ABSTRACT

TITLE:	Human Encroachment on Elk Winter Ranges in the La Plata Mountain Region of Southwestern, Colorado Where Migration is Obligatory
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ABSTRACT: Migratory ungulates, such as Rocky Mountain Elk (Cervus elaphus) occupy a "keystone" ecosystem role, often defining terrestrial processes (Houston 1982; Sinclair 2003). Because of their critical ecosystem role, concern for the changing behavior in the elk's migratory habits is mounting (Schaller 1988; Berger 2004; Johnson et al. 2005). Often this change in behavior can be attributed to human encroachment. Human development and activities have caused the natural migration travel corridors to become reduced and limited in certain areas, as well as the winter ranges that these ungulates utilize. Using digital aerial photographs from the years 1993 and 2007 as well as migration information from the National Diversity Information Source (NDIS), I was be able to overlay the elk migration and winter range data on top of the aerial photos. This allowed me to calculate the difference in human development within the elk wintering grounds over the 14 year span. Upon calculating the difference in development in 2007 and compared it to 1993, I was able to determine that there has been a significant amount of development that has occurred within the elk wintering grounds over the past 14 years within these particular study areas. From the year 1993 to 2007 there was an 83.31% increase in the amount of buildings/structures and a 150.10% increase in total road length within the Lightner Creek and Durango West study areas. Being that my results showed that there has been a significant amount of human development within elk wintering grounds and that this is just one small case among a much larger scale, it is imperative that we monitor human development on crucial wintering grounds for both elk and other migratory ungulates.