

Changing Social Values and Images of Public Rangeland Management

J.J. Kennedy, B.L. Fox, and T.D. Osen

Many political, economic, and social changes of the last 30 years have affected American views of good public rangeland and how it should be managed. Underlying all this socio-political change is the shift in public land values of an American industrial nation that emerged from WWII to become an urban, postindustrial society in the 1970s. Much of the American public hold environmentally-oriented public land values today, versus the commodity and community economic development orientation of the earlier conservation era (1900–1969). The American public is also mentally and visually tied to a wider world through expanded communication technology.

Managing Rangelands as Evolving Social Value

Figure 1 presents a simple rangeland value model of four interrelated systems: (1) the *environmental/natural resource system* of biosphere elements, including humans, rangelands, wildlife or watersheds; (2) the *social system* of human attitudes, values, behavior, institutions, and technology; (3) the *economic system* that focuses on institutions and behavior related to the allocation of land, labor, and capital; and (4) the *political system* of policy, laws, courts, and public agencies.

Rangeland social values *originate* in only one of these systems—the social system. Rangeland values, are *expressed* to natural resource managers (and the rest of society) by three systems: the economic, social, and political. We propose the belief, disturbing to some people, that the environmental system *itself* neither originates nor expresses rangeland social value. Only human interaction with rangelands *originates* social values, whether this is based on consumptive use (utilitarian values) or is derived simply through appreciation of natural systems and living

things (biocentric values). These human values are expressed in various ways—such as laws, rangeland use, socio-political action, popularity of TV nature programs, governmental budgets, coyote jewelry, or environmental messages on T-shirts.

The Origin of Rangeland Social Values

We propose that there are no fixed, unchanging and intrinsic rangeland or nature values. All nature values are human creations—even the biocentric belief that nature has value independent of our human endorsement or use. Consider golden eagles or vultures as an example. To begin with, recognizing a golden eagle or vulture high in flight is learned behavior. It is a socially taught skill (and not easily mastered) of distinguishing the cant of wings in soaring position and pattern of tail or wing feathers. After learning to *recognize* one bird from the other, there is a normative or evaluative *reaction* to these birds—whether it be positive, negative, or neutral. No humans are born knowing how to 1) recognize or 2) react to these animals in the air. Both are socially learned behavior, and human reaction to a golden eagle often differs if one were raised and socialized on a Wyoming sheep ranch or in a California suburb. In the last half of this century, most Americans have had their environmental perceptions and values shaped in the latter social environment.

Of course rangeland values are not formed in isolation within the social system, but as that system *interacts* with the environmental and other systems (Figure 1). Rangeland values also *evolve*, as do most social values. Rural agricul-

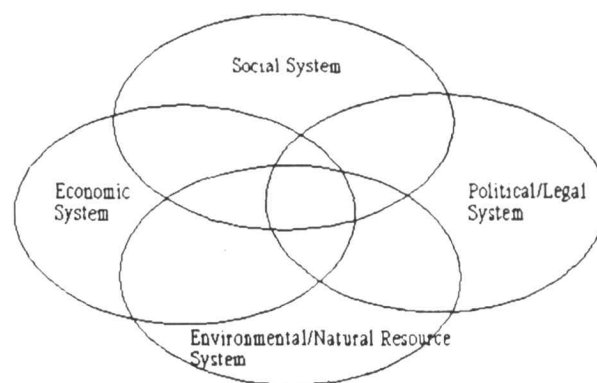


Fig. 1. Interacting systems in which natural resource values originate and are communicated to society.

Authors are respectively with the Forest Resources Department, Utah State University, Logan Utah 84322-5215; Range, Air, Watershed and Ecology staff, USDA-Forest Service Regional Office, Missoula, Montana 59807; and Range Staff, Lewis and Clark NF, Great Falls, Montana 59403.

Acknowledgments: The managing natural resources as social value and other theories presented here have been developed with longterm research support of the Department of Forest Resources, Utah State University, Logan, 84322-5215; the USDA-Forest Service (Chief's Office), Washington, DC, 20250; the Blue Mountains Natural Resources Institute, 1401 Gekeler Lane, La Grande, OR 97850; plus the Vice President for Research and the Utah Agriculture Experiment Station (Project 712), Utah State University, Logan, UT (Paper 4544).

This article was developed in a BLM and USFS-sponsored shortcourse: Socio-Economic Aspects of Rangeland Management (BLM Phoenix Training Center, Feb. 1993) with the involvement of 29 mid-career professionals, including two of the authors of this paper. The first version of this article was then presented at the Society for Range Management annual meeting, Colorado Springs, CO (14-16 February 1994).

tural societies, for example, tend to have different interactions with rangelands than do urban societies, often resulting in different perceptions, values, and uses. Many modern controversies over rangeland or wildlife issues are conflicts of agricultural (utilitarian) and urban (biocentric) values about human relationships with and the use of nature (e.g., 1080 poisoning of predators, managing wild horses, riparian management). None of these rangeland or nature value orientations fall from heaven, nor do they have different origins. They are part of a continuum of nature values that originates in the minds of individuals and groups (social system) as their changing perceptions and human needs interact with the environmental, political, and economic systems.

Children in the agricultural stage of American socio-economic development (1600 to post-civil war) mostly formed their values in a blood and blister intimacy with nature. As Table 1 illustrates, American agricultural youth (especially males) were usually raised with a gun, trap or axe in hand—and in communities where utilitarian values dominated. They learned that plants and animals had value primarily in how well they satisfied immediate human survival and economic needs. The highest valued land was usually

in crop production, where biological diversity was often the enemy. Some wildlife was good (game), while other wildlife was positioned at the negative end of a value continuum (e.g., varmints or predators). Then and now, rural/agricultural value systems generally emphasize the practical, utilitarian value of nature. This is reinforced in logging, ranching or mining employment, and in common rural recreational pursuits like hunting, fishing, trapping or rodeos (Kennedy 1973, Williamson 1992).

America became an industrial society in the last part of the nineteenth century, with increasing socio-political concern for predictable long-term flows of natural resource commodities for our factories and cities. The conservation movement (1900–1969), with its promise of sustained-yield timber or forage flows and harvestable game surpluses, well accommodated this socio-political need. Natural resource agencies, plus forest and game management professions, were created (Hays 1959). Recreational, aesthetic and biocentric values were an important component of some early conservation visionaries, centered largely in urban areas and championed by people such as John Muir. Yet these values did not become a dominant force in natural resource management until the 1960s, with the emer-

Table 1. Two often-conflicting sets of natural resource of environment uses and values.

Issues	Rural, agricultural cultures	Urban industrial or (especially) post-industrial cultures
1. Settings where nature values are learned	*Cutting firewood *Farming and ranching *Protecting crops and animals from weeds, insects or predators	*Watching television or Walt Disney films *Reading books *Recreation experiences (e.g., camping)
2. Popular outdoor recreational activities and learning environments	*Hunting *Fishing *Trapping *Rodeo activities	*Hiking and nature study *Camping, auto-touring *Bird-watching *Biology or science courses
3. Dominant values and attitudes toward the natural environment	*Practical, utilitarian values dominate *Economic worth of things paramount *Focus on material and instrumental values *These values often seem selfish, exploitative and crass in a biocentric value context	*Romantic, biocentric, intrinsic values dominate *Nature does not have to be used or sold to have value *These values are often viewed as impractical and unrealistic in a utilitarian value context
4. Dependence on nature for a livelihood	*Agriculture, ranching or logging occupations *Fur pelts, game meat and crop/domestic animal production requires wildlife harvest and control *Self-identity (especially for males) tied to nature dominating and exploiting occupation or recreation (e.g., Did you get your buck?)	*Professional, clerical, manufacturing and other types of jobs that often do not use natural resources in raw, unprocessed condition *Jobs are distant and indirectly dependent on using nature or natural resources

gence of an urban, postindustrial society and the advent of the environmental movement.

The range management profession (the SRM began in 1948) and the Bureau of Land Management (BLM) were establishing themselves in the 1950s and 1960s. Yet their value systems and cherished symbols (e.g., SRM Trail Boss) were firmly rooted in traditional conservation and rural development values of a passing era. An early BLM shield of working men, shoulder-to-shoulder and biceps bulging, marching toward a destiny that looks like an oil refinery (Figure 2), well illustrates such developmental, conservation era values. The emergence of a new BLM agency and a range management profession in the 1950s, steeped in traditional, utilitarian natural resource values, was poised for socio-political conflict—for America was then beginning its urban post-industrial stage of socio-economic development (Table 1). Many of its citizens offered a formidable challenge to the view that utilitarian and economic values were the most legitimate indicator of public forest or rangeland worth. Legislation soon passed to express these new social values (e.g., Wilderness Act of 1964, National Environmental Policy Act of 1969, or Wild Horse and Burros Protection Act of 1971).

After two decades of incremental agency adaptation to these new postindustrial social values, major philosophical shifts in basic publicland management have been announced. Industrial era, output-focused, sustained-yield has evolved to the sustainable system focus of USDA-Forest Service (USFS) "ecosystem management" (Kessler et al. 1992, Overbay 1992) and *Change on the Range* (USDA-FS 1988), or BLM *Rangeland Reform '94* (USDI

1993). But such expression of social value is the subject of the next section.

The Expression of Rangeland Social Value

Public rangeland managers have been conditioned to respond to values expressed by political and social systems. Laws, budgets, Congressional inquiries or visits by county commissioners are *political* system expressions of rangeland or natural resource values. Friendly or not-friendly encounters in a local community, increased recreational use, newspaper editorials, or a jack rabbit round-up are primarily social system expressions of rangeland values. Of course, these values are rarely expressed solely through one system. For example, a state cattlemen's association (in the social system) may provide input to agency managers and lobby a state legislature (political system), obtain financial endorsement of local businesses (economic system), and encourage community members to write legislators (social and political systems) to change state wildlife policy impacting rangeland utilization.

In as many diverse and intricate ways as energy is exchanged in complex ecosystems, our postindustrial American society is expressing increased *amounts* and *types* of rangeland social values (Brunson 1992). In the 1950-60s, public rangeland issues were not that newsworthy (i.e., they did not have deep and widespread social value). The *amount* of social value expression was small, isolated in the West, and normally reserved for the agricultural sections of local newspapers. Estimating rangeland values in the 1950s was usually simple, economic value arithmetic—with some multiple use "constraint" considerations for wildlife or recreation. Now public rangeland issues are a common feature of the media on both sides of the Mississippi, and warrant front-page coverage in national or state-level newspapers, newscasts, or magazines. They have spilled out of relatively obscure state and national legislative committees to open, intensive floor debate—as evidenced by Congressional gridlock over the FY 1994 Interior Appropriations bill, that contained Range Reform 94 measures and grazing fee increases. Estimating rangeland values seems to have shifted from simple dollars-and-cents "arithmetic" to "integral calculus" of many complex, interrelated, and oft-competing uses and values. Economic values today are also only one, and often not the primary indicator, that expresses public rangeland social value.

More than the number, the different *types* and *sources* of public rangeland social values has expanded enormously. In the past, rangeland managers had to access a small, rather homogenous group of grazing advisory boards, state cattlemen's organizations, or local legislators to encounter most of the rangeland social values that the public cared to express. The number of important rangeland social value "contacts" (sources of value expression) tended to be small, well-known, and local. Communication was usually personal, not public. Today a wide variety of public and private organizations, media, legislators, or individuals are communicating a diverse spectrum of public rangeland

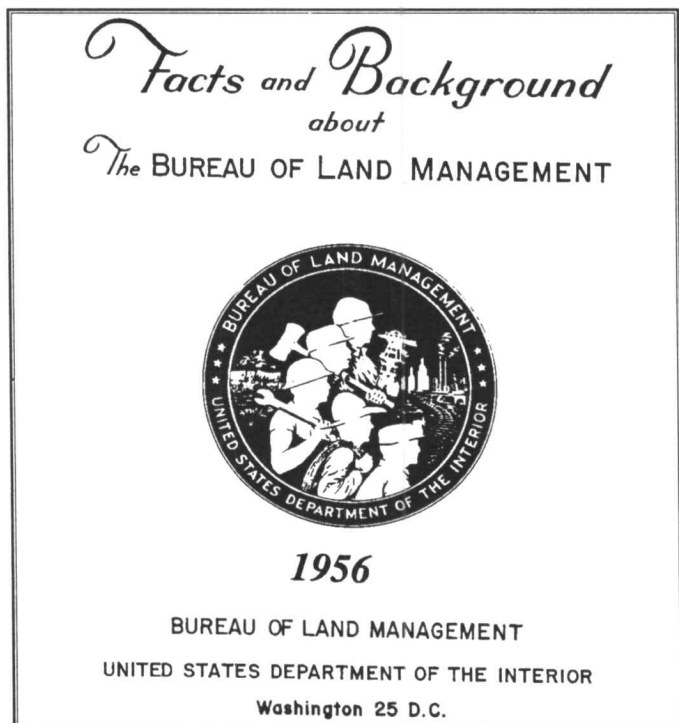


Fig. 2. Initial USDI-Bureau of Land Management shield (circa mid-1950s).

social values. Many isolated, local rangeland issues go public and national over a weekend—at light-speed over satellite communication networks.

Sometimes it is difficult for us rangeland managers and users not to react to all these increased amounts and types of rangeland social values personally—as if they were contrived and orchestrated to make our professional lives more complex and confusing (Brunson 1992). Ironically, the increased *amount* of attention that rangelands are receiving is a compliment—that resources we use and manage are more socio-politically important than is the simple, good-ole-days. Since so many new environmental and recreational social values cannot be expressed in dollars-and-cents by the economic system, the primary way for publics to communicate their rangeland values is via social, political and legal channels—communication channels that often are full of static and mixed messages, sometimes are R-rated, and often contact sports.

Changing Social Values and New Public Rangeland Management Models

With the increasing biocentric and environmental social values of an urban, postindustrial American society, the image of what good public rangeland should look like and how it should be managed has changed (Sharpe 1992, USDA-FS 1988). New scientific insights have also challenged old images of good rangeland use and management. Simple *machine-models* of rangeland management are yielding to more complex and interrelated *organic-models* (see Table 2).

We attempt to capture some of the generalities in these socio-political changes and contrast them in a 1960s versus 1990s “snapshot” comparisons of good public rangeland management in Table 3. The 1990s column in that table is not necessarily where public rangeland management is (or should be), but just our estimate of the direction it is evolving. We will only summarize a few of these trends.

Emergence of Organic-Models of Rangeland Management

Table 2. Two contrasting world views: machine-model and organic-model

Machine-Model Perspective	Organic-Model Perspective
Simple, similar systems	Complex, diverse systems
Isolated and separate systems	Integrated and interrelated systems
Linear, cause-effect relationships dominate	Multi-faceted, curvilinear, and cyclical relationships are the norm — with chaos wildcard possibilities
Deductive logic and simple efficient/optimization models appropriate	Inductive, integrative logic and complex inclusive simulation models appropriate

During America's industrial stage, that occupied first two-thirds of this century, *machine-model* thinking dominated the nation's conception of how to manage its factories, schools, cities, forests or rangelands. Americans were fascinated, enraptured and proud of the machines that revolutionized factories, farms, homes or streets—as well as the simple, linear machine-models that hummed in our heads. Such machine-model thinking was central to more simple, traditional, conservation era (1900–1969) knowledge and the management of timber, grazing, or game (outputs) in sustained-yield, input/output, carrying capacity models.

The evolution of our culture, science, and global experience calls for new, complex, integrated *organic-model* thinking to guide the conception and management of our valuable human, capital, and natural resources (Kennedy and Quigley 1993). Table 2 contrasts machine versus organic-models that underlie much of the difference in 1960s versus 1990s rangeland management thinking of Table 3.

Evolving Values, Images, and Context of Public Rangeland Management

At the advent of the 1970s environmental movement, the machine-model view that largely dominated public rangeland conservation was the sea-of-grass image: with healthy cattle center-stage, accented by fence-road-water “improvements”, that were primarily used and managed by solitary mythic male heros (ranchers and range-cons). Table 3 depicts good stewardship in that era associated with intensive rangeland investment and development. The social value context was focused on a specific group of people, in a relatively narrow time and space context—all within sustained-yield constraints, of course.

Caught up in this machine-model drama, USFS or BLM managers often forgot the original and critical promise of creating public forest and rangelands in the first place. Namely, that they would be natural resources “trust fund” for current and future generations. They would emphasize broad, multiple, public social values (vs. more focused private value). Public forest and grasslands were to be a social trust fund alternative and an insurance annuity to balance the potential excesses and myopia of free enterprise forest or rangeland management. They were to be a *choice*, not an *echo* to private forest and rangeland management. Yet our images of well managed public forests and rangelands in the 1960s often had them looking and functioning similar to the intensively developed and managed private lands on the other side of the fence.

The expanding public forest and rangeland values of today's society, plus the increased knowledge of how complex, integrated, and diverse are these ecosystems, have generated new images of good natural resource/ecosystem management. The result has been a more organic-model view of 1) the social values to be considered, 2) the complex and interrelated ecosystems impacted, 3) the interdisciplinary groups with which we must interact, and 4) the public and political involvement we must seek in managing

Table 3. Changing values, images, and context of good public rangeland management: a 1960s vs. 1990s snapshot.

Elements:	Contrasting Decades Of:	
	1960s	1990s
Dominant Paradigms	Machine-model of simple, compartmentalized range allotments Meet current and future needs of individual livestock operators and rural communities Single resource planning and management for short-term goals—within longterm multiple use constraints Quest for super exotic or native range plants to dominate a rangeland Rangelands, especially desert systems, perceived as having lower values than agricultural, pasture, or forest lands	Organic-models of complex, diverse, interrelated range ecosystems Meet current and future needs of a wide spectrum of local and national publics Integrated resource planning for many social values, with increased public involvement Increased respect for complex, diverse, and changing native plant communities Rangelands valued for diverse uses and noncommodity, as well as commodity, values
Good Rangeland Looks Like...	"Sea-of-Grass" Model: ordered, efficient, simplified plant communities (often monocultures) to increase livestock production Intensive fence, water and access "improvements" to increase forage production and to illustrate investment in the land (good stewardship)	A diverse matrix of native plant communities and habitats for varied social values Extensive and subtle development—touch the land lightly
Guiding Management Models	Simple, mechanical models Sustained yield <i>output</i> focus of longterm AUM flows Compartmentalized rest rotation Livestock is the focus and the primary <i>product</i> Maximize livestock production Range vegetation inventory and analysis	Complex, organic models Ecosystem management focus on health and sustainability of <i>system</i> itself More integrated holistic systems Livestock is a tool (process) to manage and a long term beneficiary of healthy ecosystems Balanced livestock integration with multiple use, sustainability, and other resource values Integrated landscape inventory and analysis, utilize remote sensing techniques that include new and traditional range values
Dominant Time	Good range condition in terms of livestock production Intensive technology to fix resource problems and maximize outputs Annual reports and short term (e.g., 5–10 yr) planning Management results within a few years Increase profitability of current range operations Implement type conversions with life expectancy of 10–20 yrs	Ecological status and desired future plant communities for multiple resource values Sustainable management based on productive capability of land, with minimal intensive capital investments Long term outlook and desired future conditions (e.g., 10–50 yr) Decades to achieve desired conditions Maintain future options for generations of diverse groups Understand presettlement conditions and range of natural variability in order to determine possible future ecosystem options
Dominant Space Dimension	Administrative or jurisdictional land units (e.g., allotment or districts) Allotment focus Local community oriented Era of great men (both ranchers and range managers)	Focus on ecological landscape units (e.g., hierarchical landscape units ranging from global to specific sites) Ecoregion focus Orientation to region, nation, planet Professional ethnic and gender diversity
Respected Rangeland Manager Role-Models and Heroes	"Range Boss"—tough, individualistic, self-sufficient heroes and loners Action-oriented, results-focused achievers who get <i>things</i> done	Era of ID-teams, cooperators, partners, and public involvement <i>Processes</i> (like cultural or ecosystem diversity) as important as output achievement
Land, Labor Capital Conditions	Public rangeland per U.S. and global population more abundant Abundant public capital for rangeland development and research Scarcity of trained range managers	Public rangeland per U.S. and global population more scarce and developed Deficit-burdened Congress and society More abundant and diverse rangeland ecosystem managers available

public rangelands. These new values, images, models, and relationships have evolved to become USFS ecosystem management (Overbay 1992), and agency programs such as *Change on the Range* (USFA-FS, 1988) and BLM's *Rangeland Reform '94* (USDI 1993). We must emphasize that this ecosystems management thinking requires that the planning and management of public lands consider current and future private land conditions. It does *not* suggest or require that private rangelands be controlled or regulated. Past public forest and rangeland planning and management often did not consider private land conditions and trends adequately, and *adapt* to them. Ecosystem management requires that public land management expand its perspective to estimate current and future uses and conditions of *all* lands in an ecoregion. Then manage to provide public land management choices (not echoes) to complement, balance, and diversify the resource values of the ecoregion.

Closing Comment

Our paper offers two new, broad public rangeland management models or perspectives. First, forest or rangeland managers do not just manage natural resource *stuff* (e.g., trees, elk, water, cattle, grass), as much as the evolving *social values* associated with them. This natural resource social value originates with people in a cultural context (social system) that has changed greatly in the last 100 years—as America evolved from a rural agricultural, to an urbanizing industrial, to our current urban post-industrial society. We can, therefore, redefine the basic role of rangeland management as providing longterm flows of diverse multiple social values (and future management options) from healthy, diverse, sustainable rangeland and associated ecosystems. In addition, since so many natural resource/environmental social values are in conflict, we might consider our rangeland managers' basic professional role as socio-political *conflict* management. Obviously, these concepts make more sense and have more validity for *public* (vs. private) land use and management.

Since our social value management model suggests that natural resource or environmental social values arise from an interaction (or relationship) between people and the environment, then natural resource managers might also consider themselves *relationship* managers (Brunson and Kennedy 1995). Relationship managers? Sounds like a description of personnel managers, marriage counselors, or other psychologically-based professions. Yes it does, but we share more with these disciplines than our natural resource management professions have been able to recognize and embrace—and that may have been to our professional detriment and that of the natural resource/environmental stuff we all cherish. We are and always have been human and rangeland relationship managers. We had better recognize this and become better at it.

The second broad, general management perspective offered for consideration is the *machine-model* versus *organic-model* world view. We argue that application of simple, linear, cause-effect natural resource machine-models *may* have been acceptable and pardonable in America's more simple industrial stage and conservation era. Not today! In the 1990s, the

machine-model is yielding to organic-model perspectives in the classroom, on farms and factory floors, on forests and rangelands. Rangeland or forest site productivity models are expanding to *ecosystem* management space dimensions, sustained-yield is evolving toward *sustainable* ecosystem management.

A subtle but revolutionary aspect of the sustainable ecosystem management paradigm is a shift from a focus on system *outputs* to value and integrity of the system *itself*. We in the Western-world have generally felt that public or private land owed us humans abundant and timeless output tithes. Like us work-ethic people, the land was expected to produce—the more the better (Passmore 1974, Rolston 1988). The conservation movement placed this central cultural view in a longterm, multiple use, sustained-yield context of continuous flows of goods and services for current society and future generations (Hays 1959). This was no small shift in thinking or a simple political accomplishment; and it was a needed and logical evolution of machine-model thinking to provide a continuous flow of multiple goods and services for an industrializing nation and future generations. But this was an output-focused, not a *process* or *system* focus perspective. We forest and rangeland ecosystem managers must move quickly to embrace and implement sustainable ecosystem management thinking, that incorporates more knowledge and respect for healthy, sustainable ecosystems *themselves* in an inclusive ecoregion context—as well as the *outputs* they can bequeath a society living and reserve for those yet to be born. Otherwise rangeland managers will be less and less relevant to the complex, interdependent social values and needs of an urban, postindustrial American society, our continent, and our planet.

Literature Cited

- Brunson, M. 1992. Professional bias, public perspectives, and communication pitfalls for natural resource managers. *Rangelands* 14(5):292–295.
- Brunson, M. and J.J. Kennedy. 1995. In: R.L. Knight and S.F. Bates (eds.) *A new century for natural resources management*. Island Press, Washington, DC (pp. 143–158).
- Hays, S.P. 1959. *Conservation and the gospel of efficiency*. Harvard University Press, Cambridge, Mass. 197pp.
- Kennedy, J.J. 1973. Some effects of urbanization on big and small game management. *Transactions of 38th North American Wildlife and Natural Resources Conference* 38:248–255.
- Kennedy, J.J. and T.M. Quigley. 1993. "Evolution of Forest Service organizational culture and adaptation issues in embracing ecosystem management." In: M.E. Jensen and F.S. Bourgeron (eds) *Eastside Forest Ecosystem Assessment—Vol II: Ecosystem Management: Principles and Application*. Pacific NW Forest and Range Research Station, Portland, Ore. (pp 19–30).
- Kessler, W.B., H. Salwasser, C.W. Cartwright Jr., and J.A. Caplan. 1992. New perspectives for sustainable natural resources management. *Ecological Applications* 2:223–225.
- Overbay, J.C. 1992. Ecosystem management. Paper at national workshop on taking an ecological approach to management. (Reprint available from USDA-Forest Service, Washington D.C.) 8pp.
- Passmore, J. 1974. *Mans' responsibility for nature*. C. Scribner's Sons, New York. 213 pp.
- Rolston, H., III 1988. *Environmental ethics*. Temple Univ. Press, Philadelphia, Penn. 391pp.
- Sharpe, M. 1992. The conservation perspective. *Rangelands* 14(2):53–56.
- USDA-Forest Service. 1988. *Change on the range*. Washington DC.
- USDI-Bureau of Land Management. 1993. *Rangeland reform '94*. Washington, DC.
- Williamson, L. 1992. Identifying shinola. *Rangelands* 14(2):81–84.