

Wantana Impoundment Moose
Census
March 1983

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WATANA IMPOUNDMENT MOOSE CENSUS, MARCH 1983

On 28 March, 1983, I censused an area bordering the Susitna River from the site of the proposed Watana dam upstream to the upper reaches of the high pool level (2200 ft elevation) between the mouths of Oshetna and Tyone Rivers. Included in the survey area was not only the impoundment zone below the 2200 ft level, but an additional 0.25 mi border adjacent to the high pool level. The total planimetered area censused was 104.8 mi^2 , of which almost 8 mi^2 was water, bringing the total area censused to 96.8 mi^2 . A total time of 396 min was spent on the census.

Conditions for the census were poor due to lack of suitable fresh snow. Survey methods have been described by Gasaway et al. (1981). The entire impoundment area was censused at 4.0 min/mi^2 , and then an area of approximately 3.4 mi^2 was selected at random and censused at 12 min/mi^2 in order to estimate the number of moose missed in the less intensive survey. The more intensive search resulted in a sightability correction factor (SCF) of 3.6, further substantiating the feeling that count conditions were extremely poor. To obtain a more reliable estimate of numbers of moose utilizing the impoundment and adjacent areas under these poor conditions, a much more intensive search resulting in prohibitive expenditures would have to be made.

To lend further credence to the SCF, results of radio-tracking efforts done the day prior to the census were investigated. On the census, only 2 radio-collared moose were seen. Radio-location data revealed that there were 7 moose in the impoundment zone, suggesting that the calculated SCF of 3.6 was reasonably accurate.

Below are the results of the census flown in a Supercub at 4.0 min/mi^2 with Ken Bunch on 28 March 1983.

Moose observed * (SCF * 1.03) = estimate of actual numbers

$$161 * (7/2 * 1.03) = 580.4$$

$$\text{Observed moose/mi}^2 = 1.66$$

$$\text{Estimated moose/mi}^2 = 6.0$$

It is interesting to note that between the upper end of the impoundment and Kosina Creek, 11 kills were seen. Because of the absence of snowfall in the last 3-4 weeks, many of the kills were undoubtedly at least that old, but I find it interesting that we would see that many predator kills and/or natural mortalities.

I observed 16 calf moose during the 1983 census. This equates to approximately 13 calves per 100 cows. The 1982 Watana impoundment census showed 35 calves in a total sample of 173 moose, equivalent to approximately 30 calves/100 cows. Additionally, it should be noted that of the 161 moose observed in 1983, only 52 (32%) were below the high pool level. In 1982, 70 of 173 (40%) of the observed moose were below high pool level. The general trend in 1983 therefore, seems to be a slightly less severe winter, thus the moose were at higher elevations and thus fewer total moose were counted and a lesser percent of that total were below the 2200 ft level.

Jackson S Whitman

1983 WATANA IMPOUNDMENT MARCH MOOSE CENSUS

<u>Quad Name and Number</u>	<u>No. Moose by Age Class</u>			<u>No. Moose by Elevation</u>		<u>Total Moose</u>
	<u>Adults</u>	<u>Calves</u>	<u>Unknown</u>	<u>Under 2200 ft</u>	<u>Above 2200 ft</u>	
Talkeetna Mtn. C-1	21	4	0	0	25	25
Talkeetna Mtn. C-2	31	4	0	4	31	35
Talkeetna Mtn. D-2	32	6	0	14	24	38
Talkeetna Mtn. D-3	61	2	0	34	29	63
Talkeetna Mtn. D-4	0	0	0	0	0	0
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TOTALS	145	16	0	52	109	161

1982 WATANA IMPOUNDMENT MOOSE CENSUS

<u>Quad Name and Number</u>	<u>No. Moose by Age Class</u>			<u>No. Moose by Elevation</u>		<u>Total Moose</u>
	<u>Adults</u>	<u>Calves</u>	<u>Unknown</u>	<u>Under 2200 ft</u>	<u>Above 2200 ft</u>	
Talkeetna Mtn. C-1	46	18	2	19	47	66
Talkeetna Mtn. C-2	19	2	3	8	16	24
Talkeetna Mtn. D-2	26	8	5	10	29	39
Talkeetna Mtn. D-3	28	7	6	30	11	41
Talkeetna Mtn. D-4	1	1	1	3	0	3
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TOTALS	120	36	17	70	103	173

DEVIL CANYON IMPOUNDMENT MOOSE CENSUS, MARCH 1983

On 31 March, 1983, I flew the impoundment area of the proposed Devil Canyon dam to census moose, using methods described by Gasaway et al. (1981). The survey area ran from the proposed damsite upstream to approximately one mile upstream from the confluence of Tsusena Creek with the Susitna River. As with the 1983 Watan Impoundment census, this survey included the high pool level (1450 ft. elevation) and an area 0.25 mile adjacent to and including the high pool level. The total area censused was 29.98 mi². Survey time as 123 minutes. I flew with Ken Bunch in a SuperCub.

Census conditions were poor. Sub-standard visibility from the many patches of ground showing in the snow was further compounded by moderate turbulence, particularly in the lower census area with its high rocky abutments. The entire census was flown at 4.1 min/mi². An intensive search area of 1.69 mi² was flown for 21 minutes, at 12.4 min/mi². However, no moose were seen during the intensive search. I decided that the turbulence and extremely poor sighting conditions were good reasons for deciding against doing another intensive search.

Census results follow:

Moose observed = 14

Moose/mi² = 0.47 moose/mi²

All moose seen were adults. Of these, 10 (71%) were above the high pool level. Without a SCF, this number is useful only as a minimum number of moose in the survey area. Radio-tracking flights on the same day as the moose survey located two moose within the survey area. Only one of these moose was counted during the survey. If the actual area of habitat useable by moose in the census area were measured, this might also change the estimation of moose numbers in and adjacent to the impoundment, as some of the area censused consists of steep cliffs unlikely to harbor moose.

I suggest that in planning future surveys, good visibility (e.g., fresh snow) may well be a more important criterion for census scheduling than calendar date.

Polly Hessing

1983 DEVIL CANYON IMPOUNDMENT MARCH MOOSE CENSUS

<u>Quad Name & Number</u>	<u>No. Moose (adult)</u>	<u>No. Moose by Elevation</u>	
		<u>Under 1500 ft.</u>	<u>Above 1500 ft.</u>
Talkeetna Mtn. D-4	9	3	6
Talkeetna Mtn. D-5	5	1	4
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TOTAL	14	4	10