

Dall's Sheep Productivity and Survival in the Chugach Range, GMU 13D, Alaska

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Abstract: Dall's sheep populations in parts of southcentral Alaska have declined markedly over the last 20–30 years. This study was designed to 1) obtain baseline demographic information on one of these populations, and to 2) attempt to identify the cause(s) of these declines. Here, I report preliminary results from the first 14 months of study. Thirty-seven adult ewes were captured by helicopter netgunning and radiocollared in March and April 2009. At initial capture, blood samples and nasal and pharyngeal swabs were collected, and body condition assessed. Blood samples were analyzed to determine pregnancy status and the presence of viral diseases. Swabs were cultured for bacteria associated with respiratory disease. Pregnant ewes were monitored daily through May and June of 2009 to determine parturition date, and 25 neonates were captured, weighed, and radiocollared. Eighteen of 25 neonate lambs were female. Adults and lambs were then tracked throughout the year to determine rates and causes of mortality for both groups. Preliminary results from the first year of research show 65% of ewes were pregnant, and 86% of those pregnant gave birth to viable lambs. Survival to April 1, 2010, was 89% for ewes and 52% for lambs. Avalanches, wolverine predation, and an unknown cause accounted for deaths of adult sheep. Twenty percent of lamb deaths were caused by predators, including eagles, brown bears, and an unknown predator, while 24% died from avalanche, disease, malnutrition, or accident. Serum from 34 ewes was tested for viral diseases including PI-3, MCF, BVD, OPP, IBR, BRSV, and bluetongue, but no sheep exhibited positive titers to any of these agents. Nasal and pharyngeal swabs from 36 ewes were cultured for bacteria associated with respiratory disease. *Mannheimia hemolytica* was cultured from 9 of 36 samples, and *Pasturella trehalosi* from 7 of 36 samples. Other variants of *Pasturella* were cultured from an additional 12 of 36 samples. Work is ongoing to determine pathogenicity of *Mannheimia* and *Pasturella* cultures. Thirty-three of the initial cohort of 37 ewes survived to March 2010, and 30 of 33 were recaptured in March of 2010. Eighty-eight percent of ewes were pregnant in the second year of study.

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