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ANNUAL REPORT OF SURVEY-INVENTORY ACTIVITIES

PART IV. BLACK BEAR

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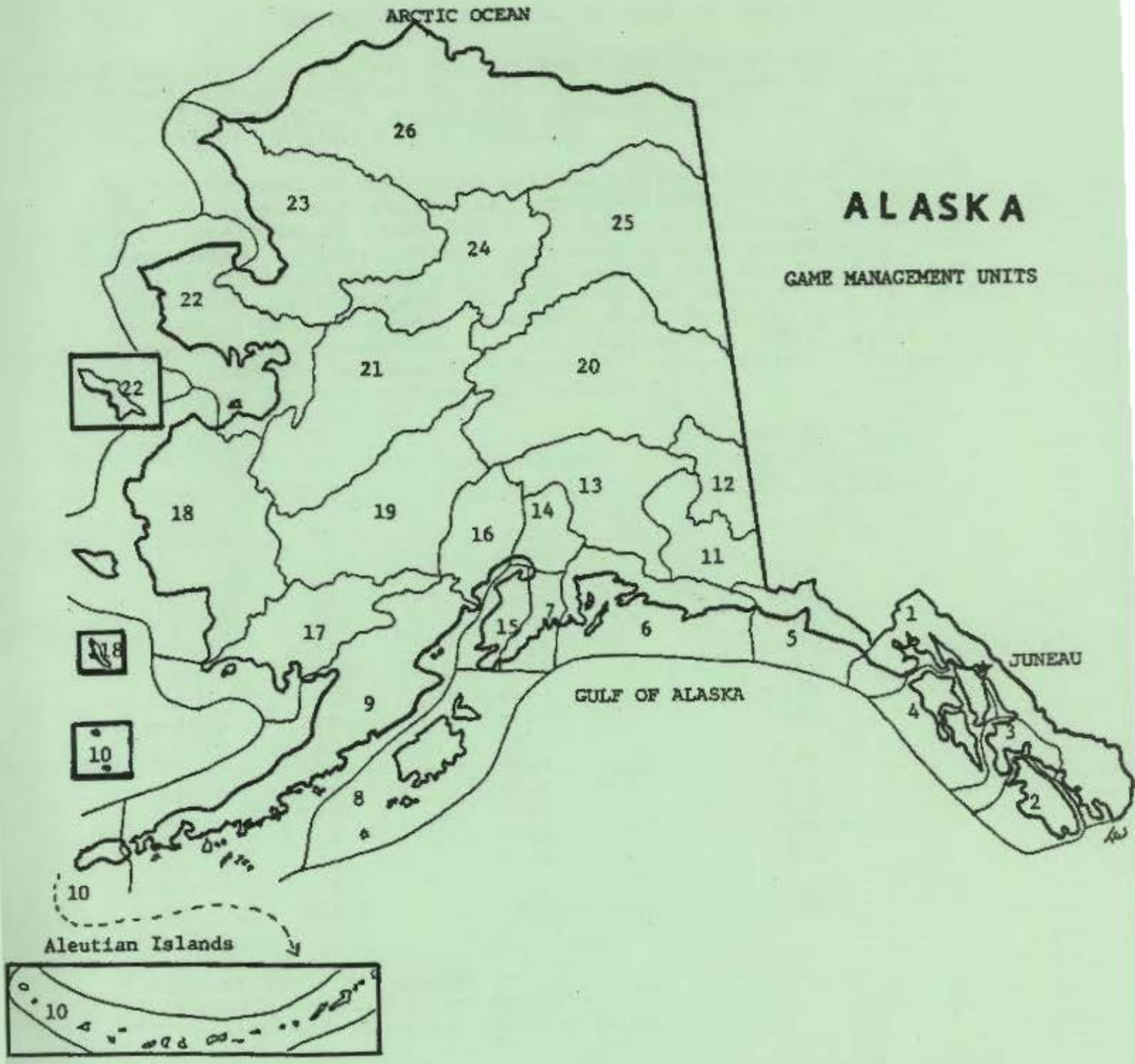
CONTENTS


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

STATEWIDE HARVEST AND POPULATION STATUS

Black bears are widely distributed throughout Alaska. Populations appear healthy in all areas, are generally lightly hunted relative to population numbers, and in all areas are thought to be stable or increasing.

Hunter harvest is monitored only in those Units in which sealing of hides and skulls is required (Units 1-7, 11-16, and 20). The take of black bears by hunters increased sharply in most Units in 1984; causes probably include increasing popularity of this species as a game animal and the relaxation of regulatory prohibitions on the use of bait in black bear hunting. In all cases, however, data derived from sealing documents (e.g., sex of the bear harvested, skull size) indicate that the harvest rate is still conservative. A summary of harvest numbers and trends follows:

Unit	1984 Harvest	Compared to 1983 harvest	Compared to long-term average harvest
1A	45	-6%	+45%
1B	16	+44%	-
1C	82	+67%	+74%
1D	23	-47%	+10%
2	120*	+36%	+76%
3	98*	+18%	-
5	25**	+25%	+4%
6	182*	+39%	+52%
7 and 15	216	+15%	+44%
9***	13	-	-
11	17	+42%	+45%
12	39	+50%	+86%
13	102*	+79%	+31%
14	99	+19%	+30%
16	138	+48%	+10%
17***	4	-	-
20	202**	+9%	+15%

* Highest kill on record.
** Second highest kill on record.
*** Sealing not required in this Unit.

Robert A. Hinman
Deputy Director

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 1A and 2

GEOGRAPHICAL DESCRIPTION: Ketchikan Area and Prince of Wales Island

PERIOD COVERED: 1 January 1984-31 December 1984

Season and Bag Limit

See Hunting Regulations No. 24 and 25.

Population Status and Trend

The black bear population in Subunit 1A and Unit 2 appears to be stable, based on harvest data, hunter success, and general observations. The mean skull size of males taken during spring seasons has remained relatively constant since 1975, and the high incidence of males in the spring harvest has not changed significantly.

Population Composition

No data available.

Mortality

Forty-five black bears from Subunit 1A, and 120 bears from Game Management Unit (GMU) 2 were reported taken by hunters in 1984 (Table 1). Five bears were taken in defense of life or property in Subunit 1A and 1 was taken in GMU 2.

The harvest for Subunit 1A represents a decrease of 6% from the 48 bears taken in 1983, while the Unit 2 harvest increased 36% from 1983.

Harvests since 1974 are summarized in Table 2. During spring of the 1984 season in Subunit 1A, 18 bears were taken from Revilla and surrounding small islands and 5 were taken on the mainland. In Unit 2, 94 bears were taken during the spring. The corresponding 1983 Unit 2 harvest was 64 bears.

The sex ratio of bears taken during the spring season in Subunit 1A was 74% males, down from the 1974-83 average of 93%. In Unit 2, the percent males in the spring harvest for 1984 was 84%, slightly below the long-term average of 88%.

The fall harvest in Subunit 1A was the same as the 22 bears taken in 1983. Nine of the 22 bears were males. In Unit 2, the 1984 fall harvest of 26 bears was up slightly from the 24 bears taken in 1983. The sex ratio for these 26 bears was 65% males, slightly above the past 5-year average of 63%. The fall harvest in both Units has consistently produced a lower ratio of males than has the spring season.

The chronology of the harvest is shown in Table 3. In Subunit 1A, 51% of the kill occurred during the spring season, and 61% of the spring bears were taken in the April 21-May 20 period. In Unit 2, 78% of the harvest occurred in the spring and 61% of those bears were taken in the 1-20 May period. Although the peak of the spring harvest was about the same for both Units in 1984, the peak in Subunit 1A generally occurs about 10 days later than the peak of the harvest in Unit 2, and the harvest peaks in both Units seem to occur up to 10 days earlier following milder winters.

In Subunit 1A during 1984, 60% of the bear hunters used boats to reach hunting areas, 18% used aircraft, and 22% hunted from a road system. In Unit 2, where logging roads are more extensive, 40% used road vehicles, 28% used airplanes, and 31% traveled by boat.

Nonresidents took 13% of the bear harvest in Subunit 1A and 40% of those taken in Unit 2. Sixty-seven percent of the 54 bears taken by nonresidents were taken during the spring season. The percentage harvested by nonresidents varies from year to year, but the trend appears to be stable.

Two percent of the bears taken during the spring season were considered incidental, while 8% of the fall bears were indicated as taken incidental to other activities. The fall season generally has a higher percentage of incidental harvest.

Sixty-two percent of the successful spring bear hunters and 40% of the fall hunters reported saving some or all of the meat from their bears.

Skull measurements once again showed considerably larger bears on Prince of Wales Island than in Subunit 1A. In Subunit 1A, 22 males averaged 17.0 inches while in Unit 2, 81 males averaged 19.2 inches. Comparable figures for 1983 were 17.1 inches for 30 males from Subunit 1A and 19.1 inches for 64 males from Unit 2. Mean skull size has remained fairly constant for the past 8 years (Table 2). Age data for bears taken since 1978 are not available.

One hundred forty-five hunters took the 165 bears reported for 1984 from Game Management Units 1A and 2, (which indicates 20 hunters took 2 bears each).

There were no cinnamon bears taken this year. The cinnamon color phase in this area is found only on the mainland, and some selectivity occurs for cinnamon bears over the normal black phase.

Management Summary and Recommendations

The 1984 black bear harvest for Subunit 1A was up 45% over the long-term average of 31 bears but was essentially equal to the 1983 harvest. Both the 1983 and 1984 fall seasons had significant increases in the kill while spring harvests have remained close to the long-term average. Reasons for the increase in the fall harvest are unknown.

The 1984 Unit 2 harvest was up 76% over the long-term average of 68 bears and was the highest harvest on record. In Unit 2 the increase occurred entirely during the spring season. The most likely explanation for the increase is an increasing human population on Prince of Wales Island and increasingly better access as roads are opened and improved.

From personal observation, hunter contacts, and skull measurements, it appears that the bear population is either stable or increasing and that current harvest levels are having little if any effect on bear populations.

No changes in seasons or bag limits are recommended at this time.

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SUBMITTED BY:

Steve Peterson
Acting Management Coordinator

Table 1. Black bear sport harvest statistics for Game Management Units 1A and 2, 1984.

GMU	Season	Total kill	No. Males	No. Females	Kill By nonres.(%)	Mean skull size in inches Males (n)	Mean skull size in inches Females (n)	Transport used, % air	Transport used, % boat	Transport used, % roads
1A	Spring	5	2	3	0	16.25 (2)	16.23(3)	0	100	0
Mainland	Fall	5	2	3	0	16.69 (2)	15.63 (3)	40	20	40
	Year	10	4	6	0	16.46 (4)	15.92 (6)	20	60	20
1A	Spring	18	15	3	0	18.07 (11)	17.50 (1)	11	61	28
Revilla	Fall	17	7	10	6 (35)	15.55 (7)	15.88 (10)	24	59	18
	Year	35	22	13	6 (17)	17.09 (18)	16.02 (11)	17	60	28
Total	Spring	23	17	6	0	17.79 (13)	16.54 (4)	9	70	22
GMU 1A	Fall	22	9	13	6 (27)	15.80 (9)	15.82 (13)	27	50	23
	Year	45	26	19	6 (13)	16.98 (22)	15.99 (17)	18	60	22
GMU 2	Spring	94	79	15	36 (38)	19.24 (69)	16.98 (14)	28	34	38
	Fall	26	17	9	12 (46)	18.77 (12)	16.39 (7)	27	19	54
	Year	120	96	24	48 (40)	19.17 (81)	16.78 (21)	28	31	42

Table 2. Black bear harvest size for Game Management Units 1A and 2, 1974-84.

GMU	Year	Season	Total kill	Percent males	Mean skull size in inches			
					Males	(n)	Females	(n)
1A	1974	Spring	34	94	--	--	--	--
		Fall	13	62	--	--	--	--
		Year	47	83	17.8	(36)	15.2	(5)
1A	1975	Spring	27	89	17.3	(21)	16.3	(3)
		Fall	6	67	16.9	(4)	16.5	(1)
		Year	33	85	17.2	(25)	16.3	(4)
1A	1976	Spring	22	95	17.7	(21)	15.1	(1)
		Fall	5	80	18.1	(4)	16.5	(1)
		Year	27	93	17.8	(25)	15.8	(2)
1A	1977	Spring	9	100	17.7	(9)	--	(0)
		Fall	7	57	13.7	(1)	15.4	(3)
		Year	16	81	17.3	(10)	15.4	(3)
1A	1978	Spring	15	87	18.2	(11)	15.8	(2)
		Fall	9	67	17.4	(5)	16.2	(5)
		Year	24	79	18.0	(16)	16.0	(5)
1A	1979	Spring	27	93	17.8	(24)	15.6	(1)
		Fall	3	33	--	(0)	17.1	(1)
		Year	30	87	17.8	(24)	16.4	(2)
1A	1980	Spring	19	100	17.8	(18)	--	(0)
		Fall	8	38	16.1	(2)	15.7	(4)
		Year	27	81	17.6	(20)	15.7	(4)
1A	1981	Spring	18	94	17.7	(16)	14.6	(1)
		Fall	7	71	16.9	(3)	14.5	(1)
		Year	25	88	17.6	(19)	14.5	(2)
1A	1982	Spring	27	93	17.8	(24)	16.0	(2)
		Fall	8	63	17.0	(29)	16.8	(2)
		Year	35	86	17.6	(29)	16.4	(4)
1A	1983	Spring	26	85	17.1	(21)	16.2	(3)
		Fall	22	55	16.9	(9)	15.8	(9)
		Year	48	71	17.1	(30)	15.8	(12)
1A	1984	Spring	23	74	17.8	(13)	16.5	(4)
		Fall	22	41	15.8	(9)	15.8	(13)
		Year	45	58	17.0	(22)	16.0	(17)

Table 2. Continued.

GMU	Year	Season	Total kill	Percent males	Mean skull size in inches			
					Males	(n)	Females	(n)
2	1974	Spring	22	77	--	--	--	--
		Fall	5	60	--	--	--	--
		Year	27	74	--	--	--	--
2	1975	Spring	27	93	19.5	(24)	17.5	(1)
		Fall	15	53	18.8	(7)	16.5	(5)
		Year	42	79	19.3	(31)	16.6	(6)
2	1976	Spring	61	87	19.4	(50)	16.8	(6)
		Fall	18	61	17.5	(8)	16.8	(7)
		Year	79	81	19.1	(68)	16.8	(13)
2	1977	Spring	34	85	19.0	(28)	17.2	(4)
		Fall	17	65	19.5	(5)	15.9	(4)
		Year	51	78	19.1	(33)	16.5	(8)
2	1978	Spring	44	89	19.3	(39)	17.5	(2)
		Fall	23	57	18.7	(11)	16.5	(7)
		Year	70	86	19.0	(50)	16.7	(9)
2	1979	Spring	47	98	19.1	(42)	17.6	(1)
		Fall	23	61	18.4	(8)	16.9	(8)
		Year	70	86	19.0	(50)	17.0	(9)
2	1980	Spring	47	89	19.3	(35)	17.0	(3)
		Fall	26	54	19.0	(13)	17.2	(9)
		Year	73	77	19.2	(48)	17.2	(12)
2	1981	Spring	46	85	18.6	(33)	16.7	(7)
		Fall	23	78	18.0	(13)	15.4	(3)
		Year	69	83	18.5	(46)	16.3	(10)
2	1982	Spring	78	90	19.2	(58)	17.3	(8)
		Fall	33	61	18.2	(16)	17.2	(12)
		Year	111	81	19.0	(74)	17.2	(20)
2	1983	Spring	64	84	19.5	(49)	16.7	(10)
		Fall	24	67	18.0	(15)	16.8	(7)
		Year	88	80	19.1	(64)	16.7	(17)
2	1984	Spring	94	84	19.2	(69)	17.0	(14)
		Fall	26	65	18.8	(12)	16.4	(7)
		Year	120	80	19.2	(81)	16.8	(21)

Table 3. Chronology of the 1984 black bear harvest in Game Management Units 1A and 2.

Date	No. animals harvested	
	Subunit 1A	Unit 2
Apr 1-10	0	0
Apr 11-20	1	1
Apr 21-30	7	6
May 1-10	2	33
May 11-20	5	24
May 21-31	6	17
Jun 1-10	0	8
Jun 11-20	2	4
Jun 21-30	0	1
Sep 1-10	12	12
Sep 11-20	6	2
Sep 21-30	0	1
Oct 1-10	0	2
Oct 11-20	1	1
Oct 21-31	0	1
Nov 1-10	0	1
Nov 11-30	0	0

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 1B and 3

GEOGRAPHICAL DESCRIPTION: Unit 1B - Southeast Mainland from Cape Fanshaw to Lemesurier Point

Unit 3 - Islands of Petersburg, Kake and Wrangell Area

PERIOD COVERED: 1 January 1984-31 December 1984

Season and Bag Limit

See Hunting Regulations No. 24 and 25.

Population Status and Trend

No census was conducted during the report period, but field observations continued to indicate a good population of black bears in Game Management Units 1B and 3. The sex ratio of the harvest does not indicate an excessive take of either sex.

Population Composition

In Unit 3, the harvest of females was low (n = 18), with males composing over 80% (n = 78) of the total harvest. Two bears were of unknown sex. In Subunit 1B, 15 of 16 bears taken (94%) were males.

Table 1 shows the composition of the Unit 3 harvest, by island. It is generally believed that a high proportion of females in the harvest indicates excessive exploitation of a population. Although hunter selectivity may bias the harvest towards males, it appears that the Unit 3 black bear harvest is nominal at present.

Mortality

In Subunit 1B, the 1984 sport harvest was 16 bears, compared with 9 in 1983. Eight bears (50%) were taken during the spring, and 8 were taken during the fall hunt. It is likely that most fall bears were taken during the course of moose or goat hunting on the mainland. Forty-four percent were taken in May, 31% in September, 19% in October and 6% in April.

The reported sport harvest of 98 black bears from Game Management Unit 3 in 1984 was the highest recorded since the sealing

program began, and was an increase of 15 over last year's take of 83 bears (Table 3). Males accounted for over 80% of the total, an indication of a healthy population. Nonresident hunters accounted for 39% of the Unit 3 black bear harvest, compared with 43% in 1983. The total spring take was 77 bears (79%); the fall take was 20 (20%) (Table 1). A single bear (1%) was shot in December.

The peak week of the spring season in Unit 3 was from 8 May to 15 May, during which 25% of the spring harvest occurred.

Sixty-four percent of the spring bears were killed in May. During the fall, 64% were taken in September, and the remainder in October.

The area with the highest kill for any Unit was Kuiu Island (Table 2), where a bear was taken for each 16 mi^2. Mitkof Island was next with a kill of 1 bear/19 mi^2. Mitkof Island has been extensively roaded by the Forest Service for logging activities, and almost every part of the island is accessible by vehicle. Table 2 indicates the relative unit area per bear harvested for 5 major islands in Unit 3.

The mean skull size of all Unit 3 males was 18.4 inches; for females, 16.4 inches (Table 1). Table 1 shows mean skull size by island and season.

The Unit 3 black bear harvest has steadily increased in the past decade (Table 3). A total of 622 bears was taken in Unit 3 during the period 1974-84. This rate of harvest has not noticeably affected the age structure or sex ratio of harvested bears, and mean skull size has remained relatively constant (Table 4).

Management Summary and Recommendations

The average annual black bear harvest in Unit 3, from 1974 through 1984, was 57 (Table 3). Populations in both Game Management Units 1B and 3 are thought to be stable. Older age classes and males are still prevalent in the harvest. A viable black bear census technique is needed to determine bear numbers and population trends. It is recommended that metric measurements be used on bear skulls to simplify calculation. Bear harvest can be expected to increase as State subdivisions are developed on Kuiu, Wrangell, Etolin, Mitkof, and Kupreanof Islands.

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Table 1. Black bear harvest in Game Management Unit 3 during 1984.

Location	Season	No. males	Mean skull size[a]	No. females	Mean skull size[a]	No. unk	Total bears	Percent of harvest
Kupreanof Island	Spring	26		9		0	35	36
	Fall	3		1		0	4	4
	Year	29	18.3	10	16.9	0	39	40
Kuiu Island	Spring	30		5		1	36	37
	Fall	9		2		0	11	11
	Year	39	18.0	7	16.3	1	47	47
Mitkof Island	Spring	4		0		1	5	5
	Fall	5		1		0	6	6
	Year	9	17.3	1	16.8	1	11	11
Etolin Islands	Spring	1		0		0	1	1
	Fall	0		0		0	0	0
	Year	1	18.9	0	--	0	1	1
Totals	Spring	61		14		2	77	79
	Fall	17		4		0	21	21
	Year	78		18		2	98	100

[a] In inches.

Table 2. Game Management Unit 3 black bear harvest by island, 1984.

Island	Area mi^2	Harvest	Mi^2/ bear	No. males	No. females	No. unknown	Percent of Unit 3 harvest
Kupreanof	1,090	39	28	29	10	0	40
Kuiu	746	46	16	38	7	1	47
Mitkof	211	11	19	9	1	1	11
Wrangell	220	1	220	1	0	0	1
Etolin	343	1	343	1	0	0	1
Total	2,610	98	27	78	18	2	100

Table 3. Annual Game Management Unit 3 black bear harvest percentages by island, 1974-84.

Year	Number of animals	Percent of harvest				
		Kupreanof	Kuiu	Mitkof	Wrangell	Other islands
1974	27	18	61	4	10	7
1975	49	25	63	4	4	4
1976	60	33	57	3	2	5
1977	27	15	77	4	0	4
1978	41	29	62	7	0	2
1979	50	31	52	4	4	9
1980	37	40	22	32	3	3
1981	66	38	24	32	5	1
1982	84	41	41	15	2	1
1983	83	34	52	13	0	1
1984	98	40	47	11	1	1
Average	57	31	51	12	3	4

Table 4. Mean black bear skull size, Unit 3, 1974-84.

Year	Male	Sample size	Female	Sample size
1974	18.4	24	16.2	2
1975	18.6	34	16.8	6
1976	18.4	47	17.1	7
1977	18.5	17	16.2	7
1978	18.6	23	16.0	12
1979	18.5	36	16.8	4
1980	18.4	30	--	0
1981	18.5	43	16.6	10
1982	18.3	68	15.9	11
1983	18.7	61	16.4	12
1984	18.4	66	16.4	19
Total or Mean	18.5	449	16.4	90

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 1C

GEOGRAPHICAL DESCRIPTION: Mainland Portion of Southeastern Alaska between Cape Fanshaw and the Latitude of Eldred Rock

PERIOD COVERED: 1 January 1984-31 December 1984

Season and Bag Limit

See Hunting Regulations No. 24 and 25.

Population Status and Trend

No data were collected. However, populations appear stable.

Population Composition

No data collected.

Mortality

The black bear harvest (based on sealing documents) for 1984 in Subunit 1C was 82 bears (73 males, 7 females, and 2 of unknown sex), 67% (33 bears) above the 1983 harvest and 35 bears above the mean annual harvest of 47.2 bears since 1974. The harvest included 9 black bears of the cinnamon color phase. Residency of successful black bear hunters in 1984 was 69 (84%) residents and 13 (16%) nonresidents. Guided hunts in 1984 accounted for 9 bears (11% of the total sport kill), all taken by nonresidents. The reported nonsport kill was 6 male bears taken in defense of life or property.

In Subunit 1C in 1984, the average skull size of males (n = 63) was 17.2 inches and for females 15.8 inches (n = 7). The average male skull size (n = 35) in 1983 was 17.3 inches. Age data for bears killed in 1984 were not available.

Chronology of the harvest in 1984 showed that 76% (62 bears) of the harvest occurred during the spring season; 90% of the harvest were males. Seventy-seven percent of the spring bears were taken in May (n = 48). Of the remaining 20 bears killed, 15 were taken in September and 5 in October. The fall harvest consisted of 85% males.

Successful hunters spent a total of 225 days hunting black bears, averaging 2.7 days/bear. Days hunted per bear ranged from 1 to 21 days.

Distribution of the harvest in Subunit 1C in 1984 showed that 33 bears were taken in the Chilkat Range area (west side of Lynn Canal); 26 bears in the Berners Bay to Point Bishop area; and 23 bears in the Bishop Point to Cape Fanshaw area (includes 3 bears in the Taku area).

Modes of transportation used by successful hunters were as follows: boat (57%), aircraft (6%), other (33%), and unknown (4%).

Management Summary and Recommendations

The reported harvest of 82 black bears in 1984 in Subunit 1C was well above the 1983 kill of 49 animals and the previous 10-year average of 47 bears. The 89% males in the harvest in 1984 suggests a stable population. In 1983 the percentage of males in the harvest was 71%.

No significant changes were noted in the percent males in the harvest for major harvest areas in Subunit 1C. The decline of percentage of males in the harvest from 93% (1982) to 67% (1983) in the Chilkat Range area increased to 88% in 1984. The mean skull sizes of male bears killed in this area remained about the same for the past 3 years.

No changes in season or bag limit are recommended.

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BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 1D

GEOGRAPHICAL DESCRIPTION: Upper Lynn Canal

PERIOD COVERED: 1 January 1984-31 December 1984

Season and Bag Limit

See Hunting Regulations No. 24 and 25.

Population Status and Trend

No data available.

Population Composition

No data available. However, the sex ratio of 21 bears of known sex harvested in 1984 was 71% males and 29% females (Table 1). This compares to the 1973-84 average of 75% males and 25% females, and indicates the population is not being exploited excessively.

Mortality

No nonsport, illegal, or "defense of life and property" black bear kills were documented in 1984. Fifteen residents and 1 nonresident hunter took 17 bears (12 male and 5 female; 1 hunter killed 2 bears) during the spring season. The fall harvest consisted of 3 male bears (1 female bear, and 2 bears of unknown sex) taken by 1 nonresident and 5 resident hunters.

Age data are currently unavailable for the Subunit 1D 1984 black bear harvest. Skull sizes for spring bears averaged 16.9 and 15.3 inches for males and females, respectively; 2 fall males averaged 14.8 inches while 1 fall female measured 15.9 inches.

Six of 23 (26%) known-color black bears harvested in 1984 were of the cinnamon color phase. This compares to the 1976 to 1984 average of 30% cinnamon bears in the harvest (Table 1).

Only 3 of 15 hunters reported taking bears incidental to other activities, while 12 of these 15 salvaged meat from the bears they killed.

Management Summary and Recommendations

The 1984 harvest of 23 black bears is similar to the 12-year average of 21 bears; this year's sex ratio is identical to the long-term mean. Mean skull sizes for 1984 did not differ significantly from 1973-83 cumulative mean skull sizes. The 1984 harvest is nearly identical to the historic mean take of black bears in Subunit 1D. Figures on incidental take and meat salvage indicate black bears are intentionally hunted and the use of meat remains a priority.

No change in season or bag limit is recommended at this time.

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Table 1. Historical black bear harvest, Game Management Unit 1D, 1973-84.

Year	Harvest				Color phase	
	Males	Females	Unknown	Total	Black	Cinnamon
1973	4	0	0	4	4	0
1974	12	3	0	15	12	3
1975	10	5	0	15	8	0
1976	21	5	0	26	16	10
1977	12	3	0	15	7	8
1978	17	9	0	26	17	9
1979	10	8	1	19	10	9
1980	21	3	0	24	18	6
1981	12	4	0	16	12	4
1982	16	6	0	22	14	8
1983	31	11	1	43	36	4
1984	15	6	2	23	17	6
Mean	15	5	<1	21	14	6

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 5

GEOGRAPHICAL DESCRIPTION: Cape Fairweather to Icy Bay, Eastern Gulf Coast

PERIOD COVERED: 1 January 1984-31 December 1984

Season and Bag Limit

See Hunting Regulations No. 24 and 25.

Population Status and Trend

No data available. Casual observations and discussion with others afield in the area indicate the Game Management Unit 5 black bear population is probably stable.

Population Composition

No black bear surveys were conducted during the report period. Sealing records indicate that 19 of 24 (79%) known-sex bears in the harvest were male (Table 1).

Mortality

No nonsport, illegal, or "defense of life and property" black bear kills were documented in 1984. Twelve nonresident and 10 resident hunters took 22 bears (17 males and 5 females) during the spring season. The fall harvest consisted of 2 males and 1 bear of unknown sex, taken by 1 resident and 2 nonresident hunters. Skull sizes for spring averaged 16.9 and 15.3 inches for male and female bears, respectively; the 1 fall bear measured had skull dimensions totaling 19.8 inches. Of the 25 bears harvested in 1984, 22 were black and 3 were of the blue color phase (Table 1). Four bears were reported as incidental take, while the meat from 14 bears was salvaged.

Management Summary and Recommendations

The 1984 harvest of 25 black bears was the 2nd highest on record (31 were taken in 1982) but approximated the 1980-84 average of 24 bears. The harvest of 3 blue or "glacier" bears also approximated the long term (1971-84) harvest of 2 per year. The black bear population is considered stable and no change in season or bag limit is recommended at this time.

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Table 1. Historical black bear harvest, Game Management Unit 5, 1971-84.

Year	Harvest				Color phase	
	Male	Female	Unknown	Total	Black	Blue
1971	3	0	0	3	3	0
1972	12	5	0	17	15	2
1973	12	7	0	19	18	1
1974	6	3	0	9	8	1
1975	9	2	1	12	10	2
1976	19	0	0	19	17	2
1977	16	3	0	19	12	1
1978	7	1	2	10	7	1
1979	14	7	1	22	18	4
1980	15	6	2	23	18	3
1981	12	5	2	19	17	2
1982	17	13	1	31	28	3
1983	14	3	3	20	15	5
1984	19	5	1	25	22	3
Mean	13	4	1	18	15	2

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 6

GEOGRAPHICAL DESCRIPTION: Prince William Sound and North Gulf Coast

PERIOD COVERED: 1 January 1984-31 December 1984

Season and Bag Limit

See Hunting Regulations No. 24 and 25.

Population Composition

No data were available.

Mortality

The 1984 black bear harvest was 182 bears; 137 males, 31 females, and 14 of unknown sex. There were 160 bears killed (88%) during the spring season and 22 killed during the fall season. Most (124) were killed during the month of May.

Male skull size averaged 17.3 inches, and female skull size averaged 15.3 inches. Males composed 76% of the kill; nonresident hunters took 16% of the harvest. Distribution of the harvest by area is shown in Table 1.

Management Summary and Recommendations

The harvest of 182 bears was the largest ever recorded for the Unit. Previous high harvests were recorded in 1975 and 1976 when 147 bears were killed during each of those years. The 10-year average for Unit 6 is 120 black bears. Several Subunits produced record harvests, but an analysis of harvest data indicates little reason for concern. Only Long Bay near Valdez Arm, Pigot Bay, and Cochrane Bay may have approached the maximum desirable harvest level. The black bear harvest data in all other respects were within the normal range; i.e., percent of males, male and female skull size, chronology, and nonresident take.

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Survey-Inventory Coordinator

Table 1. Unit 6 black bear harvest by geographic area and sex, 1984.

Subdivision[a]	Area	Number of males	Number of females	Number unknown	Total	Percent of harvest
01	East of Copper River to Icy Bay	32	4	1	37	20.3
02	Cordova to Copper River	4	4	2	10	5.5
03	Tatitlek to Cordova	24	3	3	30	16.5
04	Valdez Arm	23	4	2	29	15.9
05	Esther Island to Valdez Arm	16	3	2	21	11.5
06	Port Wells	6	3	3	12	6.6
07	Passage Canal to Port Nellie Juan	13	3	0	16	8.8
08	Port Nellie Juan to Cape Fairfield	18	6	1	25	13.7
09	Naked, Peak and Storey Island	0	0	0	0	0.0
10	Unit 6 - unknown	0	0	0	0	0.0
11	Knight Island	2	0	0	2	1.1
Totals		138	30	14	182	99.9
Percentage		75.8	16.5	7.7	100.0	

[a] Management Subunits designated for bear research purposes only.

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 7 and 15

GEOGRAPHICAL DESCRIPTION: Kenai Peninsula

PERIOD COVERED: 1 January 1984-31 December 1984

Season and Bag Limit

See Hunting Regulations No. 24 and 25.

Population Status and Trend

Black bears are abundant and widely distributed on the Kenai Peninsula. Research conducted in portions of Subunit 15A indicated a relatively high density of 1.5 black bears/mi^2 of suitable habitat (Schwartz et al. 1981). Observations made by department personnel and hunters also have suggested that black bears are abundant.

Mortality

Hunters reported taking 216 black bears during 1984 (Table 1), and an additional 5 bears were taken in defense of life or property. There were 2.3 black bears killed in Unit 15 for each one killed in Unit 7, which is consistent with the historical spatial distribution of harvests. Spring and fall hunting periods accounted for 55% (118) and 45% (98) of the total harvest, respectively.

Sex composition of bears killed in 1984 was 63% males, 33% females, and 4% unclassified. Cementum ages were not available. Data on skull size were collected, however, and can be used as an indicator of major shifts in age composition. Mean skull size for males taken in Unit 7 was 16.7 inches ($\underline{n}$ = 41) and in Unit 15 the mean was 16.3 inches ($\underline{n}$ = 76). Mean skull size for females taken in Unit 7 was 15.2 inches ($\underline{n}$ = 17) and in Unit 15 the mean was 15.4 inches ($\underline{n}$ = 51). These skull sizes are similar to those of the previous 12-year average.

Management Summary and Recommendations

Black bears are a popular big game animal on the Kenai Peninsula. They are widely distributed, abundant, and provide valuable hunting opportunities. Spring and early summer hunting are especially popular because hunting seasons for most

other game animals are closed at that time of the year. The Alaska Board of Game authorized baiting of black bears without a permit, statewide, at their 1984 spring meeting. Although no formal record exists, it is thought that hunting of black bears over bait is becoming increasingly popular in lowland forest areas. The annual average harvest on the Peninsula has been 150 black bears since mandatory sealing requirements began in 1973.

Characteristics of the 1984 harvest are within the normal range; i.e., magnitude of harvest, percentage of males and females in the harvest, and mean skull sizes.

No change in season or bag limit are recommended.

Literature Cited

Schwartz, C. C., A. W. Franzmann, and D. C. Johnson. 1981. Black bear predation on moose. Alaska Dep. Fish and Game. Fed. Aid in the Wildl. Rest. Prog. Rep. W-17-11 and W-21-1. Job 17.3R. Juneau. 16pp.

PREPARED BY:

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SUBMITTED BY:

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Table 1. Units 7 and 15 black bear harvest by season and sex in 1984.

Game Management Unit	Spring			Fall			Regulatory year total			Totals
	M	F	NS[a]	M	F	NS[a]	M	F	NS[a]	
7	28	12	3	16	6	0	44	18	3	65
15	44	27	4	47	27	2	91	54	6	151
Totals	72	39	7	63	33	2	135	72	9	216

[a] NS = sex not specified.

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 9

GEOGRAPHICAL DESCRIPTION: Alaska Peninsula

PERIOD COVERED: 1 January 1984-31 December 1984

Season and Bag Limit

See Hunting Regulations No. 24 and 25.

Population Status and Trend

No data were available.

Population Composition

No data were available.

Mortality

Thirteen black bears, 9 males and 4 females, were reported taken during 1984. That was the highest kill on record and nearly twice the previous 5-year annual mean of 7 bears. Sealing of black bears is not required in Unit 9, and the higher harvest may simply indicate that a greater proportion of successful hunters voluntarily submitted their bears for sealing. Seven of the 13 black bears reported taken were killed during or immediately after the 2-week spring brown bear season.

Two bears were killed in Subunit 9A in defense of life or property; 5 bears were reported taken incidental to hunting for other big game. All bear hides were black in color. Meat was salvaged from 4 bears killed in the spring and from 3 bears killed in the fall. Only 1 nonresident hunter reported killing a black bear during 1984.

Local residents, particularly those in Subunit 9B, opportunistically kill black bears for food; most of that mortality is not reported. The total human-caused bear mortality in Subunits 9A and 9B was estimated to be between 15-25 black bears. Harvest statistics for black bears in Unit 9 since 1981 are summarized in Table 1.

Management Summary and Recommendations

The reported harvest of 13 black bears was the highest on record, yet that harvest was still relatively low and was

mostly males (69%). Higher harvests of black bears in Subunit 9A will occur if the trend continues toward increased hunting pressure on brown bears in northern Unit 9. Liberalization of caribou seasons may also contribute to increased incidental kill of black bears in the western portion of 9B.

Efforts should be made to more accurately estimate the non-reported black bear kill. However, because hunting pressure is still light and because males continue to compose most of the harvest, implementation of a sealing requirement is not needed at this time, and no regulatory changes are recommended.

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Table 1. Summary of reported Unit 9 black bear harvest, 1981-84.

Year	Males	Females	Total[a] kill	Subunit 9A	Subunit 9B	Fall	Spring	Incidental kill	Meat salvaged	DLP[b]
1981	4	2	8	1	7	6	2	4	3	1
1982	5	0	5	3	2	4	1	3	3	0
1983	6	2	9	5	4	5	4	3	6	2
1984	9	4	13	7	6	5	8	5	7	2

[a] Includes animals for which sex was not determined.

[b] "Defense of life or property" kill.

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 11

GEOGRAPHICAL DESCRIPTION: Wrangell Mountains

PERIOD COVERED: 1 January 1984-31 December 1984

Season and Bag Limit

See Hunting Regulations No. 24 and 25.

Population Status and Trend

Observations by Department staff and reports by the public indicate that black bears are abundant in Unit 11 within preferred riparian-forest habitat types. Population trends are not evident.

Population Composition

No data were available.

Mortality

Hunters killed 17 black bears in Unit 11 during 1984. This compares with a mean annual harvest of 6.5 bears for the period 1980-83, and a 12-year average of 11.7 bears per year. Twenty-four percent of the harvest occurred during the spring while 76% occurred during the fall. This compares with the 12-year (1973-84) average of 20% for spring and 80% for the fall kill.

The sex composition of the harvest, 65% males and 35% females, approximates the 12-year average of 68% males and 32% females. Resident hunters took all of the bears killed in 1984, as compared to the 12-year average of 28% killed by nonresidents. Seventy-five percent of successful hunters indicated they salvaged the meat, and 38% reported taking their bear incidental to other hunting.

Management Summary and Recommendations

The 17 black bears taken in 1984 represent an appreciable increase in harvest for Unit 11. It is, however, a minimum harvest level when compared with the amount of preferred riparian-forest habitat occupied by bears and the minimum

estimates of about 5 bears/mi² for riparian-forest found in areas adjacent to Unit 11 (Miller 1983).

No changes in season and bag limit are recommended.

Literature Cited

Miller, S. D. 1983. Big game studies. Vol. VI. Black Bear and Brown Bear. 1st Ann. Phase II Rep. Susitna Hydroelectric Proj. Alaska Dep. Fish and Game. Juneau. 99pp.

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BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 12

GEOGRAPHICAL DESCRIPTION: Upper Tanana and White Rivers

PERIOD COVERED: 1 January 1984-31 December 1984

Season and Bag Limit

See Hunting Regulations No. 24 and No. 25.

Population Status and Trend

No standardized surveys of black bears have been conducted. Based upon observations, reports from the public, and preliminary results of a recent black bear investigation, black bears exist at moderate densities throughout suitable forested habitat in Unit 12. No trends in population are obvious.

Mortality

The reported legal take of black bears during 1984 was 39. An additional 6 bears were known to have been taken illegally, for a total known harvest of 45 black bears. The 10-year average harvest (1974-83) is 21, with 26 bears taken in 1983 and 29 bears in 1982.

Males (22) composed 59% of the known-sex harvest (37). The mean skull size of males was 16.4 inches, compared to the 12-year average of 16.3 inches. The mean skull size of females was 15.6 inches, compared to the 12-year average of 15.4 inches.

Including the 6 illegally taken bears, a total of 21 bears was taken in spring and 24 were taken in fall. The harvest was well distributed, but, as usual, most bears were taken in the Tanana River drainage, which reflects the accessibility of this area by boat and highway vehicle.

Management Summary and Recommendations

It is likely that the black bear population in Unit 12 is stable, and limited primarily by natural factors rather than hunting. Although increasing, black bear hunting pressure is still low in relation to bear numbers.

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Survey-Inventory Coordinator

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 13

GEOGRAPHICAL DESCRIPTION: Nelchina Basin

PERIOD COVERED: 1 January 1984-31 December 1984

Season and Bag Limit

See Hunting Regulations No. 24 and 25.

Population Status and Trend

Field observations and reports from the public indicate that black bears are abundant in Unit 13 within preferred riparian forest habitat types. Miller (1983) made a preliminary estimate of 5.2 bears/mi^2 along a portion of the Susitna River. Similar and possibly even higher black bear densities might be expected in other riparian-forest habitats of Unit 13.

Population Composition

Miller (1984) found an average age of 5.5 years for 25 males $\geq$2 years of age and 6.9 years for 20 females $\geq$2 years of age. Radio-collared females had mean litter sizes of 2.2 cubs-of-the-year and 1.9 yearlings.

Mortality

One hundred and two black bears were reported killed during 1984. This was an increase from the 1980-83 mean annual harvest of 78 bears and the 12-year average of 72 bears. Forty percent of the harvest occurred during the spring and 60% occurred during the fall. This compares with the 12-year (1973-84) average of 31% for spring and 69% for the fall kill.

The sex composition of the harvest, 65% males and 35% females, approximates the 12-year average of 67% males and 33% females. Nonresident hunters took 18% of the harvest during 1984, similar to the 12-year average of 21%. Seventy-four percent of successful hunters indicated they salvaged the meat, and 34% reported taking their bear incidental to other hunting activities.

The mean skull size for males was 16.7 inches, approximately the same as the 12-year average of 16.6 inches, while for

females the mean skull size was 15.5 inches, also approximately the same as the 12-year average of 15.4 inches.

Management Summary and Recommendations

The popularity of black bear hunting appears to be increasing in recent years, especially during the spring period of the year. The reported total kill of 102 bears and the spring kill of 41 bears were the highest ever recorded for the Unit. In addition, there has been an increase in the number of inquiries by the public concerning black bear hunting opportunities in Unit 13. However, for the past 2 years, skull size data which are used as an age indicator and the high proportion of males in the harvest show little change. These indicators suggest the population is capable of withstanding current levels of harvest.

No changes in season dates or bag limits are recommended.

Literature Cited

Miller, S. D. 1983. Big game studies. Vol. VI. Black Bear and Brown Bear. 1st Ann. Phase II Rep. Susitna Hydroelectric Proj. Alaska. Dep. Fish and Game. Juneau. 99pp.

Miller, S. D. 1984. Big Game Studies. Vol. VI. Black Bear and Brown Bear. 1st Ann. Phase II Rep. Susitna Hydroelectric Proj. Alaska Dep. Fish and Game. Juneau.

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BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 14

GEOGRAPHICAL DESCRIPTION: Upper Cook Inlet

PERIOD COVERED: 1 January 1984-31 December 1984

Season and Bag Limit

See Hunting Regulations No. 24 and 25.

Population Status and Trend

The public has reported frequent observations of black bears. These observations may indicate an abundant bear population or more frequent human contact associated with the rapid expansion of human development. The long term effect of human expansion may result in a decrease in the size of the black bear population.

Population Composition

No data were available.

Mortality

Ninety-nine black bears were killed in Unit 14 during the hunting season, 51 in Subunit 14A, 23 in Subunit 14B and 25 in Subunit 14C. During the spring season 48 bears were killed (27 males, 16 females, and 5 of unknown sex), and during the fall season 51 bears were killed (28 males, 17 females, and 6 of unknown sex). Resident hunters killed 94 of 99 bears. Only 1 bear was reported taken in defense of life or property. During the spring season the mean skull size of the harvest was 16.7 inches for males (n = 26) and 15.7 inches for females (n = 16). During the fall season the mean skull size was 16.4 inches for males (n = 23) and 15.1 inches for females (n = 15).

Management Summary and Recommendations

The sport harvest of black bears increased 19% from the previous year (80 bears). The sport harvest since 1974 has averaged 76 bears per year and ranged from 29 to 104.

Because black bears are generally associated with dense cover, hunters probably have little opportunity to select for the

specific sex or age of bears. Therefore, the mean skull sizes, which are used as an age indicator, vary widely from season to season and may not reflect changes in overall age composition.

No changes in seasons or bag limits are recommended.

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BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 16

GEOGRAPHICAL DESCRIPTION: West Side of Cook Inlet

PERIOD COVERED: 1 January 1984-31 December 1984

Season and Bag Limit

See Hunting Regulations No. 24 and 25.

Population Status and Trend

Observations of bears by Department staff and the public indicate an abundant population of black bears in Unit 16.

Population Composition

No data were available.

Mortality

The sport kill of 138 black bears (84 males, 43 females, and 11 sex unknown) was the largest since 1981 but still below the high of 248 bears killed in 1980. In addition, 2 bears (1 male and 1 female) were reported taken from Subunit 16B during the fall in defense of life or property.

Forty-four bears were reported killed in Subunit 16A, (28 males, 13 females, and 3 sex unknown) with 19 taken during the spring and 25 taken during the fall. Ninety bears were reported killed in Subunit 16B (53 males, 29 females, and 8 sex unknown) with 25 taken during the spring and 65 taken during the fall. The Subunit locations of 3 bears were not reported.

The mean skull size of bears killed during the spring was as follows: males 17.4 inches ($\underline{n}$ = 29) and females 15.9 inches ($\underline{n}$ = 12). Of those bears taken during the fall season, the mean skull size for males was 17.0 inches ($\underline{n}$ = 42) and for females, 15.4 inches ($\underline{n}$ = 26). These skull measurements are similar to skull size data obtained during the past 10 years.

Management Summary and Recommendations

Annual fluctuations in the Unit 16 bear kill are influenced by a number of variables. These variables include hunting effort

and conditions which influence hunting effort and success (e.g., weather and the availability of food sources). Many bears are taken incidental to other recreational activities, but recently this species has been specifically sought by a greater number of hunters, especially with liberalization in regulations allowing baiting.

The reported harvest for 1984 was only a few bears higher than the average annual harvest of 126 for the previous 11 years. Mean skull sizes of males and females and the high percentage of males in the harvest indicate that hunting has not had a detrimental impact on this bear population.

No changes in season dates or bag limits are recommended.

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Survey-Inventory Coordinator

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 17

GEOGRAPHICAL DESCRIPTION: Northern Bristol Bay

PERIOD COVERED: 1 January 1984-31 December 1984

Season and Bag Limit

See Hunting Regulations No. 24 and 25.

Population Status and Trend

No data were available.

Population Composition

No data were available.

Mortality

Sealing of black bears is not required in Unit 17. Four black bears, 2 males and 2 females, were reported taken during 1984 and were sealed. One bear was taken during the spring and 3 were taken during the fall. All were killed in Subunit 17B.

Management Summary and Recommendations

No data are collected for management of the Unit 17 black bear population. Regulation 5AAC 81.180(e), which requires sealing of bear skins and skulls, should be amended to include black bears in Unit 17. An alternative would be to implement a questionnaire sampling method on a statewide basis to determine hunting pressure and harvest.

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BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 20

GEOGRAPHICAL DESCRIPTION: Central Tanana-Middle Yukon Valley

PERIOD COVERED: 1 January 1984-31 December 1984

Season and Bag Limit

See Hunting Regulations No. 24 and No. 25.

Population Status and Trend

Standardized surveys to determine black bear population status, trend, and sex and age composition are not conducted in Unit 20. Harvest data, including sex and age composition, are collected through the black bear sealing program, but it is not known if these data accurately reflect changes in the bear population.

Mortality

Sealing document data indicated 202 black bears were harvested by hunters in Unit 20 during 1984 (Table 1). An additional 9 bears were taken in defense of life or property. The mean annual harvest for the period 1974-83 is 134 bears (range 93 to 217). The black bear harvest in Unit 20 has exceeded 200 only twice since bear sealing was instituted in 1974. Black bear harvest levels fluctuate considerably, but in recent years the trend is toward a larger take. Reasons for the variations are not understood, but may relate to food availability, numbers of recently weaned young bears seeking home ranges of their own, and weather conditions.

Residents took 95% of the harvest. The mean skull size of 16.8 inches was little changed from the 12-year average of 17 inches.

Black bear baiting permits were issued to 200 hunters between January 1 and June 30, 1984. Permits were not required after July 1.

Male bears composed 58% of the Unit 20 harvest, an unusually low figure for this Unit. This probably does not indicate an excessively large harvest; however, the harvest of males was low even in lightly hunted Subunits. Male bears ordinarily compose about 70% of the Unit 20 harvest.

Management Summary and Recommendations

The black bear population in Unit 20 is believed to be stable. Although hunting has affected some local black bear populations, overall bear numbers appear to fluctuate independent of hunting. Many basic questions regarding bear biology and population status remain unanswered. With the continuing high and increasing interest in black bear hunting, our knowledge of black bear biology should be improved so the species can be managed on a more factual basis.

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Table 1. Unit 20 black bear harvest by Subunit, 1984.

Subunit	Harvest		Sex			Total
	Spring	Fall	M	F	Unknown	
20A	2	26	12	16		28
20B	44	45	55	32	2	89
20C	16	12	16	10	2	28
20D	11	18	18	11		29
20E	6	12	8	9	1	18
20F	4	6	6	4		10
Total	83	119	115	82	5	202