
CHAPTER 9: DALL SHEEP MANAGEMENT REPORT

From: 1 July 2010
To: 30 June 2013

LOCATION

GAME MANAGEMENT UNIT: Southern 14A

GEOGRAPHIC DESCRIPTION: Chugach Mountains

BACKGROUND

Sheep harvest has been limited to adult rams in the portion of the Chugach Mountains in Subunit 14A. Sheep harvest data have been collected from hunter harvest reports since 1967. In addition, sheep in Subunit 14A have been sealed since the 2004 season. From 1967 through 1978, sheep were managed under a $\frac{3}{4}$ -curl horn minimum size regulation, and from 1979 through 1988 they were managed under a $\frac{7}{8}$ -curl horn minimum size regulation. Beginning 1989 hunters were allowed to harvest only full-curl rams. The average annual harvest between 1990 and 2000 was 22 rams.

Increasing guided hunting pressure through the 1990s and 2000s was apparent by a trend in higher proportions of nonresident hunters and increased nonresident hunter success. Due to the increase in harvest pressure, complaints of overcrowding, and a decrease in overall sheep numbers, the sheep hunt in Subunit 14A was converted to a draw permit system in 2008.

Historically, 14A sheep surveys have been inconsistently funded and conducted when adequate funding, appropriate weather, and staff were available (Schwanke et al. 2008). The first formal sheep surveys in the unit were completed in 1973 (Didrickson 1977). During the last 10 years, increased effort has been made to fly on a more frequent and consistent basis. Partial or complete surveys have been conducted in each of the last 7 years.

The population declined throughout the Chugach Mountains during the early 2000s due to several years of severe snow and ice conditions. The winter of 2003–2004 in particular was characterized by deep snow and may have had a profound effect in decreasing sheep survival (Coltrane 2005).

MANAGEMENT DIRECTION

MANAGEMENT OBJECTIVES

- The harvest objective for the Subunit 14A portion of the Chugach Mountains is to harvest at least 20 rams annually.

- Provide a quality sheep hunting experience and opportunity to take a trophy ram, while maintaining the genetic diversity of the population.

METHODS

Sheep harvest was monitored through sheep sealing and harvest reports. Hunters were required to report within 15 days of the close of the season or within 15 days of killing a sheep. Days hunted, harvest success, method of take, date and location of kill, and type of transportation used were noted on the reports. The number of illegal and unreported sheep killed was assumed to be small.

Mandatory sheep sealing began in regulatory year (RY) 2004 (RY04 = 1 July 2004 through 30 June 2005). Horns were measured, age was determined, and a permanent plug was placed in one of the horns. Additional data on sheep horn growth and age started in RY07. These additional sheep horn measurements are used to evaluate size, mass, and annual growth characteristics relative to age and location of harvest.

Aerial surveys were conducted each year of the reporting period with only a partial survey completed in 2008. Surveys were conducted when most of the previous winter's snow had melted and prior to the sheep hunting season (August 10). In most years this occurs in July.

RESULTS AND DISCUSSION

POPULATION STATUS AND TREND

Population Size

The sheep population in the 14A portion of the Chugach Mountains was estimated to include approximately 600–700 animals during this reporting period. The average number of sheep observed during aerial surveys was 566 during the last 3 complete surveys (Table 1). Assuming 80% of the sheep population was counted, the population contained an average of at least 680 sheep.

MORTALITY

Harvest

Season and Bag Limit. The bag limit was 1 ram with no horn size restrictions. The season was divided into 2 time periods, 10 August – 25 August and 26 August – 20 September, for each of the 3 separate hunt areas; Friday Creek, Metal Creek, and Carpenter Creek.

Board of Game Actions and Emergency Orders. There were no Board of Game actions or Emergency Orders issued for sheep hunting in Subunit 14A during this time period.

Hunter Harvest. Hunter harvest averaged 11 rams per year during RY10–RY12 (Table 2), slightly lower than the average harvest of 13 rams per year during RY07–RY09, and much lower than the average harvest of 27 rams per year during RY02–RY06. This lower level of harvest is the direct consequence of limiting the number of hunters that could participate in the hunt under the current draw permit system.

The average horn size of sheep harvested RY10–RY12 (32.2 inches) was comparable to the previous period and still reflects the decrease from the average of 36.2 inches during RY04 – RY06. No horns measured more than 40 inches during this reporting period (Table 2).

Permit Hunts. Since RY08 drawing permits have been issued for 3 hunt areas in Subunit 14A (Table 3). Permit numbers were set conservatively to allow sheep numbers to increase and have varied over this reporting period. In the Metal Creek hunt area 12 permits were issued to residents (DS170 and DS175) in RY10 and increased by 2 each year to 16 permits in RY12. The nonresident allocation in this area (DS270 and DS275) remained at 2. In the Friday Creek hunt area 14 permits were initially issued to residents (DS180 and DS185) in RY10 and 2 were issued to nonresidents (DS280 and DS285). By RY12, 16 permits were issued to residents and nonresident allocation increased to 3 permits. The Carpenter Creek hunt area does not have a nonresident hunt; residents (DS190 and DS195) were issued 12 permits in RY10, 13 permits in RY11, and 10 permits in RY12.

Hunter Residency and Success. Although the number of hunters RY10–RY12 decreased by 34% from the previous period, the success rate for residents (27%) and for nonresidents (54%), remained unchanged (Table 3). Similar to other sheep hunting areas, the high success rate of nonresidents can be attributed to use of guides who typically access more remote areas. Resident take accounted for 81% of the total harvest and averaged 9 rams per year while the nonresident take averaged 2 rams per year.

Harvest Chronology. Historically most of the sheep harvest has occurred during the first week of the hunting season. This trend continued in RY10 and RY12 when 50% and 58% of the harvests (respectively) were taken within the first week. In RY11 harvest was distributed more evenly throughout the season (Table 5).

Transport Methods. Most successful hunters reported using aircraft or all-terrain vehicles (ATVs) to access their hunting areas and this has been the pattern for the more than 10 years (Table 6).

CONCLUSIONS AND RECOMMENDATIONS

The draw hunt and any-ram bag limit was established to aid in achieving the goal of providing a quality sheep hunting experience and providing opportunity to take a trophy ram, while maintaining the genetic diversity of the population. Because any changes that result from this newer harvest strategy will take years to manifest in the sheep population, we recommend keeping the draw hunt and any-ram bag limit in place for a sufficient period of time to evaluate these changes. Public acceptance of the draw hunt and the any-ram bag limit will also need to be maintained to avoid regulatory changes.

The sheep population and harvests will be closely monitored to evaluate the trophy ram potential in Subunit 14A. We will also continue collecting data on the horns of harvested sheep to determine whether the any-ram bag limit will be successful in diversifying the ram age classes and to document changes in horn characteristics that result from the new harvest strategy. Annual surveys will also be used to evaluate whether or not the population can sustain the annual

harvest objective of 20 rams. Similar to the RY08 and RY09 seasons, sheep harvests continue to be below this objective because of the number of draw permits issued to hunters.

LITERATURE CITED

Coltrane, J. 2005. Units 13D, 14A, and 14C Dall sheep management report. Pages 39 – 54 [In] C. Brown, editor. Dall sheep management report of survey and inventory activities 1 July 2001 – 30 June 2004. Alaska Department of Fish and Game, Division of Wildlife Conservation, Federal Aid in Wildlife Restoration Project 6.0, Juneau.

Didrickson, J.C., and C. McIlroy. 1978. Sheep Survey – Inventory Report – 1976; Game Management Units 14A and B – Upper Cook Inlet. Pages 104 – 115 [In] R. A. Hinman, editor. Annual Report of Survey – Inventory Activities; Part I. Deer, Mountain Goat, Dall Sheep, Elk, Small Game. Alaska Department of Fish and Game, Division of Wildlife Conservation, Federal Aid in Wildlife Restoration, Project W-17-9, Juneau.

Schwanke, R., T. Peltier, and J. Coltrane. 2008. Chugach Mountains, Units 11, 13D, 14A, and 14C, Dall sheep management report. Pages 32–59 [In] P. Harper, editor. Dall sheep management report of survey and inventory activities 1 July 2004 – 30 June 2007. Alaska Department of Fish and Game, Division of Wildlife Conservation, Federal Aid in Wildlife Restoration, Project 6.0, Juneau.

PREPARED BY:

Todd A. Rinaldi
Wildlife Biologist III

SUBMITTED BY:

Lem Butler
Management Coordinator

Please cite any information taken from this section, and reference as:

Rinaldi, T.A. 2014. Chugach Mountains, Unit 14A Dall sheep management report. Chapter 9, Pages 9-1 through 9-9 [In] P. Harper and L. A. McCarthy, editors. Dall sheep management report of survey-inventory activities 1 July 2010–30 June 2013. Alaska Department of Fish and Game, Species Management Report, ADF&G/DWC/SMR-2014-4, Juneau.

The State of Alaska is an Affirmative Action/Equal Opportunity Employer. Contact the Division of Wildlife Conservation at (907) 465-4190 for alternative formats of this publication.

Table 1. Chugach Mountains, subunit 14A sheep composition surveys and estimated population size, 2001 through 2012.

Regulatory Year	Full Curl (%) ^a	Rams < Full Curl	Ewes ^b	Lambs (%) ^c	Total sheep observed	Estimated Population size
2001 ^d	-	-	-	-	-	-
2002	19 (7)	257	469	121 (14)	866	900-1000
2003 ^d	-	-	-	-	-	-
2004 ^e	15 (11)	120	262	105 (21)	502	-
2005 ^d	-	-	-	-	-	-
2006	26 (16)	141	338	139 (22)	644	700-800
2007	18 (12)	127	443	163 (22)	751	850-950
2008 ^e	4 (5)	71	163	59 (20)	297	-
2009	8 (6)	126	290	88 (17)	512	600-700
2010	14 (8)	153	357	102 (16)	626	700-800
2011 ^e	14 (10)	127	302	103 (19)	546	-
2012	16 (9)	157	329	59 (11)	561	600-700

^a Does not include an unknown number of legal rams at least 8 years old with less than full curl horns 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.

^d No survey conducted.

^e Partial survey conducted.

Table 2. Chugach Mountains subunit 14A sheep harvest by regulatory years 2001 through 2012.

Regulatory Year	Rams ^a	Average Horn Length (inches)	% \geq 40 in.	Ewes	Total sheep
2001	19	35.8	10.5	0	19
2002	20	34.5	0	0	20
2003	22	35.9	4.5	0	22
2004	32	36.1	3.1	0	32
2005	27	36.6	11.1	0	27
2006	35	36.0	2.9	0	35
2007	22	35.4	5.0	0	22
2008	8	32.8	0.0	0	8
2009	9	28.0	0.0	0	9
2010	6	29.4	0.0	0	6
2011	14	35.0	0.0	0	14
2012	12	32.2	0.0	0	12

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

Table 3. Chugach Mountains, subunit 14A sheep hunter residency and success by regulatory years 2001 through 2012.

Regulatory Year	Successful				Unsuccessful				Total hunters
	Local resident ^a	Nonlocal resident	Nonresident	Total (%)	Local resident ^a	Nonlocal resident	Nonresident	Total (%)	
2001	11	0	7	18 (18)	74	2	6	82 (82)	100
2002	15	1	4	22 (21)	76	2	6	84 (79)	106
2003	12	1	9	22 (21)	76	0	5	81 (79)	103
2004	15	3	13	31 (28)	76	0	4	80 (72)	111
2005	9	1	19	29 (28)	63	0	11	74 (72)	103
2006	5	3	16	24 (19)	83	0	17	100 (81)	124
2007	8	0	14	22 (21)	67	3	12	82 (79)	104
2008	8	0	0	8 (47)	7	1	1	9 (53)	17
2009	6	1	2	9 (36)	14	1	1	16 (64)	25
2010	6	0	0	6 (24)	15	2	2	19 (76)	25
2011	8	2	4	14 (34)	23	3	1	27 (66)	41
2012	9	1	2	12 (28)	29	0	2	31 (72)	43

^aLocal residents refers to those who reside in game management unit 14.

Table 4. Chugach Mountains subunit 14A sheep harvest chronology percentage by harvest period within regulatory years 2001 through 2012.

Regulatory Year	Harvest periods						<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	
2001	57	11	0	5	11	16	19
2002	30	15	10	35	0	10	20
2003	31	18	14	14	9	14	22
2004	57	19	3	9	3	9	32
2005	45	15	7	19	7	7	27
2006	56	9	13	9	13	0	23
2007	53	5	14	14	14	0	21
2008	61	13	13	0	13	0	8
2009	34	0	22	33	0	11	9
2010	50	0	17	0	17	16	6
2011	36	14	14	14	14	8	14
2012	58	8	18	8	8	0	12

Table 5. Chugach Mountains, subunit 14A sheep harvest percentage by transport method within regulatory years 2001 through 2012.

Regulatory Year	Percent of harvest							N
	Airplane	Horse	Boat	3- or 4- wheeler (ATV)	ORV	Highway vehicle	Unknown	
2001	44	6	17	17	0	11	5	18
2002	55	0	5	30	0	10	0	20
2003	67	5	9	14	0	5	0	22
2004	60	3	3	25	0	9	0	32
2005	71	7	4	7	4	7	0	27
2006	63	5	9	23	0	0	0	22
2007	57	5	5	23	0	10	0	21
2008	63	0	0	13	0	25	0	8
2009	45	0	0	44	11	0	0	9
2010	66	0	0	17	0	17	0	6
2011	79	0	0	7	0	0	14	14
2012	67	8	0	25	0	0	0	12