



THE STATE
of **ALASKA**
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Department of Fish and Game

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RC 049

MEMORANDUM

TO: Gino Del Frate
Management Coordinator
ADF&G/DWC/Reg. II
Anchorage

FROM: Jessy Coltrane
Area Biologist
ADF&G/DWC/Reg.II
GMU 14C Anchorage

RE: GMU 14C Moose Survey 2013

15 January 2014

On 17 November, and 2 – 4 December 2013, Dave Battle (Assistant Area Biologist), and Dave Saalfeld (Regional Wildlife Biologist) conducted moose surveys in Game Management Unit (GMU) 14C. Surveys were conducted using fixed-wing super cubs piloted by Billy Wiederkehr, Wiederkehr Air (surveyed all four days), and Mike Meekin (surveyed 2 – 3 December 2013), Meekin's Air Service. Composition counts were conducted in the Twentymile, Placer, and Portage River drainages, as well as in Peters Creek, Thunderbird and Upper Ship Creek Valley. In addition, we surveyed Joint Base Elmendorf-Richardson lands north of Eagle River. For all survey areas, multiple transects were flown starting above the treeline and continuing throughout the drainage or until all available habitat was surveyed. Pilots used a global positioning system (GPS) trackline to ensure adequate coverage in each drainage or unit. Additional passes were made in areas with dense canopy cover to account for reduced sightability of moose in these habitats. Once moose were observed, the aircraft made multiple passes so the observer could enumerate the number of individual moose within a group, and classify them as yearling bulls (antlers \leq 30 in), medium bulls (31 – 49 in), large bulls (>50 in),

Submitted By Frank Neumann

cows without calves, cows with one calf, and cows with twins, lone calves, and unidentified moose.

Due to poor snow coverage throughout most of November, and inclement weather conditions and lack of pilot availability during late November, surveys could not be conducted throughout all of GMU 14C before bulls started dropping their antlers in mid-December. For the areas surveyed, viewing conditions were fair to good on the days the survey was conducted with complete snow coverage and partly cloudy to sunny conditions. However, low fog reduced visibility on JBER during the afternoon of 3 December. Winds were light with temperatures ranging from -12°C to -3°C. Surveys were flown between 1000 and 1545 with a total survey time of 12 hours and 57 minutes. A total of 467 moose (Table 1) were counted, with an observation rate of 36 moose per hour.

Due to incomplete survey coverage, a population estimate for GMU 14C has not yet been calculated. However, our compositional counts provided a calf:cow ratio of 22 calves per 100 cows and a bull:cow ratio of 35 bulls per 100 cows for all areas surveyed combined (Table 1). Compositional counts only provide a minimum number of moose within GMU 14C.

In 2011, our surveys resulted in a population estimate of 1540 moose, with a calf:cow ratio of 20 calves per 100 cows and a bull:cow ratio of 32 bulls per 100 cows. This estimate was within the population objective of 1500 to 1800 moose for GMU 14C. Although we have yet to calculate a current population estimate, the current estimate for calf:cow and bull:cow ratios is similar to the 2011 estimate. To date moose harvest in GMU 14C is 90 moose; however, not all late season hunters have reported. The final harvest tally could include up to 5 additional moose.

We are faced with numerous survey challenges in GMU 14C, including vast areas of human development and large tracts of public land within restricted air space. In these areas it is virtually impossible to count moose using traditional aerial methods. This winter we are working with ADFG Biometrician Earl Becker to investigate the development of ground-based methods to assess moose densities in municipal parks, which provide the largest portion of habitat in GMU 14C that cannot be surveyed from the air. We will also be working with Earl Becker to determine a correction factor for surveys flown on JBER and Upper Ship Creek Valley and a final population estimate for GMU 14C. The results of this analysis will be outlined in a future memo.

Table 1. Number of moose observed during composition counts in GMU 14C, 2013.

Survey Area	Date	Bulls	Cows	Calves	Total	Bulls :	Calves :
						100 Cows	100 Cows
Twentymile/Placer/Portage	4 Dec	24	103	28	155	23	27
JBER/Ship Creek	2-3 Dec	55	142	28	225	39	20
Peters Creek	18 Nov	12	28	9	49	43	32
Thunderbird	18 Nov	13	22	2	38	59	9