

## Examining Factors Potentially Affecting Spring and Fall Black Bear Harvest Rates, Absaroka/Beartooth Mountains, Montana

Daniel McHugh\*, Wildlife Division, Montana Fish, Wildlife and Parks, Red Lodge  
Oliver Thomi, Wildlife Division, Montana Fish, Wildlife & Parks, Absarokee  
Shawn Stewart, Wildlife Division, Montana Fish, Wildlife & Parks, Red Lodge

\*Indicates Presenter

\*\*Indicates Student Presentation

Black bear harvest rates are highly variable between years. Here we examine factors influencing variability. Winter/spring weather could be a driver of black bear (*Ursus americanus*) harvest rates, yet we found no significant relationship between spring temperatures or winter/spring snowpack and spring bear harvest rates. Spring body condition, as influenced by food availability during the previous fall, could influence harvest. However, we found no significant relationship between whitebark pine (*Pinus albicaulis*) cone crops and bear harvest rate the following spring. There was a significant relationship between estimated male bear population size and spring harvest rate for male bears but not for females. Fall black bear harvest rates were marginally related to population size. More importantly fall harvest rates were strongly related to whitebark pine cone production. During years of good cone production, defined as trees averaging 20+ cones per tree, the rate of fall harvest averaged 0.36 bears harvested/day. During years when transect trees average less than 20 cones/tree the average fall bear harvest rate quadrupled to 1.42 bears/day. Further, in good cone production years the percent of females in the fall harvest averaged 35%, while in poor cone production years the average percent females in the fall harvest increased to 46%. It appears that in good cone production years many bears are utilizing highly secure high elevation whitebark stands where there is little effective hunting pressure. Alternatively, in poor whitebark cone production years bears remain at lower elevations where they are more vulnerable to harvest with potential for overharvest.