

## Second In A Series

# Preparing For The Future Of Range Science

**Future rangeland professionals will continue to need strong technical knowledge, but more importantly they will need strong critical-thinking, communication and political skills.**

By Urs Kreuter

*Author's Note: The "Rangeland Professionals and Society: Future Directions" Symposium at the 2001 Annual SRM Meeting identified several strengths and weakness of the range management profession. Following is an overview of the future issues identified by the symposium that will shape our profession. Specific topics will be addressed in following issues of Rangelands.*

Differing opinions have haunted our profession from the beginning, and compromises necessary to satisfy the broad membership of our professional societies has resulted in unclear and sometimes conflicting policies. However, our ambiguous identity represents both strength and weaknesses.

A strength is that it reflects the diverse, sometimes contradictory interests of people involved with rangelands. For example, rangeland societies include both scientists (theorists) and practitioners (managers). A contrasting weakness of ambiguity is that it is difficult to define and market broad "fuzzy" concepts in simple terms.

Two additional problems are weak professionalism and poor understanding for the basis of knowledge. Both have contributed to a lack of recognition of the range science discipline among policy makers, and have contributed to a poor public image about our profession and its role.

In trying to determine the future role of rangeland "professionals" in natural resource management, both the strengths and weaknesses of our pro-

fessional identity must be clearly addressed. Only then can our profession obtain the necessary visibility and credibility to maintain integrity and meaningful contributions to societies in the future.

### Range Science Is Changing

In order for the range profession to retain widespread relevance, it is necessary to include not only academics, researchers and extension personnel in the group, but also landowners, local community leaders and practitioners.

It is often assumed in the developed world that university degrees are a prerequisite for professionalism. However, acronyms for "professional" include skilled, experienced, proficient, expert, learned, trained, able, adept and masterful. Clearly, the attainment of some of these attributes is not restricted to formalized higher education; indeed some might be obtainable only through direct individual experience.

Moreover, given that the bulk of the world's population lives in less developed countries where dispersed societies have often accumulated long-term indigenous knowledge of local conditions, the concept of "professional" needs to be broadened to incorporate people with local knowledge in order to be socially meaningful and locally applicable.

When societal goals for rangeland were commodity production and soil

conservation our profession responded well, but it has been poor at keeping pace with changing social demand (see "Range Management's Record" by Thad Box on the following pages). For example, while we have gained much knowledge about soil, plant and animal processes at the scale of research plots and range sites, we have generally been slow to apply this knowledge at watershed, ecosystem, or regional environmental planning scales.

Rangelands are becoming more valuable in developed countries as societies become increasingly urbanized. More people want open space, clean water, wildlife habitat, a rural lifestyle, and livestock-free goods and services that are unique to rangelands. (This will be discussed by Mitch McClaran in an article in the December 2001 issue.)

In countries such as Canada and Australia, where the majority of the population is restricted to and growing most rapidly in a few urban centers, regulatory changes that impact rural land use can seriously affect the economic and cultural attributes of rural communities. This is becoming especially apparent in rangeland-dominated drainage basins that are the primary water source for rapidly growing population centers, particularly where water supply is declining.

In such cases, the rapid growth in demand for high quality water will

likely become the primary criterion driving regulation of rangeland use because reconciling regional water budgets will present an ever-greater challenge for public policy ("Water's Role" will also be discussed in further detail in the December 2001 issue). In addition, the reduced influence of rangeland production in world and national affairs, together with the growing influence of energy politics and technology and trade treaties is likely to further accelerate the regulation and conversion of rangeland use for non-livestock-related priorities.

Developing countries also face additional socio-political dynamics that affect their rangelands. In Africa redress legislation aimed at "Africanizing" government institutions and research policies that emphasize resource-poor rural economies have led to a depletion of an already small number of rangeland scientists. Rural policies in China typically focus on agricultural production instead of ecological sustainability and, therefore, are placing increasing pressure on rangelands that contain the headwaters for many of Asia's major rivers.

The low or declining level of trained natural resource expertise in most developing countries make it imperative that local communities are centrally involved in finding solutions to problems affecting the natural resources upon which they depend. Greater participation of local communities in resource management is increasingly being incorporated in international efforts to elevate resource-poor rural economies in developing countries. Such initiatives will require greater involvement by trans-disciplinary teams – including multi-faceted natural resource experts.

In the future, potential clients for rangeland professionals will increasingly expand beyond ranchers and land management agencies. In the USA and Canada they will include more small-tract landowners, land trusts and conservancies, homeowners associations, non-traditional resource management agencies, county plan-

ning departments, weed abatement and water districts, and highway departments. In developing countries, such as South Africa, attempts by the mining and other industries to meet internationally recognized environmental auditing practices will also provide new opportunities for input by rangeland professionals.

The rangeland profession will also increasingly draw a more diversified group of students. As societies continue to become urbanized, future natural resource management students are likely to include an ever-greater proportion of women, urban-born people, and minorities.

### Meeting The Challenge

As any entry-level marketing course will teach, increasing the value of a resource necessitates a clear understanding of the evolving societal demand for that resource. To expand the value of the services that it can provide, the rangeland profession needs to expand its horizons to encompass the full spectrum of rangeland uses, including but not limited to traditional uses.

To circumvent alienation, the rangeland profession must also avoid defensive reaction to inquiry and criticism about its role, and it must be sincerely and openly receptive to differing points of view and values.

It is critical to elevate the profession's visibility and perceived relevance by increasing the awareness of policy makers, agencies and the public at large about the diverse services that rangeland professionals can offer. Addressing rangeland-related issues in a regional context that promotes strong partnerships between key regional stakeholders and improves environmental, economic and social outcomes of rangeland policies will also elevate awareness.

Although future rangeland professionals will continue to need strong technical knowledge, more importantly they will need strong critical-thinking, communication and political skills. Previously developed skills and

knowledge can be applied to livestock-free situations, ranchette planning that minimizes rangeland fragmentation, endangered species habitat management, and rangeland tourism.

Greater training in collaboration and mediation skills will greatly facilitate their involvement and leadership in environmental impact analyses, the establishment of conservation easements, and coordinated resource management plans in areas with diverse groups of stakeholders. Such involvement will require knowledge about ecology, economics, and geographic information system (GIS), as well as social and leadership skills that facilitate public debate.

Instilling cultural sensitivity in rangeland professionals is also increasingly important as Western influence on developing countries grows. Such sensitivity will enable rangeland professionals to merge the best aspects of traditional rangeland management systems with new technologies and development paradigms by fostering partnerships with local communities.

Such broad expertise requires a more holistic, multidisciplinary approach to training, research and extension that integrates ecological, technological, socio-economic, business, cultural, and institutional issues. The increasingly multi-faceted nature of the profession will necessitate continuous training of rangeland professionals in evolving technologies (e.g., global position system (GPS) and GIS applications). Because of the rapidly changing scope and power of such technologies, regular attendance by rangeland professionals of well-planned workshops must also be encouraged. In addition, in developing countries, the widespread perception that the rangelands are of little value because of their association with rural poverty must be squarely addressed by enabling and encouraging young native people to pursue meaningful careers within the profession.

Larger rangeland society membership with broader academic and pro-

Professional experience is vital for the profession to develop and share the knowledge and skills necessary for responding to changing societal values for natural resources. Professional rangeland societies have a central responsibility in this regard. They must aggressively maintain the interests of existing clients, and they must attract new clients by effectively marketing the virtues of the expanding breadth of skills and knowledge represented by the profession.

Such initiatives require not only concerted effort but also financial resources and the services of professional marketing specialists. If the professional societies do not take this

challenge seriously, frustrated or disenfranchised members will increasingly migrate to other natural resource societies that explicitly recognize the value of diversity or will move into other areas of endeavor.

A common theme of rangelands is their great diversity. The strengths of the rangeland profession are the diverse interests and expertise of its widely dispersed members. Failure by professional rangeland societies to fully recognize and exploit this diversity and to effectively market the value that it represents for the sustainable management of natural resources around the world will lead to a slow death for these societies.

As a profession we must be able to unequivocally answer the question about our profession's identity by stating that we represent the full spectrum of knowledge and skills regarding the nature and uses of the world's most widely distributed and diverse land type—rangelands.

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