

Speaking With People in Our Profession

An interview with Dr Kirk McDaniel

Kirk McDaniel is a Rangeland Science Professor in the Department of Animal and Range Sciences at New Mexico State University (NMSU) in Las Cruces, New Mexico. Kirk is a respected scientist who has spent 27+ years working at field sites across New Mexico. His publications on taxonomy, ecology, and control of major shrub and weed species in the region are highly regarded. At the Society for Range Management's 2007 annual meeting this past winter in Sparks, Nevada, Kirk received the W. R. Chapline Research Award, the Society's highest award for sustained accomplishments in rangeland science and related disciplines.

Shattering Myths

Question: What activities are piquing your interests these days?

Answer: I'm summarizing results from some long-term field studies started early in my career, nearly 27 years ago. Wow! I can hardly believe life at NMSU kicked off for me that long ago. Anyhow, I find these studies have become increasingly interesting through time. In some ways, they've shattered a few of my early misconceptions or myths about rangeland dynamics.

What are some of the myths that have been shattered?

One study that I've particularly enjoyed following is my first research project at NMSU, which examined snakeweed control and population change. I've visited 9 study sites scattered across the state annually since 1979, and I've been quite surprised by how infrequently snakeweed germinates and survives. At all sites, I've only recorded 2 or 3 instances where snakeweed successfully propagated over the history of these studies. The only year where there was a widespread germination event was in 1981, and these plants generally died out by



the late 1980s. For the past 15+ years, I've been waiting for snakeweed to return, but in general, it hasn't. One explanation may be that the seed bank is depleted. However, I've been particularly surprised at how rarely the needed environmental conditions converge to allow a plant like snakeweed to thrive.

These are very valuable perspectives that have to be built up over time. Are there any other myth busters of note that you've observed in your work that you want to mention?

I am not sure whether these are myth busters or not, but there are many other weed species that behave similarly to

snakeweed, in particular, locoweed. Under New Mexico's climate, it is rare that conditions are just right to create the ideal setting for plant germination and establishment. This suggests to me that an emphasis should be placed on weed control early in the species' life history rather than later. On a different note, I've found the long-term Bureau of Land Management (BLM) brush-control work on big sagebrush, mesquite, and creosote bush in New Mexico to be very fascinating and informative. The BLM has methodically treated brush on acreages each year since the early 1980s. Now, after 20+ years, plant communities are in various stages of renewal and development, and the broader landscape has become more dynamic and diverse. We need these kinds of long-term perspectives to evaluate the effectiveness and consequences of those changes.

Speaking of change, what's the current situation regarding the state of knowledge on salt cedar?

Salt cedar control has been studied to the extent that many of the principles needed for managing the plant have been identified. We probably do not need to keep focusing on those issues. What we need to decide is what we want after the salt cedar has been removed. That decision will then determine or at least influence how we should go about controlling the plant. Again, a long-term perspective is important in developing postcontrol goals. River basins and their riparian communities have always been in various stages of building and destruction. We need to recognize the inherent dynamics that river systems exhibit and appreciate that restoration following salt cedar control is not a discreet target but rather a never-ending process.

Are there other invasive species on the horizon that we should be paying closer attention to now?

New ones seem to always be surfacing. Actually, I think the resource management and science communities have

done a very good job in recent years in raising the red flag about invasive species. People are generally quite alert about recognizing species invasions. There are a number of emerging invasive species around our state that have the potential to be a local problem; it just depends upon where you are. We have a good idea about this array of invasive species, from yellow star thistle to leafy spurge to the knapweeds to pepper weed, just to name a few of the more obvious ones.

Given this focus on long-term dynamics and change, how do you see range management in the future?

One of our primary assets as rangeland managers is helping and providing answers to questions coming from people living on the land. Current and future generations may want information in a different form than previous generations, but many of their questions will be the same. We just might have to frame our answers in ways that better address a new generation of rangeland users.

With all of these interests and activities, how has your golf game fared of late?

My golf game is a lot like our rangelands—very dynamic, strongly influenced by the weather, and often outside of my control. However, it has made life more interesting in the past 15 years since I first learned to swing a golf club.

Interview was by Susan R. McGuire, a pen name used by the author of this article. Her interviews with members of our profession will be a regular contribution to Rangelands. All costs of publishing these interviews are sponsored by a research unit of the Agricultural Research Service, the in-house research agency of the US Department of Agriculture, whose rangeland scientists are a segment of our Society. Upcoming interviews by Ms McGuire in 2007 will include candidates for Society office in 2008.