

2011 Wildlife Management Unit 400 mountain goats



Section Authors: Mike Jokinen and Greg Hale

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Counts to estimate the trends for mountain goat populations in WMU 400 have been carried out on 23 occasions since 1979. In the initial survey year, only the Alberta portion of the continental divide was flown; however, from 1980 until the present, the survey area has included both the Alberta and British Columbia sides of the continental divide. In 2011, the WMU 400 goat survey area was further sub-divided into survey units based on mountain ranges/complexes, mountain passes, river drainages and natural breaks on the landscape (Figure 1). This aids in simplifying navigation among mountain complexes, and ensures full coverage of the survey area while

avoiding duplication. Additionally, this improvement will provide greater consistency among survey years.

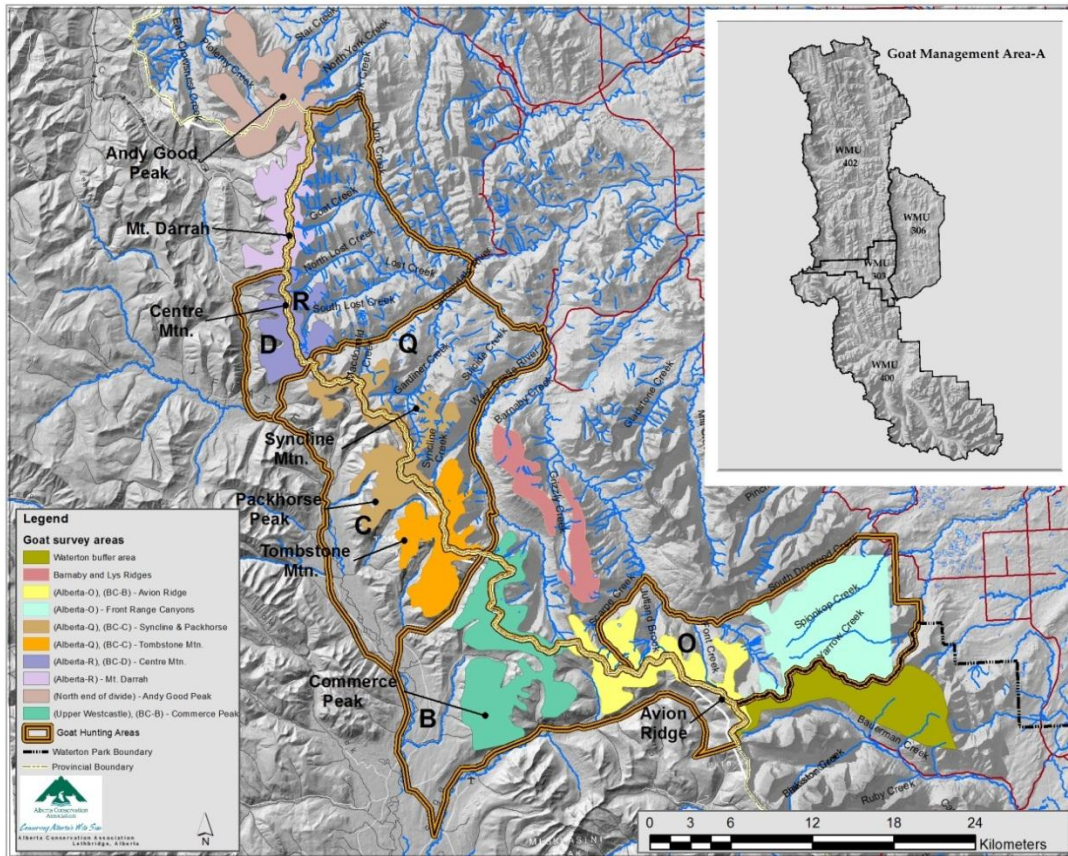


Figure 1. Location of the Wildlife Management Unit 400 mountain goat survey area in Alberta and British Columbia.

The 2011 survey provides count data that may be used to refine Goat Population Areas within Goat Management Area A of WMU 400. Our survey objectives were to obtain a minimum count of goats to determine population status and trend, to classify goats by age to assess herd structure and recruitment, and to map sightings that describe regional distribution. Additionally, these data will be compared to the ASRD goat management plan to assess the viability for a continued mountain goat harvest in this WMU.

Survey methods

We searched mountain complexes in WMU 400 on 25, 27, 28, 30 July 2011 and 3 August 2011. All surveys occurred during the morning hours to take advantage of peak animal activity, using a Bell 206L helicopter flown at air speeds ranging from 80 – 100 km/h. In some instances, coverage of the goat range was accomplished by conducting a single flight above timberline, but portions of the survey area required a second and sometimes third flight line at higher elevations to provide more complete coverage of mountain faces, particularly in high goat density areas.

The left front passenger (navigator) maintained the proper flight course and assisted with classification of goats to age categories. Two observers occupying the rear seat provided continuous side observation, with the right passenger recording wildlife numbers and GPS locations. We classified all goats observed into standard age categories of adult, yearling, or kid. We did not correct for sightability; therefore, overall counts should be considered as minimum estimates. These counts do not have estimates of precision, and therefore direct comparison of survey results among years or regions is difficult.

Weather conditions in WMU 400 are commonly unstable, with high winds often grounding surveys for a day or more at a time. However, we were able to survey within limited windows when weather conditions were good to excellent. Over the 5 survey days, average temperatures were +16 degrees Celsius, cloud cover ranged from 0 – 100% and wind speeds averaged 19 km/h.

Results

We observed 146 mountain goats during the 2011 survey, including 120 adults, 15 yearlings, 11 kids, and 0 unclassified goats (Table 1). Classification of age classes resulted in reproduction and recruitment rate indices of 9 kids/100 adults and 13 yearlings/100 adults.

The 2011 survey count (146 goats) was 33% lower than the 2008 survey (218 goats) (Table 2). The 2011 reproduction estimate of 9 kids/100 adults was down significantly from 2008, when 31 kids/100 adults were observed, and it is the lowest recruitment rate encountered over the 32 year span that this area has been surveyed. The number of yearlings per adults (13 yearlings/100 adults) was also one of the lowest yearling rates on record.

Early July is the typical survey period, since mountain goats are highly observable at this time due to larger group sizes (nursery groups), and their use of open alpine habitats. There is also an increased potential to accurately classify goats to age class. Heavy snowpack and late snow melt delayed the 2011 survey, which occurred approximately 3 weeks later than usual. The delay of this survey to late July could have resulted in fewer goats being seen due to seasonal range changes in most of the survey area. Additionally, the winter of 2010/2011 had the highest snowpack on record in this survey region; therefore, a harsh winter may have impacted yearling survival and nanny energy reserves. It is interesting to note that overall goat counts were also lower in surveys conducted in both southern and west-central Alberta (next section).

Table 1. Mountain goat population trend counts for all goat hunting areas in Wildlife Management Unit 400 in 2011.

Goat hunting area	Adult	Yearling	Kid	Unclassified	Total
Alberta – Area O ^a	12	1	0	0	13
B.C. – Area B	21	6	2	0	29
Upper West Castle ^b	9	0	1	0	10
Alberta – Area Q	21	3	2	0	26
B.C. – Area C	10	1	0	0	11
Alberta – Area R	29	3	5	0	37
B.C. – Area D	10	1	0	0	11
North end of Divide	8	0	1	0	9
Total	120	15	11	0	146

^a Does not include Waterton buffer area counts.

^b Does not include Barnaby or Lys Ridge counts.

Table 2. Total mountain goat population trend counts for all goat hunting areas in Wildlife Management Unit 400 from 1980 – 2011.

Year	Number of mountain goats				Total
	Adults	Yearling	Kid	Unclassified	
2011 ^a	120	15	11	0	146
2008	147	25	46	0	218
2007	110	30	41	12	193
2005	143	31	70	4	248
2004	147	15	34	0	196
2003	115	13	46	0	174
2002	95	28	27	0	150
2001	143	34	44	0	221
2000	157	21	46	0	224
1999	115	29	37	0	181
1997	106	28	31	0	165
1995	103	24	28	0	155
1993	92	17	22	0	131
1991	82	16	17	0	115
1990	86	18	24	0	128
1989	79	22	18	0	119
1988 ^b	26	3	9	0	38
1987 ^b	30	8	4	0	42
1986	116	18	33	0	167
1983	121	--	7	0	128
1982	132	--	32	0	164
1980	128	--	55	0	183

^a Survey was flown 3 weeks later than normal.

^b Incomplete survey, thus trend counts are not comparable.

-- Yearlings are included in adult count.