

DEPARTMENT OF FISH & GAME
INTER-OFFICE ROUTE SLIP

☐ Juneau HDQ	☐ Juneau-REG I
☐ Anchorage-REG II	☐ Fairbanks-REG III
☐ Kodiak-REG IV	☐ Nome-REG V
☐ Other: _____	

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☐ Comm. Fish	☐ FRED	☐ Wildlife Cons
☐ Habitat	☐ PCS	☐ Sport Fish
☐ Subsistence	☐ _____	

Attention: *Bill Ronke*

☐ Action	☐ Circulate
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REMARKS:

F41

FROM: *Craig*

RECEIVED
LATE NOVEMBER
OR EARLY
DECEMBER
1993

DATE:

1993

Ken Taylor
Management Coordinator
Fairbanks

Craig Gardner
Area Biologist
Tok

We completed the Chisana Caribou Herd composition survey on 5 October 1993. Larry Larrivee and I were in the R-22 helicopter and Patrick Valkenburg was in the Scout. Overall, composition survey conditions were good as most of the caribou were above treeline. However, other factors prohibited us from obtaining a population size estimate. The herd was primarily separated in small groups and was distributed widely across its range in all suitable habitats. The number of radio collars were not adequate to allow us to find all of the groups to conduct a census.

Patrick located 17 of the 17 active collars (which includes one bull collared in the Burwash caribou range last spring) between the Generc River and Bow Creek. The average group size was 25.9 caribou (sd = 26.3, range 1-104). We compositioned 806 caribou, approximately 84.8% of the herd (Table 1).

The bull:cow ratio was 25.9:100, down from the 1992 level of 31:100. Based on radio telemetry data, the survival rate between October 1992 and October 1993 for adult cows was only 0.75. I estimated using composition data that the bull survival rate for this time period was only 0.63. During fall 1993, hunters harvested 19 bulls (9.6% of the estimated prehunt bull total). Due to low calf recruitment, high annual mortality and some impact by hunters, the bull:cow ratio is now below our minimum management objective.

The calf:cow ratio was 2.1:100. This is the fifth consecutive year of low calf recruitment (averaging 5.6:100, range 0-15:100). Under no harvest and average annual survival rates it will take average fall calf:cow ratios of 20:100 over the next two years to cause the bull:cow ratio to increase to 30:100.

Using Patrick's model, survival rate data estimated from radio collared animals, and results from the composition survey, the estimated fall 1993 Chisana caribou population size was 933 caribou (Table 2). The intrinsic rate of increase for the herd the past year was 0.76. Based on the current bull:cow ratio and its trend in relation to our management objective, I plan to close next year's hunting season by emergency order.

cc Patrick Valkenburg
Beth Lenart
Rick Farnell, Yukon
Dorothy Cooley, Yukon
Conrad Gunther, USFWS
Bill Route, NPS

5 Oct 1993 Chisana Caribou Composition Survey

R-22 Helicopter: Gardner / Carrière

Spotter Plane - Scout / ^{Pat} Walker

Weather: Overcast, Calm +32°F

Large ♂	Med ♂	Small ♂	Cow	Calf	Total	Area
1	0	0	8	0	9	Hershel
0	2	3	14	0	19	Brown C
2	7	5	25	0	39	Klein
0	0	0	6	0	6	"
4	4	4	18	1	31	"
2	3	3	22	0	30	Candy Trees
2	1	2	14	0	19	White Trees
2	3	0	8	2	15	"
1	3	4	44	1	53	Trail Ck
1	0	0	5	0	6	
3	6	4	80	3	96	
1	3	3	15	1	23	
0	2	1	34	0	37	Willow Ck
4	8	1	16	2	31	
3	7	6	86	2	104	
3	3	6	45	0	57	new Basin C
2	6	0	66	0	74	
0	0	0	10	0	10	Flat C
1	1	1	18	0	21	"
1	1	0	26	0	28	"
0	2	0	0	0	2	
0	1	0	13	0	14	
0	0	0	5	0	5	Ophir
0	1	0	1	0	2	"
1	0	0	0	0	1	"
34	64	43	579	12	732	

Large ♂	Med ♂	Small ♂	Cow	Calf	Total	Area
0	1	0	6	0	7	Ophir
0	1	2	8	0	11	Divide
0	4	2	19	1	26	"
1	2	0	2	0	5	"
1	1	1	8	0	11	"
1	1	1	11	0	14	Flat
3	10	6	54	1	74	
34	64	43	579	12	732	
37	74	49	633	13	806	

160

CHISANA

POST
HUNT

YEAR	OWS	ALF	ULLS	OTAL	HAR	HAR	SURV	URV	C/100	B/100	LAMBDA
1986	1000	330	430	1760	0	56	0.9	0.87	0.33	43.0	
1987	1063	298	439	1800	0	64	0.9	0.87	0.28	41.3	1.023
1988	1104	342	435	1882	0	64	0.9	0.87	0.31	39.4	1.045
1989	1163	175	464	1802	0	48	0.9	0.87	0.15	39.9	0.958
1990	1133	113	433	1680	0	39	0.9	0.87	0.1	38.2	0.932
1991	1076	11	401	1488	0	20	0.9	0.85	0.01	37.3	0.886
1992	974	0	329	1303	0	16	0.75	0.63	0	33.8	0.876
1993	730	15	188	933	0	19	0.9	0.87	0.02	25.8	0.716
1994	665	133	170	967	0	0	0.9	0.87	0.2	25.5	1.036
1995	664	133	200	996	0	0	0.9	0.87	0.2	30.1	1.030