Examining the Utility of Time to Event Models for Abundance Estimation of a Solitary Carnivore (Poster)

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Abundance estimation is a common task in wildlife biology, but techniques to estimate the abundance of low density, difficult to detect species, such as cougars (*Puma concolor*), are limited, often requiring intensive field effort and incurring high costs. Remote cameras offer an effective means of detecting these species, but most abundance estimation methods using remote camera data rely on a portion of the population being marked or uniquely identifiable. Methods to estimate the abundance of populations without identifiable or marked individuals using remote cameras have assumptions that are difficult to meet in field studies. The recent application of time to event modelling to abundance estimation relaxes these assumptions, requiring only random movement with respect to the cameras, an estimate of movement rates, and a closed population. I will use simulated walk models to test the robustness of the time to event model to violations of these assumptions likely in field studies. I will apply the model to two cougar populations in central and southeastern Idaho, and compare the abundance estimates to concurrent estimates from genetic spatially explicit capture recapture.