, to steward our lands for all of God's children and all of God's creatures. Perhaps that is why I write as I do.



# Tony Malmberg

Twin Creek Ranch  
Lander, WY

**Tony Malmberg** is a life-long rancher. Since 1984 he has helped ranchers achieve greater profitability through professional services that combine modern ranching technology with financial and marketing innovation. As the recipient of many honors, Tony provides a unique combination of experience to promote ecological land use that pays. Much of Tony's experience comes from managing the Three Quarter Circle Ranch; an integrated operation located in the sagebrush steppe of central Wyoming. Here, livestock ownership is not the primary objective. Rather, managing to achieve ecological, economic, and quality of life goals is accomplished by using livestock, which he learned by continuing his education in Holistic Management. This strategy evolved after Tony lost the ranch, worked to buy it back, and partnered with others to enhance his knowledge base and make the operation profitable. Tony came to understand that his ways of managing led to the ranch's economic problems; not markets, or the weather, or some other outside factor. He started to look at the land as the most important resource, and cattle as a tool to obtain economic sustainability. The land gave him signals that his efforts were, or were not working, and this began to change the way he thought and managed the land.

## Ranching for Biodiversity

My grandfather used to say that cattle did better on a mixture of grass. This awareness of different grass species prepared me for the broader concept of biodiversity. As I began thinking about biodiversity, my awareness moved beyond a "mixture of grass" to recognize mammals, birds, predators, and many species beyond grass as part of an interlinked system. That wasn't always the case. I used to consciously remove species, whether Canada thistle, coyote, or beaver.

Our ranch sits in the foothills of the Southern Wind River Mountains. My father, uncle, and I bought this ranch in 1978. Twin Creek, a small mountain stream, flows onto our ranch in an incised canyon for 4 miles before it comes to a narrow alluvial meadow at our headquarters. Here it turns north through juniper breaks for 8 miles before leaving the ranch. Elevation ranges from 5,800-8,000 feet. Today, we use the tool of grazing to develop willows for beaver habitat—but that wasn't always the case. An excerpt from my book, *Overgrazed*, recalls this scene when my brother-in-law and I blew a beaver dam.

Jim and I crawled through the meadow grass under his pickup giggling. We were about 100 feet from Twin Creek, one-half mile west of the house. Jim pulled the wires in behind him, leading to the charge of dynamite.

"This will show that little bastard," I said, wiping the drool from my chin. Jim touched the two wires to the battery. WOOMP! The concussion preceded the explosion. Sticks and mud came raining down on the pickup. As soon as it stopped hailing willows and mud, we scrambled out from under our shield.

"Yeah!" I hollered as we ran down to the creek bank, "I think we got it all." Water gushed through the gutted beaver dam, and we could see the level dropping quickly. The next morning I rode my wrangle horse across the restored crossing. The beaver dam had gotten so deep; I couldn't bring the horses across. But that was taken care of now. I loped around the horses and galloped down the creek to the resurrected crossing. The water ran muddy and I couldn't help but notice creek banks caving into the stream. I wondered.

### Consequences

As I came to realize the consequences of erosion—a lowered water table and reduced riparian area production—resulting from blowing up the beaver dam, I developed an entirely different mindset. I shifted my thought process to live with the beaver and their dams. With this commitment, I viewed the

creek as a fence rather than something I could cross. This attitude gave me an extra pasture, a higher water table, less erosion, and more grass on the riparian area. I learned that the hardest part of change was my mindset. The tough is only mental. The positive results energized me, and I began to curiously watch in a new way.

As beaver inhabited larger segments of Twin Creek, I began noticing more biodiversity. We had an occasional moose in the winter but now we have a resident population of moose. The University of Wyoming and Wyoming Game and Fish Department conducted a study on our ranch to see how beaver habitat affected bird population. They found the bird populations increased by 50% and a species jump of 70%. I view the addition of these species as key indicators of changing habitat. Blowing the beaver dam was my first realization that, by killing a form of life, I could damage stability and my profitability.

A course with Kirk Gadzia in 1987 introduced me to the Holistic Management decision model. With this aide, I started concentrating cattle numbers and stopped my traditional practice of season-long grazing. In the beginning, I started with a simple deferred rotation plan. With developed water storage to enable larger herds and fencing, I ran a herd of 1,200 yearlings and 600 pairs on our 33,000 acre ranch. In 1999 we sold a BLM allotment and leased an adjacent ranch. We now run two herds of 1,000 pairs and 1,200 yearlings on 50,000 acres. We utilize temporary electric fence to increase livestock density and reduce grazing periods to less than 21 days per year on any given area. My goal is to reduce that time to less than 14 days. During fast growth, we attempt to move the cows every 5 or 6 days.

### **Costs Decreased**

When I first started running larger herds and moving cattle more often, I was concerned about labor. We started a ranch recreation business so paying guests could offset additional labor costs. I have learned that it takes cattle new to our operations about 3 years to adjust to increased concentration and moving. Now we can easily move 1,200 yearlings or 1,000 pairs to adjacent pastures with 2 or 3 riders and I have done it alone on many occasions. Longer moves take more help, depending on the terrain. Our operating expenses, particularly labor and fuel have decreased, even though we have nearly doubled this number of cattle.

Improved production, better land health, recovered riparian areas, and increased biodiversity have all resulted from the core management practices of:

1. Concentrating cattle numbers (intensity).
2. Reducing the length of time in one place (frequency).
3. Varying the time of year I return to a specific piece of ground (timing).

### **Increased Biodiversity**

Riparian areas, which comprise 3% of the surface area of our ranch, particularly responded to this increased level of management. That 3% contributes 35% of our production. The more we slow water down and the higher we raise the water table, the more production we have. Increased biodiversity of willows, beaver, moose, and songbirds reflect increased production and profitability.

Once I realized the benefits from beaver, I became more aware of diversity of all sorts. In 1989 we were moving cattle and passed through a prairie dog town and I noticed a coyote lying quietly beside a prairie dog hole. After moving the cattle, we retraced our steps past the prairie dog town. The coyote was patiently waiting in the same spot, hunting prairie dogs. As a result of that observation 12 years ago, I have not shot a coyote or allowed anyone to hunt coyotes.

With planned grazing and a predator-friendly policy, prairie dog colonies stay small. The smaller colonies of 20-40 prairie dogs seem to move around from place to place, particularly when I place a salt block in an active town. When the prairie dogs relocate, the western wheat grass explodes around their holes. Applying the tools of animal impact and grazing with prairie dogs increases grass production.

## **Weed Management**

The same awareness of diversity holds true with weed management. I have learned that whatever grows should be there. If I spray and kill a weed, I am moving succession backwards to bare ground. This happens when I focus on the problem of weeds rather than on the goal of a diverse and complex plant community. Once we have moved succession backwards to bare ground, we must again populate that ground with annuals and weeds until the soil and plant complexity can support perennial plants. With proper frequency and timing of the tools of animal impact and grazing, the succession process will move toward a perennial grass plant community.

Canada thistle is an easy example. Canada thistle cannot stand hot season grazing. By planning to graze riparian areas in the hot season every three to five years, I keep Canada thistle under control. I would rather have cheat grass, Canada thistle, knapweed, or leafy spurge than bare ground. With these weeds I have plant material to place on the soil surface creating mulch and incubation sites for perennial grass plants.

## **Change: Becoming Comfortable with Being Uncomfortable**

The level of complexity and diversity defines succession on the land as well as in community dynamics. As a person, I experience succession processes also. This is a fancy way of saying I change and evolve. Change is uncomfortable. I learned that, in order to keep up with changes around me, I had to become comfortable with being uncomfortable. As I learned to seek change, I increased my learning opportunities.

Most of my rancher neighbors remain guardedly skeptical but some have adopted the fence and livestock water practices we use. The local environmentalists are more open to grazing as a viable tool because of what they see on our riparian areas and in our bird populations. I have had the same BLM range conservationist for 23 years and he has been very supportive. When I first asked him what he thought about implementing planned grazing, he said he thought some management was better than none at all. It is easy for me to stop by the BLM office and visit casually with the personnel because of an increased trust. With more than half of our ranch being public land, I am concerned about environmentalist and agency perceptions and concerns. By pursuing dialogue with these people in my community, I have gained valuable resources in knowledge and experience, which help me better manage our ranch.

## **Guiding Principles**

As an individual, my level of succession can be defined by the diversity and complexity of my knowledge and experience. My ability to interact and manage the land is directly proportional to my level of succession. My guiding principles in land management change as my level of knowledge and experience evolve. At this point in my development I have two guiding principles:

First, I avoid actively killing anything and notice what is here. Whether a weed or an animal, it would not be here if its habitat were not. I plan the timing, intensity, and frequency of tools (grazing, rest, fire, animal impact, technology, and living organisms) to move community dynamics to a level of higher diversity and complexity.

Second, I ask myself what is missing. Problems are not due to the presence of a species but rather the absence of a species. The absence of moose meant willows were missing, which meant beaver were missing and the chain continues. Some think the weak link in Sage Grouse survival lies in the early brood rearing stage, which requires a high protein diet. This consists of forbs and insects. Are these missing? If so, why?

My goal is to manage for diversity and complexity of life on the ranch. Biodiversity. Each plant species has different growing seasons, different root zones, and different leaf capacity. Each provides a different pathway for conversion of solar energy to life. By maximizing the pathways of solar energy conversion, I maximize production. I have learned that biodiversity extends beyond a mixture of grass.

Each animal, fish, and insect species expresses something about the niches provided. Indicator species of moose, migratory songbirds, and black bear tell me something about the habitat. If I honor my rule of not suppressing life, I will see beyond symptoms to address problems. If I continue asking, "What is missing?" I will continue to see beyond simple systems and realize the whole. When I increase biodiversity I improve land health, I improve community relations, and I improve our ranch profitability.



## **Bennett A. Brown**

Program Director  
The Animas Foundation  
Animas, NM

**Ben Brown** is Program Director for the Animas Foundation, a private operating foundation in Hidalgo County, New Mexico. He is responsible for coordinating grazing management, wildlife management and science/research activities on the Foundation's 502-square mile Gray Ranch. He also serves as a science advisor to the Malpai Borderlands Group, a not-for-profit corporation comprised of ranchers in southeastern Arizona and southwestern New Mexico.

Dr. Brown was formerly Director of Science and Stewardship, Major Programs, for The Nature Conservancy. He served as Project Director for The Nature Conservancy's Gray Ranch project during its transition to the Animas Foundation. During this period, he also served as a science consultant and technical reviewer to the Resource Recovery Trustees for the Exxon Valdez Oil Spill in the Prince William Sound of Alaska. He has worked with a variety of private, state and federal agencies on biodiversity training, activity reviews and inter-state cooperative projects.

Dr. Brown received his B.A. in Zoology from the University of Texas at Austin, and an M.S. and Ph.D. in Wildlife Ecology from Texas A&M University. He has served on the staffs and faculty of both Texas A&M and Kansas State University, teaching courses in wildlife ecology, wildlife management and wildlife conservation and directing graduate research in these disciplines.

## **Charles Curtin**

Arid Lands Project  
Cape Elizabeth, ME

Charles Curtin was born in London, England and spent his early childhood in Europe and West Africa. He grew-up outside of Madison, Wisconsin where his early experiences of watching the subdivision of Midwestern farms and the loss of rural cultures in what is considered one of the most progressive States in the union, near a large land-grant University which was considered a leader in formulating land use policies, demonstrated to him that conventional top-down land use planning and conservation was largely ineffective. Convinced that cross-disciplinary approaches were essential to finding long-term solutions to land-management problems he attained a B.A. integrating biology and resource economics from Marlboro College in Vermont. He went on to receive a M.S. in Land Resources from the Institute for Environmental Studies and a doctorate in zoology both from the University of Wisconsin-Madison. He was a postdoctoral fellow at the University of New Mexico with Dr. James H. Brown. After managing long-term experimental studies near Portal, Arizona as part of his post-doc at the University of New Mexico, Dr. Curtin concluded that to understand the large-scale processes necessary to restore and maintain Western landscapes research and conservation needed to be conducted at a larger, longer-term scale than was possible through conventional academic or government institutions. In 1997 he founded the Arid Lands Project (ALP), a New Mexico 501 (c) 3 research institute to address the effects of large-scale processes such as climate, fire, and grazing on Western landscapes in order to meet the needs of local people, conservationists, and land managers in their efforts to restore and sustain remaining un-fragmented lands. In addition to directing ALP, he also serves as a research coordinator and science advisor for the Animas Foundation (owner of the 502 square mile Gray Ranch) and the Malpai Borderlands Group (a rancher led community-based conservation organization). He is a member of The Nature Conservancy's Aridlands Network, the Society for Conservation Biology's representative to the Sustainable Rangelands Roundtable, and Chair of the UNESCO Man and the Biosphere Program Chihuahua Desert Grassland Case Study. For the past 15 years Dr. Curtin has studied the restoration of grasslands and savannas including studies in sub-alpine grasslands in Colorado, mixed-grass prairies and savannas in Wisconsin, and arid

grasslands and savanna in the Mexico - United States borderlands. His current work focuses on how the interaction of climate, fire, and herbivory structure arid landscapes by integrating landscape level research with community-based conservation. This work is conducted through the involvement of the Animas Foundation, Malpai Borderlands Group, and the local community in a series of landscape level experiments and internship programs, the largest of which is a 9,000 acre experimental study of the interaction of grazing, fire, and prairie dogs in McKinney Flats on the Gray Ranch.

## **PRAIRIE DOGS, CATTLE AND CONVENTIONAL WISDOM**

Conservationists and land managers are increasingly undertaking reintroductions of black-tailed prairie dogs (*Cynomys ludovicianus*) to western grasslands. However, there is little data from replicated experiments documenting the impact of prairie dog translocations on ecological systems. Replicated studies initiated in 1999 on the Gray Ranch in southwestern New Mexico provide some experimental documentation of the ecological impacts of prairie dog translocations.

Following their reintroduction, prairie dogs girdled mesquite shrubs near their burrows, supporting observations at other locations that prairie dogs can play a role in reducing shrub cover. The initial results also indicate that while prairie dogs do have a positive impact on biological diversity, these results are not consistent across all taxa. Though lizard biomass and diversity (expressed as the number of species) show a positive response to prairie dogs, small mammals appear to have a neutral or negative response. Vegetation diversity, at least initially, shows a negative response to prairie dog reintroduction.

One surprising result was that areas with prairie dogs can actually have a higher vegetation biomass than control plots. This suggests that the long-held assumption that prairie dogs remove forage that may otherwise be available to livestock and other herbivores is not true. In addition, cattle were observed to travel miles across open terrain away from water to selectively forage in the vicinity of prairie dogs. This lends further support to the belief that herbivores benefit from the higher nutrient content of the vegetation in the vicinity of prairie dogs.

Cattle reduce grass height in the vicinity of towns and there by appear to reduce the risk of predation to prairie dogs, while prairie dogs increase forage quality. Field observations of this phenomenon suggest that not only is there a mutualistic interaction between prairie dogs and cattle, but that much of the diversity associated with prairie dogs comes not just from the presence of prairie dogs themselves. Rather, it arises from the interaction of prairie dogs and other herbivores that seems to create a richer mosaic of habitat types than would result from the work of the prairie dogs alone.

Ironically, the short-term, small-scale benefits to conservation are less clear for prairie dog translocations, at least initially within our small experimental colonies. Our preliminary results suggest that prairie dog translocations do not have the dramatic overall impact on biodiversity suggested by some studies of large natural colonies.



# **Scott H. Stoleson**

## Rocky Mountain Research Station Albuquerque, NM

**Scott H. Stoleson** is a postdoctoral Research Wildlife Biologist with the Forest Service's Rocky Mountain Research Station in Albuquerque, New Mexico. He received his B.A. in Biological Science from Dartmouth College, and his Ph.D. in Wildlife Ecology from Yale University, where he studied the biology and management of parrots. His research interests include the breeding biology and demography of birds, population modeling, riparian conservation, and the impacts of land management practices on wildlife. He has conducted research in the western U.S., Costa Rica, Ecuador, and Venezuela. His current research examines the breeding biology and habitat requirements of Southwestern Willow Flycatchers and other riparian birds in the Gila River Valley of New Mexico.

### **Willow Flycatchers on the U Bar Ranch**

The recovery and management of endangered species requires both a clear understanding of their habitat requirements, and how variation in habitat might affect nesting success. The endangered Southwestern Willow Flycatcher (*Empidonax traillii extimus*), a riparian obligate Neotropical migrant bird, breeds at numerous sites across the region that vary greatly in floristics, vegetation structure, and the extent of human alteration of occupied habitats. Its decline has been attributed to habitat loss from a variety of factors, including grazing.

The largest population occurs in the Gila River Valley of New Mexico, primarily on the U Bar Ranch. Since 1997, this population has been the focus of intensive research by a collaborative team from the USDA Forest Service Rocky Mountain Research Station, Western New Mexico University, Gila National Forest, U Bar Ranch and Phelps Dodge Corporation. We have assessed habitat use at the scale of nest tree, home range, patch, and landscape. We have also monitored nesting success and brood parasitism. We compared the usage of different nest trees with their availability within occupied habitat to show that in mature riparian woodland, flycatchers disproportionately nested in box elder, and significantly underutilized willows; other trees were used in proportion to their abundance. We compared values of 19 habitat variables between nest sites and unused sites within occupied habitat. Compared to unused sites, microhabitat around flycatcher nest sites was characterized by significantly lower ground cover, greater and less variable canopy cover, lower canopy height, higher foliage density in the sub-canopy, more heterogeneous foliage density, higher foliage height diversity, more stems of shrubs, trees, and box elder, fewer cottonwood stems, greater proximity to water, and different species of herbaceous vegetation. A logistic regression model identified the principle differences as foliage density in the sub-canopy, percent canopy cover, and number of box elder trees: the flycatchers are cuing into dense, shady box elder groves. Nesting success of flycatchers was positively correlated with nest height in this population.

Avian ecologists increasingly have focused on processes and patterns at the patch or landscape scale. In eastern North America, population declines of forest-inhabiting Neotropical migrants have been linked to changes in landscape characteristics, such as forest patch size. It is unclear whether such processes pertain to riparian ecosystems in the West, which are narrow, linear, and naturally fragmented. We examined landscape and patch-level correlates of patch occupancy, density, nesting success, and rates of cowbird parasitism on Willow Flycatchers. We estimated flycatcher population size and nesting success in 39 discrete riparian patches from 1997 through 2000. Three variables were significant predictors of patch occupancy by Willow Flycatchers: percent of woody stems that were box elder, proximity to the nearest patch, and variation in shrub density. Only % box elder was a significant predictor of flycatcher density within patches, reflecting the unique nesting preferences of this population. Generally, nest success tended to be higher in more mature patches: those with taller and more closed canopies, more trees in the larger size classes (and so higher basal area), and fewer trees in the smallest size class. The average patch-wise brood parasitism rate decreased with

increasing percentage of box elder within a patch, but increased with increasing patch size and width. This contrasts with the generally accepted concepts of edge and patch size effects. Overall, 18 of the 39 study patches were grazed, primarily in fall and winter only. Grazing appeared to significantly affect flycatchers, though not as expected. Contrary to conventional wisdom, flycatchers were found more frequently and at higher densities in grazed patches than in ungrazed patches. We detected no significant effects of grazing on nest success or rate of brood parasitism. We suggest this result is due to the type of progressive grazing management practiced on the U Bar Ranch.



# The New Ranch at Work

## **Session IV: Building the Radical Center: Getting Results**

Session Moderator:  
**Nathan Sayre**

Dan Dagget  
**Why it's Time to Demand Results**

Tommie Cline Martin  
***The Reconnection of People and Land  
- How Warriors Become Healers***

Courtney White  
**Soil First!: Putting 'grass' and 'roots' into  
Grassroots Environmentalism**

Merle Lefkoff, Facilitator  
**The Nevada Governor's Sage Grouse Conservation  
Team: an Effort in Environmental Democracy**

# Dan Dagget

EcoResults!

Flagstaff, NM

**Dan Dagget**, environmentalist and author, wrote the book on the subject of applying collaborative solutions to Western ecosystems, *Beyond the Rangeland Conflict* which has been described as one of the most important books on the contemporary West. In 1992 Dagget was honored as one of the top one hundred grass roots environmental activists in America by the Sierra Club for its centennial celebration. He has given more than a hundred talks around the West on the outstanding results that environmentalists and ranchers achieve when they apply a results-based approach and work together. Currently, he contributes articles to Range Magazine, High Country News' Writers on the Range, and the Quivira Coalition Newsletter, among others.

## Why it's Time to Demand Results

### **We need a new environmentalism because the old one isn't working.**

Recently, I attended a meeting dealing with a grazing plan (Allotment Management Plan or AMP) for Forest Service lands grazed by a couple of large ranches in Arizona. To make their management process more open in hopes of resolving conflicts before they started, these ranches had formed a collaborative team open to anyone who was interested in the private, federal and state trust lands affected by their operations. Some team members had put as many as three years of work into the plan that was finally presented to the Forest Service. Some considered all of their six years of involvement to have been invested in this plan. For that reason all were becoming increasingly frustrated as the approval process headed into its second year with little apparent progress.

In order to break this logjam, the team members kept referring to the results they hoped to achieve by means of the plan—more antelope, restored grasslands, springs flowing again, economically sustainable open space. But the more team members talked about results, the more the Forest Service staffers kept harking back to matters of process they thought needed to be readdressed or dealt with in greater detail. Finally, with everyone at the end of their patience, one of the Forest Service people said, "You don't seem to get it. Our decision will be made on the basis of process and process only. Results are irrelevant to what we're doing here. Our decisions are based on process because that's what we get sued on."

"Results" irrelevant! I couldn't believe my ears. I wondered what the great majority of Americans would say if they were to hear that results are irrelevant to decisions made about the way their public lands are managed. As preposterous as this sounds, it is the absurdity to which the Old Environmentalism, based on litigation and regulation, has lead us.

### **What is Wrong**

To shed a little more light on what is wrong with the Old Environmentalism (or on how deeply we've dug ourselves into this hole), I've got a couple more examples.

A few years ago, I talked to an officer of a regional environmental group about what kind of condition a ranch had to be in for her to say it was well-managed (and therefore not sue the rancher or appeal his management plan). She said the rancher had to have cut livestock numbers, perhaps drastically. He or she would have to have taken out a conservation easement on their private land; have to be doing something about exotic plants; fenced their animals out of riparian areas; supported wolf reintroduction; reintroduced wildfire (by excluding grazing); and so on. She kept right on rattling off processes this rancher would had to have adopted, but she never said a single word about what the land should look like. In other words, she was telling me we could judge the health of a piece of land without ever looking at it. She was telling me she judged the health of a piece of land by the processes used to manage it, not by the condition it was in.

A couple of years ago I went to a lecture at the University of Idaho which addressed the question of whether or not wilderness designation adequately benefits endangered species. I went to the lecture looking forward to some lively dialogue, because I felt I knew of some cases in which it didn't. I was surprised and disappointed when I discovered that the presentation consisted of a comparison of maps of wilderness areas and endangered species locations. Where the two coincided it was assumed that wilderness designation was beneficial to the endangered species. Where they didn't coincide it was assumed that endangered species were in jeopardy. This scientist was making the same assumption that the environmental leader made; that if we apply the right process, the land will automatically be healthy.

This is why the Forest Service bases their decisions so much on process, because the Old Environmentalism, and virtually all environmental laws and regulations that deal with public land management, are based on the assumption that, if we apply the right process (which in this case consists of reducing human activity ideally to zero), the land will automatically become healthy or at least begin healing. In fact many of us consider lands that are "protected" to be healthy by definition.

That's why the Old Environmentalism would have us believe that we can judge the health of a piece of land by reading how it's managed in the newspaper, or in an environmental newsletter, or by asking a bureaucrat.

### **Assumptions Don't Always Work**

There is a problem with that: There are plenty of examples that show this assumption doesn't always work. You've read many of them in this newsletter.

Using the assumption that the land can only be healthy and support a healthy diversity of native plants and animals if we get the people off, one would assume that threatened and endangered species wouldn't be doing very well on the U Bar Ranch managed by David Ogilvie in southwestern New Mexico. And we would be wrong. The U Bar supports the highest density of songbird territories known to exist in North America; the largest known populations of three threatened or endangered species; and the highest known ratio of native to exotic species of fish (99% to 1%).

Using the assumption that the land can only be healed by reducing the impact of people on it, one could be absolutely positive that the best way to heal any piece of damaged land would be to get people and their livestock off. Again we would be wrong. Cows are now routinely used to revegetate lands damaged by mining, off-road vehicle use, catastrophic fire, and even overgrazing.

Even more important, in each of these cases, and in plenty more like them, people managing toward environmental goals and using livestock to do it, have dramatically outperformed the Old Environmentalism's remedy of just leaving the land alone.

### **Alternative Needed**

That tells me the Old Environmentalism doesn't work, and that we need an alternative, an alternative not blinded by an assumption that doesn't work. Fortunately, there is one. A few people have begun to call this alternative a New Environmentalism.

The New Environmentalism differs from the old one in a great many ways. It is more accountable, adaptable, effective, collaborative, and equitable than the old. It's even more natural. Most important: It judges the health of a piece of land in terms of its condition, not in terms of what processes are being used to manage it. That, however, is just the beginning.

People who practice the New Environmentalism measure the success of their management by monitoring its results on the land. They check to see if they've restored its plant community, if its habitat supports a healthy and diverse population of wildlife, and if its water, mineral, and carbon cycles are functioning. And if that's not the case, New Environmentalists can do something different. In other words the New Environmentalism works in the same way an ecosystem works, by feedback loops, and if it doesn't work it adapts.

People who practice the Old Environmentalism measure success in terms of the amount of land managed according to the process they advocate. Since the way the land is managed is controlled by legislation, regulation, and litigation (in other words by the government), they wage aggressive media campaigns to help elect sympathetic politicians. They lobby bureaucrats. They use the courts. And they monitor how well they're doing by measuring the success of these campaigns, not by looking at the ground. That helps explain the examples I described above.

Practitioners of the Old Environmentalism don't monitor how well their methods are working on the land because they assume that they couldn't possibly fail. They make this assumption because those methods are designed to re-create the condition the dictionary defines as "natural" (not artificial, not made by humans) and because they apply the prescription our cultural mythos describes as the way to return Nature to rightness and Naturalness in the story of the Garden of Eden—by getting the people out.

And when someone points out that this approach that can't fail isn't working—that the grass inside those enclosures is stagnant, and erosion is accelerating—the Old Environmentalism blames the opposition. They say the Western range has been devastated by grazing for so long—more than a century—that getting the cows off can't be expected to heal it in a time frame that is any shorter.

### **Collaboration**

The New Environmentalism operates by means of collaboration. The Old by means of conflict (This seems to me to be of ultimate importance today. I'm writing this on September 11).

Since the New Environmentalism judges the health of a piece of land in terms of the condition of that land, it asks what everyone wants to have out there. Since most of us want the same things on the land—clean air, clean water, open space, magnificent scenery, and healthy wildlife populations—setting goals in this way has a tendency to bring us together. People tend to pull together when they're faced with a mutual challenge, even if they don't agree politically. Think of the Democrats and Republicans, Independents, Libertarians, whatever pulling survivors out of the ruins of the World Trade Towers.

The Old Environmentalism, in contrast, begins with a prescription—to get the people off the land, to reduce their impact. And then it proceeds to try to apply that process. What's the best way to ensure that people apply a process? By passing laws and creating regulations that require them to, and suing them and prosecuting them when they don't. But that doesn't bring us together, it sets us against one another. What is your reaction when someone tells you what to do? Mine is to resist.

This divides us into opposing camps. God knows we don't need more of that. When we manage the land according to laws and regulations, you're either in compliance or you're not. You're innocent or you're guilty. You do it our way or their way. You're a rancher or you're an environmentalist.

Because I work with ranchers I've been accused of selling out, of changing my values from what they were when I was a "hard-core environmentalist." The truth is I haven't changed my values at all. I value open space, biodiversity, green meadows, clear streams, and other such things as much as I ever did. What I did change is the way I'm working to achieve those goals, and I changed that because I value results.

The New Environmentalism incorporates at least two of the main ingredients of every formula for effectiveness that I know of. The first is identifying a concrete goal (the condition of the land), and working toward it. The second is identifying which of these goals we all want and combining our energy, creativity, passion, commitment, and resources to achieve them. Imagine how much more effective this would be than expending so many of our resources fighting one another the way we do now.

That's the reason to adopt a New Environmentalism; not just because the old one doesn't work, but because the new one has what it takes to work so much better.



# **Tommie Cline Martin**

Higher Ground  
Payson, AZ

**Tommie Cline Martin**, a pioneer in the collaborative process, has been involved in conflict resolution since the early 1980's. She contracts privately to teach, consult and facilitate the holistic management of human, environmental and economic resources in Africa, Mexico and the United States. Unique to her process is the use of genuine connections of land and people to stimulate vision and then create harmony through the participants' growing abilities to use transcendent logic to measurably improve their land. While orderly, the process is neither structured nor orchestrated, which allows groups to eventually "take flight" on their own and remain active and viable for years. Tommie is dedicated to healthy natural environments and rural cultures and to the idea of creating a synergistic, life-blessed interface between these and urban civilization.

## **The Reconnection of People and Land - How Warriors Become Healers**

Conflict does NOT need to mean contest where someone must win and someone must lose. And, conflict resolution does NOT need to mean compromise where everyone must give up something in order to get something and so there are no real winners, everyone loses something, and everyone is compromised.

Conflict can be highly creative, highly rejuvenating, highly inspiring. Conflict resolution can be transcendent where the group goes beyond the problem, beyond the conflict and creates a solution where everyone wins, where no one loses and where no one is compromised. Ultimately, it is achieved through the reconnection of people and land.

I began my work in resolving conflict in this way in the early 1980's. This early work focused on problems arising from the management and use of natural resources on public lands in the U.S. My work has since taken me into Central America and eastern Africa as well. Over the last 20 years, I have come to know that when we speak of natural resource problems – be it water, wildlife, habitat, trees, food or forage – we are mis-speaking. We do not have natural resource problems. We only have people problems. And at their core are people-land disconnects.

This people-land disconnect, in turn, feeds our universal unfounded belief in scarcity. Worldwide, we people are "cultured" into believing in scarcity more deeply than any other concept. More than "love thy neighbor", more than "turn the other cheek", more than "do unto others". We "mouth" those concepts. We believe in scarcity.

Because of this, our management of resources – at all levels – is steeped in scarcity and, therefore, in conflict. The on-going production vs. preservation clash in the western U.S. leading to administrative police actions on our national forests and federal lands; all the civil wars right up to the one currently continuing in Somalia; the Serbian War; the Gulf War; the Cold War; the Korean police action; the Native American conflict; and on and on forever - are all engendered to decide who has the power to determine the distribution and use of resources perceived to be scarce.

I am not saying that we aren't faced with present scarcities. Water scarcities, habitat scarcities, food and forage scarcities. I am saying we created them out of our "get-mine-first" scarcity mentality. And so these scarcities continue because we continue to lack the knowledge and the skills and the cooperation necessary to deal with perceived scarcity.

The issue now, however, is NOT how do we divvy up the last remaining bits, but how do we "go back" to abundance - the basis of Higher Ground's work. In reality, we don't go "back" at all - we do it by going forward. We create abundance by re-connecting people and their land.

We begin by first gaining a real understanding about the different environments. We then study the different resource responses of each that is obtained by either following the migratory herdlands pathway or the nondisturbance pathway of management. We go onto the land and perform consensus in the original

meaning of the term – we literally sense the state of resources together. We see it together, we smell it, we touch it, we hear it, we taste it - we feel with our hands and measure with instruments the difference in temperature and moisture in different soil conditions. We smell the soil – we hear how it sounds underfoot, we see what is happening to the water and the soil and to the nutrients and to the energy and to various organisms of various age classes. We take note as to whether various plants are reproducing or making seed and whether animals are reproducing. We note the kinds and number of insects and birds that we observe as well as mammals and other animals. This process often comes as a shock to members of the team whose education and cultural programming has led them to expect very different procedures and outcomes.

We do it by learning and teaching and reminding how to recognize abundance and how to recognize and encourage the social and ecological relationships that create it. It is actually very easy once you can get past the non-functional scarcity-based relationships among institutions and “institutionalized” (as opposed to free) people be they agriculturists, pastoralists, bureaucrats or environmentalists. Let me make myself very clear. The human spirit is beautiful, courageous and indomitable. Our most hopeful and significant learning over the last 20 years has been that once human beings are freed from the confines of constraining societal systems of economic, emotional, intellectual, social, and spiritual violence, they immediately begin to exercise their innate human capacities and create wonderful transcendent solutions to conflict.

We create abundance by re-instilling in our many cultures and sub-cultures the permission to speak their minds and gain and share the knowledge, skills, ability and cooperation necessary for abundance. Again, let me make myself really clear – we take away the prescriptions and the cookie-cutter cookbook answers and the quick slick fixes, and start from the beginning at literal ground zero – looking at the ground together. And we keep looking at it until we all agree on what we see and feel and hear and so on.

We create abundance by becoming a cooperative body. We do it by actively listening, for as long as it takes, so all the grievances are aired and everyone is heard, and knows it. We do it by creating a “safe” environment where people can become who they really are within the group - free from roles and orders; where their intelligence, good will and integrity are really honored, whatever their formal education.

And so, finally, we do it by encouraging the belief in abundance – an abundance-mentality. We bring about a genuine understanding of how the community of life functions on that piece of ground in relationship to that climate, that human economy, etc. We change residents into inhabitants who now know the habits of their land and their “fellow” human and non-human inhabitants and will, over time, know them better.

This process demystifies resource management. It lifts the mist of darkness away from the knowledge and ability of scarcity and abundance creation in each specific location. Once again, let me make myself very clear. This mist of darkness is the fog of war. The first casualty of war is always the truth. This process makes the participants free to re-discover truth.

In brief, we are dealing with war piled upon war, conflict piled upon conflict. The first are the academic wars where scholars struggle for funding, salaries, contracts, recognition and eventually eminence, which pays off in all of the above. This warfare deeply compromises the truth. It leads not to science but to academic ideology with warring camps and their constituencies tied to funding sources. Each camp then tries to rhetorically prove their various points in an attempt to get and retain these rewards and this patronage.

Next come the political war, which in turn, feeds the academic wars. In order to secure their political position, politicians use the levers of government to please their base constituencies. These constituencies have deep feelings about environmental issues and are politically savvy. They are often well trained in the rhetorical positions of their various power groups, but have pathetically little understanding of life and death on the land. We know that this last statement is true from a decade’s long, continually repeated experience where activists from various camps, when exposed to actual observation of the land, are astonished at what and how much they learn and often change their position radically. Their love of nature or their culture is no less; their understanding is just vastly more.

Then there are other wars. The disconnection between economics and ecology is as profoundly destructive as the disconnection between the urban population with their recreational preferences and eco-political myths ..... and the truth of nature. It is as profoundly destructive as the disconnection between ag-biz with its

chemical imperatives ..... and the truth of nature. It is as profoundly destructive as the disconnect between the addictive process which drives insane consumer demand and which make power brokers ego-fixes more important than life and death on the land ..... and the truth of nature. These disconnect utterly and needlessly compromise, warp and distort the relationships of humanity and the earth in every possible way.

These wars become particularly pathetic and heart rending when the warriors use automatic weapons. Somalia was a land of milk and honey as recently as 12 – 15 years ago at the beginning of their civil war. Mothers bathed their children in camel's milk, because it and everything else was so abundant. It could be still. The area where I work is inundated with refugees who have stripped the land of every resource. Places which were verdant jungle overnight became, literally, barren desert. The vegetation and the wildlife have been ripped out so fast that the land is literally stunned. The soil, so red and so recently covered and cool and spongy wet, is dry and cracked and hot and will melt away in the first storm as what were once creeks, and are now storm drains, run red.

In Somalia, the people have an immediate and direct connection to their natural resources. People live on the land and from local resources. In the remote "resettlement" areas where I work, Muslim gravestones line the ridge tops in mute witness to the starvation that occurs when these resources fail.

Even in this hopeless situation, groups of people who have entered into the process I've just described have been able to survive and produce some measure of prosperity despite the vastly increased population and are making strides to recover year by year. They have cooperatively developed the ability and will to protect their native endangered species even against well-armed and well-funded foreign invaders. They routinely drive large-scale foreign outlaw commercial fishermen from their waters and foreign outlaw commercial wood harvesters from their forests. These are private citizens, paid by no one, acting out of the love for their land and home, at the daily risk of their lives and without benefit of government.

People in the United States love their land no less. The difference is that most of us have an abstract and distant connection to our natural resources. People live in cities fed, clothed, warmed and cooled from the efforts of other distant people and from lands remote from their homes. We too are "at war" over the control of our natural resources, but the "war" arrives in the form of administrative police actions and then we wage our battles in Congress and in Courts. Our refugees are also in lines in their "resettlement" areas – the unemployment lines, the welfare lines, etc. Imported resources, however, keep them from actual starvation, while their local resources die of overprotection by short circuiting the nutrient cycle and other natural processes through policies which create a planned and phased removal of livestock. This removal, in turn, shuts down the migratory herdlands pathway.

These days, when watersheds die we call their death natural and we comfort ourselves with all kinds of academic terms describing their symptoms while they perish. The truth is the watersheds lose their herbaceous cover in the lower altitude areas as an unintended consequence of this livestock removal policy. But we are so sure of the benefits of this policy that we are unable to see what actually happens and so we declare victory, turn our attention elsewhere and go on to fight another battle. In this case, the watershed death is a slow one, and the patient looks perky during the victory celebration.

Again, let me be clear. Water is an extremely abundant resource. In just one example, on the watershed for Roosevelt Lake in central Arizona, 1/2 million gallons falls on the average acre each year. That is what 15" of rain per acre amounts to - and it falls on millions of acres. Relatively minor changes in the management of this watershed resulting in improved infiltration and reduced evaporation could easily triple the amount of water available to users downstream. However, the removal of livestock policy is the management prescription for this watershed - and even with this amount of rainfall it will move toward the unhealthy condition described by the National Academy of Sciences, and the silting in of Roosevelt Lake will speed up. This policy has already been implemented on a large portion of the watershed for decades, and the resulting resource degradation is plain to see. I'd be happy to take you and show you.

You see, this abstract connection of ours cuts two ways – it allows us to make decisions about our resources that will lead to their destruction and yet we can feel good about it because we didn't kill anybody. Or, said another way, we can think any silly thing and not die. People who held these notions in Somalia would be dead of starvation in six months – their resource management is based on the ultimate truth of life and death. Resource management in the United States, however, is political and ideological and is based on

fads and fancies. As a perfect example, the National Academy of Sciences, in the late 1980's, said that neither of the major federal land management agencies were directly monitoring for any of the 12 indicators of rangeland health. And this has not significantly changed in the meantime.

All we are saying is, these conflicts are easily solved by people who are actually paying daily attention to what is actually happening on the land. By people who are connected to the land. They can NOT be solved through ritual warfare or from a law enforcement model.

Resource management conflicts are literally non-existent. The most profitable, financially prosperous ranch we know of and work with has a longer bird list than the nearby Willard Bay federal bird refuge, and has several times more sage grouse than the large state-owned wildlife refuge across the highway. It is famous for its elk and mule deer and pronghorn antelope. It allows no hunting of predators – cougars, coyotes, badgers, bears, foxes – they all roam at will. It allows no hunting except for the three big game species mentioned. Clean water from this ranch, according to a federal report, was responsible for all of the improvement of water quality in the Bear River. The fisheries are healthy and people pay \$300/day to fish there. Annually, thousands upon thousands of urban visitors come to this mainly private land ranch to enjoy the beauty and abundance of its environment. All of this is in the presence of over 10,000 head of livestock, but you can drive all day on the ranch and never see one of them.

You see, we can have a prosperous, pastoral culture that can, of its own free will and choice, meet every ecological goal and, year by year, become a greater ecological asset.

There is this wretched tangle of rhetoric posturing and self-interest that simply all unravels in the process that I have been describing. The word “solve”, in fact, means “to untangle” or “to free”. This process changes people from warriors to healers. Healing the land becomes the focus of their lives. They become fast friends with former enemies in their joy of working together and causing dried-up streams and springs to flow again; native meadows to double and triple their size; aspens and other vulnerable plants to regenerate; the distances between perennial grass plants and flowers to begin to be measured in fractions of inches instead of by yards; and the presence of endangered species to be welcomed, planned for and sought after.

If this sounds too good to be true, come look. We have many examples. Come help, we could use you. History will never see greater heroes than the people who instigate by example a worldwide shift from the language and practice of conquest in whatever cause to genuine healing. If you want to leave a lasting legacy, this is your chance. This is ultimate alternative dispute resolution. The effects of the healing of these watersheds and the restoration of these communities will iterate throughout the nation, the economy and the culture - solving conflicts and creating peace where ever they go.



# **Courtney White**

Executive Director, The Quivira Coalition  
Santa Fe, NM

**Courtney White** has been a professional archaeologist for many years, employed with the National Park Service and other institutions. In 1994, he became active within the environmental movement, eventually becoming a leader in the local Group of the Sierra Club. In 1997, he co-founded the Quivira Coalition with a rancher and another conservationist in an effort to find common ground in the increasingly fractious debate about the future of grazing in the American West. He is married and the father of toddler twins.

## **Soil First!: Putting 'grass' and 'roots' into Grassroots Environmentalism**

*“The only progress that counts is that on the actual landscape of the back forty.” – Aldo Leopold*

### **A New Environmentalism**

For as long as I can remember, environmentalists have been trying to tell ranchers what to do.

When I was a young backpacker in the late 1970s, dodging cow pies in the wilderness, the message was blunt: “Stop overgrazing our public range!” Today, the scolding by environmentalists has become more sophisticated, though also more strident, with some of it focused on abolishing public lands ranching altogether.

Even those who believe that ranching can be done in an ecologically sustainable manner are calling for significant changes in the way most ranches are managed, albeit through a collaborative, problem-solving process.

Either way, environmentalists have demanded that ranchers shoulder a great deal of the economic and emotional cost of change without providing much in the way of financial, physical or moral support at the same time.

Nor have environmentalists challenged their own core paradigms in any way approximating the scale asked of ranchers. Activists are quick to lecture ranchers about the march of progress, but slow to admit that new thinking, changing technologies, and shifting societal values are challenging public lands environmentalism at a fundamental level as well. Suing on process and procedure, for example, today produces far more conflict than it does clean water or healthy habitat.

The time has come for environmentalists to share the burden of change, and not just financially, but intellectually. This means trying a fundamentally new approach to public lands activism, one that I believe involves a focus on land health, restoration, collaboration, creating and measuring results, and sharing resources.

#### **Rangeland Health**

The potential of a fresh approach became clear to me last spring when my friend Nathan Sayre gave me a new map of the 500,000-acre Altar Valley, located south of Tucson, AZ. Commissioned by an alliance of ranchers concerned about the spread of Tucson’s sprawl in their direction, funded by a state grant, and subcontracted to a private consulting firm, the map was important for what it measured: indicators of rangeland health.

Drawn up in seven colors, the map expressed the intersection of three variables: soil stability, biotic integrity, and watershed function (soil, grass, and water). It displayed three conditions for each variable: Stable, At Risk, and Unstable. A color was chosen to represent a particular intersection. For example, Deep Red designated an ‘Unstable,’ or unhealthy, condition for soil, grass, and water, while Deep Green represented ‘Stable’ for all three. Other colors represented conditions between these extremes.

Much of the private property on the west side of the valley (there is very little federal land in the watershed), which is actively managed, was dark green, while land on the east side, which is generally owned *IN ABSENTIA* [italic], was a patchwork of yellows and oranges, especially along the arroyos.

Smack in the middle of the map was a large private ranch called the Palo Alto. When I visited it last fall, I was shocked by its condition. It had been overgrazed to the point of being nearly 'cowburnt', to use Ed Abbey's famous phrase. As one might expect, the color of the Palo Alto on the map was blood red, and there was plenty of it. By the criteria of rangeland health – soil, grass, and water – the Palo Alto was in trouble. And it was easy to see why.

A short distance farther down on the map, abutting the southern boundary of the Palo Alto, was another big splotch of dark red. This was no ranch, however. This was the Buenos Aires National Wildlife Refuge – a large chunk of protected land that had been cattle-free for nearly sixteen years. I visited the refuge as well, learning that the refuge managers have an active prescribed fire program, and have tried various mitigation strategies to retard persistent soil erosion. From the perspective of rangeland health, however, these strategies were not proving effective.

I arranged to meet Walt Meyer, the man who did the field work for the map. A rancher with a PhD in range ecology, Walt said he read 500 transects across the Altar Valley, using a rangeland health system that graded sites on the degree to which they deviated from an ideal ecological site type. He said the problem on the Buenos Aires wasn't the proliferation of exotic Lehmann's lovegrass (the focus of much hand-wringing at the refuge) because it was only one variable out of many. Instead, it was a combination of things, principally soil erosion, that pushed the upper portion of the refuge into the red. And he stood by his analysis.

As I learned more, I began to appreciate how the Altar Valley map, and the rangeland health paradigm it employed, exposed us to the question of ecological functionality in a way that challenged our cherished beliefs about the intrinsic sanctity of 'protected areas.'

I learned this the hard way one day as I began to describe the map, and its implications, to a diverse group of people sitting under a tree at a workshop on the Gila National Forest. As I began to talk about the wildlife refuge, a young environmentalist from Tucson took offense at the suggestion that the refuge might be unhealthy in any way and cut me off. Rudely, too. Clearly, I had strayed too close to a core belief – that 'protected areas', such as parks, wilderness areas, and wildlife refuges could possibly be in poor ecological condition.

In her reaction I saw the confirmation of the need for a new environmentalism.

### **Soil First!**

The concept behind rangeland health is a powerful and promising paradigm for a new activism. Its underlying idea is a simple one: that before land can support a **VALUE**, such as livestock grazing, hunting, recreation, or wildlife protection, it must be at least in proper functioning condition. In other words, before we, as a society, can talk about designating critical habitat for endangered species, or increasing forage for cows, or expanding recreational use, we need to know the answer to a simple question: is the land healthy at the level of soil, grass, and water? If the answer is "no" then all our **VALUES** may be at risk.

But what is "health" exactly? In 1994, the National Academy of Sciences published a book entitled "Rangeland Health: New Methods to Classify, Inventory, and Monitor Rangelands." [1] In it, the authors define range health "as the degree to which the integrity of the soil and the ecological processes of rangelands ecosystems are sustained." They go on to say "The capacity of rangelands to produce commodities and to satisfy values on a sustained basis depends on internal, self-sustaining ecological processes such as soil development, nutrient cycling, energy flow, and the structure and dynamics of plant and animal communities."

Or, as Kirk Gadzia, one of the book's co-authors likes to put it "It all comes down to soil. If it's stable, there's hope for the future. But if it's moving, then all bets are off for the ecosystem." It is a sentiment echoed by Roger Bowe, an award-winning rancher from eastern New Mexico, who says "Bare soil is the rancher's number one enemy."

I think it should also become the number one enemy of environmentalists as well.

The publication of "Rangeland Health" was the touchstone for a new approach within the scientific communities. It paved the way for the debut last year of a federal interagency publication entitled "Interpreting Indicators of Rangeland Health" [2] which provides a seventeen-point checklist for the *QUALITATIVE* assessment of upland health. A method for *QUANTIFYING* rangeland health has just been produced by scientists at the USDA's Jornada Experimental Station, located near Las Cruces, NM [3].

Taken together, these methods are new and valuable tools for measuring the ecological condition of our uplands.

A similar approach was developed by the interagency National Riparian Team. Their own seventeen-point checklist assesses the physical functioning of riparian and wetland areas through “consideration of hydrology, vegetation, and soil/landform attributes.” The goal of this assessment, which the National Riparian Team calls Proper Functioning Condition (PFC) [4], is “to provide information on whether a riparian-wetland area is physically functioning in a manner which will allow the maintenance or recovery of DESIRED VALUES [emphasis added], e.g. fish habitat, neotropical birds, or forage, over time.”

Many years ago, Aldo Leopold lamented that “The art of land doctoring is being practiced with vigor, but the science of land health is yet to be born.” [5] Now that a consensus has emerged among scientists and federal land managers on functionality and how to measure land health, I think we can say it HAS been born, with important implications for environmentalists, ranchers, and federal and state land managers.

A new environmentalism, in other words, is all about measuring and monitoring the land.

### **Knowledge**

Two summers ago I found myself sitting around a campfire at the CS Ranch thinking about ethics. I believed at the time, as I suspect many environmentalists do, that the chore of ending overgrazing in the West was a matter of getting ranchers to adopt an ecological ethic along the lines of those proposed by Mr. Leopold in his famous essay. The question was, how?

I decided to ask Julia Davis, our host, for advice. A dozen years ago, Julia and her sister Kim talked their family into switching to holistic ranch management on the 100,000-acre CS, a decision that has caused the ranch to flourish economically and ecologically. Earlier in the day I had been impressed by the sight of new beaver dams on a portion of the Cimarron River running through the CS, and also by Julia’s support for their presence.

The Davis family, it seemed to me, had embraced Leopold’s land ethic big time. So, I asked Julia: “How do we get other ranchers to change their ethics too?”

Her answer completely rearranged my thinking.

“We didn’t change our ethics,” she replied. “We’re the same ranchers we were fifteen years ago. What changed was our knowledge. We went back to school, and we came back to the ranch with new ideas.”

This is an incredibly important point. Knowledge, not ethics, is the key to good land stewardship. Over the last four years I have had the good fortune to see many well-managed ranches (and some poor ones) in a wide variety of terrains. I’ve met a wide diversity of ranchers as well; and what I have learned is this: ranchers DO [bold] have an environmental ethic, as they have claimed for so long. Often, in fact, their ethic is a powerful one. What may be missing, however, is new knowledge.

The same thing is true of many environmentalists (and many federal and state land managers). It has been, after all, a long time since many of us were in school. And in my experience, when old knowledge wears out, it morphs into something that sounds suspiciously like dogma.

If we could go back to school, as the Davis family had the courage to do, what would we study? Aldo Leopold had a suggestion: the fundamentals of land health, which he described as “the capacity of the land for self-renewal.” He also described the business of conservation as “our effort to understand and preserve this capacity.”

Wendell Berry also has an idea: study the link between economics, culture, and land. He has written “The two great ruiners of privately owned land are ignorance and economic constraint. And these tend to be related. People have ruined land mainly by overusing it – by forcing it to produce beyond its power to recover...and behind this overuse, almost always, has been economic need.” [6] The same thing could be said of public land.

Environmentalists could also learn from the scientific community, as I did, that grazing is a natural process. The grazing of grass by ungulates has been going on in North America for at least sixty-six million years. The relationship between grass and grazers, while perhaps not entirely mutualistic, can be ecologically sustainable. [7]

Livestock grazing can also be a natural, and regenerative, form of ecological disturbance. That makes grazing significantly different from mining, clearcutting, or dam-building – an important point that environmentalists need to understand and acknowledge as a first step to more effective activism.

That requires, however, letting go of some bovine bigotry. A new environmentalism responds to the oft-cited charge that cattle are not “natural” by asking: shouldn’t our primary focus be on ecological processes – water cycling, nutrient cycling, energy flow – and how ALL [italic]our actions affect these processes on the ground? Using the criteria of rangeland health, I wonder which would be measured as more “unnatural” – a herd of cows or Phoenix, Arizona?

### **Sanctuaries**

What if the “value” we seek, however, is protection from human use altogether? Recently, an alternative school of ‘new environmentalism’ has emerged, one that advocates for “unmanaged landscapes” and a return of “nature’s autonomy.” As Bill Willers has written, “When a living system becomes fragmented or manipulated, its internal pattern of relationships is destroyed. When managed for some human-centered purpose, its autonomy is lost. Restoring wilderness conditions on landscapes of all sizes can allow for self-regulation in a state of ancestral wholeness.”

He further states that “there is no middle ground. If that which has functioned beautifully through the eons free of human meddling is to survive, “management” must become an erasing, a reversing, a minimizing of human impact – a science of letting things be.” [8]

The goal of this approach is to expand substantially the size of protected areas – parks, refuges, and wildernesses – and to significantly decrease human activity at the same time. The aim is to “rewild” native landscapes, principally through the reintroduction of keystone predator species.

As attractive as this approach sounds, it has a serious flaw. What about functionality? What about soil, grass, and water? What chance do these predators have if their habitat is sick? Looking at this important issue through the prism of a ‘rangeland health’ paradigm a fundamental philosophical question arises: Can land be “wild” if it is not healthy?

This is a critical question because much of the history of the conservation movement has been focused on an effort to protect ‘wild’ nature from destructive human use. Early on, the drive to preserve wilderness had its roots in culture – a romanticization of the nation’s frontier period, an appeal to virility, and a fascination with the primitive. But with the development of the science of ecology, wilderness took on the role of ecological laboratory and wildlife sanctuary. For Aldo Leopold, a co-founder of the Wilderness Society, one of the principle assets of wild land was to serve as “a base-datum of normality, a picture of how healthy land maintains itself as an organism.”

And to preserve this ‘normality’ land needed protection. Wallace Stegner, speaking for many of his generation, wrote “Wildlife sanctuaries, national seashores and lakeshores, wild and scenic rivers, wilderness areas created under the 1964 Wilderness Act, all represent a strengthening of the decision to hold onto land and manage large sections of the public domain rather than dispose of them or let them DETERIORATE [italic – emphasis added].” [9]

The point is, this was decades ago. As the Altar Valley map implies, our ‘sanctuaries’ may, in fact, no longer be the “reservoir of normal ecological processes,” as Leopold imagined. From a rangeland health perspective they may be deteriorating right before our eyes at the level of soil, grass, and water. Historic abuse, current mismanagement, or some other factor may be undermining the integrity of these places. For example, how do we shield the ‘natural autonomy’ of wilderness areas and national parks from the effects of global warming, acid rain, and CO2 buildup?

A recent paper in the journal ‘Wild Earth’ [underline], co-authored by Dr. Craig Allen, an ecologist with the USGS stationed at Bandelier, brings this issue into sharp relief – with significant implications for the future of the environmental movement on public lands. [10]

The paper examined the 30,000-acre federally designated wilderness area within Bandelier National Monument, located near Los Alamos, NM, and declared it to be suffering from “unnatural change.” And the problem, he finds,

is not confined to Bandelier. “Most wilderness areas in the continental United States,” he writes, “are not pristine and ecosystem research has shown that conditions in many are deteriorating.”

Scientific study, says Allen “strongly supports the notion that historic Euro-American use of the area has triggered unprecedented change in most of the park’s ecosystems...This land-use history has resulted in degraded and unsustainable conditions...Similar changes have occurred throughout much of the Southwest.”

Specifically, in Bandelier the soils are apparently “eroding at net rates of about one-half inch per decade. Given soil depths averaging only one to two feet in many areas, there will soon be loss of entire soil bodies across extensive areas.”

This is bad “because the loss of organic topsoils, decreased plant-available water, extreme soil surface temperatures, and freeze-thaw activity impede herbaceous vegetation establishment and productivity.”

Hands-off protection is not the answer. “Herbivore exclosures established in 1975 show that protection from grazing, by itself, fails to promote vegetative recovery...Without management intervention, this human-induced episode of accelerated soil erosion appears to be highly persistent and irreversible. **To a significant degree, the park’s biological productivity and cultural resources are literally washing away.** [emphasis added]”

**According to Allen and the other authors, intervention is required in order to “reestablish functionality in the system.” Which will require active management and restoration, the goal of which will be “to reestablish biotic dominance over rates of erosion and enable fires to move across the landscape unimpeded.”**

His summation is provocative: “We have a choice when we know land is ‘sick.’ We can “make believe,” to quote Aldo Leopold, that everything will turn out alright if Nature is left to take its course in our unhealthy wildernesses, or we can intervene – adaptively and with humility – to facilitate the healing process.”

In a new environmentalism, ‘protecting’ land, where it is needed at all, is only half the job.

### **Restoration**

The principle chore ahead of us is restoration, which I define as achieving full ecological functionality at the level of soil, grass, and water. Our job as activists, in other words, is transforming “red” to “green” on the maps like that of the Altar Valley.

One does not need to be an expert in the minutiae of rangeland health to understand that we have a tremendous amount of unhealthy land out there. The catalog is all too familiar by now – choking forests, eroding land, endangered species. Add to this list what I consider to be the most alarming trend in recent years: accelerated habitat fragmentation due to off-road vehicle damage, new road construction, and exurban development.

In light of the ‘functionality crisis’ confronting us, renewed calls for an expansion of the national wilderness system, as well as the creation of other ‘protected’ areas, seem anachronistic in a new century. Shielding bits of land from the threat of mechanized human activity without simultaneously confronting the source of that threat – the way we live as a society and a people – is, to paraphrase Leopold, like ‘improving the pump, rather than the well.’

Additionally, the whole concept of “preserving” some places while “releasing” others creates a stratification of land quality and land use that is harmful to land health. For example, what about all the ‘Plain Jane’ lands across the West not deemed worthy of ‘protection’? Very often these lands are in need of ecological assistance as well. And what about the ecologically artificial distinction between public and private land (a problem exposed by the term “public lands environmentalism”)? If the plants and animals do not recognize these boundaries, why should we?

A rangeland health paradigm, by contrast, treats all areas equally and as a result gives us a snapshot of functionality – a snapshot that enables land owners and managers to prioritize their restoration work, if restoration work is required. And by working at the level of soil, grass, and water it reduces our dependence on land discrimination.

The key, I am convinced, is more stewardship, not less. By that I mean stewardship that is defined, and measured, by its effects on soil, grass, and water. Stewardship, also, that is humble.

Good stewardship also means having a full toolbox at one's disposal. This includes cattle. In fact, a whole host of new tools involving cattle have popped up recently, including grassbanks, holistic management, dormant season grazing, poop-and-stomps on mine tailings, and herding (an ancient idea that is being rediscovered).

Unfortunately, we are often precluded from using certain tools, tying our own hands, sometimes by regulation, but most often by our attitude. In his classic book "Game Management," Aldo Leopold once wrote that wildlife "can be restored with the same tools that had hitherto fore destroyed it – fire, ax, cow, gun, and plow." The difference, of course, is not the tool itself, but how we use it; and our willingness TO USE IT [italic] in the first place.

Attitude, in other words, is as important as knowledge.

### **Work**

Recently, I had the privilege of riding a horse into the West Elk Wilderness, near Paonia, Colorado. I went because I wanted to see an award-winning cattle herding operation in action and learn more about the compatibility between well-managed ranching and wilderness values. I also wanted to see some pretty country.

I took two local environmental activists along, one of whom had recently backpacked the very trail we were riding. Initially, we were shocked by what we saw. The thousand-head herd had traveled the same path only a few days prior, leaving cow plops and broken vegetation everywhere. The trail had been trampled into a muddy mess. Our Forest Service guide said this was a GOOD [italic] thing – he believed that land can tolerate, and sometimes benefit from, disturbance caused by animal impact.

I asked the backpacker, who was also the director of an active environmental organization, what she thought. "People call me all the time and complain," she said. "They're hikers. They don't think there should be cows in the wilderness."

"What do you tell them?" I asked.

"I tell them it's a working wilderness," she replied.

And it is a wilderness that is working well by every ecological and economic indicator that I have seen. In fact, both the local Forest Service office and the pool of ranchers received national awards recently for their innovative collaboration. And they have the monitoring data to back up their claims.

But, what about work? If a new environmentalism is going to do restoration, or support ecologically-sensitive ranch management, it must first confront the question of human labor on the land. This is an important issue because environmentalists often deride work on public lands, equating it almost universally with destruction.

This is a problem, says historian Richard White in a provocative essay [11], because by segregating work from nature environmentalists "create a set of dualisms where work can only mean the absence of nature and nature can only mean human leisure, then both humans and nonhumans will ultimately be the poorer...Work once bore the burden of connecting us with nature. In shifting much of this burden onto the various forms of play that take us back to nature, Americans have shifted the burden to leisure. And play cannot bear the weight."

We need to examine work, he says, or "we will condemn ourselves to spending most of our lives outside of nature, for there can be no permanent place for us inside. Having demonized those whose very lives recognize the tangled complexity of a planet in which we kill, destroy and alter as a condition of living and working, we can claim an innocence that in the end is merely irresponsibility."

"If, on the other hand," he concludes, "environmentalism could focus on our work rather than on leisure, then a whole series of fruitful new angles on the world might be possible. It links us to each other, and it links us to nature. It unites issues as diverse as workplace safety and grazing on public lands; it unites toxic sites and wilderness areas. In taking responsibility for our own lives and work, in unmasking the connections of our labor and nature's labor, in giving up our hopeless fixation on purity, we may ultimately find a way to break the borders that imprison nature as much as ourselves. Work, then, is where we should begin."

I've quoted Dr. White at length because I think his point stabs at the heart of the question about the future of the environmental movement. As I witnessed in the West Elks, and on many other ranches, work, when done

responsibly and with humility, and measured by its effect on soil, grass and water, IS [bold] compatible with ecological and wilderness values. There is simply no question about it.

Wendell Berry once wrote “The conservationist’s picture of the world as either a deserted landscape or deserted landscape is too simple; it misrepresents both the world and humanity. If we are to have an accurate picture of the world, even in its present diseased condition, we must interpose between the unused landscape and the misused landscape a landscape that humans have used well.”

However, to measure this ‘well-used landscape,’ we need to employ a new equation – one that examines the interplay between work, play, and ecology in a much more sophisticated manner than we have used in the past. One of the goals of the new environmentalism is to create a formula that allows for a more complete understanding of the sustainable aspects of the work / play / ecology dynamic.

But to accomplish this goal, we need to stop pitting one value against another.

### ***Good versus Evil***

A new environmentalism must avoid, at all costs, the yoke of dualisms. Good Guy vs. Bad, Work vs. Recreation, Urban vs. Rural, Wilderness vs. Wise Use, Sacred vs. Profane, Us vs. Them. In the bad ol’ days of rampant clear cutting and dam-building these dualisms served an important purpose – to call the public to arms. They remain useful today because unsustainable exploitation of our natural world still yields immense profits for a select few. But they have become a crutch, often blinding us and tying our hands.

This brings us back to the question of wilderness again. Historian William Cronon has written [12] “The critique of modernity that is one of environmentalism’s most important contributions to the moral and political discourse of our time more often than not appeals, explicitly or implicitly, to wilderness as the standard against which to measure the failings of our human world.”

This creates a paradox in which the human exists outside the natural. “If we allow ourselves to believe that nature, to be true, must also be wild,” continues Cronon, “then our very presence in nature represents its fall. The place where we are is where nature is not. If this is so – if by definition wilderness leaves no place for human beings, save perhaps as contemplative sojourners enjoying their leisurely reverie in God’s natural cathedral – then also by definition it can offer no solution to the environmental and other problems that confront us.”

By indulging in a dualism that sets nature and humanity at opposite poles, we “leave ourselves little hope of discovering what an ethical, sustainable, *honorable* human place in nature might actually look like.” It can also lead to environmentally irresponsible behavior.

“Our challenge is to stop thinking of such things according to a set of bipolar moral scales in which the human and the nonhuman, the natural and the unnatural, the fallen and the un-fallen, serve as our conceptual map for understanding and valuing the world. Instead, we need to embrace the full continuum of a natural landscape that is also cultural, in which the city, suburb, the pastoral, and the wild each has its proper place, which we permit ourselves to celebrate without needlessly denigrating the others.”

He concludes “The wilderness dualism...denies us the middle ground in which responsible use and non-use might attain some kind of balanced, sustainable relationship.” And according to Cronon, the “middle ground is where we actually live.”

I have quoted him at length as well because his point is critical to the success of a new environmentalism – that we must find a way to occupy and work in the “middle ground,” or what some have called the Radical Center. In my experience, work, play, soil, predators, wilderness and agriculture can be balanced with one another – if we drop the dualisms and start shaking hands instead.

Only by working in the Radical Center will we make actual progress on the back forty.

### ***The Big Picture***

I am not suggesting that we forgo designation of new wilderness areas or drop the tactics of confrontationalism entirely. They both serve important purposes in certain situations, though I think lawsuits are like antibiotics –

great in a crisis but increasingly ineffective over time, especially as resistance builds. And a great deal of resistance has been building over the last two decades.

Furthermore, the environmental movement was forged in confrontation and adversity and will necessarily be called on again and again to fight. The trouble today, however, with a continued dependence on this form of crisis management is that it has transformed the movement into a green version of The Little Dutch Boy. Activists race around plugging holes in an increasingly leaky dike called 'the environment' without significantly addressing the sources of the threat to the dike in the first place – principally, the way we live as a people.

Wendell Berry, as usual, put it best when he asked “Can we adapt our work and our pleasure to our places so as to live in them without destroying them? Can we limit our work and our economies to a scale appropriate to our places, to our place in the order of things, and to our intelligence? Can we control ourselves?”

Or, right to the point, “Can we get beyond the assumption that it is possible to live inhumanely and yet “save the planet” by a series of last-minute preservations of things perceived at the last minute to be endangered and, only because endangered, precious?”

A new environmentalism must address the bigger picture.

It is not enough anymore to “save” nature. We, as environmentalists, need to ask harder questions about how to work together to conserve and restore self-sustaining social and natural landscapes. We can start by addressing the CAUSES [italic] of our unhealthy and unhappy world, rather than simply concentrate on just the SYMPTOMS [italic].

There is a parallel with the rangeland health paradigm here. By examining a watershed holistically, for instance, at the level of soil, grass, and water we can get a good sense for causes of degradation, rather than spend our money and energy on quick technological fixes.

For example, at a public meeting I attended in Catron County a few years ago, a rancher complained about the infestation of small trees on his land by saying that “he was hardly making a dent in the forest with his backhoe.” Kirk Gadzia responded by asking, not so rhetorically, “Is the problem that we don’t have enough backhoes?”

Are we working on symptoms when we should be working on causes? Granted, some problems, such as global warming, may be beyond the reach of us individually, but many can be fixed at home, if we know where to look, what tools to use, and whom to turn to for assistance. All of which will require some fundamental shifts in our culture and society.

Environmentalists can help lead the way, if we want.

Cultural critic Stephanie Mills put it well when she said “It’s time to ditch the home entertainment center and break the consumer trance, time to roll up our sleeves and learn the plants....We may even rescue the wildness within us from the extinction threatened by credit cards, muscle wagons, and trips to the mall. By working to restore our life places from the soil on up, we can renew our membership in the biotic community.” [13]

### ***How It Works***

I believe that the goals of a new environmentalism can be advanced by a few core strategies:

- Work at the Grassroots: literally at the level of grass and roots. This means seeking out projects that restore watersheds one acre at a time, if need be, or reclaim mine tailings, or assist riparian areas to recover, and to do so principally by using nature’s original toolbox. The objective is to grow grass, reduce bare soil, restore conditions for fire, and a million other acts of healing.
- Work Collaboratively: strength lies in numbers. When we argue our interests instead of our positions we often uncover acres of common ground. Practical solutions to seemingly intractable natural resource conflicts exist, but only if we are willing to work toward common goals. A rangeland health paradigm encourages collaboration by steering the discussion back to the ground, where it belongs.
- Encourage Better Stewardship: that means teaching, listening, and learning.

Education is a two-way street, not a cul-de-sac with a 'Do Not Enter' sign out front. Knowledge marches on, new technologies are invented, and values change. Incorporating these changes constructively means employing an open hand, not a closed fist, when dealing with ranchers and other land managers, especially those who work for the federal government.

This is an important point, given the long history of environmentalists demanding 'compliance' from the federal government. I feel the need to quote Wendell Berry here again: "You can not get good care in the use of the land by demanding it from public officials. That you have the legal right to demand it does not at all improve the case...The idea that a displaced people might take appropriate care of places is absurd; there is no sense in it and no hope."

- Lend a Hand: the time has come to help people. The federal government can no longer carry the load of assuring proper stewardship of our public lands because it has neither the financial, manpower, nor spiritual resources to do the work alone anymore, especially as the workload expands on an almost daily basis. It is therefore incumbent on all of us to assist them somehow – bring money to the table, or monitoring services, or organize a workshop.

- Work Toward Results: measure success by progress on the back forty. Demand, and help achieve, quantifiable, real-world results. Learn how ecosystems actually operate, embrace ideas that achieve ecological and economic sustainability simultaneously, then insist that the results are monitored. Better yet, help with the monitoring **yourself!**

As I said earlier, these strategies are not theoretical; they are being implemented daily and across a wide region. What they need, however, is more support.

### **Review**

In summation, I believe a new environmentalism does the following:

- Employs a rangeland health paradigm.
- Acknowledges that the old "protection" paradigm is not terribly useful anymore.
- Considers its principle job to be ecological and economic restoration.
- Encourages good stewardship and values sustainable work on the land.
- Dumps destructive dualisms.
- Takes seriously the complex work / play / ecology equation.
- Learns, teaches, listens, and lends a hand.
- Achieves and monitors on-the-ground results.
- Keeps an eye on the prize: guiding fundamental human behavior toward restraint and self-sustainability.

### **And one more goal:**

- Attempts to achieve what Aldo Leopold longed for so many years ago - "a state of harmony between man and land."



# **Merle Lefkoff, Ph.D**

Lefkoff and Associates  
Santa Fe, NM

**Merle Lefkoff** is a social change entrepreneur. She conceived and developed three programs that became ongoing and self-sustaining: The Program in International Conflict Resolution at the United World Colleges, Institutionalized on the U.S. campus as the Bartos Institute for the Constructive Engagement of Conflict; the intercultural Community Leadership Institute at the Santa Fe Community College; and Zive Vode (“Living Waters”), started as a training program and now an NGO (Non-governmental Organization) based in Budapest, Hungary, working on a long-term basis to strengthen communities and foster peaceful coexistence in the former Yugoslavia.

Merle left teaching at Georgia State University in Atlanta in 1977 to spend a year at the Carter White House and has been a private consultant in conflict resolution and organizational development since 1978. Much of her domestic work the last two decades since her move to New Mexico has focused on environmental and natural resources dispute resolution. She has also been a “back channel” mediator in peace negotiations in Nicaragua; in the Middle East peace process; in the Northern Ireland peace process; and in a lengthy commitment to the troubled Balkans. She worked in Bosnia for Caritas Internationalis during the war.

At the present time Merle is taking a two-year research “sabbatical” to pursue an investigation of coexistence as a complex adaptive system. Working with physicists and computer scientists and using the computer as a powerful experimental tool, she hope so discover some rules embed in the chaos of diplomacy that can specify conditions for coexistence and assist interventions in her field of preventive diplomacy.

Merle is a board director of three non-profit organizations seeking to shift outmoded paradigms. Among them is The Quivira Coalition, of which she is Vice-Chair. Merle is a member of the Governor’s Juvenile Justice Advisory commission, helping to move more federal and state funding toward juvenile crime prevention and keep our children out of jail.

## **The Nevada Governor’s Sage Grouse Conservation Team: An Effort in Environmental Democracy**

In response to rumors that a petition for listing the Nevada Sage Grouse as a Rare and Endangered Species was forthcoming, the Governor of Nevada convened the Governor’s Sage Grouse Conservation Team in August, 2000. The team was carefully chosen to represent as many stockholder groups as possible, and it included federal and state agencies, and academic experts. Many on the team were technically versed in the ways of the Nevada sagebrush ecosystem, as well as most of what was known about the bird and its habitat. The Team included the U.S. Fish & Wildlife Service at the table. The Nevada Department of Conservation and Natural Resources Division of Wildlife performed the staffing duties, with the Director of the Division designated Chair of the Team. A decision was made early on to have the team meetings led by a professional facilitator.

The first order of business was group consensus around an overall goal for the task force. The group understood that no matter what kind of conservation plan they wrote, a petition for listing was still likely, given the overarching goals of the litigating organization(s). They educated each other to the unique opportunity of writing a conservation plan for the grouse that included attention to the pressures of the sagebrush ecosystem, as a whole. In support of this approach, the group assigned itself into three sub-committees: the bird, the land, and the people.

The “people subcommittee” was able to “negotiate” a landmark decision in the year-long process: a consensus among the group to abandon the idea of delivering a sage grouse restoration plan to the

state (a “top-down” approach), in favor of writing a document that would give guidance to folks on the land, who would then determine the best way to save the bird in their area (a “grass-roots” approach). The planning documents that will emerge from the work of the local groups (with technical assistance as needed) will then be gathered into an overall statewide planning document to be delivered to the U.S. Fish & Wildlife Service. Strong environmentalists on the Team joined the consensus with inclusion in the guidance document of careful defaults if the local planning teams fail to deliver, and Fish & Wildlife agreed to try the approach.

The guidance document was “rolled out” by the Governor and his office, and a team of facilitators was hired to help organize and assist the local planning groups. The groups have been given an ambitious timetable, with deadlines laid out in the document, and they are up and running. The Governor’s Sage Grouse Conservation Team have agreed not to disband, but rather serve as technical assistance to the local planning groups and reconvene as a Team at strategic times to evaluate progress.

On January 3, 2002, the Nevada Division of Wildlife received notification from the Portland office of U.S. Fish & Wildlife that a petition was delivered requesting the emergency listing of sage-grouse in Southwestern Nevada and Southeastern California.



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The Quivira Coalition's First Annual Conference  
The New Ranch at Work  
**Questionnaire and Suggestion Form**

When completed, please return to **Tamara** at the conference or send to us at:  
***The Quivira Coalition, 551 Cordova Rd #423, Santa Fe, NM 87004.***  
Thank You!!!!

1. What was your overall opinion of the **CONTENT** of the conference?  
Was there something missing, something we could have added or done differently?

2. What was your overall opinion of the **ORGANIZATION** of the conference? Was there something we could have done differently?



***Continued on back of page***

**Page 2 Conference Questionnaire**

3. Did you **LEARN** something new? Was there some information provided that changed your opinion about a particular topic? Will do you anything differently when you go home?

4. What topics would you like to see covered in **NEXT** year's conference?

