

# Wyoming's Aven Nelson and Range Management<sup>1</sup>

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DR. AVEN NELSON was born March 24, 1859, on a farm in eastern Iowa, where he grew up. He died 93 years later in Colorado Springs, Colorado, on March 31, 1952, after becoming one of the best-known authorities on the western flora. His book, "The New Manual of Rocky Mountain Botany," the revised and rewritten Coulter's Manual as published in 1909, became the standard authority on the regional plants. The Rocky Mountain Herbarium, which he organized, still contains their most complete collection.

Although first a scholar and secondly a plant taxonomist, the value of his training and interests to practical fields was recognized by the Director of the Wyoming Agricultural Experiment Station. During the early development of the station, Dr. Nelson was called upon repeatedly to undertake, or to help with, projects in the field of range management.

Nelson, in 1887, was the first faculty member to arrive on the University of Wyoming campus. Four years later, with the formation of the Wyoming Agricultural Experiment Station, Nelson collaborated with B. C. Buffum in the publication of its first bulletin (Nelson, 1891). Subsequently he wrote or contributed to 17 bulletins of the Wyoming Agricultural Experiment Station. Among these there is much of interest to the range manager. During the period 1891 to 1941 he held the position of station "Botanist," a title held concurrently with

others in a young and growing institution.

The association of Aven Nelson with B. C. Buffum (cf. Jour. Range Mangt. 5:81-83) and Elias Nelson (cf. Jour. Range Mangt. 6:84-85) can be no surprise since each worked for a time at the Wyoming institution. As Nelson said of his start in systematics "The man (Professor B. C. Buffum) who had substituted for me during my leave had collected extensively on the plains and mountains and had made some hundreds of very creditable herbarium specimens. President Johnson indicated very definitely that he expected me to name them up and get an herbarium under way."

Nelson was also associated with P. B. Kennedy (cf. Jour. Range Mangt. 4:107-111) and published with him at least three papers (1906 to 1908), two of which bore the title: "New Plants from the Great Basin." Their purpose was "to contribute even a mite . . . to understand

this flora that so strikingly bears the marks of its environment."

Nelson was a family man—the host of students who turned to him for help and then went on to fame will attest to this—but he was a family man in the stricter sense. In 1924 he named a new genus, *Calhounia*, and a new species, *C. nelsonae*, for his first wife, stating, "The hundreds of sets and thousands of specimens that have been distributed by me throughout the botanical world could not have been made but for her patience and industry on our scores of field trips, which often meant camp life not only for weeks but for months at a time . . . I dedicate the genus to her in her maiden name of Calhoun, that through her, a lineal descendant from John C. Calhoun, a meritorious name in American pioneer history, may be perpetuated in this pioneer composite shrub."

Bulletin 19, published in 1894, entitled, "Squirrel-tail Grass—one of the stock-pests of Wyoming," is one of the first articles on weeds and weed control to appear in Western literature. This grass is now known throughout the West as foxtail barley, *Hordeum jubatum* L. Nelson will be longest remembered in the weed world for his controversial name, *Salsola pestifer*, which he gave to the introduced Russian thistle, best known of the Western tumbleweeds.

Nelson collaborated with the Agricultural Experiment Station chemists, (cf. Knight, Hepner and Nelson, 1905-1911) in studies on the chemical composition of forage plants. Nelson named the plants studied, supplying full descriptions, both popular and technical. He also published several papers on woody aster, *Xylorrhiza parryi* Gray and was the first to call attention to the species as a poisonous plant.

His bulletins on the wheatgrasses, *Agropyron* sp., (Nelson, 1903) and the bromegrasses, *Bromus* sp., (Nel-



DR. AVEN NELSON

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son, 1901) called attention to two of the most important groups of grasses in Wyoming and the West. Another tackled the troublesome problem of forage plants to grow on alkaline soils (Nelson, 1899). A bulletin of the U. S. Department of Agriculture Division of Agrostology (Nelson, 1898) was an inventory of a major vegetational area of south central Wyoming. Thirty years later (Nelson, 1927) Nelson was asked to make another survey of the same area. The resurvey of the Red Desert and adjoining areas was reported in an unpublished but often quoted paper (cf. Wyo. Agr. Expt. Sta. Bull. 289) in which Nelson concluded that there had been no deterioration of the range resource traceable to grazing. These conclusions were in strong contrast to those of W. C. Barnes, who in 1926 stated that:

On the basis of the condition of the range at the time Dr. Nelson visited and studied it in 1896 it is probably safe to state that in its present condition, with the palatable forage plants practically gone and only the unpalatable ones left, it should not be stocked with more than one-half the number it was carrying at that time. But unless some central-established authority is given power to enforce these reductions, keep the stock off the range during the summer, and give the old plants a chance to come back, matters will simply keep on going from bad to worse, the losses will grow heavier, and eventually the whole area will have to be absolutely abandoned as a grazing region.

In the light of history, Nelson would seem to have had the best of the argument.

Two other range papers are little known, perhaps because of their publication in little-known journals. One gives suggestions for improving the range (Nelson, 1905), the other for improving meadows (Nelson, 1903). This interest in meadows was later continued when he directed J. Francis Macbride in his M.A. thesis on a study of plant succession under irrigation (Macbride, 1916) by a man who then (as did Nelson) turned his full time to the taxonomic field.

Nelson named western plants for early range managers (cf. *Castilleja buffumi* and *Penstemon kennedyi*) and will himself be remembered as the man who gave his name to *Stipa columbiana* var. *nelsonii* (Scribn.) Hitchc., a robust form of a common western grass. Only now, as floras by Harrington, Stevens, Kearney and Peebles, Weber, and Booth replace the generations-old Coulter and Nelson flora will the contributions of Nelson to range management begin to fade from the common conscience.

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