

Delegated Aerial Ungulate Surveys 2008/09 Summary



Photo: N. Carruthers



Alberta Conservation
Association

Conserving Alberta's Wild Side

Background

Alberta Conservation Association (ACA) uses levies on hunting and fishing licenses to collect and analyze population inventory data that can be used by Alberta Sustainable Resource Development (ASRD) in setting hunting and fishing seasons and regulations. Aerial ungulate surveys (AUS) are the primary method used to determine population status and trends for ungulates (e.g., deer, elk, and moose) in Alberta, and therefore are an integral component for setting hunting guidelines. Beginning in 2007, ACA became an active partner in the AUS program, and now works collaboratively with ARSD to plan and conduct surveys and to summarize survey data. ASRD continues to set provincial priorities for survey locations, and uses these data in the management of ungulate populations. A portion of the overall survey plan is delegated to ACA for delivery (D-AUS) in collaboration with ASRD. During the 2008/09 fiscal year, ACA funded and delivered 29 surveys in approximately 41 management areas in Alberta. These surveys included summer range trend surveys for pronghorn antelope (*Antilocapra americana*) and mountain goats (*Oreamnos americanus*), winter range trend surveys for bighorn sheep (*Ovis canadensis*), bison (*Bison bison*) and elk (*Cervus elaphus*), random stratified block surveys for moose (*Alces alces*), white-tailed deer (*Odocoileus virginianus*) and mule deer (*Odocoileus hemionus*), and recruitment surveys for caribou (*Rangifer tarandus*). This report briefly summarizes results from the 2008/09 surveys. A full report and individual survey results can be found on the ACA website: <http://www.ab-conservation.com/>

Survey Areas



Summary of Survey Results

MOOSE

We surveyed moose in eleven wildlife management areas from January to March 2009. When compared to results from the last time each unit was surveyed, the estimated number of moose increased in two units (WMU 509 and 527) and decreased in seven units (WMU 328, 330, 342, 349, 350, 357, and 529). No change was detected in the remaining unit (WMU 338).

WMU	Population Estimate (+/- Confidence Limits)	Density (#/km ²)	Bulls/100 cows	Calves/100 cows
328	335 (87)	0.12	55	23
330	211 (61)	0.11	60	40
338	927 (167)	0.37	40	39
342	139 (31)	0.09	26	15
349	1969 (374)	0.3	24	37
350	2999 (510)	0.48	22	31
357	3087 (340)	0.38	35	60
509	921 (212)	0.28	22	58
525	1349 (229)	0.23	23	17
527	3938 (630)	0.59	27	38
529	157 (41)	0.04	60	87

WT DEER

We collected white-tailed deer population estimates in two wildlife management areas in January 2009. When compared to results from the last time each unit was surveyed, the estimated number of deer increased in both units.

WMU	Population Estimate (+/- Confidence Limits)	Density (#/km ²)	Bucks/100 does	Fawns/100 does
357	4883 (1709)	0.7	33	114
527	3210 (706)	0.47	35	117

MULE DEER

We conducted surveys for mule deer in five wildlife management areas from January to March 2009. When compared to results from the last time each unit was surveyed, the estimated number of deer increased in WMU 527. No change was detected in WMU 124, 152 or 357. No information was available for comparison to previous survey data for WMU 304.

WMU	Population Estimate (+/- Confidence Limits)	Density (#/km ²)	Bucks/100 does	Fawns/100 does
124	712 (150)	0.49	n/a	n/a
152	3051 (275)	0.78	n/a	n/a
304	3339 (701)	2.18	n/a	n/a
357	3550 (675)	0.51	46	111
527	3171 (539)	0.47	56	111

ELK

We collected minimum herd counts in two units and a population estimate in one unit for elk from January to March 2009. In general, elk numbers were similar in WMU 212 and decreased in WMU 328 as compared to previous survey data. We did not have enough information to determine trends in WMU 357. The methods used for these elk surveys do not allow for conclusions to be drawn on whether these are significant population changes or not, but instead show broad trends over time.

Unit	Total Count	Pop. Estimate (+/- Confidence Limits)	Bulls/100 cows	Calves/100 cows
WMU 212	914	n/a	n/a	n/a
WMU 328	n/a	241 (212)	5	3
WMU 357	1605	n/a	13	44

BIGHORN SHEEP

We conducted minimum herd counts for sheep in fourteen areas from January to March 2009. The methods used for minimum herd counts do not allow for conclusions to be drawn on whether these are significant population changes or not; however, the total count was similar to the sheep winter trend survey completed in 2007 over the same area.

Unit	Total Count
WMU 328	15
WMU 414	55
WMU 416	2
WMU 417	8
WMU 418	157
WMU 420	285
WMU 422	556
WMU 426	134
WMU 428	7
WMU 429	31
WMU 430	72
WMU 432	43
WMU 434	120
WMU 738	6

MOUNTAIN GOAT

We collected minimum herd counts for goats in twenty areas in July 2008. The total numbers observed were within the long-term average for the area between Complex O and the North End Divide to CNP. The total count of goats exceeded the counts from the most recent surveys in Llama-Turret, South Persimmon, and Daybreak, while fewer goats were observed on Caw Ridge, Mt. Hamel, Deveber, North Persimmon, Moosehorn, Sunset Peak, and Rockslide. The methods used for goat surveys do not allow for conclusions to be drawn on whether these are significant population changes or not, but instead show broad trends over time.

Area	Total Count
Complex O	29
Complex Upper West Castle	7
Complex B	59
Complex Q	33
Complex C	25
Complex R	51
Complex D	14
Complex N. End Divide to CNP*	0
Caw Ridge	64
Goat Cliffs	36
Mt. Hamel	42
Llama-Turret	109
Deveber	41
North Persimmon	49
South Persimmon	36
Daybreak	30
Moosehorn	1
Monaghan	49
Sunset Peak	5
Rockslide	39

* CNP= Crowsnest Pass

PRONGHORN ANTELOPE

We surveyed eight antelope management areas (AMA) in July 2008. Compared to 2007 results, population estimates and densities were higher in AMA E, G, and H, lower in AMA F, and comparable in the remaining areas. However, we did not calculate confidence intervals around the population estimates so we can not determine whether populations have significantly changed.

Unit	Population Estimate (Density = #/square km)
AMA A	918 (0.5)
AMA B	2528 (0.43)
AMA C	4548 (0.98)
AMA D	1276 (0.95)
AMA E	2666 (0.9)
AMA F	2768 (0.38)
AMA G	3151 (0.5)
AMA H	2083 (0.25)

BISON

Minimum herd counts have been conducted annually for bison in the Hay Zama area since 1994. Fewer groups and individual bison were counted in March 2009, as compared to the previous survey; however, this data is not entirely comparable to 2008 survey data since it only represents animals observed during initial pre-flights.

# of Groups	# of Bison			% Calves^b
	Adults^a	Calves	Total	
33	n/a	n/a	355	n/a

^a - "Adults" includes yearlings

^b - % Calves = calves/total population x 100

For more information on aerial wildlife surveys, check our website:

<http://www.ab-conservation.com/>