Bienn. Symp. North. Wild Sheep
and Goat Counc. 14:47

NON-ALPINE HABITAT USE AND MOVEMENTS BY MOUNTAIN GOATS IN NORTH-CENTRAL BRITISH COLUMBIA

LAURENCE TURNEY, Ardea Biological Consulting, Smithers, BC
ANNE-MARIE ROBERTS, Ardea Biological Consulting, Smithers, BC

*Abstract***:** We monitored mountain goats (*Oreamnos americanus*) in scattered non-alpine forested terrain to document habitat use within forested rock cliff complexes and canyons, as well as movements between the forested rock complexes. In January and March 2003, 27 mountain goats on 6 different study sites were captured by aerial net-gunning methods and were fitted with either VHF or GPS telemetry collars. The study sites were contained within a discrete study area of approximately 800 square kilometers with distances between study sites ranging from 3 to 15 kilometers. The collared animals were relocated by aerial telemetry approximately once every 2 to 4 weeks until March 2004. GPS collars were retrieved between 8 and 12 months after deployment and their data recovered. Mountain goat movement distances varied greatly within the study sites over the year, and movement by a small number of animals between study sites was observed. Preliminary analysis of the habitat use indicates selection of steep slopes (41-60º) in early spring to summer, and moderate slopes (21-40º slope) in winter. Forested GPS locations were dominated by subalpine fir/hybrid white spruce during the winter months and by lodgepole pine subalpine fir during the spring and summer months. Winter locations were in mature (141-250 yrs) forests with tall trees (>28.5 m) and high canopy closure (46-65%), while spring, summer and fall GPS locations were in middle age class (81-140 yrs) forests with shorter trees (10.5-19.4 m) and moderate canopy closure (26-45%). Preliminary movement analysis showed a wide range of daily movements within and between study sites. During deep snow, mountain goats were found to be relatively stationary, moving less than 10m between successive GPS re-locations. During non-snow periods, individuals were found to move distances ranging from 3 to 30 kilometers within and between study sites over several days. Hair and tissue samples were collected for DNA analysis to compare the reliability of detecting individuals using hair samples.

Key words: mountain goat, non-alpine habitat use, landscape-level movements, GPS and VHF radiotelemetry, DNA analysis, meta-populations