

## 5.2 Southern mountain goats

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Surveys to determine the status of the southern Continental Divide (north of Waterton Lakes National Park to the Crowsnest Pass) mountain goat population have been implemented on 21 occasions since the first survey in 1979. During the 1979 survey, only complexes along the eastern (Alberta) side of the Continental Divide were searched. Commencing in 1980 and continuing during all subsequent years, entire mountain complexes on both sides of the Divide have been surveyed (Figure 2). With a growing population, a hunt was initiated in 2001 with a small number of licenses issued in three goat management areas. In 2007, the survey objectives were to obtain a minimum count of goats to determine population status and trend, to classify all goats by sex and age to facilitate population analysis and provide an assessment of herd production and recruitment, and to map goat sightings to provide population status information on a regional basis.

### 5.2.1 Survey methods

The survey crew searched mountain complexes along the Continental Divide over a 4-day period from 26 – 29 June 2007. All surveys occurred in early morning or late afternoon periods to take advantage of peak animal activity, using a helicopter flown at air speeds ranging from 50 to 100 km/h. In most instances, a single flight near the timberline allowed coverage of the goat range, but occasionally extensive mountain faces required a second flight at a higher elevation to ensure complete coverage.

The left front passenger (navigator) maintained the proper flight course and assisted with classification of goats to sex and age categories. Two observers occupying the rear seat provided continuous side observation, with the passenger on the right recording wildlife numbers and GPS locations. Surveyors classified all goats observed into standard sex and age categories of adult male, adult female, unclassified adult, yearling or kid. We did not correct for sightability; therefore, overall counts should be considered as minimum estimates.

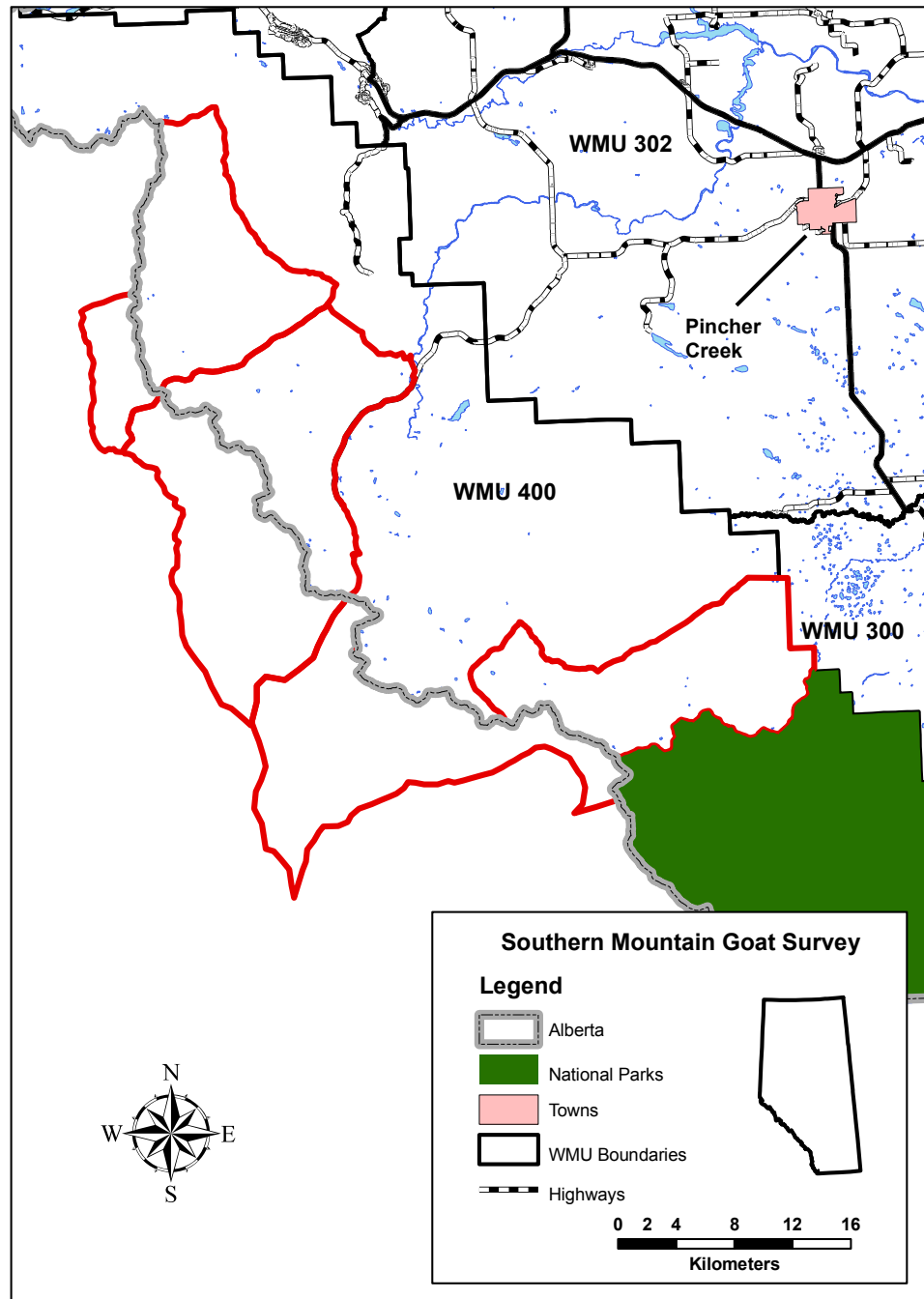


Figure 2. Location of the southern mountain goat survey area in Alberta.

### 5.2.2 Results

Weather conditions for the 4-day survey were excellent. We observed 193 mountain goats during the survey, including 110 adults, 12 unclassified adults, 41 kids and 30 yearlings (Table 2; Figure 3). Classification of age classes provided estimates of reproduction and recruitment rates of 34 kids/100 adults and 25 yearlings/100 adults.

Assuming counts were consistent among years, the kid per 100 adults ratio of 34 in 2007 appeared lower than that observed in 2005 when 49 kids/100 adults were recorded (all-time high). However, 34 kids/100 adults was higher than the long-term average. The number of yearlings per adult during the 2007 survey (25 yearlings/100 adults) appeared greater than that observed in 2005 (22 yearlings/100 adults).

Incidental wildlife observed in the study area during the mountain goat survey included 176 bighorn sheep, 77 elk, seven moose, 23 mule deer, one white-tailed deer, seven golden eagles (*Aquila chrysaetos*), one wolverine (*Gulo gulo*), and eight grizzly bears (*Ursus arctos*).

Table 2. Mountain goat observations within each mountain complex in 2007.

Complex	Total	Adult		Unclassified		
		Male	Female	Adult	Yearling	Kid
O	20	12	3	3	0	2
Upper West Castle	4	0	1	0	2	1
B	51	5	20	5	9	12
Q	20	2	9	0	3	6
C	19	2	10	0	2	5
R	46	8	19	2	9	8
D	32	4	14	2	5	7
N. end Divide to CNP <sup>1</sup>	1	1	0	0	0	0
Overall total	193	34	76	12	30	41

<sup>1</sup>CNP = Crowsnest Pass.

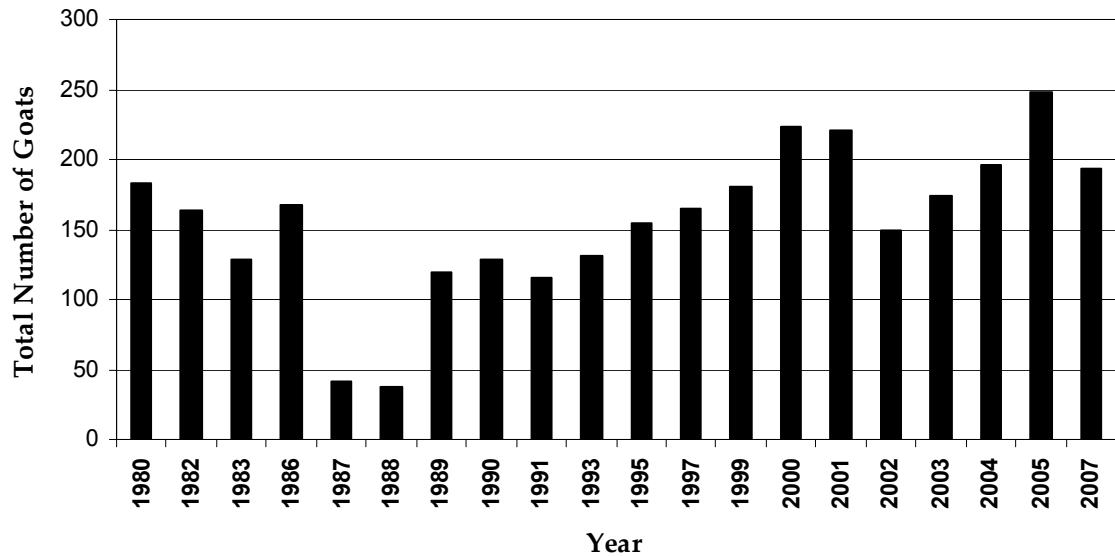


Figure 3. Southern Continental Divide mountain goat minimum population count trend, 1980 to 2007. Surveys conducted in 1987 and 1988 were incomplete.

## 6.0 WINTER RANGE TREND SURVEYS

### 6.1 Hay-Zama bison

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The Hay-Zama lowlands were selected in the late 1970s and early 1980s as a site suitable for reintroduction of wood bison (Reynolds et. al. 1982). An enclosure designed as a temporary holding facility for these animals was built and a small herd was introduced from Elk Island National Park in 1983. The bison were never released because of concerns about these animals contracting bovine brucellosis and/or tuberculosis from diseased bison wandering out of Wood Buffalo National Park. In 1993, portions of the fence collapsed and the small herd escaped into the Hay-Zama area. The Hay-Zama wood bison herd has spread throughout the low-lying areas between Zama Ridge to the south and the slopes of the Cameron Hills and Bootis Hill to the north. We have monitored an increase in bison numbers in their range through aerial surveys in late winter. The purpose of these surveys was to estimate bison