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# ANNUAL REPORT OF SURVEY-INVENTORY ACTIVITIES

## PART I. BISON

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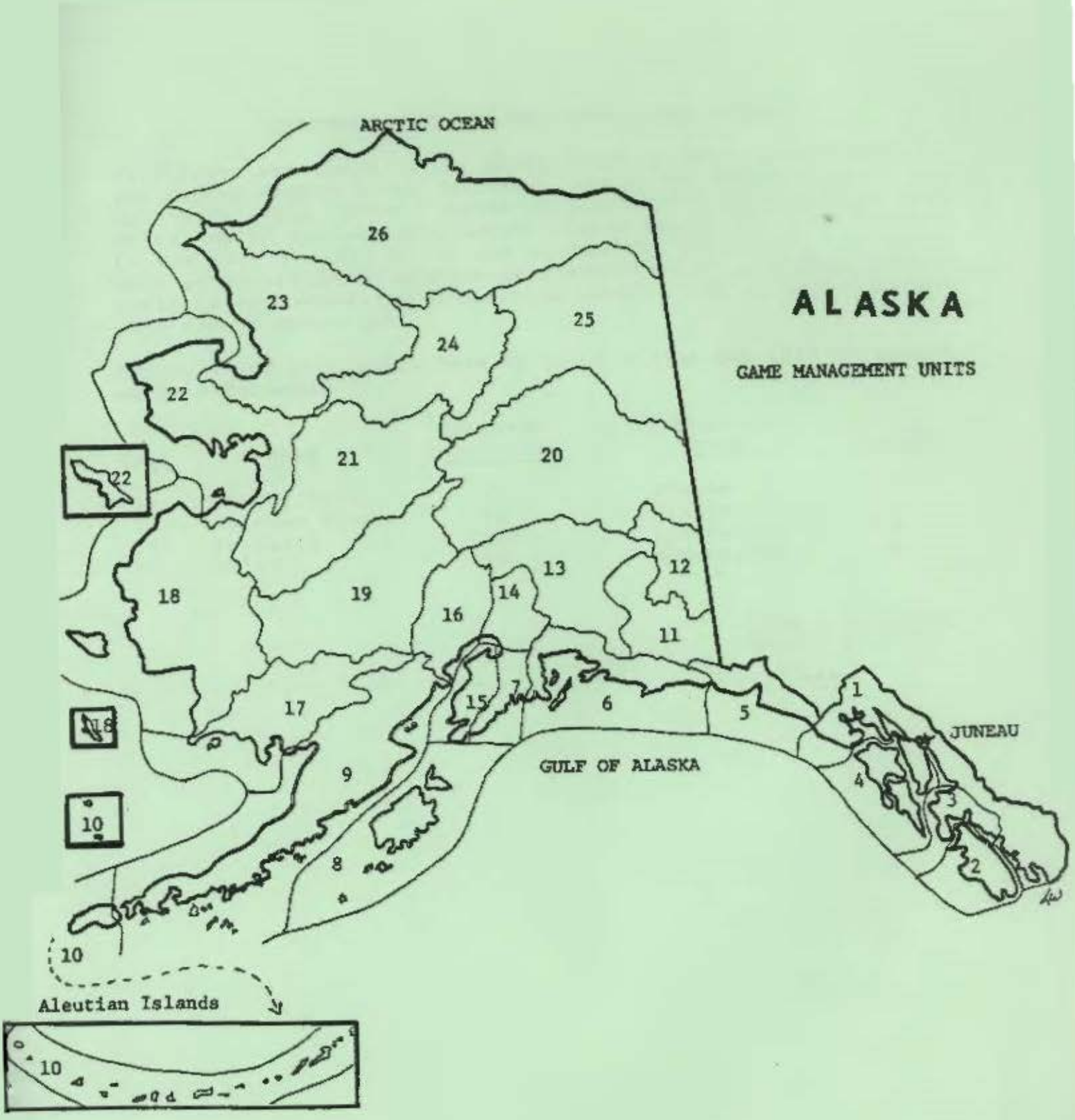
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## STATEWIDE HARVEST AND POPULATION STATUS

Wild bison are found in the Delta Junction area, 2 locations in the middle Copper River drainage, and on the South Fork of the Kuskokwim. The latter 3 herds originated from transplants from Delta, which in turn originated from a transplant from Montana in the 1930's. All herds are in healthy condition; the Delta Herd is declining in numbers as a result of a harvesting scheme designed to reduce the precalving herd to 275 in order to reduce damage potential.

Harvests and population data of bison during the 1984-85 season were as follows:

| Unit | Herd | Estimate Population | Population Trend | Harvest |
|---|---|---|---|---|
| 11 | Copper River | 72 | stable | 5 |
| 11 | Chitina River | 54 | stable | 3 |
| 19 | Farewell | 190+ | increasing | 8 |
| 20 | Delta | 285 | decreasing | 47 |

Robert A. Hinman
Deputy Director

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Robert A. Hinman
Deputy Director

BISON

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 11

GEOGRAPHICAL DESCRIPTION: Copper River

PERIOD COVERED: 1 July 1984-30 June 1985

## Season and Bag Limit

See Hunting Regulations No. 25.

## Population Status and Trend

Seventy-two bison were counted on 17 June during an aerial survey of the Copper River Bison Herd. This count was similar to the previous year's count of 74, suggesting the herd is stable.

## Population Composition

Composition data obtained during the June survey included 61 adults and yearlings and 11 calves (18%). The number of calves observed was down slightly from the previous year's count of 15.

## Mortality

Five bison (2 bulls and 3 cows) were killed during the hunting season. A total of 34 permits was issued and 21 permittees reported hunting, for a success rate of 24%. Successful permittees averaged 2.3 days hunting, while unsuccessful permittees averaged 4.0 days afield. River boats were the most popular method of transportation used by both successful (60%) and unsuccessful (59%) hunters.

The late winter physical condition of 5 adult female bison, captured on 9 April, was assessed. All 5 bison were rated in fair condition. Little body fat was present over the ribs and back and there was no apparent loss of the major body muscle mass. Total protein in the blood ranged from 5.8 to 6.2 gm/100 ml and packed cell volumes ranged from 38% to 42%. Both of these blood parameters were in the low/normal range, as would be expected in late winter. These data suggest we might expect low overwinter mortality this year for bison older than calves. Calves were not captured.

Management Summary and Recommendations

Difficulties in locating the Copper River herd for the purpose of conducting aerial surveys has been a recurring problem. In order to reduce search time, several herd members were radio-collared. On 9 April, 5 cows were captured from different groups within the herd and radio transmitters were attached. Monitoring of these radio-collared animals over the next few years should provide valuable movement and population data.

The Copper River Bison Herd management plan calls for 60 over-wintering bison. The herd is currently near that figure. Range studies are needed to evaluate vegetation conditions. The management plan should be changed if range conditions warrant an increase or decrease in the size of the overwintering population. Until such a study is completed the current harvest strategy should remain in effect.

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# BISON

## SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 11

GEOGRAPHICAL DESCRIPTION: Chitina River

PERIOD COVERED: 1 July 1984-30 June 1985

### Season and Bag Limit

See Hunting Regulations No. 25.

### Population Status and Trend

During an aerial survey on 17 June 1984, 54 bison were counted east of the Tana River. This year's count was higher than the 1983 count of 46. Annual variations in count figures most likely reflect the difficulty in finding bison rather than changes in population size.

### Population Composition

Forty-two adults and yearlings and 12 calves (22%) were identified during the June survey.

### Mortality

Permittees killed 3 bison (1 adult bull and 2 adult cows) during the hunting season. Twelve permits were issued and 9 permittees hunted, resulting in a 33% success rate. Two of the successful hunters utilized aircraft as a method of transportation, while the other used a riverboat.

### Management Summary and Recommendations

The Chitina Bison Herd management plan calls for 30 overwintering bison. The herd currently exceeds this goal. However, when the plan was drawn up, there were a number of horses grazing on the Chitina Bison Range and range deterioration was noted. Since 1982, a majority of the horses have been removed. In 1983, a range evaluation study for the Chitina Bison Herd was initiated by the National Park Service. In the next few years, analysis of range conditions will allow us to update our bison management plan and more accurately determine the number of bison that should be allowed to overwinter. Until that evaluation and updating is completed, the current harvest

strategy should continue. No changes in season dates or the number of permits issued are recommended.

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# BISON

## SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNITS: 19C and 19D

GEOGRAPHICAL DESCRIPTION: South Fork of the Kuskokwim River

PERIOD COVERED: 1 July 1984-30 June 1985

### Season and Bag Limit

See Hunting Regulations No. 25.

### Population Status and Trend

The number of bison in the Farewell Herd increased to a minimum of 190 animals as of June 1984. It is likely that an additional 10-20 adults were present. Recruitment (16%) and calf production (50 calves:100 cows) indicate an upward trend in the population. June surveys revealed the highest number of calves (46) ever recorded.

### Population Composition

A ground survey conducted 16 June 1984 revealed 28 adult males, 91 adult females, 23 yearlings, and 46 calves.

### Mortality

Hunting is the principal mortality factor affecting this herd. Twenty drawing hunt permits were issued for the period 1 September-10 October. Eighteen permittees hunted, harvesting 6 bulls and 2 cows.

Despite the near-record snowfall at Farewell, no evidence of calf or adult mortality was observed while monitoring 7 radio-collared bison. However, a number of old cows which appeared to be in poor condition were observed during the composition survey.

### Management Summary and Recommendations

Although the Farewell Bison Herd contains approximately 200 animals and has the potential for increasing at a rate of 40-50 bison annually, it is recommended that the rate of increase be limited by greater sport harvests. The number of permits for the 1985 hunt has been doubled to obtain a harvest of 20-25 bison.

Bison continue to utilize the Farewell Burn and the area between the South Fork and Post River. Forage production (grasses and sedges) is excellent and could support a herd 2-3 times the present size. Unfortunately, hunter access into this area is difficult, and options to facilitate larger harvests (improved access, more liberal methods and means, use of a registration hunt) should be considered.

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# BISON

## SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNITS: 20A and 20D

GEOGRAPHICAL DESCRIPTION: Delta Junction Area

PERIOD COVERED: 1 July 1984-30 June 1985

### Season and Bag Limit

See Hunting Regulations No. 25.

### Population Status and Trend

The 1985 precalving population of the Delta Bison Herd was estimated to be 285 animals. The 1984 precalving population estimate was 300 bison. The Delta Bison Management Plan specifies a precalving population objective of 275 bison.

### Population Composition

Sex and age composition of the herd was determined during a ground count conducted 2 October 1984. Classification of 228 bison revealed the herd consisted of 21% bulls, 42% cows, 17% yearlings, and 21% calves.

### Mortality

Forty-seven bison (29 bulls and 18 cows) were harvested during the 1984-85 hunt (Table 1). The bison hunt continued to be very popular; 11,276 applications were received for 55 available permits. Fifty-three permittees hunted, and 89% of the hunters were successful. Eighty percent of the known-age bison taken were less than 4 years old.

Other known mortality consisted of a bison that was apparently wounded during the hunt and 1 bison caught in a trapper's snare.

Snow depth in March 1985 was greater than average. In early March, the Soil Conservation Service reported a 35% greater-than-average snow cover at 3 stations in the herd's summer range. Deep snow, coupled with an unusually late breakup, may have resulted in additional mortality.

### Movements and Distribution

A portion of the Delta Bison Herd remained on the winter range longer than normal. During May, more than 100 bison, including

newborn calves, were observed utilizing winter range along the Gerstle River near the Alaska Highway. These bison may have remained on the winter range because of available forage. Bison have calved on the winter range in the past. During the 1960's and 1970's small groups calved along the Gerstle River and at nearby Healy Lake. Additionally, since 1980 there have been persistent, unconfirmed reports of up to several dozen animals spending the summer in areas considered to be winter range. However, in recent years, most of the herd has migrated to the summer range along the Delta River for calving.

Range and Habitat

Approximately 1,100 acres were cleared on the Delta Junction Bison Range during the report period; this brings the total number of acres cleared on the Bison Range to 1,700. Approximately 200 acres were planted in 1984, and additional planting of up to 1,000 acres is scheduled for summer 1985. Barley, and a combination of perennial grasses including fescue, brome, and bluegrass will be planted. A perennial hay crop was fertilized and cut once in 1984 and was fertilized again in May 1985.

Management Summary and Recommendations

Age data from hunter kills and observations suggest that the Delta Bison Herd is primarily comprised of young animals. A means of increasing the number of older animals in the herd should be sought. Having a good number of older animals in the herd not only increases trophy potential for hunters, but also may be important to the herd's social structure.

Development on the Bison Range has steadily reduced conflicts with agricultural interests; in 1984, damage by bison was negligible on farms in the Delta area. Development of forage plantings in 1985 should help to continue the trend toward decreased crop depredations.

The bison summer range continues to deteriorate in quality because of encroachment of woody plants, and bison have avoided grasses planted in 1982. Investigation of bison use of the summer range, and management efforts directed toward increasing available forage on this range should continue.

Bison road crossing signs were erected in fall 1984. This is the 1st year in many years that no bison road kills were recorded. The signs probably helped reduce the number of road kills.

The 1985-86 hunting season quota should be adjusted so the precalving population objective of 275 animals can be met.

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Table 1. Known mortality of Delta Bison Herd, 1984-85 season.

| Mortality source | Bull | | | | Cow | | | | Total |
|---|---|---|---|---|---|---|---|---|---|
| | Adult | Yearling | Calf | Unknown | Adult | Yearling | Calf | Unknown | |
| Hunting | 20 | 2 | 0 | 7 | 10 | 2 | 0 | 6 | 47 |
| Known wounding loss | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| Other | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Total | 20 | 3 | 0 | 7 | 11 | 2 | 0 | 6 | 49 |