Evaluating Habitat Use of an Alaskan Dall's Sheep Population via Camera Traps

JEREMY S. DERTIEN,[1] *Department of Fish Wildlife and Conservation Biology, Colorado State University, 1474 Campus Delivery, Fort Collins, CO 80523-1474, USA*
CALVIN F. BAGLEY, *Center for Environmental Management of Military Lands, Colorado State University, 1490 Campus Delivery, Fort Collins, CO 80523-1490, USA*
JOHN HADDIX, *Environmental Division, United States Army Garrison Fort Wainwright, 3023 Engineer Place, Fort Wainwright, AK 99703, USA*
ALEYA BRINKMAN, *Center for Environmental Management of Military Lands, United States Army Garrison Fort Wainwright, 3023 Engineer Place, Fort Wainwright, AK 99703, USA*
ELIZABETH NEIPERT, *Center for Environmental Management of Military Lands, United States Army Garrison Fort Wainwright, 3023 Engineer Place, Fort Wainwright, AK 99703, USA*
PAUL F. DOHERTY, JR., *Department of Fish Wildlife and Conservation Biology, Colorado State University, 1474 Campus Delivery, Fort Collins, CO 80523, USA*

ABSTRACT The study of Dall's sheep (*Ovis dalli*) is often constrained by the variable terrain, extreme climate, and, at times, cryptic nature of the species. Infrequently, camera traps have been employed to estimate population size and presence of mountain ungulates, but little or no use has been directed toward Dall's sheep. Camera traps are an increasingly utilized tool for the management and study of numerous taxa of wildlife. This study utilizes camera traps to determine the occupancy of Dall's sheep within the U.S. Army's Donnelly and Black Rapids Training Areas in Fort Wainwright, Alaska. A system of camera traps, installed via a spatially balanced design, is assessing the seasonality and habitat use of sheep in these military training areas from August 2013 to August 2016. Each camera is programmed to capture a time-lapse image every 30 minutes or when triggered by a movement or infrared signal. Preliminary results have shown that 68% of the cameras operated throughout the year, 26% were disrupted or destroyed by wildlife, and 6% stopped operating. Approximately 20,000 images of sheep and other mammal species were captured by time-lapse and movement triggers. These data will allow for occupancy modeling of sheep habitat use and, potentially, to the habitat use of the overall mammalian community. Final results will determine recommendations to the U.S. Army as to the most appropriate time to conduct military exercises in the training areas as they pertain to sheep presence.

Biennial Symposium of the Northern Wild Sheep and Goat Council 19:97; 2014

KEY WORDS Alaska, camera trap, Dall's sheep, habitat use, military lands, occupancy modeling, *Ovis dalli.*

---

[1] *E-mail: jdertien1@gmail.com*