**Estimating Variable Pronghorn Survival Across Their Northern Populations

Molly McDevitt*, University of Montana, Missoula
Paul Lukacs, University of Montana, Missoula

*Indicates Presenter

**Indicates Student Presentation

Estimating demographic parameters (i.e., survival and recruitment) is critical for tracking and predicting trends in wildlife populations. Learning how demographic parameters change in response to dynamic landscape and climatic conditions can provide ecologists with insight into how wildlife populations might respond to future environmental changes. Further, identifying how demographic rates vary across populations can guide management actions to maximize conservation. In this project, we study how pronghorn population survival rates vary across a range of landscapes throughout their northern distributions. Leveraging GPS location and survival data from nearly 1,000 GPS collared pronghorn across Montana and South Dakota, we estimate annual survival from over 10 populations. South Dakota Game, Fish and Parks (SDGFP) and the University of Montana have partnered with Montana Fish, Wildlife and Parks to collar over 500 juvenile male and female and adult, female pronghorn in northwestern South Dakota, central South Dakota as well as an additional 500 adult female pronghorn across eastern, central, and southwestern Montana. We used a hierarchical Bayesian survival model to estimate annual survival rates and variability across populations. By gaining more insight into how pronghorn survival rates vary across populations, we can begin to ask more probing questions about the mechanisms driving survival across space and time, and adapt conservation actions to best meet management objectives in a changing landscape.