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Division of Wildlife Conservation
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DALL SHEEP

Illustration by Sue Arthur

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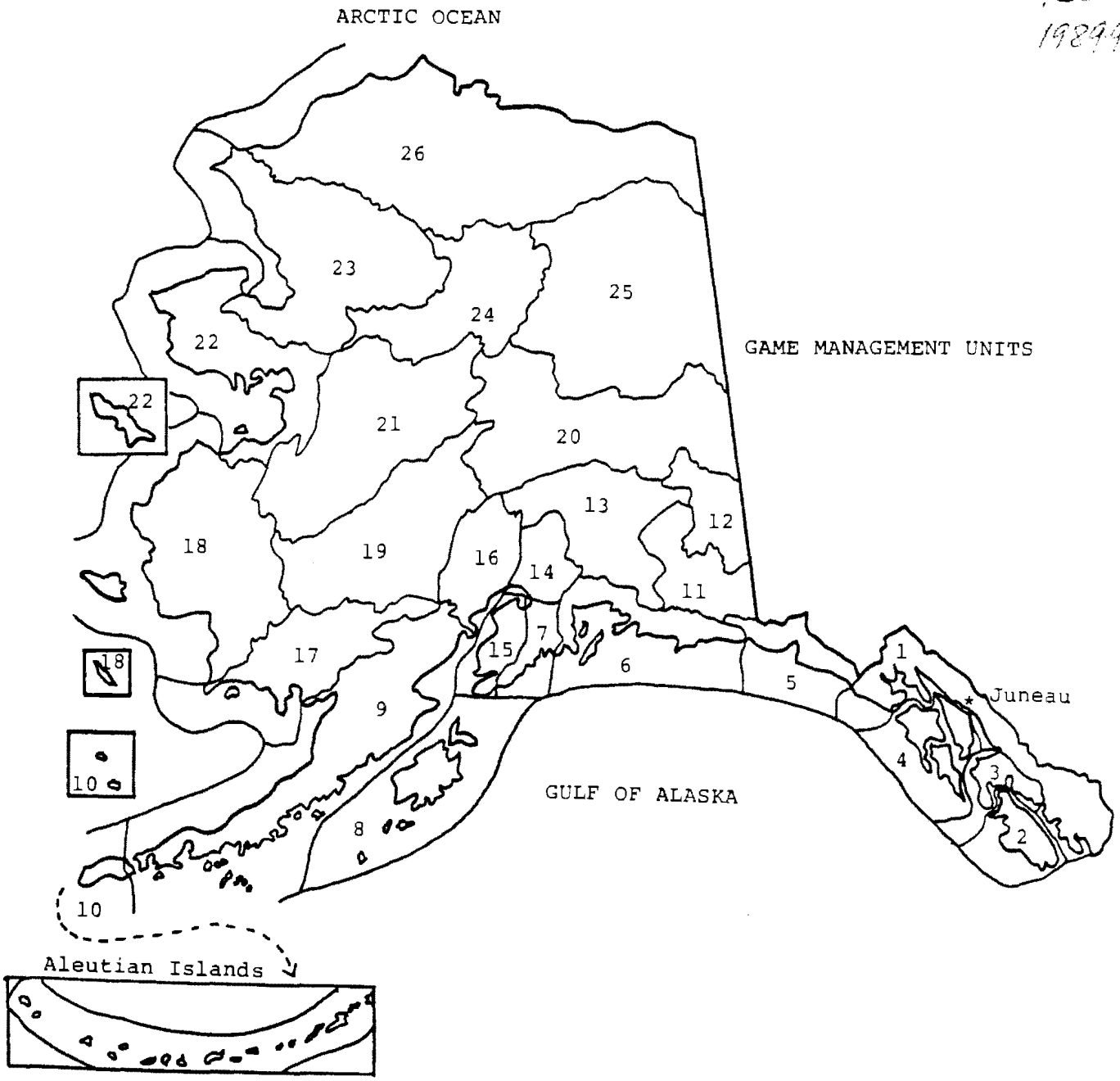

PROJECT TITLE: Southcentral Alaska Dall Sheep Management

PROJECT LOCATION: Unit 7 and 15 (8,400 mi^2)
Kenai Mountains

Units 13A 13E, 14A, and 14B (16,400 mi^2)
Talkeetna Mountains

Units 11, 13D, 14A, and 14C (23,000 mi^2)
Chugach Mountains

Unit 11 (12,800 mi^2)
South Wrangell Mountains

PROJECT OBJECTIVES:

Unit 7 and 15

To maintain a population that will sustain an annual harvest of 25 rams.

Units 13A 13E, 14A, and 14B

To maintain a population that will sustain an annual harvest of 75 rams.

Units 11, 13D, 14A, and 14C

To maintain a population that will sustain an annual harvest of 120 rams.

Unit 11

To maintain a population that will sustain an annual harvest of 60 rams.

WORK ACCOMPLISHED DURING THE PROJECT SEGMENT PERIOD:

No work was directed specifically at identifying and documenting critical sheep habitat in southcentral Alaska. Except for Unit 14C, no funding was available for surveys of sheep populations, from which habitat use information is acquired.

For most of the region, the harvest was monitored from harvest reports; hunters were required to return them within 15 days of the close of the season or within 15 days of taking a sheep. Days afield, methods, dates, and locations of harvest as well as means of access were noted in the harvest report. The harvest by mountain range was as follows: Kenai Mountains, 7; Talkeetna Mountains, 75; Chugach Mountains (except Unit 14C), 209; and South Wrangell Mountains, 103.

All sheep hunters in Unit 14C were required to return their harvest permit reports within 15 days after the close of the

season or, if successful, bring their permit and horns to an ADF&G office within 10 days of the harvest. All sheep were aged by horn annuli, and measurements of the length and base of the horn were recorded.

Hunters in Unit 14C killed 101 sheep, including 28 full-curl or larger rams, 24 7/8-curl rams, 25 3/4-curl rams, and 15 ewes. The mean horn length of 7/8-curl or larger sheep was 35.0 inches, and the mean age was 7.6 years. This was the first season ever in Subunit 14C where hunters could take any sheep.

Herd population size and composition for Unit 14C was determined by aerial surveys during July 1989. A total of 2,412 sheep were observed during the surveys: 214 7/8-curl or larger rams, 456 1/2- to 3/4-curl rams, 387 lambs, and 1,355 ewes and 1- or 2-year-old rams.

PROGRESS TOWARDS MEETING PROJECT OBJECTIVES:

Harvest objectives were met or exceeded in all mountain ranges except the Kenai Mountains where the harvest of 7 rams was well below the objective of 25 rams. The reduced Kenai harvest reflected the change in the legal-size requirement to full-curl rams in 1989. Heavy harvest pressure in previous years removed most 7/8-curl or larger rams from the population. With the change to a full-curl requirement, few legal rams were available to hunters in the Kenai Mountains in 1989. The sheep population was increasing, and the harvest of rams is expected to quickly return to former levels as sublegal become full-curl rams.

Sheep populations in other southcentral Alaska ranges were at relatively high levels. Sufficient numbers of full-curl rams were available in 1989 to meet management objectives, despite the increase in the legal-size requirement.

SEGMENT PERIOD PROJECT COSTS:

	Personnel	Operating	Total
Planned	5.5	1.2	6.7
Actual	5.5	2.5	8.0
Difference	0.0	1.3	1.3

Additional aerial surveys were conducted to obtain complete coverage of the sheep population in Unit 14C for evaluation of the new any-sheep bag limit.

SUBMITTED BY:

Kenneth W. Pitcher
Regional Management Coordinator

PROJECT TITLE: Interior Dall Sheep Population And Habitat Management

PROJECT LOCATION: Unit 12 (10,000 mi^2)
Upper Tanana and White River drainages, including the northern Alaska Range east of the Robertson River, and the Mentasta, Nutsotin, and northern Wrangell Mountains

Unit 19 (36,500 mi^2)
Drainages of the Middle Fork and upper Kuskokwim River upstream from the village of Kalskag.

Unit 20 (50,400 mi^2)
Tanana Valley, Central Alaska Range, White Mountains, Tanana Hills

Unit 24 (26,100 mi^2)
Koyukuk River drainages upstream from the Dulbi River

Unit 25 (53,100 mi^2)
Eastern north slope of the Brooks Range

Unit 26 (25,800 mi^2)
Upper Yukon River drainage

PROJECT OBJECTIVES:

Regionwide:

To maintain a stable or increasing sheep population in the region.

To monitor the harvest through hunter contacts and harvest or permit reports.

Alaska Range West (Units 9, 16, 17, & 19)

To maintain the existing Dall sheep populations at recorded levels of abundance and productivity.

To maintain uncrowded hunting conditions and an average success rate of at least 50%.

To maintain a mean horn length of not less than 34 inches and a reported mean age above 7.5 years among harvested rams.

North Wrangell, Nutzotin, and Mentasta Mountains (Unit 12)

To maintain a population of approximately 12,000 sheep.

Tok Management Area (Units 12, 13 and 20)

To maintain a harvest of 30-45 rams each year, with a mean horn length of 36-37 inches among harvested rams, and a mean age of 8-9 years.

To maintain an average of 7-10% of rams with 40-inch or greater horns in the harvest.

To prevent unacceptable increases in hunter concentration and maintain the existing aesthetically pleasing qualities associated with sheep hunting in the TMA.

Delta Controlled Use Area (Units 13 & 20)

To maintain a population of approximately 1,800 sheep to provide a mean annual harvest of 35 full-curl rams with a mean horn length of more than 36 inches and mean age exceeding 8 years.

To provide aesthetically pleasing hunting conditions.

Central Alaska Range (Unit 20)

To provide the greatest level of sustainable annual opportunity to participate in hunting Dall sheep.

To provide the greatest level of sustainable annual harvest of Dall sheep.

To provide the opportunity to view and photograph Dall sheep under natural conditions.

White Mountains (Units 20 and 25)

To maintain a population of at least 250 Dall sheep.

To establish guidelines by 1990 for protection of sheep habitat in the White Mountains in cooperation with other land management agencies and potentially affected interest groups.

To determine by 1991 if the management goal of providing aesthetic hunting conditions is consistent with current public interest.

Tanana Hills (Unit 20)

To maintain aesthetically pleasing hunting conditions.

To increase sheep numbers from an estimated 350 to 700 by the year 2000.

Central Brooks Range (Unit 24)

To maintain or increase the sheep populations.

Eastern Brooks Range (Units 24, 25, and 26)

To select trend indicator areas for determination of herd size, composition, productivity, and population trends by 1991.

To develop subsistence harvest assessment techniques by 1991.

To maintain a mean horn length exceeding 34 inches and a mean age of more than 8 years.

To maintain an annual hunter harvest success of at least 40% among recreational hunters.

To determine hunter attitudes regarding the aesthetic quality of sheep hunting in the eastern Brooks Range by 1991.

To identify suitable sites for viewing and photographing sheep and cooperate with other agencies in promoting those sites by 1992.

To capture sheep in the Delta Controlled Use Area in Unit 20D and collect and analyze blood samples.

WORK ACCOMPLISHED DURING THE PROJECT SEGMENT PERIOD:

Alaska Range West (Units 9, 16, 17, and 19)

Sheep harvests were monitored and assessed through evaluation of harvest reports. No attempt was made to assess hunter distribution or success in the field during the open season.

In this area, 239 hunters took 141 full-curl rams (59% success). Nonresident hunters took 76 of the rams (73% success), and resident hunters took 55 (45% success). Aircraft were the dominant means of access. Horn sizes averaged 35.98 inches, and the mean age averaged 9.2 years.

Hunting in the Alaska Range West continued to show a slight upward trend of less than 10%. The increase was primarily due to an increase in nonresident hunter participation.

North Wrangell, Nutzotin, and Mentasta Mountains (Unit 12)

Harvest reports were analyzed for this area. A total of 457 hunters reported taking 239 full-curl rams during 1989; at 52% the hunter success rate was remarkably high. The mean horn length (34 in) and age (9 yr) indicated continued improvement since 1984, when the full-curl regulation had been implemented.

Tok Management Area (Units 12, 13, and 20)

A total of 120 drawing permits were issued in the fall of 1989; 88 hunters reported taking 56 full-curl rams (64% success rate). Average horn length was 36.4 inches, and the mean age of harvested rams was 8.9 years. Thirteen (23%) of the 56 rams taken had horn lengths >39 inches, and six (11%) had horn lengths >40 inches. Owing to the good hunting weather, the 1989 harvest was the highest on record and had the next-to-the-greatest proportion of trophy-quality rams.

Delta Controlled Use Area (Units 13 and 20)

A total of 1,184 applications were received for 150 DCUA permits. One hundred hunters killed 50 sheep (50% success rate). Mean horn length increased to 36.8 inches, and the mean age was 9.5 years. A questionnaire was mailed to permittees, 75 responded, and 61 actually hunted. Blood was collected from 1 sheep at the Granite Creek mineral lick during June 1990. Serological analysis has not been completed for this specimen.

Central Alaska Range (Unit 20)

Harvest reports were received from 405 hunters who reported taking 160 rams. Horn length averaged 34.3 inches and 8.8 years among harvested rams, respectively. Thirty-nine percent of the harvest came from the Wood River drainage, which has traditionally supported the greatest harvest.

Of the 368 hunters who specified their residency, 210 were local residents, 88 were nonlocal residents, and 70 were nonresidents. Forty-five percent of the reporting hunters in 1989 used aircraft to access the hunting area; 49% of those hunters were successful. Twelve percent of the hunters used horses for transportation and achieved the highest success rate (66%) among the different transportation methods used. Three-wheeler and other off road vehicles were used by 17% of the hunters (22% success). Most of the harvest (75%) occurred before the first of September. Successful hunters spent an average of 4.9 days afield.

White Mountains (Units 20F and 25C)

Six rams were harvested by 17 hunters (35% success). Horn size ranged from 33 to 43 inches, and ages of rams ranged from 6 to 15 years. All successful hunters except one used aircraft. This area provided 59 hunter-days of sheep hunting this year. All hunters with known residency were Alaska residents, and 86% of those were from the Fairbanks area.

Tanana Hills (Unit 20)

A total of 12 drawing permits were issued to hunters for the Charley River, Seventymile River, and Mount Harper areas. Hunters needed only harvest tickets to hunt in the Glacier

Mountain Controlled Use Area, and 7 hunters (6 residents and 1 nonresident) participated. The nonresident (the only successful hunter) accessed the area by horseback. In the drawing-permit areas, only 1 hunter in the Mount Harper area (hunt No. 1106) was successful (11-year-old, 34.8-inch ram). No permittees hunted in hunt area Nos. 1107 and 1108.

Central Brooks Range (Unit 24)

During this reporting period 27 sheep were harvested (19 males and 8 females). All were harvested between August and January.

Eastern Brooks Range (Unitss 24, 25, and 26)

The number of sport hunters participating in a sheep hunt rose from 386 in 1988-89 to 457 during the reporting period. Of those hunters, 60% were successful, resulting in a harvest of 274 rams. Seventy-one percent of the harvest occurred in Unit 26. Success was highest in Unit 26C (73%), and 57% success was reported in Unit 26B. Resident and nonresident hunters accounted for 51% and 42% of the take, respectively; 7% of the hunters did not specify residency. Hunters spent an average of 5.1-5.7 days afield, harvesting rams with horns averaging 35.1-35.8 inches. Seventy-seven percent of hunters used aircraft, 14% used highway vehicles, and 9% used unspecified transport methods. Subsistence harvest information was not gathered during the reporting period.

Tok Management Area (Units 12, 13, and 20)

A total of 438 sheep were classified at the Sheep Creek mineral lick on 16 June and 18 July 1989. The lamb:>2-year-old ewe ratio was 24:100, the lowest ever recorded. The yearling:>2-year-old ewe ratio was 20:100. These extremely poor ratios were attributed to the severe winter of 1988-89.

Central Alaska Range (Unit 20)

An aerial survey was conducted on 28 July 1989 over the Dry Creek Drainage and over a portion of the West Fork of the Little Delta River. Observed sheep were classified as lambs or ewes or placed into one of 5 ram categories. Distinguishing yearling rams from ewes is unreliable on a fixed-wing survey; therefore, the ewe category undoubtedly contained some yearling rams. Lambs made up only 10% of the sample, suggesting low recruitment. A second aerial survey was attempted in the Wood River Drainage, but high winds prevented its completion. Thirty-three "ewes" and 4 lambs were counted before the survey was terminated.

PROGRESS TOWARDS MEETING PROJECT OBJECTIVES:

Alaska Range West (Units 9, 16, 17, and 19)

The management objective stated in the original Five Year Study Plan has been fulfilled to date. More specific and useful management objectives have now been developed, and they will be used in the future to monitor project effectiveness. Performance and management reports will provide additional detail on progress toward the new objectives.

North Wrangell, Nutzotin, and Mentasta Mountains (Unit 12)

Objectives to monitor harvest through hunter contacts and permit reports were met. Refined objectives for managing this sheep population were established.

Tok Management Area (Units 12, 13, and 20)

Objectives to monitor harvest through hunter contacts and permit reports were met. Population management objectives were established. No surveys were completed; a complete aerial survey of the TMA should be conducted in the near future.

Central Alaska Range (Unit 20)

Objectives to monitor harvest through hunter contacts and harvest reports were met. Population management objectives were established. An aerial survey of a portion of this range was conducted, but additional survey work should be conducted in the near future to establish population estimates.

Delta Controlled Use Area (Units 13 and 20)

A population estimate was not conducted because the serological survey was considered a higher funding priority; funds were also used to purchase a 4-wheeler ATV for transportation to the Granite Creek mineral lick. The harvest objective was met, and hunters were satisfied with the aesthetic quality of their hunts. The serological survey continued, and captured sheep were marked to assist with future collection of composition data.

White Mountains (Units 20F and 25C)

Objectives to monitor harvest through harvest reports were met. Population management objectives were established. No aerial surveys were conducted.

Tanana Hills (Unit 20)

Objectives to monitor the harvest through a permitting process were met. Population objectives were established. Low hunter densities to avoid competition in the permit area was maintained. Aesthetics were maintained in the Glacier Mountain area through

the prohibition against use of motorized vehicles during sheep season. No aerial surveys were conducted.

Central Brooks Range (Unit 24)

Objectives to monitor harvest through harvest permits and village contacts were met. No population objectives have been established. No aerial surveys were conducted.

Eastern Brooks Range (Units 24, 25, and 26)

Objectives to monitor harvest through harvest permits and reports and village contacts were met. Population objectives have been established. No aerial surveys were conducted.

SEGMENT PERIOD PROJECT COSTS:

	Personnel	Operating	Total
Planned	41.6	8.0	49.6
Actual	41.6	8.0	49.6
Difference	0.0	0.0	0.0

SUBMITTED BY:

Kenton P. Taylor
Regional Management Coordinator

PROJECT TITLE: Arctic Dall Sheep Population Management

PROJECT LOCATION: Units 23 (43,000 mi^2) and 26A (53,000 mi^2)
Western Brooks Range

PROJECT OBJECTIVES:

To maintain current numbers of sheep of all age and sex classes.

To monitor population dynamics of sheep in the western Baird and Delong Mountains.

WORK ACCOMPLISHED DURING THE PROJECT SEGMENT PERIOD:

Aerial surveys were conducted in 17 trend count areas previously established in the Baird Mountains. Four hours were spent stratifying count areas in the Bairds on 8 July 1989. During 20 and 21 July 1989, 3 aircraft and 6 staff members from the Department and the National Park Service (NPS) spent 27.6 hours surveying sheep in the Bairds. Of 981 sheep counted, 162 were rams (51 legal rams with 7/8-curl horn or larger, 102 sublegal rams, and 9 unclassified rams), 646 were ewes and small rams (1/4-curl horn or less), 170 were lambs, and three were unclassifieds. NPS observers conducted ground composition counts using a helicopter on 25 July 1989 in the Bairds. Of 17 rams classified, 10 were 1/4-curl rams, three were 1/2-curl rams, two were 3/4-curl rams, one was a 7/8-curl ram, and one was a full curl ram. In addition, 18 lambs, 22 yearlings, 76 ewes, and 10 unclassifieds were counted.

During the fall season (10 August-20 September 1989), 44 rams were taken by hunters from Unit 23 and 1 ram was taken from Unit 26A. Two were taken from the Igichuk Hills, 23 from the Delong Mountains, 19 from the Baird Mountains, and one from the northern Brooks Range in Unit 26A. Mean horn length of harvested rams was 33.3 inches, and the mean age was 8.9 years. Of the 45 successful hunters, six were residents of Unit 23, 16 were nonlocal residents, 15 were nonresidents, and eight did not specify their residency. Fifty-eight percent of the harvest in the Baird Mountains was taken during the first week of the season. The quota in the Bairds of 19 rams was reached on 29 August and the season was closed by Emergency Order. Sixty percent of the harvest in the Delong Mountains was taken during August, and the remaining 10 sheep were taken during September, the last one on 17 September. All successful hunters used aircraft to access the hunting area except the 2 hunters who took sheep from the Igichuk Hills (4-wheelers).

Eleven sheep were reported taken during the 1989-90 winter subsistence hunt (1 October-30 April). Three rams were taken from the Delong Mountains, and 6 sheep (6 rams and 2 ewes) were

taken from the Baird Mountains. All successful hunters accessed the hunting area with snowmachines.

PROGRESS TOWARDS MEETING PROJECT OBJECTIVES:

All sheep surveys planned for 1989 were completed. More sheep were counted in the Baird Mountains than during any previous survey. Lambs constituted 17% of the sample (26 lambs:100 ewes), rams constituted 16% of the sample (25 rams:100 ewes), and ewes accounted for 66% of the sample. Survey data indicated that the populations in the Baird and Delong Mountains were doing well. We believe that harvests have been within sustained-yield limits. Although some sheep were probably taken and not reported, we believe the magnitude of the unreported harvest was low.

SEGMENT PERIOD PROJECT COST:

	Personnel	Operating	Total
Planned	8.5	6.5	15.0
Actual	8.5	4.5	13.0
Difference	0	-2.0	-2.0

Because Department and NPS aircraft were used instead of charter aircraft for some survey flights, costs were lower than anticipated.

SUBMITTED BY:

Steve Machida
Regional Management Coordinator

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