



## **Monitoring of hunted mountain goat populations in west-central Alberta: insights gained over more than four decades.**

**KIRBY SMITH**, *Borealis Wildlife Services Ltd., 18313D Twp. Rd. 534A, Yellowhead County, AB, Canada T7E 3T3*

**MIKE RUSSELL**, *Alberta Environment and Parks, Box 23 Provincial Building, 1601-10320-99 Street Grande Prairie, AB, Canada, T8V 6J4*

**SANDRA HAMEL**, *Department of Arctic and Marine Biology, Faculty of Biosciences, Fisheries and Economics, University of Tromsø, 9037 Tromsø, Norway*

**STEEVE D. CÔTÊ**, *Département de biologie & Centre d'études Nordiques, Université Laval, 1045 Avenues de la Médecine, Québec City, QC, Canada, G1V 0A6.*

**MARCO FESTA-BIANCHET**, *Département de biologie, Université de Sherbrooke, Sherbrooke, Québec, Canada*

**FRÉDÉRIC DULUDE-de BROIN**, *Département de biologie & Centre d'études Nordiques, Université Laval, 1045 Avenues de la Médecine, Québec City, QC, Canada, G1V 0A6*

**ABSTRACT:** Mountain goat (*Oreamnos americanus*) populations were monitored in west-central Alberta from 1971 to 2017. During the initial period (1971 – 1988) most populations were subjected to an either sex harvest regime of 5% of minimum helicopter counts. Following a series of years of declining numbers, the hunting season was closed in 1988 and remained so until 2000. During this period a kid mortality study was conducted, a provincial management plan was prepared and some, but not all, herds recovered. A hunting season was re-instituted in 2000 under a more conservative harvest regime of 1-2% of observed animals with efforts to focus harvest on males only. Over the last 10 years, both hunted and unhunted herds have again declined even under a very conservative hunting season. Concurrently, poor recruitment and decreased survival of adults has resulted in a strong decline of the unhunted Caw Ridge population. These declines have coincided with harsh winters combined with higher densities of mountain goats and increasing densities of mountain lions (*Puma concolor*). The implication of high levels of fecal cortisol in nannies monitored at Caw Ridge (long-term study area) are also discussed.

*Biennial Symposium of the Northern Wild Sheep and Goat Council 21:18; 2018*

**KEYWORDS** Mountain goat; *Oreamnos americanus*; harvest; demographics; population trends; predation; Alberta.