Alaska Department of Fish and Game
Division of Wildlife Conservation

Federal Aid in Wildlife Restoration
Annual Performance Report of
Survey - Inventory Activities
1 July 1993 - 30 June 1994

DALL SHEEP

Mary V. Hicks, Editor

Grant W-24-2
Study 6.0
December 1994

STATE OF ALASKA
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DEPARTMENT OF FISH AND GAME
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Project Title: **Southcentral Alaska Dall Sheep 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, 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: We surveyed 4 count areas in Unit 15 (855, 856, 857, and Round Mountain) during July and August of 1993. We observed a total of 742 sheep, consisting of 174 rams, 96 lambs, and 472 ewes. Three percent of the sheep observed were legal rams. Sheep surveys were not conducted in Unit 7, in 1993.

Preliminary harvest reports indicate 264 hunters harvested 33 rams in Units 7 and 15 during 1993. Hunter success rate was 13%. Mean horn length from reported harvest was 36.9 inches and ranged from 32 to 43 inches. Average age was 8.5 years, with a range of 7 to 13 years. Alaska residents harvested 28 (85%) rams and nonresidents killed 5 (15%) rams.

In 1993 the Round Mountain count area in Subunit 15A was open for hunting ewe sheep by a permit drawing. Twenty permits were issued, 15 permittees reported hunting; 8 permittees were successful. Alaska residents using highway vehicles to access hunt areas were the successful hunters.

Progress Toward Meeting Project Objectives: The 1993 harvest met the management objective of maintaining a population of sheep in the Kenai Mountains that sustains an annual harvest of 25 rams. The Kenai Peninsula has had mild winters, allowing sheep numbers to remain stable or slightly increase. The sheep population estimate for the Kenai Mountains was 1,650 animals.

Hunting pressure in the Kenai Mountains has increased, resulting in the harvest of most legal rams annually. In an effort to satisfy the increasing interest in harvesting large rams, the harvest should be reduced in certain areas to allow the average age of rams to increase. Hunting should be limited by permits to accomplish this objective. The limited harvest of ewe sheep was successful and should be expanded to include Count Area 856, north of Tustumena Lake.

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: Composition surveys were not conducted during this report period. Work was not directed specifically at identifying and documenting critical sheep habitat in the Talkeetna Mountains.

Progress Meeting Project Objectives: A total of 339 hunters reported harvesting 87 sheep in 1993, meeting our harvest objectives for the Talkeetna Mountains. The status of the sheep population was unknown; however, sufficient numbers of full-curl rams were available to meet the management objective.

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.

Work Accomplished During the Project Segment Period: Biologists flew aerial surveys in Subunits 13, the Tonsina Controlled Use Area, and 14C. A late June count of 159 sheep was considerably less than the area's high count of 312 in late July 1992. A total of 119 sheep was classified; 7 (6%) were full-curl rams and 13 (11%) were lambs. The proportion of lambs was only one-half of that observed in 1992 (21%). Surveys were not conducted in Subunit 14A.

Biologists tallied 2,022 sheep in Unit 14C in mid July. This included 203 7/8-curl or larger rams, 360 1/2-curl to 3/4-curl rams, 259 lambs, and 1,200 ewes and 1 or 2-year-old rams. Lambs comprised 13% of the population.

Staff analyzed harvest reports for all subunits. Subunit 14C sheep hunters were required to bring their permit and horns to an ADF&G office within 10 days of taking a sheep. Horns were aged by horn annuli, and we recorded length and base measurements.

The sheep harvest for the Chugach Mountains was 160 sheep: 113 full-curl rams, 17 7/8-curl rams, 10 young rams (less than 7/8-curl), and 20 ewes. The hunter success rate was 30%. In Subunit 13D, 175 hunters shot 62 full-curl rams, and the hunter success rate was 35%. In Subunit 14A, 112 hunters shot 25 full-curl rams. The success rate was 22%.

All sheep hunting in Subunit 14C was by drawing permit. In 1993 we issued 345 permits (105 archery only permits), 241 hunters went afield, and 73 hunters (30% success rate) harvested sheep. Twenty-six of the sheep taken were full-curl or larger rams, 17 were 7/8-curl rams, 10 were young rams less than 7/8-curl and under 6-years-old), and 20 were ewes. The success rate for the archery permits, including the 80 issued for the late season (1-10 October), was 17%. The hunter success rate for the remainder of the hunts was 35%.

Progress Meeting Project Objectives: We met the harvest objective for the Chugach Mountains. The winter of 1992-93 had the highest mortality rate since areawide surveys began in Subunit 14C in 1968. We estimated 479 sheep died in Subunit 14C over winter, including most of last year's lamb crop, many older ewes, and 15-25 rams 8-years or older. Most of the remaining mature rams were 4-6-years-old and barely 7/8 curl. Last year's mortality, coupled with the approximately 650 sheep that died during the 1989-90 and 1991-92 winters, has substantially reduced the number of young rams. This decline will be prolonged by low lamb recruitment. Thus, the number of large rams will be low for several years in Subunit 14C and presumably other parts of the Chugach Mountains.

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: We conduct sheep surveys periodically in the southern Wrangells, with a number of years between counts in each count area. Sheep surveys in 1993 were in Count Areas 11 (Dadina River to Long Glacier), 12 (Long Glacier to Kuskalana River), and 22 (Barnard Glacier). The number of sheep (268) and percentage of lambs (13.1%) observed in Count Area 11 were the lowest tallied since 1982. The number of sheep (568) observed in Count Area 12 was the highest number tallied since 1973, but the percentage of lambs (6.9%) was the lowest ever recorded. The number of sheep (304) observed in Count Area 22 was the highest tallied since 1970, and the percentage of lambs (20.7%) was similar to past surveys.

Hunters reported taking 142 sheep during 1993. The harvest included 95 mature rams taken by sport and subsistence hunters as well as 27 small rams and 20 ewes taken by subsistence hunters. The mature ram harvest was substantially lower than the previous 5-year mean harvest of 113 rams. The number of small rams taken by subsistence hunters increased by 42% from last year's take of 19. The subsistence ewe harvest was down 41% from 34 the previous year and down 17% from a harvest of 24 ewes in 1991.

Progress Meeting Project Objectives: Sheep populations have been high in Unit 11 throughout the early and mid 1980s. Incidental observations of sheep over the past few years in the unit suggested sheep numbers declined. A survey flown in 1990 also indicated a decline in sheep numbers. Because the decline was in all sex and age classes, it was not attributed to hunting. Neither specific reasons nor the magnitude of the decline was known.

The surveys conducted in 1993 suggested total sheep numbers had increased in 2 count areas; most noticeable was the low percentage of lambs. We do not know if the low lamb numbers were due to low survival or lack of production. We cannot reach conclusions about sheep population fluctuations in Unit 11 without more frequent and extensive surveys. Wolf predation on sheep seemed high in this area. Wolves killed an excess of sheep the winters of 1989 and 1992. Sheep hunters reported observing wolves in the high country as well as wolf scats containing sheep hair.

Harvest objectives were met for Unit 11. Though mature ram harvests remained about the same, small ram harvests increased. Ewe harvests increased from 13 in 1990 to 24 in 1991 and 34 in 1992. The ewe harvest declined to 20 in 1993 and probably indicated the level of subsistence hunting for sheep in the unit. The definition of a subsistence hunter in Unit 11 was broadened under state law during 1990 to include all state residents. Previously only local rural residents were considered subsistence sheep hunters. The subsistence harvest of small rams was low, dispersed throughout the unit, with little affect on ram numbers. However, the subsistence ewe harvest was low but not as well dispersed. Sixty percent (n=12) of the ewes taken came from areas adjacent to the Chitina-McCarthy Road and 25% (n=5) came from areas adjacent to the Nebesna Road. Ewe populations in both areas were high; the level of ewe harvest was not considered too high. We recommend no changes in season dates or bag limits.

Segment Period Project Costs:

	Personnel	Operating	Total
Planned	6.0	3.0	9.0
Actual	6.0	3.0	9.0
Difference	0.0	0.0	0.0

Explanation: The Foundation for North American Wild Sheep and the Alaska Bowhunters contributed an additional 2.3 for surveys in Subunit 14C.

Submitted by:

Karl Schneider
Management Coordinator

Project Title: **Region III Dall Sheep Population and Habitat Management**

Project Location: Units 12, 19, 20, 24, 25 and 26

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

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.
   a. Monitor the harvest through hunter contacts and harvest reports.

Work Accomplished During the Project Segment Period: Preliminary harvest statistics indicate 431 hunters (330 residents, 84 nonresidents, and 17 unknown residency) harvested 172 full-curl rams during FY94 for a hunter success rate of 40%. Overall harvest was comparable to FY93, but the success rate was lower. The FY93 and 94 harvests and the FY94 success rate were the lowest on record since 1984 (the first year of full-curl regulation). The mean horn length and average age of harvested rams were 34.5 inches and 8.5 years, which are comparable to the 5-year average.

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. Hunter satisfaction of the current management objectives is declining based on the number of negative comments received concerning the crowded hunting conditions and lack of legal rams. Sheep populations in Unit 12 have declined due to poor lamb production the past 4-5 years and to high adult mortality during the deep snow years in the early 1990s. Poor recruitment caused a decline in the number of legal rams; subsequently, the harvest during the next 3 years will also decline. Even though hunting is not the cause of the decline, some hunters have expressed interest in regulations restricting the number of hunters, reducing competition for the declining number of rams. At this time, I do not recommend any changes in the sheep hunting seasons, but this may change, depending on the sheep population trend and hunter satisfaction level.

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

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.
   1a. Monitor the harvest through hunter contacts and harvest reports.
   1b. 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 1993; 105 hunters reported taking 44 full-curl rams for a hunting success rate of 42%. Average horn length was 37.3 inches, and the mean age of rams harvested was 9.0 years. Six (13.6%) rams harvested had horn lengths of 40 inches or more. The total harvest, horn size, and age of harvested rams all met the project objectives.

Between 23 and 27 June 1994, we classified sheep at the Sheep Creek mineral lick. The results of the survey were not available for this report. During this period sheep were also captured and blood samples were collected to determine exposure and vulnerability to various infectious diseases.

Progress Meeting Project Objectives: We have achieved management objectives in the TMA throughout the last decade and were maintained this year. Continued attainment is probably due to the current drawing permit system.

Tanana Hills (Unit 20)

Project Objectives and Activities:

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

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

Work Accomplished During the Project Segment Period: We issued 4 drawing permits to hunters for the Mount Harper (DS106) area. Hunters needed only a sheep harvest ticket to hunt in the Glacier Mountain Controlled Use Area, and the Charley and Seventymile Rivers areas. Four hunters participated in the Mt. Harper hunt, taking 1 full-curl ram (34.5 inches horn length; 7.5 years). Preliminary harvest statistics indicate 11 hunters (5 residents, 4 nonresidents, and 2 unknown residency) harvested 5 full-curl rams outside the permit area during FY94 for a hunter success rate of 45%. Average horn length was 34 inches and average age was 8.8 years.

Progress Meeting Project Objectives: Positive comments from hunters indicated 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 into these areas.

During FY94, we conducted surveys in the Mt Harper and Glacier Peak areas. Similar to sheep populations throughout the state, the sheep population in the Mt. Harper area declined in total numbers and legal rams. In contrast, the population on Glacier Mt. seems stable; however, the number of legal rams were lower.

During the June 1993 meeting, the Board of Game decided against conducting a wolf control program in Subunit 20E. The primary limiting factor on sheep in the Tanana Hills is predation. Without wolf control, it is unlikely we will meet the objective of increasing the population to 700 sheep. Therefore, we recommend deleting this objective.

Alaska Range West of Denali National Park (Units 9, 16, 19)

Project Objectives and Activities:

1. Manage for a sustained opportunity to harvest full-curl rams from a population of at least 3,000 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: We surveyed 3 count areas totaling 158 mi^2 during summer 1993. These areas had not been surveyed in the past, so making comparisons with previous data was impossible. We observed 198 sheep with relatively low proportions of lambs and legal rams (9% of each).

Reported harvest was 126 sheep in the Alaska Range West during 1992. Final data from the 1993 season have not yet been analyzed. Overall success rate was reported at 57%. Mean horn length of harvested rams was 35.4 inches. The success rate and mean horn length are not significantly different from the previous 5-year mean from the ARW.

Progress Meeting Project Objectives: We monitored sheep harvests, contacted hunters, and flew limited aerial surveys. More comprehensive surveys of a major portion of Unit 19 were planned and funded for FY95.

Central Alaska Range (Unit 20A)

Project Objectives and Activities:

1. Manage for 3000-5000 Dall sheep in Subunit 20A.
   a. Conduct aerial or ground sheep 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 Subunit 20A.
d. Monitor response of the Dall sheep population to the wolf control program by comparing Subunit 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 Subunit 20A.

3. Provide for the sustainable opportunity for the public to view and photograph Dall sheep.
   a. Identify suitable sites for viewing and photographing sheep and promote these sites by 1995.

Work Accomplished During the Project Segment Period: We conducted 2 aerial surveys of sheep in Subunit 20A during this reporting period. From 23-24 September 1993, we surveyed the standard sheep count areas (1-4) between the Wood River and the West Fork of the Little Delta. In contrast to most sheep surveys flown in a fixed-wing, this survey was conducted in a Robinson R22 helicopter. Survey intensity was lower, but because of the maneuverability of the helicopter, the pilot seldom returned for a second pass. Composition of the 387 classified sheep included 248 "ewes," 23 lambs, and 116 rams. The resulting lamb:"ewe" ratio of 9:100 was slightly lower than the 12:100 observed the previous June. Only 3% (4/116) of the rams were less than 1/2-curl, which reflects the poor production and survival of lambs during the recent severe winters and high wolf populations. We had expected to find fewer than the 24 legal rams (full-curl or greater) we observed during this posthunting season survey.

On 4 June 1994, we classified 442 sheep in approximately 187 mi^2 of the 220 mi^2 area normally surveyed in late July. The number of sheep observed in this area was 60% lower than the number seen in the same area 10 years ago (1984). Productivity was significantly higher in 1994 (34 lambs:100 "ewes") than during the same period in 1993 (12:100). The sample included 211 "ewes," 72 lambs, and 125 rams.

During a ground survey of sheep in adjacent Denali National Park on 26 May 1994, we also observed relatively high productivity (42 lambs:100 "ewes") in the sample of 197 sheep (45 lambs, 107 "ewes," and 47 rams). We had early reports of people seeing newborn lambs in Subunit 20A (8 May 94), which also indicates a favorable year for recruitment.

We discussed population status, objectives, and the need for management actions for the declining sheep populations during an interregional staff meeting in October 1993. Sheep populations have declined in most areas of the state, probably because of adverse weather. During the wolf predation control program in Subunit 20A (winter 1993-94), the wolf population was reduced by about 50%; therefore, predation rates on sheep should likewise be reduced. Estimates of wolf predation on sheep in Subunit 20A are not available.

Interim data indicate 50 Dall sheep were harvested by 166 hunters in Subunit 20A. This harvest represents the 4th year of continually declining harvests in this area from the peak of 163 in 1989.

Progress Meeting Objectives: The current population size in Subunit 20A is unknown; however, we estimate it is less than our objective for 3000-5000 sheep. To obtain a more accurate estimate of the current population, we are planning a major survey of Subunit 20A in late July 1994. During this survey, we will collect composition data over the broader area to extrapolate more accurately than by only surveying the area between the Wood River and the West Fork of the Little Delta River. In addition, to better understand factors limiting growth of the sheep population, we are planning a research project for spring 1995 that will investigate lamb mortality rates and factors.

We continue to meet our objective to provide for the greatest sustainable opportunity to hunt and harvest full-curl sheep by maintaining a general open season from 10 August through 20 September.

We have not made any progress identifying suitable sites for viewing and photographing sheep and promoting them. However, we will be obtaining more thorough information about sheep distribution during our major survey planned for late July 1994 in Subunit 20A. During the next reporting period, we will use this information to identify appropriate viewing and photography sites.

Delta Controlled Use Area (Subunit 20D)

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. Capture Dall sheep in the Delta Controlled Use Area in Subunit 20D; collect and analyze blood samples.
   d. Mail a questionnaire to hunters and quantify their satisfaction with aesthetics of Dall sheep hunting in the Delta Controlled Use Area.

2. Manage to provide aesthetic hunting conditions.

Work Accomplished During the Project Segment Period: Sheep harvest was monitored with permit reports for drawing permit hunts DS203 and DS204. Preliminary data indicate 43 hunters killed 18 sheep during hunt DS203, and 46 hunters killed 19 sheep during hunt DS204. Combined harvest totaled 37 sheep. Preliminary data indicate that mean horn length of sheep

killed during hunt DS203 was 36.14 inches and mean horn length for sheep killed during hunt DS204 was 35.57 inches.

A Dall sheep trend count area was flown on July 14 and August 3, 1993; however, poor weather conditions prevented the completion of the survey. The following sheep were classified: 93 ewelike sheep, 20 lambs, 68 sublegal rams, and 7 legal rams.

No ground composition data have been collected during this reporting period.

We reviewed the accumulated data for the Delta Controlled Use Area serological survey, determining the sample size to be adequate. Therefore, the serological survey was terminated, and no further data will be collected until needed.

Questionnaires were mailed to hunters during the 1993-94 season to quantify hunter satisfaction with aesthetics. Data from the questionnaire have not been analyzed at this time.

Progress Meeting Project Objectives: The harvest management objectives were met during the 1993-94 season. Overall mean horn length met the objective for hunt DS203 but was slightly below the objective for DS204. We collected composition and population trend data; however, the survey was not completed. The serological survey was completed.

Central Brooks Range (Unit 24)

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.
   a. 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: Within the Gates of the Arctic National Park, 30 hunters signed up to hunt sheep under a subsistence season. Hunters reported harvesting 9 sheep, all adult rams. Most were harvested between August and October, but 4 were taken in March. We collected harvest data through posthunt, direct contact, and letters.

Outside the park, 28 hunters harvested 9 rams; 3 of the successful hunters were nonresidents.

Sheep composition surveys were conducted within Gates of the Arctic National Park. In 16.7 hours of survey time, I found 617 sheep in a 817 mi^2 area. The overall lamb:ewe ratio was

30:100 which is lower than 1972 (50:100) or 1985 (47:100) NPS surveys, but above or equal to other sheep surveys in Alaska in 1993. The ram:ewe ratio was 40:100 and full-curl rams composed 39% of the total rams observed.

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

White Mountains (Unit 25C)

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 plans for development of the Nome Creek area, including plans to build an improved road above Nome Creek in 1993.

Work accomplished During the Project Segment Period: BLM conducted a lamb survey in the Mt. Prindle area during spring 1994. Data from that survey have not yet been acquired. We met with BLM and USFWS Yukon Flats National Wildlife Refuge staff and agreed to cooperate on future aerial censuses of the sheep population.

In 1993, 5 rams were reported harvested by 45 hunters in the White Mountains. The average longest horn length was 34.7 inches (range 31-37.8 inches) and the average age from counting horn rings was 9 years (range 8-11).

No activities specifically to protect sheep habitat were conducted.

A meeting to brief the department on the progress of the Nome Creek development was held in February 1994. We were briefed on the specific plans and given copies of those plans. We discussed at length the proposed trail system that would start at the development and traverse into sheep habitat. Further correspondence has occurred regarding the trail system. The Department will be working closely with BLM to reduce potential impacts to sheep use of this area.

Progress Meeting Project Objectives: We believe we are meeting our population objective of 250 sheep. We estimate the population is between 250 and 300 sheep. We are planning a sheep census for summer 1994, cooperating with staff from BLM and USFWS Yukon Flats National Wildlife Refuge.

Reported sheep hunting pressure in the White Mountains continues to be minimal, but is increasing. Since 1984, reported harvest has not exceeded 6 rams/yr. and the number of hunters has not exceeded 26/yr. However, in 1993, 45 hunters reported hunting sheep. This is a 42% increase in reported hunters since 1992. Declines in other Interior sheep populations are causing hunters to look elsewhere for sheep hunting opportunities. This situation should be monitored closely.

DOT/PF is continuing to work on the engineering phase of the road. Ground-test drilling is still in progress. Groundbreaking for the road along Nome Creek, associated campgrounds, and hiking trails are scheduled to begin Spring 1995. 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. Continued monitoring of the development and expansion of facilities in the Nome Creek area by the BLM should be conducted to protect and maintain existing sheep habitat. This should be accomplished by trail plan assessment to ensure that sheep are not displaced from their current range by the new trail system.

We recommend the objective 2b be changed to: Review and comment on the proposed plans for trail development associated with the Nome Creek Development in 1994.

Eastern Brooks Range (Units 25 and 26)

Project Objectives and Activities:

1. In cooperation with USFWS, 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 USFWS to manage subsistence sheep harvests.

Work Accomplished During the Project Segment Period: During 1993-94, cooperative efforts to monitor radiocollared sheep continued in the upper Chandalar and Hula Hula drainages. Adult mortality seemed generally low, and lamb production and survival were low in spring 1994 as has been the case in several recent years. Lamb production in Subunit 26B increased to a moderate level in 1994. Hunters seem adapted to the full-curl regulation implemented in 1993 as well as to the decline in sheep populations.

While the eastern Brooks Range continues to be a popular hunting area, preliminary review of 1993 harvest reports suggests harvest has stabilized and hunting pressure has declined in response to generally lower sheep numbers. We continued to monitor subsistence sheep harvests.

Harvests in Subunit 26C are fairly well known due to the efforts of Subsistence Division interviews with residents of Kaktovik.

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

Segment Period Project Costs:

	Personnel	Operating	Total
Planned	56.5	8.0	64.5
Actual	62.4	19.4	81.8
Difference	-5.9	-11.4	-17.3

Explanation: We also surveyed sheep in a major portion of Unit 24 and in Unit 20A to determine lamb production.

Submitted by:

Kenton P. Taylor
Management Coordinator

Project Title: **Western Alaska Dall Sheep Survey and Inventory**

Project Location: Units 23 and 26A (99,000 mi^2)
Kotzebue Sound and the western Brooks Range

Project Objectives and Activities:

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) unitwide. Maintain a minimum of 1100 or more sheep in the DeLong Mountains
   a. Conduct aerial and ground sex and age composition surveys in established trend count areas.
   b. Monitor hunter harvest and other mortality factors through harvest reporting, permit hunts, public contacts, and field observations.
   c. Improve harvest reporting rates among local sheep hunters.
   d. Develop updated population objectives in cooperation with the public and other agencies.

Work Accomplished During the Project Segment Period: Aerial sex and age composition surveys were conducted in the Baird and DeLong Mountains during July 1993:

	Baird Mountains	Kugururok/Trail Creek	Wulik Peaks
Rams 1/2-curl and larger	123	63	27
Rams 7/8-curl and larger	37	16	11
"Ewes"[a]	256	112	48
Adults	379	171	75
Lambs	47	27	18
Total	426	202	93
Lambs:100 "Ewes"	18	24	38
Total Rams:100"Ewes"	48	56	56
Rams 7/8+:100 "Ewes"	14	14	23

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

We monitored the fall harvest through the statewide harvest ticket system for the DeLong Mountains. For the third year, the DeLong Mountain season was shortened from 10 August to 20 September to 1 September to 20 September by emergency order. Seventeen hunters reported harvesting 10 rams. The fall and winter hunts in the Baird Mountains were closed by emergency order.

During the winter hunt, local hunters harvested 4 rams and 1 ewe in the Delong Mountains. Residents of Ambler reported harvesting 4 rams in the upper Noatak River drainage. Three additional sheep were known to have been taken in the Upper Noatak but not reported. Eleven hunters had not reported their winter hunt results at the time of this report.

Progress Meeting Project Objectives: Aerial survey data indicate sheep numbers in the Baird Mountains have stabilized following the severe decline during the winter of 1990-1991. Lamb production in the Baird Mountains has increased slightly but remains below predecline levels. Sheep in the Delong Mountains follow a similar trend. We collected the third year of standardized survey data in the Delong Mountains. Disease and predation may be significant factors affecting the recovery rate for both the Baird and Delong Mountain sheep populations.

We have progressed with our project objectives through monitoring and management actions. We have reduced human-induced mortality by complete hunting closure of the Baird Mountains and restricted fall hunting seasons in the Delong Mountains.

Period Segment Project Costs:

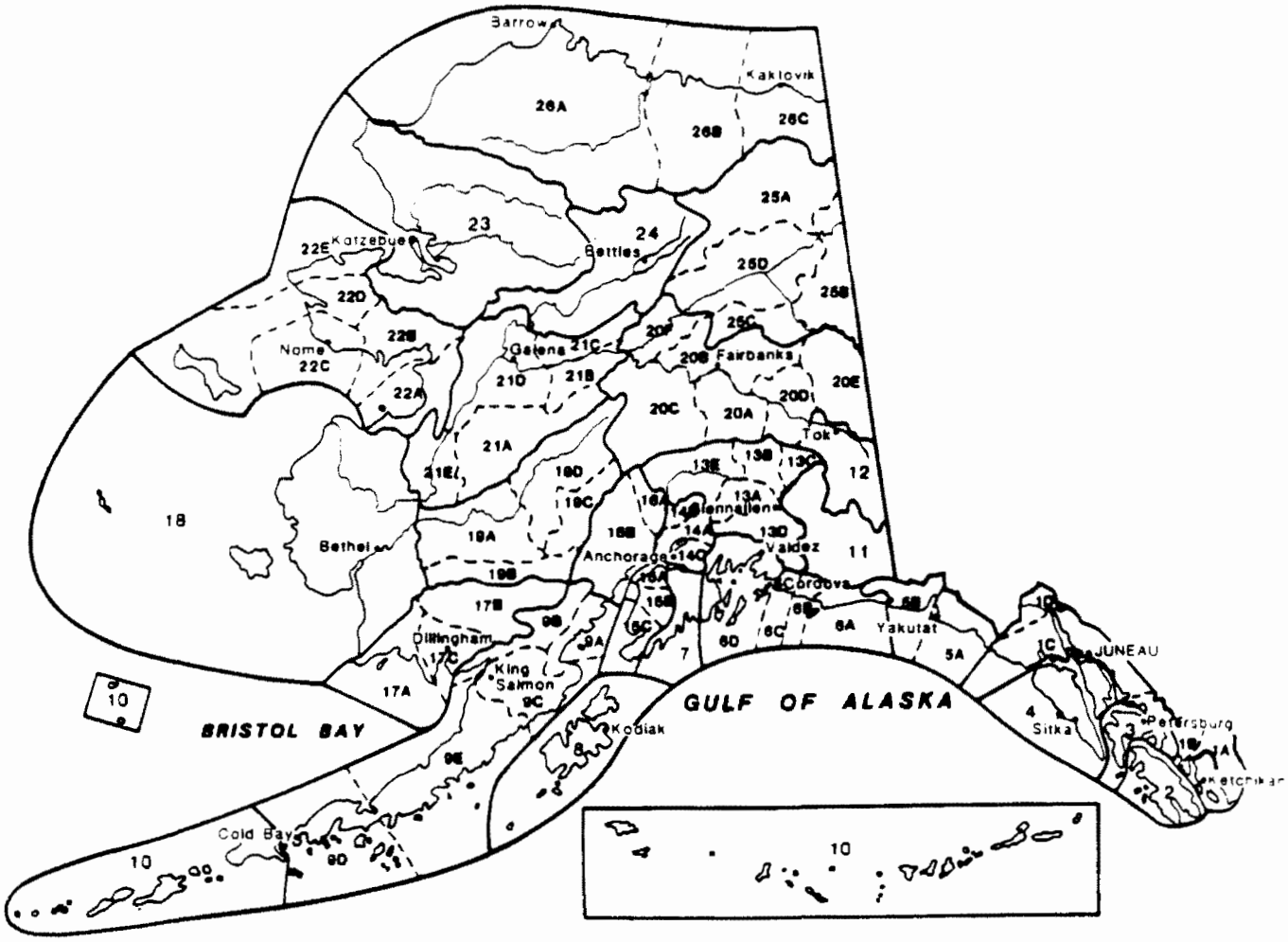
	Personnel	Operating	Total
Planned	10.0	5.7	15.7
Actual	10.0	1.7	11.7
Difference	0.0	-4.0	-4.0

Explanation: Additional funds from the National Park Service for aerial survey charters decreased required operating expenses.

Submitted by:

Steve Machida
Survey-Inventory Coordinator

Alaska's Game Management Units



The Federal Aid in Wildlife Restoration Program consists of funds from a 10% to 11% manfacturer's excise tax collected from the sales of handguns, sporting rifles, shotguns, ammunition, and archery equipment. The Federal Aid program distributes funds to states using a formula based on each state's geographic area and number of paid hunting license holders. Alaska receives a maximum of 5% of revenues collected each year. The Alaska Department of Fish and Game uses its funds to help restore, conserve, and manage wild birds and mammals. These funds are also used to educate hunters to develop skills and attitudes for responsible hunting. Federal Aid funds paid for 75% of this study.