
CHAPTER 7: DALL SHEEP MANAGEMENT REPORT

From: 1 July 2010

To: 30 June 2013

LOCATION

GAME MANAGEMENT UNIT: 13A, 13E, 14A (north), and 14B (14,849 mi²)

GEOGRAPHIC DESCRIPTION: Talkeetna Mountains and Chulitna–Watana Hills

BACKGROUND

The first large-scale sheep survey in the Talkeetna Mountains and the Chulitna–Watana Hills (TCW) was conducted in 1974. Although a final estimate of the total number of sheep was not specifically stated (McIlroy 1976), the population contained approximately 2,500–3,000 sheep in 1974, assuming 80% of the sheep were counted. Sheep densities have historically been highest in the count areas surrounding the Chickaloon River drainage. During the late 1980s the population estimate for TCW was approximately 2,500 sheep (Grauvogel 1990). Included in the estimate were approximately 200 sheep in the Sheep Mountain Closed Area, an area that has been closed to hunting since the 1940s. A harsh winter in 1999–2000 decreased the population to approximately 1,750 sheep (McDonough 2002). By 2003 the population had increased to approximately 2,000 sheep, but never returned to the population sizes observed prior to the 1999–2000 winter. Since 2003 the population has remained in the range of 1,500–2,000 sheep.

Sheep harvests in the TCW have been limited to adult rams, and harvest data have been collected from hunter harvest reports since 1967. Sheep harvests were initially managed under a ¾-curl or greater horn size regulation, and annual harvests averaged 90 rams 1967–1978. In 1979 sheep hunting regulations were changed, and a legal ram was required to have a 7/8-curl or greater horn. Under the new regulation, sheep harvests averaged 87 rams annually 1979–1988. In 1989 the horn size of a legal animal was changed again with the implementation of a full-curl or greater horn size regulation. At first, annual harvests remained relatively unchanged, averaging 85 rams 1990–1999, but decreased to an average of 56 rams 2000–2009 after the sheep population declined during the winter of 1999–2000 (McDonough 2002). The reported harvests from the TCW reached a peak of 118 rams in 1969 and 1986. Since then, the highest reported harvest was 109 rams taken in 1995.

MANAGEMENT DIRECTION

MANAGEMENT GOALS

- Provide the greatest opportunity to participate in hunting sheep (outside the Sheep Mountain Closed Area).

- Provide an opportunity to view, photograph, and enjoy sheep (within the Sheep Mountain Closed Area in Unit 13A).

MANAGEMENT OBJECTIVE

- Maintain sheep populations that will sustain an annual harvest of 75 rams.

METHODS

Sheep harvests were monitored through harvest reports. Hunters were required to report the duration of their hunt, the location of the hunt, methods they used, and information about harvested sheep. Mandatory sheep sealing began in regulatory year (RY) 2004 (RY04 = 1 July 2004 through 30 June 2005). Horns were measured, aged, and a permanent plug was affixed to one of the horns.

Summer sex and age composition surveys were also conducted in some count areas in the TCW as funding and weather permits.

RESULTS AND DISCUSSION

POPULATION STATUS AND TREND

Population Size

The estimated population for sheep in TCW increased from 2,000–2,500 in 1994 to 2,500–3,000 sheep in 1999 (Masteller 1996). A severe winter in 1999–2000 decreased the overall sheep population about 40% and reduced the year's lamb recruitment by 75% (McDonough 2002). Surveys conducted between 2000 and 2003 suggested that the overall sheep population was beginning to recover from the decline, but surveys conducted during this reporting period indicate that the population size remains low (Table 1). Assuming 80% of the sheep are observed during surveys, the current minimum population is approximately 1,671 sheep.

MORTALITY

Harvest

Season and Bag Limit. The hunting season in Units 13A, 13E, 14A, and 14B for RY10–RY12 was 10 August–20 September. The bag limit was 1 ram with a full-curl or greater horn size.

Hunter Harvest. Hunter harvests were below management objectives during this reporting period with an average annual harvest of 35 rams during RY10–RY12 (Table 2). Harvests were lower than the last reporting period (RY07–RY09), which averaged 50 rams per year, and show a continued decrease from the average of 82 rams during RY90–RY00.

The average horn size during RY10–RY12 (35.2 inches) was unchanged from the previous reporting period. The percentage of horns greater than 40 inches increased over the last 10 years and averaged 4.2% which is similar with the last reporting period (Table 2).

Hunter Residency and Success. The total number of hunters has decreased slightly during the past 10 years (Table 3). The success rate of hunters during RY10–RY12 (12%) was slightly lower than the previous reporting period (14.3%). Nonresidents continued to be more successful than residents. During RY10–RY12 nonresidents accounted for 11.3% of hunters but took 48.6% of the sheep (Table 3). This success is attributed to fact that nonresidents are required to hunt

with guides or second-degree of kin; and typically use both guides and aircraft to access remote areas.

Harvest Chronology. During RY10–RY12, 52% of the reported harvest was taken during the first week of the season and 68% during the first two weeks of the season (Table 4).

Transport Methods. The majority of successful hunters used aircraft or four-wheelers to access their hunting areas (Table 5).

CONCLUSIONS AND RECOMMENDATIONS

The sheep population size and harvests have been considerably lower than in the previous decade, and harvests remain well below the 75-rams-per-year objective. Population size and trend appear to be independent of the number of rams harvested in the TCW. Additionally, because the number of ewes and lambs, which are not part of the harvest, remains low, there is no indication that hunting is limiting the population. This same trend has also been noted in the Chugach Range.

Periodic surveys of the TCW sheep population should be conducted in the count areas in Units 13 and 14 on a more consistent basis to adequately assess population trends. Complete surveys conducted on a 3-year basis in all count areas would provide a more meaningful measure of the population trend, which could be used to identify significant changes in population size and herd composition.

During the March 2007 Board of Game meeting sheep hunting opportunity in the Chugach Range was restricted by the adoption of a draw permit hunt structure. Sheep managers initially thought that this change would shift hunting pressure to the TCW and result in increased complaints of crowding in the TCW. To date these concerns have not been realized. In fact the total number of hunters in the TCW appears to have decreased slightly over the past decade.

LITERATURE CITED

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Table 1. Talkeetna Mountains and Chulitna-Watana Hills summer aerial sheep composition counts, 1999 through 2012

Regulatory Year	Full Curl ^a	(%)	<Full Curl Rams	Ewes ^b	Lambs ^c	(%)	Sheep/ Hour	Total Sheep Observed
Boulder Creek								
1999	16	29%	39	286	90	21%	209.4	431
2000	5	10%	47	161	10	4%	121.6	223
2003	2	5%	40	148	53	22%	120.6	243
2007	6	21%	22	189	56	21%	109.2	273
2009	16	32%	34	182	67	22%	124.5	299
2011	9	10%	78	198	85	23%	185	370
Chickaloon River – east								
1999	8	17%	38	157	63	24%	131.2	266
2003	13	32%	28	103	28	16%	84.7	172
2007	9	26%	25	106	38	21%	93.7	178
2011	4	8%	46	46	28	23%	68	124
Hicks Creek								
1999	2	12%	15	112	46	26%	211.3	175
2003	0	0%	17	89	27	20%	130.0	133
2007	10	32%	21	61	24	21%	96.7	116
2008	8	32%	17	82	28	21%	122.7	135
2009	10	24%	32	80	28	19%	150	150
2011	0	0%	17	130	51	26%	198	198
Caribou Creek								
1999	36	19%	152	409	142	19%	224.3	739
2000	29	27%	77	243	36	9%	147.8	385
2002	38	21%	146	242	97	19%	78.9	523
2003	40	31%	91	187	66	17%	55.3	384
2006	16	30%	38	134	72	28%	74.3	260
2007	16	29%	39	146	44	18%	72.1	245

Table 1. cont.

Regulatory Year	Full Curl ^a	(%)	<Full Curl Rams	Ewes ^b	Lambs ^c	(%)	Sheep/ Hour	Total Sheep Observed
Caribou Creek								
	cont.							
2008	17	25%	51	141	56	21%	69.7	265
2009	16	31%	36	160	68	24%	75.7	280
2011	3	5%	58	230	76	21%	113	367
Sheep Mountain								
1999	18	35%	33	36	14	14%	91.0	101
2003	11	19%	48	76	14	9%	40.0	149
2007	11	73%	4	32	13	22%	75.0	60
2008	12	71%	5	58	26	26%	101	101
2009	8	35%	15	46	11	14%	na	80
2011	0	0%	8	62	16	19%	128	86
Watana Hills								
1999	2	8%	22	56	17	18%	44.1	97
2003	0	0%	10	33	7	14%	21.5	50
2008	1	6%	16	29	17	27%	25.2	63
2011	0	0%	15	35	12	19%	39	62
Little Susitna to King's River								
1999	7	19%	29	77	24	18%	32.6	137
2006	3	16%	16	23	9	18%	34	51
2009	0	0%	20	59	11	12%	22	90
2012	0	0%	18	54	17	19%	21	89

Table 1. cont.

Regulatory Year	Full Curl ^a	(%)	<Full Curl Rams	Ewes ^b	Lambs ^c	(%)	Sheep/ Hour	Total Sheep Observed
King's River to west side Chickaloon River								
1999	5	8%	58	190	66	21%	76.0	319
2006	7	26%	20	96	31	20%	33.2	154
2009	3	14%	19	72	19	17%	18.8	113
2011	4	7%	60	92	30	16%	19.1	186
2012	1	2%	59	87	17	10%	22.4	164
Sheep River – Iron Creek								
1999	3	19%	13	25	8	16%	14.4	49
2012	0	0%	17	21	11	22%	5.3	49

^a Does not include an unknown number of legal rams at least 8 years old or with both horn tips broken. Percent full-curl is calculated as a proportion of total rams.

^b Ewes include yearlings of both sexes and rams of ¼ curl or less.

^c Percent lambs is calculated as a proportion of the total sheep observed.

Table 2. Talkeetna Mountains and Chulitna-Watana Hills sheep harvest for 2003 through 2012.

Regulatory Year	Rams ^a	Average Horn Length (in.)	% ≥ 40 in.	Ewes	Total Sheep
2003	74	35.3	2.6	0	74
2004	64	34.9	1.3	0	64
2005	59	35.4	5.2	0	59
2006	42	36.0	5.1	0	42
2007	61	35.8	4.8	1	62
2008	44	35.3	7.5	0	44
2009	46	34.4	2.2	0	46
2010	31	35.1	3.2	0	31
2011	43	35.4	6.5	0	43
2012	31	35.2	3.2	0	31

^a Includes only rams for which horn length was reported.

Table 3. Talkeetna Mountains and Chulitna-Watana Hills sheep hunter residency and success for regulatory years 2003 through 2012.

Regulatory year	Successful				Unsuccessful				Total hunters
	Local ^a resident	Nonlocal resident	Nonresident	Total (%)	Local ^a resident	Nonlocal resident	Nonresident	Total (%)	
2003	33	16	25	74(21)	138	124	22	284(79)	358
2004	24	12	28	61(17)	153	130	20	303(83)	367
2005	14	14	31	59(18)	126	112	28	266(84)	325
2006	16	8	18	42(13)	151	102	24	277(87)	319
2007	24	11	27	62(18)	130	134	14	278(82)	340
2008	13	9	15	37(11)	131	139	18	288(89)	325
2009	18	8	20	46(14)	148	115	19	282(86)	328
2010	9	3	19	31(10)	144	123	13	280(90)	311
2011	11	12	20	43(16)	106	110	11	227(84)	270
2012	11	8	12	31(10)	129	124	14	267(90)	298

^a Local means residents of game management subunits 13A, 13E, 14A and 14B.

Table 4. Talkeetna Mountains and Chulitna-Watana Hills sheep harvest chronology percent by harvest period for regulatory years 2003 through 2012.

Regulatory year	Harvest Period						<i>n</i>
	8/10–8/16	8/17–8/23	8/24–8/30	8/31–9/6	9/7–9/13	9/14–9/20	
2003	54	18	15	7	5	0	74
2004	58	15	12	7	6	2	63
2005	41	22	17	10	3	7	59
2006	29	10	17	14	7	23	42
2007	51	17	12	16	2	2	60
2008	57	17	12	7	2	5	42
2009	42	22	9	11	9	7	46
2010	61	10	6	10	3	10	31
2011	37	25	12	14	5	7	43
2012	58	13	19	0	10	0	31

Table 5. Talkeetna Mountains and Chulitna-Watana Hills sheep harvest percent by transport method for regulatory years 2003 through 2012.

Regulatory year	Percent of harvest							<i>n</i>
	Airplane	Horse	Boat	3- or 4- wheeler	ORV	Highway vehicle	Unknown	
2003	47	4	0	45	0	4	0	74
2004	46	3	0	48	0	3	0	63
2005	66	2	0	22	0	10	0	59
2006	44	0	0	40	2	14	0	42
2007	50	2	0	35	2	9	2	62
2008	52	0	2	40	0	5	0	42
2009	57	0	0	37	0	4	2	46
2010	64	0	0	33	0	3	0	31
2011	50	5	0	41	2	2	0	43
2012	42	0	0	48	0	10	0	31