

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

Grant Number: AKW-20

Segment Number: 11

Project Number: 1.72

Project Title: Identification of factors affecting calf production, calf survival, and survival of female adult moose in Game Management Unit 15C

Project Duration: July 1, 2011 – June 30, 2018

Reporting Period: July 1, 2016 – June 30, 2017

Report Due Date: Sept. 1 2017

PRINCIPAL INVESTIGATOR: Thomas McDonough, ADF&G

WORK LOCATION: Lower Kenai Peninsula, GMU 15C

I. PROGRESS ON PROJECT OBJECTIVES DURING LAST SEGMENT

OBJECTIVE 1: Quantify pregnancy rates, parturition rates, and parturition dates of adult cow moose.

Job/activity 1a: We captured 28 female moose November 2016 and 44 in Feb./March of 2017. Pregnancy rate was 84% as determined through blood testing. Parturition rates were 76% based on aerially monitoring cows daily during calving. Parturition dates were from 12May through 13June with a median parturition date of 19May. Parturition dates were determined through daily aerially monitoring using vaginal implant transmitters. Similar data will be collected again in 2018.

OBJECTIVE 2: Determine twinning rates of adult cow moose.

Job/activity 2a: We conducted aerial surveys of radio collared cows during calving to determine a twinning rate of 36%. Similar data will be collected again in 2018.

OBJECTIVE 3: Determine cow and calf mortality rates.

Job/activity 3a: Radio collared cows were aerially monitored daily during calving. Since getting a visual confirmation on calves after green-up is difficult, calf survival for spring of 2017 will be fully assessed in the fall when visual confirmations can be done. Cow and calf survival in 2016 was 82% and 20%, respectively.

OBJECTIVE 4: Determine seasonal movements of radio collared cows.

Job/activity 4a: Periodic aerial telemetry flights of collared cows have occurred since initial collaring. Movement data has not yet been fully analyzed.

OBJECTIVE 5: Assess nutritional condition of cow moose at the yearly peak and nadir.

Job/activity 5a: Mean rump fat of adult cows, which index body condition, assessed during Nov. 2016 and Feb./March 2017 were 3.6 and 1.5, respectively.

V. PUBLICATIONS

Wilson, R. E., S. D. Farley, T. J. McDonough, S. L. Talbot, and P. S. Barboza. 2015. A genetic discontinuity in moose (*Alces alces*) in Alaska corresponds with fenced transportation infrastructure. *Conservation Genetics* 16:791-801.

Wilson, R. E., T. J. McDonough, P. S. Barboza, S. L. Talbot, and S. D. Farley. 2015. Population genetic structure of moose (*Alces alces*) of south-central Alaska. *Alces* 51:71-86.

Thompson, D. P., J. A. Crouse, T. J. McDonough, O. H. Badajos, J. Adsem, and P. S. Barboza. In review. Vaginal implant transmitters for continuous body temperature measurement in moose. *Wildlife Society Bulletin*.

McDonough, T. J., J. A. Crouse, D. P. Thompson, B. W. Dale, and O. H. Badajos. In prep. An evaluation of short- and long-term impacts of vaginal implant transmitters in moose. *Wildlife Society Bulletin*.

VI. RECOMMENDATIONS FOR THIS PROJECT

We recommend continuing this project through FY2018 or for the life of potential intensive management activities.

Prepared by:

Thomas McDonough

Date:

14 Aug., 2017