** Evaluating the Direct and Indirect Effects of Harvest on Variation in Group Composition and Group Size for Grey Wolves in Idaho (Poster)

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For cooperative breeders, like grey wolves (*Canis lupus*), that live in groups where non-breeding individuals share in the care of offspring, human-caused mortality can affect group members through changes to social hierarchies, reproduction, survival, and other demographic processes that structure groups. Prey availability and competition further influence demographic processes and likely have interactive effects with harvest. Despite extensive research, we still lack a full understanding of the mechanisms through which harvest affects wolf groups, or how these effects may be moderated by prey availability and competition. Our objective is to identify the direct and indirect mechanisms through which harvest most strongly influences different age and breeding classes and determine how prey availability and competition interact with harvest to affect group composition and size in wolves of Idaho, USA. Using an 18-year genetic dataset and a structural equation modelling framework, we hypothesize that beyond direct mortality, harvest most strongly affects 1) recruitment of pups by altering the composition of breeders and non-breeders, 2) dispersal of non-breeders by altering competition for breeding opportunities, and 3) the frequency of multiple breeding individuals in a group through social disruption. We further hypothesize that greater prey availability and competition will mediate these relationships by altering inter-group competition for food, breeding opportunities, and territories. Uncovering the direct and indirect mechanisms through which harvest most strongly influences group composition and size, and how the landscape-level context of resource availability and competition alters these relationships can allow for more informed management decisions and targeted management actions.