



By Thad Box

On Holding the World Together

Science supporting land management is excellent and getting better. But as fewer people live on the land, the “how” of producing food, maintaining breathable air, and enjoying life is being lost. Applied scientists, whose role is to move society from what is theoretically possible to what can be, will be critical in both feeding people and caring for the land. Unfortunately, those people are not being turned out by our universities in the numbers needed. Applying science is often not highly valued by promotion and tenure committees. That must change if the lands between densely populated areas are to be more than dumping grounds for future generations.

By the time this column is in print, I will have celebrated my 86th birthday and be well into my 87th year. I often wonder if writing is the best way to spend the years I have left. At the 2001 annual meeting in Kona, I was asked to write an ongoing column for *Rangelands* called “Listening to the Land.” The first in the series appeared in the April 2001 issue. In the following years, I wrote 90 plus columns—mostly about our role as stewards of rangelands. I continue because I am a teacher. I believe a land care professional’s job is to listen to the land and do what he can to ensure its productivity.

Unfortunately, our rewards have not come from the land but from people or businesses wanting to produce some good or service to eke out a living or to make themselves wealthy. Demands on land have changed during my lifetime. The speed of change has increased, especially in the last few decades. We, along with our sister land care professions, have been slow to recognize and react to those changes. We have been reluctant to switch from developing science to produce things from the land to maintaining the health of the land itself. This reluctance has led to decreasing membership in professional societies and a lessening of science’s influence on land policy.

In the early days, the Society for Range Management (SRM), rightly concentrated on production of forage for livestock grazing. The Wildlife Society (WS) emphasized growing more game animals for hunting. The American Society of Foresters (SAF) saw timber production as a major goal. The list continues, and even though all land care professions were based on ecological science, their public supporters wanted better economic yield from their efforts. The product, not the land, controlled our behavior.

When I joined SRM 58 years ago, it was not uncommon for a wildlife biologist, a forester, and a range manager to disagree over the management strategy for a ranch or a National Forest. Their positions were based on a product, rather than on land capability. Land management agencies often followed that way of thinking. The Cache National Forest I see out my window was known in the agency as a grazing forest. Forests in the Pacific Northwest were timber forests. National Parks were dedicated to tourism. Although all public lands had wildlife, watershed, recreation, and other societal values, the emphasis was usually on a single product.

About 50 years ago land management professionals began considering land as an ecological system. The passage of the National Environmental Policy Act (NEPA) in 1970 forced us to look more closely at all potential uses and combinations of those uses. People who managed land for economic gain saw the detailed ecological examination of land as unnecessary. Needs for future generations were secondary to present profit.

While land care professions were trying to adjust to a new way of looking at land, my colleague Art Smith and I were in the process of revising the textbook, "Range Management" written by L. A. Stoddart and Art in 1935. Things had changed by then. We recognized that rangeland could no longer be defined by a product. We spent hours agonizing over how to meld the traditional use-based concept with the emerging concept of ecosystem stability. After much deliberation we wrote:

The importance of any particular product from, or use of, the range is not determined by physical (or biological) factors alone. Culture and stage of development of society are also important determinants. In primitive societies, rangelands make their most important contribution by providing foods from wild plants and animals. In underdeveloped countries with pastoral economies, forage for livestock is the primary contribution. In more developed countries where rangelands are associated with intensive agriculture and industrial development, as in the Western United States, water may be of greater value than forage. As economies become more complex and populations increase and become more highly urbanized, the importance of ranges as open space and places to seek relief in recreational pursuits will increase.

We followed tradition and defined rangeland by describing not what it is but what it is not: "areas of the world....unsuited to cultivation and which are a source of forage for native and domestic animals." We wrote that range management was at once a biological, physical, and social science. We recognized that as the population grew, the social science aspect might overshadow the biological and physical sciences. In the past 30 years, the rapidly increasing human population moved us quickly into the social aspect of land management. To try to define rangelands by grazing use made no sense to the 98% of Americans who did not live on agricultural land.

What people want from rangelands changes with their culture and their age. As a young adult, leg of lamb and barbecued goat were rangeland products I most desired. Killing a four-point (western count) mule deer was high on my list. Now a picnic by a mountain stream pleases me more than a steak dinner. The need to produce meat, lumber, or something else changes as population density alters human lifestyles and desires.

When Art and I were trying to describe rangelands in 1974, there were about 3.7 billion people in the world.

Forty-one years later, the world population had almost doubled (7.3 billion). Estimates suggest a human population of around 10 billion in another generation. I do not know what people in 2050 will want from rangelands, but meat from grazing animals, hunting wild animals, or wood from the lands will likely be minor uses. I suspect making a digital image of a roadrunner swallowing a lizard and posting it on some future version of Facebook would rate high among most people's use of rangelands in a 10-billion population.

Membership in SRM, WS, and SAF has declined. Many land care professionals dedicate their efforts to products of the past in a profession that serves declining industries. Management of lands that are too hot, too cold, too wet, or too dry for food production or continual human habitation is far too important to be written off. The need for applied science has never been greater. Basic science is making great strides in understanding the relationships and details of the universe. But someone will have to apply science to keep the vast empty areas between urbanized landscapes healthy.

Science supporting land management is excellent and getting better. But as fewer people live on the land, the "how" of producing food, maintaining breathable air, and enjoying life is being lost. Applied scientists, whose role is to move society from what is theoretically possible to what can be, will be critical in both feeding people and caring for the land. Unfortunately, those people are not being turned out by our universities in the numbers needed. Applying science is often not highly valued by promotion and tenure committees. That must change if the lands between densely populated areas are to be more than dumping grounds for future generations.

When I was living in New Mexico, my 88-year-old father came to live with me. He asked me how much desert it took to raise a cow. I said that depending on the year, a square mile of desert range could support three to five cows. He replied, "Then this country ain't fit for nothing but to hold the world together." Holding the world together is not a bad thing if the land is healthy and serves human beings in high-density clusters.

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