

## ***CALIFORNIA RANGELAND STEWARDSHIP: SEARCHING FOR A LAND ETHIC***

What is Rangeland Stewardship?

Why do we care?

Who are the stewards?

How is Rangeland Stewardship practiced?

How do we know Rangeland Stewards are performing well?

### **Introduction**

#### The Problem: Is Rangeland Stewardship Economically Viable?

During a recent conference on zoning to preserve agricultural lands, a professional negotiator of conservation easements brought discussion to a standstill when he said that there was no reason to preserve such lands if agriculture is not sustainable economically on them. In that case, he continued, "...they are merely open space suitable for uses dictated by land use economics." Because most of the audience realized that much of the Ag-lands in question-- California Coastal rangeland--was marginally sustainable at best, all of a sudden the subject of zoning to preserve them offered little to talk about.

Finally, after a long silence, a soft, somewhat dispirited voice broke the spell. A well respected rancher said: "I guess I've been managing merely open space for many years. I might be able to get used to that idea, but I don't think I can afford to."

While this rancher's observation seemed obviously to envision sad consequences personally for him and for his family, it meant something equally disturbing, albeit impersonal and objective, to all others present. Their thinking went something like this: He is not alone. Many, even most California ranchers are hanging on against opposing economic forces well beyond any power they may have to control or manage them. Increasingly, they too are moving toward managing "merely open space." So, if ranchers follow in the footsteps of American farmers to the cities, where will the money come from to keep open space managers on the land?

Unfortunately, even if California and the U.S. Government were not broke, which they both are, it is doubtful that the public would be willing to pay for the management of open space simply for its value as open space. A Ms. Cristina Salvin of Hollister recently stated the likely public view on the subject in a letter to the Pinnacle, the local weekly:

*"...When I commute to Gilroy, I still see fields, trees, hawks, and blue skies rather than box home after box home sandwiched between mini-malls and car dealerships. Even though I personally do not support the cattle ranching industry (for various environmental reasons), I would still rather see a few happy cows than another subdivision."*

Ms. Salvin writes this in a letter urging a "Yes" vote on Measure G, a zoning law before the electorate that radically down zones farm and ranch land in the County without a penny of compensation for the ranchers and farmers who steward these lands, "her open space", and the

source of their livelihoods. For her, such a vote is a “no-brainer.” Considering her views as representative, the public seems to believe that if today’s ranchers (and farmers) can’t make it, then they can sell out to ranchette developers like yesterday’s did, though for 20 and 160 acre versions rather than 5 acres. But this spread out sprawl will look about the same as the sprawl we are familiar with. And it will likely continue to harm the habitat that Ms. Salvin claims to like, as the studies of Rick Knight and others have shown.

If rangelands are merely “open space”, and no one is willing to pay for the stewardship of open space—ranchers, because they cannot afford to, and the public, because it won’t—the logic of “current land use economics” is clear: It will go to developers, and the notion of “land stewardship” as the kind of art and ethic envisioned by Aldo Leopold and Wendell Berry, will remain simply an idea, one that didn’t work out.

Of course, Messrs. Leopold and Berry did not accept the logic of “current land use economics” They preferred history’s land use economics: If mankind takes care of the land, it will take care of mankind; if mankind fails the land, it will fail mankind. Since some question whether developers provide for the land according to their standards, and are concerned that the land they develop will likely fail mankind, they look for another option.

#### Conditions of an Affirmative Answer

The subject of rangeland stewardship, particularly with reference to California Coastal watersheds, has been discussed on two occasions this year by an assembly of ranchers, staff of The Nature Conservancy and of NRCS, livestock and grasslands academics, and representatives of various water conservation agencies and State and local parks.

In January 2003, they met at the Baumgartner Ranch in San Juan Bautista. In addition to sharing their views on this subject, they toured the land in the belief that the experience of rangelands both as habitat for countless species of life and as unique California watersheds is essential to their understanding.

In August of 2003 most of this same group, plus some new faces--28 in all--met at the Richard Nutter Center in Salinas to continue their dialogue. Their discussion focused on (i) the language of rangeland stewardship--the meaning of such terms as monitoring, rangeland health, bio-diversity, grazing, over-grazing, and rest; (ii) the objectives and techniques of monitoring, as well as its value as currently practiced; (iii) again, the obstacles to profitable ranching--as well as the not unrelated, concomitant risk of loss of rangelands to urban sprawl and/or “ranchettes”; and (iv) whether a new organization is needed to advance the values of rangeland health and stewardship.

A key conclusion of these discussions is that the economics of rangeland stewardship affect more than the well being of the stewards, i.e., conventionally speaking, ranchers. Because the subject matter of this art involves the totality of rangeland life, its soil, water, plant, animal and insect life, *and* the surrounding rural communities, the economics of this “whole” must be accounted for, including the benefits of sound stewardship to these larger interests, and conversely the harm to such interests from poor stewardship. In this broad economic framework, rangeland stewardship becomes ultimately a matter of considerable public interest, since soil,

water, habitat, and so forth, constitute bedrock resources for the survival of human society.

If, for example, ranchers, who are the primary rangeland stewards in California--they own and/or lease a significant majority of California rangelands--should fail on economic grounds, who will replace them? Who will assume responsibility for the stewardship that ranchers will no longer provide? How will they come by the local ecological knowledge these ranchers acquired over the past two centuries?

Some, of course, might say “good riddance”, as they have for years argued—not, regrettably, without some evidence--that ranching and over-grazing of rangelands are synonymous. For them, “rest” is the only responsible tool in managing rangelands. But the problems of restoring, and preserving healthy California rangelands would remain after departure of the ranchers, because rest as the exclusive tool for managing rangelands is as problematic as overgrazing in this respect, and unless development is also banned along with ranchers, “rest” as a tool will also be unavailable. Since the issue of rangeland stewardship is about important sources of life and species diversity, it cannot be sufficient, therefore, for those attentive to Aldo Leopold’s call for a “land ethic” to forego its study and practice in favor of listening passively to the unending bickering of “pro” and “anti” grazing forces.

A second consideration of these two days of discussion remains unresolved. It is whether a new and different kind of organization should *and could* be formed to encourage rangeland stewardship in California, at least for the central coastal lands on perhaps an experimental basis. With respect to this question, the example and mission statement of the Quivira Coalition, Santa Fe, New Mexico, was examined. It reads:

***“The mission of The Quivira Coalition is to foster ecological, economic, and social health on Western landscapes through education, innovation, collaboration, and progressive public and private land stewardship.”***

The purpose of this essay is to offer a statement in support of the idea that an organization like the Quivira Coalition is needed to ***foster these same values with respect to*** California Coastal Rangelands, and to identify critical deficiencies of public policies concerning our rangelands that such an organization might seek to correct. ***As such, what follows is intended to suggest an outline of a land ethic for our living on and with these rangeland resources in harmony.***

### **California Rangeland Stewardship: What is Rangeland Stewardship?**

What is “rangeland stewardship”? It can be defined as managing lands to achieve “Rangeland Health”, a term described in 1994 by a special committee of the National Academy of Sciences as consisting of a combination of three, critical ecological conditions, each of which are measurable:

**Degree of soil stability and watershed function.** Rangelands should not be eroding, and they should capture and retain water rather than shed it as run-off.

**Integrity of nutrient cycles and energy flows.** Rangelands should support plants that capture energy from the sun and cycle nutrients from the soil.

**Presence of functioning recovery mechanisms.** Rangelands should be resistant to extreme disturbances and resilient to change--that is, they should be capable of recovering from more ordinary disturbances.

The virtues of these concise, simply stated characteristics of healthy rangelands are (i) their comprehensive inclusion of probably all sub-categories of value that we expect from our California landscapes, and (ii) their measurability in varying ecosystems. As Nathan Sayre writes in his “New Ranch Handbook”:

*“These may seem rather simple or incomplete, but they are not. They were devised to provide a basis for consistent, national rangeland assessment, relevant and applicable to all fundamental ecological processes. These criteria encompass virtually all others we might put forth: wildlife habitat, recreation, food and fiber production, scientific research, education, open space, etc. As a minimum the potential of the land should be maintained, so that future generations will be able to benefit from it, no matter what that benefit may be.”* New Ranch Handbook, p. 11

Rangeland stewardship, thus, is the art and science of managing a certain sector of our ecosystem for health. In the case of California’s central coast, these rangelands are typically grasslands on oak savanna and/or hilly landscapes, many climbing steeply into heavily forested uplands. They endure through seasonal rainfall during the cooler, shorter days of winter, long, hot and dry summers, and frequent drought. Rangeland stewardship in California can be distinguished, for purposes of clear understanding, from stewardship of the Midwest and Southeast, with their frequent precipitation throughout the year, and from stewardship of tropical lands and of certain other areas, mostly in very northern or very southern climates, all of which are affected with year-long rainy seasons.

### **California Rangeland Stewardship: Why do we care?**

Rangeland Stewardship, like farming, is ultimately a matter of life and death. As noted, implicit in the above-cited definition of Rangeland Health, is the survival not only of all the wildlife, birds, plants, insects and microbes dependent upon rangelands for their food, but also the indispensable elements of continuing life on earth, solar energy conversion into living plants, plus the storage and shedding of water, a major miracle of good soil.

To put the matter bluntly, rangelands can be managed toward health, or mis-managed toward desertification. For example, it is well established (though not well acknowledged by either of the two camps) that both over-grazing and over-rest lead to essentially the same degradation of rangelands in areas of seasonal and erratic rainfall. The life destructive consequences of desertification are obvious in the eco-systems of many parts of the world, some of which were at one time thriving producers of food. Considering the comparatively mundane issue of nature’s aesthetics, most of us probably prefer wildflowers, grasses and oak trees to unending sand dunes. But considering the life and death issues of rangeland ecological health, it is obvious that we neglect their management at our peril. In their degradation we lose an essential element of our coastal landscape: habitat necessary to the survival of countless species, a sink for carbon dioxide, source of groundwater recharge—in a word, a productive ecosystem that can sustain whole communities of living beings, including humans.

We care about Rangeland Stewardship, therefore, because we care about life. Rangelands are unique components of our ecosystems that we of the California Coast cannot simply view from speeding cars or airplanes, and thereafter take for granted. No, they contain the basics of life, and we must see that these are protected and nourished so that our lives shall endure. This is a given if the term land ethic is to mean anything at all.

As previously noted, a dispute about rangeland stewardship has endured for years among those who condemn ranchers for overgrazing, and ranchers, who, naturally enough, seek to earn their livelihoods by managing livestock. Aside from the fact that the word “rancher” is not synonymous with “overgrazer”--some ranchers allow it, others manage grazing to harmonize with climate and plant growth variables--this dispute is unfortunate because it ignores the fact that grazing, in all of its diverse forms as determined by its managers, and “rest” are both among *the few tools available* to rangeland stewards. Some choose grazing, others choose rest alone. That one produces wildlife plus livestock, and the other produces only wildlife is beside the point. The important question is how to use each tool to produce healthier rangelands?

### **California Rangeland Stewardship: Who are the Stewards?**

Rangeland stewards are land managers. We know them, of course, by their many titles: ranchers and cowboys, sheep men and shepherds, park rangers, foresters and so forth.

Apart from these “hands on” stewards, there are others who, while not “hands on”, frequently have as much or more to do with the actual stewardship of particular rangelands than the stewards themselves. These, for example, are absentee owners of large ranches who delegate rangeland stewardship responsibilities to ranch managers and other employees, because frequently they themselves know little of the land as a living eco-system. Then there are land trusts and conservation owners, who also often lack livestock experience, or believe that livestock are harmful to their lands. In either case, they too usually delegate rangeland stewardship to employees or rancher lessees, who are usually instructed to follow a prescribed grazing plan, which typically reveals certain prejudices concerning this or that tool.

Finally, there is a third category of rangeland stewards, again distinct from the “hands on” managers. These are mainly grasslands and rangelands scientists, but they also include a wide range of “ecologists”, including hydrologists, and specialists in birds, plants, reptiles, wildlife, insects and other creatures. Unfortunately, especially for the “hands on” manager, their views of rangelands and rangeland stewardship are not only not uniform, but are frequently at odds one with the other. At the extremes are the pro and anti-livestock theorists, and in between are many “science-based” theories about how rangeland stewards should steward, as discussed below.

### **California Rangeland Stewardship: How is it practiced?**

Generally speaking, stewardship of rangelands is practiced in accordance with two visions of their historical ecology. The simpler of these in terms of stewardship practice appears to see California’s coastal rangelands as having evolved pretty much “grazer-free”, grazing animals having been introduced by humans, mainly the Spanish colonists, and that stewardship practice must be confined to resting these lands so that they might recover from two

centuries of over-grazing. The more complex view, as well as the more complex system of stewardship practice, is that California rangelands evolved with grazing animals in place over thousands of years, and—to put a complex notion into simple terms—the task of the rangeland steward is to manage these lands in accordance with the practices of nature, i.e., the dynamic interrelationships of diverse animals, plants and soils, as well as the variables of weather and plant growing conditions.

Given the persistence, bitterness and unconstructive consequences of the grazing versus no-grazing dispute over its history, it cannot be over-emphasized for those concerned about finding a rangeland ethic that were the dispute to be re-focused on the nature of the history of California rangelands progress would inevitably follow for those open to its lessons. Nathan Sayre, for example, in *The New Ranch Handbook*, draws attention to this point:

*“Natural ecosystems are adapted to tolerate disturbance, within limits. Exactly what these limits are varies from place to place, depending on the natural history of the system in question. With a few exceptions, science has yet to define these limits in quantitative detail.”* (*The New Ranch Handbook*, p.88)

For those stewards who graze, convention offers myriad techniques, including multi-species grazing, e.g., cattle and sheep or goats, or all of them together, or in sequence. The simplest is to “open the gate” at the beginning of the grazing season, occasionally move the cattle to another pasture or two during the year, gather them for slaughter and markets at the end of the year, and repeat this cycle year after year. For others, there is “rotational grazing. The ranch is divided into several pastures, and the animals moved in sequence through the pastures, generally in accordance with available feed from time to time. Often the sequence of pasture utilization is varied from year to year, to facilitate plant growth throughout the total range. Then there is “timed” grazing, whereby livestock are moved in accordance with the growing season so as to assure that the grazed plants will have sufficient rest in which to recover from grazing before the next grazing event. And there are other techniques, and refinements of those briefly described here, including limited or seasonally prohibited grazing in respect of streambed or sensitive species protection, as required from season to season, and “animal impact”. e.g., when large herds put pressure on undesirable plants at specified stages of growth throughout the year.

All of these techniques allow for manager interventions of one kind or another at breeding, calving, branding and weaning. There is also the practice of “custom grazing”, whereby livestock from out of state are grazed locally during California’s winter and spring, when forage is insufficient in colder climates.

In some circumstances fire and/or machinery is used as management tools for rangeland care. Fire, of course, is of little value in rangelands close to developed areas of California. Mechanical equipment--tractors and bulldozers--are usually too expensive compared to managed grazing techniques, but can be useful in areas where erosion control is urgently needed.

**California Rangeland Stewardship: How do we know whether Rangeland Stewards are doing what they ought?**

We don’t.

This conclusion is an oversimplification. But mostly it is true. Because, although we have here and there examples of what appears to be excellent stewardship of California coastal rangelands, it is an unfortunate reality that few within the circle of so-called experts would agree either as to the conditions of the rangelands or as to the reasons for why they appear to be healthy. Such is simply the fact about rangeland science, which is where we are expected to look for validation of rangeland health as to a particular landscape. As Aldo Leopold reported over a half century ago: “The art of land doctoring is being practiced with vigor, but the science of land health is yet to be born.”

We wait still for its emergence. While we wait we could do worse than use the knowledge and stewardship experience that we have to prepare ourselves for its arrival. Toward the end of this essay several suggestions to that end are set forth.

This question, that is, how do we know that our stewardship is worthy, brings us to the subject of monitoring, the practice of regularly reviewing results of rangeland management practices on a particular landscape according to characteristics of rangeland health, such as those stated above by the National Academy of Science. Monitoring is required by prudent stewards, on their assumption that their knowledge and skills may not be sufficient given the dynamic life processes of rangeland communities. Accordingly, their stewardship practices are correlated with actual temperature and precipitation conditions during the period monitored, as well as so-called “off-site” factors that bear particularly on management objectives, i.e., natural events such as drought and fire, as well as economic results for the manager, employees and surrounding communities, both of wildlife and people.

The ultimate value of monitoring, of course, is its relevance to a determination that particular rangelands are healthy or unhealthy, and thus that the management practices applicable to them are themselves sound or harmful. Because, unfortunately, we find various attempts to identify particular rangelands as scientifically healthy or unhealthy to be vague or conflicting, we must conclude that our limited science limits the value of our monitoring, regardless of how diligently it may be executed.

This, of course, is a very bad situation for rangeland stewards. How can they find assurance that what they practice is bringing their lands to health and keeping them healthy? They cannot. Land care agnosticism renders the question unanswerable for practical purposes, the only purposes of interest to rangeland managers—especially if their banks and landscapes are telling that something is not going right with their lands. But for the public, the situation is disastrous. The public has reasons to look for rangeland health through the labors of its acknowledged rangeland stewards. If they are acting on misinformation or insufficient information, then the public is simply gambling that rangeland will take care of itself. A foolish bet, as the failures of countless agricultural systems in history demonstrate.

The ultimate problem here is that rangeland science, such that it has been and continues to be, has failed to develop either the know-how to monitor rangeland management applications effectively year after year, or the incentives to assure that successful stewards are encouraged and rewarded, and unsuccessful stewards are identified so as to be corrected. This failure is not a matter of academic prerogative. In the last analysis, it is a grave failure of public policy in

respect of caring for the ecological health of the vital resources which rangelands are. What good, one might fairly inquire, are our expensive military defense systems, if our ecological foundations are eroding away beneath them?

Viewing the subject of rangeland health in the light of the preceding summary reveals the following:

- Rangelands are a unique ecological resource in California's Coastal region, providing many values to the public in respect of wildlife, species diversity, watershed, agricultural revenues, sustenance for rural communities, open space, opportunities for exposure to natural habitat, hunting and other forms of recreation.
- We are losing rangelands—and with them all of these values—mainly to economic pressures for residential development “in the country”, where ranchers, the principal stewards of these rangelands, are willing to sell rather than continue with businesses that show no return to them for protecting these values, and at the same time are failing or only marginally profitable due to industry conditions largely beyond their control or influence.
- Those concerned about preservation of rangelands recognize that there are no widely acknowledged examples of healthy rangelands, that is in terms of the National Academy of Science definition, or a like authoritative standard. But if the public is to be encouraged to provide greater support to the protection of their unique rangeland resources, obviously such examples must be identified, as well as the corollary, namely examples of rangelands in trouble that call for restoration and a change in stewardship practices affecting them.
- Systematic monitoring of rangelands does not exist. There are several methods available but little incentive to ranchers or other land stewards to employ them. For example, there is virtually no continuing capacity to maintain data collected from monitoring for subsequent analysis to establish rangeland health trends, or the effectiveness of specific stewardship practices. Rangeland managers recognize the need for this information, but expect that it will be collected and used in a way that respects its confidentiality in respect of their management prerogatives and responsibilities.

In a word, California's Coastal rangelands are in trouble. And so, therefore, are the ranchers and public who rely on their resources. Ultimately the problem may come down to society's failure to account for its stewardship of these lands. Any organization or group, such as those whose two meetings this year have led to this essay, might consider how this deficiency could be met.

The elements of accountability are few and readily identified.

- We need a definitive standard of rangeland health. Fortunately, in 1994 the National Academy of Science gave us precisely that. It can and will be refined. But as a beginning it can serve well.



- We need definitive techniques for monitoring both the conditions of rangeland health from year to year, the variables imposed on rangelands during such periods by the stewards, and nature, i.e., grazing practices in the case of the stewards, and precipitation and temperature and the correlation of the two, as well as fire, in the case of nature, and the off-site conditions that affect management goals and practices. These techniques must be both simple to execute, and comprehensive in scope.
- We need knowledgeable and experienced monitors to collect reliable data, and at the same time, preserve its confidentiality for respective rangeland managers.
- We need knowledgeable and experienced analysts of rangeland health monitoring reports, and provide informed interpretation of the data--brief findings, as well as more comprehensive analyses in terms such as the criteria of the National Academy of Science cited above.
- We need continuous record keeping, documentation and sharing of long term monitoring data and analyses.
- We need recognized examples of healthy rangelands, and of not so healthy rangelands, and of unhealthy rangelands, as well, of course, as an inventory of the stewardship and other impacts that have produced their good, mediocre or bad health.
- We need to identify existing public policy that discourages range management that produces healthy rangelands, and develop alternative policy that supports improved rangeland health and management.
- We need to publicize research results and management successes so that decision-makers and the general public begin to acknowledge values provided by sound range management.
- We need a system that compensates--financially--able stewards, and publishes the results of all, so that those whose rangelands balance sheet shows deterioration may be identified. Such a system, incidentally, was given support—though not much funding—in the 2002 Farm Bill. In this case, such a system would have multiple benefits. It would acknowledge the public benefits of good stewardship by ranchers. It would add revenues to their bottom line, thus encouraging them to remain on the lands. It would motivate them to improve their stewardship practices—for their benefit and the public’s benefit. This would be the equivalent to a value for “ecosystem services”, such as carbon sequestration, habitat enhancement for sensitive species, and water retention, like values for fire and police protection services.

## **Conclusion**

The “Wild West” may have become what it was by existing wildly in the past. But it has not existed as it was then for centuries. We are heirs of the “Wild West”, but it is not wild any longer. It has adapted to the presence of our forbears and to us, and we to some extent have adapted to it. We have come late to the realization that we cannot live in health if the rangelands

upon which we depend for food and water exist in ill health. Determining to avoid and minimize that risk requires that we turn our attention to the work of our rangeland stewards, to its refinement, and to its support.