

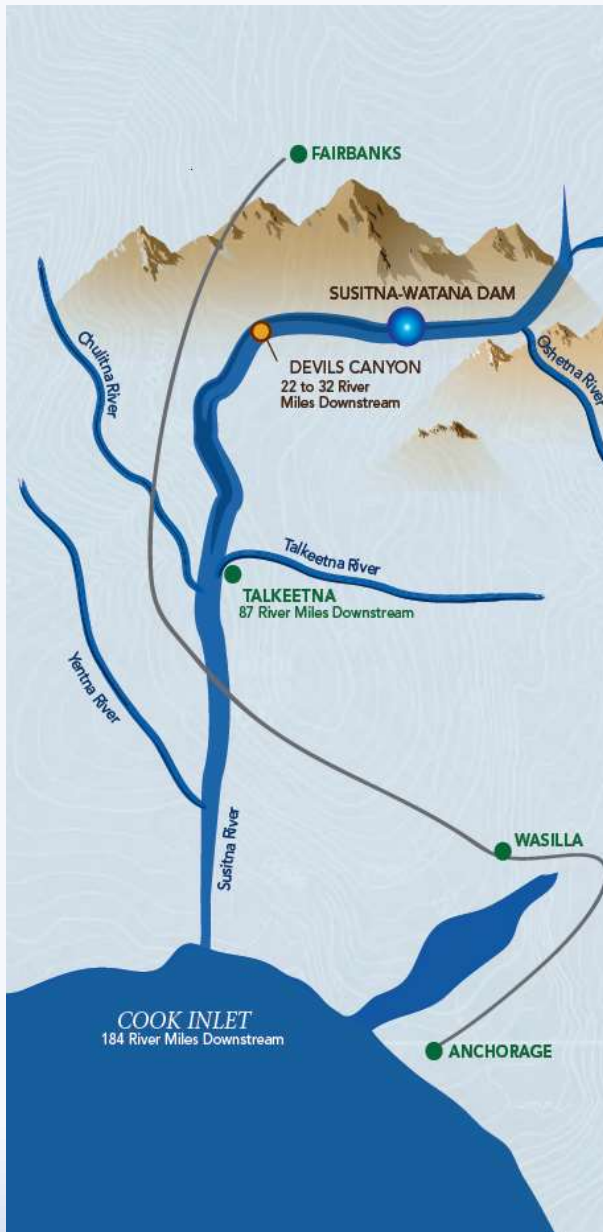
Initial Study Report Meeting

Study 10.5 Moose Distribution, Abundance, Movements, Productivity, and Survival

October 21, 2014

Prepared by

Alaska Department of Fish and Game



Study 10.5 Objectives

- Document the moose population and composition in the study area.
- Assess the relative importance of the habitat in the proposed inundation zone, access/transmission corridors, and riparian area downstream from the proposed dam.
- Document the productivity and calf survival of moose using the study area.
- Document the level of late-winter use of the proposed inundation zone by adults and calves.
- Document moose browse utilization in and adjacent to the proposed inundation zone and the riparian area downstream from the proposed dam.
- Document the amount of habitat potentially available for improvement through enhancement.
- Analyze and synthesize data from historical and current studies of moose as a continuation of the 2012 big-game distribution and movements study.

Study 10.5 Components

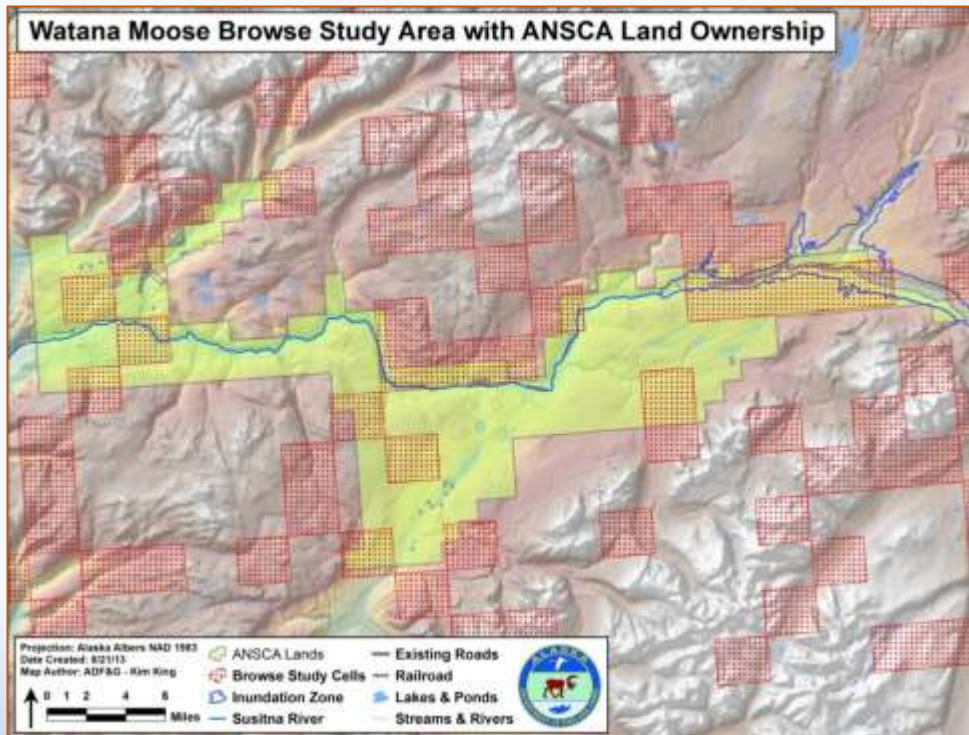
- **Moose Distribution, Movements, Productivity, and Survival**
(ISR Part A, Section 4.1, pg 2)
- **Population Monitoring** (ISR Part A, Section 4.2, pg 3)
- **Moose Browse Survey and Habitat Assessment**
(ISR Part A, Section 4.3, pg 4)



Study 10.5 Variances

Browse survey methods (RSP Section 10.5.4.3) varied in 2013:

- Randomly chosen cells on Cook Inlet Regional Working Group (CIRWG) lands were unavailable for sampling in 2013.
- **Flexibility of the browse survey methods allowed the study team to work around those lands and still meet the study objectives.** (ISR Part A, Section 4.3.1; Table 4.3-1)



Study 10.5 Summary of Results in ISR (ISR Part A – Section 5)

100 VHF and GPS moose collars have been deployed in the study area (ISR Table 5.1-1).



Photo by Jerry Lee (pilot)

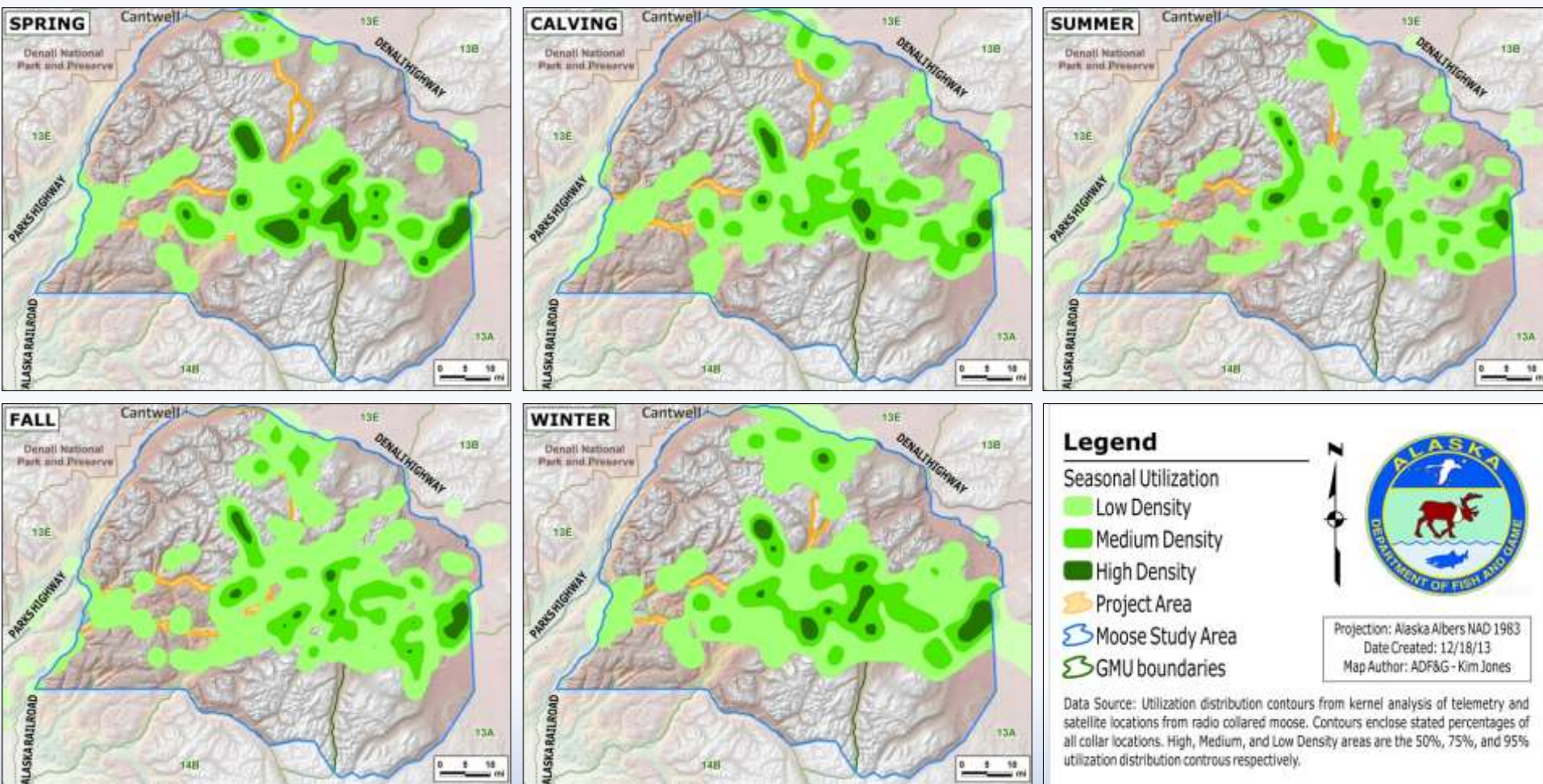


Photo by Kim Jones ADF&G

Collar Type	Sex	Oct 2012	Mar 2013	Total
VHF	Bulls	3	17	20
	Cows	7	33	40
GPS	Bulls	14	0	14
	Cows	26	0	26
TOTAL		50	50	100

Study 10.5 Summary of Results in ISR (ISR Part A – Section 5)

VHF- and GPS-collared Moose Locations, Oct 2012–Sep 2013 (ISR Figure 5.1-1)



Study 10.5 Summary of Results in ISR (ISR Part A – Section 5)

Twinning and calf survival rates were assessed using daily twinning surveys.

60 cows located

57 calves born

44 cows with calves

13 cows with twins

73% of cows were parturient

30% of parturient cows had twins



57 calf births

25 calf deaths by June 10

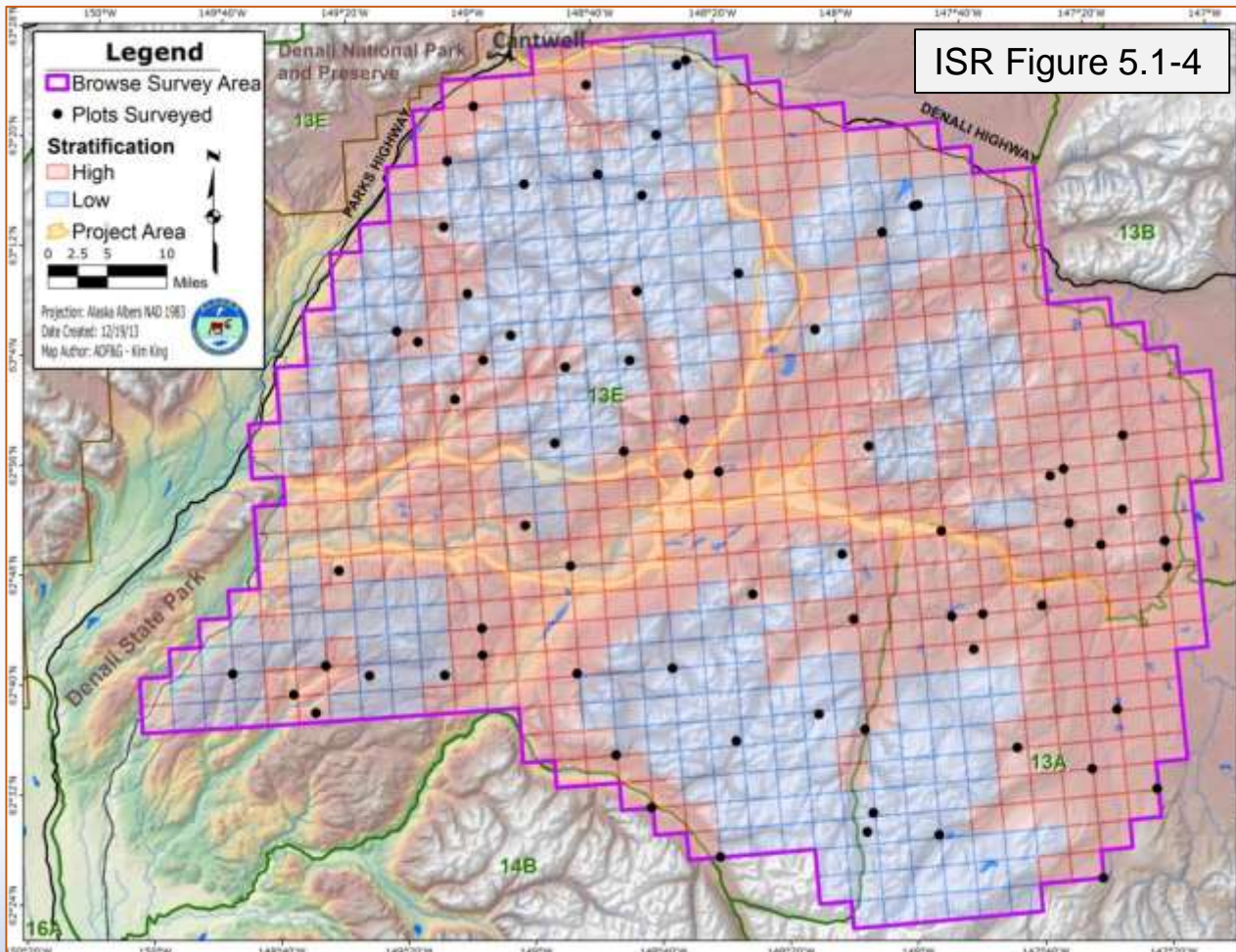
27 calf deaths by July 1

53% of calves survived to July 1

74% of calf deaths within 1st week of observation

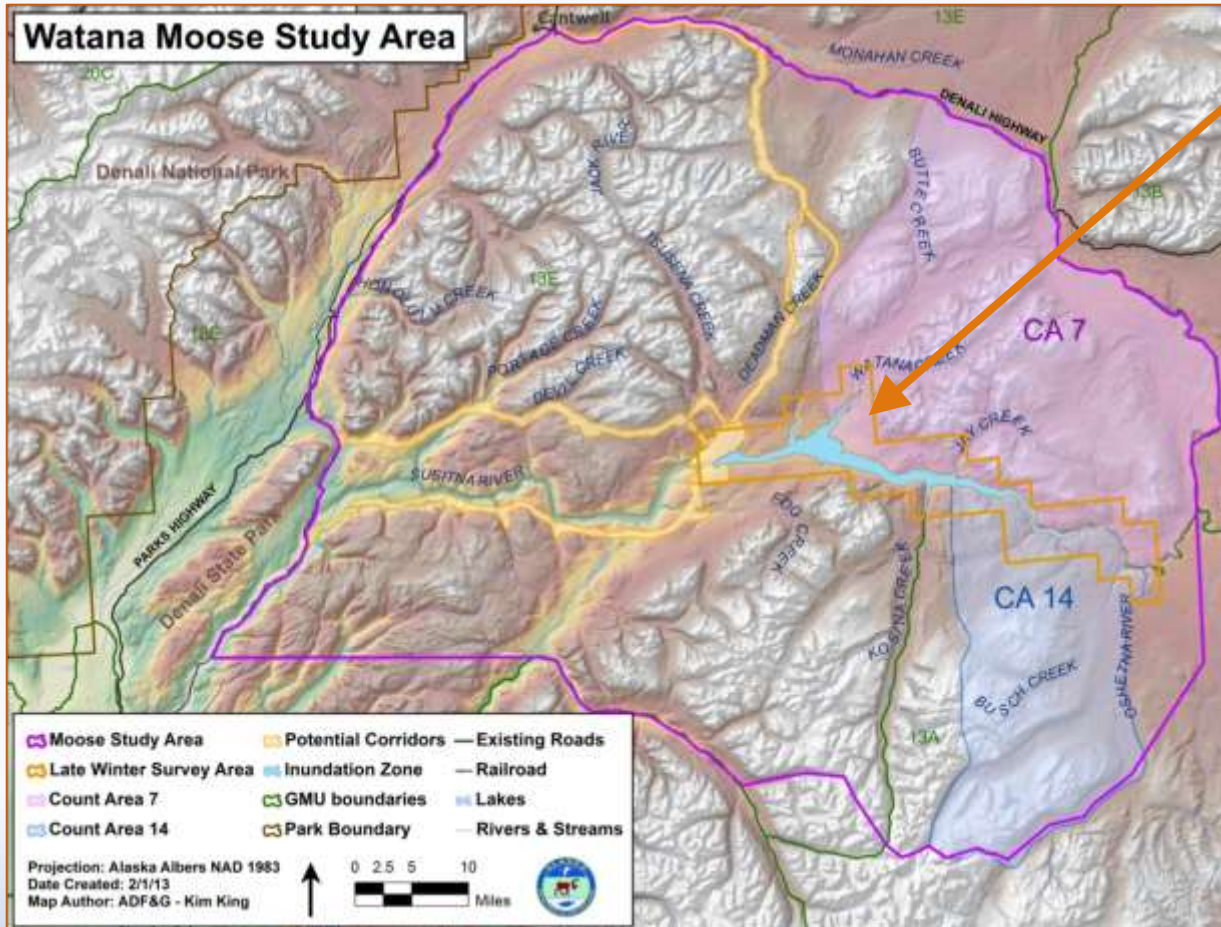
Study 10.5 Summary of Results in ISR (ISR Part A – Section 5)

A browse survey was conducted in the study area in March 2013.



Study 10.5 Summary of Results since ISR

Late-winter surveys were conducted in the proposed Watana Reservoir inundation zone in March 2012 and 2013.



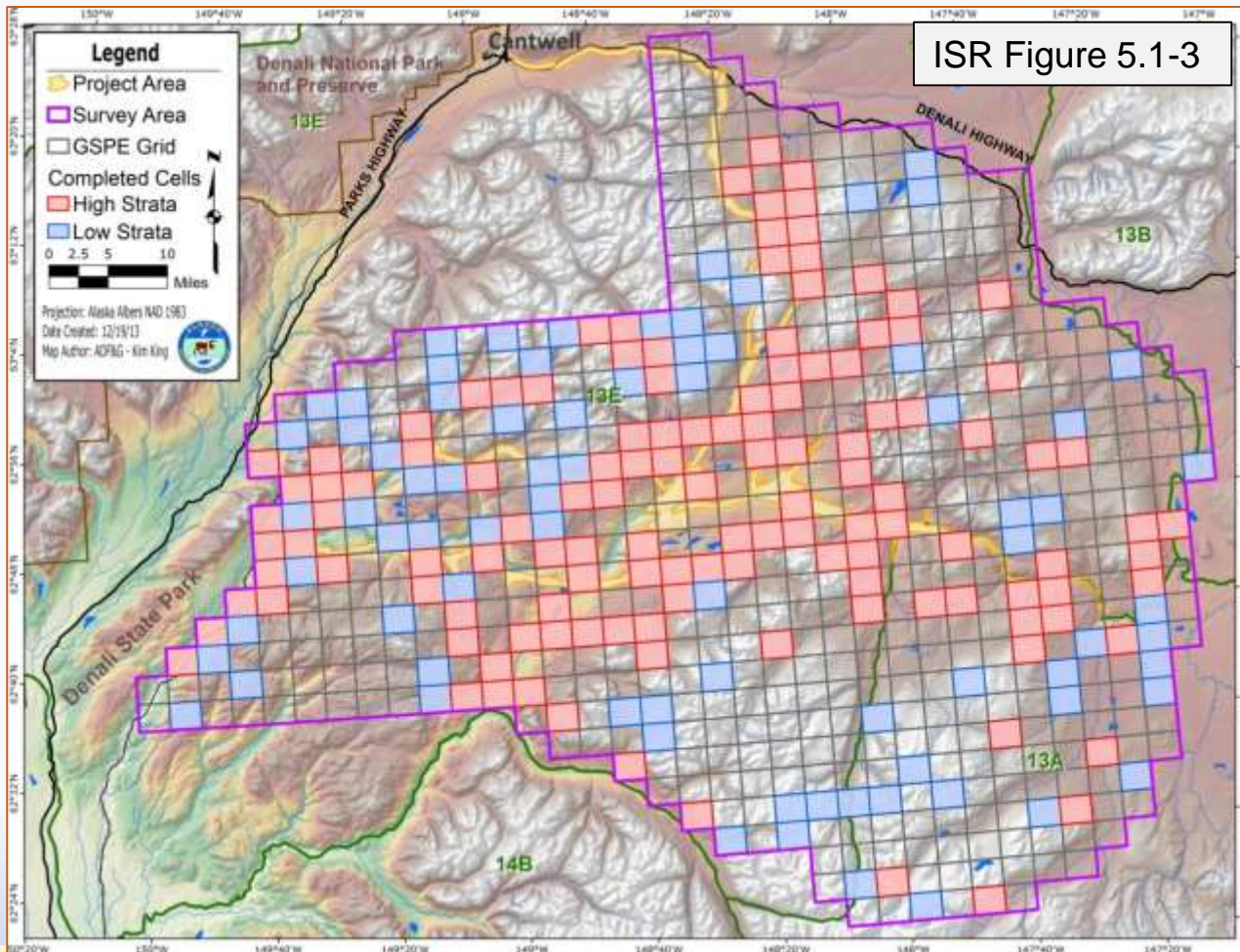
Survey Results

2012: 481 ± 26
(1.97 moose/mi²)

2013: 502 ± 26
(2.06 moose/mi²)

Study 10.5 Summary of Results since ISR

A GeoSpatial Population Estimator (GSPE) survey was conducted in the study area in November 2013.



Survey Results

3,683 ± 274 with
SCF = 1.25

(0.95 moose/mi²)



AEA Proposed Modifications to Study 10.5 in ISR (ISR Part C – Section 7)

- AEA will forego monthly radio-tracking flights of VHF-collared moose in winter months (December, January, February, April). Because little movement occurs during these months, monitoring during this period is not needed to meet study objectives (Section 7.1.2).
- Another late-winter inundation-zone survey will be completed in March 2015.
- Fine-scale browse assessment will be completed in March 2015 (Section 7.2).



Photo by Kim Jones ADF&G



Photo by Kim Jones ADF&G

New Modifications to Study 10.5 since ISR

ADF&G proposes and AEA supports the following modification:

- Moose telemetry flights will continue in 2015.



Steps to Complete Study 10.5 (ISR Part C – Section 7.1)

To complete this study, AEA will implement the methods described in the RSP. These activities include the following:

- Continue monitoring moose distribution, movements, productivity, and survival (RSP Section 10.5.4.1).
- Population monitoring (RSP Section 10.5.4.2).
- Moose browse survey and habitat assessment (RSP Section 10.5.4.3).



Photo by Kim Jones ADF&G



Photo by Kim Jones ADF&G

Licensing Participants' Proposed Modifications to Study 10.5?

- Agencies
- CIRWG members and Ahtna
- Public