** Distance Sampling to Estimate the Urban Deer Density of Bozeman, Montana

Makayla Gilbert*, Montana State University, Bozeman
Noah Starling, Montana State University, Bozeman, Montana
Justine Becker, Montana State University, Bozeman, Montana

*Indicates Presenter

**Indicates Student Presentation

In recent years, deer-vehicle collisions have increased in Bozeman, Montana. A high white-tailed deer (*Odocoileus virginianus*) population has become hard to ignore in southeast Bozeman, contributing to the concerns surrounding CWD and its recent appearance within city limits. While distance sampling is a common sampling method to estimate deer densities, there are limited studies measuring deer densities using this sampling method in urban environments. In part of developing a new management plan for this urban population, we performed distance sampling to estimate Bozeman's urban white-tailed deer density. On December 11th and 12th, two trucks covered 13 road transects of varying lengths during the last three hours of daylight. The transects were divided equally between the trucks, herd size, distance to the center of the herd, and the initial angle of detection were then measured from observers within the trucks. This information was then put through an analysis in RStudio to estimate the urban deer density. The resulting estimate and methodology are expected to contribute to an upcoming, continuous urban deer management plan.