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Division of Wildlife Conservation

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Annual Performance Report
Survey-Inventory Activities
1 July 1996- 30 June 1997

DALL SHEEP

Mary U Hicks, Editor

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Ken Whitten

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Wayne L. Regelin, Director

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Mary Hicks
Publications Specialist
ADF&G, Wildlife Conservation
P.O. Box 25526
Juneau, AK 99802
(907) 465-4190

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Project Title: Southcentral Alaska Dall Sheep Population Management

Project Location: Units 7, 11, 13, 14, and 15

Sheep populations in the region are managed by mountain range or special hunt area. Mountain ranges frequently divide game management units; therefore, unit numbers may be repeated in sections of the text.

Kenai Mountains (Units 7 and 15)

Project Objectives and Activities: Maintain a population of sheep that will sustain an annual harvest of 25 rams.

- Conduct midsummer aerial surveys to assess population size and sex and age composition.
- Monitor harvest with assistance from Fish and Wildlife Protection and U.S. Fish and Wildlife Service.

Work Accomplished During the Project Segment Period: Two count areas in Unit 7 (837 and 838) and 3 count areas in Unit 15 (850, 853 and 858) were surveyed during summer of 1996, resulting in 509 sheep observed. Composition was 91 rams, 105 lambs, and 313 ewes and unidentified sheep. Lambs and rams composed 21 and 18 percent, respectively, of the total sheep observed.

Preliminary harvest reports indicate 261 hunters harvested 39 rams in Units 7 and 15 during 1996. Hunter success rate was 15 percent. Mean horn length from reported harvest was 35.2 inches and ranged from 30.5 to 40.9. Average age was 8.3 years, with a range of 6 to 12. Alaska residents harvested 36 (92%) rams and nonresidents took 3 (8%).

In 1993 the Round Mountain count area (850) in Unit 15A was opened for hunting ewe sheep by a permit drawing. Hunting for rams in this area was unchanged. Twenty permits for ewes only were issued again in 1996 and 16 permit holders reported hunting. Nine of these hunters were successful, harvesting 8 ewes and 1 2-year-old ram. All successful hunters were Alaska residents and used a highway vehicle to access the hunt area.

Progress Meeting Project Objectives: Harvests in 1996 met the management objective of maintaining a population of sheep in the Kenai Mountains that could sustain an annual harvest of 25 rams. Unlike elsewhere in the state, the Kenai Peninsula has had relatively normal winters, allowing sheep numbers to remain stable to slightly increasing. The current sheep population estimate for the Kenai Mountains is 1500 to 1775.

Hunting pressure in the Kenai Mountains has remained high, resulting in the harvest of most legal rams annually. In an effort to satisfy an increasing interest in harvesting large rams, I recommend reducing harvest in certain areas to allow the average age of rams to increase. Hunting would be allowed by limited permit to accomplish this objective.

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Limited harvest of ewe sheep this year in the Round Mountain area resulted in the harvest of 8 ewes. This population has been reduced through the harvest of ewes from 126 to 106 sheep in 4 years. Harvesting ewes should continue until the population density is reduced to 3 sheep per square mile (80 to 90 countable sheep). Subsequently, harvesting of ewes should be implemented only to stabilize the population at this level to evaluate the response in lamb survival. Lamb survival has increased from 14 lambs/100 ewes in 1992 to 25/100 in 1996.

Harvesting of ewes should be expanded to count area 856, north of Tustumena Lake, which has over 500 countable sheep.

Talkeetna Mountains (Subunits 13A, 13E, 14A, and 14B)

Project Objectives and Activities: Maintain a population of sheep that will sustain an annual harvest of 75 rams.

- Identify critical sheep habitat (e.g., mineral licks and lambing areas).
- Monitor the harvest through hunter contacts and harvest reports.
- Conduct composition surveys.

Work Accomplished During the Project Segment Period: No work was directed specifically toward identifying and documenting critical sheep habitat in the Talkeetna Mountains.

For this area the sheep harvest was monitored from harvest reports. Hunters were required to return their harvest reports within 15 days after the close of the season, or within 15 days of taking an animal. Days hunted, method of take, date and location of kill, and transportation methods were noted in the harvest report. The reported harvest from the Talkeetna Mountains was 90 sheep, taken by 473 hunters. Forty-four percent of successful hunters used 4-wheelers to access their hunting area, compared with an average of 31% during 1990-1994. This is a good indication of improvements in access in the Talkeetna Mountains. No sex and age composition surveys were conducted.

Progress Meeting Project Objectives: Harvest objectives for the Talkeetna Mountains were met. Future harvest may decline due to low recruitment of young (observed during 1994 surveys). Hunter crowding may become a problem if trends in access and participation continue.

Chugach Mountains (Units 11, 13D, 14A, and 14C)

Project Objectives and Activities: Maintain a population of sheep that will sustain an annual harvest of 120 rams.

- Identify critical sheep habitat (e.g., mineral licks and lambing areas).
- Monitor the harvest through hunter contacts, harvest or permit reports, and aging/measuring sheep horns.
- Conduct composition surveys.

Project Objectives and Activities: Maintain a minimum population of sheep that will sustain an annual harvest of 120 rams.

Identify critical sheep habitat (e.g., mineral licks and lambing areas). Monitor the harvest through hunter contacts, harvest or permit reports, and aging/measuring sheep horns. Conduct composition surveys.

Work Accomplished During the Project Segment Period: Sheep were counted by aerial survey in Unit 14C. Sheep were aged and sexed by volunteer observers at 3 mineral licks in Unit 14C at Twin Peaks, Peters Creek, and Windy Point.

In late July 1996, we counted 2430 sheep in Unit 14C by aerial survey. This is the highest count since areawide counts began in 1968, and twice the number counted in the late 1970s. The population included 94 full-curl or larger rams, 134 7/8 to full-curl rams, 381 1/2 to 3/4-curl rams, 538 lambs, and 1262 ewes and unidentified young rams. Lambs composed 22% of the total population, also a record high.

Mid June composition counts at 3 mineral licks in Unit 14C classified 96 lambs, 38 yearlings, and 99 ewes (96 lambs:100 ewes, 38 yearlings:100 ewes).

Harvest reports were analyzed for all units. Unit 14C sheep hunters were required to bring their permit and horns to an ADF&G office within 10 days of taking a sheep. We aged horns by horn annuli and recorded length and base measurements.

The total harvest for the Chugach Mountains was 166 sheep: 133 full-curl or larger rams, 3 young rams (less than full-curl), and 30 ewes (29% hunter success). In Unit 13D, 158 hunters shot 60 full-curl rams (38% hunter success). In Unit 14A, 153 hunters shot 34 full-curl rams (22% hunter success).

All sheep hunting in Unit 14C is by drawing permit. In 1996 hunters applied for 3 types of drawing permits: full-curl ram or ewe, ewe-only, or any sheep (archery-only). Three hundred eighty-nine drawing permits were issued: 184 ram/ewe, 100 ewe-only, and 105 any-sheep (archery only); 268 hunters went afield; and 72 hunters shot a sheep (27% hunter success). Of these, 39 were full-curl or larger rams, 3 were young rams (less than full curl), and 30 were ewes. The success rate for the archery-only permits (including 80 issued during a late season [1-10 October] hunt) was 12%, while hunters in the remainder of the hunts achieved a 33% success rate.

Progress Meeting Project Objectives: The population and harvest objectives were met. The full curl and ewe-only permits in Unit 14C focused the harvest on large rams and ewes, while protecting young rams, a significant improvement over the previous "any sheep" regulation. As the number of full-curl rams increases, the number harvested will also increase.

South Wrangell Mountains (Unit 11)

Project Objectives and Activities: To allow the population to fluctuate according to available habitat, climate conditions, and predation. To allow harvest of mature rams as they are available in the population; to allow very limited harvest of other sex and age classes on a sustained-yield basis.

- Identify critical sheep habitat (e.g., mineral licks and lambing areas).
- Monitor the harvest through hunter contacts and harvest reports.

Work Accomplished During the Project Segment Period: The National Park Service provided support to conduct one sheep survey in the southern Wrangells during 1996. Count area 11 was counted, which is located between the Dadina River and Long Glacier. This count area has been surveyed more frequently for sheep than any other in Unit 11. The 1996 count was 254 sheep, a 27% decline compared with 1995 (347 sheep). The number of ewes and lambs in this count area had respective declines of 29% and 46% in 1996 compared with 1995. Lambs composed 18% of the flock in 1996, compared with 24% in 1995, and 26% in 1994. Total rams increased by 44% from the last count, but the increase was from illegal rams which went from 18 in 1995 to 31 in 1996. During 1996 the Glennallen ADF&G staff also conducted surveys in count areas 12, 14, and 22. These count areas are not completed on an annual basis, but the general trend compared with previous surveys includes increases in small rams, decreases in number of ewes, and increases in lambs when they are expressed as a percent of the total flock.

Hunters killed 141 sheep in Unit 11 during the 1996 hunting season. This harvest includes 105 mature rams taken by sport and subsistence hunters and 19 small rams and 16 ewes taken by subsistence hunters. The mature ram harvest was similar to the 5-year (1991-95) mean harvest of 97 rams (range = 80-128), but down 23% from the peak harvest of 137 mature rams in 1987. The number of smaller subsistence rams taken was higher than the previous 2 seasons (12 and 13), but similar to the 1991-95 average harvest of 18 (range 12-27). The subsistence ewe harvest decreased by 3 ($n = 16$) in 1996. The current ewe harvest is down 56% from a peak harvest of 36 ewes in 1992.

Progress Meeting Project Objectives: Sheep populations were high in Unit 11 throughout the early and mid-1980s. Sheep surveys in recent years indicate sheep numbers have declined in some portions of Unit 11 from previous population highs. In the early 1990s the count of ewes and lambs showed the largest decline. However, there also was an overall decline in all sex and age categories. Throughout the 1990s, data for CA 11 have been variable, but there has been a decline in the number of large (full-curl) rams. The reasons for this decline in ram numbers are unknown. Survey timing may have affected the total ram count in 1995. Inclement flying weather prevented an earlier count; thus, the survey was conducted too close to the hunting season. However, this was not the case in 1996 when surveys were flown earlier and the number of large (full-curl) rams was still low. Another explanation is that poor lamb production or survival in prior years is now reflected with the reduced recruitment of larger rams.

During this reporting period wolves were abundant in Unit 11 and wolf predation on sheep is high. Observations of surplus killing of sheep by wolves were recorded during the winters of 1989 and 1992. Sheep hunters have also reported observing wolves in the high country and wolf scats containing sheep hair.

On average, hunting pressure has increased by almost 42% in the 1990s compared with the 1980s. From 1981-89 an average of 236 (range 204-259) people reported hunting sheep in Unit 11 compared with an average of 334 (range 291-388) for 1990-96. In 1996, 315 individuals reported

hunting sheep in Unit 11. Success rates for sheep hunters in Unit 11 has increased for the last 2 years, and the 1996 rate of 45% is similar to the average rate for 1981-96 (44%). The subsistence take of small rams and ewes seems to vary between 30 and 50 animals a year and reflects the subsistence demand at this time. The definition of a subsistence hunter in Unit 11 was broadened under state law during 1990 to include all state residents, whereas only local rural residents were considered subsistence sheep hunters in previous years. The current subsistence harvest of small rams is relatively low, dispersed throughout the unit and has little impact on ram numbers. The subsistence ewe harvest is also low but in 1995 was concentrated to areas adjacent to the Chitina-McCarthy Road where 47% (9) ewes were taken. In 1996 the ewe harvest was more evenly distributed throughout the unit. Ewe and small ram harvests at the present level are not considered a biological problem. Harvest objectives were met for Unit 11, and no changes in season dates or bag limits are recommended at this time for either the sport or subsistence hunt.

Segment Period Project Costs:

	<u>Personnel</u>	<u>Operating</u>	<u>Total</u>
Planned	10.7	2.0	12.7
Actual	10.7	2.0	12.7
Difference	0.0	0.0	0.0

Submitted by:

Michael G. McDonald
Assistant Management Coordinator

Project Title: Interior Dall Sheep Population Management

Project Location: Unit 12 (9,978 mi²)
North Wrangell, Nutzotin, and Mentasta Mountains

Project Objectives and Activities:

1. Provide the greatest level of sustainable annual opportunity to participate in hunting Dall sheep and provide the greatest level of sustainable annual harvest of Dall sheep.
- Monitor the harvest through hunter contacts and harvest reports.

Work Accomplished During the Project Segment Period: Preliminary harvest statistics indicate 334 hunters harvested 169 full-curl rams during 1996-97 for a hunter success rate of 51%. Number of sheep harvested was comparable to levels taken between 1992 and 1995 (mean = 172) but much lower than the period between 1986 and 1991 (243). The number of hunters has declined the past 3 years (mean = 351) compared to the previous 5-year average of 441. Success rates declined between 1992 and 1994 but increased during 1995 and 1996 to levels comparable to the average success rate (53%) between 1986 and 1991.

Progress Meeting Project Objectives: We met the human-use objectives of providing maximum opportunity to participate in sheep hunting and allowing the greatest sustainable harvest. Between 1992 and 1994, we commonly received negative comments from hunters concerning crowded hunting conditions and lack of legal rams. Sheep populations in Unit 12 declined because of poor lamb production between the late 1980s and 1993 and high adult mortality during the severe winter in 1992. The legal ram population will probably remain low until year 2000. Although hunting was not the cause of the population decline, some hunters have expressed interest in regulations that would reduce the number of hunters if the participation level did not decline. At this time, I do not recommend any changes in seasons and bag limits because harvest is not limiting the sheep population and because the number of hunters has declined in response to the reduced ram population. We did not receive any negative comments the past 2 years.

We will be conducting a composition survey in the Mentasta and Nutzotin Mountains during July 1997.

Project Location: Units 12, 13C, and 20D (17,717 mi²)
Tok Management Area

Project Objectives and Activities:

1. Manage for 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.
 - a. Monitor the harvest through hunter contacts and harvest reports.
 - b. Conduct aerial or ground composition surveys.
2. Manage to achieve an average of 7%-10% of rams with 40-inch or greater horns in the harvest.

3. Manage to prevent unacceptable increases in hunter concentration and maintain the aesthetic qualities associated with sheep hunting in the Tok Management Area (TMA).

Work Accomplished During the Project Segment Period: We issued 120 drawing permits for fall 1996; 100 hunters reported taking 56 full-curl rams exceeding the 5-year average of 47 rams. Hunter success rate (56%) was lower than the rate in 1995 (60%) but exceeded the 5-year average (47%). The participation rate (83%) was slightly above the 5-year average of 78%. Average horn length during 1995 and 1996 was 37.0 and 35.8 inches, respectively, and 18% and 9% of the harvested rams had horns longer than 40 inches.

No aerial or ground composition surveys were conducted during 1996. We surveyed the entire TMA in 1994.

Progress Meeting Project Objectives: We have achieved management objectives in the TMA throughout the last decade, and objectives were maintained this year. Continued attainment is due to the current drawing permit system. The TMA permit is the most sought after sheep drawing permit in the state; 2500 hunters apply for 120 permits.

Project Location: Units 9B, 16A, 16B, 17B, 19B, and 19C (43,616 mi²)
Western Alaska Range

Project Objectives and Activities:

1. Manage for a sustained opportunity to harvest full-curl rams from a population of at least 3000 sheep.
 - a. Conduct aerial surveys to assess population trends, lamb production, and proportion of rams in the various subherds in the area.
 - b. Monitor the sheep harvest through harvest reports and/or hunter contacts.

Work Accomplished During the Project Segment Period: During July 1996, weather and a lack of suitable survey pilots thwarted efforts to monitor sheep population trends in the Alaska Range West (ARW). We surveyed 11 count areas totaling 794 mi² during summer 1997, tabulating 1159 sheep with 57% "ewe-likes," 16% lambs, and 27% rams. Of the rams, 10% were legal (full-curl). Sheep surveys conducted in nearby areas in 1995 resulted in slightly higher lamb percentages, but lower legal ram percentages. Three areas were resurveyed during 1997 that had been surveyed in either 1994 or 1995; these areas' Dall sheep populations seemed stable. With slightly less than half of the Unit 19C area surveyed during 1994, 1995, and 1997, as well as results of surveys conducted during 1996 in Unit 16, the total Alaska Range West (ARW) Dall Sheep population is estimated at a minimum of 4300 sheep, well above the population objective for the area.

Reported harvest was 132 sheep in the ARW during 1995. Overall success rate was reported at 51.8%

Mean horn length of harvested rams was 35.6 inches. The success rate and mean horn length are not significantly different from the previous 5-year mean for the ARW. Final data from the 1996 season have not been analyzed.

Progress Meeting Project Objectives: We monitored sheep harvests, contacted hunters, and flew aerial surveys. More refined population estimates for the ARW are underway.

Project Location: Units 13B, 20A, and 20D (1,680 mi²)
Delta Controlled Use Area

Project Objectives and Activities:

1. Manage a population of approximately 1800 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.
 - a. Monitor the Dall sheep harvest through hunter contacts and permit reports.
 - b. Conduct aerial and/or ground composition surveys of Dall sheep.
 - c. Mail a questionnaire to hunters and quantify their satisfaction with aesthetics of Dall sheep hunting in the Delta Controlled Use Area (DCUA).
2. Manage to provide aesthetically pleasing hunting conditions.

Work Accomplished During the Project Segment Period: Sheep harvest was monitored with permit reports for drawing permit hunts DS203 and DS204 during the 1996-97 hunting season. Preliminary data indicate that 55 hunters killed 20 sheep during hunt DS203, and 55 hunters killed 20 sheep during hunt DS204. Preliminary data indicate that mean horn length of sheep killed during hunt DS203 was 35.97 inches and mean age of sheep was 8.3 years. During hunt DS204, mean horn length for sheep killed was 36.44 inches and mean age was 9.0 years.

We mailed questionnaires to hunters during the 1996-97 season to quantify hunter satisfaction with aesthetics. Hunters continued to be satisfied with DCUA management objectives and aesthetic hunting conditions.

Progress Meeting Project Objectives: We monitored harvest through permit reports and hunter contacts. The number of sheep harvested met the objective. Mean horn size and age objectives were met for sheep harvested during hunt DS203 and hunt DS204. We mailed questionnaires to hunters to monitor hunter satisfaction and aesthetics. Most hunters continued to be satisfied with DCUA management objectives.

Project Location: Units 20A (6796 mi²)
Alaska Range Central (ARC)

Project Objectives and Activities:

1. Manage for 3000-5000 Dall sheep in Unit 20A.
 - a. Conduct aerial composition surveys.

- b. Evaluate the need for management actions if the population is estimated to include less than 3000 sheep.
 - c. Identify the factors limiting growth of the Dall sheep population in Unit 20A.
 - d. Monitor response of the Dall sheep population to the wolf control program by comparing Unit 20A data for data from other Interior sheep populations.
2. Provide for the greatest sustainable annual opportunity to hunt and harvest full-curl Dall sheep rams.
 - a. Monitor the sheep harvest through hunter contacts and harvest reports.
 - b. Maintain a hunting season for full-curl rams throughout all of Unit 20A.
 3. Provide for the sustainable opportunity for the public to view and photograph Dall sheep.
 - Identify suitable sites for viewing and photographing sheep, and promote these sites by 1998.

Work Accomplished During the Project Segment Period: Based on a survey we completed from 25-30 July 1994, we estimate there were at least 1942 \pm 17% (90% CI) Dall sheep in Unit 20A (excluding the DCUA). We conducted a postlambling composition survey from a Robinson R-22 in June 1996. The lamb:ewe ratio (44:100 or 35:100 "ewe like") was again much improved from 1991-1993 (5-18:100).

Preliminary data for 1996 indicate that 113 hunters harvested 44 Dall sheep rams in Unit 20A. This harvest represents the 7th year of declining or low harvests since the peak harvest of 163 rams in 1989. A lamb mortality study was initiated in 1995 and completed in 1996. Data from that study are consistent with observations of recruitment rates from aerial surveys.

Progress Meeting Objectives: Although we are not currently meeting our management objectives for 3000-5000 sheep, we expect the population to increase because of higher recruitment and presumably lower adult mortality.

We continue to meet our objective to provide the greatest sustainable opportunity to hunt and harvest full-curl sheep by maintaining a general open season from 10 August through 20 September. We anticipate very low harvests for several years as weak cohorts from the relatively severe winters of 1989-90 through 1992-93 mature to legal size for hunting.

Numerous suitable sites for viewing and photographing sheep have been identified, but we have not made progress promoting them.

Project Location: Units 20B and 25C
Western Tanana Hills and White Mountains

Project Objectives and Activities:

1. Manage for the sustained opportunity to harvest full-curl rams from a population of at least 250 sheep.
 - a. Conduct aerial or ground composition surveys.
 - b. Monitor the sheep harvest through harvest reports and/or hunter contacts.
2. Cooperate with BLM and potentially affected interest groups to protect sheep habitat.

- a. Provide input to interagency fire-management plans when necessary.
 - b. Review and comment on the proposed plans for trail development associated with the Nome Creek Development in 1996.
3. Develop population and management goals and objectives for the West Point sheep population by 1997.

Work accomplished During the Project Segment Period: We cooperated with BLM and USFWS Yukon Flats National Wildlife Refuge staff to conduct annual aerial surveys of the sheep population in Unit 25C. Between 5 and 7 August 1996, 464 sheep were observed, including 270 "ewes," 88 lambs, 16 legal rams, and 90 illegal rams. The lamb:ewe ratio was 32 lambs:100 ewes. The ram:ewe ratio was 39 rams:100 ewes.

White Mountains

In 1996, 8 rams were reported harvested by 33 hunters in the White Mountains. The average longest horn length was 33.3 inches (range 23-38 inches) and the average age from counting horn rings was 10 years (range 8-13).

Tanana Hills

In 1996 4 hunters reported no rams harvested. No activities specifically to protect sheep habitat were conducted.

Progress Meeting Project Objectives: We are meeting our population objective of 250 sheep. We estimate the population is between 550 and 600 sheep. We are planning a sheep survey for summer 1997, making this cooperative survey an annual project. We recommend continuing to monitor the West Point sheep population at least biennially.

Reported sheep hunting pressure in the White Mountains continues to be minimal. The total number of hunters has been stable from 1995 (28) to 33 in 1996. Prior to 1995 and since 1984, reported harvest had not exceeded 6 rams/year, and the number of hunters had not exceeded 45/year. Declines in other Interior sheep populations are causing hunters to look elsewhere for sheep hunting opportunities and could result in some increases in hunting in the White Mountains. We should continue to monitor this situation closely.

We have not conducted any activities in relation to objective 2. We have never received any plans on the proposed trail development from BLM. However, through ADF&G Habitat Division, we have monitored progress on the construction of the Nome Creek development. Construction has begun on the Nome Creek development, including a road along Nome Creek to Moose Creek, associated campgrounds, and hiking trails. DOT/PF is cooperating with BLM and will be constructing the road using federal ISTEA money. BLM is conducting more surveys this summer to evaluate proposed trail routes. Monitoring of the development and expansion of facilities in the Nome Creek area should be continued to protect and maintain existing sheep habitat. This should be accomplished by trail plan assessment to ensure that sheep are not displaced from their range by the new trail system.

We did not meet our objective of setting population goals or objectives for the West Point sheep population. We are planning to evaluate both White Mountains and West Point sheep populations during this next Board of Game cycle with help from the local users and the concerned Fish and Game advisory committees.

We recommend the following changes to objective 3. "Develop population and management goals and objectives for the West Point sheep population by 1998."

Project Location: Units 20D and 20E (16,318 mi²)
Tanana Hills

Project Objectives and Activities:

1. Manage for aesthetic hunting conditions.
 - a. Monitor the harvest through hunter contacts and harvest or permit reports.

Work Accomplished During the Project Segment Period: We issued 4 drawing permits to hunters for the Mount Harper (DS106) area. Hunters needed sheep harvest tickets to hunt in the Glacier Mountain Controlled Use Area and the Charley and Seventymile Rivers areas. Three permit holders participated in the Mt. Harper hunt and 2 took rams. Preliminary harvest statistics indicate 16 hunters harvested 5 full-curl rams outside the permit area during 1996-97 for a hunter success rate of 31%. Average horn length was 35 inches and average age was 9.4 years. Hunters were widely distributed; little competition exists for legal sheep.

Progress Meeting Project Objectives: Positive comments from hunters indicate we have achieved the objective of an aesthetic hunting opportunity. Sheep hunting aesthetics are expected to remain high due to the remoteness and limited accessibility of these areas.

The sheep population in this area has declined due to poor lamb recruitment and higher than normal adult mortality because of adverse weather conditions during the early 1990s. The number of legal rams is expected to remain low, possibly until the late 1990s. The lower number of sheep should not affect hunting conditions because so few hunters use the area.

Project Location: Unit 24 (26,055 mi²)
Central Brooks Range

Project Objectives and Activities:

1. Maintain or increase the sheep population within the Gates of the Arctic National Park and provide for opportunities to view and photograph sheep, allowing for a subsistence harvest of up to 50 sheep per year.
 - Monitor subsistence sheep hunting success through periodic visits to villages in the unit.
2. In other areas of the unit, maintain or increase the sheep population to provide an average annual harvest of at least 5 rams under aesthetic hunting conditions.

Work Accomplished During the Project Segment Period: Twenty-six hunters registered to hunt sheep in Gates of the Arctic National Park. Preliminary analysis of hunter reports indicates 7 hunters reported taking 8 sheep, 7 males and 1 female. Three were taken in the fall and 5 in March 1997. Outside the park, 50 hunters harvested 18 rams. We collected harvest data posthunt through direct contact and letters.

Progress Meeting Project Objectives: Objectives to monitor harvest through harvest tickets and permits were met. Management objectives are being met through the low harvest.

Project Location: Units 25A, 26B and 26C (47,088 mi²)
Eastern Brooks Range

Project Objectives and Activities:

1. In cooperation with FWS, continue to monitor sheep population status using trend indicator areas.
2. Manage for a harvest of Dall sheep rams with full-curl or larger horns.
3. Monitor the effects of the full-curl minimum size limit that took effect in fall 1993.
4. Work with ADF&G Subsistence Division and FWS to manage subsistence sheep harvests.

Work Accomplished During the Project Segment Period: During 1995-96 cooperative efforts to monitor radiocollared sheep continued in the upper Chandalar and Hulahula drainages. Adult mortality seemed generally low, and lamb production and survival were good in Unit 26C in spring 1995, but low in Unit 26B. Lamb production was moderate in Unit 25 in 1995, in contrast to several preceding years of very low production. Hunters seem adapted to the full-curl regulation implemented in 1993 and to the decline in sheep populations.

Hunting activity in the Red Sheep Creek area was monitored in a cooperative effort by FWS and Arctic Village. This study documented activities of 1 guide based at the airstrip and found no hunting activity by other nonlocal or local hunters.

While the eastern Brooks Range continues to be a popular hunting area, preliminary review of 1995 harvest reports indicates hunting pressure and harvest success have stabilized in response to generally lower sheep numbers. We continued to monitor subsistence sheep harvests. Harvests in Unit 26C are fairly well known due to the efforts of Subsistence Division to interview residents of Kaktovik.

Progress Meeting Project Objectives: Management objectives continue to be met in this area, although numbers of sheep have declined in recent years.

Segment Period Project Costs:

	<u>Personnel</u>	<u>Operating</u>	<u>Total</u>
Planned	44.9	23.4	68.3
Actual	35.0	4.0	39.0
Difference	9.9	19.4	29.3

Explanation: Staff position vacancies resulted in lower than expected personnel costs. Operating costs were low because severe weather prevented or limited surveys in Units 19 and 20.

Submitted by:

David James
Management Coordinator

Project Title: Western Alaska Dall Sheep Population Management

Project Location: Unit 23 and Unit 26A (99,000 mi²)
Kotzebue Sound and Western Brooks Range

Project Objectives:

1. Maintain a posthunt population in the Baird Mountains of 450-600 adult sheep and a minimum ratio of 7-10 7/8+ curl rams:100 "ewes" (includes adult female, yearling, and 1/4- curl ram) in Unit 23.
2. Maintain public support for conservation of sheep in Unit 23 as demonstrated by compliance with hunting closure.

Work Accomplished During the Project Segment Period: We completed sex and age composition surveys in the Baird Mountains during July 1996.

	Baird Mt.
Rams 1/2+ curl	75
Rams 7/8+ curl	56
"Ewes" ^a	169
Adults	244
Lambs	58
Total	302
Lambs:100 "Ewes"	34
Total Rams:100 "Ewes"	44
Rams 7/8+:100 "Ewes"	33
Adults: mi ²	0.34

^a "Ewes" defined as adult female, yearling, and 1/4-curl ram.

The number of sheep remained below population goals in the Baird Mountains. Considering survey results, the department issued emergency orders in July 1996 closing sheep hunting west of Howard Pass and the Cutler/Redstone rivers in Unit 23 and 26A. The remainder of Unit 23 and 26A east of Howard Pass and the Cutler/Redstone rivers remained open for hunting under the published seasons and bag limits. Two hunters reported unsuccessfully hunting sheep in the open area. No hunters reported harvesting sheep in Unit 23 or the western portion of Unit 26A in 1996-1997.

We made numerous contacts with the public and advisory committee members regarding the emergency order actions for sheep hunting regulations. The public continues to favor the use of emergency orders over a permanent closure. Local residents, federal agencies, and department staff agree that season closures should remain in effect until numbers of adult sheep increase.

Progress Meeting Project Objectives: We made progress meeting project objectives through monitoring and management actions. With public support, agencies have eliminated hunting mortality through season closures. Given the low density and discontinuous distribution of sheep

in northwestern Alaska, the influence of wolf and caribou dynamics, and the frequency of severe winters, it is unlikely that managers can maintain stable sheep populations, even at modest densities. The increase in lambs in 1995 and 1996 indicates the declining population trend may begin to reverse in the next few years. However, 4 years of low lamb production will affect population numbers and composition for many years.

Segment Period Project Costs:

	<u>Personnel</u>	<u>Operating</u>	<u>Total</u>
Planned	10.8	5.7	16.5
Actual	7.3	5.0	12.3
Difference	3.5	0.7	4.2

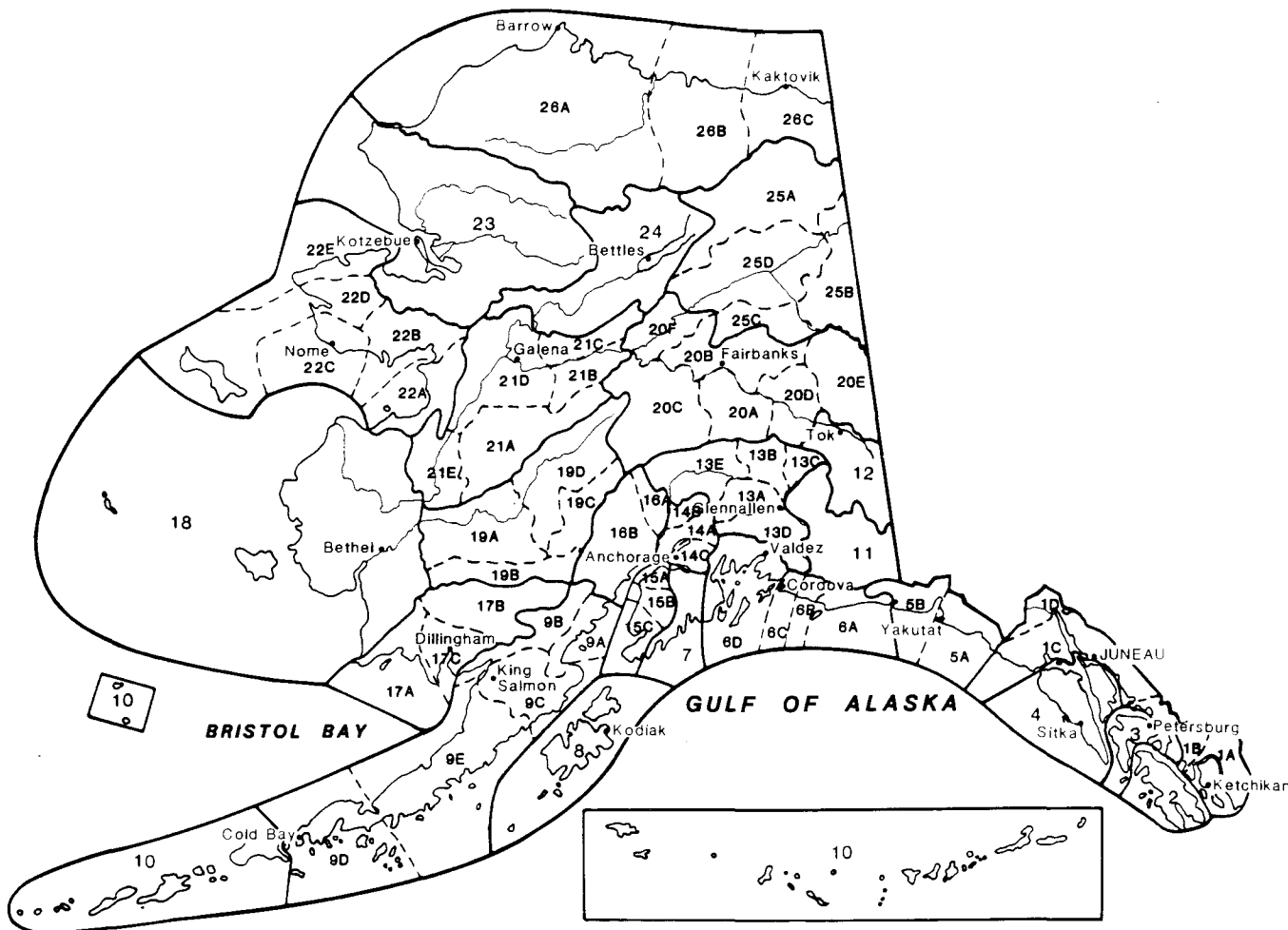
Explanation: The cost summary is approximate. Region V did not have administrative support for a fiscal summary at the close of the reporting period. Sheep surveys were completed more quickly than planned, resulting in surplus personnel and operating monies at the close of the reporting period.

Submitted by

Peter Bente

Survey-Inventory Coordinator

Alaska's Game Management Units



The Federal Aid in Wildlife Restoration Program consists of funds from a 10% to 11% manufacturer's excise tax collected from the sales of handguns, sporting rifles, shotguns, ammunition, and archery equipment. The Federal Aid program allots funds back to states through a formula based on each state's geographic area and number of paid hunting license holders. Alaska receives a maximum 5% of revenues collected each year. The Alaska Department of Fish and Game uses federal aid funds to help restore, conserve, and manage wild birds and mammals to benefit the public. These funds are also used to educate hunters to develop the skills, knowledge, and attitudes for responsible hunting. Seventy-five percent of the funds for this report are from Federal Aid.



Ken Whitten