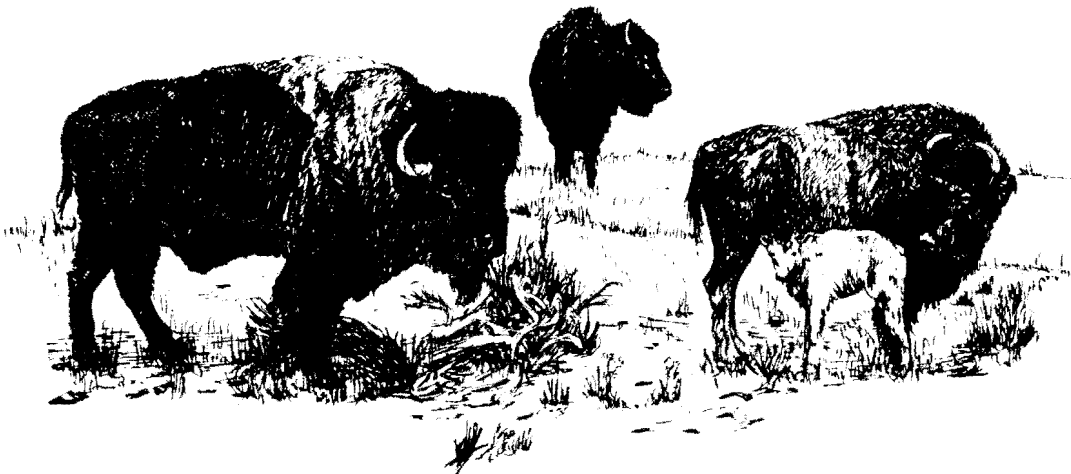


**Alaska Department of Fish and Game
Division of Wildlife Conservation
Federal Aid in Wildlife Restoration
Annual Performance Report of
Survey-Inventory Activities
1 July 1990 - 30 June 1991**

BISON



**Susan M. Abbott, Editor
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Project Title: Southcentral Alaska Bison Management

Project Location: Game Management Units 9, 11

Project Objectives:

Popof Island Herd (Unit 9): Establish management objectives for the herd by 1991, if retained under state management.

Chitina River Herd (Unit 11): Increase the population to a minimum of 50 overwintering adult bison.

Copper River Herd (Unit 11): Maintain a minimum overwintering population of 60 adult bison.

Project Activities:

Regionwide: Conduct aerial surveys to assess population size and age composition. Monitor the harvest from permit hunts.

Unit 9: Establish cooperative agreements with private landowners and the USFWS.

Chitina River Herd (Unit 11): Cooperate with the National Park Service to evaluate habitat.

Copper River Herd (Unit 11): Maintain and monitor five radio collars on individuals in the herd.

Work Accomplished During the Project Segment Period: Herd size estimates were obtained for the Copper River and Chitina River bison herds from aerial surveys conducted in May and June 1991. The Copper River herd was estimated at 73 bison, including 60 adults and 13 calves. The Chitina River herd was estimated to contain 33 bison, including 28 adults and 3 calves. The Popof Island herd was surveyed by Division of Commercial Fisheries staff on 5 August, 1989 and bison were counted, including 150 adults and 14 calves.

No hunts were held on either the Copper River or Chitina River bison herds in 1990 as neither herd was above the minimum population objective. A hunt of Popof Island bison has not been authorized by the state.

No cooperative agreements have been established with private landowners or the USFWS regarding management of Popof Island bison.

Bison habitat evaluations were not conducted by the Department. However, it was noted that flooding of the Chitina River in 1990 resulted in extensive habitat changes. The river changed its course and, in the process, eroded approximately one-third of the vegetation on heavily grazed river bars north of Bear Island.

Radio-collared bison in the Copper River herd were relocated on 3 occasions to assist in locating the herd for counting. There are currently four active radio collars in this herd.

Progress Towards Meeting Project Objectives: Because of adult mortality and/or low calf survival resulting from three consecutive severe winters, both the Copper River and Chitina River bison herds are at, or below, the population size objectives for these herds. Hunting seasons for these herds will remain closed until the herds increase to appropriate levels. Objectives for the Popof Island herd have not been established.

Segment Period Project Costs:

	<u>Personnel</u>	<u>Operating</u>	<u>Total</u>
Planned	5.3	2.5	7.8
Actual	5.3	0.9	6.2
Difference	0	+1.6	+1.6

Explanation: No expenses were incurred on Popof Island. Planned field assessments and interagency work to develop and implement a management plan were deferred because of *Exxon Valdez* oil spill activities. Bison surveys in Unit 11 were conducted at reduced cost as some surveys were funded by the National Park Service.

Project Title: Region III Bison Population and Habitat Management

Project Location: Units 19 and 20

Unit 19, Farewell Herd

Project Objectives and Activities: Maintain a minimum population of 200 bison and determine desired harvest level. Conduct aerial survey to assess population size and age composition. Administer permit hunt and monitor harvest.

Work Accomplished During the Project Segment Period: No population surveys to enumerate bison were conducted post-calving in 1991. During late March, however, 198 bison were counted, with calves composing 9% of the herd (18 calves). I assume that the total population has remained at about 300 animals. Two bison (1 adult bull and 1 calf) were found dead during March; starvation probably accounted for the calf mortality but the cause of death of the bull was undetermined.

During the 1990-91 regulatory year, 2 drawing hunts were conducted for the Farewell Bison Herd. Seventy permits were issued and the hunt was monitored through hunter questionnaires and interviews.

Progress Toward Meeting Project Objectives: The Farewell Herd remained at over 200 animals, well above the management objective. The permit hunts went well, with 55 of 70 permittees going afield and 31 bison harvested. If calf production and survival remain high, permit numbers should remain at 70 annually.

Unit 20, Delta Herd

Project Objectives and Activities: Maintain precalving of 325-360 bison. Conduct aerial survey to assess population size and sex and age composition. Monitor harvest from permit hunt.

Reduce incidences of fall bison depredation on crops by managing bison forage on the Delta Junction Bison Range to 25% compared with FY87. Replace and monitor 5 radio collars on individual animals in the herd. Monitor bison movements. Initiate summer range analysis. Manage fields in the Delta Junction Bison Range to maintain bison forage.

Work Accomplished During the Project Segment Period: A draft Delta bison management plan was written and included revised management objectives. One goal is to maintain a healthy, free-ranging bison herd. Objectives to accomplish this goal are to

(1) prevent the transmission of livestock diseases to the Delta bison herd and (2) prevent the spread of diseases from Delta bison to other wildlife species. Another goal is to provide the greatest opportunity to hunt and view bison while accomplishing reduced levels of bison/agriculture conflicts. Objectives to accomplish this goal are (1) manage for a precalving population of 275-325 bison with at least 35 bulls:100 cows and (2) administer the Delta bison hunt to reduce landowner/hunter conflicts and to maintain hunter access to private land in the Delta Agricultural Project.

Aerial photocensuses were flown on 24 July 1990 and 6 August 1990, resulting in a 1991 precalving population estimate of 340-380 bison. Sex and age composition counts were conducted on 10-11 September 1990 and resulted in composition estimates of 47 calves:100 cows, 114 bulls:100 cows, and 19 yearling bulls:100 cows. A photocensus flown on 13 June 1991 resulted in a post-calving population estimate of 426 bison.

Drawing permits were issued to take 70 either sex (hunt 403) and 20 cow bison (hunt 404) from 7 October 1990 to 31 March 1991. All 70 permittees for hunt 403 hunted; they had a 97% success rate and killed 59 bulls and 9 cows. Nineteen permittees for hunt 404 hunted and killed 18 cows, for a 95% success rate and killed 18 cows.

A revised goal in the draft Delta Bison management plan is to reduce conflicts between bison and agriculture in the Delta Junction area. Objectives to accomplish this goal are to (1) manage bison habitat on the Delta River so that 75% of the herd remains on the Delta River until 20 August annually, (2) produce sufficient high quality forage on the Delta Junction Bison Range to attract and hold bison until 1 October annually, and (3) provide assistance to landowners experiencing bison/agriculture conflicts.

No radio collars were placed on bison during this reporting period.

Movements of radio-collared bison were monitored to determine when they left the summer range and when they left the Delta Junction Bison Range. Bison first left the Delta River summer range and migrated to the Bison Range on approximately 3 July 1990. Between 16 July and 24 July, several small groups of bison left the Bison Range and moved briefly into the Delta Agricultural Project. A large group of bison left the Bison Range on 17 August 1990. After 17 August, bison moved continuously between the Bison Range and the Delta Agricultural Project.

A University of Alaska graduate student began work on a research project entitled "Summer Foraging Ecology of Bison on the Delta River". This research will evaluate summer range forage availability and utilization by bison.

Approximately 1,500 acres of bison forage were fertilized on the Delta Junction Bison Range. Bison used the Gerstle Fields portion of the Bison Range for the first time during fall 1990. Tests were conducted to investigate methods of controlling the noxious grass *Calamagrostis canadensis*, and berm piles were consolidated. Depredations were

significantly reduced in the Delta Agricultural Project, although bison did cause minor damage to some crops.

Progress Toward Meeting Project Objectives: A draft Delta bison management plan was written with revised goals and objectives. Size of the Delta bison herd is above the objective. The number of drawing permits was increased to reduce herd size to the objective level. Development of the Delta Junction Bison Range was continued and resulted in reduced levels of bison depredation in the Delta Agricultural Project. Summer range analysis was begun by a University of Alaska graduate student and will provide information on summer range forage. Bison movements were monitored.

Segment Period Project Costs:

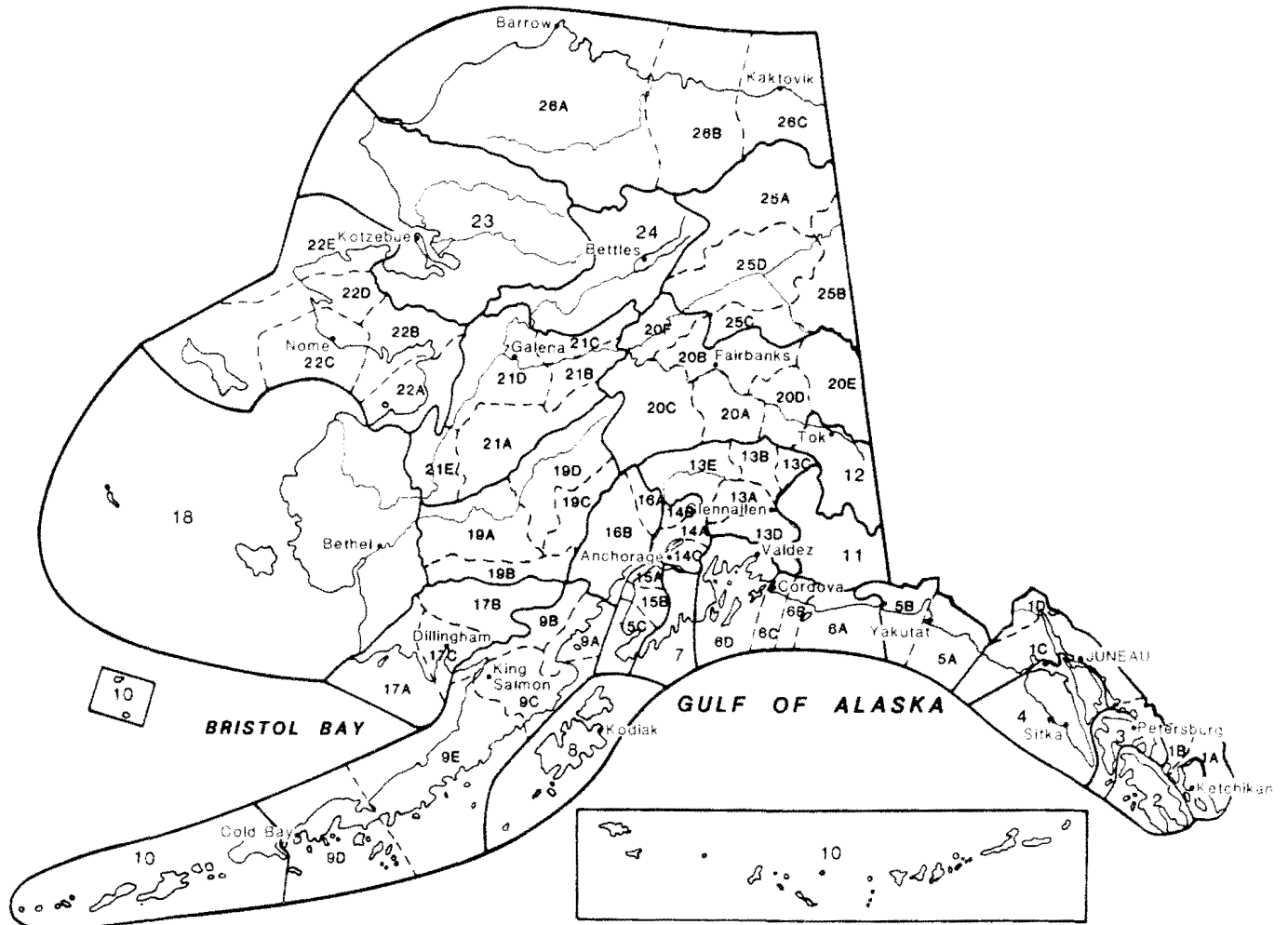
	<u>Personnel</u>	<u>Operating</u>	<u>Total</u>
Planned	11.3	10.5	21.8
Actual	11.3	13.3	24.6
Difference	.0	-2.8	-2.8

Explanation: Actual bison expenditures exceeded planned expenditures because of increased costs to hire temporary staff to help prevent depredation during fall 1990 and minor costs associated with supporting summer range field work. Planned aerial surveys and deployment of radio transmitters in the Farewell Herd was deferred until FY92.

Submitted by:

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Alaska Game Management Units



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