



Thad Box

## Somewhere Between Religion and Science

I sat in a new “green” building on an ecological reserve that had recently been donated to Utah State University. I looked out across a wetland at majestic mountains. A century ago, there had been a small mining town near the base of those mountains. Scars remain where men with picks, shovels, and dynamite made holes looking for great wealth. The area between me and the mountain had been rangeland—sagebrush steppe, wetlands, and mountain shrub.

Now the mountain area is covered with ski developments. Even abandoned mines have been turned into support areas for skiers who frolic on the slopes wearing high-tech entertainment enhancers. Millions of people watched masterpieces of technology on their television sets as contestants made breath-taking jumps during the nearby 2002 Winter Olympics. The wealth that miners sought is now realized in the form of money brought from bank accounts around the world by the rich and famous.

The sagebrush rangeland is now covered with multimillion-dollar houses, condominiums, hotels, gas stations, McDonalds’, WalMarts, and real estate sales offices. The wetland is rimmed with buildings, including the one in which Utah State University’s College of Natural Resources met for their annual retreat. The venue was a far cry from those we used 40 years ago.

We tried to take stock of what we had been doing, and we tried to anticipate what was needed to improve our future service to the land. That future, in all its frightening, energy-gobbling glory, is before us—a future where soil that used to grow sheep and trees is now covered with asphalt, instant lawns, and mortgages.

On the first day of class when I first began teaching some 50 years ago, I asked the students to look out at the mountain behind our building. We talked about how that mountain was the responsibility of those who chose to be land care professionals, about how it related to the streams, the farms, the towns of our valley, and about how our valley was part of our country and our world. Our goal was to leave the system better than we found it.

I often ended with a couple of quotes from Aldo Leopold: “. . . A land ethic changes the role of *Homo sapiens* from a conqueror of the land-community to plain member and citizen of it. It implies respect for his fellow members, and also respect for the community as such . . . conservation is a state of harmony between men and land. . . . A land ethic, then, reflects the existence of an ecological conscience, and this in turn, reflects a conviction of individual responsibility for the health of the land.”

Later, when I became dean, I tried to use our mission statement, our retreats, our casual discussions, our guidelines for promotion to drive home those same thoughts. We serve the land. Land does not belong to us, we belong to the land. Every class we teach, every research project we undertake, every paper we publish should have something that makes the land better.

I looked out at the sprawl of Park City West and wondered what I would tell freshmen on a boardwalk in the wetland surrounded by those buildings. Or how I might convince bright young faculty members that their responsibility was to the land community, and not to the publications in peer-reviewed journals that tenure committees demand. Or how I might convince citizens that our sustainability is not in glitzy recreational developments, but in keeping the land healthy.

The basics endure: We are part of the land. What we do to the land, we do to ourselves. But “For Sale” signs, statistics of “underwater” mortgages greater than land value, and lines of unemployed are symptoms that our land is sick. They are signs that we *Homo sapiens* are addicted to consumption, to using the earth’s resources for things, however destructive, for our pleasure. To leave our community better than we found it is much more complex than restoring ecological balance on a piece of rangeland. Land care professionals must continue to work on rangelands, farms, and marshes. But they are also needed in Detroit, a city trying to return much of its developed area to farmland.

We land care professionals have our work cut out for us. It may not be what we imagined when we signed up. But it is far too important to leave to financial experts, lawyers, and politicians.

The theme of this issue of *Rangelands* is ecological site descriptions—a useful tool pioneered by our profession. There is nothing more basic than understanding the potential of the site. But potential for what? And who determines the “what”? And how do the consequences of the “what” affect the land-community of which we are a part? How well we integrate questions like these into the prediction capabilities of site descriptions will not only determine how effective our tool is but also may determine the future of our profession.

When I was a student more than a half century ago, range site descriptions were a hot issue. Like most range work in that era, the science underlying range sites was Clementsian ecology. The purpose of the descriptions was to classify, judge, and hopefully improve rangelands for livestock production.

The composition of vegetation considered the highest successional state was developed from studying relict areas—ungrazed areas where livestock were excluded or lightly grazed areas in remote regions. Plants were classified by their response to livestock grazing following research by J. E. Weaver and H. C. Hanson. Vegetation was put into

classes using a scheme developed by E. J. Dyksterhuis. All of these scientists are disciples of Clements.

Looking at those guides through today’s ecological glasses, we find it hard to believe that our profession bought into such shaky science. But those guides worked well—at least on grasslands where livestock grazing was the major use. Using them improved the range for livestock production. But by seeking maximum livestock production, we land care professionals sometimes encouraged activities that unbalanced the ecological system and led away from sustainability rather than toward it.

Gradually other uses were implied in range site descriptions—wildlife, watershed, recreation, etc. As land uses, public opinion, and political administrations changed, various units in land management agencies revised their guides. With the broad acceptance of state and transition models, more changes were needed—as well as a new name. And range site descriptions morphed into ecological site descriptions.

But these must not become just a rewrite of old concepts and science using only the values and beliefs of the last century. They must allow a city planner in Detroit, a rancher in Montana, and a farmer whose well went dry on the Texas high plains to understand how the controlling factors of the ecosystem—geophysical factors, climate, available organisms—determine how the land can, and should, be used sustainably. The “can be” is determined by science; the “should be” is steeped in faith.

And we land care professionals are guided by both. Ecology is in the soft end of the science spectrum between theology and physics. But to make our tools, such as ecological site descriptions, most useful, they must be more science and less religion.

On a personal note, I need your help. It has happened. At our annual meeting in Hawaii I was asked to write a regular column for *Rangelands*. I agreed to do it, thinking it was a good way for an aging man to serve his profession. I promised that if I missed a deadline or my colleagues thought my writings were not useful, I would quit. Now, four editors and almost a decade later, I write this two days after Lori needed it. I can rearrange my life so I will not miss another deadline. But I cannot evaluate whether my writings are the wanderings of an old mind or something useful. That is up to you, my colleagues.

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