** Examining Significance of Human Disturbance on Nest Selection in Great Gray Owls (*Strix Nebulosa*) in Southwest Montana Using an Rsf Model (Poster)

Tori Flath*, Montana State University, Bozeman
Justine Becker, Montana State University, Bozeman
Arcata Leavitt, Montana State University, Bozeman

*Indicates Presenter

**Indicates Student Presentation

Great Gray Owls (*Strix nebulosa*) are one of the most understudied raptor species in North America. In Montana, there is currently no peer-reviewed research about the species, and many aspects of the species' ecology are not well understood. In this study, we aimed to quantify the effect of human landscape disturbances (roads, trails, recreation sites) on Great Gray Owl nest selection in southwest Montana. We used ten known nest sites with breeding attempts in the last five years that were identified by wildlife managers in southwest Montana. We then used a resource selection function to compare the human disturbance covariates between the used nest sites and randomly generated available points. We used a forward stepwise model selection approach to determine which combination of human disturbance variables best explained the observed data. We found that Great Gray Owls selected for nest sites in areas with higher trail density but found no support for an effect of roads or recreation sites on nest site selection. Latent habitat covariates such as trail construction creating gentler slopes with mixed open/forested areas, or the small sample size could have contributed to the observed results. The positive relationship with trail density could also be attributed to owl nests being more likely to be found near trails than in less accessible areas. Future research using a larger sample size and exploring the effects of intensity of trail use would be valuable to further evaluate the effects of human disturbance on nest selection.