

## 2010 Wildlife Management Unit 402 mountain goats



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Counts to estimate the trends for mountain goat populations in WMU 402 have been sporadically carried out since the late 1960s, and in some cases done in conjunction with surveys for bighorn sheep. The most recent mountain goat counts include surveys in 1994, 1997, 2006, and 2009. Many mountain complexes in WMU 402 overlap the boundary of Alberta and British Columbia, and as a result contain a trans-boundary population which is best assessed by surveying on both sides of the continental divide. In the previous two surveys of this WMU (2006 and 2009) an area from Tecumseh Mountain following the Continental Divide north to Mt. O'Rourke, at the headwaters of

the Oldman River, including Crowsnest Mountain and the Livingstone Range (Figure 1), were surveyed. In 2010, this area was again surveyed, with the exception of the British Columbia side of Mt. Ward, as well as the entire Livingstone Range, due to poor weather conditions.

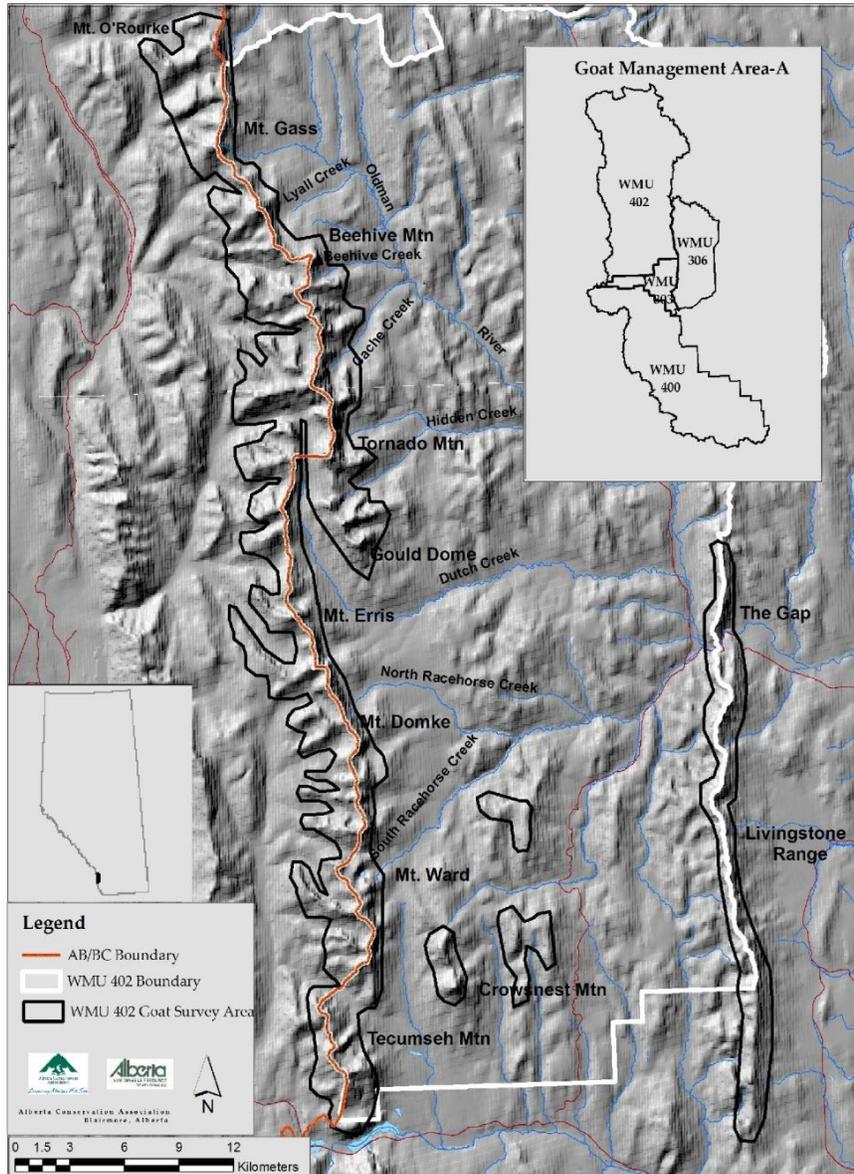


Figure 1. Location of the Wildlife Management Unit 402 mountain goat survey area in Alberta and British Columbia.

The 2010 survey provides count data that may be used to refine Goat Population Areas within Goat Management Area A of WMU 402. Currently there is no established Goat Hunting Area or hunting season for mountain goats in WMU 402. Our survey objectives were to obtain a minimum count of goats to determine population status and trend, 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 of a mountain goat harvest in this WMU in the future.

### *Survey methods*

We searched mountain complexes in WMU 402 (Figure 1) over an extended period in July, with the initial day of surveys occurring on 14 July 2010. The remainder of the survey was completed on 26, 28, and 29 July 2010 following nearly two weeks of poor weather. All surveys occurred during the morning hours to take advantage of peak animal activity, using a Bell 206B helicopter flown at air speeds ranging from 80 to 100 km/h. In some instances, coverage of the goat range was accomplished by conducting a single flight above timberline, but a large portion of the survey area required a second flight line at a higher elevation 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 comparisons of survey results among years or regions is difficult.

Weather conditions during the month of July were repeatedly unstable and unpredictable, and we were unable to complete the full survey. However, we were able to work within limited windows when weather conditions were acceptable. During the survey days, average temperatures were 11 degrees Celsius, cloud cover ranged from 0 - 75% and wind speeds averaged 21 km/h.

## Results

We observed 148 mountain goats during the 2010 survey, including 120 adults, 15 kids, 13 yearlings, and 0 unclassified goats (Table 1). Classification of age classes resulted in reproduction and recruitment rates of 13 kids/100 adults and 11 yearlings/100 adults.

The 2010 survey count of 148 goats was 20% lower than the 2009 survey (Table 2); however, the 2010 survey does not include the Livingstone Range which typically contains approximately 12 goats. The 2010 reproduction estimate of 13 kids/100 adults was down from 2009 when 37 kids/100 adults were observed. The number of yearlings per adult (11 yearlings/100 adults) was also lower than in 2009 (19 yearlings/100 adults), but similar to 2006 (9 yearlings/100 adults). The weather in June 2010 was cooler and wetter than in 2006 and 2009, possibly influencing the number of surviving kids.

Table 1. Mountain goat population trend counts within each mountain complex of Wildlife Management Unit 402 in 2010.

Complex	Adult	Yearling	Kid	Total
Crowsnest	45	4	9	58
Divide - AB	31	4	3	38
Divide - BC	44	5	3	52
Livingstone <sup>a</sup>	--	--	--	--
<b>Total</b>	<b>120</b>	<b>13</b>	<b>15</b>	<b>148</b>

<sup>a</sup> Livingstone Range was not surveyed due to continual high winds.

Table 2. Total mountain goat population trend counts for all mountain complexes surveyed in Wildlife Management Unit 402 from 2006 - 2010.

Year	Number of mountain goats			
	Adults	Yearling	Kid	Total
2010 <sup>a</sup>	120	13	15	148
2009	119	23	44	186
2006	98	9	35	142

<sup>a</sup> All four mountain complexes were not surveyed in 2010, so combined trend counts are not comparable.