

The Northern Richardson Mountains' Dall's Sheep Ecology Project

Progress Report for Year 2, 2004/2005

Contacts

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Background

The Dall's sheep ecology study focuses on movements, distribution and seasonal habitat use of sheep in the Black Mountain area of the northern Richardson Mountains. This project is designed to obtain information that is required to understand population-habitat relationships and to provide co-management boards with information necessary for determining potential opportunities for future outfitting and development in the Richardson Mountains. Additionally, the information will be useful in the development of a co-operative interjurisdictional management plan that is being developed to ensure the sustainable management of the Richardson Mountain's Dall's sheep population.

A total of eight Dall's sheep rams have been collared using Gen III GPS/satellite collars. The collar data will be analyzed to determine seasonal ranges, movement rates and corridors. Randomly selected locations from the GPS collar will be visited seasonally to determine habitat characteristics such as slope, aspect, vegetation, snow depth and density, distance from escape terrain, and distance from licks.

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On April 27, 2004 two Dall's sheep were collared with Gen III GPS/satellite collars. Both sheep were $\frac{3}{4}$ curl eight-year-old rams. Blood and faecal samples were gathered during collaring. Blood samples were obtained for cell blood counts, as well as parasite and trace mineral analysis. The faecal samples collected will be analyzed for parasites and diet. Measurements taken during collaring are shown in Table 1.

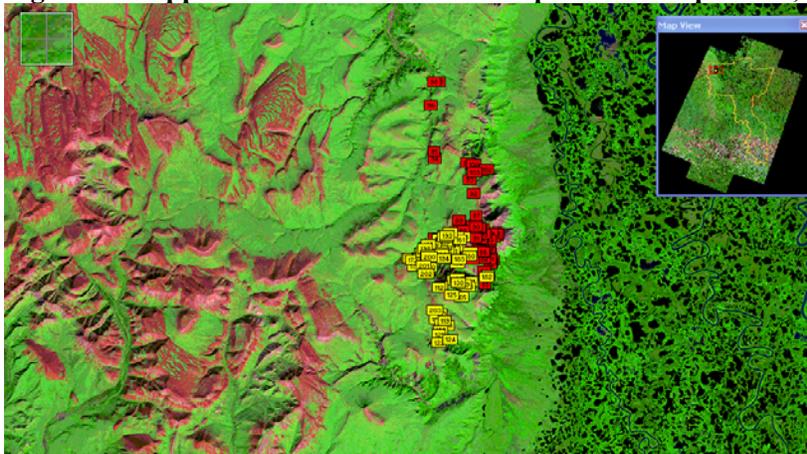
Table 1. Measurements of Dall's Sheep Collared April 27th, 2004

Sheep ID	Age	Chest Girth	Shoulder Height	Overall Length	Horn Length (cm)
46357	7 +	114 cm	96 cm	183 cm	70 (R) 69.5 (L)
46356	7 +	111 cm	98 cm	168 cm	83 (R) 62 (L)

The Gen III GPS/Satellite collars accumulate three GPS locations per day, one at midnight, one at 8:00 am and one at 4:00 pm. The locations are then up-linked through the ARGOS satellite system, and emailed every second day to provide real-time data. The data is compiled and mapped using GIS (See Figure 1).

In August 2004, GPS locations were randomly selected from the collar locations and from the surrounding habitat. Catherine Jorstead (GRRB, Summer Student), Janet Winbourne (GRRB, Community Knowledge Coordinator), John Koe (Aklavik, Community Member) assisted in completing 21 ground assessments. These ground assessments determined vegetation, slope aspect, and distance from escape terrain.

Figure 1. Mapped Locations of Dall's Sheep Collared April 27th, 2004



Recent Work

On September 27th and 30th, 2004, six sheep were collared with the Gen III GPS/Satellite collars by Jari Heikkila (GRRB, Executive Director), Rob Fletcher (Trans North Helicopters, Pilot) and Brad Culling (Diversified Environmental Services, Consultant). Blood, hair, feces, and tissue samples were taken and forwarded to the University of Saskatchewan laboratory for parasitic, DNA and diet analysis. Measurements taken during collaring are shown in Table 2.

Sheep ID	Age	Chest Girth	Shoulder Height	Overall Length	Horn Length (cm)
53485	12	114 cm	108 cm	186 cm	100 (R) 92 (L)
53486	8	119 cm	103 cm	185 cm	85 (R) 88 (L)
53487	7	122 cm	107 cm	167 cm	78.5 (R) 79 (L)
53488	8	123 cm	106 cm	188 cm	92 (R) 93.5 (L)
53489	6	122 cm	105 cm	187 cm	85 (R) 84 (L)
53490	3	114 cm	91 cm	117 cm	49.5 (R) 50 (L)

Future Work

In March of 2004/2005, 60 sites will be randomly selected for winter site assessments. Winter site assessments will include determining slope, aspect, snow depth and density, distance from escape terrain, and distance from licks. In the summer of 2005, a minimum of 129 sites will be selected for similar analysis as conducted in August 2004. Site assessments will include vegetation, slope aspect, distance from escape terrain, and distance from licks. This data will assist in resource selection function modeling that will be conducted to better understand sheep habitat selection in the northern Richardson Mountains.