

**FEDERAL AID ANNUAL  
RESEARCH PERFORMANCE REPORT**

ALASKA DEPARTMENT OF FISH AND GAME  
DIVISION OF WILDLIFE CONSERVATION  
PO Box 115526  
Juneau, AK 99811-5526

**Alaska Department of Fish and Game  
Wildlife Restoration Grant**

**GRANT NUMBER:** W-33

**SEGMENT NUMBER:** 10

**PROJECT NUMBER:** 1.67

**PROJECT TITLE:** Comparative nutritional status among 6 high density moose subpopulations in Interior Alaska

**PROJECT DURATION:** 1 July 2008–30 June 2013

**REPORTING PERIOD:** 1 July 2011 – 30 June 2012

**REPORT DUE DATE:** 1 September 2012

**PRINCIPAL INVESTIGATOR:** Kalin Ann Kellie Seaton

**COOPERATORS:** John Haddix (U.S. Army), Casey Brown (University of Alaska Fairbanks), Todd Brinkman (Scenarios Network for Alaska and Arctic Planning)

**WORK LOCATION:** Interior Alaska

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**I. SUMMARY OF WORK COMPLETED THIS SEGMENT ON JOBS IDENTIFIED  
IN ANNUAL WORK PLAN**

**OBJECTIVE 1:** Conduct a literature review.

**JOB/ACTIVITY 1:** Literature review.

Reviewed literature on moose nutrition, wildfire ecology and literature specific to the Hajdukovich burn.

**OBJECTIVE 2:** Estimate and evaluate nutritional differences among 6 high-density subpopulations using short-yearling weights.

**JOB/ACTIVITY 2A:** Immobilize and weigh March calves (short-yearlings) in 5 subpopulations.

In March 2012, I caught and weighed an additional 59 moose calves in Unit 20D Southwest to increase sample size for hills-flats comparisons of nutritional improvement. I also caught 37 additional calves in western Unit 20A to obtain a larger sample for this area that included the 2009 burn. These captures coincided with the browse survey conducted in western Unit 20A in late March 2012.

OBJECTIVE 4: Connect nutritional indices, population estimates and harvest by monitoring the movements of individual moose (% present) during survey and hunting seasons.

JOB/ACTIVITY 4A: Radiotrack moose and obtain location information.

I used bi-monthly location data were used to map basic movement patterns for all collared VHF moose to determine which moose would receive GPS collars in October 2011. Remaining VHF moose were monitored monthly to determine whether the moose was still alive. In FY13, all location data will be used to compare spatial distribution of moose during survey and hunting seasons.

OBJECTIVE 6: Evaluate the progression of nutritional differences between burned and unburned areas of Unit 20A.

JOB/ACTIVITY 6A: Evaluate use of recent burns by collared moose.

We will use information collected in job 4a to evaluate whether collared moose are changing their habitat use relative to recent burns in Unit 20A. We will use this information to determine whether recent burn/older habitat comparisons of nutrition are appropriate. This information will also be coupled with 2008 and 2012 GSPE estimates of moose density in the recent burns to determine underlying factors contributing to population trends in the recent burn versus older habitat in Unit 20A.

In October 2011, I began collecting 6 locations daily for 40 moose fitted with GPS/ARGOS radio collars. These data are downloaded every 7 days and are being stored for analysis. These moose are using burned and unburned areas of Unit 20A and their habitat selection will be compared once data are collected.

JOB/ACTIVITY 6B (IF APPLICABLE): Determine nutritional differences between burned and unburned habitat.

No additional work was completed during this reporting period.

JOB/ACTIVITY 6C: Collect fine-scale movement information to determine movement and use patterns in burned and unburned habitat.

In October 2011 I recollared a subset of 40 known-range, known-age moose from Objective 2 with GPS collars to collect fine-scale movement information on these moose relative to recent burns.

OBJECTIVE 7: Write annual progress reports, write final report and publish in peer-reviewed journals.

I began drafting a manuscript examining patterns of habitat use within a 20-year-old burn near Delta Junction, Alaska. I expect to complete and submit this manuscript to *Alces* in late winter.

**II. SIGNIFICANT DEVIATIONS AND/OR ADDITIONAL FEDERAL AID-FUNDED WORK NOT DESCRIBED ABOVE THAT WAS ACCOMPLISHED ON THIS PROJECT DURING THIS SEGMENT PERIOD**

The U.S. military provided a large amount of funding to cooperator Dr. Todd Brinkman with the SNAP program for GIS and statistical analysis of habitat selection relative to burns in Unit 20A. Dr. Brinkman and I will be developing analyses and joint publications based on the results.

**III. PUBLICATIONS**

None.

**IV. RECOMMENDATIONS FOR THIS PROJECT**

None.

**PREPARED BY:** Kalin A. Kellie Seaton

**DATE:** 5 August 2012