



By Thad Box

Thoughts on Changing Expectations and Rangelands

In the brief time the Society for Range Management (SRM) has existed, the world population has increased from 2.5 to 7.1 billion people.¹ The US population grew from 145 to 318 million. Experts differ in predictions of what the world will be like when SRM reaches its 100th birthday. Some think the world population will shrink as we reach some unknown carrying capacity. Most believe there will be about 9.3 billion people in the world in 2048 and the US population may grow to 417 million. Physical conditions of rangelands, public expectations, and the growing human population promise great changes are ahead.

We live in a relatively new country that had low population densities for more than 300 years after the first European immigrants arrived. In 1650 there were about 500 million humans on earth. Estimates indicate only about 50,000 people occupied what is now the United States. There were Spanish colonies in the southwest, British and Dutch colonies on the east coast, and an unknown number of Native Americans. Ruins of great cities and archeological evidence suggest there had been much larger populations of natives here prior to, or soon after, the first Europeans arrived.

By the middle of the 18th century (1750), the world's human population had increased to 750 million. The immigrant population in America was about 1.1 million. Spanish colonies extended into the present states of Texas, New Mexico, California, and Arizona. British colonies dominated the east coast as settlers moved the frontier south and west. Thousands of Africans were imported to work expanding industries. Fur traders pushed into the hinterlands. Natives, especially in the Great Plains and the Pacific Northwest, adapted a pastoral lifestyle based on horses and escaped from early explorers.

A hundred years later (1850) the world population was 1.1 billion people. The American Revolution had occurred and the United States, through purchase, treaty, and wars expanded its territory to include most of what it has today. The 1850 census recorded 23.2 million people in the new country. It is unclear how many natives and Africans were not counted. The new nation was dominated by people of mixed ethnic backgrounds, who spoke English and considered themselves a different breed—Americans, a can-do people with a religion that taught them to multiply and dominate the earth. The Era of Exploitation came into full bloom.

By the 1880s, most of the US land area had been explored and mapped. Beavers, bison, and game animal populations were weakened almost to extinction, virgin timber stands were cut, and the Great Plains grasslands overgrazed. Drought and blizzards wreaked havoc on the livestock industry. An Era of Preservation began as the new nation protected some of its natural resources. The first national park was created in 1872 and Congress authorized a forest program in 1876. Government scientists were assigned to study land use problems.

Newly established land grant colleges appointed faculty to study land problems and to extend the knowledge to people on the land.

The early 20th century saw rapid increase in scientific knowledge. But the world became embroiled in a world war and an economic depression. In 1930 the world population passed 2 billion people and the US population was 123 million. The Great Depression devastated the economy and the Dust Bowl scoured the land. Government make-work programs, established to rebuild the land, created a demand for land-care scientists and moved the country into an Era of Rehabilitation.

In 1948, 2.5 billion people inhabited the world. There were 145 million in the United States. A diverse group of educators, land administrators, scientists, foresters, soil conservationists, ranchers, and students formed the American Society for Range Management. Their professional training varied: biology, forestry, soil science, animal husbandry, wild-life management. Some academics and scientists had training in the young science of ecology. Most students were veterans from WWII going to school under the GI Bill. All were united by a passionate concern for rangelands.

Ten years after the Society formed, I was a PhD student at Texas A&M. In 1958 I became a member of SRM. Most members accepted the 1943 definition of Laurie Stoddart and Art Smith in their classic textbook: "Range management is the art and science of planning and directing range use so as to obtain the maximum livestock production consistent with conservation of the range resources."² Success was evaluated by increased animal products like meat and wool. My first annual meeting was in Great Falls, Montana. Few people at that meeting questioned the livestock production definition as the basis of their existence.

Thirty years after SRM formed, the world population had increased from 2.5 to 4.5 billion and the US population increased from 146 to 218 million people. The country had entered an Era of Environmental Concern. The concept of rangeland had changed from land that produced forage for livestock to land that provided suitable habitat to all free-ranging animals—large or small, wild or domestic. The 1975 edition of Stoddart and Smith's text³ described range management as manipulating rangeland ecosystems to optimize sustainable yields of products that society desired. I tried to summarize those changes in my 1978 presidential address at the SRM annual meeting in San Antonio: Food, Fiber, Fuel, and Fun from Rangelands.⁴

I thought food production would continue to be a primary role of rangelands. Animal fiber, wool and mohair, would decline as a major product. But demand for plant fiber, especially cellulose from invading plants, would increase. I predicted rangelands would gain societal support "on the basis of their value to society for...energy rather than the...value for farming and ranching." I threw in a few hundred words about fun from rangelands, treating it casually like most range people did back then. Public expectations and products desired from

land had changed, but we were mostly working on problems that had attracted us to profession three decades earlier.

Now, in 2013, SRM is 65 years old. There are 7.1 billion people on the earth, of which 318 million are in the United States. About 40% of the earth's surface is rangeland. Fewer than 2% of Americans live on farms or ranches. Rangelands produce food, but fish, poultry, and swine each contribute more to human diets than grazing animals. Paper, the largest market for plant cellulose, is being replaced by electronic communication and storage. Rangelands offer promising sites for collecting wind and solar energy. Fossil carbon and thermal energy is stored below range surfaces. Majestic landscapes offer countless opportunities for a mostly urban world.

Land area remains about the same size, but each year less land is available per person. What the people want from the decreasing land base will change. In our 65-year history, we, whose strong suit is managing change, have been slow to incorporate response to cultural change in our mission. Perhaps we should redefine ourselves to something like: Range management is the art and science of maintaining sustainable yields of desired products from range ecosystems while keeping options open for future generations.

I have been invited to discuss the history of range management, our track record in managing drought, and suggestions for future tasks for our profession at the meeting next February in Orlando.¹ I've mulled over historical records much as good ranchers review past stocking rates and range condition before making changes. Now I seek help. This column is a plea for your opinion, be it rebuttal or suggestions for improving my message.

References

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¹The 67th SRM Annual Meeting, From Dusty Trails to Waning Wetlands, will be held in Orlando, FL, 8–14 February 2014. For more information on the 2014 SRM Annual Meeting, see <http://www.rangelands.org/events/>.