CY'83

ALASKA DEPARTMENT OF FISH AND GAME

JUNEAU, ALASKA

STATE OF ALASKA
Bill Sheffield, Governor

DEPARTMENT OF FISH AND GAME
Don W. Collinsworth, Commissioner

DIVISION OF GAME
W. Lewis Pamplin, Jr., Director
Robert A. Hinman, Deputy Director

ANNUAL REPORT OF SURVEY-INVENTORY ACTIVITIES

PART IV. BLACK BEARS

Edited and Compiled by
Alma Seward, Publications Technician

Volume XV

Federal Aid in Wildlife Restoration

Project W-22-2 and W-22-3, Job 17.0

(Printed December 1984)

CONTENTS

Game Management Unit Map.....ii

Statewide Harvest and Population Status.....iii

Game Management Unit/Geographical Description

GMU 1A and 2 - Ketchikan Area and Prince of Wales Island...1

GMU 1B and 3 - Southeast Mainland from Cape Fanshaw to Lemesurier Point; Islands of the Petersburg, Kake, and Wrangell Area.....8

GMU 1C - Mainland Portion Between Cape Fanshaw and the Latitude of Eldred Rock.....15

GMU 1D - Upper Lynn Canal.....17

GMU 5 - Cape Fairweather to Icy Bay, Eastern Gulf Coast...21

GMU 6 - Prince William Sound and North Gulf Coast.....25

GMU 7 and 15 - Kenai Peninsula.....27

GMU 9 - Alaska Peninsula.....29

GMU 11 - Wrangell Mountains.....31

GMU 12 - Upper Tanana and White Rivers.....32

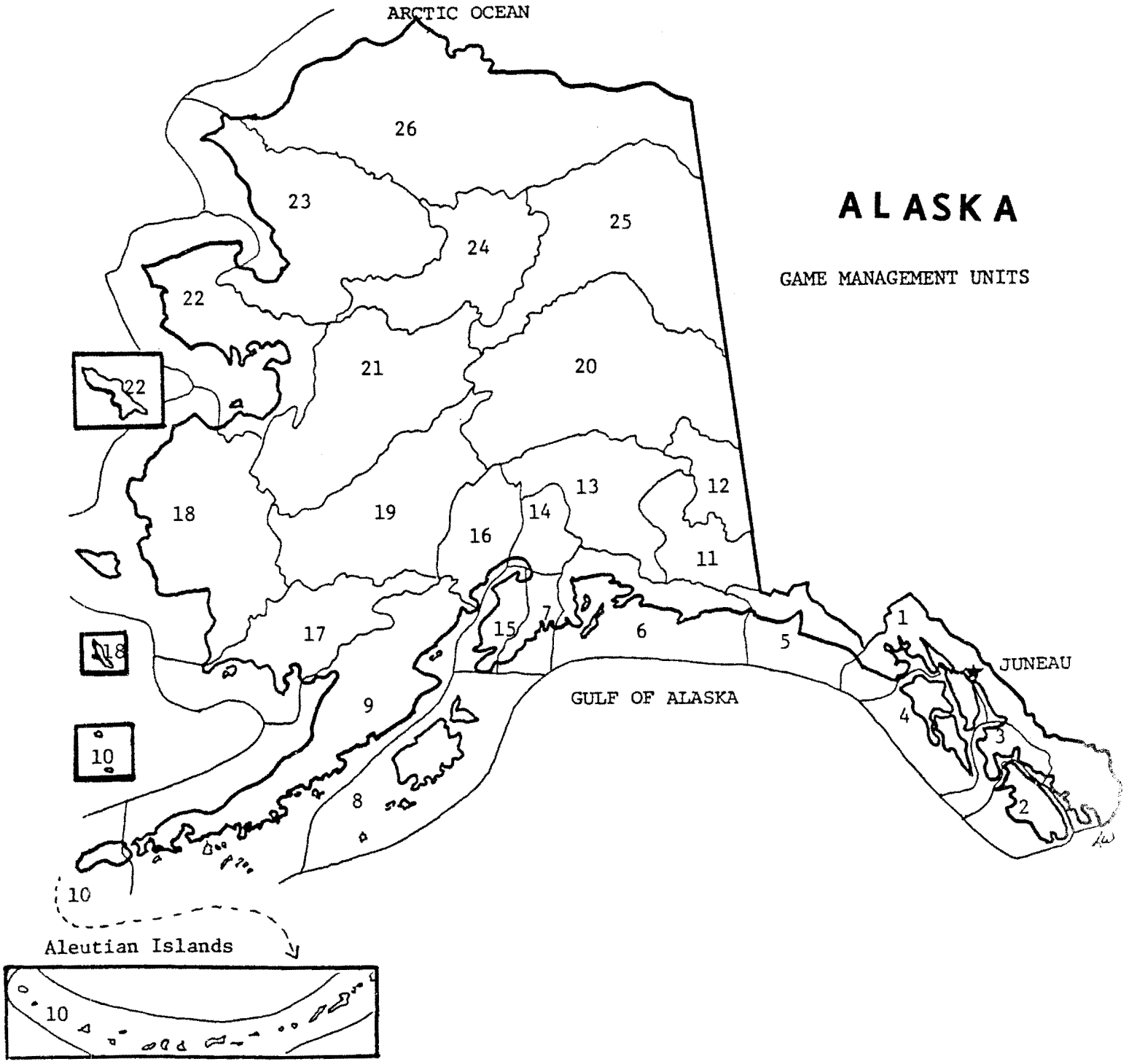
GMU 13 - Nelchina Basin.....33

GMU 14 - Upper Cook Inlet.....35

GMU 16 - West Side of Cook Inlet.....37

GMU 17 - Northern Bristol Bay.....39

GMU 20 - Central Tanana-Upper Yukon Valley.....40


ARCTIC OCEAN
ALASKA
GAME MANAGEMENT UNITS
26
23
25
24
22
21
20
22
18
19
16
14
13
12
11
18
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

Mandatory sealing of black bears is required only in Game Management Units 1-7, 11-16, and 20; harvest data are not available for the rest of the state. In these units, hunters harvested 1,121 black bears. Unit 20 topped the list with 186 bears, followed by Unit 6 (131 bears) and Unit 15 (113 bears).

In most areas, black bear populations are thought to be stable. Hunting pressure appeared to be moderate relative to populations, as evidenced by the percentage of males in the kill (generally from 65-85%).

Unit	Harvest	% Males
1A	48	71
1B	9	--
1C	49	80
1D	43	75
2	88	80
3	83	85
5	20	82
6	131	79
7	75	70
9	8	75
11	12	67
12	26	88
13	57	60
14	80	69
15	113	68
16	93	56
20	186	70

Robert A. Hinman
Deputy Director

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNITS: 1A AND 2

GEOGRAPHICAL DESCRIPTION: Ketchikan Area and Prince of Wales Island

PERIOD COVERED: 1 January 1983-31 December 1983.

Season and Bag Limit

See Hunting Regulations No. 23 and 24.

Population Status and Trend

The black bear population in GMU 1A and 2 appears to be maintaining a fairly constant level, 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

Totals of 48 black bears from Game Management Unit 1A and 88 from Game Management Unit 2 were reported taken by hunters in 1983 (Table 1). No bears were taken in defense of life or property in either GMU in 1983.

The harvest for Subunit 1A represents an increase of 37% from the 35 bears taken in 1982, while Unit 2 registered a 21% decrease from last year.

Seasons since 1974 are summarized in Table 2. In the spring portion of the season in Subunit 1A, 22 bears were taken from Revilla and surrounding small islands and 4 were taken on the mainland. In Unit 2, 64 bears were taken in the spring. The corresponding 1982 Unit 2 harvest was 78 bears.

The sex ratio of bears taken in the spring season for Subunit 1A was 85% males, down from 1974-82 average of 94%. In Unit 2, the percent males in the spring harvest for 1983 was 84%, slightly below the long-term average of 88%.

The fall harvest in Subunit 1A increased from 8 bears in 1982 to 22 bears in 1983. Twelve of the 22 bears were males. In Unit 2, the 1983 fall harvest of 24 bears was down from the 33 taken in 1982. The sex ratio for these 24 bears was 67% males, slightly above the past 5-year average of 60%. The fall harvest in both units has consistently produced a lower ratio of males than has the spring season. The reason for the large increase in the Subunit 1A fall harvest is unknown, although large fluctuations in the bear harvest are fairly typical in these units.

The harvest chronology is shown in Table 3. In Subunit 1A, 54% of the kill occurred during the spring season, and 46% of the spring bears were taken in the May 1-20 period. In Unit 2, 73% of the harvest occurred in the spring and 48% of these were taken in the May 1-20 period. The spring harvest in both units was spread more evenly over the season than in most years, and the peak of the harvest was earlier than in most years.

The peak of the spring harvest 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 mild winters than after severe winters.

Transportation used by bear hunters in 1983 to reach hunting areas changed somewhat from 1982. In Subunit 1A during 1983, 54% of the bear hunters used boats, 25% used aircraft, and 21% hunted from a road system. In Unit 2, where logging roads are more extensive, 60% used road vehicles, 14% used airplanes and 26% traveled by boat.

Non-residents took 21% of the bears from Subunit 1A and 33% of those from Unit 2. Sixty-four percent of the 39 bears taken by non-residents were taken during the spring season. The percentage harvested by non-residents varies from year to year, but the trend appears to be stable.

Tabulation of data on incidental take of black bears shows 10% of the bears taken during the spring season were considered incidental, while 18% of the fall bears were indicated as taken incidental to other activities. The fall season generally has a higher percentage of incidental harvest.

Seventy-one percent of the successful spring bear hunters and 57% 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 1A, 30 males averaged 17.1 inches while in Unit 2, 64 males

averaged 19.1 inches. Comparable figures for 1982 were 17.6 inches for 29 males from Subunit 1A and 19.0 inches for 74 males from Unit 2. Male skull sizes have remained fairly constant for the past 7 years. Table 2 shows mean skull size by area, sex and season. Age data for bears taken since 1978 are not available.

One hundred twenty-six hunters took the 136 bears reported for 1983 from Game Management Units 1A and 2, (which indicates 10 hunters took 2 bears each.)

One cinnamon bear was taken this year. The cinnamon color phase in this area is found only on mainland, and some selectivity occurs for cinnamon bears over the normal black phase.

Management Summary and Recommendations

The 1983 black bear harvest for Subunit 1A was up 66% over the long-term average of 29 bears; the Unit 2 harvest was 35% over the long-term average of 65. The increase in the Subunit 1A harvest occurred entirely in the fall season and there is no apparent explanation for the increase. The harvest in both units should increase gradually as the human population grows and expanded access is created, particularly on Prince of Wales Island. In addition to this, more personnel are being permanently stationed in the field in areas like the U.S. Coast Guard station and Swan Lake power facility in Subunit 1A, and these people traditionally hunt bears to a greater extent than the general public.

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

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

PREPARED BY:

Robert E. Wood
Game Biologist III

SUBMITTED BY:

Steven R. Peterson
Acting Management Coordinator

Table 1. Black bear sport harvest statistics for Game Management Units 1A and 2, 1983.

GMU	Season	Total kill	No. males	No. females	Kill by nonres. N	Kill by nonres. %	Mean skull size (inches) Males	Mean skull size (inches) N	Mean skull size (inches) Females	Mean skull size (inches) N	Transport used, % Air	Transport used, % Boat	Transport used, % Roads
1A	Spring	4[a]	3	1	0		16.0	3	15.8	1	0	100	0
Mainland	Fall	9	4	5	4	44	16.8	3	15.9	5	56	44	0
	Year	13	7	6	4	31	16.4	6	15.8	6	38	62	0
1A	Spring	22	19	3	5	23	17.3	18	16.4	2	32	45	23
Revilla	Fall	13	8	5	1	8	17.0	6	15.3	4	0	62	38
	Year	35	27	8	6	17	17.2	24	15.7	6	20	51	29
Total	Spring	26	22	4	5	19	17.1	21	16.2	3	27	54	19
GMU 1A	Fall	22	12	10	5	23	16.9	9	15.6	9	23	55	22
	Year	48	34	14	10	21	17.1	30	15.8	12	25	54	21
GMU 2	Spring	64	54	10	20	31	19.5	49	16.7	10	5	31	64
	Fall	24	16	8	9	37	18.0	15	16.8	7	38	12	50
	Year	88	70	18	29	33	19.1	64	16.7	17	14	26	60

[a] One cinnamon phase black bear accounted for 25% of the spring harvest and 8% of total harvest in Subunit 1A, mainland portion.

Table 2. Black bear harvest size for Game Management Units 1A and 2, 1974-1983.

GMU	Year	Season	Total kill	Percent males	Mean skull size (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	--	--
		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	3
		Year	24	79	18.0	16	16.0	5
1A	1979	Spring	27	93	17.8	24	15.6	1
		Fall	3	33	--	--	17.1	1
		Year	30	87	17.8	24	16.4	2
1A	1980	Spring	19	100	17.8	18	--	--
		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	5	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	15.6	9
		Year	48	71	17.1	30	15.8	12

Table 2. Continued.

GMU	Year	Season	Total kill	Percent males	Mean skull size (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	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

Table 3. Chronology of the 1983 black bear harvest in Game Management Units 1A and 2.

Dates	No. Animals Harvested	
	Subunit 1A	Unit 2
20-31 Mar	1	1
1-20 Apr	0	2
21-30 Apr	3	6
1-10 May	5	20
11-20 May	7	11
21-31 May	4	6
1-10 Jun	5	5
11-20 Jun	1	7
21-30 Jun	0	6
1-10 Sep	3	5
11-20 Sep	8	9
21-30 Sep	5	1
1-10 Oct	4	3
11-20 Oct	1	1
21-31 Oct	0	0
1-10 Nov	0	1
11-30 Nov	1	4

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 1983-31 December 1983

Season and Bag Limit

See Hunting Regulations No. 23 and 24.

Population Status and Trend

No census activities were 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 structure of harvested bears indicates a healthy population with no evidence of excessive harvest.

Population Composition

Ages of black bears were not determined during the report period. In Unit 3, the harvest of females was low, with males comprising 80% of the total of 83 bears. Ten bears were of unknown sex. Table 1 shows the sex composition of the harvest by island. It is generally believed that a high proportion of females in the harvest indicates excessive exploitation of the population. Although hunter selectivity biases the harvest toward males, it appears that Unit 3 black bear harvests are nominal at present.

In Subunit 1B, 67% (N = 6) of the bears were males; 22% (N = 2) were of unknown sex.

Mortality

In Subunit 1B, the 1983 sport harvest was 9 bears, compared to 7 in 1982. Three bears (33%) were taken during the spring, and 6 (67%) 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.

In 1983, the reported sport harvest was 83 black bears from Game Management Unit 3. This was the 2nd highest since the

sealing program began, and was a decrease of 1 from last year's record take of 84 bears (Fig. 1). Males accounted for 80% of the total, an indication of a healthy population. Non-resident hunters accounted for 43% (N = 35) of the Unit 3 black bear harvest, compared to 38% (N = 32) in 1982. Figure 2 shows the annual non-resident take since 1974. The total spring take was 64 bears (77%); the fall take was 19 (23%) (Table 1).

The peak week of the spring season was from 8 May-15 May, during which 30% of the spring harvest occurred. Eighty-four percent of the spring bears were killed in May. During the fall, 61% were taken in September and the remainder in October. The chronology of the Unit 3 harvest is shown in Table 4.

The highest kill per unit area occurred on Kuiu Island (Table 2), where a bear was taken for each 17 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 4 major islands in Unit 3.

The mean skull size for all Unit 3 males was 18.7 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). In the period 1974-77, the average annual take was 41 bears, while from 1978 through 1983, the annual harvest averaged 64. A total of 524 bears has been taken in Unit 3 during the decade beginning in 1974. 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 5).

Management Summary and Recommendations

The average annual black bear harvest in Unit 3 from 1974 through 1982 was 52 (Table 3). Populations in both GMU 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. An increase in bag limit to 2 bears will take effect in GMU 1B and 3 in 1984-85. Bear harvest can be expected to increase as state subdivisions are developed on Kuiu, Wrangell, Etolin, Mitkof and Kupreanof Islands.

PREPARED BY:

E. L. Young, Jr.
Game Biologist III

SUBMITTED BY:

Steven R. Peterson
Acting Management Coordinator

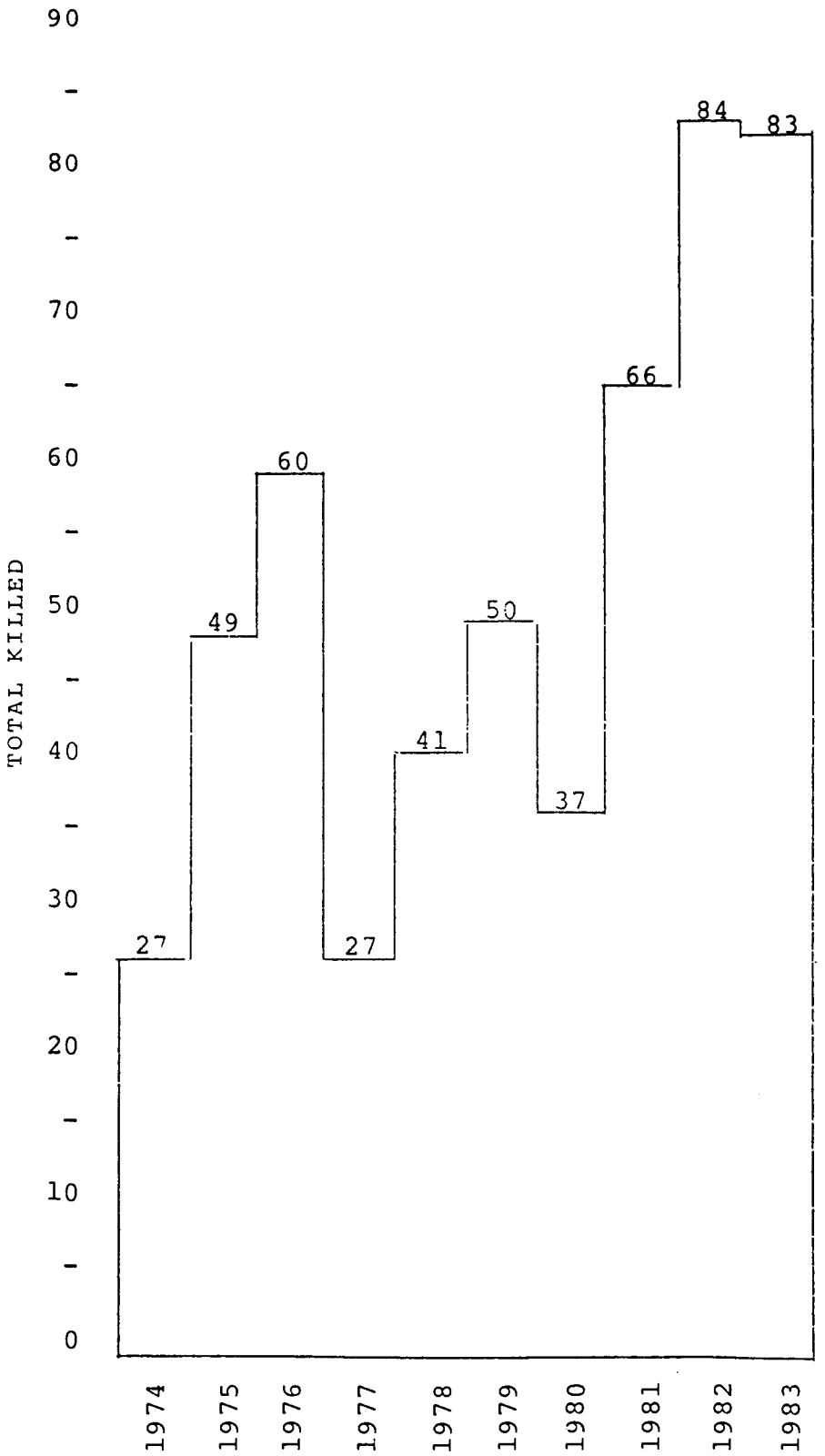


Figure 1. Annual Game Management Unit 3 Black Bear Harvest, 1974 - 1983.

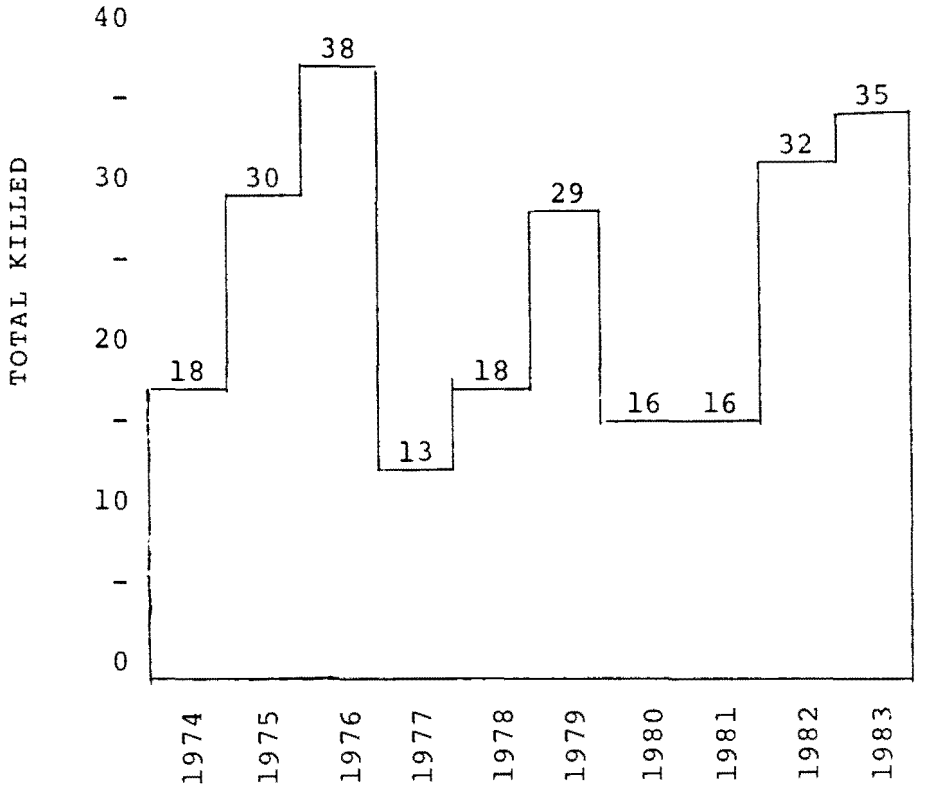


Figure 2. Game Management Unit 3 Black Bear Harvest by Non-resident Hunters, 1974 - 1983.

Table 1. Black bear harvest in Game Management Unit 3 during 1983.

Location	Season	No. males	Mean skull size[a]	No. Females	Mean skull size[a]	No. Unk.	Total bears	Percent of harvest
Kupreanof Island	Spring	24	18.4	1	16.7	0	25	30
	Fall	3	16.7	0	--	0	3	4
	Year	27		1		0	28	34
Kuiu Island	Spring	32	18.8	1	16.0	1	34	41
	Fall	3	19.4	6	16.6	0	9	11
	Year	35		7		1	43	52
Mitkof Island	Spring	0	--	2	16.0	2	4	5
	Fall	3	19.7	2	16.0	2	7	8
	Year	3		4		4	11	13
Etolin Island	Spring	1	15.1	0	--	0	1	1
	Fall	0	--	0	--	0	0	0
	Year	1		0		0	1	1
Totals	Spring	57		4		3	64	77
	Fall	9		8		2	19	23
	Year	66		12		5	83	100

[a] In inches.

Table 2. Game Management Unit 3 black bear harvest by island, 1983.

Island	Area (mi^2)	Harvest	Mi^2/ bear	No. males	No. females	No. unknown	Percent of total harvest
Kupreanof	1,090	28	39	27	1	0	34
Kuiu	746	43	17	35	7	1	52
Mitkof	211	11	19	3	4	4	13
Etolin	343	1	343	1	0	0	1
Total	2,390	83	29	66	12	5	100

Table 3. Annual Game Management Unit 3 black bear harvest percentages by island, 1974-1983.

Year	No. 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
Average	52	30	51	12	3	4

Table 4. Cumulative chronology of black bear harvest in Game Management Unit 3 for 1983; season dates, 1 September-15 June.

	Feb	Mar	Apr	May	Jun	Jul	Sep	Oct	Totals
Male	1	0	13	39	4	1	5	3	66
Female	0	0	1	3	0	0	5	3	12
Unknown	0	0	1	2	0	0	1	1	5
Totals	1	0	15	44	4	1	11	7	83
Cumulative %	1	1	19	72	77	78	92	100	

Table 5. Black bear mean skull size, Unit 3, 1974-1983.

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
Total or mean	18.5	383	16.4	71

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 1983-31 December 1983

Season and Bag Limit

See Hunting Regulations No. 23 and 24.

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 1983 in Subunit 1C was 49 bears (35 males, 9 females, and 5 of unknown sex), 32% (23 bears) below the 1982 harvest and 2 bears above the mean annual harvest of 47 bears since 1974. The harvest included 5 black bears of the cinnamon color phase. Residency of successful black bear hunters in 1983 was 84% residents (41 hunters) and 16% (8 hunters) nonresidents. Guided hunts in 1983 accounted for 12% of the total sport kill harvest (6 bears), all taken by nonresidents. The reported nonsport kill was 1 male bear taken in defense of life or property.

In Subunit 1C in 1983, the mean skull size of males was 17.3 inches (N = 35) and females 15.4 inches (N = 8). The mean male skull size (N = 57) in 1982 was 17.3 inches. Age data for bears killed in 1983 were not available.

Chronology of the harvest in 1983 showed that 80% (39 bears) of the harvest occurred during the spring season, 69% of which were males. Seventy-four percent of the spring bears were taken in May (N = 29). Of the remaining 10 bears killed, 8 were taken in September, 1 in October and 1 in November. The fall harvest consisted of 80% males.

Successful hunters spent a total of 115 days hunting black bear, averaging 2.3 days/bear. Days hunted per bear ranged from 1 to 8.

Distribution of the harvest in Subunit 1C in 1983 showed the Berners Bay to Bishop Point and Chilkat Range harvests nearly equal with 19 and 18 bears taken, respectively. Twelve bears were killed between Bishop Point and Cape Fanshaw (the remainder of the Subunit).

Modes of transportation used by successful hunters were as follows: boat, 61%; aircraft, 8%; other, 28%; and unknown 2%.

Management Summary and Recommendations

The reported 1983 harvest of 49 black bears in Subunit 1C was below the unusually high 1982 kill of 72 animals but slightly above the previous 9-year average of 47 bears. The 71% males in the harvest in 1983 suggest a stable population. In 1982 males comprised 82% of the harvest.

While no significant changes were noted in the percentage of males in the harvest for most major harvest areas in Subunit 1C, the percentage of males did decline from 93% (1982) to 67% (1983) in the Chilkat Range area. However, the mean skull size of male bears killed in this area remained about the same between these years.

No changes in season or bag limit were recommended.

PREPARED BY:

David W. Zimmerman
Game Biologist II

SUBMITTED BY:

Steven Peterson
Acting Management Coordinator

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 1D

GEOGRAPHICAL DESCRIPTION: Upper Lynn Canal

PERIOD COVERED: 1 January 1983-31 December 1983

Season and Bag Limit

See Hunting Regulations No. 23 and 24.

Population Status and Trend

No data available.

Population Composition

No survey data available. However, the sex ratio of 41 known-sex harvested bears from the report period was 74% male and 26% female (Table 1). This compares to the 1973-1983 average of 75% male and 25% female.

Mortality

No non-sport, illegal, or defense of life and property black bear kills were documented in 1983. The spring season harvest consisted of 21 bears (17 male, 4 female) taken by 19 hunters (18 resident, 1 nonresident). The fall harvest consisted of 22 bears (14 male, 7 female, and 1 of unknown sex) taken by 21 hunters (20 resident, 1 nonresident).

Age data is currently unavailable for the Subunit 1D 1983 black bear harvest. Skull sizes for spring bears averaged 17.4 and 14.4 inches for males and females, respectively; fall males averaged 16.0 inches and fall females averaged 15.2 inches. Mean skull size data for 189 bears taken between 1973 and 1983 from GMU 1D are presented in Figure 1.

Ten percent of known-color black bears were of the cinnamon color phase, compared to a 1976-1983 average of 30% cinnamon color bears in the harvest.

Only 7 of 40 black bear hunters reported taking bears incidental to other activities, while 33 of the 40 reportedly salvaged the meat from the bears they killed.

Management Summary and Recommendation

The 1983 harvest of 43 black bears is the highest recorded for Subunit 1D and represents a 115% increase over the 1973-1983

average take of 20 bears. The mean skull size in 1983 for male (16.8 inches) and female (14.9 inches) black bears does not differ significantly from the 1973-1983 cumulative mean skull size for males and females (17.6 inches and 15.2 inches, respectively). The markedly increased harvest in 1983 may be partially a result of bears being more frequently observed at lower elevations than in past years. Commercial Fisheries Division staff stationed in Haines indicated interest in black bear hunting was higher than normal during the current year. This is further attested to by the high number of hunters who salvaged meat from their kills. This could be due to a low moose harvest in the fall of 1982 and an apparently poor fishing season in the summer of 1983.

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

PREPARED BY:

W. Bruce Dinneford
Game Biologist III

SUBMITTED BY:

Steven R. Peterson
Acting Management Coordinator

Figure 1. Historic average skull sizes by sex of 189 black bear harvested in Game Management Unit 1D, 1973-1983

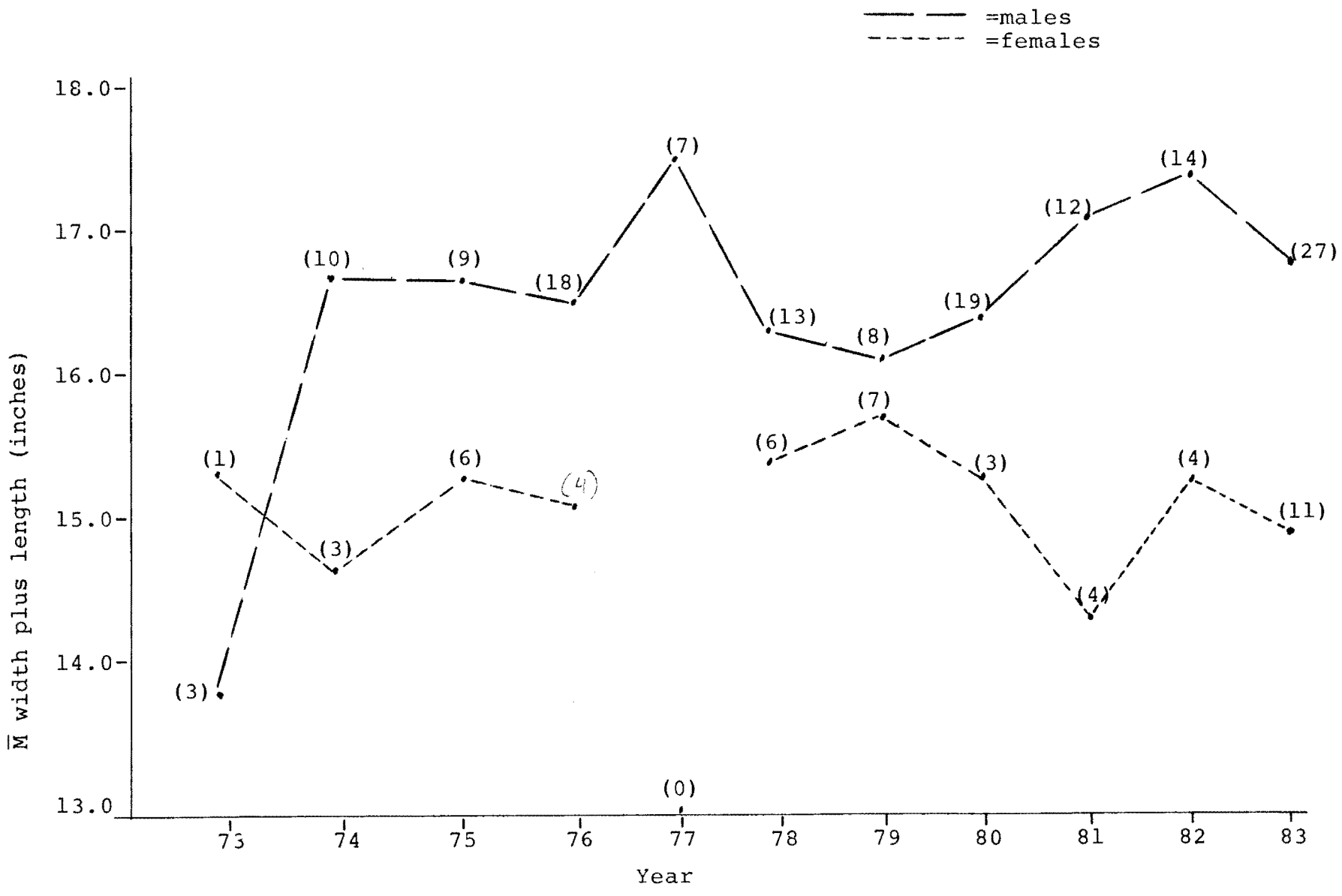


Table 1. Historical black bear harvest, Game Management Unit 1D, 1973-1983

	Harvest				Color Phase	
Year	Male	Female	Unk.	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
Means	15	5	<1	20	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 1983-31 December 1983

Season and Bag Limit

See Hunting Regulations No. 23 and 24

Population Status and Trend

No data available. However, discussions with hunters, guides, fishermen, and Department staff indicated no apparent change in the frequency of bear observation. The Unit 5 black bear population is considered stable.

Population Composition

No surveys were conducted to enumerate and classify bears. Harvest statistics indicate that 14 of 17 (82%) known-sex bears were male (Table 1). No indications were perceived during the report period that cubs were present in abnormally high or low numbers.

Mortality

No non-sport, illegal, or defense of life and property black bear kills were documented in 1983. Twelve nonresident and 6 resident hunters took 18 bears (12 male, 3 female, and 3 of unknown sex) during the spring season. The fall harvest accounted for 2 male bears, both taken by resident hunters.

No age information is currently available for the Unit 5 1983 black bear harvest. Skull size for spring bears averaged 16.2 and 14.5 inches for males and females, respectively; fall males averaged 18.3 inches.

Of the 19 bears coded to subunit locations, all were taken in Subunit 5A. Five of these bears were blue or glacier bears, the highest number of this color bears ever taken in the unit and well above the 13-year average take of 2 glacier bears (Table 1).

Management Summary and Recommendations

The 1983 harvest of 20 black bears is identical to the 1961-1983 average take of 20 bear. While a gradual increase in the take has been experienced since 1961 (Figure 1), it is not known if

this is a reflection of a higher bear population, increased hunting pressure or other factors. No change in season or bag limit is recommended at this time.

PREPARED BY:

W. Bruce Dinneford
Game Biologist III

SUBMITTED BY:

Steven R. Peterson
Acting Management Coordinator

Figure 1. Historical black bear harvest, by sex, Game Management Unit 5, 1971-1983 (Total includes bears of unknown sex)

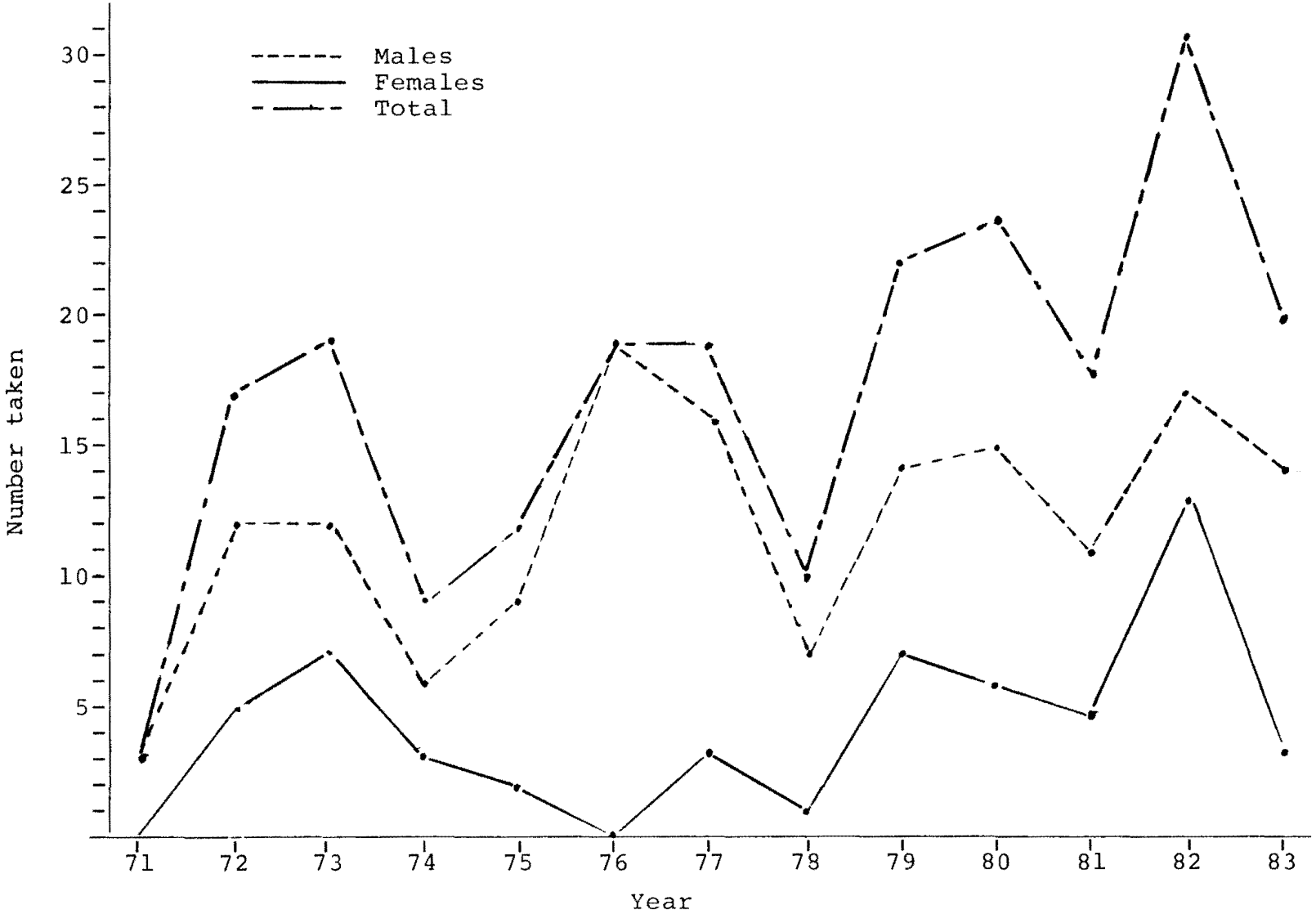


Table 1. Historical black bear harvest, Game Management Unit 5, 1971-83.

Year	Male	Female	Unk.	Total	Color phase	
					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	18	1
1978	7	1	2	10	9	1
1979	14	7	1	22	18	4
1980	15	6	2	23	20	3
1981	12	5	2	19	17	2
1982	17	13	1	31	28	3
1983	14	3	3	20	15	5
Means	12	4	1	17	14	2

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 6

GEOGRAPHICAL DESCRIPTION: Prince William Sound and North Gulf Coast

PERIOD COVERED: 1 January 1983-31 December 1983

Season and Bag Limit

See Hunting Regulations No. 23 and 24.

Population Status and Trend

Sufficient data to determine current status or trend of black bears in Unit 6 were not available.

Mortality

The 1983 black bear harvest was 131 bears: 99 males, 26 females, and 6 of unknown sex.

The spring season accounted for 91.6% of the annual harvest. The harvest peaked in May when 84 bears were taken. June was the 2nd highest month with 30 bears. Only 11 bears were taken in the fall season. Male skull size averaged 17.4 inches, and female skull size averaged 15.5 inches. Males comprised 76% of the harvest; non-resident hunters took 13% of the harvest. Distribution of the harvest is presented in Table 1.

Management Summary and Recommendations

The kill of 131 black bears is similar to the 1982 harvest but well above the 10-year average of 104 bears.

Black bear harvest data for 1983 fell within the normal range of fluctuations; i.e., magnitude of harvest, percent of males, male and female skull size, and chronology of harvest. The distribution of harvest was normal in most respects.

No regulatory changes were recommended. For the 2nd year, Valdez Arm was the only area with a significantly higher than average harvest.

PREPARED BY:

Julius L. Reynolds
Game Biologist III

SUBMITTED BY:

Leland P. Glenn
Survey-Inventory Coordinator

Table 1. Unit 6 black bear harvest by area and sex, 1983.

Subdivision[a]	Area	No. male	No. female	No. unk.	Total	Percent of harvest
01	East of Copper River to Icy Bay	9	1	1	11	8.4
02	Cordova to Copper River	2	2	0	4	3.1
03	Tatitlek to Cordova	10	3	1	14	10.7
04	Valdez Arm	30	5	0	35	26.7
05	Esther Island to Valdez Arm	13	4	0	17	13.0
06	Port Wells	8	5	3	16	12.2
07	Passage Canal to Port Nellie Juan	9	2	1	12	9.2
08	Port Nellie Juan to Cape Fairfield	11	4	0	15	11.4
09	Naked Island	0	0	0	0	0.0
10	Unit 6 - unknown	6	0	0	6	4.5
11	Knight Island	1	0	0	1	0.8
Totals		99	26	6	131	100.0
Percents		75.6	19.9	4.5	100.0	

[a] Management subdivisions 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 1983-31 December 1983

Season and Bag Limit

See Hunting Regulations No. 23 and 24.

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/km^2 of suitable habitat (Schwartz et al. 1981). Observations made by department personnel and hunters also have suggested that black bears are abundant.

Population Composition

No data were available.

Mortality

Hunters reported killing 188 black bears during 1983 season, 75 in Unit 7 and 113 in Unit 15. Historically, it appears 2 bears were killed in Unit 15 for every 1 killed in Unit 7; however, a slightly higher proportion of the total kill was taken in Unit 7 during 1983. There were 108 bears taken during the spring and 80 during the fall. During the spring, 32 males, 10 females and 3 black bears of unknown sex were killed in Unit 7. During the same season, 37 males, 22 females and 4 of unknown sex were killed in Unit 15. During the fall period, 16 males, 11 females and 3 black bears of unknown sex were killed in Unit 7. During the same season, 25 males, 21 females and 4 of unknown sex were killed in Unit 15.

Sex composition of bears killed was 59% males, 34% females, and 7% unclassified. No cementum ages were available for the 1983 harvest. Data on mean skull size were collected, however, and can be used as an age indicator. Mean skull size for males taken in Unit 7 was 16.4 inches ($\underline{N}$ = 43) and in Unit 15 was 16.4 inches ($\underline{N}$ = 53). These data were similar to the previous 11-year average. Mean skull size for females taken in Unit 7 was 15.5 inches ($\underline{N}$ = 20) and in Unit 15 was 15.3 inches ($\underline{N}$ = 37). These data were also similar to the previous 11-year average.

Baiting of black bears by permit was a legal hunting method on the Kenai Peninsula in 1983. Three of 57 (5%) spring permittees and 2 of 34 (6%) fall permittees killed bears over bait.

Management Summary and Recommendation

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, since hunting seasons for most other game animals are closed at that time of the year. The annual average harvest on the peninsula has been 150 black bears since mandatory sealing requirements began in 1973.

Characteristics of the 1983 harvest are within the normal range of fluctuations; i.e., magnitude of harvest, percentage of males and females in the harvest, and mean skull size.

No change in season or bag limit were recommended.

Literature Cited

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

PREPARED BY:

[illegible] A. Holdermann
Game Biologist II

SUBMITTED BY:

Leland P. Glenn
Survey-Inventory Coordinator

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 9

GEOGRAPHICAL DESCRIPTION: Alaska Peninsula

PERIOD COVERED: 1 January 1983-31 December 1983

Season and Bag Limit

See Hunting Regulations No. 23 and 24.

Population Status and Trend

No data were available.

Population Composition

No data were available.

Mortality

Eight black bears were reported taken by hunters during the 1983 season. One additional bear was killed in defense of life and property. The sex composition was 6 males, 2 females and 1 bear of undetermined sex. Bear meat was salvaged from 6 of these animals.

Since 1980, the annual black bear harvest in Unit 9 has averaged 7 bears. Forty percent of the reported harvest has come from Subunit 9A and 60% from Subunit 9B. Black bears in Unit 9 are often killed incidental to hunting for other big game, consequently 72% of the reported harvest since 1980 occurred in the fall.

Regulations do not require the sealing of black bear hides or skulls in Unit 9. As a result the reported harvest underestimates the total kill. Local residents opportunistically take black bears for meat and hides, but local hunters rarely present black bears for sealing. The estimated total human caused mortality during 1983 was 15-20 black bears.

Management Summary and Recommendations

Hunting pressure on black bears in Unit 9 remains light. For this reason no changes in seasons or bag limits were recommended. However, with proposed liberalization of caribou seasons, increased incidental harvest of black bears in the western portion of Subunit 9B is anticipated. It is important therefore that we begin collecting more precise harvest data on black bears. The State game regulation which requires sealing of bear

skins or hides in other units should be amended to include black bears in Unit 9.

PREPARED BY:

Mark E. McNay
Game Biologist II

SUBMITTED BY:

Leland P. Glenn
Survey-Inventory Coordinator

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 11

GEOGRAPHICAL DESCRIPTION: Wrangell Mountains

PERIOD COVERED: 1 January 1983-31 December 1983

Season and Bag Limit

See Hunting Regulations No. 23 and 24.

Population Status and Trend

Observations of black bears in Unit 11 indicate bears are abundant within preferred forest habitat types. Population trends are not evident.

Population Composition

No data were available.

Mortality

During the 1983 season, sport hunters killed 12 black bears, 8 males and 4 females. One bear was taken during the spring and 11 during the fall. Eight hunters reported they incidentally killed black bears while hunting other species of game and 9 hunters reported they salvaged the meat.

Management Summary and Recommendations

Hunting pressure for black bears in Unit 11 is low. Most bears are taken as an incidental bag by hunters pursuing other species of game. The black bear populations in this Unit are influenced more by natural factors than by hunting.

No changes in season and bag limit were recommended.

PREPARED BY:

Robert W. Tobey
Game Biologist III

SUBMITTED BY:

Leland P. Glenn
Survey-Inventory Coordinator

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 12

GEOGRAPHICAL DESCRIPTION: Upper Tanana and White Rivers

PERIOD COVERED: 1 January 1983-31 December 1983

Season and Bag Limit

See Hunting Regulations No. 23 and 24.

Population Status and Trend

No standardized surveys of black bears have been conducted. Recent and historic harvest data indicate that the population in Unit 12 is stable, with no trends evident in sex ratio of harvest or in mean skull size of bears taken. Based upon observations and upon preliminary results of a local black bear investigation, black bears exist at moderate densities throughout suitable forested habitat in Unit 12.

Mortality

The reported take of black bears during this reporting period was 26, compared to 29 during 1982. During the past 9 years, the average annual take has been 21. Twelve of the 26 bears were taken in the spring. Of the total harvest, 23 (88%) were males and 3 (12%) were females. The mean skull size of males was 16.1 inches, compared to the 11-year average of 16.3 inches. The mean skull size of females was 15.6 inches, compared to the 11-year average of 15.3 inches. The harvest was well distributed, but most bears were taken in the Tanana and Tok River drainages.

In addition to reported harvest, 1 adult female died as a result of capture operations near Tanacross.

Management Summary and Recommendations

The black bear population in Unit 12 is probably stable and limited primarily by natural factors rather than hunting. Hunting pressure is low in relation to bear numbers and is largely restricted to the road system and major navigable rivers. Work should continue to determine black bear home range sizes, productivity, and habitat utilization patterns.

PREPARED BY:

David G. Kelleyhouse
Game Biologist III

SUBMITTED BY:

Jerry D. McGowan
Survey-Inventory Coordinator

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 13

GEOGRAPHICAL DESCRIPTION: Nelchina Basin

PERIOD COVERED: 1 January 1983-31 December 1983

Seasons and Bag Limits

See Hunting Regulations No. 23 and 24.

Population Status and Trend

Research findings from the Susitna black bear study suggested that the size of the black bear population fluctuated widely in response to berry crop abundance (Miller 1983).

Population Composition

Miller (1984) found an average age of 5.5 years for 25 captured and released males ≥2 years of age and 6.9 years for 20 captured and released females ≥2 years of age. Females captured during 1983 had mean litter sizes of 2.2 cubs-of-the-year and 1.9 yearlings.

Mortality

Fifty-seven black bears (31 males, 21 females and 5 sex unknown) were killed during 1983. This was a decrease from the previous year's harvest of 73 black bears and was below the 11-year (1973-83) average annual harvest of 69.

Twenty-four black bears were taken during the spring and 33 during the fall. Nonresident hunters took 21% (12) of the harvest. Forty-seven percent (27) of the successful hunters reported taking black bears incidentally while hunting other species and 65% (37) reported they salvaged the meat. The mean skull size for males was 16.3 inches, slightly below the 11-year male average of 16.6 inches; for females it was 15.4 inches, identical to the 11-year average.

Little is known about overall natural mortality rates for black bears in this area of Alaska. Natural mortality rates for black bear cubs in the Susitna area were reported by Miller (1984). Of 15 cubs-of-the-year observed during spring 1983, 10 (67%) were not with their mothers by fall.

Management Summary and Recommendations

Black bears are numerous in Unit 13 and populations appear stable. Reproduction rates are high, but cub mortality also appears high. A high natural mortality rate in cubs can be expected in a stable population. The black bear harvest declined for the 2nd year in a row. No data were available to show changes in hunting effort. Since available population data do not indicate any appreciable change in bear numbers, the reduced harvest may reflect decreased hunting effort or an increased level of nonreporting.

No changes in season dates or bag limits were 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.

Tobey, R. W. 1982. Annual report of survey-inventory activities. Part I. Vol. XIII in R. A. Hinman, ed. Alaska Dep. Fish and Game. Fed. Aid in Wildl. Rest. Proj. W-19-2 and W-22-1. Juneau. 93pp.

PREPARED BY:

Robert W. Tobey
Game Biologist III

SUBMITTED BY:

Leland P. Glenn
Survey-Inventory Coordinator

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 14

GEOGRAPHICAL DESCRIPTION: Upper Cook Inlet

PERIOD COVERED: 1 January 1983-31 December 1983

Season and Bag Limit

See Hunting Regulations No. 23 and 24

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

Eighty black bears were killed in Unit 14, 48 in Subunit 14A, 18 in Subunit 14B and 14 in Subunit 14C. During the spring season 43 bears were killed (23 males, 14 females, and 6 sex unknown), and during the fall season 37 bears were killed (26 males, 8 females and 3 sex unknown). Resident hunters killed 79 of 80 bears. Fifteen of these bears were killed by hunters holding black bear baiting permits. There were 150 bear baiting permits issued to hunters during the year. Only 2 bears were reported taken in defense of life and property. During the spring season the mean skull size of the harvest was 16.5 inches ($\underline{N}$ = 22) for males and 15.2 inches ($\underline{N}$ = 14) for females. During the fall season the mean skull size for males was 16.6 inches ($\underline{N}$ = 25) for males and 16.2 inches ($\underline{N}$ = 8) for females.

Management Summary and Recommendations

The sport harvest of black bears increased 29% from the previous year (62 bears). Hunters utilizing bait stations contributed to this increase. The sport harvest since 1974 has averaged 66 bears per year and ranged from 29 to 104.

Since black bears are generally associated with dense cover, it is believed hunters have little opportunity to select for

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

No changes in seasons or bag limits were recommended.

PREPARED BY:

Jack C. Didrickson
Game Biologist III

Nicholas C. Steen
Game Biologist II

SUBMITTED BY:

Leland P. Glenn
Survey-Inventory Coordinator

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 16

GEOGRAPHICAL DESCRIPTION: West Side of Cook Inlet

PERIOD COVERED: 1 January 1983-31 December 1983

Season and Bag Limit

See Hunting Regulations No. 23 and 24.

Population Status and Trend

Frequent observations and reports of nuisance bears indicated an abundant population of black bears in Unit 16.

Population Composition

No data were available.

Mortality

Ninety-three black bears, (50 males, 39 females and 4 sex unknown) were reported taken by hunters during the 1983 season. This was an increase of 19 bears over the 1982 harvest but substantially below the record 1980 harvest of 248. Thirty bears were reported killed in Subunit 16A, (14 males, 14 females, and 2 sex unknown) with 14 bears taken during the spring season and 16 during the fall season. Fifty-four bears were reported killed in Subunit 16B (33 males, 19 females and 2 sex unknown), with 21 bears taken during the spring season and 33 taken during the fall season. Nine additional bears did not have specified subunit locations. Of this harvest, 2 males and 3 females were taken during the spring season and 1 male and 3 females were taken during the fall season.

The mean skull size of bears reported taken during the spring season was as follows: males 17.3 inches (N = 23) and females 15.7 inches (N = 13). Of those black bears taken during the fall season, the mean skull size for males was 16.5 inches (N = 21) and 15.9 inches for females (N = 21).

Management Summary and Recommendations

Although the harvest of 93 black bears was higher than the previous year, it was below the 10-year average of 129 bears. In general, harvest levels for the Unit reflect a number of variables, including weather and the availability of food such as fish and berries. Many bears are also taken incidental to other

recreational activities. Mean skull size of male and female bears were comparable with data from previous years and indicated that hunting has not had a significant impact on the bear population.

No changes in season dates or bag limits were recommended.

PREPARED BY:

James B. Faro
Game Biologist III

SUBMITTED BY:

Leland P. Glenn
Survey-Inventory Coordinator

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 17

GEOGRAPHICAL DESCRIPTION: Northern Bristol Bay

PERIOD COVERED: 1 January 1983-31 December 1983

Season and Bag Limit

See Hunting Regulations No. 23 and 24

Population Status and Trend

No data were available.

Population Composition

No data were available.

Mortality

Sealing of black bear is not required in Unit 17 and none were reported taken.

Management Summary and Recommendations

Data necessary for management of the Unit 17 black bear population were nonexistent. State game regulations which require sealing of bear skins and skulls in other units should be amended to include black bears in Unit 17.

PREPARED BY	SUBMITTED BY
Kenton P. Taylor	Leland P. Glenn
Game Biologist	Survey-Inventory Coordinator

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 20

GEOGRAPHICAL DESCRIPTION: Central Tanana-Upper Yukon Valley

PERIOD COVERED: 1 January 1983-31 December 1983

Season and Bag Limit

See Hunting Regulations No. 23 and 24.

Population Status and Trend

Standardized surveys to determine black bear 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 reflect changes in the bear population.

Mortality

According to sealing document information, 187 black bears, including 1 killed in defense of life and property, were harvested in Unit 20 during 1983. The mean annual harvest between 1974 and 1982 was 145 bears (range 93-217). Bear harvest levels fluctuate considerably, but the reasons for the variations are not understood.

Resident hunters took 96% of the harvest. The mean skull size of male bears was 16.9 inches, little changed from the 13-year mean of 17.0 inches. More males than females were taken in Unit 20; 47% of the harvest for Unit 20 came from Subunit 20B (Table 1).

During 1983, 265 permits were issued to hunt black bears with the aid of bait in Unit 20. Thirty-six bears were reported taken by hunters using bait stations; most bears taken by this means were from Subunit 20B (Table 2).

Management Summary and Recommendations

The black bear population in Unit 20 is believed to be stable, but some fluctuations in numbers undoubtedly occur. Although hunting has affected some local black bear populations, overall bear numbers appear to fluctuate independently of hunting. Basic biology, movements, and population status are poorly understood and little data are available regarding the effects of varying harvest levels on Interior bear populations. With the continuing

high and increasing interest in black bear hunting in the Interior, knowledge of black bear biology should be improved so the species can be managed on a sound biological basis.

PREPARED BY:

Larry B. Jennings
Game Biologist III

SUBMITTED BY:

Jerry D. McGowan
Survey-Inventory Coordinator

Table 1. Unit 20 black bear harvest by Subunit, 1983.

Subunit	Spring	Fall	Male	Female	Unknown	Total	Mean Age
20A	11	16	21	6	0	27	4.3
20B	50	38	56	31	1	88	5.8
20C	14	19	25	7	1	33	4.7
20D	12	6	15	3	0	18	4.8
20E	5	4	4	4	1	9	--
20F	6	5	6	4	1	11	--
Totals	98	88	127	55	4	186	5.2

Table 2. Harvest of black bears by hunters using bait stations, [illegible] 20.

Subunit	Permits issued	No. of bears taken at bait stations
20A	19	3
20B	232	33
20C	11	0
20D	12	0
20E	0	0
20F	7	0