

## **Alberta Conservation Association 2007/08 Project Summary Report**

**Project name:** Aerial Ungulate Surveys

**Project leader:** Robert Anderson

**Primary ACA staff on this project:** Robert Anderson, Nathan Carruthers, Marco Fontana, Mike Grue, John Hallett, Ryan Hermanutz, Kelley Hooey, Velma Hudson, Dave Jackson, Michael Jokinen, Chad Judd, Doug Manzer, Andy Murphy, Len Peleshok, Jim Potter, Corey Rasmussen, Robb Stavne, Dan Sturgess, Roy Schmelzeisen, Shevenell Webb, Jay Wieliczko, and Thomas Winter

### **Partnerships:**

Alberta Sustainable Resource Development

### **Key findings**

- 28 aerial ungulate surveys were delegated to the ACA in 2007/2008.
- ACA delivered surveys for deer, elk, bighorn sheep, bison, mountain goats, pronghorn antelope, and moose.
- Results from these surveys will be released on our web page in summer 2008 once these data are analyzed.

### **Introduction**

Aerial ungulate surveys provide information on population size and trend, population demographics, and reproductive output (Lancia et al. 2005). Alberta Sustainable Resource Development (ASRD) relies on survey information for population management and the allocation of ungulate game species. As a result, aerial ungulate surveys (AUS) are consistently identified as a top ASRD priority delegated to the Alberta Conservation Association (ACA). ACA and ASRD work in partnership to conduct aerial surveys, and this program is a core multi-year function of ACA's wildlife program.

### **Methods**

The ACA has funded aerial ungulate survey flights in Alberta since its inception in 1997. This program has historically been lead by ASRD biologists, with relatively low involvement from ACA staff across the province. The low practical involvement from ACA staff does not fall under the standard Delegated Administrative Organization (DAO) relationship, as described by Acton Consulting (2005). A solution to this situation was sought during negotiation of the *2006-2011 Wildlife Program Agreement*. The Deputy Minister of ASRD provided direction by clarifying his desire for ACA to take a much more substantive role in the delivery of these surveys in line with the expectations for a DAO. During 2007, the ACA and ASRD developed a *Delegated Aerial Ungulate Survey Delivery ACA/ASRD Partnership Terms of Reference*, which

provides guidance for how the ACA and ASRD will work cooperatively to deliver aerial ungulate surveys delegated to ACA.

The level of survey experience currently varies widely among ACA staff. Some staff have expertise in all aspects of survey planning, observation, and reporting, while others have less background. To enhance our capacity to deliver this program over time, we initiated a series of workshops and on-the-job training and mentoring opportunities for ACA staff in 2007 which we expect to continue over the next four years.

The surveys (species/location) to be conducted each year are determined by the Wildlife Management Branch of ASRD. For data collection in 2007/2008, we used survey methods used previously for each wildlife management unit (WMU) by ASRD staff. Surveys led by experienced ACA or ASRD staff were to be carried out with the expectation that survey leads would mentor ACA staff on survey planning, sampling, and reporting. Random stratified block designs were used for moose and deer surveys. Elk, bighorn sheep, mountain goat, and pronghorn surveys were conducted as a total count of previously identified ranges or management areas.

## Results

During 2007/2008, ACA provided population information for 54 management areas through 28 surveys (Table 1, Figure 1). ACA staff participated in data collection for 27 of the 28 delegated surveys, as well as assisting ASRD with non-delegated surveys. ACA staff also participated in two random stratified block training surveys, which provided learning opportunities for four new navigators, seven new observers, and one new survey leader.

ACA biologists lead 12 of the 28 delegated surveys, plus the two training surveys. ACA staff provided key planning and reporting assistance on at least two other delegated surveys.

Table 1. Data collection summary for aerial ungulate surveys conducted in 2007/2008.

Species	Survey type	Surveys	Total management units/areas
Bighorn sheep	Total count	2	12
Bison	Total count	1	2
Caribou	Cow:calf ratios	1	1
Deer (mule and/or white-tailed)	Random stratified block	5	5
Elk	Total count	6	20
Moose	Random stratified block	4	5
Mountain goat	Total count	1	1
Pronghorn	Transect survey	8	8

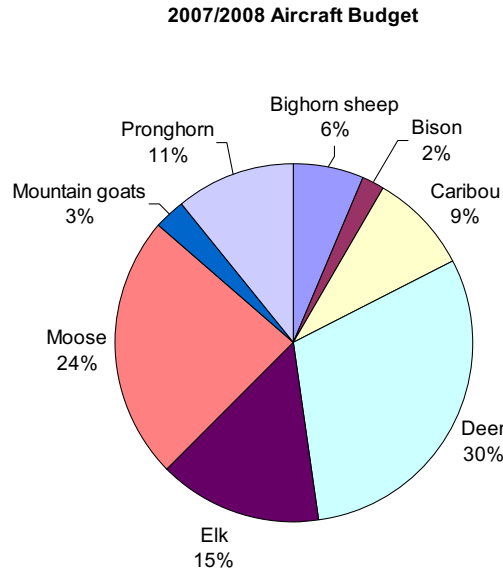


Figure 1. The breakdown of survey effort for each species is determined by ASRD, in relation to their management needs.

## Conclusions

In the first year of full ACA participation in delivery of the delegated aerial ungulate surveys, our staff played key roles in the planning, sampling, and reporting phases of 14 of the 28 surveys delegated to us. We did not participate on the caribou survey conducted in winter 2008. With the experience gained this year and the prospect of acquiring key staff at the beginning of fiscal year 2008, we look toward playing a more substantive role in the delivery of delegated aerial ungulate surveys in coming years.

## Communications

- A summary of results from the 2007/2008 surveys is expected to be posted on the ACA website prior to the 2008 hunting season.

## Literature cited

- Acton Consulting Ltd. 2005. Joint review of the Alberta Conservation Association and Sustainable Resource Development. Unpublished report prepared for Alberta Conservation Association and Alberta Sustainable Resource Development, Edmonton, Alberta.
- Lancia, R.A., W.L. Kendall, K.H. Pollock, and J.D. Nichols. 2005. Estimating the number of animals in wildlife populations. Pages 106 – 153. *In*: C.E. Braun, editor. Techniques for wildlife investigations and management. Sixth edition. The Wildlife Society, Bethesda, Maryland, USA.



Survey leader Shevenell Webb references a guide for classifying tick-induced hair loss on moose during aerial surveys. (Photo: Jim Potter)



Moose are one of the target species for aerial ungulate surveys conducted by the ACA. (Photo: Jim Potter)



Survey crews generally consist of a navigator/data recorder, such as Andy Murphy, two observers, and a pilot. (Photo: Shevenell Webb)