

Managing Rangeland Resources Conflicts

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"Values both those that we approve and those we don't, have roots as deep as creosote rings, and live as long, and grow as slowly."—Wallace Stegner, *Where the Bluebird Sings to the Lemonade Springs*.

For the last 20 years public rangeland managers have often found themselves between the skillet and flames. For many who entered the profession in the 1970's, rangeland conflict has become a disturbing norm. Two decades ago we sought respite from a troubled society in the arid mountains and rangelands throughout the West. As students we studied ecology and animal science and largely disdained politics. We were naive to think the conflicts would not follow us.

Understanding the politics of rangeland conflict must now be as much a part of our profession and our curricula as estimating vegetation trend and utilization. By placing these disputes in a broader social context, professional range managers and rangeland users can understand the often predictable dynamics of these conflicts.

Students of public land history know that rangeland management has always included an element of conflict. Until the late 1880's good public range management meant getting there first with the most animals and the fastest gun. We know now that this resulted in significant deterioration of the soil, plant and wildlife sources. In many arid areas, we are still struggling to overcome the legacy of resource allocation by large caliber weapon (Floyd 1991).

Kelso (1963) writes: "When the first nomadic hunter drove another from the water hole about which he found his quarry, a land use conflict took place....And again one occurred when the Western cattleman 'shot up' the sheepherder's flock and, in solemn assembly of his peers, voted favorably for 'law and order' by approving a resolution to his state's legislature asking that it declare the killing of a sheepherder to be a misdemeanor."

Conflict over management of natural resources including rangeland resources is fundamental, inevitable and within some limits, healthy. Land use conflicts are among the most basic, prevalent and divisive forces in social living. Land use conflict resolution constitutes one of the main elements in human social organization and process. Living with seemingly endless conflict is frustrating, but consider the alternative.

As ecologists, we daily deal with the concept of senescence and the gradual decline in system vigor that results from failure to grow and adapt to change. Social conflict is symptomatic of change and growth in our society's needs. To the extent that we can channel the conflict in a useful fashion, it should be regarded as a positive rather than as a negative social force.

In our society four fundamental factors make natural resource conflict inevitable. They are: (1) The processes through which we decide on allocation. How do we decide who gets how much? (2) Actually allocating the resources. Who gets how much? (3) Varying perceptions of risk among rangeland users. With what certainty can we predict the results of our allocation decisions? and (4) The nature of the resources and their proposed uses.

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	SOURCES OF ENVIRONMENTAL CONFLICT	VIEW OF COMPROMISE	APPROPRIATE POLITICAL FORUM
MISUNDERSTANDING MODEL	ALL SHARE CONCERN FOR ENVIRONMENT. DISPUTES RESULT FROM MISCOMMUNICATION, MISUNDERSTANDING	FEW BASIC INTERESTS ARE IN CONFLICT. NEGOTIATION LEADS TO WIN-WIN SOLUTIONS	NEGOTIATION BECAUSE IT INCREASES MUTUAL UNDERSTANDING
CONFLICTING INTERESTS MODEL	INEVITABLE CONFLICTING INTERESTS OF INDUSTRY, GOVERNMENT AND ENVIRONMENTALISTS	COMPROMISE IS NECESSARY REALISTIC AND JUST SOLUTION GETS EACH PARTY SOME OF WHAT IT WANTS	NEGOTIATION BECAUSE GIVE AND TAKE FACILITATES COMPROMISE
BASIC PRINCIPLES MODEL	CONFLICTS RESULT FROM BASIC DIFFERENCES IN VALUES, PRINCIPLES AND WORLD VIEWS	COMPROMISE IS UNACCEPTABLE. ENVIRONMENTAL DECISIONS INVOLVE CHOICES AMONG INCOMPATIBLE PRINCIPLES	LEGISLATURES, COURTS AND AGENCIES BECAUSE TRADITIONAL INSTITUTIONS BETTER ADDRESS QUESTIONS OF PRINCIPLE

Fig. 1. Sources of environmental conflict. (Adapted from Amy, 1987).

The Process of Allocation

Over time societies interested in rangeland management have evolved several institutions for allocating rangeland resources. A system of markets and property rights is often used to allocate rangeland resources. These property rights may be held by individuals or groups which have the authority to deny access or use to others. A system of markets and property rights, either private or common can not function without sanction from a collective government. In the United States we rely on the executive branch, the courts and the legislature to negotiate, codify and enforce the property rights and market mechanisms. In effect, it is the role of government to sanction allocation among private individuals and groups. In doing so, government derives its own legitimacy as an institution (Cobb and Elder 1983).

On most public rangelands, we rely on a second, equally complex institution for making allocation decisions—multiple use management. The multiple use model is essentially pluralism applied to land management (Miller 1987). In this approach government sets broad policy and interest groups compete to influence both national policy formulation and implementation at the local level.

It is not by accident that much of the conflict over the stewardship of rangelands in the United States occurs on federal lands managed under the doctrine of multiple use. Given a rapidly growing Western population and very limited federal budgets for domestic programs including natural resources management, multiple use virtually guarantees conflict among the participants. Decisions about who gets how much are often in dispute because the decision-making process itself is unclear to all but those few who make it their life's work. Wondolleck (1988) observes: "In practice, the process is not sufficiently informative or convincing; it is divisive; and, moreover, it is not decisive."

The question of which processes we should use for allocating rangelands is made more complex because the parties often have fundamentally divergent values and cultural biases. In the United States and many "developed countries", a particular world view has dominated societal thinking for much of the last millennium. Briefly described, it assumes human dominance over nature, which is valued in an instrumental sense for what can be made of it. Other assumptions of this "Dominant Social Paradigm" are that humans are primarily self-interested wealth maximizers; economic growth is possible indefinitely; environmental degradation and risk are necessary by-products of economic growth, but can be controlled via market forces and corrected through scientific and technological advances (White 1967; Milbraith 1984). This dominant social paradigm is not necessarily held by most people, but rather by the dominant groups in the society.

Contrast this values set or world view with that of many members of the environmental community and one notes fundamental differences. Dunlap and Van Liere (1978, 1984) have found broad evidence of the emergence of a

"new environmental paradigm" (NEP). The NEP is ideologically the opposite of the "dominant social paradigm" and stresses concern for the social and environmental impacts of growth and participatory decision processes. The mutual exclusivity of these values sets parallels Leopold's (1966) "A/B cleavage" where "one group (A) regards the land as soil, and its function as commodity-production; another group (B) regards the land as a biota, and its function as something broader."

These value sets have profound implications and are important for public and private land managers. It is increasingly clear that many of our clients have mutually exclusive value orientations and that solving allocation questions can not be successful until we develop decision processes acceptable to both.

In a critical analysis of environmental dispute resolution, Amy (1987) conceptualizes several models of environmental conflict ranging from misunderstanding to conflicting interests and conflicting basic principles (Figure 1). Depending upon one's view of the source of environmental conflict and the process of compromise, negotiated or mediated settlements may or may not be appropriate.

Crowfoot and Wondolleck (1990) write that this choice may be particularly difficult for citizen-based environmental organizations. "Citizen and environmental organizations face difficult choices in deciding whether or not to participate in environmental dispute settlement processes and how to proceed if they decide to do so. Environmental and citizen activists are often more familiar with adversarial strategies of change in which pressure, coercion, and unilateral decisions are key features than they are with dispute settlement efforts."

Allocation—Which Uses and Values Should Get How Much of the Range?

In the United States, there are about 770 million acres of rangeland. Sixty-four percent of that rangeland (about 493 million acres) is non-federal (Joyce 1989). The majority of that non-federal rangeland is privately owned. On almost two-thirds of all U.S. rangeland, private owners are free to select and implement management activities largely as they see fit, guided in theory by market forces. These private rangelands must meet only the owner's objectives, they do not attempt to serve the diverse needs of the general public for a variety of values.

About 277 million acres of rangeland is managed by the federal government. To what uses and values are these lands allocated? The most recent statutory interpretation of "multiple use" is found in the Federal Land Use Management and Policy Act of 1976 (FLPMA, 43 USCA s. 1702 (c)). The law defines multiple use as "the management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people...." Specifically included are recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values. The definition also includes: "har-

monious and coordinated management of the various resources without permanent impairment of the productivity of the land."

Congress is intentionally vague about how such a policy actually shapes allocation at the local level. It is on the ranger district or the resource area that use is actually allocated. How many cattle? How many elk? How many reproducing trout per mile of stream? How many campsites and how many off-road vehicles? How many heap-leach gold operations? Ideally these questions are answered based on resource monitoring. But often they are equally shaped by the strength of interest group influence in the local area (Culhane 1981; Miller 1987).

Such an allocation process invites competition and disputes about resource allocation among the interested parties. As emerging interests develop, they are forced to compete with established, customary allocations.

The Problem of Risk

Uncertainty complicates rangeland conflicts for two reasons. First, as land becomes more arid, the certainty with which we can predict response to management decreases. In many instances the dynamics of ecosystem change are often abrupt and non-linear: "The notion of single equilibrium communities that progress steadily toward or away from climax depending on grazing pressure does not apply in many rangeland systems. Examples of the importance of stochastic events in shaping the path of succession, alternative steady states and discontinuous and irreversible transitions are abundant" (Archer and Smeins 1992).

A second important complicating factor is that many of our client groups perceive risk very differently. Wildavsky and Dake (1990) write that "the great struggles over the perceived dangers of technology in our time are essentially about trust and distrust of societal institutions, that is, about cultural conflict." The authors use sets of cultural biases to successfully explain varying attitudes toward risk:

Egalitarians claim that nature is 'fragile' in order to justify sharing the earth's limited resources and to discomfort individualists, whose life of bidding and bargaining would be impossible if they had to worry too much about disturbing nature. On the contrary, **Individualists** claim that nature is 'cornucopian,' so that if people are released from artificial constraints (like excessive environmental regulations) there will be no limits to the abundance for all, thereby more than compensating for any damage they do...."

Wildavsky and Dake's "egalitarian" and "individualist" cultural biases seem consistent with the "new environmental" and "dominant social" paradigms suggested earlier. In range management, the dichotomy correlates with observed attitudes toward the risk associated with technologies—herbicides for example. Such a dichotomy also suggests a relationship between cultural bias and the perceived risk of affecting productive capacity by unintentionally causing successional changes which result in seemingly irreversible transitions.

The Nature and Use of the Resources

By classifying the resources and uses involved we should be able to predict the utility of dispute resolution processes in resource allocation disputes (Jacobs and Rubino 1988). This paper proposes a classification based on resource renewability and whether the resource in question is a commodity—"an input into the process of producing something of value" or an amenity—"a resource which may enter consumption processes directly and thus acquire value" (Randall 1987). Figure 2 displays the proposed continuum arranged from geocommodity (A), to bio commodity (B), to use amenity (C), to preservation amenity (D). In theory, the further the resources in question are from each other on the continuum, the more

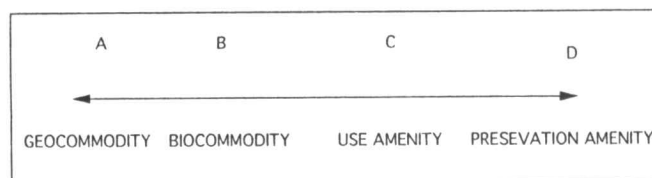


Fig. 2. A proposed continuum for classifying resource allocation conflicts. As the distance between classes increase, conflict intensifies.

intense the conflict. Thus mining (A) in an area set aside for biological diversity (D) is likely to be quite contentious. Less contentious would be allocation between livestock grazing (B) and hunting or other forms of outdoor recreation (C). Reduction of livestock grazing (B) to protect ecological processes (D) is likely to result in moderate to strong conflict. By applying the model, managers should be able to make the preliminary determinations about the level of conflict they can expect as a result of proposed management actions.

If indeed, interest groups have differing values and views about the nature of resources, when and how should rangeland managers attempt to resolve disputes? There have been several widely reported efforts to resolve rangeland conflicts through consensus-based negotiation such as experimental stewardship, coordinated resource management planning, and less-formal negotiated settlements (Floyd 1988, Cleary 1988).

Successful rangeland dispute resolution programs have two things in common. First, the parties have been able to agree on a framework which focuses on common interests rather than different underlying values. Second, site or area-specific disputes are more readily resolved than are landscape level or regional disputes. In the first instance, it will do little good to invest the effort necessary to organize protracted negotiations if the parties are unable to agree upon an overarching management framework (such as multiple use) on public rangelands. In the second case, experience suggests that negotiated dispute resolution efforts are most successful when they focus on "on-the-ground" issues which can be resolved by allocating additional resources (new range improvements which make additional forage or habitat available;

new ideas and technologies; or additional effort—either professional or voluntary).

Successful programs are able to document three elements: equity, efficiency, and effectiveness (Floyd and Sibrel 1992). The process through which equity and consensus are achieved must be documented. Efficiency continues to be an important issue. While negotiation or mediation is often time-intensive, it may take less time than extended administrative appeals and litigation. However, our research on negotiating wetlands permits leads us to believe that the long time periods remain a major frustration to participants (Floyd and Sibrel 1992). Most importantly, those who contemplate these kinds of negotiated settlements must be willing to make additional efforts to monitor and document the physical and biological consequences of their actions. There are many skeptics and range managers who undertake new processes aimed at improving the quality of the resource must be willing to document the process and the results of their efforts.

Given the inevitability of competition for rangeland resources, our challenge is not to resolve every conflict that is thrust upon us. In many instances, when these conflicts result from fundamental questions about social values, the disputes must be resolved by the courts or the legislature. Rather, we must learn to manage the dispute resolution process and to carefully select the disputes that are susceptible to our efforts. The roots of human values are indeed as deep and old as creosote rings. An increasingly important challenge for rangeland managers is understanding our own values, the many values of our users, and the nature of social conflict.

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