Alaska Department of Fish and Game
Division of Wildlife Conservation

Federal Aid in Wildlife Restoration
Annual Performance Report
Survey-Inventory Activities
1 July 1996- 30 June 1997

BISON

Mary V Hicks, Editor

Leonard Lee Rue III

Grant W-24-5
Study 9.0
October 1997

STATE OF ALASKA
Tony Knowles, Governor

DEPARTMENT OF FISH AND GAME
Frank Rue, Commissioner

DIVISION OF WILDLIFE CONSERVATION
Wayne L. Regelin, Director

Free copies of this report and other Division of Wildlife Conservation publications are available to the public. Please direct requests to our publications specialist.

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

Project Title: **Southcentral Bison Population Management**

Project Location: Unit 11 (13,300mi^2)
Chitina and Copper rivers

Project Objectives: Maintain the Chitina River bison herd at a minimum of 50 overwintering animals classified as older than calves. Maintain the Copper River herd at a minimum of 60 overwintering bison classified as older than calves.

Work Accomplished During the Project Segment Period: We conducted aerial surveys of the Chitina River and Copper River bison herds during June 1997. Bison observed included 46 (7 calves and 39 yearling and older) in the Chitina River herd and 87 (17 calves and 70 yearling and older) in the Copper River herd. There has not been an open hunting season for either herd since they were closed by Emergency Order 02-22-89 issued on 1 July 1989.

Progress Meeting Projected Objectives:

Chitina River Herd: From 1991-94 counts for the Chitina River bison herd were low and showed little annual variation (30-32 animals). Low annual counts during these years are probably a result of habitat changes and possibly predation. Flooding of the Chitina River during 1990 started a process of river rechannelization, and approximately one-half of the vegetation on the north banks east of Bear Island eroded. A subjective evaluation of the flooding indicates an appreciable loss of heavily used habitat. The short-term effects of flooding are reduced productivity and/or winter survival. Although predation rates on this herd are unknown, we have received reports of wolves killing bison.

Calf production for the Chitina River bison herd has increased to 7 during the last 2 years. Calf production is still below the 12 calves observed during the mid 1980s, but winter survival during 1996-97 was high. The 1997 count for bison in the yearling and older category was equal to the total (calves plus yearling and older) 1996 count and was the highest count for this category since 1985. This herd is increasing and if these present trends continue, we should be able to reopen the hunting season for these animals in the near future.

Copper River Herd: The Copper River Bison Hunt was closed because of poor calf recruitment in 1989 when we observed only 3 calves, but since then annual calf production has ranged between 9 and 17. Bison numbers observed during annual survey flights increased slightly between 1990 and 1992, declined until 1995, and increased the last 2 years. The reason for poor herd performance during the early to mid 1990s is unknown. However, severe winters, poor range conditions, predation, and accidents were possible limiting factors. Snow depths during the last 2 winters were moderate to low, and the number of bison increased. Predation rates on Copper River Bison are unknown, but there have been incidents of wolves killing bison. Accidents are a known source of mortality in this herd with numerous incidents of bison falling off cliffs or through the ice in the Copper River. Until more information on range condition,

predation rates, and other sources of mortality becomes available, I recommend a conservative management approach for this herd.

Results of the 1997 count were encouraging. The population estimate of 70 yearling and older bison was above the minimum management objective for this herd, and 17 calves was the most counted since 1987. An increase from 60 to 70 yearling and older bison counted from 1996 to 1997 indicates survival of 1996 calves (12 counted) was high. Between 1989 and 1996 annual counts for yearling and older bison ranged from 54 to 72 and calves 9 to 15. If current trends continue, we should be able to reopen the hunting season for these animals in the near future.

A few bison from the Copper River herd used agricultural fields in the Kenny Lake portion of Unit 13D during the winter of 1993-94. A few animals used this agricultural area again this year, but the main herd has yet to cross into the Kenny Lake area. If bison graze on agricultural crops to any greater extent than currently observed, we expect conflicts with local farmers.

Segment Period Project Costs:

	Personnel	Operating	Total
Planned	2.4	2.6	5.0
Actual	2.4	2.6	5.0
Difference	0.0	0.0	0.0

Submitted by:

Michael G. McDonald
Assistant Management Coordinator

Project Title: **Interior Bison Population and Habitat Management**

Project Location: Unit 19C and 19D (18,803 mi^2)
Farewell Herd.

Project Objectives and Activities:

Maintain a minimum population of 250 bison and determine desired harvest level.

a. Conduct aerial surveys to assess population size and age composition.
b. Administer permit hunt and monitor harvest.
c. Assess carrying capacity of the current Farewell Bison Range.

Work Accomplished During the Project Segment Period: We conducted 1 bison composition survey during July 1996 and 2 surveys during July 1997 in the Farewell area. During 1996 we counted 276 bison, with calves composing 17% of the herd. During 1997 each survey included less than 200 bison, and, on both occasions, calves composed 14.6% of the herd. The relatively mild winters of 1995-96 and 1996-97 probably contributed to good recruitment to the Farewell Herd. We located 5 dead bison during aerial surveys in spring 1997, apparently killed by wolves.

During the 1996-97 regulatory year, we conducted 2 drawing permit hunts for the Farewell bison herd. We issued 40 permits and the hunt was monitored through mandatory hunter questionnaires and interviews. We monitored harvests during both hunts.

Progress Meeting Project Objectives: The Farewell herd remained at well over 200 animals, and the population is probably between 300 and 320, above the management objective. Of 40 permittees, 31 participated in the hunts, and 23 bison were legally harvested (74% success rate). Hunter success rates continue to be higher during the March hunts than during those in September. Calf production remains high, and the appearance of the range indicates the herd can increase without adverse effects on the habitat. Therefore, we have opted to let the herd increase to 300 adults. This new objective should be attainable by summer 1998 by reducing the available permits to 20 in each of the 2 scheduled hunts.

Project Location: Unit 20D (5637 mi^2)
Delta Herd

Project Objectives and Activities:

1. Maintain a healthy, free-ranging bison herd in the Delta Junction area.
   a. Prevent the transmission of diseases from livestock to the Delta bison herd.
   b. If diseases are transmitted to the Delta bison herd, prevent the spread of diseases from bison to other wildlife species.
2. Reduce conflicts between bison and the public, including but not limited to agricultural interests in the Delta Junction area.

a. Manage bison and summer range habitat so that at least 75% of the Delta bison herd remains west of the Richardson Highway (between Black Rapids Glacier and the Tanana River) until August 20 annually.

b. Keep the Delta bison herd out of the Delta Agricultural Project until October 1 annually.

c. Provide assistance to the public experiencing bison conflicts.

3. Manage the Delta bison herd to provide the greatest opportunity to hunt and view bison by providing maximum biological yield from public lands, while accomplishing the goals and objectives of a free-ranging, healthy herd and a reduction in conflicts.

a. Calculate an accurate annual budget for accomplishing recommended goals and objectives.

b. Seek sufficient funding to accomplish all goals and objectives of managing the Delta bison herd on public lands.

c. Manage the Delta bison herd for maximum productivity with a sex ratio of no less than 30 bulls:100 cows.

d. Organize volunteer efforts to help accomplish goals and objectives.

e. Manage the Delta bison herd at 360 bison precalving from July 1, 1993-November 1, 1995. The Delta bison management program will be evaluated in November 1995 to determine compliance with goals and objectives, funding and staffing levels, and biological capacity of public lands. Thereafter, herd size will be adjusted to include increasing or decreasing as required and to match resources with goals and objectives.

f. Administer the Delta bison hunt to reduce landowner/hunter conflicts and to maintain hunter access to private land in the Delta Agricultural Project to the extent possible.

g. Investigate methods and funding sources to improve bison viewing opportunities for the public.

Work Accomplished During the Project Segment Period: Blood samples were collected from hunter-killed bison for serological studies to evaluate the health of the bison herd. Results indicate bison continue to be free from most of the infectious diseases for which serum antibody tests are conducted, with the exception of parainfluenza III.

Bison forage was managed on the Delta Junction Bison Range (DJBR) to reduce bison/agricultural conflicts. Forage management consisted of fertilizing approximately 650 acres of perennial grasses, planting approximately 250 acres of annual crops for bison forage, and controlling noxious plants by mowing and disking.

Movements of radiocollared bison were monitored during 1996-97 to determine the time bison left the summer range and the DJBR and moved into the Delta Agricultural Project. Bison began migrating from the Delta River to the DJBR on July 28, 1996. Bison began moving from the DJBR into the Delta Agricultural Project on August 18, 1996. There were no crop damage reports to the department although damage certainly resulted from the early movement and a late harvest.

Aerial bison censuses were flown on July 16 and 25, August 27, and September 9, 1996.-The census resulted in a postcalving population estimate of 496 bison. Sex and age composition data were collected on August 28, and September 10 and 12, 1996, resulting in estimates of 65 bulls:100 cows and 54 calves:100 cows. The spring 1997 precalving population was estimated to total 381 bison, 16 bison over the objective.

Drawing permits were issued to take 70 bull (Hunt DI403) and 50 cow bison (Hunt DI404) from October 7, 1995-March 31, 1996. The hunting season was extended by emergency order to April 30, 1997 because the number of bison harvested during the regular season was lower than expected. Preliminary results indicate 58 bison (51 bulls and 7 cows) were killed during Hunt DI403 and 42 bison (39 cows and 3 bulls) were killed during Hunt DI 404.

Efforts to rejuvenate the Alaska Fish and Wildlife Safeguard Delta bison raffle as an alternate funding source for DJBR management failed when the Alaska Legislature modified the enabling legislation so that the DJBR would receive no funds from the raffle.

An annual budget was calculated that would lead to accomplishment of all DJBR management goals and objectives. If DJBR fields were in optimum forage condition, the DJBR would require an annual budget of $160,000 to manage forage and employee staff. However, at this time, fields are not in optimum condition and approximately $350,000 are needed to bring the fields to optimum condition. An annual budget of at least $100,000 is needed to adequately manage existing forage and make slow progress on improving field condition.

The timing of the permit drawing hunt and scheduling of hunters was organized to minimize conflicts between private landowners and bison hunters. The hunting season started October 7 and a staggered start was used for hunters.

The Delta Bison Working Group met in February 1997 to review progress on accomplishing Delta bison goals and objectives. The Working Group did not recommend changes to goals and objectives at this time.

Progress Meeting Project Objectives: No serious wildlife diseases occurred in the herd, allowing us to meet health goals. The Delta Junction Bison Range was managed with permit application fees to reduce bison/agricultural conflicts. Precalving herd size was 16 bison over the objective. Bison movements were monitored to determine the level of bison/agricultural conflicts. Bison movement dates did not meet management objectives. The department provided the greatest opportunity to hunt by issuing drawing permits, and preliminary data indicate hunters killed 100 bison. We calculated a budget for optimum management of the DJBR. However, no additional funding sources were located. The permit drawing hunt was successfully administered to reduce landowner/hunter conflicts. The Delta Bison Working Group met and reviewed progress on goals and objectives and suggested no changes to herd management.

Segment Period Project Costs:

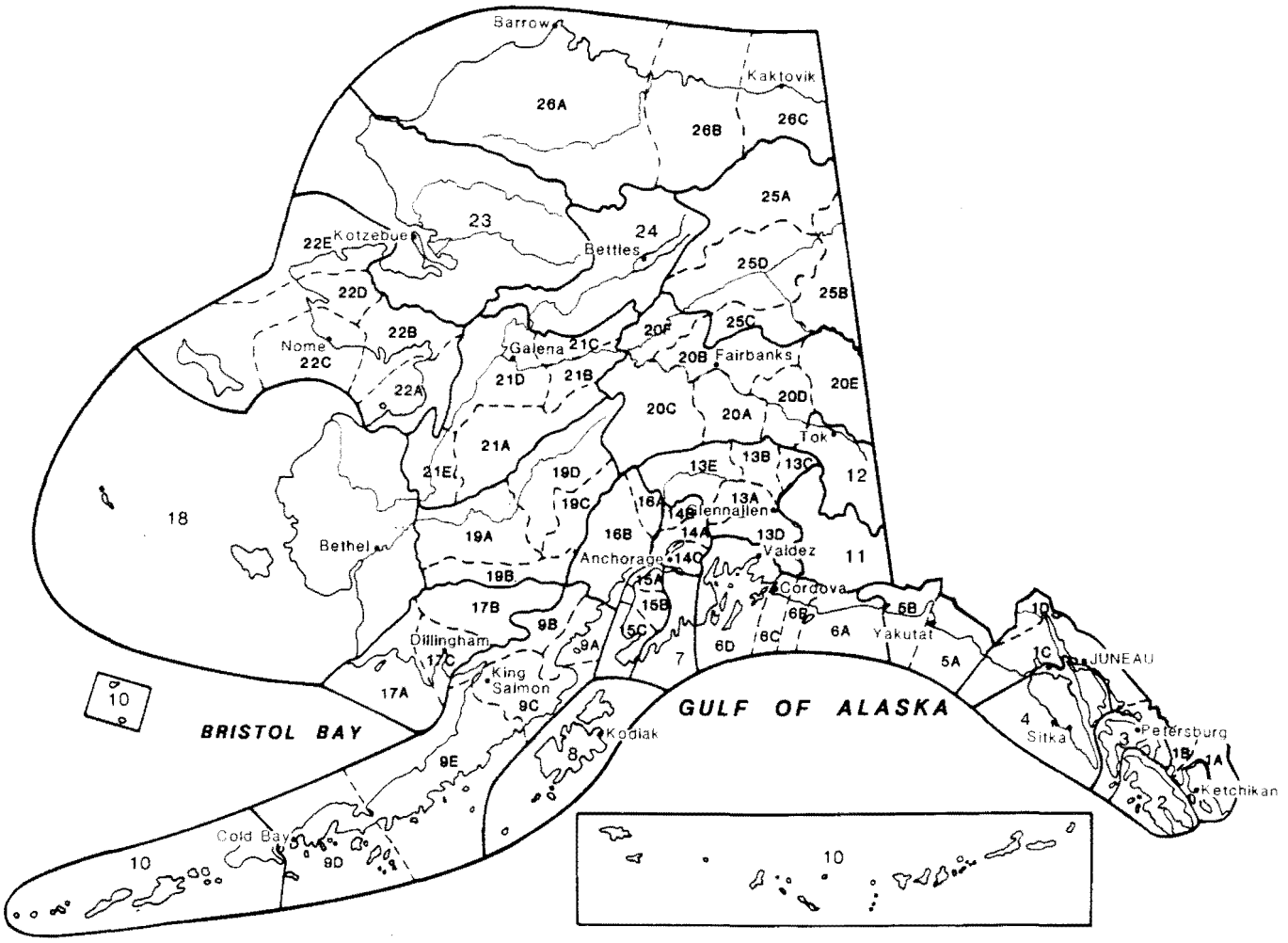
	Personnel	Operating	Total
Planned	44.0	13.5	57.5
Actual	30.8	11.3	42.1
Difference	13.2	2.2	15.4

Explanation: Personnel funds were underspent because of a staff position vacancy. Under-expenditure of operating funds resulted from cancellation of some aerial surveys in Unit 19.

Submitted by:

David James
Management 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.

Leonard Lee Rue III