Mule deer (Odocoileus hemionus) have experienced periodic declines across most of their range in recent decades. While most populations are considered to have stabilized in recent years, mule deer continue to be at the forefront of management concern among state and federal wildlife agencies. Mule deer in temperate regions face varying seasonal challenges with respect to nutrition and environmental conditions, as well as, variation occurring from year to year. Despite these challenges, adult survival is generally high and stable across most populations. We focused our efforts on assessing juvenile survival and recruitment as an indicator of population performance.

Effective management of mule deer requires an understanding of the factors that influence survival. We used the nest survival module in program MARK to investigate juvenile survival in an environment experiencing years of variable winter severity. We investigated the relative effects of body size, body weight, mother’s nutritional status, timing of parturition, snow depth, and location or characteristics of birth site on survival of young. We modeled juvenile survival out to weaning (120 days). Juvenile survival to weaning was 0.34 (SE= 0.06) across three years of the study. Juvenile age was positively correlated with survival. We observed the highest rate of juvenile mortality during the first month of life. Supplemental feeding of the mother during winter and being born with a sibling increased the probability of survival. Females on a higher plane of nutrition have a higher probability of successfully rearing young to weaning.