Hierarchical Habitat Selection By Dall's Sheep Within The Tanana-Yukon Uplands, Alaska.

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Abstract: We investigated temporal and spatial habitat selection by two populations (West Point, Cirque Lakes) of female Dall's sheep (Ovis dalli dalli) within and adjacent to the Yukon Charley Preserve, Alaska. West Point sheep were significantly larger, had a higher body reserve index, had higher pregnancy rates, and had more lambs per 100 ewes than the Cirque Lakes population. Ten sheep were GPS-collared from each study area in 1999, 2000 and 2001 from which we collected a pooled total of 23,112 locations in 1999, and 24,132 in 2000. We used GIS to assess availability of resource units. Each 30 m pixel was described by variables: landcover type ($a_1....a_n$), slope ($b_1...bn$), aspect ($c_1....c_n$), elevation ($d_1...d_n$), terrain ruggedness ($e_1...e_n$). We estimated 95% utilization distributions and 50 % concentrated use areas for each sheep and temporal period of analysis with fixed kernel analyses. We assessed habitat selection across a hierarchy of scales with resource selection probability functions (RSPF): 1) season ranges within the landscape, 2) concentrated use area within seasonal ranges, and 3) sheep locations within concentrated use areas. We will employ these results to estimate habitat suitability within Yukon Charley National Preserve.