

## **Subnivean Space versus Winter Recreation: A Preliminary Assessment**

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**Abstract.** Subnivean space is a critical winter habitat resource for many small mammals. The effects of winter recreation on that habitat resource through the compaction of the snow were assessed by sampling snowpack conditions on Rabbit Ears Pass, Colorado, in the Routt National Forest. The two sampling sites, one historically heavily impacted by motorized winter recreation and the other historically not impacted by motorized winter recreation, were sampled three times during the winter of 2007. Snowpack data collected included density profiles, temperature profiles, snow crystal layer descriptions, as well as the presence or absence of subnivean mammalian activity. Initial results suggest a decrease in the insulative properties of the snowpack with increased compaction, although the occurrence of subnivean space does not seem to have been impacted by the compaction of the snowpack. The findings of this research may necessitate a change in management of winter recreation to protect essential winter habitat for species listed on the 2005 Regional Foresters Sensitive Species List for the Routt National Forest.