Managing Diversity in California: An Exploration of Range Management in California

By Philip Brownsey and Royce Larsen

The Cal-Pac Section of the Society for Range Management chose the phrase "Managing Diversity" as the theme of the 2015 Annual Meeting in Sacramento[i] to reflect the multiple types of diversity that exist within California and to launch a discussion of the challenges and the opportunities that diversity offers to us as range managers.

First, California has enormous species diversity: about 4,800 vascular plant species are native to California, of which 1,400 are endemic to the state.[1] In addition, of the 1,152 nonnative plants known to occur in the state,[2] the California Invasive Plant Council has identified 207 as problematic nonnative invasive species.[3] In addition, California's rangelands are home to numerous vertebrate and invertebrate species that are recognized as sensitive or rare, including dozens on the state or federal threatened and endangered species lists.

Second, contributing to this species diversity is California's Mediterranean climate, which is known to foster significant species diversity as well as a diversity of landscapes within the state. The Mediterranean climates (including the old-world Mediterranean region, and those of Australia, Chile, South Africa, and California, which are characterized by hot, dry summers and cool, wet winters) of the world are known as hotspots of biodiversity.[4] In addition to having a Mediterranean climate, California also has rangelands that are classified as Great Basin and lower desert types.

Third, in addition to these types of natural diversity, California is home to significant cultural diversity. The climate, scenery, and economic opportunities have attracted a tremendous diversity of people to the state over the last 250 years, in addition to a large number of Native American tribes that call this place home. Some scholars have identified more than 20 different groups and more than 80 discrete subgroups of Native Americans living in 1770 in what is now known as California.[5,6] Some of these tribes exercise their tribal sovereignty by actively managing natural resources such as anadromous fisheries, forests, and rangelands, particularly in the far-northern counties of the state.

Major industries in the state, including information technology, agriculture, film production, oil and gas production and refinement, and aerospace engineering, have been important factors attracting people of diverse backgrounds to California. Like many places around the world, California has seen population shifts to urban areas as agricultural production becomes more efficient and requires less labor, but then has seen subsequent shifts by people from urban centers to the wildland urban interface as people seek out lifestyle amenities—as well as more affordable housing options that are available in rural areas. Like many parts of the United States and the world, these situations lead to differences in opinion over priorities and policies between urban and rural, and between traditional agriculture and new lifestyle residents.

The question remains: What does this mean for range management? In this issue, the authors explore these types of diversity and how they relate to range management and discuss some of the challenges and opportunities that they present. As you will understand from reading these articles, the unique biological and geographical diversity, history, and socioeconomic conditions of the state of California all interact in their influence over livestock production and how professionals approach range management in the state, with certain themes repeating themselves through this collection of articles.

Huntsinger and Bartolome[7] open with an anecdote of a visiting scholar's first experience seeing a foothill cattle roundup and then proceed to take you on a tour of the rangeland landscape of California, highlighting some of the major rangeland types, climate, and patterns of ownership, and how these interact to influence the practices used for producing livestock on rangelands in the state. The following two articles provide the history of rangeland management in California starting with the establishment of the

[i] For more information on the 2015 SRM Annual Meeting see http://rangelands.org/sacramento2015/index.html.

first Spanish missions[8] and the history of rangeland research, extension, and universities, starting with the founding of the first land grant university in California at Berkeley in 1868.[9]

Other articles provide a description of how cattle producers take advantage of the winter growing season of California's Central Valley[10] and how a sheep producer incorporates targeted grazing services into his business and the opportunities and risks that he encounters.[11] The tremendous biodiversity on California's rangelands and how range managers actively manage for the conservation of sensitive species is described in Bartolome et al.[12] Ferranto et al. describe how landowners in their diversity come to have different interests in and adoption of conservation practices on rangelands.[13]

The issue ends with observations from Larsen et al.[14] about immediate challenges in range management with respect to drought and competition for land and water from perennial crop agricultural systems that offer more immediate financial returns through more intensive use of water resources.

California's diversity calls for novel approaches to range management to ensure the sustainable production of both market and nonmarket goods and services from rangelands. We invite you to explore these topics as you review this special issue of *Rangelands* and attend the 68th Annual Society for Range Management Meeting in Sacramento from 31 January to 6 February 2015.

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