



The Urbanization of Ranching

by Nathan Sayre, Department of Anthropology, University of Chicago

The phrase “cows versus condos” is frequently used to summarize the debate over ranching and environmentalism in the West today. It suggests a simple opposition: either a piece of land will be a ranch, or it will be developed as residential real estate. Each new subdivision lends support to this view. But the dynamics of land use change are more complex than this simple phrase suggests, particularly as regards environmental issues. The “urbanization of ranching” is less rhetorically elegant, perhaps, but it better captures the processes by which ranch lands, previously valued according to their capacity to produce cattle, have come to be valued according to their potential as residential real estate. This shift in valuation has environmental consequences even before a ranch is subdivided. It has occurred at different times in different places; I focus here on southern Arizona, where the urbanization of ranching can be dated to about 1970.

Background: The Cattle Boom

It is important to review historical events which established the economic and ecological framework for modern ranching. Between 1873 and 1893, the cattle boom spread rapidly across the western United States.

In Arizona, cattle numbers exploded from about 40,000 in 1870 to 1.5 million in 1891. An extended drought from 1891 to 1893 resulted in massive die-offs and irreparable damage to rangelands. In the aftermath of the boom, government studies emphasized the role of the open range system in creating the conditions for overgrazing. The public domain was exploited by everyone because no one could effectively regulate its use; “free grass” inevitably created a tragedy of the commons.

Grazing leases were instituted to remedy this situation. Culminating in the *Taylor Grazing Act of 1934*, lease systems recognized in law what John Wesley Powell had argued in his 1878 *Report on the Lands of the Arid Region of the United States*: the Western range was too arid for farming and should therefore be managed for livestock grazing. Two pre-



Editor's Note

This expanded edition focuses on the problems of development. Many of these articles deal with Arizona, but these issues are the same in New Mexico and the rest of the intermountain West.

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Examples of Good Stewardship

Jim and Joy Williams, Quemado, New Mexico

A sign of good stewardship is a willingness to embrace new ideas.

The Williams Ranch, located a few miles south of Quemado, has been in the family since 1931. In the early years, Jim's parents, Frank and Eleanor, used a variety of strategies to pay off their mortgage, including staging rodeos and taking in paying guests.

Eleanor became well-known for her paintings, especially her portraits of the area's "old timers." In 1986 she was inducted into the Cowgirl Hall of Fame.

The youngest of three children, Jim now runs the family ranch, which includes 15,000 acres of Forest Service allotment. He has also inherited his parents' willingness to try new ideas.

In June, Jim and Joy attended a meeting in Pie Town which featured a presentation by the Quivira Coalition. The meeting was organized by residents Carol Pittman, Lynn Kennedy, and Monika Helbling, each of whom is



Jim and Joy Williams.
(Photo by Courtney White)

deeply concerned about the future of Catron County. They hoped the Quivira Coalition could help stop the destructive feuding between rural folk and city dwellers.

Jim went to the meeting because he wanted "to hear what those darned environmentalists were saying about us." He was also curious about the Quivira message of cooperation.

Three hours later, after a slide show and a lengthy discussion about progressive ranch management led by Quivira Board member Virgil Trujillo, Jim responded to a query for the "next step" by raising his hand and saying "I'm interested. I think you can help me."

Jim felt frustrated with a recent Forest Service evaluation of the range condition on his ranch. It

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THE QUIVIRA COALITION

551 Cordova Road, #423
Santa Fe, NM 87501
(505) 820-2544
(505) 466-4935 (fax)

Founders:

Jim Winder
(505) 267-4227
jrwinder@aol.com

Courtney White
(505) 982-5502
wldwst@rt66.com

Barbara Johnson
(505) 466-4935
lunah3@aol.com

Editor:

Barbara Johnson
(505) 466-4935
lunah3@aol.com

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We must be doing something right.

In October, the Quivira Coalition won three awards: a Piñon Award from the Santa Fe Community Foundation for “outstanding service to the environment,” a Merit Award from the New Mexico Chapter of the Soil and Water Society, and an Environmental Excellence Award from the EPA for our work with the Rio Puerco Management Committee on Non-Point Source Pollution.

We consider these diverse awards to be a signal that our work is heading in the right direction. This is important because, for a small organization such as ourselves, getting a pat on the back so early in the game redoubles our commitment to our mission.

It also boosts our morale. The Quivira Coalition continues to operate with only one part-time paid staff member and a bank account that has rarely exceeded \$8,000. Most of the work has been voluntary (thanks, Barbara!). So, awards help.

They also provide momentum. We have planned an ambitious agenda for 1999. Inspired by the success of our two pilot Outdoor Classrooms, we have scheduled more next year, including one each in a different quadrant of New Mexico. Site tours, workshops, lectures, and slide shows are also scheduled.

In March, we will inaugurate a three-part series of workshops at Ghost Ranch entitled “Gaining Ground: Restoring The Economy and Ecology in northern New Mexico.” The first workshop will focus on the concept of

herding cattle, an old idea that is being revisited with fresh eyes.

We will continue to make and monitor progress on our three on-the-ground Management Demonstration Projects—on Macho Creek, in Peñasco, and at Quemado (see story on page 10). We will keep our readers informed with regular updates.

We have submitted an exciting proposal to the Rio Puerco Management Committee to develop a model for the rehabilitation of the Rio Puerco Watershed, which will, in part, use cows to reclaim an abandoned mine site.

We hope to embark on a significant publication venture as well. Entitled *The New Ranch: An Owner's Manual*, this monograph will blend the scientific investigations of the Jornada Experimental Range with the economic and environmental insights of Jim Winder and other ranchers. We hope to have it substantially completed by the end of the year.

We will also extend our geographical reach in 1999. As many of the articles in the current newsletter indicate, we are expanding into Arizona—a logical extension for both historical and environmental reasons. In April, we will conduct an Outdoor Classroom at the Empire Ranch, in southern Arizona. We hope it will be just the first of many projects there.

We are looking forward to this New Year. It will be a year full of cooperation, education, innovation, and good cheer. Who knows, maybe we'll win another award! We hope you will join us. We appreciate your support.

From the Founders

Jim Winder
Courtney White
Barbara Johnson

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Ranching on the Edge in Prescott, Arizona

*by Dennis Moroney
Cross U Ranch
Rt. 30 Box 1060
Prescott Arizona 86305
(520) 308-0494
crossu@primenet.com*

The area around Prescott, Arizona is experiencing rapid growth much like the rest of the “last best places” in the rural West. Money magazine identified Prescott as one of the best places in America to build a retirement home. Yavapai County has been named as one of the fastest growing “rural” counties in the United States. The location, just two hours north of Phoenix, and in the middle of a scenic, spacious, and diverse landscape, means that real estate values are high and rising. Prescott’s slogan, “everybody’s hometown,” its historic downtown, turn of the century Victorian houses, and busy courthouse square serve to attract lots of tourists, and more than a few visitors who see a brighter future for themselves and their families in this old mining and ranching town.

Since we bought this ranch in 1992, all or part of six different ranches between us and town have been sold and are in the process of being developed or have been developed. These new neighborhoods are primarily two-acre-lot, custom home, upscale subdivisions with names which almost always contain some reference to the “ranch” which they have replaced. On the other end of the scale are the very large developments of 36-acre ranchettes which now occupy thousands of acres of formerly open grassland. These tend to be immediately fenced and cross fenced into horse pastures which are then grazed to bare ground in the first growing season. The new owners invariably realize too late that country rated at 8 or 9 head to the section can’t support the kind of stock density that results from owning 3 or 4 Arab mares.

Unchecked Growth

Like most other people who grew up in Arizona, unchecked growth and development have been a part of my reality for as long as I can remember. Arizona has always been for sale. Our state government supports the publication of a beautiful magazine with international circulation which extols the many virtues of this unique and varied landscape. We barely glance up when we hear our elected officials speak with an eastern or upper Midwestern accent. We all brace for the onslaught of “snowbirds” arriving each winter, and barely react to the heavy equipment moving into a new area to begin blading off the desert or grassland for a new subdivision. I think though, that the rate of change, the scope of the development, and the realization that it doesn’t seem to matter any more how far out of town you are, has finally made some of us realize that we need to look at how we might try to do something to preserve some of what’s left of our open country.

If this kind of growth were occurring only at the edge of town, it might be a bit easier to manage, and even to embrace. After all, these new residents bring fresh perspectives and points of view. All kinds of new employment opportunities and an ever-widening array of consumer choices have become available. Unfortunately, this growth has not followed any sort of organized pattern, but has simply followed the path of least resistance. This usually means sections of private land 20 or 25 miles out of town and in the middle of somebody’s ranch become “Inscription Canyon Ranch,” “Mint Creek Ranch,” “Crossroads Ranch,”



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or “Hootenanny Holler.” (No kidding!)

Unforeseen Consequences

This kind of “leapfrog” development results in a number of perhaps unforeseen consequences which can be summed up in the term “landscape fragmentation.” Some of the characteristics of this fragmentation include immediate and permanent loss of open space scenic values; loss of wildlife habitat; loss of wildlife movement corridors; increased predation and harassment by dogs and cats; introduction of non-native and sometimes noxious alien plant species; rapid depletion of groundwater levels; pollution of adjacent groundwater sources from poorly located septic systems; excessive pressure on outlying rural governments to provide infrastructure to support increased traffic, fire and police protection, schools, postal service, etc. This demand for city quality services drives property tax rates through the roof.

Our home, the Cross U Ranch, has a history of cattle grazing going back to the 1870s. The ranch is made up of seven old homesteads totaling just under 600 acres, and a Forest Service allotment containing almost 50,000 acres. The country is rugged, wild, scenic and in spite of whatever mistakes may have been made in the past, is still in functioning ecological condition. There are pretty fair examples of riparian forest, plains grassland, interior chaparral, great basin conifer woodland, and Ponderosa Pine communities represented. I don’t want to convey the message that this old ranch is without problems, because that would be untrue. There is too much bare ground; too little grass;

the brush is rank and over-mature and desperately in need of a good fire; there are far too many juniper trees of the same age; and the pine country needs to be thinned out. Historic overgrazing and fire suppression have left us with a legacy that rest alone will not improve. But this is still a home for mule deer, elk, javelina, wild turkeys, coyotes, bobcat, mountain lion, gray fox, a few black bears, and all kinds of small mammals, birds, and insects. There is a lot of good stuff to work with. It provides some pretty good recreation for a lot of folks, and enough forage to support our 460 head permit. The closest neighbor is about 10 miles away, we supply our own electricity from solar panels, we have a cellular telephone, we get mail three days a week.

How Growth Affects Ranching

As a cattle rancher there are a number of ways that we have been affected by this new growth; I’ll share a few stories about some of our neighbors, both new and old, that will serve to illustrate some of the challenges we’re experiencing. I have not yet met all of our new neighbors, but most of the ones I have met are really nice folks. Many of them have come from places far away and very different from here. Some are making an honest effort to immerse themselves in the culture and history of this place; others do not. Most of them have engaged the services of a local architect, and so have built beautiful adobe style homes, and almost all have realized the need for four-wheel-drive vehicles.

I have seen a few of them disc up stands of native bunch grasses and then go to the feed store and

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Ranching on the Edge (con’t)

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Virgil Trujillo, Manager,
Ghost Ranch *

* For informational purposes only



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Farming on the Edge: Losing Our Most Important Agricultural Lands

*by Jeff Jones,
Rocky Mountain
Field Representative,
American Farmland Trust*

American Farmland Trust is a national agricultural land conservation organization which was founded by farmers, ranchers, and conservationists in 1980. In early 1997, it opened a Rocky Mountain Field Office in Ft. Collins, Colorado covering the seven interior Rocky Mountain states including New Mexico. You can visit AFT online at www.farmland.org, or call the Rocky Mountain Field Office at (970) 484-8988.



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During the last several decades the Rocky Mountain West has gradually, but inexorably, been passing through a transition. Historically, low population densities living on rural lands held in large contiguous ownership patterns have defined the region. Today, we find many rural western landscapes being altered by a new land rush—urban sprawl reaching into and consuming the working landscapes. It's a pattern that is repeating itself all over the Rocky Mountain West.

Often the last crop ranches and farms produce is rural subdivisions and trophy homes with part-time residents. According to the U.S. Census Bureau, the interior Rocky Mountain West has the highest concentration of second home residents in the country. Our breathtaking Rocky Mountain landscapes generate a thriving tourism and second home market—changing the landscapes the market depends on. While change is the rule, tracking and understanding the impacts of replacing cows with condos is a challenge.

Disturbing Report

In 1997, on National Agriculture Day, the national agricultural land conservation organization, American Farmland Trust, released a report and map tracking the loss of the nation's most important agricultural land. Aptly titled *Farming on the Edge*, the AFT project found that, between 1982 and 1992, 4.3 million acres of the nation's prime and unique farm and ranch land were converted—that is 50 acres of the

nations best agricultural land is lost every hour, every day. Most of this loss can be attributed to scattershot urban development near major metropolitan areas.

American Farmland Trust based its analysis on data generated from the USDA Natural Resource Inventory and the U.S. Census Bureau. The NRI is a national inventory of natural resources, which can be used to evaluate land cover and land use and the extent of prime and unique agricultural lands, among other things. Every state has its own set of criteria for determining prime and unique agricultural land. AFT used the state criteria in combination with U.S. Census Bureau data on population growth patterns to identify the most threatened agricultural regions in the country. (See The Top 20, page 7.) Combining population growth patterns over a 10 year period (1998-1992) with a mapping analysis of the location and extent of the nation's most important agricultural lands, AFT found some disturbing results:

1. Every state is losing high quality agricultural land to urban development. Texas lost the most, followed by North Carolina, Ohio, Georgia, Louisiana, Florida, Illinois, Tennessee, Indiana, and California.

2. Much of the value of U.S. agricultural production was generated in counties within and around urban areas.

3. The population growth in counties with the highest agricultural productivity was more than twice the national average.

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4. 79% of the total U.S. production of fruit, 69% of the vegetables, 52% of the dairy prod-

Macho Creek Project Update

The Quivira Coalition, working with the State Land Office, a rancher permittee, and scientists at the Jornada Experimental Range (JER), established a monitoring project on a stretch of Macho Creek in Sierra County, New Mexico. This project was described in an earlier newsletter.

The purpose of this project is to document changes in this riparian area to managed seasonal grazing by livestock. Two monitoring sites, following an experimental protocol established by JER scientists in collaboration with personnel in several federal and state agencies, were established in 1997 and initial data on the riparian zone were collected in October 1997.

Monitoring of each site required 1 to 2 hours, and involved visual appraisals, quantified measurements, and photographs of permanently marked locations. The riparian area was fenced though a coalition of efforts and resources headed by the State Land Office and the Quivira Coalition early in 1998 in order to control seasonal livestock grazing use in the riparian area. This fall, we moved one of our monitoring sites to a more appropriate location and both sites were re-monitored in October 1998. One of the original monitoring sites was within the newly created narrow fence gap that provided livestock access to water, and was no longer an appropriate location. The new site was within 100 yards of the original location.

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ucts, 28% of the meat, and 27% of the grain are produced in counties with high quality agricultural land in the path of development.

Loss Not Trivial

This loss of high quality agricultural land is not a trivial threat. Nationally, a broad pattern of non-metropolitan growth has led to non-farming and ranching neighbors unaccustomed to the sights, sounds, and smells of farming and ranching. The conversion of farm and ranch land is a complex process, often taking decades to complete. It involves farm and ranch profitability, urban growth pressures, land values, personal decisions about work and retirement, community expectations, taxes and government programs, and incentives and regulations. It also tends to be highly incremental, with a farm and ranch going out of production here and another there—death by a thousand cuts.

As a consequence, the cumulative impact of agricultural land loss is rarely appreciated until it is almost too late to reverse. Equally troubling is that much of the impact of increasing residential development is on the farms that remain. With more vehicular traffic, neighbors' complaints and trespassing, and fewer acres of available land to lease, many farmers and ranchers either sell out or retire. What *Farming on the Edge* teaches us is that some land use changes, which at first glance seem insignificant or even acceptable a little at a time, become a pattern and result that most people readily reject.

Losing Agricultural Lands

(con't)

The Top 20

1. Sacramento and San Joaquin Valley
2. Northern Piedmont
3. Southern Wisconsin and Northern Illinois Drift Plain
4. Texas Blackland Prairie
5. Willamette and Puget Sound Valleys
6. Florida Everglades and Associated Areas
7. Eastern Ohio Till Plain
8. Lower Rio Grande Plain
9. Mid-Atlantic Coastal Plain
10. New England and Eastern New York Upland, Southern Part
11. Ontario Plain and Finger Lakes
12. Nashville Basin
13. Central Snake River Plains
14. Southwestern Michigan Fruit and Truck Belt
15. Central California Coastal Valleys
16. Columbia Basin
17. Imperial Valley
18. Long Island—Cape Cod Coastal Lowland
19. Connecticut Valley
20. Western Michigan Fruit and Truck Belt

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Birds In Urbanized Environments

*by Dr. Mark Hostetler,
Center for Environmental
Studies
Arizona State University
P.O. Box 873211
Tempe, AZ 85287-3211*

*Ph (wk) (602)965-5841
Fax (602)965-8087
email: hossman@asu.edu*

*Central Arizona—Phoenix
Long-Term Ecological
Research Project:
<http://caplter.asu.edu>*

As a terrestrial ecologist, I have conducted research on birds in urban environments over the past seven years. Much of my research has focused on the effects of urban landscape structure on avian species richness and abundance, and one primary goal of my research is to understand how we could design urban landscapes to minimize the impact on native bird species.

Urban areas have a huge impact on the diversity and abundance of many organisms, especially North American birds. A fraction of the native N. American bird species seems to flourish in urban areas. By some estimates in the United States, excluding Alaska, land classified as urban (4%) is nearly equal to land classified as wilderness (5%). The expansion of urban cities (i.e., urban sprawl) is quite rapid; the rate that lands are converted to urban use has been estimated to exceed population growth by a factor of six to ten. Estimates indicate that over one million acres are converted to urban areas each year, and with population growth disproportionately increasing in certain regions of North America, many regions are dominated by an urban landscape matrix.

Many homeowners prefer to live in the suburbs, which ultimately increases the rate of urban sprawl. One noteworthy group, the “baby-boomers,” has approximately one trillion dollars to spend on retirement and they want to buy land outside urban city centers. For example, in the Phoenix metropolitan area, one of the fastest growing cities in the U.S., estimates between 1990 and 1995 indicate that 24 acres per day are converted to urban areas.

Urban Sprawl=Loss of Wildlife Habitat

The end result of urban sprawl is the loss of wildlife habitat and the fragmentation of large re-

gions of North American landscapes. Despite the potential importance of urban areas to avian communities, ecological studies of birds in urban environments have been limited. However, several trends have been noticed from these studies. In general, the effects of urbanization include a loss of ground nesters and of canopy or open-nesting species, a dominance of omnivores and ground foragers, and a high density of exotic birds (e.g., house sparrows, starlings, and rock doves). In fact, some native species that are found in urban areas occur at higher densities than in natural areas. A high density of urban birds is primarily attributed to the substantial increase in food and water in most metropolitan areas. However, diversity generally decreases as the degree of urbanization increases; for example, in desert ecosystems, many of the birds found in desert riparian habitats are usually absent in urban areas (e.g., Yellow-billed Cuckoo, Pyrrhuloxia, and Yellow-breasted Chat).

Habitat Structure Affects Diversity

Recent studies on urban environments stress that habitat structure is the primary factor that affects bird abundance and diversity. Other factors include competition from exotics, disease, and the inability of certain species to tolerate noise, traffic, and other human disturbances. Suburban landscapes are a patchy mosaic of trees, bushes, lawns, buildings, and roads, and the spatial distribution of these patches is quite variable among different cities or within different areas within a city, depending on the local history of development. Economic, political, and social forces that shape development ultimately determine the patchiness of a suburban landscape. In the end, landscaping decisions made by a range

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of different people, from homeowners to city planners, directly affect which species of birds are found in a given area.

Different species respond to changes in the landscape at different scales. Imagine the different perceptions of a hummingbird versus a hawk when they select a habitat: a hummingbird responds to structure at much smaller scales than a hawk. Thus, human decisions that affect the landscape at different scales probably affect different species of birds. For example, the design of a homeowner's backyard is determined by individual choice and preference (small scale); the landscape structure of a neighborhood is determined by local city laws, zoning ordinances, and the type of developer developing the neighborhood (middle scale); and the landscape structure of a large cluster of neighborhoods is governed by the decisions of city planners and commissioners that develop a city's long-range comprehensive development plan for large regions of a metropolitan area (large scale). Small-scale decisions primarily affect the smaller species whereas large-scale decisions affect larger species. Thus, to promote a diverse number of species in urban areas, one must think about landscape design at a variety of scales.

Regional Distribution Affected

In addition to the effects on avian communities within the boundaries of urban areas, urban landscapes may affect the regional distribution and population dynamics of avifauna. When birds (and other animals) are dispersing from one habitat patch to another, how species respond to the landscape matrix that exists between habitats is vital to the ability of certain animals to disperse. It is important for individuals of a species to disperse to new areas; this not only promotes genetic diversity within populations, but it helps in reestablishing popula-

tions in areas the periodically experience population crashes.

This dispersal ability may be important to the viability of species in a region. Urban landscapes are scattered throughout North America, and these environments may actually be a barrier to dispersal, depending on how certain species respond to remnant landscape structure in these areas.

Furthermore, many urban environments lie along major migratory routes, and these urban sites could serve as stopover sites for migrating species (e.g., neotropical warblers). Mortality during migration is probably high and birds need to forage in stopover sites along migratory routes. Because of the abundance of urban areas, preserving sufficient numbers of suburban stopover sites from northern regions to southern regions may play a pivotal role in promoting the survival of migrating birds.

Long-Term Ecological Research in Urban Environments

In 1997, the National Science Foundation funded two new urban long-term ecological (LTER) research sites in Baltimore, MD and Phoenix, AZ as part of a network of LTER sites in a variety of ecosystems (see the web site <http://caplter.asu.edu>) designed to understand the ecology of these ecosystems. These urban LTER projects are focusing on integrating the social and the natural sciences, and understanding the socioeconomic factors that govern how or whether an area is developed. Emphasis is placed on understanding both how urban development alters ecological conditions and how ecological conditions affect urban development. In Phoenix, where I work as a terrestrial ecologist on the project, the objectives of the project are:

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Birds in Urbanized Environment

(con't)

“The end result of urban sprawl is the loss of wildlife habitat and the fragmentation of large regions of North American landscapes.”



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Making Friends In Catron County: The Quemado Project

by Courtney White

*“Don’t Wait! Call Now! Don’t miss this opportunity to own your own vacation, recreational or retirement mountain land!”—
Santa Fe newspaper advertisement for a subdivision in northern Catron County*

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Change has arrived in Catron County. According to the U.S. Census, between 1990 and 1997 the population of the county rose 10% (to a whopping 3,000). It is expected to accelerate in the next decade.

Although the \$20-million-a-year cattle business is by far the greatest generator of gross income in the county, real estate speculation and development has boomed in recent years, especially along Highway 60 in northern Catron County.

In 1990, the U.S. Census rated the county as “entirely rural.” The rise and spread of subdivisions threaten this rating however, with important consequences for the future.

Shaping Change

No one is particularly happy with this current turn of events, with the possible exception of “outside” land developers. Toss in a long-running feud between county residents, the federal government, and urban environmentalists, and you have a recipe for the continued destruction of open space and rural traditions.

The Quivira Coalition wants to help stem the tide of change. We can’t turn the clock back, nor do we want to. Nor do we want to fight the future. Change is inevitable—that fact should be clear to everyone. We can, however, help shape what comes next, both for the benefit of rural economies and the environment.

We have already begun in Quemado. In early December, ranchers Jim and Joy Williams (see page 2) arranged a meeting at the senior center for the Quivira Coalition. They called their friends and

30 ranchers showed up, including a County Commissioner, to hear our message of cooperation, education, and innovation.

Successful Meeting

The meeting was a success on every level. I told the audience that the vast majority of environmentalists were normal people who just wanted to leave a better world for their children. Virgil Trujillo spoke rancher-to-rancher about the economic and environmental benefits of progressive ranch management.

Inspired, local rancher Mark Hubbell rose to his feet and gave an impassioned pitch for holistic ranching. The herding of cattle, he said, was a key. The (very large) Hubbell Ranch was failing until they switched to a cell rest-rotation system and began to herd their cattle. Now they are doing fine. “We’ve all got to change,” he insisted, “or we’re sunk.”

Jim Williams addressed the group and told them why he was involved with the Quivira Coalition. He was worried about the changes he saw happening in Quemado; he was worried too about the future of his ranch and the lifestyle that came with it. He wants the ranch to stay in his family.

[**Note:** Mr. Williams’ ranch is a prime target for subdivision; it is an extremely beautiful ranch, with unobstructed views that stretch into Arizona; it abuts a national forest, has a lovely riparian area, is located close to town, and contains a paved highway. He receives a regular stream of phone calls from land developers.]

We promised to help. Monitoring, workshops, classrooms,

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field trips, consultations— we will do whatever it takes to redirect change in the area in a positive manner. We will do it, too, with the full cooperation of ranchers, Forest Service officials, local residents, and others.

The meeting ended with smiles and handshakes. The region's Forest Service range con had pledged his support for our work—a fact

Good Stewardship

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had been graded “poor” and Jim worried that his stocking numbers were going to be cut to the point where he would be forced to sell his ranch.

In August, Jim Winder and other members of the Quivira Board came to the Williams Ranch for a tour. We were joined by members of the Williams family, employees of the Forest Service, neighbors, and even the Catron County Manager.

It was a fascinating day. Jim Winder talked at length about range health, economics, getting along with environmentalists, and progressive ranch management. Jim also pronounced the Williams' ranch to be in “good shape.” Problem areas included a lack of cool season grasses and a lack of plant diversity in the Largo Creek riparian area.

Jim and Joy Williams liked what they heard. They agreed to switch to dormant season grazing in their substantial riparian area (and have done so already), and are willing to entertain other changes to their management style. Jim said he is even willing to consider prescribed burns on his private land.

In September, Dr. Kris Havstad and other scientists from

whose significance was not lost on the audience.

The Quemado Project holds tremendous promise for the grazing debate in the West. If we can do it in Catron County, we can do it anywhere.

Sign in Quemado.
(Photo by Courtney White)



the Jornada Experimental Range proposed establishing new monitoring plots on the Williams ranch. The goal would be to monitor proper functioning condition of the watershed as a whole—a method that would contrast sharply with the Forest Service's venerable “Parker 3-Step.”

Kris told Mr. Williams that he would not necessarily provide “the answers he wanted.” The monitoring would be scientific and objective. Jim said “he just wanted the truth” and invited Kris to his ranch. The Forest Service told everyone this was a fine idea.

Kris' initial evaluation was positive. “The allotment is being managed to conserve soil and water resources,” he wrote in a preliminary report released in October. “These data would not support a recommendation to reduce AUMs on the allotment,” he concluded. This monitoring will continue for years.

Best of all, everything is being done cooperatively. Mr. Williams is making voluntary changes to his cattle management, the For-

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est Service is being very supportive, the Quivira Coalition is providing educational and logistical assistance, and cutting-edge science is being conducted in a friendly atmosphere.

We can all thank Jim and Joy Williams for that.

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The Far Horizon

by Courtney White

“What a young American just coming of age confronts now is not a limitless potential, but developed power attended by destruction and depletion.

*Though we should have recognized the land as a living organism demanding care and stewardship, we have treated it as a warehouse, and now it is a warehouse half emptied.”—
Wallace Stegner, American Places (1980)*

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What do we lose exactly, when we lose open space?

This question confronted me a few years ago while spinning through Phoenix, my hometown.

Bent on nostalgia, I drove my wife through a cavalcade of former homes, schools, and other childhood haunts, eventually aiming the truck toward what had once been the edge of town. To my dismay, there was no edge; subdivisions rolled on and on without pause.

We prospected for an apparition from my childhood entitled “Powderhorn Ranch.” It wasn’t much of a ranch, even in my memory. It had been a collection of rambling corrals, full of weeds and manure. There had been a small headquarters, a mobile home, and lots of open space. Our only neighbor had been a mysterious, dilapidated palm tree nursery.

My father had rented the “ranch” for a few years, mostly to get out of the office. We hired a wrangler, installed a handful of horses, and spent nearly every weekend there, fixing things. I remembered the smell of the horse feed, the look of the crooked fences, the freedom of the long trail rides. I remembered trying to build a miniature golf course among the anthills and creosote.

I also remembered living on the edge of a vast desert wilderness.

Sign Of The Times

We drove back and forth among unfamiliar boulevards look-

ing for a sign of the past. We eventually found it at a generic street corner: “Powderhorn Ranch,” the subdivision.

As my wife and I stared at

Powderhorn Ranch. (Photo by Courtney White)



the vast cement holocaust, we wondered out loud what had happened to the desert. Its only visible vestige was a strip of open space beneath the massive electrical towers that marched across the shattered landscape like steel kachinas.

Where did the coyotes go? Or the cactus? Or the other animals? I remembered riding a horse across an endless horizon of living land. I remembered the scant evidence of human impact—an occasional jeep track, an old stone home, a prehistoric canal. But mostly I remembered mile after mile of life.

I also remembered the signs. Driving back and forth to the ranch from our home downtown, I had spied real estate signs stuck into the desert like spears. Most had been defaced with a simple spray-painted message: SAVE OUR DESERT. I remembered cheering the vandal silently.

Now the desert was gone.

Physically, Phoenix has become the largest city in America. In

(con't on page 13)

1995, the Phoenix metro area occupied nearly 1000 square miles of former desert; it consumed open space at the rate of 24 acres per day; and it added 230 people to its population every 24 hours. The numbers can only be bigger today.

Some environmentalists write off cities like Phoenix, preferring to vent their outrage at smaller, more tempting targets, like the family rancher. Tackling sprawl requires financial and emotional resources that many environmental organizations do not have. It also cuts a little too close to home.

However, the metamorphosis of Powderhorn Ranch told me unequivocally we are losing our desert ecosystems at an unacceptable rate—an acre every hour of every day of every year.

Estrangement

Losing land is only the beginning. The loss of open space also increases the urban dweller's estrangement from nature. As society's cement cocoon expands daily, we push nature farther and farther away until it exists mostly as an abstract ideal on the periphery of our lives.

City folk still adore nature, perhaps even treasure it; but it is a leisurely love, conducted on weekend trips to the mountains, or a dayhike in the desert. Nature has become a pastime for most Americans, something remote and sanitized.

Meanwhile, our children are growing up without the feel of dirt under their fingers, the smell of wet creosote in their lungs, the sight of a sunrise on the hills in their eyes. There is nothing abstract about nature, not if you feel it, live it, and see it on a daily basis. Nature cannot be intellectualized; it needs to felt.

I learned this as a child at Powderhorn. During our brief, but intimate, existence on the edge of the desert, I learned the timeless value of contact with nature. I began to detect why human beings have spent millions of years evolving in a very tight bond with wild things—a bond that defines our “humanness” as much as our ability to make music or fly to the moon.

Yet, standing in the middle of that asphalt wilderness, I also learned that in only a few years we have badly damaged this bond, and we have done so with gusto.

Losing Memory

We are also losing our memory when we lose land. Not only childhood hopes and dreams are lost, but larger dreams as well. Liberty, for example, has been historically bound up with open space. Go West young man, and be free. In the late nineteenth century, a famous historian postulated that the very essence of American democracy was dependent on the availability of open space.

We lose touch with our roots when we pave over paradise. We lose touch with our parents, and their parents; we lose our connection with the lessons of nature; and we lose our center as human beings.

Who has not returned to a cherished childhood landscape only to be shaken at the sight of new construction? A favorite field lost, a secret arroyo exposed, a sacred fishing hole desecrated. All of these represent ties to the past that are damaged or severed, with important consequences for the future.

Progress can be measured as the sum of experience and ingenuity. What is experience, however,

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The Far Horizon

(con't)

Remember:

Our new phone number
is (505) 820-2544.

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The Far Horizon

(con't from page 13)

but memory? If we lose touch with our past, with our families, or our ideals, then we jeopardize our ability to build a sustainable future.

My father died a number of years ago. Now the Powderhorn Ranch that I knew and cherished is gone too, and with it went another tether to my roots. How many memories can we cut before we become unmoored?

We need to redouble our efforts to save open space because it protects ecosystems, keeps us connected to the land, and encourages memory (and puts food on the table). Protecting land is also a necessary act of defiance against the destructive powers of our society. Nothing is inevitable, even sprawl—not if we put our shoulders into the task.

Hope is our most precious resource.

Sign near Scottsdale, Arizona.

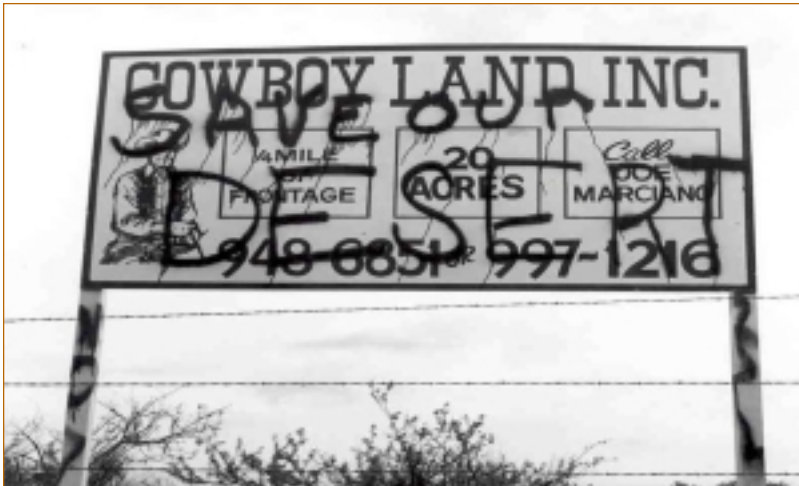


Photo by Courtney White

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As my wife and I drove away from the scene of the crime, we spied a real estate sign planted in one of the very few patches of open space left among the horizon of identical houses. Even from a distance I could see that my childhood dreams had not entirely faded away. Spray-painted on the sign was a familiar message of hope (photo above).

WANTED: Family Ranch

My name is Randy Hays and I am a senior at Colorado State University. I will be graduating in December 1998 with a B.S. in Animal Sciences. I am from a small Colorado ranch and have a diverse agricultural background. I no longer have a family ranch to return to.

My family had to quit ranching for several reasons. We live in Douglas County, CO—currently known as “the fastest growing county in America.” Low cattle prices and high estate taxes put the business into deep debt. In order to stay competitive, we needed to expand. However, urban encroachment raised land prices sky high. The combination of large debts, high land prices, and my grandfather’s failing health forced my family to sell the business.

My goal is to someday own and operate a sustainable cow/calf ranching operation. I intend to develop a coalition within the community consisting of ranchers, environmentalists, and others. Communication and coalitions are necessary to maintain viable ecosystems for wildlife and agriculture with today’s urban expansion.

I am looking for any ranchers in the West who are approaching retirement and have no successors. If they choose to keep their land in a sustainable ranching program and are looking for someone to help—I would like to let them know I am available.

My schedule is flexible and I am willing to work at any entry level. I have got the mind and the heart for the job—just not the resources.

If you know of any options I would greatly appreciate a reply. Thank you.

Randy Hays
2950 Neil Dr. #17
Ft. Collins, CO 80526
(970) 493-9479
rhays@holly.colostate.edu

What do healthy grasslands look like? What tools are available to conscientious land stewards to bring about and sustain this condition? Is ecologically sound ranching feasible? Is it desirable?

Some 30 folks from Arizona and New Mexico gathered at the beautiful 332,000-acre Gray Ranch in New Mexico's "bootheel" in late October to explore answers to these questions, to tour the Gray, and to hear about its colorful history.

The gathering was sponsored by the Quivira Coalition, a group dedicated to the proposition that the twin goals of ecological restoration and economic viability of ranching are compatible in a management paradigm it calls the "New Ranch." Quivira has already garnered several conservation awards and its workshops and ranch tours are increasingly oversubscribed.

The class at the Gray Ranch was led by Kirk Gadzia, who holds advanced degrees in both wildlife biology and range science, and who taught at Allan Savory's Center for Holistic Management in Albuquerque for five years; Bill McDonald, rancher, co-founder of the Malpai Borderlands Group, and winner this year of a MacArthur Foundation "genius grant"; and Dr. Ben Brown, biologist and Program Manager at the Gray.

All three urged us to keep looking at the land and its complex systems with an open mind and to recognize that we learn how to steward in a school from which we may never graduate.

Ben Brown oversees four main program areas: conservation and land management, including elaborate monitoring activities and restoration projects; science and education, involving collaborative research with academic and governmental experts; Livestock management, with

current stocking levels around 2700 head, and provision of a grass bank for other Malpai Borderlands Group ranchers who need to rest their own pastures; and culture and community outreach, the gathering of oral histories, old photographs, and seeking their publication.

We spent a day and a half in carpooled caravans, enjoying the spectacular scenery of the Gray. We learned that each of the tools of restoration—rest, animal impact, grazing, fire, shrub removal—can have negative impacts if used indiscriminately.

The "New Ranch" involved using all of these appropriately and after careful evaluation, consultation and sharing of information with others. It features mimicking natural systems as much as possible, replacing absent predators with herding and fencing, respecting the need for recovery after periods of grazing.

In stewarding these complex ecosystems, there are no blanket rules or prescriptions, and Kirk Gadzia, particularly, urged us toward humility as the most productive frame of mind with which to approach management. The main lesson of the weekend for me was the necessity for a good steward to be constantly alert and attentive to the condition of the actual land under her or his care.

Around the campfire Saturday night, conversations continued about the damage grazing animals often cause in terms of erosion, plant and animal species diversity reduction, and desertification. Yet there is no clear evidence shown by areas excluded from grazing for many years—such as Chaco Canyon and other monuments and parks—that a walk-away strategy restorative.

On Sunday, we visited an upland area where mesquite had been mechanically removed two years ago

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Gray Ranch Classroom

*by Mary Burton Riseley
Upper Gila Watershed Alliance*

*Revised and reprinted with permission from **Carapace: newsletter for the Upper Gila Watershed Alliance**, Autumn 1998. Mary Burton Riseley is a member of the UGWA Board of Trustees.*

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January 1999

Southwestern Willow Flycatcher Revisited



Editor's Note:

What follows is correspondence from Bernard Foy, President, Sangre de Cristo Audubon Society (bdfoy@roadrunner.com 505-466-1587) and Scott H. Stoleson, Ph.D., Research Wildlife Biologist, Rocky Mountain Research Station, Albuquerque, regarding our article in the September 1998 issue about the Southwestern Willow Flycatcher on the U Bar Ranch. We thought it would interest our readers.

Please note that Mr. Foy has expressed further concerns in another letter. If we have room in our next issue, we will try to continue the discussion.

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Mr. Foy's Letter

Dear Quivira Coalition folks:

I have very much enjoyed periodic receipt of your newsletter, as I resonate strongly with your approach of cooperation between ranchers and conservationists in addressing environmental restoration. The latest issue (September 1998), however, contained several instances that raise serious questions in my mind about the technical accuracy of claims that are made and the conclusions that follow. In particular, I am bothered by David Ogilvie's article about Southwestern Willow Flycatchers on the U Bar Ranch in New Mexico.

Ogilvie starts by questioning the assumption that cattle grazing has had negative impact on this species' population status, asking whether that connection has "been scientifically studied, based, and supported." Fair enough—scientific skepticism is always welcome, and is a necessary part of both the scientific method and policy making. But if one is to attack the scientific underpinnings of the USFWS claims, one had better come prepared with accurate, comprehensive, and objective arguments and valid data. Let me be specific.

Flycatcher surveys on the U Bar are discussed for the period 1994-1998. Since the surveys were done by non-agency personnel on private land, one wonders what methods were used, how much territory was covered, and what uncertainties are present in the data. Is a detailed report available? Is the increased number of pairs in this period due to larger sample size? Is it due to improved techniques or more experienced observers? With numbers like 186 pairs, can one really discern every adult pair and every breeding territory? How do you count individual birds seen wandering on the day of the survey? There is not enough information present in the article to support the author's con-

tion that the population on the U Bar is indeed expanding.

Ogilvie also mentions that cowbird parasitism is "the lowest... found anywhere." Given that "some nest heights exceed 70 feet," is it not difficult to ascertain the number of nests that were parasitized? What percentage of parasitized nests were found, and how does that compare to other areas?

Next, the claim is made that "these situations have occurred with high densities of livestock," and concomitant[ly] with an increase in farming activity. But there is no information on whether the livestock are grazing directly in the riparian areas where nests occur, or in neighboring pastures, nor is the timing or intensity of the grazing activity discussed. The U Bar is a responsibly managed ranch, presumably lightly grazed and at a time of year that does not prevent the raising of young birds. . . . That stands in stark contrast to the treatment received by the vast acreage managed by BLM. Ogilvie concludes that agency personnel are wrong to call for the removal of all livestock from riparian areas in order to save the bird by stating that "the science that supports those claims is not being substantiated." In my view, it is his claim that is clearly not substantiated by the facts, because the intensity and timing of grazing make all the difference in whether Flycatcher habitat is healthy or not. One cannot extrapolate from the unique situation of the U Bar to the quite different status of public lands without a great deal more information. Some allotments are in reasonable shape, and can probably withstand light grazing in the non-growing season; others are so degraded that evacuation of the livestock is the only option. No broader generalizations are possible.

Immediately following that,

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Willow Flycatcher

(con't)

Ogilvie states that extensive surveys of the Gila valley indicate that “no Flycatchers have been found . . . in the absence of livestock.” One is lead to ask how many historically known breeding territories along the Gila are not currently utilized by livestock. Otherwise, this statement is a non-sequitur and has no scientific value.

The underlying sentiment of Ogilvie’s article, that government agencies protecting the Willow Flycatcher are misguided in restricting “a valid compatible use, livestock grazing,” is undercut by the selective use of biological information to match his desired conclusions. It is not currently possible to characterize grazing as “valid” or “compatible” in connection with any Flycatcher habitat without a detailed examination of the stocking rates, vegetative characteristics, and long-term population trends associated with each portion of the bird’s breeding range.

To question the USFWS or the NM Department of Game and Fish on the basis that their science is not good and that ranchers like Ogilvie “know better” is a disturbing development for the Quivira Coalition. . . While I admire the Quivira Coalition and hope to see it succeed in the future, I hope to see more careful and more believable reasoning in future issues of the newsletter.

Sincerely,
Bernard R. Foy

Dr. Stoleson’s Response

Dear Quivira Coalition:

I’ve been asked to respond to questions concerning Willow Flycatchers on the U Bar Ranch brought up in a letter by Mr. Bernard Foy. I have headed a field team from the Rocky Mountain Research Station in Albuquerque in a study of the birds for the past two years. Our project so

far has been a descriptive study of the nesting success and habitat preferences of Willow Flycatchers on the U Bar and nearby Forest Service sites.

Mr. Foy expressed concerns about the veracity and the interpretation of claims made by David Ogilvie, owner of the U Bar, and suggested that such claims cannot be taken seriously without valid data. I hope Mr. Foy understands that Mr. Ogilvie did not include specific quantitative data in his letter because he is not an avian scientist but a rancher, and this newsletter is not really meant to be a peer-reviewed scientific forum. However, the issues Mr. Foy raises are good ones. His skepticism is completely understandable, given the poor condition of many grazed areas in the state. I confess that I shared many of Mr. Foy’s doubts before I began our study on the U Bar. Below I answer specific questions about flycatchers raised by Mr. Foy. (Please note that I am not qualified to address questions concerning Mr. Ogilvie’s management.)

How were the surveys accomplished? Surveys on the U Bar (until July of 1998) were conducted by a private biological consultant with many years of experience in avian biology in the Southwest. All surveys must, by law, follow a standardized protocol, regardless of the affiliation of the surveyor or the ownership of the land. (I urge Mr. Foy or other interested folks to obtain a copy of the protocol from their local FWS office or over the Internet at <http://www.usgs.nau.edu/FNF/PIF/protocol.html>). Surveyors are required to complete a training course run by the U.S. Fish and Wildlife Service. Therefore, the methods used to assess population numbers were identical to those used throughout the Southwest and were consistent from year to year. The territory cov-

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Willow Flycatcher

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ered in those surveys consisted of the same 21 patches of riparian woodland every year, so the numbers used to document population growth on the U Bar do in fact represent the same area surveyed each year. It should be noted that because riparian areas in the Southwest are highly dynamic in nature, the extent of some of the habitat patches has changed since 1994, in some cases significantly. Several patches have suffered from bank erosion and consequently have shrunk in size, with a corresponding decrease in Flycatcher numbers. In others, considerable regeneration has occurred, and Flycatchers have colonized some of the denser young stands.

Of course, any data set contains uncertainties. In this case the standardized survey protocol was designed to be usable by people without extensive field experience with birds, and so is not the most rigorous methodology. As Mr. Foy astutely suggests, it is not always possible to discern every breeding pair, especially with the large numbers found on the U Bar. But, our own studies on the U Bar suggest the numbers reported are quite accurate. On a subset of the U Bar habitat patches, we mapped territories using the spot-mapping method—generally considered to be the most accurate (and labor-intensive) method for determining population size. Our results agree with population estimates reported for those areas by the U Bar's consultant. His survey results are currently in the process of peer review for publication in the journal *Western Birds*. It is noteworthy that a different subset of U Bar habitat patches were surveyed using the same spot-mapping methodology in the mid-seventies by William Baltosser, a professional ornithologist now at the University of Arkansas. He found no Willow Flycatchers at all in an area that supported at least 11 pairs this year (Baltosser's study was published in *Western Birds*, vol. 17, pages 115-

131, 1986).

Cowbird parasitism on the U Bar is relatively low compared to a number of other sites that lack cowbird control. However, there are areas elsewhere, where cowbirds are trapped, with lower parasitism rates. Foy is quite correct that it is difficult to determine precise rates of nest parasitism when the birds insist on nesting very high—obviously these birds have not read the field guides! Our estimates of 11-14% are based on the lower 60% of nests we could see into using pole-mounted mirrors or, this year, a pole-mounted color video camera with remote monitor. The actual rate of parasitism is probably lower than our estimate. It has been demonstrated numerous times in numerous species that high nests are less likely to be parasitized by cowbirds than lower nests. In fact, avoidance of parasitism may be a major factor inducing the birds to nest much higher than they normally do elsewhere.

Mr. Ogilvie argued that it was probably unwarranted for entire drainages to be identified as potential Flycatcher habitat. I tend to agree. Willow Flycatchers inhabit flat floodplain areas with slow-moving water. Much of the Gila River and other southwestern drainages run through narrow, steep, and high-sided canyons; i.e., generally inappropriate for Flycatchers. He notes that on the Gila, Flycatchers are not found in these areas even where livestock are absent—this statement clearly is not intended to suggest that Flycatchers are dependent on the presence of livestock.

The main point of Mr. Ogilvie's letter was to question the validity of the widely-expressed view that the removal of **ALL** livestock from riparian areas is necessary to effect recovery of the Willow Flycatcher (emphasis mine). Mr. Foy

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Willow Flycatcher

(con't)

responded by stating that livestock grazing cannot be considered compatible with Flycatcher conservation without examining grazing regimes, vegetation, and Flycatcher population trends. It seems to me that these two views are not all that different. It appears both gentlemen are saying that management decisions for the Southwestern Willow Flycatcher should be site-specific and scientifically sound. Mr. Ogilvie's willingness to have the Rocky Mountain Research Station conduct an in-depth and scientifically rigorous study of Flycatchers on the U Bar Ranch is a commendable effort to accomplish this goal.

Sincerely,
Scott Stoleson

Birds in Urbanized Environments

(con't from page 9)

1) to monitor and interpret the long-term impact of human settlement on the environment of the city and surrounding area;

2) to enhance the understanding of urban ecology;

3) to study the relationships between ecological and socioeconomic factors; and

4) to engage students and the public at all levels of scientific investigation.

One of the projects that I am working on is studying avian richness and abundance in a variety of landscapes within the Phoenix metro area. The goals of this project are (1) to document the changes in avian richness and abundance over time and space, and (2) to determine the biotic/abiotic and socio-economic/political factors that cause these changes to occur.

at huge expense—\$120 an acre. We divided up into four teams, then learned and spent some time having great fun actually practicing a sampling technique called point monitoring. This method is used by many conscientious ranch managers to ascertain trends toward diversity and health, or their opposites, on their land.

Many participants enriched the weekend with their own particularized knowledge of biology, fire science, rural planning, history and ranch lore.

The roundtable evaluation requested by Quivira and held back at the "Barn" revealed that this classroom had been rich in learning for most everyone who attended it. We agreed with Kirk Gadzia that the first questions land managers and conservationists might want to ask should be, "Are we losing options for the future here? Is the soil staying in place? Are our practices here enhancing or endangering this?"

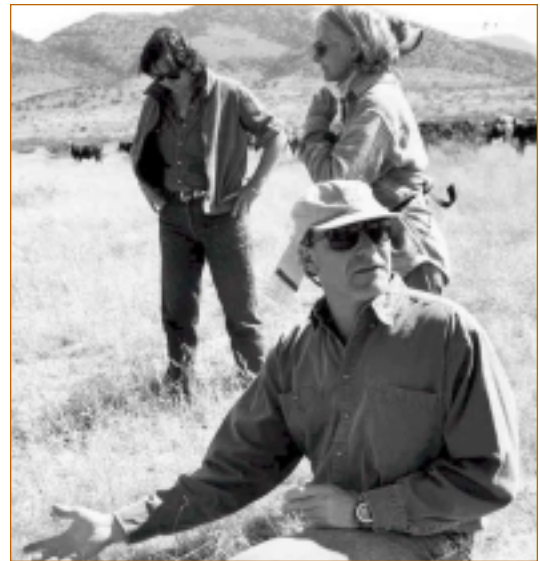
One environmentalist expressed appreciation for the opportunity to break down stereotypes given by exposure to the clear intelligence of the ranchers and agency people, the opportunity to get away from the activist cyberworld and to see the human element in the controversy over grazing.

The Quivira Coalition has received a three-year grant to do more of these Outdoor Classrooms, and I encourage anyone enticed by this report to sign up and attend.

Editor's Note: Please see Upcoming Events on Page 28 to learn about our upcoming Workshops and Classrooms.

Gray Ranch

(con't from page 15)



Kirk Gadzia showing workshop participants grasses on the Gray Ranch. (Photo by Courtney White)

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January 1999

The Urbanization of Ranching

(con't from page 1)

“The disparity between grazing and suburban land values creates a strong incentive to convert ranches into suburbia wherever possible.”

mises informed this position: first, that most of the range would never find a higher economic use than grazing; second, that secure, individual tenure was necessary to give ranchers incentive to conserve range resources.

The cattle boom had capitalized on natural bounty for short-term economic gain, resulting in long-term ecological damage. Repairing that damage would require a long-term commitment to range improvement. Ranchers could only be expected to make such an investment if they could be confident of long-term returns in the form of improved forage conditions.

Highest But Unprofitable Use

Grazing leases stabilized the livestock industry by institutionalizing a compromise between the arid ecosystem and capitalist economics. Throughout the frontier period, prominent Americans such as Teddy Roosevelt had assumed that ranching would be superseded by agriculture and then industry in a sort of evolutionary sequence. Leases conceded that this was mistaken, that grazing was the only way to make money on millions of acres of lands ecologically unsuited for tillage agriculture.

Viewed from the vantage of the rest of the economy, however, grazing represented a comparatively unprofitable land use. In 1930, for example, the taxable per-acre value of grazing lands in Pima County was \$2.57, while the value of suburban and irrigated lands was \$57.38 and \$52.24, respectively.¹ This disparity persists today, officially recognized in property tax schedules, state trust land lease rates, and appraisal methods. The two land uses participate in entirely different markets. For grazing, the value of a piece of land is a function of its carrying capacity and the price of beef on national and international markets. Viewed as residential

real estate, land value is determined by the supply and demand for housing, influenced by local, regional, and national factors. The disparity between grazing and suburban land values creates a strong incentive to convert ranches into suburbia wherever possible.

Improving Livestock Production

Prior to about 1970, the assumption that grazing was the highest economic use of southern Arizona rangelands held true. Based on this assumption, ranchers, range scientists, and government agencies focused attention on improving conditions for livestock production. Improved breeding increased the quality and value of beef, enabling smaller herds to yield equivalent money returns. Fences were necessary for controlled breeding, and gave ranchers greater control over their herds. Wells and stocktanks distributed water over the range so that grasses could be more evenly utilized. Beginning in the 1910s and accelerating after the Depression, erosion control measures were instituted: spreader dams, contour embankments, canyon reservoirs, and reseeding projects aimed to retain water and topsoil. The spread of mesquite and consequent crowding out of grasses prompted chaining, chemical defoliation, and reseeding programs, especially after 1955. All of these programs represented capital investments, which (with the exception of breeding) endured in the land. They were expensive and made economic sense only over the long term. A variety of state and federal tax incentives and cost-sharing programs were implemented to encourage ranchers to undertake range improvements which otherwise appeared too long-term or too uncertain to justify the costs.

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Ecological Condition Improved, Somewhat

Twentieth century investments have improved the ecological condition of the range relative to conditions in the 1890s, but they have not succeeded in restoring pre-cattle boom health or productivity. Early researchers reported that as little as three years of complete rest would be sufficient to restore desert grasslands to their pre-boom carrying capacity.² Unfortunately, this proved overly optimistic.

Certain ecological changes, most notably arroyo formation and downcutting, cannot be reversed and may have far-reaching effects on vegetation. Others, such as mesquite invasion, have largely eluded remediation efforts. Relative to “original” conditions, southern Arizona ranges are today shrub-dominated, whether due to grazing pressure, fire exclusion, or other causes such as climate change.

Even shrubs and mesquite are preferable to bare ground, however, and bare ground is what can be seen in photographs from the 1890s and early 1900s. The Bureau of Land Management’s 1990 observation that rangelands are in better condition now than at any time this century—much decried by environmentalists—is accurate, albeit carefully worded.³ Perhaps more significantly, some ranges in southern Arizona have improved markedly while others appear nearly unchanged from a century ago, suggesting that investments in range restoration have had significant effects on ecosystem health. The Buenos Aires Ranch, for example, was so dramatically altered by range improvement measures in the 1970s that the U.S. Fish and Wildlife Service deemed it worthy of acquisition as a National Wildlife Refuge.

Wholesale revegetation of desert grasslands for grazing purposes

came to an end in the 1970s, for a variety of reasons. Rising oil prices made chaining more expensive. Chemical defoliation of mesquite proved less successful than initially hoped. Environmental regulations on herbicides and endangered species created bureaucratic obstacles. Overall, ranchers and rangeland specialists came to the conclusion that revegetation was uneconomical: the costs could not be justified in view of the fact that “revegetation success is largely determined by the pattern of summer precipitation in a given year.”⁴

1970s: Urbanization Supplants Cattle

This judgment cannot be understood apart from the larger economics of land use in the region, however. What is economical, after all, depends on opportunity costs, and the opportunity costs of ranching were changing rapidly.

In the last 30 years, urbanization has supplanted cattle as the standard of value for ranches in southern Arizona. Around 1958, southern Arizona entered a period of appreciating real estate values which has continued almost uninterrupted to the present day. Cold War defense spending, post-World War II prosperity, and the widespread availability of air conditioning and automobiles attracted people to Arizona in huge numbers. State population increased 74% during the 1950s, and another 36% in the 1960s; from 1970 to 1997 it increased another 250%.

While population growth has concentrated on the fringes of Phoenix and Tucson, its effects on rural land values have been much more widespread. Well ahead of actual construction, speculators ventured into rural areas, bidding up the price of land and making plans for subdivi-

(con’t on page 22)

The Urbanization of Ranching

(con’t)

“In the last 30 years, urbanization has supplanted cattle as the standard of value for ranches in southern Arizona.”

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The Urbanization of Ranching

(con't from page 21)

“Thus the economic pressures of urbanization have environmental consequences for ranching even before ranches are subdivided.”

sion. In the 1960s, Arizona became notorious for the fraudulent practices of speculative real estate developers. In 1966 alone, 302 subdivisions were recorded with a total of 32,000 individual lots (*Arizona Daily Star*, 17 March 1966). By 1972, University of Arizona professor of urban planning Robert Carpenter could report:

“Proposed or in various stages of construction are 55 large-scale land-conversion projects, many of them labeled new communities, of a thousand acres and over. The total area involved is in excess of 643,000 acres. . . The vast majority of the projects are programmed for lot sales in a speculative land market that is nationwide.” (*Arizona Daily Star*, 11 October 1972)

Speculation issued directly from the gap between land values for cattle production and those for residential homes. In the case of the 55,000-acre Rio Rico development, for example,

“General Acceptance Corp.’s predecessor, Gulf American Corp., bought the Baca Float ranch for a reported \$3.5 million, or about \$64 an acre. GAC is now selling an acre for an average of \$3,000. Like the Baca Float ranch, most Arizona developments are on what was once considered prime grazing land.” (*Arizona Daily Star*, 26 December 1971)

Tax policies crafted to encourage ranchers to invest in range improvements provided further incentive to speculation. Under the federal income tax code, improvements could be amortized as capital investments, usually on a seven-year schedule. According to people involved at the time, improvements sometimes approached the full market value of the ranch, meaning that almost all of one’s investment was sheltered. Moreover, until the 1980s, one could use losses in ranching to write off income in other pursuits. Additionally, state property tax laws assess ranch lands at a fraction of the rate for commercial and residential lands. Wealthy individuals and corporations flocked to invest assets from other enterprises in ranches, where

the initial face value could be amortized, even as the market value of the land was appreciating at well above the rate of inflation.

Urbanization Accelerates as Ranching Economics Decline

Throughout the ‘70s and ‘80s, urbanization accelerated in lockstep with the deterioration of economic conditions for cattle ranching. In 1980, the *Daily Star* reported:

“The price of land for residential use in Tucson increased by as much as 150 percent in the past 18 months, a local real-estate specialist said yesterday.” (1 February)

Early in 1981 the Tucson Citizen ran a story on the purchase of a ranch in the Avra valley, northwest of Tucson, which illustrates well the practices of land conversion:

“Ronald D. Cohn, . . . recently took control of about 15,000 acres of ranch land in the valley, 14,000 of which is grazing land owned by the government and leased . . . I think the land has a lot of great potential,” [Cohn] said. . . . Cohn said the land, most of which made up Robles’ Agua Blanca Ranch, attracted him not only as a speculative investment but also because of tax advantages and what he called a ‘lifelong dream’ of owning a working cattle ranch. ‘I has 130 head of cattle on it right now and I want to keep it a working ranch for the time being,’ he said. ‘But there’s no question in my mind that the Avra Valley will fill up with people. I’d like to put together a decent residential project, ranchettes maybe. . . It will be a nice setting for people who value a rural lifestyle, and it’s only a 30-minute drive from the corner of Ina and Oracle roads,’ he said.” (21 March)

While outsiders’ capital propped up ranch values, this was a mixed blessing to “established ranchers [who] are caught in somewhat of a financial squeeze. While costs of farm supplies have doubled or tripled in the last decade, prices of farm commodities have remained virtually the same” (*Arizona Daily Star*, 7 January 1983). Agricultural economics undermined profitability at the same time that rising land values increased

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initial investment costs and assessed valuations. A 1983 study found that an average 300-cow ranch in Arizona was worth at least \$500,000, while income was \$5,485, or one percent on investment (*Arizona Daily Star*, 20 November 1983). Today, according to experienced cattlemen, a good ranch can pay off a mortgage of about \$50 per acre, but even remote properties in southern Arizona are valued at \$200 per acre and up.⁵ Not surprisingly, banks have shown an increasingly strong preference for residential over ranch mortgages. Not only are returns per acre much higher, but suburbanites' ability to pay off their mortgages is independent of the fickle climate.

Economic and Ecological Dilemma

Urbanization confronts ranchers with a dilemma at once economic and ecological. Economically, they must decide if and when to sell out. "Land rich and cash poor," as they sometimes describe themselves, they do not face outright bankruptcy (like midwestern farmers). If money were their only concern, they might consider themselves lucky. But for most, putting a price on their livelihood is a moral predicament, especially if they come from longstanding ranching families. Ecologically, urbanization undermines the original premise of stewardship—namely, that rangelands will remain in grazing indefinitely. The prospect that one's ranch will sooner or later become a subdivision, and that for such a purpose the health of the range is irrelevant, makes it rational to abandon long-term stewardship in favor of shorter-term profits. Thus the economic pressures of urbanization have environmental consequences for ranching even before ranches are subdivided.

Cultural Dimension

The urbanization of ranching is not only an economic and ecological phenomenon; the cultural dimension is perhaps the most conspicuous and puzzling. Many subdivisions are called "ranches," sometimes retaining the names of the cattle operations they displace. Moreover, the putative values of the "ranching lifestyle"—wide open spaces, starry skies, the deer and the antelope, etc. etc.—are prominent features in the promotion of large subdivisions. The following newspaper advertisement is representative:

"Escalante is the newest offering of the incomparable Dragoon Mountain Ranch—a low density gated community of approximately 400 ranchsites set amid a sprawling 18,000 acre reserve. The ranchland . . . is diverse and alluring; lush foothills vegetation, gently terracing hills, rich meadows. . . , rich soils, abundant pure water and equestrian trails. . . The view . . . is spectacular; 4 wilderness mountain ranges surround the Ranch, with the spectacular 52,000 acre Coronado National Forest hugging the Ranch. Wildlife is abundant and exotic. The nearby San Pedro River attracts over 300 species of birds to the area. Deer, fox, coatimundi, blue heron and others are frequent visitors. Build your dream-vacation-retirement-retreat at Escalante where your lifestyle is protected for now and for the future. . . ."

Many environmentalists portray Arizona rangelands as permanently and drastically degraded by cattle grazing. If this is the case, it is odd that Dragoon Mountain Ranch, carved from lands grazed continuously for more than a century, can be promoted as "diverse," "lush," and teeming with "abundant and exotic" wildlife. It need hardly be pointed

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The Urbanization of Ranching

(con't)



Sign near Springerville, Arizona.
(Photo by Courtney White)

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The Urbanization of Ranching

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Nathan is completing his Ph.D. in Anthropology at the University of Chicago. He is currently at the School of American Research in Santa Fe finishing his dissertation. This article is taken from research which will appear in his dissertation. If you are interested in this topic, Nathan will be speaking at the Santa Fe Group Sierra Club General Meeting on January 19, 1999, 7 p.m., at the Unitarian Church in Santa Fe. Or you can contact Nathan at 679A Garcia St., Santa Fe, NM 87501

(505)954-7253; email: nfsayre@midway.uchicago.edu

out that subdividing the “ranch” into 400-odd homesites will likely have a negative impact on the very wildlife being invoked to promote it.

The urbanization of ranching recapitulates the 19th century cattle boom in key respects. Economically, it capitalizes on a “free” feature of the environment, namely the mild climate and romanticized “nature” so attractive to retirees, tourists, and so-called New Westerners. Ecologically, it carves up open spaces and poses a threat that is at once less visible and more profound than grasses and vegetation: water supplies for a population far larger than the area has ever sustained. The depth to reach water in wells in the Tucson basin has increased steadily since the 1930s, and groundwater pumping today is approximately nine times what it was then.⁶ The Central Arizona Project only postpones the problem—it does not resolve it.

Politically, the real estate boom, like the cattle boom a century ago, demonstrates that the most lucrative lines of economic activity typically elude effective government regulation until the natural bounty that they exploit has been exhausted.

Recognizing that some environmentalists are attempting to confront urban sprawl, it is nevertheless worth posing the question: given that the worst damage of grazing is now 100 years old, is it mere coincidence that the environmentalist critique of ranching emerged at the same time that ranchlands became valuable for urbanization?

Notes:

1. C.B. Brown and C.J. McCash, “Program for Conservation of Runoff Water and Water Investigations.” In the **Annual Report of the Pima County Agricultural Extension Service for the period 12/1/30-12/1/31**, located in the *Arizona Historical Society files, Tucson, Arizona*.
2. David Griffiths, “A Protected Stock Range in Arizona.” **U.S.D.A Bureau of Plant Industry Bulletin no. 177**, April 19, 1910.
3. U.S. Department of the Interior, Bureau of Land Management, “State of the Public Rangelands: 1990.” See also U.S. General Accounting Office, “Public Rangelands: Some Riparian Areas Restored but Widespread Improvement Will Be Slow” (**GAO/RCED 88-105**), which observes that “[s]ince this period of rapid deterioration [1880-1900], the overall condition of western rangeland has stabilized and, in places, improved.” (p.8)
4. Bruce A. Roundy and Sharon H. Biedenbender, “Revegetation in the Desert Grassland,” in Mitchel P. McClaran and Thomas R. Van Devender, eds., **The Desert Grassland** (Tucson: University of Arizona Press, 1995), p.294.
5. *The ratio of deeded to leased acres is of course critical in determining the pressures of urbanization for any particular ranch. A great deal depends on appraisers and lenders, who gauge the market and judge whether to value a ranch for its cattle production or its residential potential.*
6. Barbara Tellman et al., **Arizona’s Changing Rivers: How People Have Affected the Rivers** (Tucson: Water Resources Research Center, College of Agriculture, University of Arizona, March 1997), pp.21-22.

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I would like my fellow conservationists to notice how many people and organizations are now working to save something of value—not just wilderness places, wild rivers, wildlife habitat, species diversity, water quality, and air quality, but also agricultural land, family farms and ranches, communities, children and childhood, local schools, local economies, local food markets, livestock breeds and domestic plant varieties, fine old buildings, scenic roads, and so on. I would like my fellow conservationists to understand also that there is hardly a small farm or ranch or locally owned restaurant or store or shop or business anywhere that is not struggling to save itself.

All of these people, who are fighting sometimes lonely battles to preserve things of value that they cannot bear to lose, are the conservation movement's natural allies. Most of them have the same enemies as the conservation movement. There is no necessary conflict among them. Thinking of them, in their great variety, in the essential likeness of their motives and concerns, one thinks almost automatically of the possibility of a defined community of interest among them all, a shared stewardship of all the diversity of good things that are needed for the health and abundance of the world.

I don't suppose that this will be easy given especially the history of conflict between conservationists and land users. I only suppose that it is necessary. Conservationists can't conserve everything that needs conserving with-

out joining the effort to use well the agricultural lands, the forests, and the waters that we must use. To enlarge the areas protected from use without at the same time enlarging the areas of good use is a mistake.

We know better than to expect very soon a working model of conserving global corporation. But we must begin to expect—and we must, as conservationists, begin working for, and in—working models of conserving local economies. These are possible now. Good and able people are working hard to develop them now. They need the full support of the conservationist movement now. Conservationists need to go to these people, ask what they can do to help, and then help. A little later, having helped, they can in turn ask for help.

Macho Creek Update

(con't from page 7)

The vegetation composition of the area is presently 25% grasses (mostly saltgrass), 8% forbs, 65% shrubs (mostly mesquite and seep willow), and 1% trees. In one year we did not expect tremendous changes in monitored vegetation variables. We did see a slight improvement in soil surface stability, and in overall plant height. Both of these were expected with the change from year-long to dormant season livestock grazing. Vegetation responses, primarily increases in shrubs and trees, will be expected in future years.

These sites will continue to be annually monitored, and future newsletters will provide more detailed summaries of collected data.

Back to the Land

by Wendell Berry

*This is an excerpt from a larger article which appeared in Copyright Winter 1999, **The Amicus Journal**, a quarterly publication of the Natural Resources Defense Council, 40 West 20th Street, New York, NY 10011. Reprinted with permission.*

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Ranching on the Edge

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"Arizona has always been for sale."

purchase a "pasture mix" and attempt to establish "improved" pasture without irrigation or adequate rest or rotation. Invariably this disaster results in an abundant crop of unpalatable and sometimes noxious weeds getting established. Our friends who farm in Chino Valley have had the police called out on numerous occasions to investigate the crimes of running their irrigation pump at night and baling hay too early in the morning. The town of Chino Valley even has an ordinance against the ownership of cloven hooved livestock! The ranchette subdivision closest to us has a deed restriction which prohibits swine and commercial activity of any kind, including commercial agriculture. This on a ranch that engaged in commercial agriculture for 130 years!

Differing Views

There often are differing views of what is meant by a "rural landscape." One of my ranching neighbors, who found his ranch cut up by a subdivision that was created when one of his cousins sold a deeded land inholding, found that he was cut off from water sources they had used for decades. He was forced to build miles of new fence and drill several new wells to provide water for his livestock. While searching for a way to offset these significant expenses, he submitted a proposal to build a "country store with gas pumps" at a country cross roads on the ranch. He figured that he would have the perfect way to create cash flow on his "new ranch" while embracing the new neighbors. Well, the new neighbors (and a few of the old ones as well) organized an incredible resistance movement against this "commercialization" of

their rural neighborhood. My neighbor, who is a third generation rancher and kind of a quiet, plain spoken man, was suddenly labeled as a "developer" and emblematic of the "fat cat, rich, land-raping subdividers who are threatening our rural way of life." It got the county supervisors all stirred up, and demonstrated some of the irony in people's perception of reality—or is that reality?

Downside

As a rancher, the downside to all this development is that we have seen a phenomenal increase in recreational use on the forest, which in itself is not a bad thing. However, the number of incidents of gates left open, water improvements vandalized, cattle shot, illegal dumping, littering, motorcycle and ATV travel across country and up through the riparian areas, shooting of automatic weapons near our house, poaching and spotlighting wildlife, proliferation of fire rings, illegal wood cutting, and rowdy drunks to contend with have increased significantly. Of course not all or probably even most of this activity should be attributed to our new neighbors; it's more a reflection of population growth in general, I suppose.

We have lost quite a bit of the livestock-producing capacity of the county, and so some of the infrastructure that supports the livestock industry is threatened. We still enjoy the convenience of a livestock auction in our town, but the owner of the sale ring has to travel all over northern Arizona to buy enough cattle to keep the numbers up enough to justify staying in business. None of the local banks have a loan officer who speaks or under-

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stands agriculture, and almost all the folks wearing cowboy hats and boots on Whiskey Row are tourists from Phoenix, California, or Germany.

Added Problems

With subdivisions for neighbors come a number of restrictions and added problems for ranchers. Among those that are of greatest concern to me are restrictions in our ability to use prescribed fire; increased predation from “town dogs”; native predators pushed out of their home ranges; possible new restrictions on agricultural water use; and changing demographics which tend to diminish representation for agriculture in governmental affairs. In fact, the City of Prescott has recently concluded lengthy negotiations to buy the water rights of the Chino Valley Irrigation District in order to secure a future water supply and provide recreational use of the former irrigation reservoirs. A part of the City’s plan for the area involves condemnation proceedings against a family-owned cattle ranch with property bordering one of the City’s newly acquired lakes. The City rejected the ranch family’s plea to place the land under a conservation easement in order to ensure their continued ranching use of the land. And of course, the famous sweet corn, carrots, and high quality hay produced from irrigated agriculture in Chino Valley are soon to be only a memory.

Another issue which concerns me is that many archaeological sites, which have enjoyed some degree of protection by virtue of their remoteness, are exposed and destroyed in the process of excavation for new roads and homesites. One new development near us is

called “Inscription Canyon Ranch,” named for a site containing hundreds of examples of prehistoric rock art. When completed, this new community will contain 1700 new homes, commercial development, a 36 hole golf course to be watered with effluent, schools, etc.

Good News?

Of course the good news is that all this demand for ranch real estate has increased the value of our private land significantly. That factor has, of course, encouraged the sale of ranch lands, and also brought a new class of ranch owner into the picture. As a rancher, I think the easiest thing to do is put the ranch up for sale and move to New Mexico where we could secure a higher proportion of deeded land and maybe afford to run more cows. In that scenario, however, I contribute to creating the same problem there. Maybe that’s inevitable, I don’t know. Trouble is we like our community; we know our country; we like living here.

We are exploring the possibilities of putting this land value to work for us through some creative partnerships. While the cattle ranching enterprise can continue to operate with minimal impact upon the landscape, there is plenty of room to accommodate other enterprises which recognize the conservation values inherent in ranch land: scenery, biodiversity, open space, habitat, western heritage, unique recreational experiences, educational activities. We welcome our new neighbors and hope that they recognize the fact that economically viable, environmentally sustainable family ranches provide open space, wildlife habitat, and a host of other amenities to the community.

Ranching on the Edge

(con’t)

JOIN US!

Would you like to join the Quivira Coalition? While we have finally received our non-profit status from the IRS and are beginning to receive grant money, we still rely on donations. If you would like to help us continue our educational mission, please send your contribution with this form to our Santa Fe address.

Yes! I would like to join the Quivira Coalition. I can contribute:

___\$15

___\$30

___\$50

___\$100

___Other

Contributions entitle you to receive this newsletter and notices of upcoming events and publications.

Thank You!

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UPCOMING EVENTS

Outdoor Classroom on Resource Management at the Double Lightning Ranch, near Nutt, NM, Saturday, February 13, 1999

Jim Winder will conduct a one-day school on applied ecology and resource management at his ranch. This course is designed to give participants a working knowledge of ecological principles as they apply to grazing, environmentalism, and public lands agencies. Kris Havstad of the Jornada Experimental Range will also be present. Both ranchers and non-ranchers should gain a perspective on the past, present, and future of resource management and develop a foundation for proactive solutions to resource conflict. Cost is \$35 per person. Class size will be limited to 25. Preference will be given to members of the Quivira Coalition. Call (505) 820-2544 for reservations.

Quivira-Sponsored Rangeland Ecology Workshop at the Jornada Experimental Range, Saturday, March 6, 1999, 9am to 3pm

Staff of the Jornada Experimental Range will conduct a workshop on rangeland ecology focussing on field illustrations of the ecological basis for principles of management, remediation, and monitoring of rangelands. The workshop will be led by USDA scientists at JER, and will utilize examples of current JER research. The workshop is limited to 25 people. For reservations, call 505-646-4842 or email Valerie LaPlante: vlaplant@nmsu.edu. A donation of \$25 per person to the Quivira Coalition to offset costs will be requested. Lunch will be provided. The workshop will begin at the south end of the Range which is 12 miles north of Highway 70 on Jornada Road, about 20 miles northeast of Las Cruces. For more information, contact Kris Havstad, Supervisory Scientist: (505)646-4842.

Free Workshop on Herding, March 20, 1999, 9am-4pm, Lower Pavilion, Ghost Ranch

As the first in our three-part "Gaining Ground: Restoring the Economy and Ecology in northern New Mexico" series, we will explore an old concept being looked at with new eyes: herding cattle rather than fencing them. The many advantages of this old art will be explored. Moderator: Virgil Trujillo, Manager of Ghost Ranch. Speakers to be announced. For information and reservations, contact Quivira at (505) 820-2544.

Outdoor Classroom on Rangeland Health at the Empire Ranch, near Sonoita, Arizona, Sat-Sun, April 10-11, 1999

Under the overall instruction of Kirk Gadzia, educator, author, and range expert, we will spend two days studying the details of range health in a grazing context. Topics covered will include water and mineral cycling, energy flow, erosion, the impact of cattle on the land, fire, riparian health, botany, and monitoring. The participants will have the unique opportunity to interact with the interdisciplinary team which has helped guide the management of this extraordinary public land ranch (there is no private property associated with the ranch). The team has been involved in rangeland health monitoring, threatened and endangered species, setting stocking rates, etc. Cost is \$35 per person. Class size limited to 25. Preference given to members of the Quivira Coalition. Call (505) 820-2544 for reservations.



The
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