

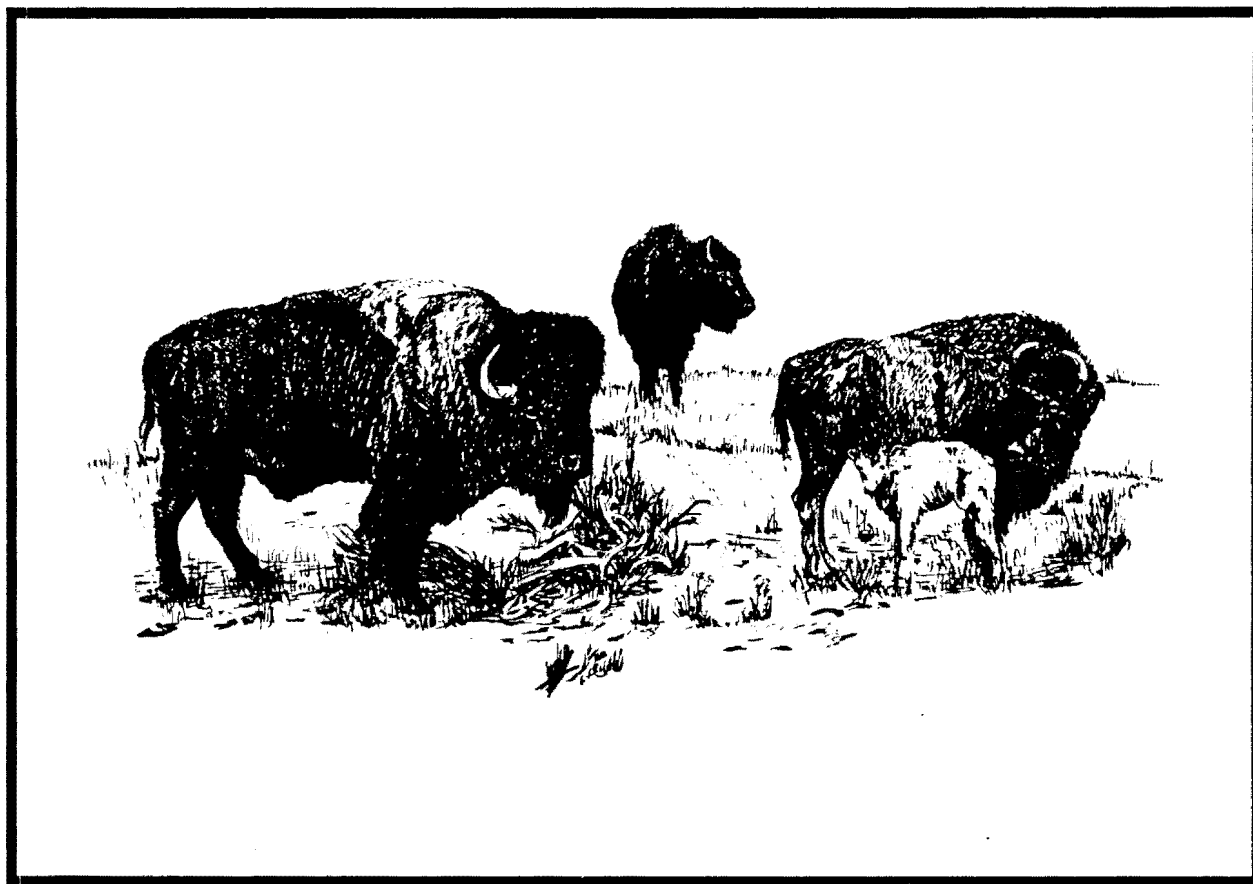
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Alaska Department of Fish and Game  
Division of Wildlife Conservation

Federal Aid in Wildlife Restoration  
Annual Performance Report of  
Survey-Inventory Activities  
1 July 1991 - 30 June 1992

# B I S O N

Susan M. Abbott, Editor



Volume XXIII, Part I  
Project W-23-5, Study 9.0  
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**Project Title:** Southcentral Bison Population Management

**Project Location:** Unit 11 (13,300 mi<sup>2</sup>)  
Chitina and Copper Rivers

**Project Objectives:** Maintain the Chitina River bison herd at a minimum of 50 overwintering animals that are classified as older than calves. Maintain the Copper River herd at a minimum of 60 overwintering bison that are classified as older than calves and maintain and monitor 5 radio collars on individuals in the herd.

**Work Accomplished During the Project Segment Period:**

Chitina River

We estimated herd population size at 31 bison based on two aerial surveys conducted in June 1992. Herd composition included 24 adults and 7 calves.

The Chitina River bison hunting season was closed by Emergency Order 02-22-89 on 1 July 1989 and has remained closed since.

Flooding of the Chitina River during 1990 started a process of river rechannelization causing an extensive change in the Chitina bison range over the past 2 years. The river now utilizes channels on the north bank and approximately one-half of the vegetation on heavily grazed river bars on the north banks east of Bear Island has been eroded.

Copper River

We estimated the Copper River bison herd size at 81 animals based on results of aerial surveys conducted during May and June 1992. Herd composition included 72 adults and 9 calves. We monitored radio-collared bison on 1 occasion during the survey periods. The number of active collars declined to 3.

The Copper River bison hunting season was closed by Emergency Order 02-22-89 on 1 July 1989 and has remained closed since.

**Progress Towards Meeting Projected Objectives:**

Chitina River

Calf production and survival in the Chitina herd increased in 1992 but the number of adults declined. The spring 1992 herd estimate of 31 bison is well below management

objectives for this herd. A subjective evaluation of flooding on the Chitina bison range left the impression that the herd has lost an appreciable amount of heavily utilized habitat. Although the impacts of this flooding are probably short-term, they may include reduced productivity and/or over-winter survival. Hunting of the Chitina herd should remain closed until herd numbers exceed the minimum management objective by at least 5 adult bison.

#### Copper River

The Copper River Bison Hunt was closed because of poor calf recruitment in 1989 when only 3 calves were observed. Calf production subsequently increased to 13 calves observed in 1991 but declined again this year although not as low as in 1989. The 1992 population estimate of 72 adults exceeds the minimum management objective for this herd. Hunting of this herd, however, should not be allowed until between 80 and 90 adult bison are observed and calf production approaches 15 per year. Allowing the herd to increase should provide for a minimum harvest of 8 bison on a yearly basis. When the herd numbers approximately 60 bison, recruitment is often less than the combined loss caused by hunting and natural mortality thus producing periodic hunt closures.

#### **Segment Period Project Costs:**

	<u>Personnel</u>	<u>Operating</u>	<u>Total</u>
Planned	5.3	2.5	7.8
Actual	5.3	2.1	7.4
Difference	0.0	0.4	0.4

Submitted by:

Ken Pitcher and John Trent  
Management Coordinators

**Project Title:           Region III Bison Population and Habitat Management**

**Project Location:   Unit 19 and Subunit 20D**

**Unit 19 - Farewell Herd**

**Project Objectives and Activities:**

1.     Maintain a minimum population of 200 bison and determine desired harvest level.
  - a.     Conduct aerial survey to assess population size and age composition.
  - b.     Administer permit hunt and monitor harvest.

**Work Accomplished During the Project Segment Period:** ADF&G conducted four population and composition surveys of the Farewell bison herd during spring 1992, but none was judged to be complete. The four surveys were conducted from 18 May to 2 June with each successive survey yielding higher noncalf numbers. The 2 June survey included 158 adults and subadults and 32 calves (16.8% calves). The total number of bison in the area is suspected to be approximately 250 animals. During July 1991 and June 1992, we deployed a total of six radiocollars on adult cows to enable more complete and efficient surveys.

We conducted two drawing hunts for the Farewell bison herd during the 1991-92 regulatory year. We issued 80 permits and monitored the hunt through mandatory hunter questionnaires and interviews.

**Progress Toward Meeting Project Objectives:** The Farewell bison herd numbered over 200 animals, which met our management objective. We do not know how many bison this area can support before damage to the range will be evident, but it may be approximately 300 animals. During the fall and spring permit hunts, 63 of 80 permittees harvested 36 bison (57% success rate). Calf production and survival remain high. To maintain the herd at 200-300 adults, it will be necessary to reduce the number of permits issued for the present 80 to less than 60. Because of perceived declines and relatively high hunter success, we will issue only 50 permits for the 1992-93 regulatory year.

**Unit 20D - Delta Herd**

1.     Maintain a precalving population of approximately 325-360 bison.
  - a.     Conduct an aerial survey to assess population size and sex and age composition.
  - b.     Monitor the permit hunt harvest.
2.     Reduce incidences of fall bison depredation on crops by managing bison forage on the Delta Junction Bison Range to 25% compared with FY87.

- a. Replace and monitor five radiocollars on individual animals in the herd.
- b. Monitor bison movements.
- c. Initiate summer range analysis.
- d. Manage fields on the Delta Junction Bison Range to maintain bison forage.

**Work Accomplished During the Project Segment Period:** We finalized a 1992-93 Delta bison management plan after significant public input. The following are goals and objectives:

- Goal: Maintain a healthy, free-ranging bison herd.
- Objective: Prevent the transmission of livestock diseases to the Delta bison herd.
- Objective: Prevent the spread of diseases from Delta bison to other wildlife species.
  
- Goal: Manage the Delta Junction Bison Range to reduce conflicts between bison and agriculture.
- Objective: Use Delta bison hunt permit application fees to manage bison forage on the range.
- Objective: Provide direct assistance until 1 October each year to landowners experiencing bison/agricultural conflicts inside fenced areas.
  
- Goal: Provide the greatest opportunity to hunt and view bison.
- Objective: Manage for a precalving population of 360 bison (430 postcalving before hunting).
- Objective: Administer the Delta bison hunt to reduce landowner/hunter conflicts and maintain hunter access to private land in the Delta Agricultural Project.

Work began on a 1993-98 Delta Bison Management Plan by establishing the Delta Bison Working Group to advise the department on goals and objectives for the new bison plan. The Working Group consists of seven members representing various public interests.

ADF&G conducted aerial censuses on 13 June and 28 June 1991 that were not reported in the last performance report. We estimated postcalving herd size in 1991 at 467 bison. A captive herd of 25 bison escaped on 11 August 1991. Eight bison were recaptured, and 17 joined the wild Delta bison herd, bringing estimated herd size to 484. We conducted an aerial census on 23 June 1992 and estimated the 1992 postcalving herd size at 482 bison, with 21% calves.

We collected sex and age composition data on 9 September and 25-27 September 1991 and classified 201 bison. Calf survival to fall decreased significantly to 29 calves:100 cows, probably because of weather-related factors. Yearling bison survival to 18 months of age also declined to 10 yearling bulls:100 cows. The bull:cow ratio declined to 74:100 because of the increased number of bulls harvested during the 1990-91 hunting season.

ADF&G issued drawing permits to take 70 either-sex bison (hunt 403) and 30 cow bison (hunt 404) from 7 October 1990 to 31 March 1991. During hunt 403, 68 permittees hunted, and 66 successful hunters harvested 50 bulls and 18 cows for a 97% success rate (two hunters harvested two bison each). During hunt 404, all 30 permittees hunted and harvested 25 cows for a 83% success rate.

Bison migrated from the Delta River to the Delta Junction Bison Range instead of to the Delta Agricultural Project. Depredations were significantly reduced in the Delta Agricultural Project, although bison did cause minor damage to some crops.

ADF&G monitored movements of radio-collared bison during fall 1991 to determine when they left the summer range and when they left the Bison Range. Bison migrated to the range on approximately 17 July 1991. Bison were first observed on the Delta Agricultural Project on 27 August 1991. ADF&G placed radiocollars on eight cow bison on 13 and 20 April 1992.

A graduate student from the University of Alaska continued work on a research project entitled "Summer foraging ecology of bison on the Delta River." This research will evaluate summer range forage availability and use by bison.

We fertilized approximately 500 acres of bluegrass from 7 to 14 June 1991 not reported in the last performance report. We also burned approximately 2,000 round berm piles from 2 to 4 October 1991 and fertilized approximately 500 acres of bison forage in the Gerstle Fields of the Bison Range from 26 May to 5 June 1992. We used prescribed fires to burn all burnable bison forage on the Panoramic Fields of the Bison Range from 8 to 10 June 1992.

**Progress Toward Meeting Project Objectives:** ADF&G completed a 1992-93 Delta Bison Management Plan and a working group was established to advise the department on a 1993-98 management plan. The number of drawing permits was increased to 100 to reduce herd size to the objective level. We managed bison forage on the Delta Junction Bison Range to reduce levels of bison depredation in the Delta Agricultural Project. A University of Alaska graduate student continued summer range analysis to provide information on summer range forage. Bison movements were monitored and radiocollars were placed on eight cow bison to facilitate herd censuses and monitoring of herd movements.

#### **Segment Period Project Costs**

	<u>Personnel</u>	<u>Operating</u>	<u>Total</u>
Planned	12.3	6.5	18.8
Actual	12.3	12.2	24.5
Difference	0.0	-5.7	-5.7

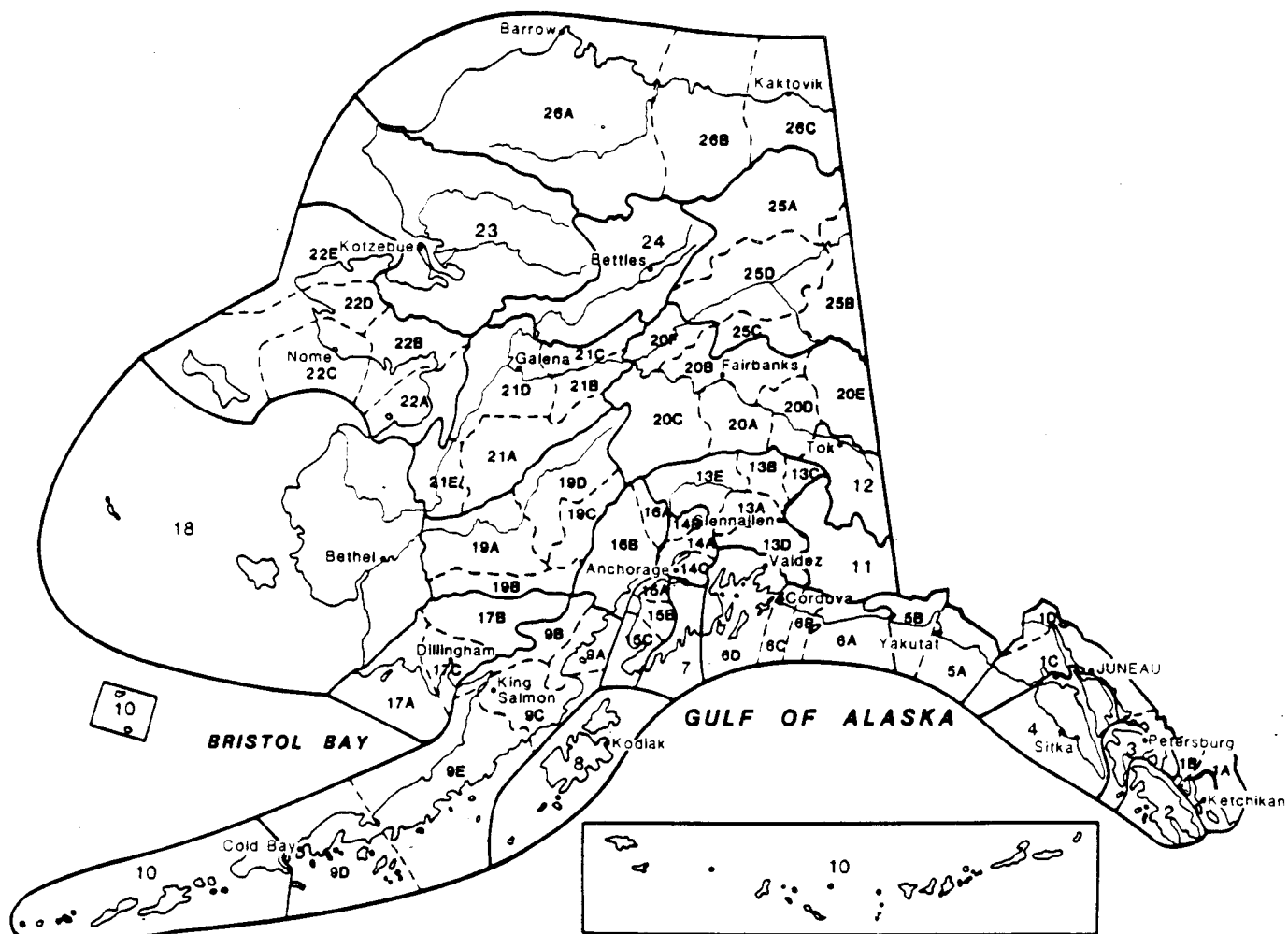
Explanation: Actual bison expenditures exceeded planned expenditures because of increased funding to the University of Alaska Fairbanks graduate student for increased laboratory analyses costs and to fund a bison economic survey. Additionally, expenditures exceeded allocation for the Farewell herd because of additional transmitter deployment costs and an increased number of herd survey flights.

Submitted by:

Kenton P. Taylor  
Management Coordinator



# Alaska's Game Management Units



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