The Winter of 1996/97: What Did it Mean to Northwest Montana White-tailed Deer Populations?[TWS]

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The most notable attributes of the 1996/97 winter were its duration and the record snow depths at all elevations. The collective success of individual ungulates in surviving the winter has important implications for population dynamics and herd management. We assess the role that winter 1996/97 played in shaping population dynamics for white-tailed deer (*Odocoileus virginianus*) using data from an ongoing research project in the Salish Mountains. Fawns began dying of natural, winter-related causes in late January. The monthly observed fawn: 100 adult ratio declined

significantly from. December to March ($p = 0.02$). The predicted fawn: 100 adult ratio in May was 1: 100 (S.E. 7.4). The number of fawns per 100 adults estimated from remote camera surveys declined 44% in the same period, likely declining, further because deer remained on winter range for another 7 weeks post survey. Adult female natural mortality began in mid-February. Of the radio-collared adult females which survived the hunting season and entered the winter, 26% died by June 1, 1997. Fifty nine percent of the adult female mortality occurred in animals cementum-aged 6.5 or younger. Migrant radio-collared deer confined themselves to winter range an average of 159 days (range 126-185), or 8 weeks longer than the average of all previous years. Most deer entered winter range on November 23, 1996 and some stayed until May 27, 1997. Additional results and observations are discussed. Under the most ideal future conditions, it could take 3-5 years for populations in the Salish Mountains to rebound to levels prior to the severe winter event, even longer in areas which experienced harsher winter conditions.