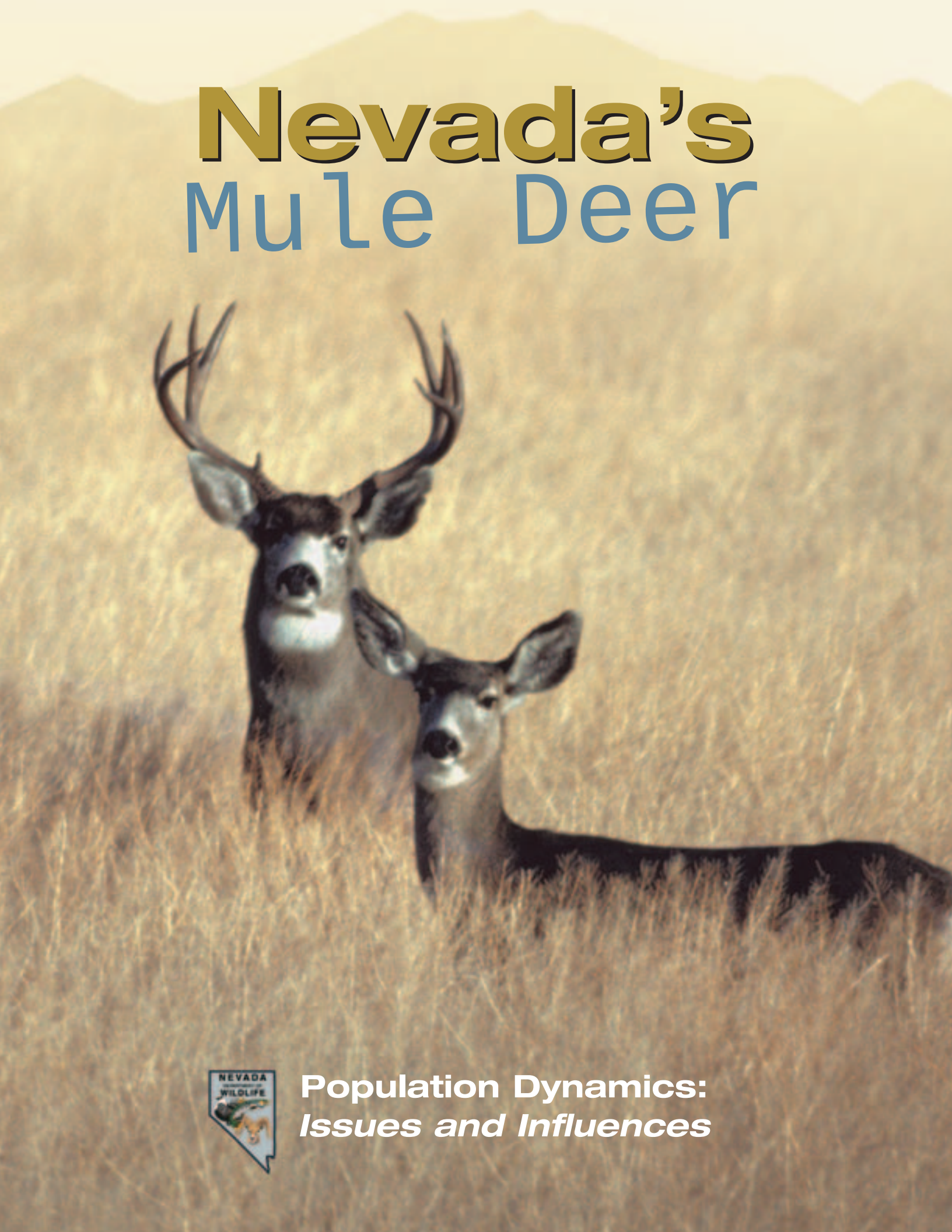
Nevada's Mule Deer



Population Dynamics: *Issues and Influences*

Summary- The Whole Story

This document has revealed and discussed a number of factors that impact mule deer (appendix 2). Each of these factors is a piece of a complex puzzle, with effects varying through time and space. The challenge that remains is to combine the findings of science with data from Nevada to synthesize and clarify a comprehensive account of Nevada's mule deer population dynamics.

Historically, although widespread, mule deer were sparse, probably only experiencing localized episodes of abundance resulting from various disturbance events. Prior to European Americans arrival in Nevada, the vegetation was not conducive to large numbers of mule deer. Depending on the location, some sites were dominated by decadent, old-aged browse, while others had an abundance of grass. Neither offered mule deer much forage value. As the gold rush, Comstock Lode, railroad, livestock industry, and their associated infrastructures changed Nevada's landscape, mule deer were poised to capitalize.

In 1906, approximately 50 years after the widespread landscape scale disturbances, the predecessor to today's United States Forest Service (USFS) the United State Forest Reserves was founded, resulting in increased production and protection of mule deer summer range. Old, poor quality forage was replaced by new, high quality forage. Even more mule deer habitat was created as grazing of grasses and forbs caused an increase in shrubs. As a result of removal of fine fuels by livestock, fire frequencies decreased and further assisted the dominance by mule deer favored shrub species.

In 1934 the predecessor of today's Bureau of Land Management (the United States Grazing Service) implemented the Taylor Grazing Act which resulted in improved management of critical mule deer transition range and winter range. In addition to federal protection of prime, fawn producing summer ranges by the USFS and critical transition and winter ranges by the BLM, the federal government was also aggressively removing predators at unfathomable rates. The stage had been set for the mule deer irruptions that constituted the "initial increase" phase. Mule deer responded favorably and their populations and harvest levels both increased to levels never before seen, peaking in the mid to late 1950s.

Mule deer populations began their first significant decline around 1958. Drought conditions existed throughout the state prompting the governor to declare "a state of drought" in 1961. Despite this period representing the most active years of predator control in Nevada's history, and despite having ideal vegetational composition for mule deer, mule deer populations simply could not withstand the severe drought conditions that persisted. Further complicating the effects of the drought was the conversion of millions of acres of winter range to crested wheatgrass seedings. The drought prevailed as the population experienced its "initial decrease." Also potentially contributing to the rate of the decline were the aggressive doe harvests. For two years during the early 1960s, doe harvests exceeded buck harvests, as was mandated by the state legislature, to help quell fears of potential resource damage by the huge mule deer populations.

Mule deer continued to decline until the mid 1970s. By the time Nevada's mule deer populations had reached their low point, all doe hunts had been closed and a restrictive quota system had been implemented. This period marked the beginning of the "secondary increase" phase. High fawn ratios, ideal weather conditions, and high predator take likely combined to create the second mule deer population peak of the century. Although things looked pretty

rosy for mule deer in the late 1980s, the high times wouldn't last as the culmination of numerous negative factors were about to take effect.

The vegetation that was so instrumental in the "initial increase" of mule deer was getting old and beginning to lose its vigor. The century-long grazing practices were reducing diversity and productivity on many of Nevada's rangelands. Invasive weeds, assisted by fire were taking over ever more of the deers habitat. Pinyon and juniper were also encroaching into mule deer habitats at unprecedented rates. Nevada's human population was rapidly expanding, and roads, mines, houses, and the resulting traffic were imposing an ever-increasing burden on mule deer populations. As drought conditions began to negatively affect the quantity and quality of forage, mortality from all sources increased. The weakened condition of Nevada's mule deer became readily apparent as it resulted in a catastrophic die-off in the winter of 1992 - 1993.

Still stuck in a drought cycle, we strive to meet mule deer glory from the past. Not realizing that all-time population peaks are unrealistic goals as population objectives, we limit the harvest of does, restrict harvest of bucks, remove predators and still do not see a response in mule deer populations as they remain low. Meanwhile, Nevada continues to experience incredible human population growth, develop houses and businesses on crucial deer winter range, and experience the conversion of millions of acres of mule deer habitat to fire prone weeds and pinyon-juniper. However, there is hope—-hope for favorable climatic conditions, such as summer rain to help mule deer overcome the difficulty of deriving nutrients and energy from ineffectual browse and hope for habitat treatments that will restore young vigorous browse accompanied by an intact native understory. We must actively protect existing mule deer habitat while we create and restore new mule deer habitat because the reality remains that as mule deer habitat goes, so goes the mule deer.