

Pregnancy Rates in Dall's Sheep in the Chugach Mountains, Alaska

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ABSTRACT Dall's sheep (*Ovis dalli*) populations in the Chugach Mountains in south central Alaska have declined between 30-50% over the past 20 years. In an effort to obtain demographic data on these populations and to inform biologists as to the causes of the declines, 30-40 ewe Dall's sheep were captured annually in Alaska's Chugach Mountain from 2009 to 2013. Pregnancy rates in ewes were measured via serum levels of pregnancy-specific protein B. This appears to be an effective method of assessing pregnancy rates in wild sheep because most (>90%) ewes that showed a positive pregnancy test were later observed with lambs. Population pregnancy rates in ewes 3 years old and older were variable but lower than expected and generally lower than comparative data obtained from other thinhorn sheep populations. Rates ranged from a low of 21% in winter 2011–2012 to a high of 94% in winter 2012–2013. Age at first reproduction and individual reproductive histories, in conjunction with qualitative measures of body condition conducted at capture, suggest that some females are nutritionally stressed. This may be delaying age at first reproduction or causing ewes to experience a reproductive pause that could allow them to build nutritional reserves between pregnancies.

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KEY WORDS Alaska, Dall's sheep, *Ovis dalli*, pregnancy, protein B, nutritional restriction.

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