

Alberta Conservation Association 2008/09 Project Summary Report

Project name: *Aerial Ungulate Surveys*

Project leader: Robert Anderson

Primary ACA staff on this project (including seasonals):

Robert Anderson, Nathan Webb, Robb Stavne, Michael Jokinen, Mike Grue, Velma Hudson, Andy Murphy, Jim Potter, Corey Rasmussen, Shevenell Webb, Maria Didkowsky, Chad Judd, Thomas Winter, Kelley Hooey, Ryan Hermanutz, Nathan Carruthers, Dave Jackson, Dan Sturgess, Roy Schmelzeisen, Len Peleshok, Brad Taylor, Ed Kolodychuk, Darren Dorge, Julie Landry, and Doug Manzer

Partnerships

Alberta Sustainable Resource Development (ASRD)

Key findings

- 27 aerial ungulate surveys were delegated to the ACA in 2008/2009.
- ACA delivered surveys for deer, elk, bighorn sheep, bison, mountain goats, pronghorn antelope, caribou, and moose.
- Results from these surveys will be released on our web page in summer 2009 once these data are analyzed.

Abstract

ACA and Alberta Sustainable Resource Development (ASRD) work in partnership to conduct aerial ungulate surveys; this program is a core, multi-year function of ACA's wildlife program. In fiscal year 2008, ACA partnered with ASRD to deliver 27 aerial ungulate surveys across 44 management units in Alberta. ACA staff participated in the planning, sampling, and reporting of all 27 surveys. These surveys provided important population information for moose, deer, elk, bighorn sheep, pronghorn antelope, mountain goats, bison, and caribou. In addition, ACA conducted one training survey to mentor new observers, and implemented trials to test new survey techniques for pronghorn and moose. With the experience gained during the 2007 and 2008 fiscal years, we look toward continuing to play a substantive role in the delivery of aerial ungulate surveys in coming years.

Introduction

Aerial ungulate surveys provide information on population size and trend, population demographics, and reproductive output (Lancia et al. 2005). ASRD relies on survey information for population management and the allocation of ungulate game species. Aerial ungulate surveys (AUS) are consistently identified as a top ASRD priority delegated to 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

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 little involvement from ACA staff across the province. Beginning in 2007 and following direction from the Deputy Minister of ASRD, ACA began playing a much more substantive role in the planning, sampling, and reporting of delegated aerial ungulate survey (D-AUS). In fiscal year 2007, ACA staff were directly involved in the delivery of 14 of 28 surveys conducted under the D-AUS partnership. In addition, several training and mentoring opportunities increased the capability of ACA staff to participate meaningfully in the delivery of D-AUS. It was expected that these efforts would lead to more substantive involvement by ACA in the D-AUS partnership during the delivery of the fiscal year 2008 surveys.

Surveys were led by experienced ACA and ASRD staff and were to be carried out with the expectation that survey leads would mentor new staff from both organizations 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 2008/2009, the ACA provided population information for 44 management areas, through 27 surveys (Table 1). Surveys were conducted for all ungulate species in Alberta (Fig. 1)

Our staff participated in planning, data collection, and reporting for all 27 delegated surveys. ACA biologists co-lead all surveys delivered under the D-AUS partnership.

ACA staff also participated in one random stratified block training survey, which provided learning opportunities for 2 navigators, four observers, and one survey leader. This training survey also provided sex/age composition data for both mule deer and white-tailed deer in 3 Wildlife Management Units.

In addition, ACA conducted continual improvement survey trials to test new survey approaches for both pronghorn antelope (in collaboration with ASRD) and moose (in collaboration with the University of Montana and ASRD).

Conclusions

In the second 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 all of the 27 surveys delegated to us. In addition, we completed 1 extra survey, and assisted with 2 ASRD led surveys. With the experienced gained during the 2007 and 2008 fiscal years, we look toward

continuing to play a substantive role in the delivery of delegated aerial ungulate surveys in coming years.

Communications

- A summary of results from 2007/2008 was posted to the ACA web page (<http://www.ab-conservation.com/>) in June 2008.
- A summary of results from 2008/2009 is expected to be posted to the ACA web page (<http://www.ab-conservation.com/>) in June 2009.
- ACA staff gave a presentation on the results of the pronghorn antelope continual improvement trial at the Alberta Chapter of the Wildlife Society conference in March 2009.

Literature cited

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.

Table 1. Data collection summary for surveys conducted in 2008/2009.

Species	Survey type	Number of surveys	Total management units/areas
Mule deer and/or white-tailed deer	Random stratified block	3	3
Bison	Total count	1	2
Elk	Total count	1	1
Mountain goat	Total count	2	4
Moose	Random stratified block	10	15
Pronghorn	Transect survey	8	8
Bighorn sheep	Total count	1	10
Caribou	Cow:calf ratios	1	1

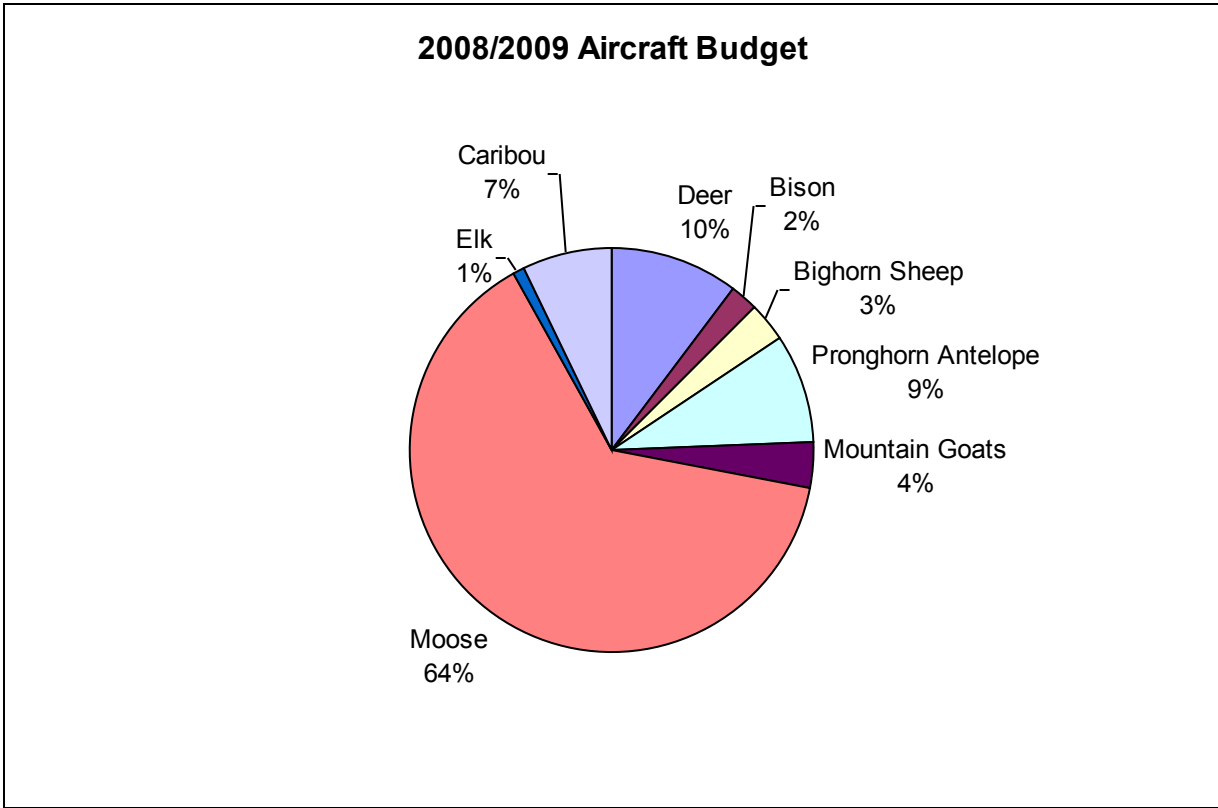


Figure 1. Relative amount of ACA funding used to fund aerial surveys for the various ungulate species in Alberta during the 2008/2009 fiscal year. Survey priorities are determined by Alberta Sustainable Resource Development.



Elk are one of the target species for aerial ungulate surveys conducted by the ACA. (Photo: Nathan Carruthers)



Surveys conducted in early winter allow classification of antler size for male ungulates (Photo: Nathan Carruthers)



Dave Jackson searches for moose during the survey of Wildlife Management Unit 349 near Whitecourt, Alberta (Photo: Chuck Bain)