108

Post-capture age- and sex-specific survival rates of mule deer in Utah, USA

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Abstract Body

Accurate estimates of mule deer survival are needed to model population dynamics and develop optimal management plans. Survival rates are often estimated using data from radio-collared animals but capture techniques to deploy these collars can risk mortality and injury to the animal. Our objective was to estimate age- and sex-specific survival rates of mule deer in the state of Utah, USA, while also investigating how these rates were affected by capture and handling. We captured 2,977 mule deer throughout the state and fitted them with radio-collars. Using Cox proportional hazard regression, we then estimated survival rates from the collected GPS data. We also examined the effects of age and sex on survival, while accounting for the influence of a variety of other covariates. Finally, we used a model selection framework to evaluate how long survival rates of captured animals were different from those of animals that were not captured. Fawn survival rates were 0.52 (0.45 – 0.60) for females and 0.66 (0.55– 0.79) for males, and overall adult survival rates were 0.76 (0.75 – 0.78) for females and 0.73 (0.70 – 0.77) for males. Survival rates for both sexes varied by age, latitude, and body condition. The negative effect of capture was small and initially disappeared after 3 weeks, but seemed to reappear later, perhaps during periods of high mortality.

SESSION DETAILS

Technical Session 26: Wildlife Management III
10:30am-12:15pm
Tuesday, 11 June, 2024