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:** 9

PROJECT NUMBER: 1.69

PROJECT TITLE: Movements and sightability of moose in Game Management Unit 21E

PROJECT DURATION: 1 July 2009–30 June 2014

REPORT DUE DATE: 1 September 2011

PRINCIPAL INVESTIGATORS: Thomas F. Paragi and Kalin A. Kellie, ADF&G

COOPERATORS: Geoffrey Beyersdorf, U.S. Bureau of Land Management; Steven Kovach, U.S. Fish and Wildlife Service

WORK LOCATION: Interior Alaska, Unit 21E

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

OBJECTIVE 1: Determine seasonal movements of moose that overwinter in the Yukon and Innoko River floodplains to assist managers in defining winter range, spring calving areas, and moose distribution during hunting season and periods of aerial surveys in autumn (age-sex composition) and late winter (abundance).

JOB/ACTIVITY 1A: Capture and radiomark moose in spring 2010.
Job completed in March 2010.

JOB/ACTIVITY 1B: Obtain VHF relocations.
McGrath Area staff conducted VHF telemetry flights in October 2010 (bull recapture, job/activity 1E), March 2011 (verify presence of calves with collared cows), and May 2011 (locate cows during twinning survey).

JOB/ACTIVITY 1C: Define seasonal ranges of moose for planning survey and inventory activities and to aid management decisions.
We continued to collect data for a multi-year assessment. Data from the first year were used to plan deployment locations for snow survey markers in summer 2011 (Federal Aid project 5.20).

JOB/ACTIVITY 1D: Define periods of rapid range shift to develop guidelines for frequency of VHF telemetry flights to aid survey and inventory activities and range definition.
We mapped the first year of GPS data to examine scale and seasonal timing of movements.

JOB/ACTIVITY 1E: Verify fit of new expandable GPS collar design for male moose (job amended to study plan 4 May 2010).
We recaptured 5 collared males in October 2010 and examined collar fit.

OBJECTIVE 2: Use radiomarked moose to develop a sightability correction factor (SCF) for late winter surveys using a geospatial population estimator (GSPE) for moose abundance in Unit 21E.

JOB/ACTIVITY 2A: Estimate a SCF by intensively searching a randomly-located quarter of randomly sub-sampled GSPE cells during a population survey in Unit 19A (late winter 2011) (job modified in study plan 14 December 2010).
We provided historic survey information to a biometrician who helped us design the sampling trials involving intensive searches. We performed the search trials as part of the GSPE survey in Unit 19A during 1–6 March 2011 and estimated the SCF for an expanded (corrected) estimate of abundance. The biometrician then applied the intensive trial results to estimate the full variance associated with the expanded abundance estimate. A memo on the results was written.

JOB/ACTIVITY 2B: Estimate a SCF by intensive searches (see job/activity 2A) and by detection of radiomarked moose during a population survey in Unit 21E (late winter 2012) (job modified in study plan 14 December 2010).
No work was performed during this segment.

JOB/ACTIVITY 3: GPS data dowload and archive.
We continued to archive GPS data after weekly downloads from the ARGOS satellite system and distribute data to federal cooperators.

JOB/ACTIVITY 4: Write progress report and give scientific presentations.
Prepared progress report, work plan, project statement, and budget documentation.

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

Job 2A was a modification to work outside the study area because of an opportunity to test intensive search trials for the first time with a late winter survey in an adjacent area with similar characteristics (winter range primarily restricted to riparian habitat). We judged it would benefit our survey design for the 2012 GSPE effort in Unit 21E more to work in an actual survey (just in a different area) than attempting to simulate trials in a situation where pilots and observers knew they were being tested outside of an actual survey.

Paragi directed sightability trials using radiocollared moose in Unit 24B during 15–19 November 2010 as practice for conducting similar trials in Unit 21E.

III. PUBLICATIONS

None.

IV. RECOMMENDATIONS FOR THIS PROJECT

Knowledge of sampling intensity between low and high density sample units and its relative effect on SCF from Unit 19A will be applied to design of SCF trials in Unit 21E.

PREPARED BY: Thomas F. Paragi

DATE: 12 August 2011