



Determining Population Management Unit Boundaries for Mountain Goats in Skeena Region

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ABSTRACT: Recent mountain goat (*Oreamnos americanus*) inventory work has occurred on three adjacent mountain complexes northeast of Smithers, British Columbia. This work has indicated three different population situations for each mountain: one with a potential decline, one with a potential increase, and one with relatively stable numbers. Determining if goats on these three mountain complexes are one, two or three population management units (PMU), will help ensure robust and biologically based management of mountain goats. Mountain goat PMU's have currently been derived for the Skeena region based on expert opinion along with using major watershed boundaries that may or may not serve as a barrier to animal movement throughout the majority of the Region. In Skeena south, PMU's have been left as LEH boundaries for the time being, until such time that better biological information exists. Having biologically meaningful PMU's will improve the management of goats, ensuring values such as conservation and appropriate harvest opportunities are evaluated and maintained at an appropriate scale. In this study we will use GPS collar locations and genetic data from both male and female mountain goats, on three adjacent mountain complexes, to define population structure and refine PMU's. The information will provide quality assurance that can be applied to future genetic work and further refine PMUs for the remainder of Skeena Region. The project will also assess habitat selection of collared goats and assess the currently designated ungulate winter ranges. It will also be the first collection of comprehensive baseline animal health for mountain goats in BC through live and mortality sampling.

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KEYWORDS Mountain goat; *Oreamnos americanus*; management units; British Columbia; GPS data; genetics; Canada.