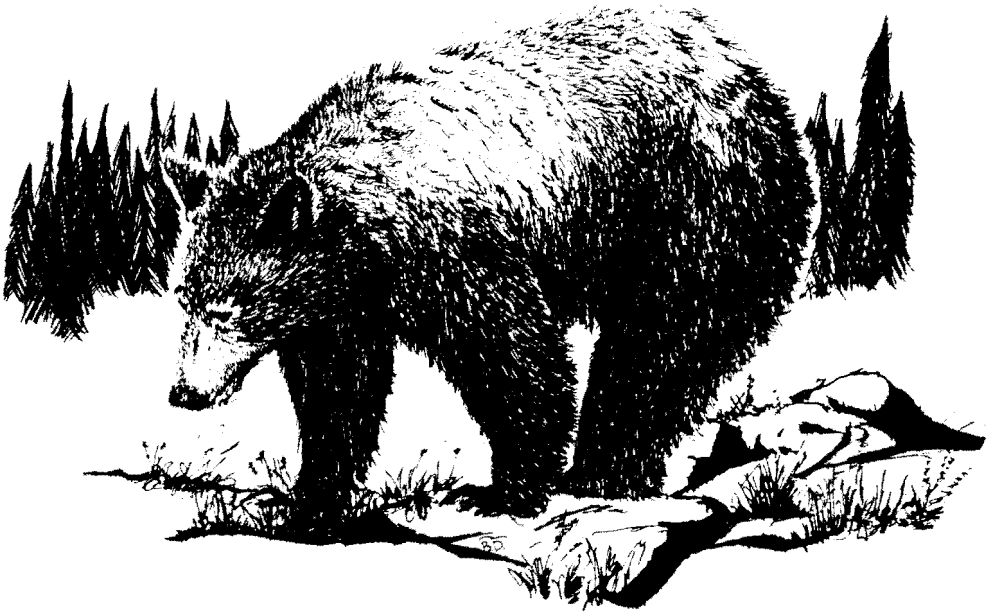
Alaska Department of Fish and Game
Division of Wildlife Conservation
Federal Aid in Wildlife Restoration
Annual Performance Report of
Survey-Inventory Activities
1 July 1989-30 June 1990

BLACK BEAR



Compiled and edited by
Sid O. Morgan, Publications Technician
Vol. XXI, Part IV
Project W-23-3, Study 17.0
February 1991

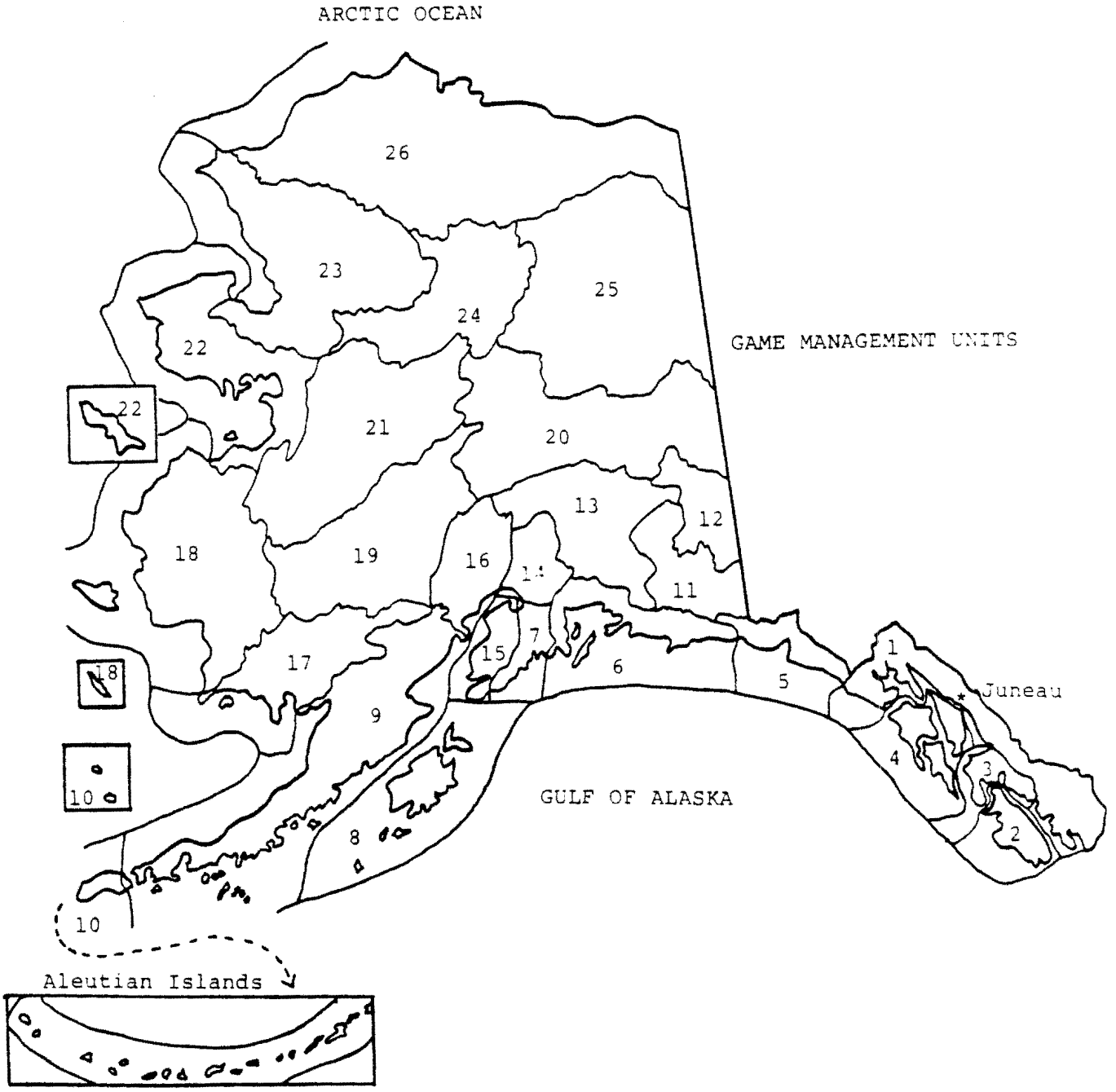
STATE OF ALASKA
Walter J. Hickel, Governor

DEPARTMENT OF FISH AND GAME
Don W. Collinsworth, Commissioner

DIVISION OF WILDLIFE CONSERVATION
W. Lewis Pamplin, Jr., Director
Wayne L. Regelin, Deputy Director

Additional copies of this report, or reports on other species covered in this series may be obtained from:

Publications Technician
ADF&G, Wildlife Conservation
P.O. Box 3-2000
Juneau, AK 99802
(907) 465-4190


ARCTIC OCEAN
26
23
25
24
22
GAME MANAGEMENT UNITS
22
21
20
13
12
18
19
16
14
11
17
15
7
1
18
6
5
Juneau
9
4
3
10
GULF OF ALASKA
8
2
10
Aleutian Islands

PROJECT TITLE: Southeast Black Bear Population Management

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

PROJECT LOCATION: Units 1A and 2 (8,900 mi^2)
Ketchikan area including mainland areas draining into Behm and Portland Canals and Prince of Wales and adjacent islands south of Sumner Strait and west of Kashevarof Passage and Clarence Strait

PROJECT OBJECTIVES:

To maintain an average skull size of at least 17.2 inches for males harvested in the spring.

To maintain average spring skull sizes for males of 19.1 inches or 18.8 inches for all males taken in 1 year.

WORK ACCOMPLISHED DURING THE PROJECT SEGMENT PERIOD:

A total of 52 black bears in Unit 1A were sealed during 1989; 178 bears were sealed from Unit 2. Skulls were measured, sex identified, and hunter data collected from most of the bears presented for sealing. Anecdotal information was collected through discussion with hunters and ADF&G field workers as well as from incidental observations during other field activities. Some time was devoted to solving problems associated with bears and garbage.

PROGRESS TOWARDS MEETING PROJECT OBJECTIVES:

In Unit 1A skull measurements have not changed significantly in 15 years; the objective (17.2 inches) for male bears taken in the spring has been easily met; the 1989 average was 18.5 inches ($\underline{N}$ = 32), the largest one in the past 5 years.

In Unit 2 skull measurements have also not changed significantly in 15 years; the spring objective (19.1 inches) for males was also met; the 1989 average was 19.5 inches ($\underline{N}$ = 67). The average for males was 19.3 inches ($\underline{N}$ = 83).

Sex ratios were high toward males. In Unit 1A, 94% of the spring harvest were males, typical of past spring seasons. In Unit 2, 83% of the spring harvest were males.

The harvest represented about 1% of the estimated 5,600 bears within Unit 1A and about 4% of the estimated 5,100 bears within Unit 2. From hunter contacts and observations by ADF&G personnel, it appears the bear population in these units was stable or increasing slightly.

PROJECT LOCATION: Unit 1B and 3 (5,900 mi^2)
Southeast Mainland from Cape Fanshaw to Lemesurier Point and islands of the Petersburg, Kake and Wrangell area

PROJECT OBJECTIVES:

To 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 233 bears were sealed from the 2 units. 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:

Twenty-four and 209 black bears were killed in Units 1B and 3, respectively. In Unit 1B the sex ratio was 4 males:1 female and the average male skull size was 18.3 inches. For Unit 3 the total harvest was 209; the sex ratio was >4 males:1 female. The average male skull size in Unit 3 was 18.4 inches.

More nonresident hunters were recorded than those for the previous year; more guided hunters were also recorded. Thirty-two hunters killed the second allowable bear. Of the 17 hunters that responded to the question "How many bears did you pass before killing this one", the average answer was three, suggesting that hunters in these areas had been selecting for larger bears.

Black bear populations continued to be high throughout Units 1B and 3. Hunting pressure was very high on Mitkof Island and some of the bays on Kuiu Island. The harvest on Mitkof Island in Unit 3 equalled the population objectives for sex ratio and male skull size.

The numbers of bears harvested each year has increased dramatically during the last 3 years, primarily because of increased nonresident participation. The Board of Game approved

a reduction in the bag limit to 1 bear for nonresident hunters beginning in July 1990. This should reduce the harvest by about 5-10%.

PROJECT LOCATION: Unit 1C (7,600 mi^2)
The southeast Alaska mainland and the islands of Lynn Canal and Stephens Passage lying between Cape Fanshaw and the latitude of Eldred Rock, including Sullivan Island and the drainages of Berners Bay.

PROJECT OBJECTIVES:

To maintain a mean skull size of at least 17.3 inches for males and a male:female harvest ratio of 3:1.

To reduce by 50% the number of nuisance bear problems resulting from improper refuse handling and disposal.

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. Additional information was solicited from hunters and other observers.

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.

Problem black bears involved in garbage-related incidents were captured and radio-collared to monitor the effects of both chemical and physical deterrents. A cooperative research project between ADF&G and the University of Alaska-Fairbanks was initiated in 1989 to determine the value of such deterrents in reducing bear-garbage incidents. 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 Unit 1C were met. Skull sizes for males averaged 17.8 inches, and males composed 85% of the harvest (>3:1 males:females). Nuisance bear problems have been reduced for the 3rd consecutive year, and only 1 bear was killed in a garbage-related action. Two bears were killed under DLP provisions.

PROJECT LOCATION: Unit 1D (2,700 mi^2)
That portion of the southeast Alaska mainland lying north of the latitude of Eldred Rock, excluding Sullivan Island and the drainages of Berners Bay

PROJECT OBJECTIVES:

To maintain a population capable of sustaining an annual harvest of at least 25 black bears.

WORK ACCOMPLISHED DURING THE PROJECT SEGMENT PERIOD:

Harvest data were collected 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:

For the 2nd consecutive year black bear harvests and male skull sizes have declined in Unit 1D; however, males continued to make up the majority of the harvest (90%), and the number of days required to harvest a bear (3.7 days) was similar to the 5-year mean. Harvest parameters and anecdotal information from area residents suggested that this population may be declining as the brown bear population increases. This population will be closely monitored, and reductions in season length or bag limits suggested, if future data supports the contention that black bear numbers are in a downward trend.

PROJECT LOCATION: Unit 5 (5,800 mi^2)
Cape Fairweather to Icy Bay and eastern gulf coast

PROJECT OBJECTIVES:

To maintain a 3 males:1 female ratio in the harvest and a population capable of supporting an annual harvest of at least 20 bears.

WORK ACCOMPLISHED DURING THE PROJECT SEGMENT PERIOD:

Black bears harvested in Unit 5 were sealed in Yakutat and Douglas. Skulls were measured, and the sex of harvested bears

was determined when possible. Anecdotal information was collected from hunters.

PROGRESS TOWARDS MEETING PROJECT OBJECTIVES:

The male to female ratio in the harvest was 11:1, higher than the objective of 3:1. Although only 12 bears were killed, anecdotal information suggested that the population was easily capable of sustaining a harvest of 20 black bears.

SEGMENT PERIOD PROJECT COSTS (thousands of dollars):

	Personnel	Operating	Total
Planned	31.4	2.7	34.1
Actual	40.0	9.5	45.5
Difference	-8.6	-6.8	-15.4

Actual personnel costs are estimated; they were higher than planned because the illness of a Wildlife Biologist III required us to fill in for him by temporarily upgrading a WB I and extending his normal working season. Additional staff time was used analyzing rapidly increasing black bear harvests and reviewing potential impacts of mine development on black bear populations. Project costs were higher than anticipated, in part, because of garbage-related problems in a number of communities.

SUBMITTED BY:

David M. Johnson
Regional Management Coordinator

PROJECT TITLE: Southcentral Black Bear Population Management

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

Units 7 and 15 (8,400 mi^2)
Kenai Peninsual

Units 9 and 10 (36,250 mi^2)
Alaska Peninsula and Unimak Island

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

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

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

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

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

PROJECT OBJECTIVES:

Unit 6

To 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 17.0 inches.

Unit 7 and 15

To 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

To 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, 17:

To maintain existing populations of black bear 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

During 1989, 162 black bears were sealed for Unit 6. The harvest was 100% black phase, and the sex composition was 71% males, 28% females, and 1% unknown. The mean skull size for males was 17.6 inches; for females it was 15.8 inches. Ninety percent of the harvest was reported in the spring season. Unit 6D accounted for 73% of the bears reported, and 14%, 4%, and 8% were harvested in Units 6A, 6B, and 6C, respectively. Transportation was primarily by boats (61%) and airplanes (26%). Twenty-five percent of the harvest was by nonresidents, 12% by local residents, and the remainder by nonlocal residents. For the period 1987 to 1989, the annual mean harvest was 234 bears, males represented 74% of the harvests, and mean male skull size was 17.3 inches (N = 493).

Unit 7/15

In 1989, 178 bears were reported in the sport harvest. Sex was identified for 173; 74% were males. Ninety-eight and 75 bears were taken during the spring and fall, respectively. The 3-year mean harvest for 1987-89 was 183 bears. A total of 80 bait stations were registered in Unit 7; 85 were registered in Unit 15 during the 1989 spring season (1 April-15 June). The 165 bait stations were registered by 101 hunters, averaging 1.6 bait stations per hunter. Twenty-one bears were reported harvested using bait stations; 13 (62%) were males. All harvests of bears over bait were occurred in Unit 15.

Unit 9

Black bears were distributed in low densities in northern parts of Units 9A and 9B. Sealing is not required, so very little is 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 8 black bears in Unit 11 during 1989, 2 less than the 18-year average of 10 bears per year. Only one bear was taken by a nonresident hunter. The sex composition of the harvest included 5 (63%) males and 3 (37%) females. Mean skull sizes were 17.2 inches for males and 15.9 inches for females. Two successful bear hunters reported using aircraft, two walked, and one used a highway vehicle. The meat was reported salvaged by 3 (37%) hunters. Four (50%) bears were reported taken incidentally during hunts for other big game species. Successful hunters reported an average of 3.9 days afield.

Unit 13

Hunters killed 66 black bears in Unit 13 during 1989, a decline from the 5-year (1984-88) average harvest of 89 bears per year. Males composed 73% (N = 48) of the take and females 26% (N = 17). Mean skull sizes were 16.1 inches for males and 15.3 inches for females. Nonresident hunters and local residents each reported taking 9 bears. Aircraft were the most popular method of transportation (26%), followed by highway vehicles (20%), boats (15%), and walking (15%). The meat was salvaged from 44 (67%) bears. Twenty-one bears were taken incidentally in hunts for other big game species. Eight hunters were guided. Seven bears were reported taken at bait stations. Successful hunters spent an average of 3.4 days afield.

Unit 14

In 1989 black bear hunters harvested 104 bears: 63 from Unit 14A, 31 from Unit 14B, and 10 from Unit 14C. Only 4 bears were taken by nonresident hunters (3 in 14A and 1 in 14B). In addition to the hunter harvest, 3 bears (1 in 14A, 2 in 14C) were killed in defense of life or property.

Sixty-nine percent of the harvest (72 bears) occurred in the spring, 60% during a 21-day period between 21 May and 10 June. Of the 32 bears taken in the fall, 41% were killed between 27 August and 9 September. Most successful hunters (35%) used off-road vehicle as their principal mode of transportation. Highway vehicles and boats were used 21% and 17% of the time, respectively.

In Unit 14A, 59% of the successful hunters harvested bears over bait, compared with only 13% in Unit 14B; baiting was not allowed in 14C. Most hunters were specifically seeking black bears; only 26% of the successful hunters killed bears incidentally in Units 14A and 14B; however, incidental take was 40% of the harvest in Unit 14C. More than 80% of the hunters salvaged at least some portion of the meat.

Of the 104 bears sealed from Unit 14 in 1989, 65 (63%) were males, 28 (27%) were females, and 11 (10%) were unknowns. The harvest composition for bears of known sex was 66%, 72%, and 90% males in Units 14A, 14B, and 14C, respectively. Mean skull sizes were 16.2 and 15.8 inches for males and females, respectively.

In Unit 14A, 28% of the bears were killed in the Little Susitna River drainage. The west bank of the Matanuska River and the Palmer/Big Lake/Knik Arm areas contributed 17% and 16% of the harvest, respectively.

The harvest in Unit 14B occurred primarily in 3 areas; Sheep River-Iron Creek, Sunshine Creek, and Montana Creek-Sheep Creek accounted for 32%, 26%, and 26% of the harvest, respectively. In Unit 14C, 30% of the black bears were killed in the Lake George

area. The Girdwood and Twentymile drainages each produced two, accounting for 40% of the annual harvest.

Unit 16

In 1989 black bear hunters harvested 143: 39 from Unit 16A and 104 from Unit 16B. Twenty-seven black bears were taken by nonresident hunters (4 in 16A and 23 in 16B). None were killed in defense of life or property (DLP).

Sixty-eight percent of the black bear harvest (75) occurred during the spring, and 72% of those were killed in a 28-day period between 21 May and 17 June. Of the 68 bears taken in the fall, 54% were killed between 3 and 23 September. Most hunters (52%) used aircraft as their principal mode of transportation, and boats were used by 32%.

In Unit 16A, 22% of the successful hunters took bears over bait, compared with 21% in Unit 16B. Most hunters were specifically hunting black bears; only 40% and 32% of the successful hunters killed black bears incidentally in Units 16A and 16B, respectively. In Unit 16A, 76% of the successful hunters salvaged at least some portion of the meat versus only 48% in Unit 16B.

In Unit 16A, 28% (11) of the bears were killed in the Deshka River/Kroto Creek drainages; 23% (9), in the drainages of the Tokositna River. The remaining harvest (19 bears) was distributed throughout the other drainages in Unit 16A; none of these areas had a harvest exceeding 3 black bears.

The harvest in Unit 16B occurred primarily in 5 areas. The lower Skwenta River, lower Yenta River, Alexander Creek, Beluga River, and the Chuitna River accounted for 22%, 18%, 10%, and 9% of the harvest, respectively. None of the harvests in other drainage in Unit 16B exceeded 5 bears.

Of the 143 black bears sealed from Unit 16 in 1989, 97 (68%) were males, 42 (29%) were females, and four (3%) were unspecified. The harvest composition for bears of known sex was 62% and 73% males in Units 16A and 16B, respectively. Mean skull sizes in Unit 16 were 16.5 and 15.6 inches for males and females, respectively.

Unit 17

Hunters were not required to report or seal black bears harvested in Unit 17, so there is no systematic way of assessing 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 are taken by local residents. An unknown number are incidentally taken by other hunters. Surveys to identify important black bear habitat were not conducted. Geographical

distribution of black bear harvests are used in departmental recommendations on land-use decisions.

PROGRESS TOWARDS MEETING PROJECT OBJECTIVES:

Unit 6

The 1989 black bear harvest was significantly lower than those for previous years; however, the harvest objectives for the 1987-1989 period were met, except the proportion of males in the harvest was 1% short of the objective. The impacts of the Exxon Valdez oil spill in March 1989 probably affected the decision by hunters to hunt in Unit 6. Effects of the oil spill and subsequent cleanup may make it more difficult to meet objectives when the pre-oil spill harvest levels are no longer included in the 3-year means.

Unit 7 and 15

Regulations allowing a spring-baiting season and year-long general season with a bag limit of 3 bears were in harmony with the Department's primary objective of maintaining the existing bear population. Monitoring of the harvest through a mandatory sealing program indicated 178 bears were harvested, or 8.9% of a conservative estimate of 2,000 to 2,500 bears. The high percentage of males (74%) in the harvest also suggested the bear population was being harvested within a sustainable-yield level.

Unit 9

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

Unit 11

Unit 11 has some good black bear habitat, and frequent sightings suggested they are fairly abundant. The low harvest reflects a lack of hunting pressure, rather than low bear numbers. The proportion of males in the harvest exceeded the 60% objective level. No changes in season dates and bag limits were proposed, because current guidelines have been met.

Unit 13

The 1989 black bear harvest dropped appreciably from levels reported over the past 5 years. The reason for this decline is not known, especially since we do not have a measure of the overall hunting effort. Most of Units 13D and 13E have good black bear habitat and bears are considered abundant. Harvest composition for 1989 indicateed the proportion of males in the harvest exceeded the 60% objective level. No changes in season dates and bag limits were proposed.

Unit 14

The harvest for Unit 14 has been relatively stable for the past 6 years at about 100 bears/year. The current 3-year mean annual harvest of 113 bears exceeded the population harvest objective of 100 bears; however, the harvest composition objective of 60% males was met.

Unit 16

For the past 5 years (1985-89), the annual harvest in Unit 16 has been within a narrow range of 126 to 143 black bears (mean = 136). During this period, the average percentage of males in the harvest has been greater than 60%, and in 1989 it peaked at 68%. Therefore, the population management objectives have been met.

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:

	Personnel	Operating	Total
Planned	37.6	5.0	42.6
Actual	37.6	1.9	39.5
Difference	0.0	-3.1	-3.1

Oil spill activities limited the time that staff could spend on black bear investigations. A reduced harvest also resulted in reduced operational costs in Unit 6.

SUBMITTED BY:

Kenneth W. Pitcher and John Trent
Regional Management Coordinators

PROJECT TITLE: Interior Black Bear Population And Habitat Management

PROJECT LOCATION: Units 12 (10,000 mi^2) and 20 (50,400 mi^2) Upper Tanana and White River drainages, including the northern Alaksa Range east of the Robertson River, and the Mentasta, Nutsotin, and northern Wrangell Mountains and Tanana Valley, Central Alaska Range, White Mountains, and Tanana Hills

PROJECT OBJECTIVES:

Unit 12

To maintain a black bear population capable of maintaining a sustainable annual average harvest of at least 30 bears.

Unit 20A

To maintain a harvest of black bears no less than 55% or more males for the most recent 3 years.

Unit 20B

To maintain a sustained annual harvest of $\leq$150 black bears, of which at least 55% are males.

Units 20C and 20F

To maintain a harvest of 50% or more males from both units from the most recent 3 years.

Unit 20D

To prepare management objectives that are specific, reasonable, time-related, and relevant to stated management goals for the next annual progress report.

Unit 20E

To maintain a black bear population capable of sustaining annual harvests of at least the current annual average of 14 bears/year.

WORK ACCOMPLISHED DURING THE PROJECT SEGMENT PERIOD:

Overview

Current regulations only require sealing of black bears taken in Units 12 and 20. At this time, harvests in other units are believed to be well below sustainable levels.

Unit 12

During 1989, 12 black bears were sealed. Males (N = 9) composed 75% of the harvest and females 25%. Six (50%) of the bears were taken in the spring; six others were harvested during the fall. Resident hunters took all of the bears sealed.

Units 20A, 20B, 20C, and 20F

During the 1989 calendar year 151 black bears were reported taken by hunters; 116 in the spring and 35 in the fall. Males composed 67% of the harvest. The distribution of the harvest among the units was as follows: 20A, 29; 20B, 97; 20C, 15; and 20F, 10 black bears.

During the reporting period, which included the fall 1989 and spring 1990 seasons, 127 black bears were harvested: 35 in the fall and 92 in the spring. Sixty-seven percent of the harvested bears were males. The distribution of the harvest among units was as follows: 20A, 23; 20B, 84; 20C, 11; 20F, 9. The percentage of males in the harvest were distributed among units as follows: 20A, 56%; 20B, 69%; 20C, 63%; and 20F, 78%.

Unit 20D

Fifteen black bears were sealed during this reporting period. Ten bears were killed south of the Tanana River, and 5 bears were killed north of the Tanana River.

Unit 20E

Thirteen black bears were sealed in Unit 20E during 1989. Males (N = 11) composed 85% of the harvest and females 15%. Eight (62%) of the bears were taken in the spring; the remainder (N = 5, 38%), in the fall. Resident hunters took all of the bears sealed.

Management objectives were developed for black bear populations in Units 12 and 20, except Unit 20D during FY90. Objectives for Unit 20D will be developed in FY91. The 5-year study plan will be amended to reflect these revised objectives. Future annual performance and management reports will provide progress toward these new objectives.

PROGRESS TOWARDS MEETING PROJECT OBJECTIVES:

A research project that is underway in Unit 20A promises to provide a density estimate for an Interior black bear population. Management of black bears in the project area will shift from harvest-based to population-based management when the density estimate from that research is available. At that time population objectives will be refined to include annual harvest goals.

SEGMENT PERIOD PROJECT COSTS:

	Personnel	Operating	Total
Planned	13.5	0.0	13.5
Actual	13.5	0.0	13.5
Difference	0.0	0.0	0.0

Federal Aid Project
funded by your purchase of
hunting equipment