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Federal Aid in Wildlife Restoration
Annual Performance Report of
Survey - Inventory Activities
1 July 1995 - 30 June 1996

DALL SHEEP

Mary U Hicks, Editor



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Grant W-24-4
Study 6.0
December 1996

DEPARTMENT OF FISH AND GAME
Frank Rue, Commissioner

DIVISION OF WILDLIFE CONSERVATION
Wayne L. Regelin, Director

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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: Three count areas in Unit 7 (838, 839 and 843) and 3 count areas in Unit 15 (850, 853 and 857) were surveyed during the summer of 1995, resulting in 558 sheep observed. Composition was 18 legal rams (full curl), 113 sublegal rams, 90 lambs, and 337 ewes and unidentified sheep. Lambs and legal rams composed 16.1 and 3.2 percent, respectively, of the total sheep observed.

Preliminary harvest reports indicate 255 hunters harvested 37 rams in Units 7 and 15 during 1995. Hunter success rate was 15 percent. Mean horn length from reported harvest was 35.1 inches and ranged from 30.0 to 41.0. Average age was 7.9 years, with a range of 6 to 10. Thirty-four (81%) rams were harvested by Alaska residents and 3(19%) by nonresidents.

In 1993 the Round Mountain count area in Unit 15A was opened for hunting ewe sheep by a permit drawing. Hunting for rams in this area was unchanged. Twenty permits were issued again in 1995 and 18 permit holders reported hunting. Six of these hunters were successful. All successful hunters were Alaska residents and used a highway vehicle to access the hunt area.

Progress Meeting Project Objectives: Harvests in 1995 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.

Limited harvest of ewe sheep this year in the Round Mountain area resulted in the harvest of 6 ewes. In 3 years the population has been reduced from 126 to 100 sheep through the harvest of

ewes. Harvesting ewes should continue until 1997 or until the population density is reduced to 3 sheep per square mile (80 to 90 countable sheep). Thereafter, 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 23/100 in 1995.

Harvesting of ewes should be extended 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 used were noted in the harvest report. The reported harvest from the Talkeetna Mountains was 106 sheep, taken by 513 hunters. The number of hunters seeking sheep in this area has increased 40% since 1993, probably due to improvements in access.

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 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.

Work Accomplished During the Project Segment Period: Sheep were counted by aerial survey in Unit 14C and a portion of Unit 14A.

An aerial mountain goat survey in Unit 14A (east of Metal Creek) in early August 1995 incidentally tallied 143 sheep: 15 full-curl or greater rams, 15 3/4-curl and 7/8 curl rams, 7 half-curl rams, 5 unidentified rams, 77 ewes and young rams, and 24 lambs. Lambs composed 17% of the total population.

No aerial survey was conducted in Unit 14C in 1995 due to poor weather conditions in July and early August. In late July 1996, a total of 2430 sheep were counted by aerial survey. This is the highest count on record for Unit 14C (areawide counts began in 1968). 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.

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

The total harvest for the Chugach Mountains was 182 sheep: 146 7/8-curl or greater rams, 19 young rams (less than 7/8-curl), and 17 ewes (32% hunter success). In Unit 13D, 219 hunters shot 80 full-curl rams (37% hunter success) and 1 ewe. In Unit 14A, 126 hunters shot 19 full-curl rams (15% hunter success).

All sheep hunting in Unit 14C is by drawing permit. In 1995 we issued 316 permits (105 for archery-only hunts); 230 hunters went afield and 82 hunters shot a sheep (36% hunter success). Of these, 44 were 7/8-curl or larger rams, 19 were young rams (less than 7/8 curl and under 6 years old), and 16 were ewes. The success rate for the archery-only permits (including 80 issued during a late season 1-10 October hunt) was 18%, while hunters in the remainder of the hunts achieved a 43% success rate.

Progress Meeting Project Objectives: The harvest objective was met. Mineral lick surveys will be conducted in early June 1996 to better understand survival of lambs to yearlings and to differentiate between ewes and young rams.

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 1 sheep survey in the southern Wrangells during 1995. The area counted was count area 11, located between the Dadina River and Long Glacier. This count area

has been surveyed for sheep more frequently than any other area in Unit 11. The 1995 count was 347 sheep, 8 percent more than observed in 1994. The increased count was due primarily to better lamb production and survival. Lambs composed 26% of the flock in 1994 and 24% in 1995, compared with only 13% in 1993. Rams declined by 30 percent from the last count, going from 20 rams per 100 ewes to 11:100 in 1995. The timing of the 1995 count was much later in the summer than during previous surveys. Because the count was just before hunting season, aircraft disturbance and hunter activity may have affected the distribution of adult rams.

Hunters killed 111 sheep in Unit 11 during the 1995 hunting season. This harvest includes 80 mature rams taken by sport and subsistence hunters as well as 12 small rams and 19 ewes taken by subsistence hunters. The mature ram harvest was lower (25%) than the 5-year (1990-94) mean harvest of 106 rams (range = 80-128) and down 42% from the peak harvest of 137 mature rams in 1987. The number of smaller subsistence rams taken was the same as that for the previous year but down by 55% from the 1993 take of 27. The subsistence ewe harvest increased by one ($n = 19$) in 1995. The current ewe harvest is down 44% from a peak harvest of 34 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. Since 1994 in Count Area 11, there has been a slight increase in both ewes and lamb production but a decline in 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. Another explanation may be that poor lamb production or survival in prior years is now showing up as reduced recruitment of larger rams.

During this reporting period wolves were abundant in Unit 11 and wolf predation on sheep is high. Wolf observations are often made at higher elevations where wolves could easily be hunting sheep. 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.

The preliminary sport harvest of mature rams was 3 rams lower than the previous year's harvest. The subsistence harvest of small rams remained the same, while the number of ewes harvested increased by one. The lower sport and subsistence sheep harvests reported during the last 2 years may reflect reduced sheep numbers over some portions of western Unit 11. Hunting pressure remained virtually unchanged in 1993 and 1994 but declined by 20% in 1995, from 365 to 291 reported hunters. Hunter success rates increased from 31% in 1994 to 38% in 1995. The subsistence take of small rams and ewes seems to vary from between 30 and 50 animals a year and reflects the subsistence demand. 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 effect on ram numbers. The subsistence ewe harvest is also low but not as well dispersed throughout the unit.

Forty-seven percent (9) of the ewes taken in 1995 came from areas adjacent to the Chitina-McCarthy Road. Ewe and small ram harvests at the present level are not considered a biological problem at this time. 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 | 5.8 | 3.5 | 9.3 |
| Actual | 5.8 | 3.5 | 9.3 |
| 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.
 - a. Monitor the harvest through hunter contacts and harvest reports.

Work Accomplished During the Project Segment Period: Preliminary harvest statistics indicate 348 hunters harvested 176 full-curl rams during 1995-96 for a hunter success rate of 51%. Number of sheep harvested was comparable to levels taken between 1992 and 1994 (mean = 172) but much lower than the period between 1986 and 1991 (243). The number of hunters has declined the past two years (mean = 360) compared to the previous 5-year average of 441. Success rates declined between 1992 and 1994 but increased during 1995 to a level 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 have declined in response to the reduced ram population. We did not receive any negative comments the past year.

On 3 occasions we attempted a composition survey in the Mentasta Mountains but high winds or extensive cloud cover kept us from completing the survey.

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 1995; 99 hunters reported taking 60 full-curl rams exceeding the 5-year average of 46 rams. Hunter success rate (61%) was the highest since 1988. The previous 5-year average success rate was 46%. The participation rate (83%) was slightly above the 5-year average of 78%. Much of the harvest data has not yet been completely analyzed, but initial examination indicates that horn length and average age objectives were met during 1995-96.

No aerial or ground composition surveys were conducted during 1995. 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.

Project Location: Units 13B, 20A, and 20D (16,296 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 1995-96 hunting season. Preliminary data indicate that 51 hunters killed 15 sheep during hunt DS203, and 51 hunters killed 17 sheep during hunt DS204. Preliminary data indicate that mean horn length of sheep killed during hunt DS203 was 36.74 inches and mean age of sheep was 9.0 years. During hunt DS204, mean horn length for sheep killed was 34.77 inches and mean age was 8.18 years.

A population estimation survey was flown in the DCUA during July 1995, resulting in a count of 1673 sheep (+/- 14.16% at 90% CI) and mean estimates of 36.8 lambs:100 ewes and 49.7 rams:100 ewes.

We mailed questionnaires to hunters during the 1995-96 season to quantify hunter satisfaction with aesthetics. Hunters continued to be satisfied with DCUA management objectives and aesthetic hunting conditions.

Progress Meeting Project Objectives: Harvest was monitored through permit reports and hunter contacts. The number of sheep harvested was slightly below the objective. Mean horn size and age objectives were met for sheep harvested during hunt DS203. Mean horn size was below the objective for sheep harvested during hunt DS204, but sheep harvested met the age objective. An aerial population estimation survey was flown in the DCUA and resulted in an estimated mean population size slightly below the objective. Questionnaires were mailed 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 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 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.
 - a. Identify suitable sites for viewing and photographing sheep and promote these sites by 1995.

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 1995. The lamb:ewe ratio (44:100 or 35:100 "ewe like") was again much improved from 1991-1993 (5-18:100). Most rams were larger than 1/2-curl, which reflects the poor recruitment before 1994.

Preliminary data for 1995 indicate that 155 hunters harvested 58 Dall sheep rams in Unit 20A. This harvest represents the 6th year of declining or low harvests since the peak harvest of 163 rams in 1989. In 1995 nonresidents took 40% (23/58) of the harvest, with a success rate of 70% (23/33).

A lamb mortality study was initiated in 1995. 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. The completion date for objective 3a should be changed to 1998.

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: We surveyed 7 count areas totaling 515 mi² during summer 1995. We observed 1147 Sheep with 59% "ewe-likes," 20% lambs, and 20% rams, and 1% unknown. Of the rams, 7% were legal (full-curl). Sheep surveys conducted in nearby areas in 1994 resulted in lamb and legal ram percentages of 20% and 9%.

Reported harvest was 132 sheep in the Alaska Range West (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 1995 season have not been analyzed.

Progress Meeting Project Objectives: We monitored sheep harvests, contacted hunters, and flew aerial surveys. More surveys in portions of Unit 19 were planned for FY97.

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 only a sheep harvest ticket to hunt in the Glacier Mountain Controlled Use Area and the Charley and Seventymile Rivers areas. All 4 permit holders participated in the Mt. Harper hunt and each took a ram. Preliminary harvest statistics indicate 17 hunters harvested 8 full-curl rams outside the permit area during 1995-96 for a hunter success rate of 47%. Average horn length was 36 inches and average age was 9.1 years. More hunters hunted the Charley and Seventymile River areas during 1995-96. Before 1994 this area required a drawing permit.

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 higher than normal adult mortality because of adverse weather conditions during the early 1990s and to poor lamb recruitment. The number of legal rams is lower than it was in the 1980s and is expected to remain low, possibly until the late 1990s because of poor lamb recruitment in the early 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.
 - 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, 21 hunters signed up to hunt sheep under a subsistence season. Hunters reported harvesting 10 sheep, all adult rams. Most were harvested between August and October, but 2 were taken in March. We collected harvest data through posthunt, direct contact, and letters. No sheep composition surveys were conducted.

Outside the park, 51 hunters harvested 12 rams; 5 of the successful hunters were nonresidents.

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 as well as 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 | 41.1 | 40.0 | 81.1 |
| Actual | 75.0 | 27.8 | 102.8 |
| Difference | -33.9 | 12.2 | -21.7 |

Explanation: Personnel expenditures were more than planned because of surveys conducted in Units 19 and 20. Operating expenditures were less than planned because of savings realized in using department aircraft and unexpected efficiency in survey technique.

Submitted by:

David James
Management Coordinator

Project Title: Western Alaska Dall Sheep 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) unitwide.
2. Obtain 5 years of survey data in the DeLong Mountains and establish management objectives for a prehunt population.

Work Accomplished During the Project Segment Period: We completed sex and age composition surveys in the Baird and DeLong Mountains during July 1995.

| | Baird Mt. | Kugururok/ Trail Cr. | Wulik Peaks |
|-------------------------|-----------|-------------------------|-------------|
| Rams 1/2+ curl | 90 | 38 | 15 |
| Rams 7/8+ curl | 23 | 13 | 0 |
| "Ewes" ^a | 166 | 137 | 54 |
| Adults | 256 | 175 | 69 |
| Lambs | 95 | 56 | 28 |
| Total | 351 | 231 | 97 |
| Lambs:100 "Ewes" | 57 | 41 | 52 |
| Total Rams:100 "Ewes" | 54 | 28 | 28 |
| Rams 7/8+:100 "Ewes" | 14 | 9 | 0 |
| Adults: mi ² | 0.36 | 0.33 | 0.31 |

^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 1995 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. Five hunters attempted to hunt sheep in the upper Noatak River, but none was successful. There were no sheep harvested in Unit 23 or the western portion of Unit 26A.

We made numerous contacts with the public and advisory committee members regarding the emergency order actions for sheep hunting regulations. The public favors the use of emergency orders to close seasons. Local residents, federal agencies, department staff all agree that season closures should remain in effect to meet population objectives.

Progress Meeting Project Objectives: We made progress toward meeting project objectives through monitoring and management actions. Hunting mortality has been virtually eliminated through season closures and public support. 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 indicates the declining population trend may begin to reverse. 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 | 10.9 | 16.0 | 26.9 |
| Actual | 11.7 | 5.1 | 16.8 |
| Difference | -0.8 | 10.9 | 10.1 |

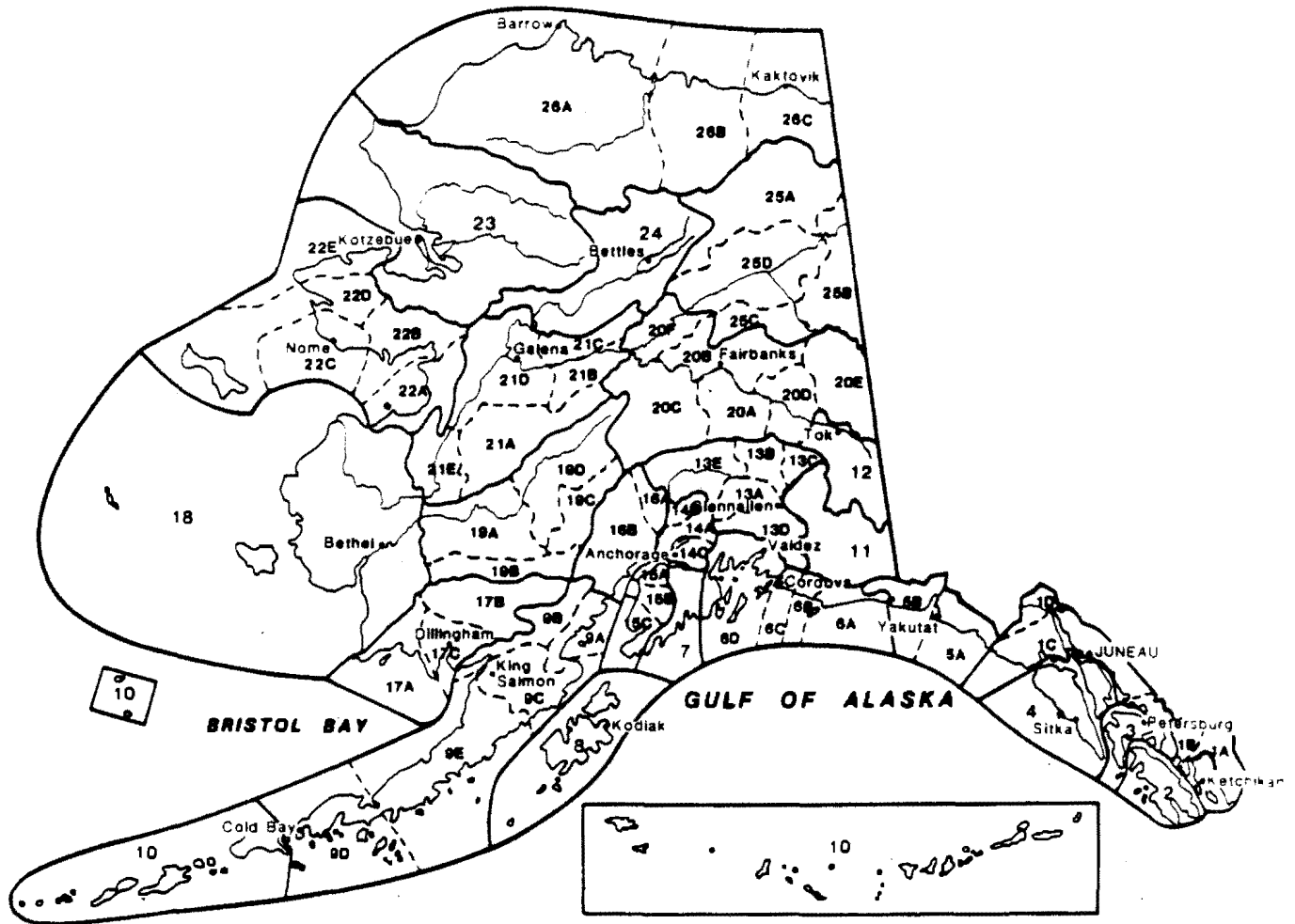
Explanation: Poor weather prevented our conducting some surveys.

Submitted by

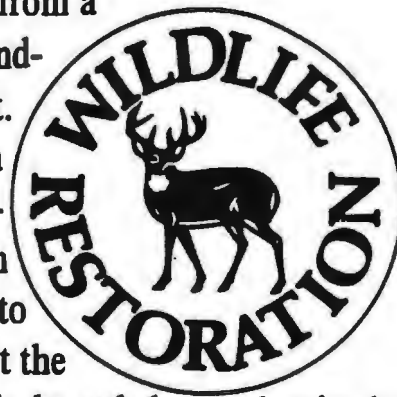
Peter Bente
Survey-Inventory Coordinator

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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.



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