Alaska Department of Fish and Game
Division of Wildlife Conservation

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Federal Aid in Wildlife Restoration
Annual Performance Report
Survey-Inventory Activities
1 July 1997 - 30 June 1998

BROWN BEAR

Mary V. Hicks, Editor

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Grant W-27-1
Study 4.0
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STATE OF ALASKA
Tony Knowles, Governor

DEPARTMENT OF FISH AND GAME
Frank Rue, Commissioner

DIVISION OF WILDLIFE CONSERVATION
Wayne L. Regelin, Director

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Project Title: **Southeast Brown Bear Population Management**

Project Location: Unit 1 (18,300 mi^2)
Southeast Alaska mainland from Dixon Entrance to Cape Fairweather and those islands lying east of Clarence Strait from Dixon Entrance to Caamano Point and all islands in Stephens Passage and Lynn Canal north of Taku Inlet.

Project Objectives and Activities:

- Maintain an average age of harvested males of at least 6.5 years and a male to female harvest ratio of at least 3:2.

- Reduce the number of bears killed because of garbage habituation.

Work Accomplished During the Project Segment Period: For the ninth consecutive season we collected harvest data through mandatory registration permits. We required all permittees to report whether or not they hunted. All successful hunters were required to present hides and skulls for sealing within 30 days of the date of kill. We measured skulls from harvested bears and extracted a premolar tooth to determine age. We also collected additional harvest-related data and anecdotal information at the time of sealing.

Progress Meeting Project Objectives: Thirty-nine brown bears were killed in Unit 1 during this report period. Thirty-five were taken legally. One bear was taken in Unit 1C by a hunter who failed to obtain a registration permit, and 1 was taken out-of-season in Unit 1D by a hunter who mistook a brown bear for a black bear. One male from Unit 1B and 1 female from Unit 1C were killed in defense of life or property (DLP). The total harvest of 28 males (72%) and 11 females (28%) was within our 3:2 male to female harvest objective. Harvests by unit, excluding DLPs, included 5 males from Unit 1A, 4 males from 1B, 5 males and 2 females from 1C, and 13 males and 8 females from 1D.

The average size of male skulls was 22.8 inches (n = 27), 1.2 inches larger than male skulls measured the previous season. The average size of female skulls was 20.8 inches (n = 10), 0.1 inches smaller than those measured the previous season.

We issued 327 registration permits during this report period. Besides the 35 successful hunters, there were 131 unsuccessful hunters, 160 who did not hunt, and 1 that did not report to us. Nonresident hunters harvested 18 bears and residents took 19 bears. Alaska residents living in Douglas and Wrangell took bears by DLP. Age data from the 1997–98 season are not yet available; however, averages for males and females taken during the 1996–97 season were 8.3 years (n = 21) and 5.5 years (n = 7), respectively. This met our objective of maintaining an average age of 6.5 years for harvested males.

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Project Location: Unit 4 (5,800 mi^2)
Admiralty, Baranof, Chichagof, and adjacent islands.

Project Objectives and Activities:

- Maintain an average age of harvested males of at least 6.5 years with a male to female harvest ratio of at least 3:2.
- Reduce the number of bears killed because of garbage habituation.
- Monitor the harvest, seal harvested bears, and analyze harvest data.
- Monitor use of the Pack Creek viewing area on the Stan Price Wildlife Sanctuary.

Work Accomplished During the Project Segment Period: During the 1997–98 regulatory year we issued 540 registration permits. Skulls of harvested bears were measured, premolars were extracted for age analysis, hides were examined for evidence of sex, and we noted other pertinent data, such as hunting method, means, and effort. We submitted extracted teeth for sectioning and analyses. We continued efforts to reduce defense of life or property (DLP) kills through public education and interagency contacts. Biologists and technicians continued efforts at Pack Creek to better inform the public about regulations, bear life history, safety precautions, and to reduce losses of bears to DLP incidents.

Progress Meeting Project Objectives: Age data based on cementum analyses from harvested bears were not available before reporting deadlines. Preliminary registration permit data indicate sport hunters in 1997–98 took 134 bears, and 7 additional bears were taken illegally or by DLP. The harvest by sex of the total mortality (141 bears) was 111 males, 29 females, and 1 unknown sex, exhibiting a male to female ratio of 3.8:1. Spring seasons continued to provide the greatest bear hunting opportunity and harvest, with 77% of the documented harvest. Harvest by island in Unit 4 included 42% from Admiralty, 38% from Chichagof, and 21% from Baranof. We recorded a record 1381 visitors viewing brown bears at Pack Creek .in the Stan Price Wildlife Sanctuary.

Project Location: Unit 5 (5,800 mi^2)
Cape Fairweather to Icy Bay, eastern gulf coast.

Project Objectives and Activities:

- Maintain an average age of harvested males of no less than 6.5 years with a male to female harvest ratio of at least 3:2.
- Reduce the number of bears killed because of garbage habituation.
- Monitor the harvest, seal harvested bears in Yakutat and Anchorage, and analyze data.

Work Accomplished During the Project Segment Period: Harvest data were collected through the mandatory sealing process. All successful hunters are required to present hides and skulls for sealing within 30 days of take. We collected data on method, means, and effort at the time of sealing. Additional anecdotal information was solicited from hunters and other observers.

Progress Meeting Project Objectives: Hunter harvest was analyzed from sealing certificates. Age data for bears taken during the 1997–98 season were not available at the time of report preparation. The project objective of a 3:2 male to female kill ratio was not met. The kill ratio exceeded our objective. The harvest of 27 bears (19 males, 8 females) was 11 less than the number taken last year. Twenty (14 males, 6 females) of the bears came from Unit 5A, the remainder from 5B. Male total skull sizes averaged 23.2 and 23.9 inches for the year and spring season, respectively. An Alaska resident took 1 male bear illegally at the Yakutat dump. At least 1 brown bear was killed in a wolf snare, with investigations underway and no additional information available at this time. In an attempt to move a sow–cub pair from a lodge in Yakutat, ADF&G staff captured and moved the sow but were unable to capture the cub-of-the-year. Similarly, a young male was moved from a Yakutat neighborhood during the summer of 1997. Both translocated bears were released in Unit 5B within the Wrangell–St. Elias National Preserve with the permission of the National Park Service.

Segment Period Project Costs:

	Personnel	Operating	Total
Planned	49.7	10.0	59.7
Actual	49.7	10.0	59.7
Difference	00.0	00.0	00.0

Submitted by:

Bruce Dinneford
Management Coordinator

Project Title: **Southcentral Brown Bear Population Management**

Project Location: Unit 6 (10,150 mi^2)
Prince William Sound and north Gulf Coast

Project Objectives: Maintain a brown bear population that will sustain an annual sport harvest of 35 bears comprised of at least 60% males with a minimum average male skull size of 23 inches.

Work Accomplished During the Project Segment Period: Hunters harvested 24 bears (13 males, 11 females) during fall 1997. Preliminary harvest data for spring 1998 indicated an additional 22 bears (19 males and 3 females) were taken. Males composed 74% of the take; mean skull size for males was 23.0 inches. Final harvest numbers for spring will be available during fall 1998. In addition to the sport-harvested bears, 3 bears were illegally killed, and 2 bears were shot in defense of life or property, and 1 bear died of natural causes.

Progress Meeting Project Objectives: We did not meet our sport harvest objective, exceeding it by 11 bears. However, the skull size remained at 23 inches. It appears the brown bear population can sustain this increased level of sport harvest.

Project Location: Units 7 and 15 (8,400 mi^2)
Kenai Peninsula

Project Objectives: Maintain an estimated population of 250 brown bears with a sex and age structure that will sustain a harvest comprised of at least 60% males.

Work Accomplished During the Project Segment Period: Preliminary harvest reports indicated annual harvest levels have remained above management objectives. The fall brown bear season was closed by emergency order. Eleven bears (5 males and 6 females) were reported taken in the spring season (May 10–25) of 1998. This was the first year that hunters were required to obtain a registration permit. We issued 74 permits and of those people receiving permits, 47 reported hunting. This is considered a minimum number of hunters since hunters that did not obtain permits harvested 4 of the 11 bears. Additionally, 3 of the 11 bears were not legal. A sow and yearling female were killed together and a yearling male was also taken. Final harvest numbers and statistics will be available in November 1998.

Nuisance bears continued to be a problem on the Kenai. Three bears, including 1 adult female bear, were reported taken in defense of life or property (DLP) during the reporting period. In addition, black bear hunters illegally took 2 bears, and a train hit 1 bear. There were at least 2 bear–human encounters that did not result in life-threatening injuries. Both encounters occurred at the Russian river sportfishing area and resulted in 1 bear shot DLP. On February 8, 1998 a large bear in Unit 15A attacked a seismograph crew, causing the death of 1 crewmember. The

bear was never located; however, bear hair was collected from the den site for future DNA analysis.

Progress Meeting Project Objectives: We closed the fall seasons in 1995, 1996 and 1997 by emergency order because of the high proportion of females taken and the increasing trend in DLP mortality. During the March Board of Game meeting of 1997, the board shortened and moved the fall season to 15–31 October to provide more protection to female bears. From research results we learned that single adult female bears were at or in dens by 15 October. A late October season should direct harvest effort to males and subadults that have not started to den. High female harvests during the spring seasons in both 1997 and 1998 indicate we may want to reconsider the 1994 protocol. A late fall season may reduce the harvest of female bears.

Logging associated with the spruce bark beetle epidemic will continue to be the major factor affecting brown bear habitat on the Kenai Peninsula. Over 33,000 acres of new timber sales will be offered during regulatory year 1997–98. Additional federal, state, borough, and private forested lands are being planned for salvage logging in the future.

Project Location: Unit 8 (5,100 mi^2)
Kodiak and adjacent islands

Project Objectives: Maintain a brown bear population that will sustain an annual harvest of 150 bears comprised of at least 60% males.

Work Accomplished During the Project Segment Period: Working cooperatively with the US Fish and Wildlife Service (FWS), we conducted an aerial survey in the Sturgeon River area of southwestern Kodiak Island during May 1997. In 1991 a capture–mark–recapture (CMR) survey was completed in the same study area. We tried to duplicate the aerial survey method used in 1991 to determine possible trends in the bear population. We are currently analyzing data from this survey.

We issued hunting permits to 552 people, 243 fall permits and 309 spring permits. During the fall season, 193 hunters went afield and killed 53 bears. In the spring season 309 hunters went afield and killed 114 bears. The annual sport harvest was 167 bears, 121 males (73%), 45 females (27%), and 1 bear of unknown sex. Four bears, 3 males and 1 female, were killed in the new federal brown bear subsistence hunt. An additional 12 nonsport mortalities were documented as follows: defense of life or property - 6 (2 males, 2 females, 2 unknown sex); illegal - 2 (2 males); natural/unknown - 4 (4 unknown sex).

Progress Meeting Project Objectives: We did not meet our harvest objective of 150 bears. The 1996–97 sport harvest of 167 bears exceeded the annual harvest objective. Males composed 73% of the harvest, well above the minimum objective of 60% males.

Project Location: Units 9 and 10 (37,500 mi^2)
Alaska Peninsula and Unimak Island

Project Objectives: Maintain a high brown bear density with a sex and age structure that will sustain a harvest comprising 60% males with at least 50 males 8 or more years old taken during the combined fall and spring season.

Work Accomplished During the Project Segment Period: Three replicate stream surveys were attempted at Black Lake in 1997, but poor weather forced termination of 2 before completion. On the 1 complete survey, surveyors observed 136 bears. This compares with averages of 164 for 4 surveys in 1996 and 242 for 4 flights in 1995. Single bears composed 40% of 346 bears classified during the 3 flights.

The EVOS study of impacts of the 1989 oil spill evolved into a cooperative study between the department and the National Park Service to evaluate the population dynamics of a high-density, unhunted bear population. A manuscript on the effects of the oil spill was presented at the 11th International Conference on Bear Research and Management in April 1998, and a draft final report on the entire study was submitted to the National Park Service.

Preliminary tally of harvests for the 1997–98 regulatory year totaled 282 (64% males) for the fall and 265 (77% males). In the Naknek drainage, registration permittees killed 8 bears during the fall 1997 season (RB 361) and none during the spring 1998 (RB371). Both the fall and spring registration permit hunts in the Cold Bay road system area were closed by emergency orders when the quota of 2 bears was met.

On Unimak Island, drawing hunt permittees killed 9 bears during the fall 1997 season, including 1 by special governor's permit. Three bears have been reported from the spring 1998 hunt.

Progress Meeting Project Objectives: Preliminary harvest statistics from the 1997–98 seasons were within the desired range. The extrapolated bear population for areas open to hunting in Unit 9 was 5680, and harvests over the past 4 years represented a harvest rate of about 5%. Permit hunts were meeting their management objective.

Project Location: Unit 11 (12,800 mi^2)
Wrangell Mountains

Project Objectives: Maintain a brown bear population largely unaffected by human harvest, with annual harvest averaging less than 30 bears. Human-use objectives are to allow limited human harvests when they do not conflict with management goals for the unit or objectives for the population.

Work Accomplished During the Project Segment Period: We monitored the brown bear harvest in Unit 11 by sealing the hides and skulls of all bears killed. We interviewed hunters at the time of sealing to determine hunting method, means, and effort.

Preliminary harvest data for the 1997–98 season indicated 3 brown bears were killed in Unit 11, similar to last year's harvest of 2, but well below the previous 10-year average of 8 bears. The proportion of males (100%) in the harvest exceeded the 50% minimum in the management guidelines for brown bear harvest in this unit but with a harvest so low the sex ratio has no measurable effect on the bear population. Two bears were taken during the fall and 1 was taken during spring. The harvest total could increase after spring sealing certificates are processed. Local residents killed 2 bears and a nonlocal Alaskan resident took 1 bear. Successful hunters' transportation methods included walking, aircraft, and boat. These hunters reported spending an average of 4 days in the field.

Progress Meeting Project Objectives: Bear harvests in Unit 11 were much lower than the estimated sustainable harvest and did not have a negative effect on unitwide bear population. The proportion of males in the harvest exceeded the 50% minimum in the management guidelines for brown bear harvest in this unit. With only 5 bears taken during the past 2 regulatory years, the sex composition has no measurable effect on the Unit 11 bear population. Although population data for brown bears in Unit 11 were not available, staff and public field observations of bears suggested a relatively abundant and well-distributed population of brown bears. The low harvests of the past 15 years were attributed to increased restrictions on sport hunting and access for subsistence hunting by the National Park Service since 1979, when all of the unit was included in Wrangell–St. Elias National Park and Preserve. Recent federal regulations closed subsistence brown bear hunting in Unit 11.

Project Location: Unit 13 (23,400 mi^2)
Nelchina Basin

Project Objectives: Reduce current brown bear numbers in an attempt to increase moose calf survival to fall but maintain a minimum estimated brown bear population of 350 bears.

Work Accomplished During the Project Segment Period: We monitored the brown bear harvest by sealing the hides and skulls of all bears killed. Hunters were interviewed at the time of sealing to determine hunting methods, means, success, and effort.

Preliminary harvest data for the 1997–98 hunting season indicated 118 brown bears were taken by hunters. This preliminary figure was similar to last year's harvest of 123 bears and above the 1991–95 5-year average of 91. There were 112 bears (56% males) taken during the fall of 1997 and 6 (83% males) in the spring of 1998. This spring harvest figure could increase as sealing certificates were still being processed at the time of this report. Males composed 58% of the overall harvest. Unit residents killed 11 bears (9%), other Alaska residents took 84 (71%) animals, and nonresidents harvested 23 (19%) bears. During fall 3- and 4-wheelers were the most popular method of transport (32%), with aircraft next (23%), and highway vehicles (16%) third. Highway vehicles were the most prominent (50%) transportation method during the spring hunt, followed by snowmachines, boats, and walking (17% each). Skull size and age data of the harvested bears were not available at the time of this report.

During May 1998 a census was conducted in a 2150 km^2 portion of Subunit 13A west of Lake Louise. The preliminary estimate indicated a density of 21.3 (18–26, 95% CI) independent bears/1,000 km^2. This density is comparable to those previously obtained in the Upper Susitna River in Subunit 13E. Ward Testa, ADF&G research biologist, is preparing a complete report for the Unit 13A brown bear census.

Progress Meeting Project Objectives: Preliminary harvest figures for the 1997–98 season indicate the number of brown bears taken in Unit 13 decreased only 4% from the previous year's kill. During the last 2 regulatory years, the harvest approached record high harvests of the mid to late 1980s. The yearly harvest of males (n = 68) was higher than females (n = 50). Historically, females have composed a higher proportion of the bears taken in early September by hunters primarily seeking moose and caribou.

Determining a population trend and sustainable harvest rate for brown bears in Unit 13 has been difficult. Brown bear density estimates from 2 study areas in Subunit 13E varied. In accessible portions of 13E, bear density estimates declined. However, in more remote portions of 13E, density estimates showed no change. Recent brown bear harvests in Subunit 13E have exceeded calculated sustainable rates. Based on calculated population reductions in Unit 13 due to high harvests, we expected the recent density estimate to decline instead of indicating little or no change in bear numbers. In a heavily harvested portion of Unit 13A, the 1998 population estimate was also high. In another portion of Unit 13, increased harvests have apparently not reduced the brown bear population.

The brown bear season was lengthened by opening the season on 10 August, the bag limit increased to 1 bear a year, and the resident brown bear tag fee was eliminated in 1995. These changes were made to increase the brown bear harvest in Unit 13. The result of liberalized bear seasons and an increase in hunters and activity associated with the Tier I Nelchina caribou hunt is that fall brown bear harvests during 1996 and 1997 (97 and 112, respectively) are the highest on record. The sex distribution of the harvest during the past regulatory year favored males (63 males, 49 females during fall; 5 males, 1 female during spring) during both fall and spring seasons. Yearly harvests are again approaching those reported during the mid-1980s when liberal hunting regulations were also in effect. Since recent data indicate brown bears are still plentiful and estimated numbers are considerably higher than the minimum population objective (350), current regulations may not provide for high enough harvests to reach management objectives. I recommend extending brown bear season in the spring until 15 June. Hides will still be good and this extension should allow access into the high country after snow has melted.

Project Location: Unit 14 (6,600 mi^2)
Upper Cook Inlet

Project Objectives: Maintain a population of at least 150 brown bears. The human-use objective is to provide an opportunity for low level hunter harvest, not to exceed 8 bears when combined with defense-of-life-or-property (DLP) and illegal kills. Of these 8 bears, 3 or fewer should be adult females.

During this reporting period, we sealed 18 brown bears for all of Unit 14. Hunters killed 11 bears, 5 in Unit 14A and 6 in Unit 14B. The hunter harvest was 27% female bears, with 1 taken in spring and 2 taken during fall. Six bears (3 males, 3 females) were killed DLP, and 1 bear of unknown gender was killed illegally. Males composed 65% of the reported kill.

Progress Meeting Project Objectives: Human-use objectives were not attained; total harvest and female harvest both far exceeded the objective levels. We believe the Unit 14 brown bear population is at or above objective levels. We should monitor female harvest closely; if high harvests continue, season changes may be necessary to focus harvest on male bears. Bears killed illegally or DLP composed 37% of reported mortality. Educating the public on bear behavior and increasing public awareness that garbage, livestock, salmon streams, beehives, and dog food attract bears should be included in overall division objectives. The division should examine the feasibility of establishing a statewide bear management position to develop outreach materials and seek alternative funding options for outreach programs.

Project Location: Unit 16 (12,300 mi^2)
West side of Cook Inlet

Project Objectives: Maintain a brown bear population that is stable or slightly declining. The human-use objective is to allow optimum opportunity to hunt brown bears while allowing a 3-year average harvest of 50–60 bears with a maximum average of 18 females >2 years of age.

Work Accomplished During the Project Segment Period: During this period we sealed 44 brown bears for Unit 16. Hunters took 40 of these, including 5 bears in Unit 16A and 35 bears in Unit 16B. Females composed 47% of the hunter harvest. This included 2 females from Unit 16A and 17 females from Unit 16B. Ages of females were not available. Four bears (1 male, 2 females, and 1 of unknown gender) were killed in defense of life or property (DLP).

The 1995–97 average harvest (including DLP harvest) was 54.3 bears. If all females sealed this year were older than 2 years, the 3-year average would be 19.6 females >2 years old.

Progress Meeting Project Objectives: Status of the brown bear population in Unit 16 is uncertain. Many local residents believe the brown bear population is increasing. The human-use objective for total harvest was achieved primarily through a decline (relative to the past 2 years) in total harvest during this period. Three-year average harvests for females have been increasing, and this year the 3-year average female harvest exceeded the maximum desired level. Most (89%) female harvest occurred during the fall season. The spring harvest, which is typically comprised of male bears, has fluctuated greatly in recent years relative to snow and travel conditions. The number of DLP kills continues to remain high, an indicator of increasing conflicts with local residents and recreational users (primarily fishermen), or of increased reporting of these kills.

Project Location: Unit 17 (18,800 mi^2)
Northern Bristol Bay

Project Objectives: Maintain a brown bear population that will sustain an annual harvest of 50 bears comprising at least 50% males.

Work Accomplished During the Project Segment Period: Preliminary data indicate a reported harvest of 60 brown bears, including 37 males (62%) and 22 females (37%) during FY98. Average skull size was 22.0" for males and 20.0" for females. Nonresident hunters reported killing 38 bears (63%), nonlocal residents killed 8 bears (13%), and unit residents killed 12 bears (20%). Most successful hunters used aircraft for access (74%). The average hunt length for successful hunters was 4.9 days.

Fifty bears (29 males, 21 females) were killed during the fall 1997 season, and 10 bears (8 males, 1 female, and 1 unknown sex) were killed during spring 1998. Five bears (all males) were killed in Unit 17A, 33 (19 males, 14 females) in Unit 17B, and 22 (13 males, 8 females, 1 unknown sex) in Unit 17C.

Thirteen brown bears (7 males, 5 females, 1 unknown sex) were killed in defense of life or property and/or illegally during this reporting period. Two were killed in Unit 17A, 2 in Unit 17B, and 9 in 17C.

Progress Meeting Objectives: No objective data are available on the population density of brown bears in the unit. There is also a paucity of information on bears shot in defense of life or property and illegal kills. Subjective evidence suggests the unitwide population of brown bears is stable.

A joint ADF&G/U.S. Fish and Wildlife Service research project, started in 1992, was continued during this reporting period. The objectives of this project are to estimate bear densities, collect baseline population data, and to delineate habitat-use patterns for brown bears in portions of the Togiak and Yukon Delta National Wildlife Refuges (Units 17A and 18). Bears radiocollared in 1993 and 1994 were tracked at least twice per month. Twenty-five bears were recollared in June 1997. Observers from the Association of Village Council Presidents accompanied us during the recollaring operation.

In May 1997 Kellie Nolan, a graduate student for Humboldt University, initiated an investigation of the bears using the Dillingham dump. She spent the summer documenting bear use and drafting a bear management plan to be used when the City of Dillingham closes the existing dump and develops a new landfill facility.

Segment Period Project Costs:

	Personnel	Operating	Total
Planned	133.3	10.6	143.9
Actual	133.3	10.6	143.9
Difference	0.0	0.0	0.0

Submitted by:

Michael G. McDonald
Assistant Management Coordinator

Project Title: **Interior Grizzly Bear Population and Habitat Management**

Project Location: Unit 12 (9,978 mi^2)
Upper Tanana and White River drainages

Project Objectives and Activities:

1. Manage for an average annual harvest (3-year mean) of ≤ 24 bears consisting of ≥55% males in the harvest

2. Seal bears and analyze harvest data.

Work Accomplished During the Project Segment Period: Preliminary reported harvest was 8 grizzly bears, with 7 males (88%) and 1 female. All 8 were taken during the fall. Three were taken in the Mentasta Mountains along the Cheslina or Tetlin Rivers, and 4 were taken in the Nutzotin Mountains within the Chisana River drainage. Two bears were taken in defense of life or property: 1 in Tok (male, July 1997) and 1 in Chisana (female, June 1998). The average annual harvest during the past 5 years was 13.

Progress Meeting Project Objectives: Based on the estimated number of brown bears in Unit 12 (290–425), the sustainable harvest is 15–22 bears, of which 8 can be females. The 3-year mean harvest was 10 with 72% percent males, which meets the management objective. Harvest was excessive in the Nutzotin and Mentasta mountains and in the Tok River during the mid to late 1980s, causing localized population declines. The high percent of males in the harvest may be biased because of this situation if most of the legal bears were young males dispersing into the area. During the next year, I will be examining the harvest age structure by area. The population was probably stable at a lower level than in the 1970s because most of the area is difficult to access and seldom used for grizzly bear hunting. Future harvest in Unit 12 is expected to remain between 10 and 20 bears, unless there is a change in hunter access.

I recommend continuing the existing population and harvest objectives for Unit 12 brown bears.

Project Location: Unit 19 (36,486 mi^2)
Kuskokwim River drainages upstream from the village of Kalskag

Project Objectives and Activities:

1. Manage grizzly bear populations to provide a mean annual harvest of 30 bears with a minimum of 50% males in the harvest.

2. Increase legal harvests of grizzly bears in and around villages, fish camps, and other human habitations during open seasons to reduce human–bear conflicts during closed seasons.

3. Monitor harvest, seal bears, and analyze harvest data.

Work Accomplished During the Project Segment Period: Harvest data were not compiled. The Board of Game liberalized grizzly seasons and bag limits in Unit 19D.

Progress Meeting Project Objectives: We could not evaluate our harvest objectives because data were not compiled. However, indications were positive. We probably met our objective to increase the legal harvest of grizzly bears in Unit 19D. The Board of Game eliminated the tag fee and made the bag limit 1 bear per regulatory year. However, they did require in-unit sealing. We met our objective to monitor harvest by sealing harvested bears.

Project Location: Units 20A, 20B, 20C, 20F, and 25C (39,228 mi^2)
Central and lower Tanana Valley and Middle Yukon River drainages

Project Objectives and Activities:

Unit 20A Mountains

1. Decrease harvest rates until at least 1997 by managing for a 3-year mean annual (calendar year) harvest of no more than 3% of the adult females (≥6 years old), and no more than 6% of the grizzly bears ≥2 years old.

2. Cooperate with a research project (W–24–1, Study 4.25) having these objectives:

   a. To determine the recovery or stabilization time for a reduced grizzly bear population following reductions in human-caused mortality rates.

   b. To measure the recovery responses in the dynamics of the population, especially female population size, total population size, and production and survival of offspring.

Unit 20B East (east of a line drawn north from Fairbanks through Haystack Mountain)

Manage total human-caused grizzly mortality to provide a stable population with a 3-year mean annual (calendar year) harvest of up to 6 bears ≥2 years old, with an average of at least 55% males in the harvest by hunters.

Unit 20A Flats, 20B West, 20C, 20F, and 25C combined

1. Manage harvest to provide stable grizzly bear populations with a 3-year mean annual (calendar year) human-caused mortality of up to 26 grizzly bears ≥2 years old, with an average of at least 55% males in the harvest by hunters.

2. Manage the 3-year mean annual (calendar year) grizzly bear harvests from individual areas with the following quotas: 3 from Unit 20A Flats, 3 from Unit 20B West, 7 from Unit 20C, 7 from Unit 20F, and 6 from Unit 25C.

All Subunits

Minimize human–bear conflicts by providing information and assistance to the public and agencies.

Work Accomplished During the Project Segment Period: To evaluate our objectives, we examined harvest by calendar year, rather than regulatory year, to avoid combining age data from several cohorts. Teeth were sent to a lab for age determination. Sex was determined at the time of sealing, as well as location and timing of the harvest.

We provided public information and assistance to minimize human–bear conflicts. We investigated and recorded human–bear conflicts and kills made in defense of life or property.

Progress Meeting Objectives

Unit 20A Mountains: Age data was not available. However, we probably did not meet our objective to reduce harvest rate. Specifically, harvest of adult female bears exceeded objectives. Nonetheless, population estimates from the associated research project indicated the population was responding to the reduced season length, albeit more slowly than anticipated (Reynolds ADF&G).

Unit 20B East: Recent harvest was higher than recorded in previous years. However, depending on the results of tooth age analyses, we may continue to meet our objectives.

Units 20A Flats, 20B West, 20C, 20F, and 25C: Harvest from these units indicated we were easily meeting objectives for this area.

We discussed the objective for harvest rates in the Unit 20A Mountains during the 1998 spring Board of Game meeting. The shortened season will stay in place until bear numbers fully recover and harvest of adult females is within objectives.

Project Location: Unit 20D (5,633 mi^2)
Central Tanana Valley near Delta

Project Objectives and Activities:

1. Harvest 5–15 bears per year.
2. A minimum of 60% of harvested bears should be males.
3. Seal bears killed in the unit and record pertinent data.

Work Accomplished During the Project Segment Period: Grizzly bears killed in Unit 20D were sealed and data regarding hunting method, means, and effort was collected. Preliminary reported harvest included 8 bears taken legally by hunters and 1 bear killed by collision with a

highway vehicle. Five bears (3 males and 2 females) were taken legally south of the Tanana River. One male was killed because it was a nuisance bear. The highway mortality was a female killed in southern Unit 20D. Three bears (2 males and 1 female) were taken north of the Tanana River.

Progress Meeting Project Objectives: Bears killed by hunters were sealed and the data analyzed. Harvest objectives were met for number of bears killed and percent males in the harvest.

Project Location: Unit 20E (10,681 mi^2)
Charley, Fortymile and Ladue River drainages

Project Objectives and Activities:

1. Manage to effect temporary reductions in the grizzly bear population or extent of bear predation where bear predation is limiting moose population growth (e.g., fall calf:cow ratios <30:100).

2. After moose populations increase to desired levels, reduce bear harvests to stop or reverse bear population declines.

Work Accomplished During the Project Segment Period: Preliminary reported harvest was 11 grizzly bears (7 males and 4 females). This was below the 5-year average of 17 bears. Males represented 64% of the harvest. All 11 bears were taken in the fall. No bears were taken in defense of life or property. We continued to monitor moose calf survival in areas that historically received the greatest bear harvest and in areas where bear harvest was well below sustainable level. These areas were compared to see if we could detect differences that could be attributed to lower grizzly bear numbers due to harvest.

Progress Meeting Project Objectives: Historically, most of the grizzly bear harvest occurred in the central portion of the subunit but was always below sustainable until 1981. In 1981, bear harvest regulations were liberalized and an intensive hunter awareness campaign implemented. The objective of the program was to reduce the unit's grizzly bear population by increasing grizzly bear harvest to improve moose calf survival. Harvest density in the central portion of the unit ranged between 1.92 and 4.35 bears/1,000 mi^2 since 1981 and averaged 3.34 between 1982 and 1994. The bear population declined by an estimated 38% during that period. In the remainder of the unit, the harvest density averaged 0.17/1,000 mi^2 and harvest probably had little effect on population trend. Since 1994 grizzly bear harvest has been within sustainable limits throughout the unit because harvest became more dispersed as more outfitters and guides began to use remote areas. Population trend was probably stable at 440–500 bears.

Harvest and the percent males in the harvest during the past 3 years averaged 18 bears and 55%, respectively. Within the central portion of the unit, harvest composition indicated an over-harvested population, which meets the short-term population objective. Hunter interest in

hunting this area has waned due to reduced chance of success. Through public contact, we attempted to distribute hunters more evenly throughout the unit and to shift some of the fall pressure to the spring season. We were more successful in distributing harvest than attracting more spring bear hunters. Access to suitable hunting areas is difficult during the spring. Most successful hunters used aircraft to access the unit. Most hunters are not willing to pay present rates to charter an airplane to hunt grizzlies in Unit 20E.

We evaluated effects of the grizzly bear population reduction in the central portion of the unit on moose calf survival. The estimated 38% reduction of the bear population did not result in an increase in moose calf survival. We are now evaluating the possible effects of a low-density moose population, few alternate prey, and wolves on the bear population reduction necessary to benefit moose calf survival. I recommend we continue the liberal season and bag limits for 2 more years to further investigate effects of a harvest-caused bear reduction on calf survival. If by 2000 we find this method does not work adequately under the environmental conditions in Unit 20E, we will recommend more restrictive grizzly bear harvest regulations, perhaps based on a maximum allowable harvest of females.

I recommend continuing the existing population and harvest objectives for Unit 20E brown bears.

Project Location: Unit 21 (43,925 mi^2)
Middle Yukon River, including the lower Koyukuk, Innoko, Nowitna, and Melozitna rivers

Project Objectives and Activities:

1. Manage a grizzly population that will sustain a minimum annual harvest of 10 bears.
2. Monitor harvest, seal bears, and analyze harvest data.
3. Reduce nuisance bear interactions and the unreported harvest of those bears at fish camps during summer by increasing the legal harvest during the open season.
4. Visit schools and fish camps to educate people on bear conservation.

Work Accomplished During the Project Segment Period: Four males and 1 female bear were taken under big game tags in the fall. Reporting of bears taken in defense of life or property is usually poor in the unit, and 3–5 additional bears may have been taken but not reported.

We made progress on unreported harvest through conservation education during visits to villages. We issued permits for hunting within the Northwest Alaska Brown Bear Management Area (which includes Unit 21D). Participation and harvest information is reported under Unit 23.

Progress Meeting Project Objectives: Management was based on harvest data. Minimal progress was made on changing the objectives and activities for the unit.

Project Location: Unit 24 (26,055 mi^2)
Koyukuk River drainage upstream from the Dulbi River

Project Objectives and Activities:

1. Manage the grizzly population to sustain a maximum annual harvest of 18 bears in the northern portion of the unit and a maximum harvest of 13 bears in the remainder of the unit.

2. Monitor harvest, seal bears, and analyze harvest data.

3. Reduce nuisance bear complaints, increase sealing compliance, and reduce the unreported harvest of bears in the unit.

4. Visit schools and fish camps to educate people on bear conservation.

5. Determine bear density throughout the unit.

6. Work with U.S. National Park Service and U.S. Fish and Wildlife Service to initiate a survey plan if funding is available.

Work Accomplished During the Project Segment Period: No funding was available to survey bears in the unit. Six male and 2 female bears were harvested under big game tags. One bear was taken in defense of life or property. Seven of the bears were taken in the northern portion of the unit. All bears were taken during fall.

We made progress on unreported harvest through conservation education during visits to villages. We also issued permits for hunting within the Northwest Alaska Brown Bear Management Area. Participation and harvest information is reported under Unit 23.

Progress Meeting Project Objectives: Management was based on harvest data, and harvests were below unit objectives. We made no progress in determining bear density. However, we did make progress on unreported harvest through conservation education during school visits and reauthorization of regulations allowing for subsistence use of bears under the Northwest Arctic Bear Management system.

Project Location: Units 25A, 25B, and 25D (47,968 mi^2)
Upper Yukon River valley

Project Objectives and Activities: Evaluate the effect of liberalized nonresident seasons on the brown bear harvest in Unit 25A.

1. Communicate with guides to assist them in voluntarily maintaining a harvest in Unit 25A that does not exceed the sustainable harvest of 29 bears while maintaining a minimum of 60% males in the harvest.

2. Monitor harvest, seal bears, and analyze harvest data.

Work Accomplished During the Project Segment Period: Final harvest figures were unavailable for Units 25A, 25B, and 25D, but harvest levels were probably well below the maximum. The Board of Game approved a proposal to eliminate the permit requirement for nonresidents in regulatory year 1994–95. The permit requirement was replaced with increased communication with guides to prevent overharvest. This approach worked, and the 1994–95,1995–96 and 1996–97 harvests were well within sustainable limits. We sent a letter detailing the status of harvest relative to limits to all guides following the fall 1995 season and continued to keep guides informed of the status of bear harvests relative to objectives. Brown bears continued to be abundant and were lightly harvested throughout the area.

In March 1998 the Board of Game modified hunting regulations for Unit 25D. They changed the bag limit from 1 bear per 4 years to 1 bear per year, eliminated the resident tag requirement for brown bears, and instituted a requirement for in-unit sealing. This regulation will require additional harvest monitoring for ADF&G.

Progress Meeting Project Objectives: The population harvest objective was consistently met during the past 5 years. We revised population estimates, but no large-scale enumeration efforts were possible. We made progress in simplifying hunting regulations, maintaining open lines of communication with guides, and building a more appropriate management program commensurate with bear population status. The existing project objectives and activities are suitable for the next fiscal year.

Project Location: Units 26B and 26C (25,788 mi^2)
Eastern North Slope of the Brooks Range

Project Objectives and Activities:

1. Communicate with guides to assist them in voluntarily maintaining a harvest of 13 bears or less in Unit 26B and 19 bears or less in Unit 26C, while maintaining a minimum of 60% males in the harvest.

2. Monitor harvest, seal bears, and analyze harvest data.

Work Accomplished During the Project Segment Period: Final harvest figures were unavailable for Units 26B and 26C. The fall harvest was well within harvest goals in Unit 26C but exceeded the quota in Unit 26B for the second year. The drawing permit system for nonresidents in Unit 26B was eliminated in regulatory year 1996–97 because of an anticipated reduction in hunting pressure associated with a dramatic decline in the north slope moose population. However, the average harvest during the 2 subsequent years exceeded the harvest quota. We proposed restoring the original season opening date of 1 September (rather than 20 August) and reinstating the nonresident permit system. This regulation change was approved and will take effect in the 1998–99 regulatory year.

Major activities during this period included monitoring the fall 1997 harvest, advising guides on the status of harvest relative to sustainable levels, and developing information and consulting with the public regarding proposals relating to Unit 26B bear hunting regulations.

Progress Meeting Project Objectives: The population harvest objective in 26C has been consistently met during the past 5 years. Population estimates have been revised, but no large-scale enumeration efforts were possible. We made substantial progress in opening lines of communication with guides and building a management program commensurate with bear population status. The harvest objective in Unit 26B was not met and regulatory measures were enacted to reduce future harvests. A suggested additional objective for the coming year is to monitor fall harvest in Unit 26B and provide an interim report to the Board on the effectiveness of the new regulation in reducing harvest.

Segment Period Project Costs:

	Personnel	Operating	Total
Planned	61.3	9.6	70.9
Actual	35.8	12.5	48.3
Difference	25.5	-2.9	22.6

Explanation: During the last seven months of this report period, Region III staff initiated a new time accounting procedure. In December 1997 staff began recording time spent on specific federal aid projects. Previously, staff had recorded only total time that was then prorated to either federal aid or nonfederal aid time, according to a fixed percentage that varied among staff positions. Therefore, the "Actual" expenditures for "Personnel" in this report are estimates derived from seven months of specific project time extrapolated to 12 months. The new procedure unavoidably caused substantial discrepancies between "Planned" and "Actual" personnel expenditures for most of the FY98 federal aid projects. However, most of these "discrepancies" are not real, and the explanation and justification are presented in the explanation section of each individual project report. This is a transitional phenomenon and, unlike this year, the FY99 performance reports will reflect a full 12 months of actual project time accounting.

Personnel: Funds were apparently underspent. Much grizzly bear management work occurs during the first half of the calendar year (spring and early summer). Therefore, the estimated expenditure in this case may be fairly accurate. If it is accurate, it may reflect a general over-estimate of the amount of time staff typically spend on gizzly bear survey and inventory activities, especially in years when management reports are not due, which was the case this year. This issue will be addressed in the current fiscal year.

Submitted by:

Roy A. Nowlin
Regional Management Assistant

David D. James
Management Coordinator

Project Title: **Western Alaska Brown Bear Population Management**

Project Location: Unit 18 (42,000 mi^2)
Yukon–Kuskokwim Delta

Project Objectives:

1. Maintain brown bear populations at existing densities in Unit 18.

   a. Monitor harvests through the sealing program, the Western Alaska Brown Bear Management Area (WABBMA) registration system, and contacts with the public.

   b. Improve compliance with bear harvest reporting requirements.

   c. Improve information about brown bear populations and densities in Unit 18 through a cooperative capture–recapture research project with the U.S. Fish and Wildlife Service (FWS) and the Bureau of Land Management (BLM) in the Kuskokwim Mountains.

2. Minimize adverse interactions between bears and the public.

3. Develop updated population management objectives through cooperative planning with the public and other agencies.

Work Accomplished During the Project Segment Period: We contacted local residents to explain hunting season dates and bag limits, bear tag fees and sealing requirements, and other regulations for brown bears in Unit 18. We discussed brown bear management and improvements in harvest reporting by local residents at public meetings. Community leaders, hunters, and law enforcement personnel were contacted in an effort to minimize bear–human conflicts at camps and landfills. We sealed harvested bears and compiled hunting data from subsistence hunters' reports.

Formal and informal meetings occurred among representatives of the Association of Village Council Presidents (AVCP), FWS, Subsistence Division, local Advisory Committees, and local IRA councils to discuss the WABBMA subsistence brown bear registration permit system, improving our harvest information, liberalization of seasons and bag limits, and the continuation of the cooperative brown bear research project.

The department, FWS, and BLM continued the cooperative brown bear radiocollaring project. Animals have been tracked since 1993 to determine seasonal movements, estimate productivity, and develop density estimates for the area south of the Kuskokwim River. An effort was made in cooperation with the department, FWS, and BLM to conduct a modified version of a density estimate, but the small number of radiocollars, the late emergence of some bears from hibernation, and poor flying weather prevented us from obtaining a useful estimation.

Progress Meeting Project Objectives: Public notices about bear/landfill problems have improved public awareness of the need to clean up these areas.

Public announcements, village meetings, and instructions to license vendors emphasizing the need to purchase resident bear tags or obtain WABBMA registration permits have improved compliance with hunting regulations. Allowing subsistence hunters to register for permits in lieu of the $25 tag and sealing requirements was initially very successful. It is hoped that use of these permits, along with elimination of the tag fee and sealing requirements in the WABBMA, will make regulations less intrusive to subsistence hunters and improve our ability to gather harvest information.

Harvest records from the 1997–1998 regulatory year indicate that 0 bears were reported taken to date by 41 registered hunters in the WABBMA and 4 bears were sealed under the general hunting regulations. Harvest data for the 1997–1998 season will not be finalized until each hunter returns a harvest survey postcard.

Project Location: Unit 22 (25,230 mi^2)
Seward Peninsula and the adjacent mainland drained by all streams flowing into Norton Sound.

Project Objectives:

1. Maintain a stable brown bear population in Unit 22.
   a. Assess harvest through the sealing program.
   b. Collect specimens as needed from hunter-killed bears.
   c. Improve compliance with bear harvest reporting.
2. Minimize adverse interaction between bears and the public.
3. Develop updated management objectives in consultation with the public, interested local organizations, and other agencies.

Work Accomplished During the Project Segment Period: Known human-induced mortality during the reporting period was 66 bears. Hunters killed 25 bears (13 males, 12 females) during fall 1997, and 34 bears (25 males, 9 females) during spring 1998. Seven bears (3 males, 4 females) were taken in defense of life or property (DLP) during the reporting period.

The average yearly harvest, including DLPs, for the last 8 years is 54 bears. The higher than average harvest in 1997–1998 probably resulted from heavy snow fall in April and early May which allowed easy access by snowmachine to bears late in the season. The location and chronology of reported harvest is listed on the next page.

	Fall 1997		Spring 1998		
Unit	Males	Females	Males	Females	Harvest
22A	7	3	6	0	16
22B	2	5	10	5	22
22C	2	1	2	2	7
22D	2	3	4	2	11
22E	0	0	3	0	3
DLP	1	3	2	1	7
Total	14	15	27	10	66

Local residents from Unit 22 took 52% of the reported harvest; Alaska residents from outside Unit 22 and nonresidents were responsible for 7% and 41% of the harvest, respectively. Six nonresidents applied for 12 fall 1997 drawing permits for hunting in Units 22B, 22C, 22D and 22E. The remaining 6 were taken over the counter at the Nome Fish and Game office. Twenty-one nonresidents applied for 13 spring 1998 drawing permits.

Observations by staff and residents of Unit 22 indicate that brown bear numbers are increasing throughout the unit. Reports of bear encounters, complaints about nuisance bears, and bears taken in defense of life or property have increased. In October 1997 the Board of Game approved 2 regulatory changes, recommended by the department, that increase bear hunting opportunity in Unit 22. Unit 22, except for Unit 22C, was included in the Northwest Alaska Brown Bear Management Area, which allows subsistence hunters to harvest 1 bear per regulatory year for food from 1 September through 31 May by registration permit. Also, the season for general and drawing permit hunts was lengthened to run from 1 September through 31 May, except in Unit 22C, where the season remains 1 September through 31 October and 10 May through 25 May. These changes went into effect 1 July 1998.

Staff and Wildlife Protection worked with Village Public Safety Officers and village representatives to explain defense of life or property regulations and to encourage the use of deterrents such as rubber bullets or cracker shells to drive bears away from villages. As in past years, considerable time was spent answering questions from the public, writing newspaper articles, and mailing information and regulatory materials.

Bears were sealed at the office in Nome, often after normal business hours, and when we traveled to surrounding villages. A bear sealing agent in Unalakleet seals bears taken in the southeastern portion of Unit 22. The Shishmaref Tannery was set up as a bear sealing agent in Unit 22E and arrangements have been made to establish a bear sealer in White Mountain before the 1998–1999 season.

Progress Meeting Project Objectives: We have made limited progress in reducing bear–human interactions. People are becoming more conscientious about keeping clean camps to decrease the likelihood of bear damage and some are effectively bear-proofing their camps. Village dumps

and traditional food storage practices continue to lure bears into villages, but many communities have reported the problems and dealt with them lawfully.

Efforts to inform the public of the importance of wildlife conservation and the need for regulations have been effective in some communities; the number of individuals purchasing licenses and bear tags has increased. Additional contact with local residents, particularly village residents, is necessary to increase compliance with current bear hunting regulations.

Development of a brown bear management plan with updated population objectives has not been undertaken. We will continue to use comments from the public and other agencies and data from our previously completed bear study to update objectives for Unit 22.

Project Location: Unit 23 (44,000 mi^2)
Kotzebue Sound and Western Brooks Range

Project Objectives:

1. Maintain a minimum brown bear density of one adult bear per 25.7 mi^2 in the Noatak River drainage.

2. Improve the accuracy of harvest information.

Work Accomplished During the Project Segment Period: We continued to provide information on the subsistence brown bear season to local hunters and actively collected harvest data from participants. In 1996–1997, 102 hunters registered in the Northwest Alaska Brown Bear Management Area (NWABBMA) subsistence hunt. All but 19 applicants lived in the management area. Eighty-four hunters reported a total harvest of 6 bears (5 males, 1 female). Hunters expressed support for continuing this hunt when asked as part of their harvest report. We are currently collecting harvest data for the 1997–1998 subsistence hunt, which will be reported, in our 1998–1999 report.

Twenty-eight nonresidents applied for 18 fall 1997 drawing permits. Two people applied for 7 spring 1998 drawing permits. We issued the remaining 5 permits over-the-counter in Kotzebue. Staff monitored hunter success in the general and drawing permit hunts through sealing requirements. The fall and spring 1997–1998 brown bear general season and permit hunt harvest summary follows:

	Fall 1997				Spring 1998			
	Male	Female	Unk	Total	Male	Female	Unk	Total
Local resident	2	1	1	4	4	1	0	5
Nonlocal resident	6	3	0	9	0	0	0	0
Nonresident	3	2	0	5	3	0	0	3
DLP/accidental	2	0	0	2	0	0	0	0
Total	13	6	1	20	7	1	0	8

The Board of Game received several proposals from the public to increase the harvest of brown bears in Unit 23. The Board adopted an increase in the spring nonresident drawing hunt, from 7 to 18 permits, to be effective Spring 1999.

Progress Meeting Project Objectives: Incidental observations by department staff and reports from local residents and hunters indicate brown bear numbers in Unit 23 may have stabilized at relatively high levels.

Project Location: Unit 26A (53,000 mi^2)
Western North Slope

Project Objectives and Activities:

1. Maintain brown bear population at existing levels in Unit 26A.
2. Monitor harvest through the statewide sealing program, the Northwest Alaska Brown Bear Management Area (NWABBMA) registration system, and contacts with the public.
3. Minimize adverse interactions between bears and the public.
4. Develop updated population management objectives in consultation with the public and other agencies.
5. Liberalize harvest by nonresident hunters and simplify paperwork by replacing the permit system with a quota system, which will be dependent on cooperation with guides.

Work Accomplished During the Project Segment Period: In 1992 we completed a mark–recapture census in the Utukok and Kokolik drainages in Unit 26A West (west of 159^0 W longitude) using radiocollared bears as the "marked" animals. From this census we estimated a density of 7.7 bears/100 mi^2 and a 95% CI of 7.3 to 8.2 bears/100 mi^2.

Using the 1992 density estimate, the current population estimate for bears in Unit 26A is 900 to 1120 bears; we estimate 400 bears are in Unit 26A West and 500–720 in Unit 26A East. This represents an increase from the pre-1987 population estimate of 645 to 780 bears (Trent 1989).

During the 1997–1998 season hunters reported harvesting 20 bears, 16 in the fall and 4 during spring. Fourteen bears were harvested in Unit 26A East (East of 159^0) and 6 in Unit 26B West. Hunters harvested 13 males (65%) and 7 females (35%). North Slope residents harvested 1 bear, nonlocal residents harvested 1 bear, and nonresidents harvested 18 bears. Eleven bears were harvested during August, 5 during September, and 4 during May. For transportation, 18 hunters used aircraft, 1 used a snowmachine, and 1 walked. For a sample of 17 hunters, the mean number of days per hunt was 4.8.

We distributed information through the media describing safe camping practices, handling food and garbage, and the correct procedures for handling problem bears. We placed posters and pamphlets on bear safety in public locations.

Progress Meeting Project Objectives: Since nonresident permit hunting had been undersubscribed and the harvest of bears in Unit 26A had been well below maximum sustained yield, the Board of Game discontinued the nonresident drawing permit hunts in Unit 26A by replacing them with a 2-year quota hunting system. In this system, if hunters exceed the maximum allowable harvest during the first year, the allowable harvest for the second year will be reduced by the quota excess during the first year. Allowable harvests will be based on current bear population estimates. The 2-year quota system will depend upon good communication and cooperation between the department and guides.

If we assume that safe harvest limits should not exceed 5% of the population, the allowable sustained yield for Unit 26A is approximately 51 bears. The reported brown bear harvest for 1997–1998 of 20 bears is well within this allowable limit. Even if unreported harvest is as high as 50% of the reported harvest, the total estimated harvest of 38 bears would still be within safe harvest limits. The reported harvests in Unit 26A East (14 bears) and Unit 26A West (6 bears) are well below the allowable limits of 31 and 20, respectively. Sealing certificates indicate the bear harvest in Unit 26A (20 bears) was well below the average number of bears harvested since 1990 ($\bar{x}$ = 26.6 bears).

It is surprising that since hunting regulations were liberalized in 1996, the harvest continues to be much lower than the average harvest with more restrictive seasons. This might be explained by the lack of a concurrent moose season and hunters that would have harvested bear as a second hunt while primarily hunting moose. Eliminating the drawing permit system has reduced paperwork and time spent administering the hunt and has not led to overharvest. We will continue communicating with guides, urging them to limit their harvests and to be selective toward males.

There were no serious adverse encounters between brown bears and the public reported for Unit 26A during the segment period. The information distributed to the public on bear safety seemed to be well received.

Segment Period Project Costs:

	Personnel	Operating	Total
Planned	26.3	6.8	34.1
Actual	26.3	1.3	27.6
Difference	0.0	5.5	5.5

Literature Cited

TRENT, JN. 1989. Unit 26A brown/brown bear survey–inventory progress report. Pages 174–184 *in* S. O. Morgan, ed. Annual report of survey–inventory activities, 1987. Vol. XIX, Part V. Alaska Dep Fish and Game. Federal Aid in Wildlife Restoration Progress Report Grant W-23-1, Study 4.0. Juneau. 189pp.

Submitted by:

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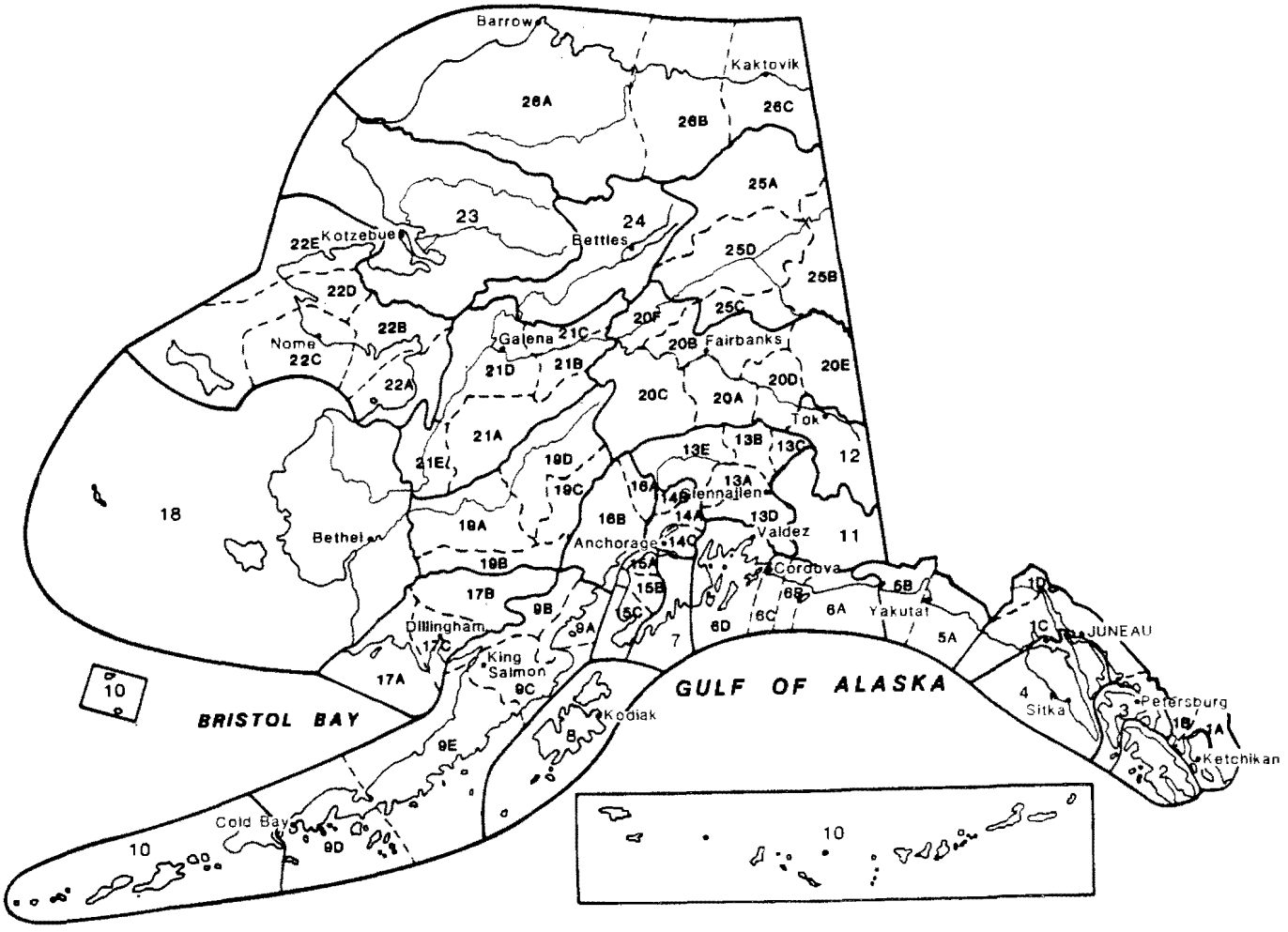
Alaska's Game Management Units



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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 attitu for responsible hunting. Seventy-five percent of the funds for this report are from Federal Aid.

Ken Whitten
U.S. Fish & Wildlife Service

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