

Alberta Conservation Association 2010/11 Project Summary Report

Project Name: *Aerial Ungulate Surveys*

Wildlife Program Manager: Doug Manzer

Project Leader: Robert Anderson with Mike Ranger

Primary ACA staff on project:

Robert Anderson, Mike Grue, Ryan Hermanutz, Kelly Hooey, Velma Hudson, Dave Jackson, Michael Jokinen, Chad Judd, Ed Kolodychuk, Joanne Melzer, Andy Murphy, Len Peleshok, Jim Potter, Mike Ranger, Corey Rasmussen, Roy Schmelzeisen, Robb Stavne, Dan Sturgess, Mike Uchikura, Erin Vandermarel, Stefanie Van Huystee, Mike Verhage and Shevenell Webb

Partnerships

Alberta Sustainable Resource Development

Key Findings

- Delivered 26 aerial surveys, providing 53 separate population estimates for deer, elk, bighorn sheep, bison, mountain goats, pronghorn antelope and moose.
- Results will be posted on our website in early summer 2011, once all the data are checked and reports written.

Introduction

Aerial ungulate surveys (AUS) provide information on population size and trends, population demographics and reproductive output (Lancia et al. 2005). The Alberta Government (Alberta Sustainable Resource Development, ASRD) relies on survey information to set hunting quotas and assist with land use planning efforts. Alberta Conservation Association (ACA) works in partnership with ASRD to conduct these surveys across the province.

Methods

Alberta Conservation Association has funded AUS flights in Alberta since our inception in 1997. This project was historically led 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, we began playing a much more active role in the planning, sampling and reporting of AUS that had been delegated to us (D-AUS). Though we still work in partnership with ASRD biologists, our role and expertise in this area has evolved annually. In fiscal year 2010/11, ACA staff participated in the delivery of 26 surveys conducted under the D-AUS partnership. All pronghorn antelope surveys were flown as part of a single sustained effort; however, they have historically been budgeted as distinct surveys for each of the pronghorn

antelope management areas surveyed and continue to be counted as such here. We used random stratified block designs for moose and deer surveys. We conducted bighorn sheep, mountain goat, bison, elk and pronghorn antelope surveys as a total count of previously-identified ranges or management areas. As part of our commitment to continual improvement, we partnered with ASRD to test methods for collecting additional information during pronghorn antelope surveys using distance sampling.

Results

During 2010/11, we conducted surveys for all harvested ungulate species in Alberta (Figure 1), providing 53 separate population estimates (Table 1). Our staff participated in planning, data collection and reporting for all 26 delegated surveys, co-leading these surveys under the D-AUS partnership with ASRD. Our staff also assisted ASRD with three additional surveys funded through ASRD. Continual improvement survey trials for pronghorn antelope indicated that our standard trend survey methods likely underestimate the true population size. We entered all survey data into the Fisheries and Wildlife Management Information System (FWMIS), and will upload summary information to our website for public viewing once final reports are completed in early summer 2011.

Figure 1. Placeholders – see AUS photo/ table folder in order to insert

Table 1.

Conclusions

In the fourth year of full ACA participation in delivery of AUS, our staff played key roles in the planning, sampling and reporting phases of all 26 surveys delegated to us, as well as assisting ASRD with some of their surveys. Distance sampling trials for pronghorn antelope suggested that our current trend survey method may be underestimating the true population size. We will continue to investigate this to determine if a correction factor can be established. Survey information will continue to be posted to our website, making it available to the hunters and anglers who pay for the majority of costs associated with this project.

Communications

- Presentation on the aerial survey program to the Alberta Society of Professional Biologists in April 2010.
- Presentation on pronghorn distance sampling at the 24th Biennial Pronghorn Workshop in Wyoming in May 2010.
- Full data reports for 2009/10 posted on our website in June 2010.
- Population estimates for 2009/10 posted on our website in June 2010.
- Aerial survey executive summary for 2009/10 posted on our website in March 2011.

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.