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BLACK BEAR



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STATE OF ALASKA
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DEPARTMENT OF FISH AND GAME
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DIVISION OF GAME
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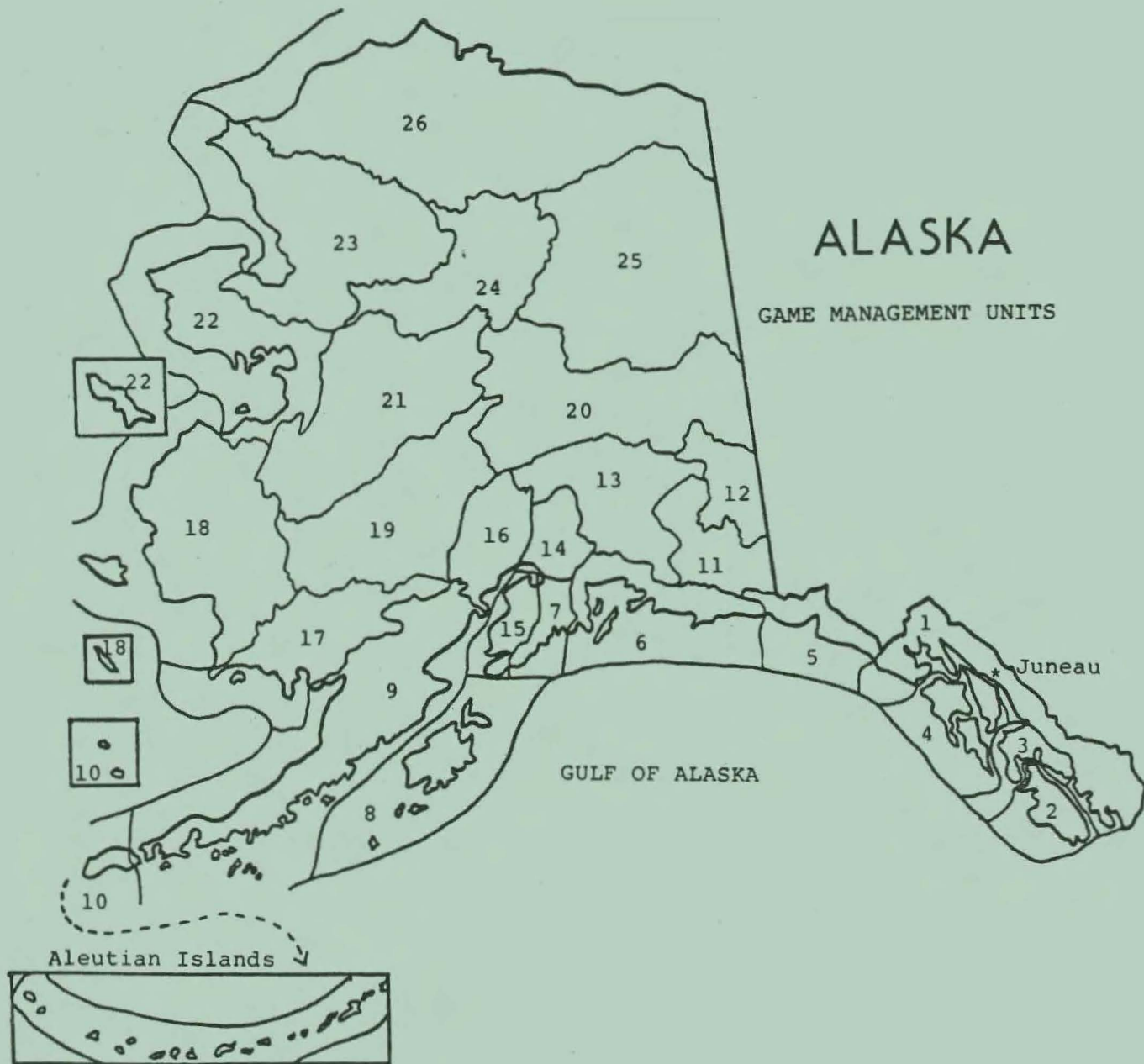
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ARCTIC OCEAN

ALASKA

GAME MANAGEMENT UNITS



STATEWIDE HARVEST AND POPULATION STATUS

Although no method has been found to accurately assess population numbers of black bears in the state, it is apparent from reports, observations, and harvest data that black bear populations are at high levels in most units.

The trend for more hunters to consider the black bear as a desirable trophy and big-game animal appears to be continuing. The 1986 harvest was near or above average levels in most units reporting, except Unit 12, where dry weather apparently restricted harvest, and Unit 13, which was below average for unknown reasons. Largest harvests occurred in Unit 6 (266 bears), Units 7 and 15 (237 bears), Unit 1 (225 bears), Unit 20 (171 bears), and Unit 2 (159 bears).

Reports are presented for those units in which sealing of bear hides is required: Units 1-3, 5-7, 9, 11-17, and 20. No data are available for population levels or harvests in other units (notably 19, 21, 23, 24 and 25) where black bears are known to be common; therefore, the total harvest reflected here (1,551) is far below the amount that was actually taken in the state.

The number of bears taken in defense of life or property (DLP) continues to be a concern, particularly in southeastern Alaska. DLP bears are not often recorded in the Interior because a year-round season with multiple bag limit allows such bears to be sealed and possessed as normally hunted animals.

The reported 1986 black bear harvest is summarized on the following page.

Robert A. Hinman
Deputy Director

Unit	Black bear taken	
	Hunter harvest	DLP
1A	63	3
1B	19	
1C	84	11
1D	59*	4
2	159	1
3	131	
5	24	
6	266**	
7 & 15	237**	
9	6***	
11	6	
12	13	
13	68	
14	105*	2
16	136	
17	4***	
20	171	1

* Highest kill on record.

** Second-highest kill on record.

*** Sealing not required in this unit

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 1986-31 December 1986

Season and Bag Limit

See Hunting Regulations Nos. 26 and 27.

Population Status and Trend

Based on harvest data, hunter success, and general observations, black bear populations in Subunit 1A and Unit 2 appear to be stable. 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.

Mortality

Hunters reported taking 63 black bears from Subunit 1A and 159 from Unit 2 during 1986 (Table 1). Three bears were taken in defense of life or property in Subunit 1A, and 1 bear was taken in Unit 2. The Subunit 1A harvest increased 29% over that of 1985 (Table 2), while the Unit 2 harvest increased by 47% (Table 3).

During the spring 1986 season in Subunit 1A, 27 bears were taken from Revilla Island and surrounding small islands, and 11 bears were taken on the mainland. In Unit 2, 120 bears were taken during the spring. During 1985 the Unit 2 harvest was 58 bears.

Male bears composed 87% of the Subunit 1A spring harvest, compared with a mean of 92% for 1974-85. In Unit 2, males composed 81% of the spring harvest, down from the long-term average of 87%.

Hunters took 25 bears from Subunit 1A during fall 1986, compared with 23 during fall 1985. Sixteen of these 25 bears were males. In Unit 2 the 1986 fall harvest of 39 bears was down from the 1985 fall harvest and closer to normal levels. Of these 39 bears, 59% (23) were males, compared with the

long-term average of 61%. The fall harvest in both units has consistently produced a lower percentage of males than the spring harvest.

In Subunit 1A, 60% of the kill occurred during the spring season, and 53% of the spring bears were taken from between 11 and 31 May (Table 4). In Unit 2, 75% of the harvest occurred in the spring; 53% of those bears were taken from 1 to 20 May. The peak harvest in Subunit 1A generally occurs about 10 days later than that in Unit 2; however, when the spring season is preceded by a mild winter, rather than a moderate-to-severe one, the peak harvests in both units appear to occur 10 days earlier.

In Subunit 1A during 1986, 67% of bear hunters used boats to reach hunting areas, 21% used aircraft, and 13% hunted from a road system. In Unit 2 where logging roads are more extensive, 57% used road vehicles, 17% used airplanes, and 25% traveled by boat. Use of roads is more prevalent during fall seasons than during spring seasons.

Nonresidents took 24% of the bear harvest in Subunit 1A and 34% in Unit 2. Sixty-four percent of the 70 bears taken by nonresidents were taken during the spring season. The percentage of the harvest taken by nonresidents varies yearly, but it appears to be relatively stable over time.

Skull dimensions of bears taken on Prince of Wales Island were larger than those of bears taken in Subunit 1A. Mean skull size (length plus width) for 44 males taken from Subunit 1A was 18.0 inches, compared with 18.8 inches for 91 males taken from Unit 2. For 1985 the mean male skull size for Unit 2 was 18.2 inches ($n = 29$). Mean skull size has remained fairly constant since initiation of the sealing regulations in 1973. Age data for bears taken since 1978 are not available.

Two hundred four hunters reported taking 222 bears from Subunit 1A and Unit 2 during 1986; 18 hunters took 2 bears. Three cinnamon bears were taken this year. The cinnamon-color phase for bears in this area is found only on the mainland, and some selectivity for cinnamon bears occurs.

Management Summary and Recommendations

The 1986 black bear harvest from Subunit 1A was 75% larger than the long-term average of 36 bears; it was also the highest harvest since the start of the sealing program. Both the spring and fall harvests showed substantial increases over the long-term averages.

The 1986 harvest in Unit 2 (94) was an increase over the long-term average of 82 bears. The spring harvest was well above the long-term average, and the fall harvest was the second highest on record.

From personal observation, hunter contacts, and skull measurements, it appears that bear populations in Subunit 1A and Unit 2 are either stable or increasing. Current harvest levels are having little, if any, effect on the bear populations.

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

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SUBMITTED BY:

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Survey-Inventory Coordinator

Table 1. Black bear sport harvest statistics for Subunit 1A and Unit 2, 1986.

Area	Season	Total kill	Male	Female	Unk sex	Nonresident kill		Skull size ^a				Transport used (%)		
						<u>n</u>	(%)	Males		Females		Air	Boat	Roads
								<u>$\bar{x}$</u>	<u>n</u>	<u>$\bar{x}$</u>	<u>n</u>			
Subunit 1A, Mainland only	Spring	11	9	2	0	4	36	18.2	9	14.0	2	9	91	0
	Fall	11	6	5	0	6	55	16.7	5	15.4	5	64	36	0
	Subtotals	22	15	7	0	10	45	17.7	14	15.0	7	36	64	0
Subunit 1A, Revilla only	Spring	27	24	3	0	1	4	18.4	22	6.3	3	7	74	19
	Fall	14	10	4	0	4	29	17.5	8	15.2	3	21	57	21
	Subtotals	41	34	7	0	5	12	18.2	30	15.7	6	12	68	20
Subunit 1A	Spring	38	33	5	0	5	13	18.3	31	15.4	5	8	79	13
	Fall	25	16	9	0	10	40	17.2	13	15.3	8	40	48	12
	Subtotals	63	49	14	0	15	24	18.0	44	15.3	13	21	67	13
Unit 2	Spring	120	95	23	2	40	33	19.1	74	16.8	17	18	29	52
	Fall	39	23	16	0	15	37	17.5	17	16.5	7	12	9	77
	Subtotals	159	118	39	2	55	34	18.8	91	16.7	24	17	25	57

^a Skull size = total length + zygomatic width in inches.

Table 2. Number, percentage of males, and mean skull sizes of black bear harvest, Subunit 1A, 1974-86.

Year	Total kill	Males (%)	Skull size ^a			
			Males		Females	
			<u>$\bar{x}$</u>	<u>n</u>	<u>$\bar{x}$</u>	<u>n</u>
1974	47	83	17.8	36	15.2	5
1975	33	85	17.2	25	16.3	4
1976	27	93	17.8	25	15.8	2
1977	16	81	17.3	10	15.4	3
1978	24	79	18.0	16	16.0	5
1979	30	87	17.8	24	16.4	2
1980	27	81	17.6	20	15.7	4
1981	25	88	17.6	19	14.5	2
1982	35	86	17.6	29	16.4	4
1983	48	71	17.1	30	15.8	12
1984	45	58	17.0	22	16.0	17
1985	49	79	18.2	29	15.8	9
1986	63	78	18.0	44	15.3	13

^a Skull size = total length + zygomatic width in inches.

Table 3. Number percentage of males, and mean skull sizes of black bear harvest, Unit 2, 1974-86.

Year	Total kill	Males (%)	Skull size			
			Males		Females	
			$\bar{x}$	n	$\bar{x}$	n
1974	27	74	--	--	--	--
1975	42	79	19.3	31	16.6	6
1976	79	81	19.1	58	16.8	13
1977	51	78	19.1	33	16.5	8
1978	70	86	19.0	50	16.7	9
1979	70	86	19.0	50	17.0	9
1980	73	77	19.2	48	17.2	12
1981	69	83	18.5	46	16.3	10
1982	111	81	19.0	74	17.2	20
1983	88	80	19.1	64	16.7	17
1984	120	80	19.2	81	16.8	21
1985	97	68	19.2	53	16.6	25
1986	159	74	18.8	91	16.7	24

Table 4. Chronology of the black bear harvest for Subunit 1A and Unit 2, 1986.

Time Period	Number of Animals harvested	
	Subunit 1A	Unit 2
1-20 April	0	8
21-30 April	3	14
1-10 May	5	27
11-20 May	12	37
21-30 May	8	26
1-10 June	6	6
11-20 June	2	2
21-30 June	2	0
1-10 September	7	9
11-20 September	9	9
21-30 September	2	3
1-10 October	2	6
11-20 October	1	2
21-31 October	0	5
1-10 November	4	4
11-30 November	0	1

BLACK BEAR
SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNITS: 1B and 3

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

Unit 3 - Islands of the
Petersburg, Kake, and
Wrangell area

PERIOD COVERED: 1 January 1986-31 December 1986

Season and Bag Limit

See Hunting Regulations Nos. 26 and 27.

Population Status and Trend

Field observations and bear harvest data continued to indicate a stable black bear population in Game Management Subunit 1B and Unit 3. Sex composition and skull sizes of harvested bears show no evidence of excessive harvest. Fewer "problem bear" instances occurred during the period than in recent years.

Population Composition

In the Subunit 1B harvest, 3 bears were females and 11 were males. We were unable to determine the sex of the remaining 2 bears.

In Unit 3, 16% of the harvest ($n = 131$) was female; males composed over 76%. We were unable to determine the sex of the remaining 11 bears (8%). The low proportion of females in the harvest indicates that the take was not excessive. Hunter selectivity for large bears in Subunit 1B and Unit 3 may bias the harvest toward males, but it appears that total black bear harvests are not excessive at present. The percentage of females taken was higher in the fall (48%) than in spring (10%).

Mortality

The 1986 harvest in Subunit 1B was 19 bears, compared with 22 in 1985. Twelve bears (63%) were taken during the spring, and

7 (37%) were taken during fall: 31% were taken in May, 25% in June, 31% in September, and 13% in October. It is likely that many of the bears killed in the fall were taken during the course of moose or goat hunting.

In 1986 the reported harvest from Unit 3 was 131 black bears, the same as last year (Table 1). The high percentage of males (76%, $n = 99$) in the harvest indicates a healthy population. Nonresident hunters accounted for 46% ($n = 56$) of the black bear harvest in Unit 3. The total spring take was 81 bears (67%); the fall take was 40 bears (33%).

The spring harvest in Unit 3 peaked during May when 66% (53) of the spring bears were killed. September was the most popular hunting month in the fall, accounting for 75% (30) of the fall harvest. In October, 6 bears were killed, and 4 bears were taken in November.

The highest kill per unit area occurred on Mitkof Island (Table 1) where 1 bear was taken for each 8 mi². Mitkof Island has been extensively roaded by the U.S. Forest Service for logging activities, and almost every part of the island is accessible to hunters using vehicles. Kuiu Island was the next most popular island where a kill of 1 bear/10 miles occurred.

The black bear harvest in Unit 3 has steadily increased during the past decade (Table 2). A total of 874 bears was taken in Unit 3 during 1974 through 1986. Generally, the current harvest level has not noticeably affected the age structure or sex ratio of the bear harvest. Also, mean skull sizes have remained relatively constant (Table 3): 18.2 inches for males and 16.3 inches for females (Table 4). The average skull size on Mitkof Island declined slightly; a trend of decreasing skull size may be developing in this highly accessible population. Males taken from Kuiu Island had a slightly larger mean skull size, compared with males taken from Kupreanof and Mitkof Islands (Table 4). Although the bag limit in Unit 3 was 2 bears, only 6% ($n = 7$) of the successful bear hunters killed a 2nd bear in 1986.

Management Summary and Recommendations

The mean annual harvest in Unit 3 during the period 1974 through 1985 was 68 black bears (Table 2). Black bear populations in both Subunit 1B and Unit 3 are believed to be stable because older age classes (based on skull sizes) and males still prevail in the harvest. The average skull size of Mitkof Island bears is lower, compared with past years; the population may be responding to the increased hunting pressure. We recommend that the Department of Fish and Game

implement metric measurement of bear skulls to simplify data summary and computer analysis.

The black bear harvest can be expected to increase as State-land subdivisions are developed on Kuiu, Wrangell, Etolin, Mitkof, and Kupreanof Islands. Conflicts between bears and rural residents can be expected to escalate. There appears to be increasing nonresident hunter interest in black bear sport hunting in Subunit 1B and Unit 3.

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Table 1. Black bear harvest by island in Unit 3, 1986.

Island	Area (mi ²)	Annual harvest		Mi ² / bear	Males	Females	Unk	Percent of harvest
		1986	1985					
Kupreanof	1,090	23	43	47	20	1	2	18
Kuiu	746	73	56	10	56	12	5	56
Mitkof	211	25	30	8	17	7	1	19
Wrangell	220	8	0	28	4	1	3	7
Etolin	343	1	2	343	1	0	0	01
Woewodski	15	1	0	15	1	0	0	01
Totals	2,625	131	131	20 ^a	99	21	11	100

^a The mean for the 6 islands combined.

Table 2. Historical black bear harvest by island in Unit 3, 1974-1986.

Year	Number of bears	Percent of harvest				Other islands
		Kupreanof	Kuiu	Mitkof	Wrangell	
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
1985	131	33	43	23	0	1
1986	131	16	56	19	6	1
Means	68 ^a	30	51	13	3	3

^a Sum = 884.

Table 3. Skull size of black bears killed in Unit 3, 1974-86.

Year	Skull size ^a			
	Males		Females	
	$\bar{x}$	n	$\bar{x}$	n
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	17
1985	18.3	79	16.4	17
1986	18.2	88	16.3	18
All years	18.4	616	16.4	124

^a Skull size = total length + zygomatic width in inches.

Table 4. Skull size and percentage of males in black bear harvest by island and season in Unit 3, 1986.

Island	Season	Total kill	Males (%)	Skull size ^a			
				Males		Females	
				$\bar{x}$	n	$\bar{x}$	n
Kupreanof	Spring	20	85	18.3	16	20.3	1
	Fall	3	100	18.0	3		
	Year	23	87	18.2	19	20.3	1
Kuiu	Spring	48	85	18.7	40	15.6	6
	Fall	25	60	18.0	13	16.8	6
	Year	73	77	18.5	53	16.2	12
Mitkof	Spring	18	78	17.8	14	14.7	3
	Fall	7	43	14.3	1	16.7	2
	Year	25	68	17.5	15	15.5	5

^a Skull size = total length + zygomatic width.

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 1986-31 December 1986

Season and Bag Limit

See Hunting Regulations Nos. 26 and 27.

Mortality

The black bear harvest (based on sealing documents) for 1986 in Subunit 1C was 95 bears, including 84 sport-killed bears and 11 nonsport-killed bears; 105 bears were killed in 1985 (Table 1). Of the 84 sport-killed bears (59 males, 12 females, and 13 of unknown sex), residents took 64 bears (76%) and nonresidents took 20 (24%). Nonsport kills consisted of 5 males and 6 of unknown sex; 1 was taken by a nonresident. Color phases in the harvest included 85 bears of the black phase and 10 bears of the cinnamon phase. Guided hunts in 1986 accounted for 16 bears (19% of the total sport kill); all guided hunters were nonresidents. Four bears were taken by unguided nonresidents.

In Subunit 1C during 1986, average skull sizes of males and females were 17.7 ($n = 61$) and 16.4 inches ($n = 11$). For the past 5 years, the average male skull size was 17.4 inches ($n = 268$) (Table 2). Age data for bears killed in 1986 were not available.

Chronology of the sport harvest (84 bears) in 1986 showed that 4 bears were taken in April, 60 in May, 12 in June, 5 in September, and 3 in October. Of the 11 bears taken in defense of life or property (DLP), 2 were killed in July, 5 in August, 3 in September, and 1 in October. The earliest date that a bear was taken was 27 April and the latest was 31 October. The most active harvest period occurred between 15 May and 25 May when 34 animals were taken: 41% of the 84 sport-killed bears.

Successful sport hunters spent a total of 204 days hunting black bears, averaging 2.4 days/bear. Days hunted per bear

killed ranged from 1 to 9 days. Distribution of the harvest showed that 25 bears (1 nonsport) were taken in the Chilkat Range area (west of Lynn Canal, excluding Gustavus), 5 (4 nonsport) in Gustavus, 4 in Berners Bay, 28 (5 nonsport) in the Berners Bay to Pt. Bishop area, and 37 (1 nonsport) in the Bishop Point to Cape Fanshaw area.

Management Summary and Recommendations

Black bear population levels are believed to be relatively high in Subunit 1C. Harvest data have shown substantial increases in annual harvests since 1982 (Table 1). Despite these harvest increases, no biologically significant changes in mean male skull sizes or the percentage of males in the harvest have been observed among several combinations of years since 1973 (Tables 2 and 3). Also, harvest parameters have been similar among harvest areas within Subunit 1C (Fig. 1, Tables 2 and 3). In 1986 the percentage of males in the kill was much lower than in previous years. However, the decrease may have been caused by the large number of bears of unknown sex. If the percentage of males in the harvest is calculated using all bears for which the hunter provided information on sex, the percentage of males would be 79% instead of 67%, a value probably closer to the true percentage.

Available data suggest that current and past harvest levels have not adversely affected black bear populations in Subunit 1C; these data support a bag-limit increase. In 1986 bear complaints received by the Department, Fish and Wildlife Protection, and the Juneau Police Department, were exceptionally high for the Juneau and Gustavus areas. These bear-human conflicts as well as comments by hunters indicate high bear populations in some areas. A liberalized bag limit may help reduce bear-human conflicts in those areas and provide an increase in sport hunting opportunities. Bear densities probably do not differ among Subunit 1C and adjacent subunits that have 2-bear bag limits.

An increase in the bag limit from 1 to 2 bears per year probably will not significantly increase the harvest. Currently, we have no means of measuring hunter pressure because only successful hunters must report their kills. Undoubtedly, hunter pressure is greater now than during spring 1980 when the 2-bears-per-person bag limit ended. For the calendar year 1979, 2nd bears composed 12.5% (6 of 48 bears) of the harvest. If 2nd bears are taken at about this same rate next year, the total kill could increase by about 12 bears.

A proposal to increase the bag limit from 1 to 2 bears in Subunit 1C per regulatory year, beginning with the 1987-88 season, was submitted by the Department to the Board of Game

with the support of the Gastineau Channel Fish and Game Advisory Committee. This proposal was subsequently adopted by the Board of Game during their 1987 spring meeting.

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Table 1. Black bear harvest by area for Subunit 1C, 1973-86.

Year	Area				All
	West of ^a Lynn Canal	Berners Bay ^b	Juneau road ^c system and Taku Inlet	South of ^d Taku Inlet	
1973 ^e	2	0	11	5	18
1974	13	3	13	19	48
1975	16	1	15	18	50
1976	14	4	18	30	66
1977	5	1	11	21	38
1978	3	1	10	27	41
1979	8	0	20	21	50
1980	10	2	15	12	39
1981	7	4	13	19	43
1982	29	7	25	14	75
1983	19	6	16	10	51
1984	32	3	28	23	88
1985	37	8	33	25	103
1986	30	4	29	32	95
$\bar{x}$ (1974-75)	7.5	2.0	14.0	18.5	49.0
$\bar{x}$ (1976-80)	11.2	1.6	14.8	22.2	46.8
$\bar{x}$ (1981-85)	24.8	5.6	23.0	18.2	72.0

^a Includes major harvest areas 22 and 23.

^b Includes major harvest area 24.

^c Includes major harvest areas 25-27.

^d Includes major harvest areas 28 and 29.

^e Fall season only.

Table 2. Mean male black bear skull size^a by major harvest area, Subunit 1C, 1973-86.

Year	No. of major harvest area ^b															
	22		23		24		25		27		28		29		All	
	<u>$\bar{x}$</u>	<u>n</u>	<u>$\bar{x}$</u>	<u>n</u>	<u>$\bar{x}$</u>	<u>n</u>	<u>$\bar{x}$</u>	<u>n</u>	<u>$\bar{x}$</u>	<u>n</u>	<u>$\bar{x}$</u>	<u>n</u>	<u>$\bar{x}$</u>	<u>n</u>	<u>$\bar{x}$</u>	<u>n</u>
1973	17.6	1	0.0	0	0.0	0	16.4	4	0.0	0	0.0	0	16.2	2	16.3	7
1974	15.9	1	17.3	10	16.7	2	17.5	5	17.9	1	16.8	6	17.3	10	17.1	35
1975	0.0	0	18.4	12	17.1	1	17.1	9	0.0	0	17.7	7	18.2	7	17.8	36
1976	17.2	2	17.9	10	17.4	4	16.8	12	18.2	2	16.9	11	17.4	14	17.3	55
1977	0.0	0	18.8	3	16.8	1	16.6	6	0.0	0	17.9	2	17.7	13	17.5	25
1978	0.0	0	14.9	1	17.6	1	17.0	5	0.0	0	17.8	8	17.2	15	17.1	30
1979	0.0	0	16.1	5	0.0	0	17.0	10	18.1	2	16.9	11	17.4	14	17.3	55
1980	19.0	1	17.1	7	16.9	2	16.8	8	19.4	1	18.0	3	17.0	3	17.2	25
1981	19.1	3	18.0	4	16.7	4	15.3	9	16.3	1	17.5	6	16.2	8	16.7	35
1982	18.1	5	17.7	22	16.6	7	16.9	18	0.0	0	17.1	5	17.3	5	17.3	62
1983	17.9	2	17.7	11	17.3	4	17.2	11	0.0	0	18.2	8	0.0	0	17.6	36
1984	17.9	8	17.8	17	16.7	3	16.5	18	15.8	1	17.1	9	16.7	10	17.2	67
1985	17.8	1	18.4	26	17.2	2	17.5	22	0.0	0	17.6	11	17.6	6	17.9	68
1986	17.6	2	18.1	15	0.0	0	16.9	15	16.4	1	17.7	14	18.3	14	17.7	61
<u>$\bar{x}$</u> (1973-75)	16.8	2	17.9	22	17.0	3	16.8	18	17.9	1	16.9	13	17.5	19	17.3	78
<u>$\bar{x}$</u> (1976-80)	17.8	3	17.3	26	17.0	8	16.9	41	18.3	5	17.4	31	17.4	51	17.3	166
<u>$\bar{x}$</u> (1973-85)	18.0	24	17.8	128	17.0	31	16.9	137	17.7	8	17.4	83	17.3	99	17.3	512
<u>$\bar{x}$</u> (1981-85)	18.1	19	18.0	80	16.8	20	16.9	78	16.1	2	17.5	39	16.8	29	17.4	268

^a Skull size = total length + zygomatic width in inches.^b See Fig. 1 for location of major harvest areas.

Table 3. Percentage of males in black bear harvest by major harvest area, Subunit 1C, 1973-86.

Year	No. of major harvest area ^a							All
	22	23	24	25	27	28	29	
1973	50			60	60		56	56
1974	67	100	67	58	100	86	83	79
1975		81	100	85		78	78	78
1976	100	83	100	87	100	85	76	88
1977		60	100	75	33	50	76	68
1978	100	100	100	89	100	90	78	88
1979		75	00	71	67	80	54	70
1980	100	89	100	67	33	75	50	69
1981	100	100	100	75	100	86	83	86
1982	100	92	100	78		100	75	85
1983	100	65	67	75		89	100	72
1984	100	83	100	85	50	100	100	90
1985	100	81	38	85		73	60	76
1986	100	57	00	65	33	88	94	67
$\bar{x}$ (1974-75)	67	88	75	72	33	81	81	68
$\bar{x}$ (1976-80)	100	80	100	77	54	81	76	78
$\bar{x}$ (1981-85)	100	82	75	81	40	88	79	82
$\bar{x}$ (1974-86)	96	82	80	79	48	84	78	80

^a See Fig. 1 for location of major harvest areas.

BLACK BEAR
SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 1D

GEOGRAPHICAL DESCRIPTION: Upper Lynn Canal

PERIOD COVERED: 1 January 1986-31 December 1986

Season and Bag Limit

See Hunting Regulations Nos. 26 and 27.

Population Status and Trend

The Subunit 1D black bear population is probably stable; however, increasing harvests and decreasing skull sizes suggest a potential for overharvesting. Reports from hunters and trappers indicate that the number of bears observed was similar to recent years.

Population Composition

Of 48 harvested bears for which sex was determined, 36 were male (75%) and 12 were female (25%), values similar to the 1973-1985 respective means of 74% and 26%. Sex was undetermined for 11 other bears.

Mortality

Four "defense of life or property" black bear kills were documented during the fall season. In the spring season, 3 nonresidents and 33 residents killed 39 bears (25 males, 5 females, and 9 bears of unknown sex); the fall harvest of 20 bears (11 males, 7 females, and 2 bears of unknown sex) was taken by 1 nonresident and 18 resident hunters. Two resident hunters took 1 bear in each season.

Age data are unavailable for the 1986 black bear harvest. Mean skull sizes for spring bears were 17.1 inches for 23 males, 16.6 inches for 5 females, and 15.8 inches for 9 bears of unknown sex; 7 males and 7 females from the fall harvest averaged 16.5 inches and 15.6 inches, respectively. Forty-five bears were of the black phase while 14 were cinnamon colored. Nine bears were claimed to have been taken incidentally, and no meat was salvaged from 9 bears.

Management Summary and Recommendations

The 1986 harvest of 59 black bears in Subunit 1D is the highest ever recorded, and it is more than 2.6 times greater than the 1973-85 mean. The 3 highest harvests documented in this subunit have occurred since 1983. Reduced skull sizes of male bears and those of unknown sex may indicate a harvest higher than the population can support over the long term.

The closure of the moose season during 1986 may have contributed to the high take of bears. Residents of Haines intensively hunt black bears, showing a consistent pattern of using the meat from their kills.

Continued declines in skull size of harvested bears may require a regulatory change to reduce the harvest. However, no changes in seasons or bag limits are recommended at this time.

PREPARED BY:

Bruce Dinneford
Game Biologist III

SUBMITTED BY:

David A. Anderson
Regional Supervisor

BLACK BEAR
SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 5

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

PERIOD COVERED: 1 January 1986-31 December 1986

Season and Bag Limit

See Hunting Regulations Nos. 26 and 27.

Population Status and Trend

Information from various outdoorsmen suggested that bear abundance was similar to that of recent years. The black bear population in Unit 5 appears stable.

Population Composition

No black bear surveys were conducted during 1986.

Mortality

Harvest records indicate that 18 males (67%) and 6 females (33%) were taken (Table 1). No nonsport, illegal, or "defense of life or property" black bear kills were documented in 1986. Twenty nonresident and 2 resident hunters took 24 bears during the spring season; no bears were killed in the fall. Successful hunters averaged 7.5 days afield. Skull sizes of male bears averaged 16.9 inches, while those of females averaged 15.8 inches. All 24 bears taken in 1986 were black in color; 5 bears were reported as incidental takes, and at least some of the meat from 13 bears was salvaged.

Management Summary and Recommendations

The 1986 black bear harvest in Unit 5 was 26% higher than the 1971-1985 average of 19 bears and the lowest since 1983. Two-thirds of the harvest were male bears; the mean skull size of males decreased from the 18.0-inch average seen in 1985. For the 1st time since 1971, no bears of the blue-color phase appeared in the harvest.

The pattern of moderate-to-high interest by nonresident hunters and low interest by local hunters continues in Unit 5. Harvest data and field observations indicate that no changes in the season or bag limit are warranted at this time.

PREPARED BY:

Bruce Dinneford
Game Biologist III

SUBMITTED BY:

David A. Anderson
Regional Supervisor

Table 1. Historical black bear harvests in Unit 5, 1971-86.

Year	Harvest			Totals	Color Phase	
	Males	Females	Unknown		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	12	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	0	25	22	3
1985	30	9	0	29	33	5
1986	18	6	0	24	24	0
Means	14	5	1	19	17	2

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 6

GEOGRAPHICAL DESCRIPTION: Prince William Sound and north
Gulf Coast

PERIOD COVERED: 1 January 1986-31 December 1986

Season and Bag Limit

See Hunting Regulations Nos. 26 and 27.

Mortality

Sealing records indicate that 266 black bears were killed during 1986: 186 (70%) males, 72 (27%) females, and 8 (3%) of unknown sex. Hunters killed 207 (79%) and 55 (21%) bears during the spring and fall, respectively. Four additional males were killed in defense of life or property.

The number of bears killed in 1986 represents a 2% decrease from the record harvest of 273 in 1985, but it is a 104% increase from the 1974-85 mean of 134 bears. Harvest levels have doubled in Subunit 6D during the past 2 years, and a substantial increase has also occurred in Subunit 6A (Table 1). Approximately 48% of the bears killed in Subunit 6D were within 30 boat miles of either Valdez or Whittier; this percentage represents a decrease from that in 1985 (60%).

The mean skull size of male bears killed in Unit 6 was 17.2 inches ($\bar{n}$ = 169). Mean skull size of harvested bears has remained relatively constant during the past decade. In the previous 3 years (1983-85) it was 17.3 inches ($\bar{n}$ = 412); in the preceding 9 years it was 16.8 inches ($\bar{n}$ = 637).

Management Summary and Recommendations

Black bear hunting in Unit 6, especially in Prince William Sound (Subunit 6D), has increased substantially in the past 2 years. The increased popularity of the area is reflected in a record harvest in 1985 and a new record in 1986 (Table 1). Record harvest levels occurred in Subunit 6A, in the northcentral portion of Subunit 6D (Columbia Bay to Eaglek Bay), and in the southwestern portion of Subunit 6D (Port Nellie Juan to Johnstone Bay). The latter 2 areas are midway between Valdez and Whittier and Whittier and Seward,

respectively. The record high harvest in 1985 was taken primarily within 30 boat miles of Valdez and Whittier. The high success rate of hunters in 1985 apparently attracted an equally high number of hunters in 1986. However, successful hunters in 1986 often had to travel farther to consistently locate bears.

High harvests in Subunit 6D for 2 consecutive years were not anticipated but probably occurred because of an unusual abundance of bears and an increased number of bear hunters. Favorable weather over the past 6 years, exceptional salmon escapement, and conservative regulations (compared with those of other units) were factors that may have contributed to an increase in bear numbers.

Conservative seasons and a bag limit of 1 bear should be maintained in Unit 6. If harvests continue to increase, more restrictive regulations may be necessary.

PREPARED BY:

SUBMITTED BY:

Herman GRIESE
Game Biologist III

Carl A. Grauvogel
Survey-Inventory Coordinator

Table 1. black bear harvest in Unit 6 by subunit, 1974-86.

Subunit	Area	Number of bears sealed ^a												
		1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
6A	Icy Bay-Ragged Mtns.	3	14	5	4	6	10	1	8	7	7	24	23	26
6B	Ragged Mtns-Copper River	4	7	4	14	6	4	10	3	5	5	1	9	9
6C	Copper River-Cordova	10	6	27	6	2	3	1	6	6	4	15	8	16
6D	Prince William Sound													
	Nelson Bay-Sheep Bay	16	5	5	2	1	0	0	6	4	1	11	1	11
	Port Gravina-Port													
	Fidalgo	17	7	15	6	7	5	2	10	6	13	16	21	15
	Valdez Arm	9	29	25	15	18	14	22	18	40	35	33	54	38
	Columbia Bay-Eaglek Bay	14	22	26	21	9	7	4	15	28	11	4	24	38
	Port Wells	9	27	16	11	13	14	13	23	20	22	20	51	30
	Whittier-Culross Island	12	14	7	14	11	11	10	14	7	14	16	37	35
	Port Nellie Juan-Johnstone													
	Bay	10	11	19	14	5	14	2	14	13	12	21	35	37
	Bainbridge/Evans/Latouche													
	Islands	1	3	1	1	0	3	1	0	2	3	4	9	9
	Knight Island	0	2	2	0	1	2	0	0	1	1	2	0	2
	Naked/Peak/Storey/Perry													
	Islands	0	0	4	0	1	0	0	0	0	0	0	0	0
	Nonspecific 6D	2	3	1	0	0	1	0	2	1	4	7	1	2
	Total 6D	90	123	121	84	66	71	54	102	121	116	134	233	215
Unit 6 - Nonspecific		1	0	1	0	1	0	0	0	2	1	0	0	0
Totals		108	150	158	108	81	88	66	119	142	133	186	273	266

^a Includes illegal and "defense of life or property"-killed bears.

BLACK BEAR
SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 7 and 15

GEOGRAPHICAL DESCRIPTION: Kenai Peninsula

PERIOD COVERED: 1 January 1986-31 December 1986

Seasons and Bag Limits

See Hunting Regulations Nos. 26 and 27.

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/km² of suitable habitat (Schwartz et al. 1981). Observations made by hunters and Departmental personnel also have suggested that black bears are abundant.

Mortality

The reported sport harvest was 237 black bears, including 94 bears in Unit 7 and 143 bears in Unit 15 (Table 1). The annual harvest in 1986 was 12% higher than the previous 5-year-average harvest, 36% lower than the 1985 harvest, and the 2nd highest black bear harvest since 1980. Sex composition of sport-killed bears was 61% males, 36% females, and 3% unclassified. Ten percent of the reported harvest was taken by nonresidents. In addition to the sport kill, 2 bears in Unit 7 (1 male and 1 female) were taken in defense of life or property.

The annual spring harvest of black bears along the coastal zone of Subunit 15C from the head of Kachemak Bay to Gore Point has ranged from 7 to 39 bears since 1980 (Table 2). The largest cumulative harvest since 1980 (i.e., 44 bears) occurred on the south shore of Kachemak Bay between Halibut Cove and Jakolof Bay.

Management Summary and Recommendations

The Kenai Peninsula black bear harvest has continued to increase. Even though the 1986 harvest was 36% below the 1985 harvest, the trend during the past 5 years has been toward higher harvests. Some coastal areas, such as the south shore

of Kachemak Bay, are currently supporting heavy spring hunting pressure; hunter success and bear density should be closely monitored in these areas.

No changes in seasons or bag limits are recommended.

Literature Cited

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Black bear predation on moose. Alaska Dep. of Fish and
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Proj. W-17-11 and W-21-1. Job 17.3R. Juneau. 16pp.

PREPARED BY:

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SUBMITTED BY:

Carl A. Grauvogel
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Table 1. Summary of black bear sport harvests on the Kenai Peninsula, 1980-86.

Year	Unit 7		Unit 15		Totals	Percentage change
	Spring	Fall	Spring	Fall		
1980	22	48	55	107	232	
1981	26	29	42	58	155	- 33
1982	35	11	43	38	127	- 18
1983	51	28	57	52	188	+ 48
1984	41	22	77	78	218	+ 16
1985	47	82	113	132	374	+ 72
1986	43	51	64	79	237	- 36
Totals	265	271	451	544	1,531	

Table 2. The reported spring black bear harvests along the coastal zone of Subunit 15C from the head of Kachemak Bay southerly to Gore Point, 1980-86.

Coastal Interval	Year							Totals
	1980	1981	1982	1983	1984	1985	1986	
Bradley River-Glacier Spit	-	-	-	-	2	-	-	2
Halibut Cove-Jakolof Bay	4	4	3	4	6	15	8	44
Kasitsna Bay-Point Adam	2	1	4	-	5	7	4	23
Koyuktolik Bay-Chugach Bay	-	3	2	4	2	10	4	25
Windy Bay-Gore Point	1	3	2	3	8	7	3	27
Totals	7	11	11	11	23	39	19	121

BLACK BEAR
SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 9

GEOGRAPHICAL DESCRIPTION: Alaska Peninsula

PERIOD COVERED: 1 January 1986-31 December 1986

Season and Bag Limit

See Hunting Regulations Nos. 26 and 27.

Population Status and Trend

Black bears occur in low-to-moderate densities in northern portions of Subunits 9A and 9B. Black bears do not occur in other portions of Unit 9.

Mortality

Six black bears (3 males, 2 females, and 1 sex unknown) were sealed in 1986. Nonresidents took 2 bears: 1 in the spring and 1 in the fall. One bear was reported as an incidental kill. Sealing of black bears is not required in Unit 9, and the reported harvest (averaging 7 bears per year for the past 10 years) does not accurately reflect the number of bears killed by hunters. Local residents opportunistically kill black bears for personal use; these bears are usually not reported.

Management Summary and Recommendations

Despite the lack of accurate harvest data on black bears, I believe the annual black bear harvest is well below sustained yield. Consequently, no regulatory changes are recommended.

PREPARED BY:

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SUBMITTED BY:

Carl A. Grauvogel
Survey-Inventory Coordinator

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 11

GEOGRAPHICAL DESCRIPTION: Wrangell Mountains

PERIOD COVERED: 1 January 1986-31 December 1986.

Season and Bag Limit

See Hunting Regulations Nos. 26 and 27.

Population Status and Trend

Observations by staff and reports from the public indicate that black bears are abundant in suitably forested habitat throughout Unit 11.

Mortality

Hunters reported taking 6 black bears: 4 males and 2 females. This year's harvest was up from the 1985 harvest of 2 bears, but it was below the 10-year (1976-85) mean of 9 bears/year. Three bears were taken during the spring season and 3 during the fall. The mean skull size for all males in the harvest was 16.8 inches, virtually the same as the 14-year average of 16.9. The mean skull size for all females was 14.6 inches in 1986, down from the 14-year mean (1973-86) of 15.6 inches for all females harvested.

Sealing certificates indicate that aircraft were used by 3 (50%) of the successful hunters; the other 3 successful hunters used a boat, highway vehicle, and an unspecified method of transportation. Five hunters indicated they were specifically seeking black bears, while only one reported taking a bear incidentally during a hunt for other game species. Meat was salvaged by 3 (50%) of the successful hunters. Nonresidents took 2 bears, and local Copper River Basin residents took 3 bears; the remaining bear was killed by an Anchorage resident.

Management Summary and Recommendations

The black bear population in Unit 11 has received relatively light hunting pressure. As a result, harvests have been low; little or no impact has been sustained by the black bear population. The management goal for Unit 11 is to provide the

greatest opportunity to participate in hunting black bears. The current year-round season and 3-bear bag limit meet this objective with minimal impact on bear numbers.

No changes in season or bag limit are recommended.

PREPARED BY:

Robert W. Tobey
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SUBMITTED BY:

Carl Grauvogel
Survey-Inventory Coordinator

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 12

GEOGRAPHICAL DESCRIPTION: Upper Tanana and White Rivers

PERIOD COVERED: 1 January 1986-31 December 1986

Season and Bag Limit

See Hunting Regulations Nos. 26 and 27.

Population Status and Trend

Evidence from general observations and harvest data indicates that black bears exist at moderate densities throughout suitably forested habitat in Unit 12. No trend in black bear abundance is evident.

Mortality

The reported harvest of black bears was 13 for 1986, compared with 25 in 1985 and 45 in 1984. Extremely dry weather during spring 1986 apparently resulted in bears using heavy cover in lowland areas. Few bears were observed on open south slopes, and only 5 bears were taken during spring. Dry weather persisted throughout the summer, and it was believed to be partly responsible for lower-than-normal berry production in alpine areas during fall. This probably resulted in the low number of bears taken during fall.

Females (3) composed only 23% of the harvest. Most black bears were taken in the vicinity of the road system or the Tanana River, except for 4 bears taken by nonresidents on guided hunts in the Nutzotin Mountains. Nonresidents took 6 bears and residents took 7.

Except for local areas along the Tok-Slana Highway south of Tok and along the Tanana River north of Tok, the harvest of bears by hunters is biologically insignificant.

Management Summary and Recommendations

No trend in population size is evident. The management objective of providing maximum opportunity to participate in hunting black bears is currently being met. No changes in the season or bag limit are recommended. At present low harvest

levels, sealing requirements for bears taken in Unit 12 may not be necessary.

PREPARED BY:

David G. Kelleyhouse
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SUBMITTED BY:

Wayne E. Heimer
Survey-Inventory Coordinator

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 13

GEOGRAPHICAL DESCRIPTION: Nelchina Basin

PERIOD COVERED: 1 January 1986-31 December 1986

Season and Bag Limit

See Hunting Regulations Nos. 26 and 27.

Population Status and Trend

In conjunction with the Susitna Hydroelectric Project (Miller et al., in press), a black bear census was conducted in 1985 along a portion of the Upper Susitna River. Results of this survey indicated a density of 1 black bear/4.3 mi². Black bear surveys to determine population status have not been conducted in other portions of the unit; however, field observations and harvest data suggest black bears exist at similar or greater densities in suitable forest habitats throughout Unit 13. No discernible trend in bear abundance has been observed.

Population Composition

Radio-collared female black bears that were observed along the upper Susitna River had a mean litter size of 2.1 cubs-of-the-year and 1.9 yearlings (Miller, in press).

Mortality

The reported harvest of black bears during 1986 was 68: a decline of 35% from the 1985 harvest of 105 and 11% less than the 10-year (1976-85) mean harvest of 76 bears. The reported spring harvest was 24 (35%) bears, while 44 bears (65%) were reported killed in the fall. Subunit 13E had the highest reported harvest of 32 (47%) bears, followed by 13D with 25 (37%), 13C with 5 (7%), 13A with 4 (6%), and 13B with 2 (3%).

Data obtained from bear-sealing certificates indicate 62% (42) of the hunters were specifically hunting black bears, and 38% (26) reported taking a black bear incidentally while hunting another game species. The meat was reported salvaged by 66% (45) of the successful black bear hunters. Nonresident hunters took 13 (19%) of the black bears, down slightly from

the 16 bears taken in 1985. Residents of GMU 13 took 11 (16%) bears; the remaining 44 (65%) bears were taken by other Alaska residents. Seven successful black bear hunters reported using a guide. Overall, hunters spent approximately 2.9 days afield to kill a bear. Thirty-three (49%) successful hunters used highway vehicles or walked; 15 (22%), aircraft; 10 (15%), boats; 8 (12%), ORVs; and 1 (2%), a horse.

Of the bears for which sex was known ($n = 62$), harvest composition was 36 (58%) males and 26 (42%) females. The average skull size for males was 16.2 inches in 1986, slightly lower than the 14-year average of 16.6 inches. The mean skull size for females in the harvest was 15.8 inches, up slightly from the 14-year mean of 15.5 inches.

Cubs-of-the-year that accompanied radio-collared females had a natural mortality rate of 35% in the drainage of the upper Susitna River in Unit 13 (Miller, et al., 1987).

Management Summary and Recommendations

The management objective for black bears in Unit 13 is to provide for the greatest opportunity to participate in hunting. This objective is met by a year-round hunting season and an annual bag limit of 3 bears. From hunter contacts, it appears that interest in black bear hunting has been high during the past 5 years. One explanation for the current interest in black bear hunting is that hunters may be seeking alternate hunting opportunities because of shorter hunting seasons and the increased use of permit hunts on other species.

The harvest rate for black bears in Unit 13 during the past 5 years does not appear to have limited or reduced bear numbers. The sex ratio of the Unit 13 harvest has favored males (58%), a situation frequently observed in bear populations where exploitation rates are within sustainable levels. However, a reduction in annual harvest as well as a slight decline in mean skull size for all males has occurred. The reasons for these observed declines are unknown. Yearly fluctuations in harvests and age structure of the harvests occur periodically for a number of reasons and are not always related to changes in bear abundance. If declines in the number and mean age of bears continue, these trends would suggest that bear harvests are beginning to exceed sustained yield, and a reduction in the bear take may be necessary.

No changes in season dates or bag limits are recommended.

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PREPARED BY:

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Game Biologist III

SUBMITTED BY:

Carl A. Grauvogel
Survey-Inventory Coordinator

BLACK BEAR
SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 14

GEOGRAPHICAL DESCRIPTION: Upper Cook Inlet

PERIOD COVERED: 1 January 1986-31 December 1986

Season and Bag Limit

See Hunting Regulations Nos. 26 and 27.

Population Status and Trend

The black bear population appears to be stable; however, the long-term effects of expanding human habitation coupled with a substantial harvest are factors that may produce a decrease in bear numbers in the next few years.

Mortality

During the hunting season, 105 black bears were killed: 68 in Subunit 14A, 19 in Subunit 14B, and 18 in Subunit 14C. During the spring season 51 bears were taken, including 25 males, 23 females, and 3 of unknown sex. During the fall season 54 bears were taken, including 31 males, 20 females, and 3 of unknown sex. Resident hunters took 101 of the 105 bears that were killed; additionally, 2 black bears were killed in defense of life or property in Subunit 14C.

Management Summary and Recommendations

The sport kill of 105 black bears is the highest on record and represents a 13% increase from the previous year (93 bears). The annual kill since 1975 has averaged 78 bears, ranging from 43 to 105. In 1975-86 the harvest of females fluctuated between 21% and 45% annually; however, there is no consistent correlation between high harvests and a high percentage of females in the harvest. For example, during 1976-78 females composed 41% of a mean harvest of only 54 bears. In 1980-1982 the mean harvest of 85 bears contained only 29% females. Because the percentage of females in the harvest has remained below 50% annually and the total harvest has not declined substantially, I can only conclude that existing harvests have not exceeded sustained yield and are within the normal range of annual fluctuations.

Several regulation changes were implemented by the Board of Game. The Anchorage Management Area was closed to black bear hunting, and the Eklutna Management Area was opened to black bear hunting by bow and arrow only. In addition, black bears cannot be taken with use of bait in Unit 14C, except in the Knik River, Lake George, and Twentymile River drainages outside of Chugach State Park. I do not believe these regulatory changes will significantly alter the take of black bears in Unit 14.

PREPARED BY:

SUBMITTED BY:

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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 1985-31 December 1985

Season and Bag Limit

See Hunting Regulations Nos. 26 and 27.

Population Status and Trend

Observations by Department staff and the public indicate an abundant population of black bears in Unit 16. No survey or other population data have been collected.

Mortality

Sealing records from Unit 16 indicate that 136 black bears (85 males, 45 females, and 6 sex unknowns) were harvested in 1986. Subunit 16A produced 27 bears (20 males, 6 females, and 1 sex unknown); 14 bears were taken in the spring and 13 in the fall. In Subunit 16B, 109 bears were sealed (65 bears, 39 females, and 5 sex unknowns); 45 bears were taken in the spring and 64 in the fall. The reported harvest for the past 3 years has remained nearly stable.

No bears were reported taken in defense of life or property; however, problems with nuisance black bears occur frequently. Some hunters who sealed bears probably failed to indicate that the bear had been killed because it was a nuisance. Additionally, all nuisance bears that were killed may not have been sealed.

Skull-measurement data from both spring and fall hunting seasons were similar to mean skull measurements during the past 10 years. The mean skull sizes of bears killed during the spring and fall seasons was 16.9 inches ($\bar{n} = 35$) and 16.5 inches ($\bar{n} = 42$) for males and 16.2 inches ($\bar{n} = 19$) and 15.4 inches ($\bar{n} = 21$) for females, respectively.

Management Summary and Recommendations

The reported harvest for the past 3 years has been fairly uniform (1984, 141 bears; 1985, 146 bears; and 1986, 136

bears). The mean harvest for the past 10 years is 133 bears, but annual harvests have ranged between 75 and 246. The extremes in harvest were caused primarily by environmental conditions (good or poor berry crops, spring breakup, and other weather conditions, etc.) that influenced the bears' vulnerability to hunters, rather than changes in actual bear abundance. No pattern is evident in the data to suggest that the magnitude of harvest for a given year was noticeably influenced by the harvests from preceding years.

Data from the sport harvest do not indicate that hunting has had a detrimental impact on black bear numbers. The mean skull data and ratio of males to females in the harvest do not indicate that the age structure of the population has been significantly altered or that females are being killed because males are not available. When this information is coupled with public observations indicating an abundance of bears, it suggests that present harvest levels are sustainable.

No changes in season dates or bag limits are recommended.

PREPARED BY:

SUBMITTED BY:

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Carl A. Grauvogel
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BLACK BEAR
SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 17

GEOGRAPHICAL DESCRIPTION: Northern Bristol Bay

PERIOD COVERED: 1 January 1986-31 December 1986

Season and Bag Limit

See Hunting Regulations Nos. 26 and 27.

Population Status and Trend

Black bears exist at low-to-moderate densities in Subunit 17B and at low densities in Subunit 17C; the species inhabits only a small portion of northern Subunit 17A. Observations of black bears occur infrequently, and no trend in the population is apparent.

Mortality

Sealing of black bears is not required in Unit 17; however, sealing is done upon request. Since 1973 only 33 black bears have been sealed in Unit 17; four were sealed in 1986. Sealing records are a poor indicator of annual harvests; the actual harvest is probably several times higher.

Management Summary and Recommendations

Very few hunters travel to Unit 17 specifically to hunt black bears. Most black bears are taken on an opportunistic basis by moose, caribou, and brown bear hunters. In the last 10 years, the number of big-game hunters in Unit 17 has increased significantly, and it is possible that the present black bear harvest is limiting population growth and/or has reduced bear numbers in some areas.

Because black bear numbers and densities are relatively low and annual harvests of other species have been relatively high, better harvest reporting is needed for management. I recommend implementation of a mandatory sealing regulation for black bears in Unit 17.

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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 1986-31 December 1986

Season and Bag Limit

See Hunting Regulations Nos. 26 and 27.

Population Status and Trend

Black bear numbers appear stable at moderate densities in Unit 20. Highest densities occur in the inaccessible portions of mixed forest-swamp habitats of the Tanana Flats in Subunit 20A and the Minto Flats in Subunit 20B. Densities are lower in the more continuous spruce-forest habitats and along the road system of Subunit 20B.

Mortality

During 1986 hunters killed 171 black bears in Unit 20: 112 males (66%), 55 females (32%), and 4 bears (2%) of undetermined sex (Table 1). In addition, 1 male was killed in defense of life or property in Subunit 20C.

The 1986 harvest was 44% greater than the 1985 harvest, but it is comparable to the previous 5-year (1980-84) mean annual harvest of 173 bears. Mean skull sizes of males (16.3 inches) and females (15.6 inches) were not significantly different ($P > 0.05$) than 1985 skull sizes. Age data were not available from any of the black bears taken in Unit 20 during 1986.

Seventy-nine (46%) bears were taken during the fall season, and 93 (54%) bears were taken during the spring season. Males constituted 67% of the fall harvest and 69% of the spring harvest.

Hunters reported salvaging meat from 80% of the bears taken during spring and from 87% of bears taken during fall. During fall, 49% of the harvest was reported as incidental to hunting other big game, and 23% of the spring harvest was reported as incidental.

Nonresidents took 7 bears, and military personnel took 53 bears. In Subunit 20B, 33% of the fall harvest and 42% of the spring harvest was taken by military personnel. As in the past, the greatest proportion of the total harvest in Unit 20 (65%) came from Subunit 20B.

Management Summary and Recommendations

Overall, black bear numbers appear stable in Unit 20. Heavy hunting pressure along the road system in Subunit 20B probably results in lower black bear densities than those of more inaccessible areas such as the Minto and Tanana Flats.

Spring black bear hunting is popular among Fairbanks area residents, particularly military personnel from Fort Wainwright and Eielson Air Force Base. Military personnel accounted for 42% of the black bear spring harvest in Subunit 20B. Planned expansion of military bases in the Fairbanks area (an increase of up to 3,000 soldiers over the next 4-5 years) will undoubtedly place increasing pressure on black bears in Subunit 20B. Anticipating a greater need for data on black bear densities, exploitation rates, productivity, and response to heavy hunting pressure, the Department, in conjunction with the Fort Wainwright Natural Resources Office, is assessing possible research projects in Subunits 20B and 20A. No changes in seasons or bag limits are recommended at this time.

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Table 1. Black bear harvest by subunit in Unit 20, 1986.^a

Subunit	Fall			Spring			Total
	Males	Females	Unk	Males	Females	Unk	
20A	10	9	0	4	2	0	25
20B	30	12	3	46	21	0	112
20C	1	1	0	2	2	1	7
20D	7	1	0	7	2	0	17
20E	2	1	0	0	1	0	4
20F	1	1	0	3	2	0	7
Total	51	25	3	62	30	1	172

^a Includes 1 bear taken in defense of life or property from Subunit 20C during spring (male).