

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

**Grant Number:** W-33

**Segment Number:** 11

**Project Number:** 1.71

**Project Title:** Calf Production and Survival of Moose in GMU 16

**Project Duration:** 1 July 2011 to 30 June 2016

**Report Due Date:** 1 September 2013.

**Partner:**

**PRINCIPAL INVESTIGATOR:** L. Bender

**COOPERATORS:**

**WORK LOCATION:** Game Management Unit 16B

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**I. PROGRESS ON PROJECT OBJECTIVES DURING LAST SEGMENT**

**OBJECTIVE 1:** Estimate calf production, survival, and recruitment rates. We have maintained a sample of approximately 70–100 radio-collared adult female moose in the subunit since 2006 and have monitored the majority of these animals annually to determine numbers of calves produced and the survival of those calves to fall and the subsequent spring. We have further modeled survival of calves as a function of birth, climate, and predator abundance attributes.

**OBJECTIVE 2:** Evaluate causes of calf mortality. We have conducted 2 calf captures in unit 16B, radio-tagging > 50 calves each capture, to determine causes-of-mortality of radio-collared calves. We have determined predation by black and brown bears to be the most common cause of death, and have modeled spatial patterns of calf mortality in relation to cause-of-death and spatial patterns of predator harvest.

**OBJECTIVE 3:** Monitor forage abundance and utilization to ensure moose are not over-abundant. We have not established any protocols for this objective to date. We have monitored nutritional condition of individual cow moose using ultrasonograph measurements of fat and lean tissue reserves, and body condition scores. We have monitored trend in condition of the moose population by monitoring conception rates, twinning rates, and mass of 6 and 10-month old calves.

**OBJECTIVE 4:** Report findings in appropriate scientific and popular venues. Data analysis was initiated in July 2011 and is ongoing. An Interim Wildlife Research Report was initiated in August 2013 for release in autumn 2013.

## **II. SUMMARY OF WORK COMPLETED ON JOBS IDENTIFIED IN ANNUAL PLAN THIS PERIOD**

### JOB/ACTIVITY 1: Estimate calf production, survival, recruitment

We monitored production and survival of calves-at-heel to 59 radio-tagged cows in GMU 16B-Mid and 26 radio-tagged cows in GMU 16B-South.

### JOB/ACTIVITY 2: Evaluate causes of calf mortality

No activities were completed this year for this Job.

### JOB/ACTIVITY 3: Monitor forage abundance

No activities were completed this year for this Job.

### JOB/ACTIVITY 4: Analyses and report findings

Analyses of data collected since 2006 was initiated in July 2011 and continues. Production of an Interim Wildlife Research Report was initiated in August 2013 for release in autumn 2013.

## **V. PUBLICATIONS**

## **VI. RECOMMENDATIONS FOR THIS PROJECT**

Continue as planned

**Prepared by:** L. C. Bender

**Date:** 30 August 2013