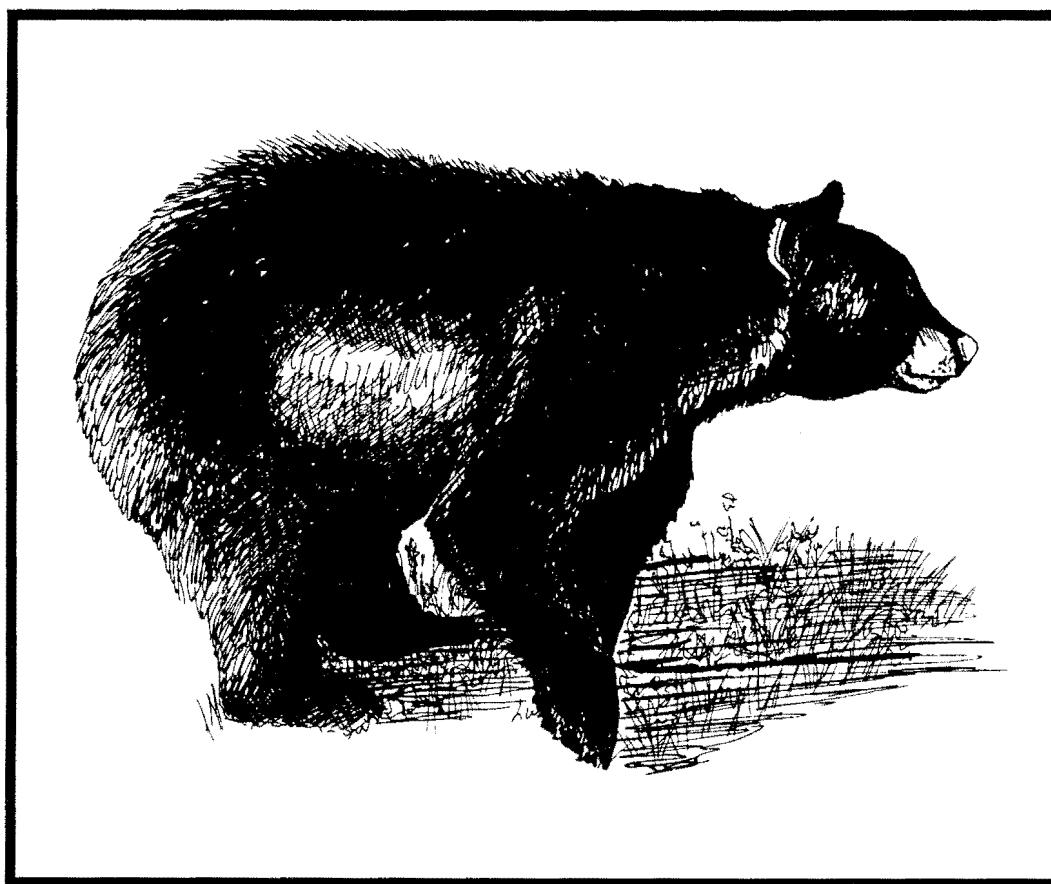

Alaska Department of Fish and Game
Division of Wildlife Conservation

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

BLACK BEAR



Susan M. Abbott, Editor
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Project Title: Southeast Black Bear Population Management

Overview: Black bears are distributed throughout southeast Alaska (Units 1-5), except in Unit 4 (Admiralty, Baranof, Chichagof and associated islands). Harvests are low, compared with estimated populations; however, they are rapidly increasing in some areas.

Project Location: Subunit 1A and Unit 2 (8,911 mi²)

Subunit 1A - Ketchikan area including mainland areas draining into Behm and Portland Canals.

Unit 2 - Prince of Wales and adjacent islands south of Sumner Strait and west of Kashevarof Passage and Clarence Strait.

Project Objectives and Activities:

1. Maintain an average skull size of at least 17.2 inches for males harvested during spring from Subunit 1A.
 - a. Monitor the hunt and seal all black bears harvested and presented for sealing.
2. Maintain an average spring skull size of 19.1 inches for males, or a regulatory year average of 18.8 inches for males harvested from Unit 2.
 - a. Monitor the hunt and seal all black bears harvested and presented for sealing.

Work Accomplished during the Project Segment Period: Eighty-four and 213 black bears harvested from Subunit 1A and Unit 2, respectively, were sealed during 1990-91. Skull measurements, identification of sex, and a tooth were obtained from most bears presented for sealing. Fall bear teeth were aged and hunters were sent letters informing them of their bears' ages. Spring bear teeth are currently being aged.

Progress Towards Meeting Project Objectives: The Subunit 1A objective of maintaining an average skull size of at least 17.2 inches for males taken during spring was again met. Skulls from 57 males averaged 18.0 inches.

The average skull size for 92 males taken in Unit 2 during spring was 18.9 inches; 0.2 inches below the stated objective of 19.1 inches. Similarly, the average skull size for the 128 males taken during the regulatory year from Unit 2 was 0.2 inches below the stated objective (18.6 inches versus 18.8).

Although objectives for Unit 2 were not met, the population is believed to be doing fine at this time. To ensure that a downward trend is not in the making, special attention will be given to skull size measurements during the upcoming season. A continued decline in the average skull size may indicate future regulatory changes are needed.

Bear ages determined from teeth collected during fall 1990 indicated average ages of 4.0 and 8.0 years for males and females in Subunit 1A, respectively. Ages of bears in Unit 2 averaged 3.9 and 4.8 years for males and females, respectively. Until additional age data become available, it is impossible to detect or suggest any age trends. Teeth collected during future seasons will be aged so that comparisons can be made with existing data.

Project Location: Subunit 1B and Unit 3 (5,900 mi²)
Southeast Mainland from Cape Fanshaw to Lemesurier Point and islands of the Petersburg, Kake and Wrangell area

Project Objectives: Maintain a mean skull size of at least 17.0 inches for males and a ratio of 3 males:1 female in the harvest.

Work Accomplished During the Project Segment Period: All bears killed in these areas must be sealed within 30 days of taking. A total of 166 bears were sealed from the 2 units. Five of these were non-sport kills. Additional anecdotal information was collected from hunters, biologists, officers of Fish and Wildlife Protection, and other knowledgeable observers. When possible, skulls were measured and the sex of the harvested bear determined.

Progress Towards Meeting Project Objectives: Thirteen and 153 black bears were killed in Subunit 1B and Unit 3, respectively. The male:female ratio was slightly over 3:1 and the average male skull size was 18.3". Project objectives were exceeded.

Non-residents (38 of which were guided) killed 92 bears. The number of non-resident hunters continues to increase even with a bag limit reduced from 2 to 1. Sex ratios and average skull size help measure the effects of hunting on the population. We assume that as black bear populations are reduced the take of females increases and the average skull size will decrease because younger bears comprise a larger portion of the kill. For the past few years hunters have been asked "How many bears did you see before you killed this one?", and "How many bears could you have killed and chose not to before you killed this one?". Hunters saw an average of 7 bears and passed up 3 before killing one. Those hunters that saw a bear before killing one (n = 107) saw an average of 11 bears. Hunters that passed up 1 or more bears (n = 67) saw an average of 9 bears. Assuming that as bears become less plentiful hunters will be less selective and shoot the first bear seen, the black bear populations in Subunit 1B and Unit 3 are high.

Project Location: Subunit 1C (7,600 mi²)
The southeast Alaska mainland and the islands of Lynn Canal and Stephens Passage between Cape Fanshaw and the latitude of Eldred Rock, including Sullivan Island and the drainages of Berners Bay.

Project Objectives: Maintain a mean skull size of at least 17.3 inches for males and a male:female harvest ratio of 3:1; reduce by 50% the number of nuisance bear problems resulting from improper refuse handling and disposal.

Work Accomplished During the Project Segment Period: We collected harvest data through the mandatory sealing process. All successful hunters are required to present hides and skulls for sealing within 30 days of take. Skulls were measured and sex of the harvested bear was determined at the time of sealing. Harvest-related data and anecdotal information were collected at that time. Additional information was solicited from hunters and other observers.

We captured and radio-collared problem black bears involved in garbage-related incidents to monitor the effects of both chemical and physical deterrents. A cooperative research project between ADF&G and the University of Alaska-Fairbanks to determine the value of such deterrents in reducing bear-garbage incidents was completed in 1990. Educational and enforcement efforts aimed at reducing garbage availability and subsequent habituation of black bears to human foods were continued. This was a cooperative effort between the department and the City and Borough of Juneau.

Progress Towards Meeting Project Objectives: Management objectives for black bears in Subunit 1C were met. Skull sizes for males averaged 17.6 inches, and males comprised 88% of the harvest (>3:1 males:females). Nuisance bear problems increased this year, the first increase since 1987. Three animals were killed in garbage related DLP actions. The number of garbage-using sows accompanied by cubs suggests that problems may increase again next year. More effort needs to be put into making garbage unavailable to bears.

Project Location: Subunit 1D (2,700 mi²)
The southeast Alaska mainland north of the latitude of Eldred Rock, excluding Sullivan Island and the drainages of Berners Bay

Project Objectives: Maintain a population capable of sustaining an annual harvest of at least 25 black bears.

Work Accomplished During the Project Segment Period: We collected harvest data through the mandatory sealing process. All successful hunters were required to present hides and skulls for sealing within 30 days of take. Harvest-related data and anecdotal

information were also collected at that time. Skulls were measured at the time of sealing, and the sex of the harvested bears was determined, when possible.

Progress Towards Meeting Project Objectives: After two years of decline, black bear harvests in this subunit have returned to historic levels and exceed management goals. Thirty-five bears were taken. Males comprised most of the harvest (59%). Average skull size for males was also up slightly this year (16.7) from the previous year (16.3) and remains near the long-term average of 17 inches.

Project Location: Unit 5 (6,235 mi²)
Cape Fairweather to Icy Bay, eastern Gulf of Alaska coast

Project Objectives and Activities:

1. Unit 5 black bear population objectives:
Maintain a 3:1 male:female ratio in the harvest and a population capable of supporting an annual harvest of at least 20 bears.
2. Unit 5 black bear management activities:
 - a. Monitor the hunt and seal all black bears harvested and presented for sealing.
 - b. Measure all skulls and determine the sex of sealed bears.

Work Accomplished During the Project Segment Period: Black bears were sealed in Yakutat and Anchorage.

Progress Towards Meeting Project Objectives: The male:female ratio in the harvest was 3.6:1, higher than the objective of 3:1. Thirty-four bears were killed. This is higher than the 1985-1989 mean (23 bears), but within the range of those years' harvests. Seven blue color-phase bears were taken, the highest ever recorded. Nonresidents, Alaska residents, and Yakutat residents took 79%, 12%, and 9%, respectively.

Segment Period Project Costs:

	<u>Personnel</u>	<u>Operating</u>	<u>Total</u>
Planned	\$46.4	\$7.3	\$53.7
Actual	\$46.4	\$7.3	\$53.7
Difference	0	0	0

Submitted by:

W. Bruce Dinneford
Management Coordinator

Project Title: Southcentral Black Bear Population Management

Project Location: Unit 6 (10,150 mi²)
Prince William Sound and north Gulf Coast

Units 7 and 15 (8,400 mi²)
Kenai Peninsula

Units 9 and 10 (36,250 mi²)
Alaska Peninsula and Unimak Island

Unit 11 (12,800 mi²)
Wrangell Mountains

Unit 13 (23,400 mi²)
Nelchina Basin

Unit 14 (6,600 mi²)
Upper Cook Inlet

Unit 16 (12,300 mi²)
West side of Cook Inlet

Unit 17 (18,800 mi²)
Northern Bristol Bay

Project Objectives:

Unit 6: Maintain a black bear population that will sustain a 3-year average annual harvest of 200 bears composed of at least 75% males and a minimum average male skull size of 17 inches.

Units 7 and 15: Maintain a black bear population that will sustain a 3-year average annual harvest of 200 bears composed of at least 60% males.

Unit 14: Maintain a black bear population that will sustain a 3-year average annual harvest of 100 black bears composed of at least 60% males.

Units 9, 11, 13, 16, and 17: Maintain existing populations of black bears with a sex and age structure that will sustain a harvest composed of at least 60% males.

Work Accomplished During The Project Segment Period:

Unit 6: Forty-six black bears (34 males and 12 females) were harvested during fall 1991. Preliminary harvest data indicated 110 (80 males, 27 females and 3 unknown sex) were killed during spring 1992. Final harvest data will be available during fall 1992.

Only preliminary harvest reports were available. Final results and statistics will be available in November 1992. The 1991 fall harvest appeared average for black bear hunters. Numbers of bears sealed in peninsula offices indicate that most fall bears continue to be harvested incidental to moose hunting.

The spring bear harvest appeared higher than normal partly because of a delayed spring and persistent snow cover.

Unit 9: Black bears were distributed in low densities in northern parts of Subunits 9A and 9B. Sealing was not required, so very little was known about the harvest. Reported harvests, primarily by subsistence hunters in Unit 9, have averaged about 2 bears per year for the last 10 years.

Unit 11: Hunters killed 14 black bears in Unit 11 during the 1990-91 season, 3 more than the 18-year average of 11 bears a year. Harvest data for the 1991-92 season were preliminary, as sealing certificates for spring 1992 were still being processed. The harvest during the fall portion of the season was 6 black bears comprised, of 4 (67%) males and 2 (33%) females. During fall, 85% ($n=5$) of the harvest was taken incidentally while hunting other species. Three black bears were taken on guided hunts.

Unit 13: Hunters killed 88 black bears in Unit 13 during the 1990-91 season. The 5-year (1985-89) average harvest was 79 bears per year. Harvest data for the 1991-92 season were preliminary as sealing certificates were still being processed. Twenty-four bears were killed during the fall 1991 season including 15 (63%) males and 9 (37%) females. The fall 1991 preliminary harvest figure was lower than that observed during fall 1990 when 40 bears were reported killed. If the spring 1992 harvest was similar to previous spring harvests then the total 1991-92 harvest should decline from previous years. Subunits 13D and 13E remain the most important black bear hunting areas accounting for 54% and 33%, respectively, of the total unitwide harvest. Guided hunting for black bears decreased appreciably with only 4 (17%) fall hunters using guides compared to fall 1990 when 14 (36%) of the total harvest were taken on guided hunts.

Unit 14: During this report period, a minimum of 68 black bears were sealed for all of Unit 14. Forty-two bears were killed in Subunit 14A, 9 in Subunit 14B and 16 in Subunit 14C. Six bears were killed in defense of life or property. Sex was identified for 66 bears; 76% were males.

A minimum of 106 hunters registered at least 1 black bear bait station for spring season in Subunit 14A; 23 people registered bait stations in Subunit 14B; and 1 person registered a station in Subunit 14C. At least eight bears were reported killed over bait. Six black bears were killed in defense of life or property, five in Subunit 14C and one in Subunit 14A. Five of these bears were males and one was female.

Unit 16: During this period, at least 27 black bears were sealed for Subunit 16A. The number killed in Subunit 16B was not available. Of those bears whose sex was identified for Subunit 16A, 59% were males. At least 45 hunters registered at least one black bear bait station in Unit 16. Eight bears were reported killed over bait in Subunit 16A.

Unit 17: Hunters were not required to report or seal black bears harvested in Unit 17, so there was no systematic way to assess the number of bears killed, the sex or age composition of the harvest, or the distribution of harvest. Black bears occur in this unit, and a few were taken by local residents. An unknown number were incidentally taken by other hunters. Surveys to identify important black bear habitat were not conducted.

Progress Towards Meeting Project Objectives:

Unit 6: The preliminary harvest (156 bears) was less than the average for the previous 3 years (186). The percent males in the take remained high (73%), suggesting a sustainable harvest level.

Units 7 and 15: Current regulations allowing a spring baiting season with a bag limit of 3 bears (females with cubs and cubs being protected) appears to be acceptable with the department's objective of maintaining the existing bear population.

Illegal trade in bear parts (primarily claws and gall bladders), however, may be increasing the harvest of bears. Increased harvests of black bears may be detrimental to population dynamics and appropriate regulatory actions may be necessary to adjust harvest levels.

Unit 9: There were no black bear management activities to report for Unit 9. Incidental information suggested objectives have been met.

Unit 11: The harvest in Unit 11 has remained fairly low over the past 11 years. Unit 11 has some good black bear habitat and frequent sightings suggest bears were fairly abundant. The low harvest reflected a lack of hunting pressure rather than low bear numbers. The proportion of males in the harvest exceeded the 60% management guideline for black bears in this unit. No changes in season dates and bag limits were proposed as current guidelines were being met.

Unit 13: The projected 1991-92 fall black bear harvest is expected to be somewhat lower than the previous year's take. The black bear harvest in 1990-91 increased by 38% over

the prior year's take, but was still below the harvest rates reported between 1984-88. Overall, black bear harvests in Unit 13 were considered within sustainable levels, as black bears are considered abundant in forested areas. Subunits 13D and 13E have the highest black bear numbers because of the extensive forest habitat. Preliminary composition data for the 1991-92 season indicates the proportion of males in the harvest still exceeds the 60% management guideline for black bear harvests in Unit 13. No changes in season dates and bag limits were proposed as current guidelines are being met.

Unit 14: The 1991-92 black bear harvest was substantially less than the previous 2 years which caused the 3-year average to fall well below objective harvest levels. Composition of harvest for the 3-year period met minimum objective levels. A later den emergence combined with a shortened baiting season were partially responsible for reduced harvest during spring 1992. Status of the bear population is considered at moderate to low density and increasing.

New 5-year population and human-use objectives were drafted this period. The population objective would be to maintain a black bear population of a size that appears largely unaffected by human harvest. Human-use objectives would be to provide liberal opportunities to hunt black bears with annual average harvests of less than 80 bears.

Unit 16: The 1991-92 black bear harvest was estimated as below sustainable levels. Incomplete harvest data prevent evaluation of unit-wide harvest composition. Harvest composition in Subunit 16A approximated objective levels, 60% males. Status of the bear population in Unit 16 is considered as moderate to high density with an uncertain trend.

New population and human-use objectives were drafted for the next 5-year period. The population objective would be to maintain a black bear population of a size that appears largely unaffected by human harvest. Human-use objectives would be to provide liberal opportunities to hunt black bears with an annual average harvest of less than 160 bears which includes less than 12 female bears from Subunit 16A and less than 50 female bears from Subunit 16B.

Unit 17: It is difficult to assess the status of the black bear population until mandatory sealing is required. Incidental take of black bears by hunters pursuing other game could be a problem in parts of the unit. The department should propose to the Board of Game either a sealing requirement or some other method for hunters to report their harvest. This action would allow a more direct assessment of management status.

Segment Period Project Costs:

	<u>Personnel</u>	<u>Operating</u>	<u>Total</u>
Planned	13.5	5.3	18.8
Actual	13.5	5.3	18.8
Difference	0	0	0

Submitted by:

John Trent and Ken Pitcher
Management Coordinators

Project Title: Interior Black Bear Population and Habitat Management

Project Location: Units 12 and 20

Unit 12

Project Objectives and Activities

1. Manage for a black bear population capable of maintaining a sustainable average harvest of at least 30 bears.
 - a. Seal bears and analyze harvest data.

Work Accomplished During the Project Segment Period: Hunters reported taking 13 black bears (12 males, 1 female) in Unit 12 during FY92. Eleven of these (85%) were harvested during spring. The FY92 harvest declined by half from the FY91 harvest.

Progress Toward Meeting Project Objectives: Based on the number of black bear baiting permits issued, the number of hunters hunting black bears declined in Unit 12 during FY92. A forest fire near Tok burned much of the area that was used in the past for baiting black bears. Based on the percent males in the harvest, the black bear population can sustain a harvest at the human use objective level.

Subunits 20A, 20B, 20C, and 20F

Project Objectives and Activities:

1. Subunit 20A: Manage for a harvest of black bears that maintains 55% or more males in the combined harvests of the most recent 3 years.
 - a. Seal bears and analyze harvest data.
2. Subunit 20B: Manage for a sustained annual harvest of ≤ 150 black bears, of which at least 55% are males.
 - a. Seal bears, age teeth, and analyze harvest data.
3. Subunits 20C and 20F: Manage for a harvest of black bears that maintains 50% or more males in the combined harvests from both subunits from the most recent 3 years.
 - a. Seal bears and analyze harvest data.

Work Accomplished During the Project Segment Period: Preliminary counts of sealing certificates indicate the following:

In Subunit 20A, 65% (62/95) of the black bears of known sex harvested from 1989-90 through 1991-92 were males. Most (65%) of the harvest (96) was taken in spring.

In Subunit 20B, reported harvests (81) for 1991-92 thus far are only about half of those reported (157) for 1990-91. Because most black bears are harvested in the spring (92% of 1990-91 harvest), this lower harvest is probably due in part to the late spring in the Fairbanks area. Several inches of snow fell as late as mid-May, and reports from hunters indicate that bears were late emerging from their dens. Sixty-three percent (50/79) of the bears of known sex that were harvested in 1991-92 were males.

Preliminary counts of registration overlays indicate that 633 hunters registered to hunt black bears over a bait station during spring 1992. Of these, 51% (325/633) are in the military or have military addresses.

Although a research project to study population dynamics of black bears on Fort Wainwright was completed in spring 1991, we assisted in gathering additional data on radio-collared bears through this report period. During spring 1992, we located denning bears with radio telemetry and attached new collars to bears whose collars would soon be nonfunctional. We marked offspring with collars and/or eartags. After spring 1992, we had functioning radiocollars on 13 black bears.

This study suggests that the age of first reproduction for black bears in this area may be higher than we thought and that the reproductive interval may be longer. During winter 1991-92, two females had their first litter; a 6-year-old female had two cubs and a 7-year-old female had three cubs. Another 7-year-old female was still barren. One female denned with her three 2-year-olds and reused her 1990-91 den. This information about population dynamics will be used to examine harvest regimes more thoroughly.

Because of the high harvest of black bears in Subunit 20B in 1990-91, we submitted several proposals for consideration at the spring 1992 Board of Game meeting. The board gave the department discretionary authority to limit black bear baiting and passed a regulation requiring evidence of sex to be left on all black bears until sealing. We also asked hunters to voluntarily help reduce the black bear harvest in Subunit 20B, particularly of female bears. When hunters registered for hunting black bears over a bait station, they were given a leaflet describing our concerns and giving ideas on how to judge the sex and age of bears at their station.

The combined reported harvest of 121 black bears in Subunits 20C and 20F from 1989-90 through 1991-92 (preliminary) included 73% (85/117) males (only bears of known sex included).

Progress Toward Meeting Project Objectives: We are currently meeting all objectives for black bear management in this area. In Subunits 20A, 20C, and 20F, harvests continue to be light relative to the size of the area, and the percentages of males in the harvests are well above our objectives.

In Subunit 20B, the percentages of males in the harvests have exceeded 60% since 1985-86; however, the high harvest of 157 bears from this subunit last year has raised concern about sustainable harvest. We plan to more thoroughly examine black bear harvest in light of new research findings about reproductive rates to ensure that high harvests of black bears do not compromise the population.

Subunit 20D

Project Objectives and Activities

1. Manage for a harvest not to exceed 15 black bears south of the Tanana River and 15 black bears north of the Tanana River. Reevaluate harvest goals when estimates of black bear density are available.
 - a. Seal bears and analyze harvest data.

Work Accomplished During the Project Segment Period: Hunters reported harvesting five black bears during the 1991-92 regulatory year. Four male bears were taken south of the Tanana River, and one male bear was taken north of the Tanana River.

Progress Toward Meeting Project Objectives: Management objectives were met during this report period. Harvest did not exceed objectives; harvested bears were sealed and harvest was analyzed.

Subunit 20E

Project Objectives and Activities

1. Manage for a black bear population capable of sustaining annual harvests of at least the current annual average of 14 bears per year.
 - a. Seal bears and analyze harvest data.

Work Accomplished During the Project Segment Period: Hunters reported taking four black bears (three males, one female) in Subunit 20E during FY92; three were taken during fall.

Progress Toward Meeting Project Objectives: Black bear hunting pressure in Subunit 20E is light. The low harvest during FY92 is more indicative of hunting pressure than the trend of the black bear population in Subunit 20E. The number of incidental sightings of black bears in the subunit by department personnel, reports from the public, and the average percent males in the harvest (60%) indicate a black bear population able of sustaining a harvest of 14 bears annually.

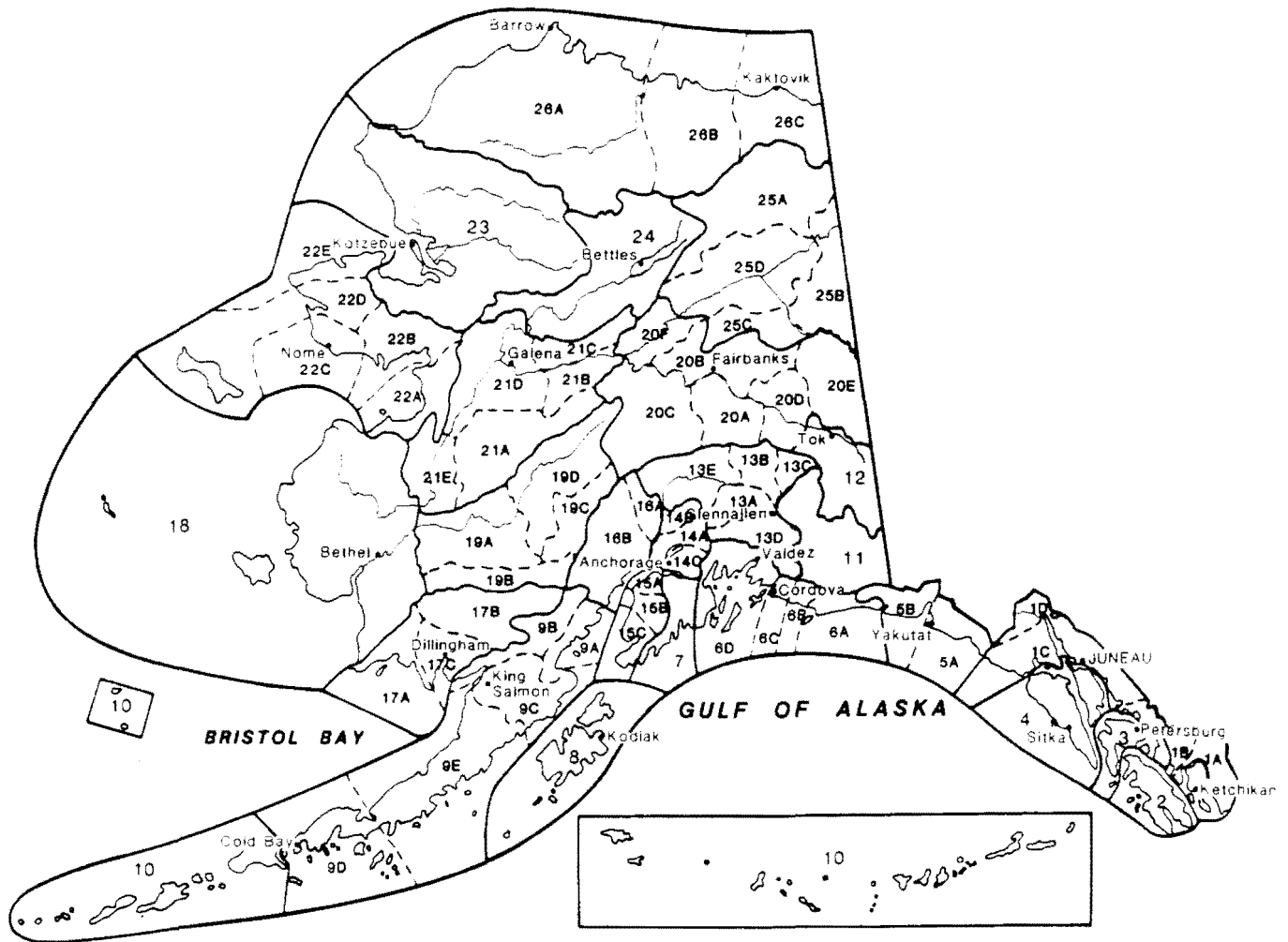
Segment Period Project Costs

	<u>Personnel</u>	<u>Operating</u>	<u>Total</u>
Planned	25.2	2.0	27.2
Actual	25.2	3.0	28.2
Difference	0.0	-1.0	-1.0

Submitted by:

Kenton P. Taylor
Management Coordinator

Alaska's Game Management Units



Project funded by Federal Aid in Wildlife Restoration