

NWA Resource Management Annual Report

1986

Survey of Dall Sheep in the Baird Mountains

A survey of Dall sheep in the Eli-Agi headwaters of the Baird Mountains was conducted in July 1986 through the cooperative efforts of Alaska Department of Fish and Game and the National Park Service. The timing of the survey and methodology was based on the results and recommendations provided by similar surveys conducted in 1983 and 1985 and research report on Dall sheep movements and foraging ecology (Ayres 1985). The following report contains the results and management implications of this years survey and recommendations for future monitoring.

SUMMARY

1. A total of 669 sheep were counted in a survey area established in the Baird Mountains. Using a 85% sightability correction factor and a 88% area correction factor the estimated population for the Baird Mountain area is 849.
2. Population estimates indicate age/sex ratios and productivity rates are at acceptable levels based on previously used standards.
3. Comparison of data obtained from ground and aerial counts supports the use of a 20 pt. correction factor to increase aerielly obtained lamb/ewe ratios.
4. An increase in adult rams in count unit 4 suggests the need to redraw that unit's boundary.

RECOMMENDATIONS

1. The National Park Service needs to define its requirement of "healthy" population in terms that are tangible to management personnel (i.e. productivity levels, age/sex composition). This would allow evaluation of management actions such as the setting of harvest quotas and interpretation of population statistics.
2. With limitations being put on harvest in the Baird Mts it is likely that hunting pressure on sheep in the Delong Mts will increase in the future (especially if hunter success declines in the Baird Mt. due to overharvest). Now is the time to begin monitoring this area. The 1983 survey (Singer and Johnson 1984) provides a valuable baseline population estimate. It is recommended that another Preserve wide survey be schedule in 1987 or 1988 in cooperation with ADF&G. Data would be more valuable to both agencies if collected on this scale since sheep movements and the location of hunting pressures for the area is not known.

3. The additional area counted in 1986 (5a) should be incorporated into the count area in 1987. The two low density units (2 and 3) should be counted again in 1987 and if the number of sheep are once again as low as they were in 1985 the units should be dropped from the count area.

4. The first two weeks of July should be targeted for both ground and air survey efforts.

5. Improved coordination of survey efforts with the BLM (Squirrel River) is recommended in order to determine if ram summer range extends outside of the trend-count area.

Table 1. Dall sheep age and sex composition data obtained from aerial surveys of the Baird Mts., Alaska, June 1983, July 1985 and July 1986.

	Numbers of Sheep					
	1983		1985		1986	
Legal rams (7/8 curl+)	63		18		46	
Sublegal rams	111		33		79	
Unclassified rams	2		55		24	
Total rams	176		106		149	
Lambs	125		99		105	
Ewes *	475		287		411	
Unident.	0		23		4	
Unclassified adults	0		79		0	
Total Sheep	776		594		669	
Yearlings/100 Ewes	-	-	-	30	-	37
Legal rams % of all sheep	36		17		31	
Legal rams % of all sheep	8		3		7	
	air	ground	air	ground	air	ground
Lambs/100 Ewes	26	-	34	54	24	44

*Ewes include yearlings and rams 1/4 curl and under.

Table 2. Dall sheep age and sex composition data obtained from ground surveys of the Baird Mts. Alaska, July 1986.

Total Sheep	Lamb	Yearl.	Ewes	Unclass.Ewes		
159	31	26	70	2		
Total Rams	1/4	1/2	3/4	7/8	Full Curl	Unclass.
	curl	curl	curl	curl		Rams
30	16	6	4	3	1	0

Table. 3 Summary of Dall sheep harvest statistics for GMU 23, 1962-1985. R=rams, E=ewes, L=lambs, U=unknown.

	General Hunt			Winter Hunt												
	(Rams only)			Bairds				Delongs				Unknown				Total
Year	Bairds	Delongs	Unk.	R	E	L	U	R	E	L	U	R	E	L	U	Harvest
1962	---	---	7	-	-	-	-	-	-	-	-	-	-	-	-	7
1963	---	---	20	-	-	-	-	-	-	-	-	-	-	-	-	20
1964	---	---	15	-	-	-	-	-	-	-	-	-	-	-	-	15
1965	---	---	11	-	-	-	-	-	-	-	-	-	-	-	-	11
1966	---	---	13	-	-	-	-	-	-	-	-	-	-	-	-	13
1967	---	---	14	-	-	-	-	-	-	-	-	-	-	-	-	14
1968	---	---	15	-	-	-	-	-	-	-	-	-	-	-	-	15
1969	---	---	2	-	-	-	-	-	-	-	-	-	-	-	-	2
1970	---	---	17	-	-	-	-	-	-	-	-	-	-	-	-	17
1971	---	---	16	-	-	-	-	-	-	-	-	-	-	-	-	16
1972(a)	---	---	26	-	-	-	-	-	-	-	-	-	-	-	-	26
1973	---	---	13	-	-	-	-	-	-	-	-	-	-	-	-	13
1974	---	---	19	-	-	-	-	-	-	-	-	-	-	-	-	19
1975	---	---	17	-	-	-	-	-	-	-	-	-	-	-	-	17
1976	---	---	22	-	-	-	-	-	-	-	-	-	-	-	-	22
1977	---	---	34	-	-	-	-	-	-	-	-	-	-	-	-	34
1978(b)	---	---	35	-	-	-	-	-	-	-	-	-	-	-	-	35
1979	---	---	25	-	-	-	-	-	-	-	-	-	-	-	-	25
1980(c)	---	---	16	-	-	-	-	-	-	-	-	-	-	-	-	16
1981	3	10	--	-	-	-	-	-	-	-	-	-	-	-	-	13
1982(d)	10	11	--	2	2	-	5	-	-	-	-	-	-	-	-	30
1983	12	8	--	-	-	-	-	-	-	-	-	-	-	-	-	20
1984	8	8	3	2	2	-	-	-	-	-	-	-	-	-	-	23
1985	28	8	1	10	7	-	3	-	-	-	1	-	-	-	-	58
1986	9	14	0	8	4	0	0	-	2	-	-	-	-	-	-	37
1987	18	19	0	4	3	0	9?									
1988(e)																

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- a Marine Mammals Act
 - b Carter's Monument withdrawal and 7/8 curl regulation
 - c Alaska National Interest Lands Conservation Act
 - d Subsistence permit regulation
 - e Winter hunt ongoing

Table 4. Calculation of "allowable" harvest of sheep in the Baird Mountains, Alaska. Estimated = Counted X 1.27 (27% correction factor)

	Estimated	Counted
Number of Sheep in Baird Mts.....	849	669
Number of lambs.....	716	564
Percentage of allowable harvest of rams.....x .03	x .03	
Rams allowable harvest.....	22	17
Number of Ewes.....	522	411
Percentage of allowable harvest..... x.02	x.02	
Ewes allowable harvest.....	10	8