ALASKA DEPARTMENT OF FISH AND GAME
JUNEAU, ALASKA

STATE OF ALASKA
Jay S. Hammond, Governor

DEPARTMENT OF FISH AND GAME
Ronald O. Skoog, Commissioner

DIVISION OF GAME
Ronald J. Somerville, Director

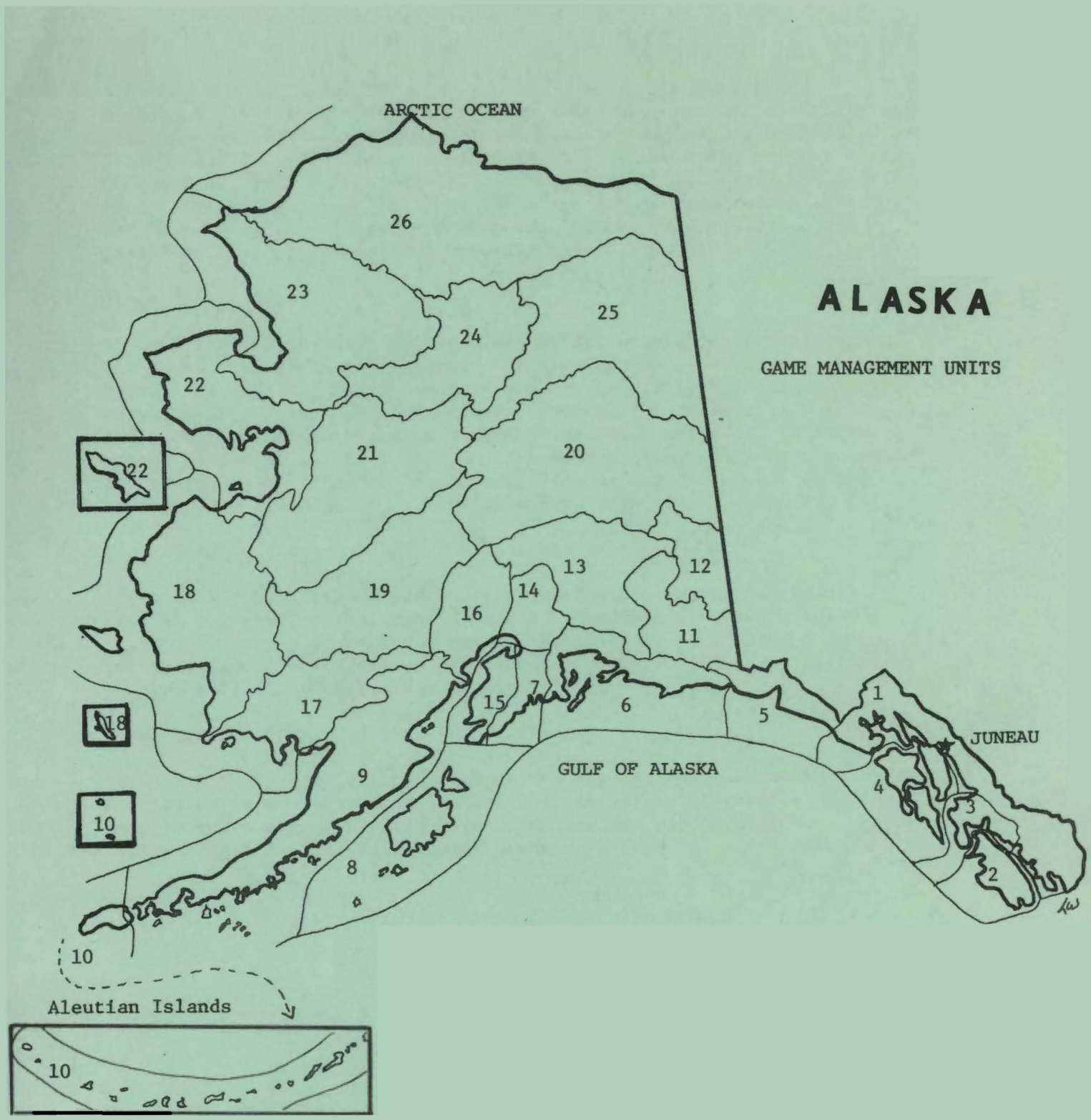
ANNUAL REPORT OF SURVEY-INVENTORY ACTIVITIES

PART I. BLACK BEAR, BROWN BEAR AND POLAR BEAR

Edited and Compiled by
Robert A. Hinman, Deputy Director

Volume X
Federal Aid in Wildlife Restoration
Project W-17-11, Jobs No. 17.0, 4.0 and 22.0

(Printed December 1979)


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 HARVESTS AND POPULATION STATUS

Because a "fiscal" or "regulatory year" reporting period, used on other game species, does not fit the annual cycle of management activities and data availability on bears, reports in this volume bring reports up to December 31, 1978. As a result, some units that previously had reported to this date (in Volume IX, June 1979) are not represented in this volume. Hereafter all reports on bears (black, brown/grizzly, and polar) will be presented on a calendar year basis.

Black Bears

Black bears are abundant and populations are stable throughout much of the State. Harvests are relatively intensive in parts of Southeastern, Unit 6 and Unit 15; elsewhere harvests are generally light in relation to the bear population. For unknown reasons, the harvest in Units 1, 3, and 5 continue to be strongly biased toward male animals. In Interior areas, bear meat is often salvaged for consumption, while most coastal bears tend to be taken for trophies. Present harvest levels do not appear to be impacting bear populations adversely.

Brown/Grizzly Bears

Brown bear populations appear healthy statewide, and harvests and populations stable. Harvest in Unit 4 was stable at a level below 2 years ago, due to decreased seasons. Harvests in both Units 8 and 9 remained stable. The other "major" unit, Unit 13, showed an increase, perhaps reflecting an increasing population.

Polar Bears

Data on this species are poor due to the preemption of management by the Federal government, and the inability of the State to require sealing. Only 14 bears were sealed in 1978. The harvest was light due to weather patterns that did not bring large numbers of bears close to shore.

CONTENTS

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1978

Game Management Units 1A and 2 - Ketchikan and Prince of Wales Island

Seasons and Bag Limits

Sept. 1-June 30	Two bears; provided that not more than one may be a blue or glacier bear and that the taking of cubs or females accompanied by cubs is prohibited.

Harvest and Hunting Pressure

A total of 24 black bears from Game Management Unit 1A and 67 from Game Management Unit 2 was reported taken by hunters in 1978 (Appendix I). One additional bear was taken in defense of life or property.

The harvest for Unit 1A represents an increase of 50 percent over the 16 bears taken in 1977 while the Unit 2 harvest was up 31 percent over last year.

Appendix II summarizes the seasons since 1974. In the spring portion of the season in Unit 1A, 11 bears were taken on the islands and four came from the mainland. Two of these 15 bears were females. In Unit 2, 44 bears were taken in the spring, 4 of which were females. For both Units, the spring harvest was 90 percent males, essentially the same sex ratio that has been recorded since 1974.

The fall harvest in both Units was up from that of 1977. In Unit 1A, the harvest rose 29 percent while in Unit 2 it was up 35 percent from last year. Sixty-seven percent of the Unit 1A fall harvest was males and, 57 percent of the Unit 2 fall harvested bears was males. The sex ratio of the fall harvest was roughly comparable to those of 1975 and 1976, which has always produced a lower percentage of males in the kill than has the spring season.

The chronology of the harvest is shown in Appendix III. In Unit 1A, 63 percent of the kill occurred during the spring season, and 47 percent of the spring bears were taken in the May 11-20 period. In Unit 2, 66 percent of the harvest occurred in the spring and 34 percent of these were taken in each of the May 11-20 and May 21-31 periods. The peak of the spring harvest in Unit 1A occurred a little earlier this year than last year while in Unit 2 it was essentially the same as 1977.

Transportation used by bear hunters in 1978 to reach hunting areas was similar to last year. In Unit 1A 54 percent of the bear hunters used boats, 29 percent used aircraft and 17 percent hunted from the road system. In Unit 2, where the logging roads are more extensive, 41 percent used road vehicles, 32 percent used airplanes and 27 percent traveled by boat.

Nonresidents took 21 percent of the bears from Unit 1A and 33 percent of those from Unit 2. Seventy percent of the 27 bears taken by nonresidents was taken during the spring season.

None of the bears taken during the spring season were considered incidental, while 20 percent of the fall bears were indicated as taken incidental to other activities.

Forty-four percent of the successful spring bear hunters and 67 percent of the fall hunters saved some or all of the meat from their bears.

Skull measurements once again showed considerably larger bears on Prince of Wales Island than in Unit 1A. In 1A, 16 males averaged 18.0 inches while in Unit 2, 50 males averaged 19.2 inches. Comparable figures for 1977 were 17.3 inches for 10 males from Unit 1A and 19.1 inches for 33 males from Unit 2. Male skull sizes have remained fairly constant for the past 5 years. Appendix I shows skull sizes by area, sex and season.

Ages have been derived for all bears from which teeth were collected over the past 5 years (Appendix IV). In general, the average age of the bears taken in 1978 dropped in both Units 1A and 2 and are the lowest since sealing of black bears began in 1974. The average age of males taken during the spring season is 6.0 years in Unit 1A and 6.3 years in Unit 2.

Skull sizes have not shown a corresponding decrease.

Seventy-nine hunters took the 91 bears reported for 1978 from Units 1A and 2, which indicates 12 hunters took two bears each.

Only one of the five bears taken on the mainland in 1978 was a cinnamon color black bear. This color phase does not occur on the islands in Units 1A and 2.

Composition and Productivity

No data were available.

Management Summary and Conclusions

This year's bear season followed a somewhat more normal winter than did the 1977 season, and it appears that harvest and hunter activities also followed more normal patterns. Sex ratios in the harvest have remained essentially the same, as have the average skull sizes, since sealing of bears started in 1973.

PAREPARED BY:

Robert E. Wood
Game Biologist III

SUBMITTED BY:

Nathan P. Johnson
Region I Research/Management Coordinator

APPENDIX IV

AVERAGE CEMENTUN AGES OF BLACK BEARS, UNITS 1A and 2

1974, 1975, 1976, 1977, 1978

		1974	1975	1976	1977	1978
1A Mainland	Males (Spring)	10.5(18)*	12.1(12)	9.3 (12)	11.8 (2)	4.7 (3)
	Males (Fall)	9.6 (2)	3.6 (1)	10.1 (2)	6.8 (2)	....
	Females (Spring)	...	...	5.3 (1)	...	....
	Females (Fall)	11.3 (3)	...	7.6 (1)	3.8 (1)	8.8 (1)
1A Revilla	Males (Spring)	7.6(13)	7.4 (9)	8.5 (9)	8.0 (3)	6.4 (9)
	Males (Fall)	8.0 (5)	6.1 (5)	5.1 (2)	5.8 (2)	8.0 (5)
	Females (Spring)	6.8 (2)	11.0 (3)	...	...	4.4 (1)
	Females (Fall)	1.6 (1)	13.6 (1)	...	5.3 (2)	3.3 (2)
Total 1A	Males (Spring)	9.3(31)	10.1(21)	9.0(21)	9.5 (5)	6.0(12)
	Males (Fall)	8.5 (7)	5.3 (3)	7.6 (4)	6.3 (4)	8.0 (5)
	Females (Spring)	6.8 (2)	11.0 (3)	5.3 (1)	...	4.4 (1)
	Females (Fall)	8.9 (4)	13.6 (1)	7.6 (1)	4.8 (3)	5.1 (3)
Unit 2	Males (Spring)	7.9(15)	9.8(24)	10.0(28)	7.0(29)	6.3(34)
	Males (Fall)	6.9 (3)	7.4 (6)	5.4(10)	6.1(10)	5.1(11)
	Females (Spring)	5.6 (3)	9.3 (2)	8.6 (4)	8.1 (4)	5.4 (3)
	Females (Fall)	...	4.8 (5)	7.2 (7)	10.2 (5)	6.5 (9)

* Sample size in parenthesis.

APPENDIX I. Black Bear Sport Harvest Statistics for GMU's 1A and 2 with Color Phase, Kill by Non-Residents Mean Skull Size and Methods of Transportation used for Calendar Year 1979.

							**	**		Transport Used - %		
		Total	No.	No.	Unk.	Kill By	Mean Skull	Mean Skull	% *			Road
GMU	Season	Kill	Males	Females	Sex	Non - Res.	Size - Male	Size - Female	Cinnamon	Air	Boat	Vehicle
1-A Mainland	Spring	4	3	1	0	0	18.0 (3)	16.0 (1)	25	50	50	0
	Fall	1	0	1	0	1 (100%)	-	15.0 (1)	0	100	0	0
	Total	5	3	2	0	1 (20%)	18.0 (5)	15.5 (2)	20	60	40	0
1-A Revilla	Spring	11	10	1	0	4 (36%)	18.3 (9)	15.4 (1)	...	36	64	0
	Fall	8	6	2	0	0	17.4 (5)	16.8 (2)	...	0	50	50
	Total	19	16	3	0	4 (21%)	18.0 (14)	16.3 (3)	...	21	58	21
Total 1-A	Spring	15	13	2	0	4 (29%)	18.2 (11)	15.8 (2)	...	40	60	0
	Fall	9	6	3	0	1 (11%)	17.4 (5)	16.2 (3)	...	11	44	44
	Total	24	19	5	0	5 (21%)	18.0 (16)	16.0 (5)	...	29	54	17
2	Spring	44	39	4	1	15 (34%)	19.3 (39)	17.5 (2)	...	40	40	21
	Fall	23	13	9	1	7 (30%)	18.7 (11)	16.5 (7)	...	17	4	78
	Total	67	52	13	2	22 (33%)	19.2 (50)	16.7 (9)	...	32	27	41

* Cinnamon phase occurs only on mainland.

** ( ) = Sample Size

APPENDIX II. Black Bear Harvest by Season with Sex and Skull Sizes for GMU's 1A and 2, 1974 - 1978.

Unit	Year	Season	Total Kill	% Males	Mean Skull Size - Male	(n)	Mean Skull Size - Female	(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)	16.4	(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)
2	1974	Spring	22	77				
		Fall	5	60				
		Year	27	74	19.1	(15)	16.2	(2)
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	(58)	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	67	78	19.2	(50)	16.7	(9)

(n) = Sample Size

APPENDIX III. Chronology of the 1978 Black Bear Hunting Harvest Units 1A and 2.

	Unit 1A	Unit 2
April 21-30	1	5
May 1-10	0	6
May 11-20	7	15
May 21-31	4	15
June 1-10	2	2
June 11-20	0	1
June 21-30	1	
Sept. 1-10	4	3
Sept. 11-20	1	7
Sept. 21-30	0	4
Oct. 1-10	4	3
Oct. 11-20		2
Oct. 21-31		3
Nov. 1-10		1

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1978

Game Management Unit 1B - Southeast mainland - Cape Fanshaw to Lemesurier Point

Season and Bag Limit

Sept. 1-June 30	Two bears; provided that not more than one may be a blue or glacier bear and that the taking of cubs or females accompanied by cubs is prohibited.

Population Status and Trend

Data are insufficient to establish a population trend. However, field reports indicate that during the last 5 years black bear populations have remained at moderate densities.

Population Composition

No data were collected in 1978.

Mortality

The black bear harvest (based on sealing data) in Unit 1B for 1978 was six males and one female compared to three males taken in 1977.

Successful hunters spent an average of 6.3 days pursuing black bears in Unit 1B in 1978, which is twice the 3.0 days spent in 1977. The seven successful hunters were comprised of three residents and four nonresidents (one was guided).

Chronology of the harvest showed that four bears were taken in May, two in June, and one in October.

Management Summary and Recommendations

Black bear harvest levels in Unit 1B have fluctuated considerably for the past 5 years (1974-1978). For this period the harvest ranged from three to 15 bears and averaged 9.4 bears per year. Hunting conditions and pressure are probably the primary factors affecting harvest levels.

The 1978 mean male skull size of 18.2 inches was nearly identical to the previous 4-year average of 18.3 inches. The mean age of males in

1978 was 5.9 years, however, considerably lower than the 10.4-year average for this same 1974-1978 period. Because of small and variable sample sizes which have been characteristic for the past 5 years, the effects of harvest on black bear populations in Unit 1B are difficult to ascertain.

In general, harvest levels are considered low for the area for the period 1974-1978 and do not appear to be adversely affecting black bear populations in Unit 1B.

No change in season or bag limit is recommended.

PREPARED BY:

David A. Zimmerman
Game Biologist II

SUBMITTED BY:

Nathan P. Johnson
Region I Research/Management Coordinator

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1978

Game Management Unit 1C & 1D - Northern Mainland Portion of Southeast Alaska

Season and Bag Limit

Sept. 1-June 30	Two bears; provided that not more than one may be a blue or glacier bear and that the taking of cubs or females accompanied by cubs is prohibited.

Population Status and Trend

No survey and inventory data were available. However, based on incidental observations and discussions with hunters, it appears that in both Units 1C and 1D black bear numbers have remained stable or increased slightly.

Population Composition

No data were available.

Mortality

Based on sealing documents, 38 black bears (34 males, 4 females) were harvested in Unit 1C which was comparable to the 35 bears harvested in 1977. Again, the greatest number of animals (30 or 85.7%) was taken in the spring season. Residency of successful bear hunters in 1978 was equally divided, 18 residents and 18 nonresidents. All but two of the nonresidents were guided. Thirty-four (89.5%) of the bears were taken by hunters specifically after black bears. Only four bears were taken incidental to other activities. Some, or all, of the meat of 16 bears (42.1%) was salvaged. However, only 25 percent of the nonresident hunters salvaged any meat. Three black bears of the cinnamon phase were included in the harvest. Thirty-one (81.2%) of the bears were taken by hunters using boats. The mean skull size for all males was 17.0 inches based on a sample size of 30. The mean skull size for all females was 15.8 based on a sample size of three. Skull size comparisons for the years 1973-1978 are given in Table 1. The mean age for harvested males was 5.2 years based on a sample size of 28 and 6.8 years for females based on a sample size of four. Age comparisons for the years 1973-1978 are given in Table 2.

Table 1. Mean skull size of black bears harvested in Unit 1C, 1973-1978.

	Male	Female
1973	16.4 (5)*	15.3 (8)
1974	17.1 (34)	15.6 (10)
1975	17.9 (35)	15.8 (9)
1976	17.4 (52)	15.7 (8)
1977	17.6 (23)	15.9 (9)
1978	17.0 (30)	15.8 (3)

*( ) = Sample Size

Table 2. Mean age of black bears harvested in Unit 1C, 1973-1978.

	Male	Female
1973	4.71 (7)*	7.14 (7)
1974	7.6 (29)	8.3 (9)
1975	9.1 (33)	6.7 (7)
1976	8.3 (51)	7.8 (8)
1977	8.7 (22)	8.2 (8)
1978	5.2 (28)	6.8 (4)

*( ) = Sample Size

Based on sealing documents the 1978 black bear harvest for Unit 1D was 26 black bears (17 males, 9 females), 53 percent higher than 1977. The harvest was evenly split with 14 bears shot during the spring portion of the season and 12 bears during the fall. All successful bear hunters were residents. Nineteen of the bears (73.1%) were taken by hunters specifically hunting black bears. Only five bears were taken incidental to other activities. Some or all of the meat of 22 bears (84.6%) was salvaged. Nine black bears of the cinnamon color phase were included in the harvest. Although most sealing documents did not specify means of access, it was probably evenly split between boats and

highway access. The mean skull size for all males was 16.3 inches, based on a sample size of 13. The mean skull size for all females was 15.9 inches, based on a sample size of six. Skull size comparisons for 1973-1978 are given in Table 3. The mean age for harvested males was 4.6 years based on a sample size of 16 and 4.5 years for females based on a sample size of seven. Age comparisons for the years 1973-1978 are given in Table 4.

Table 3. Mean skull size of black bears harvested in Unit 1D, 1973-1978.

	Male	Female
1973	13.8 (3)*	15.3 (1)
1974	16.7 (10)	14.7 (3)
1975	17.7 (9)	15.3 (6)
1976	16.5 (18)	15.1 (6)
1977	17.5 (7)	-
1978	16.3 (13)	15.9 (6)

*( ) = Sample Size

Table 4. Mean age of black bears harvested in Unit 1D, 1973-1978.

	Male	Female
1973	4.5 (2)*	-
1974	7.4 (8)	-
1975	7.5 (10)	4.8 (5)
1976	8.3 (18)	8.3 (4)
1977	8.7 (9)	8.8 (2)
1978	4.6 (16)	4.5 (7)

*( ) = Sample Size

Management Summary and Recommendations

While most circumstantial evidence indicates that bear numbers are relatively stable or increasing in both Units 1C and 1D, there were substantial drops in the mean age of harvested animals, both for males and females. In Unit 1C, the mean age for males dropped from 8.7 to 5.2 and for females from 8.2 to 6.8 years. Similarly, in Unit 1D the drop was from 8.7 to 4.6 for males and from 8.8 to 4.5 for females. This may point to overharvest or the shift to younger age classes in the population could be the result of sustained and substantial, yet not excessive, harvest of bears in what was a lightly harvested population prior to 1973. This "cropping" of an older aged population could, in turn, have increased reproductive rates. More research plus some type of survey or inventory work may be necessary in southeast to fully understand black bear population dynamics in relation to harvest pressure. Currently, no changes in seasons or bag limits are recommended.

PREPARED BY:

Nathan P. Johnson
Region I Research/Management Coordinator

SUBMITTED BY:

Jack W. Lentfer
Region I Supervisor

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1978

Game Management Unit 3 - Petersburg-Wrangell Area

Season and Bag Limit

Sept. 1-June 30	Two bears; provided that not more than one may be a blue or glacier bear and that the taking of cubs or females accompanied by cubs is prohibited.

Population Status and Trend

Based on sealing information black bear populations appear to have been relatively stable for the past 5 years in Unit 3. Comments by a few guides and hunters, however, have indicated a gradual decline in the numbers of bears seen in the northwest portion of Unit 3, particularly during the spring season.

Population Composition

No data were collected in 1978.

Mortality

Forty-one black bears were harvested in 1978, 27 males, 12 females, and two of unknown sex. The 41 black bears taken represented a 58 percent increase over 1977.

The average skull size was 18.5 inches (n=18) for males and 16.0 inches (n=12) for females and nearly identical to 1977. Ages for spring- and fall-killed bears were not available for analysis.

Chronology of the harvest showed that 10 percent of the 1978 harvest occurred in April, 63 percent in May, 7 percent in June, 15 percent in September and 5 percent in October. No significant changes were noted compared to 1977.

Successful hunters in 1978 spent 147 days pursuing black bears in Unit 3 compared to 120 days in 1977. Of these 147 days, 99 were spent on Kuiu Island.

Of the 36 successful hunters reporting, 19 (53%) were residents and 17 (47%) were nonresidents. Bears killed by nonresident hunters accounted for 44 percent of the total harvest in 1978.

Five hunters (four residents and one nonresident) or 14 percent of 36 successful hunters in 1978 took two bears each. The second bear taken comprised 12 percent of the total harvest in 1978 compared to 19 percent in 1977.

Transportation methods used by successful hunters were: boat-34 percent, aircraft-39 percent, ORV's-10 percent, foot-15 percent, and vehicles-2 percent.

Two guides were active in Unit 3 in 1978 compared to five in 1977. Of 36 successful hunters, three (8%) were guided and all were nonresidents. Guided hunts accounted for seven percent of the 1978 harvest compared to 54 percent in 1975 and 55 percent in 1976.

Management Summary and Recommendations

Reasons for the 58 percent increase in harvest over 1977 are not entirely known. Improved hunting conditions over the 1977 spring season may have caused increased numbers of bears to be available to hunters. Increased harvests by nonresidents hunting without guides and by residents offset the unusually low guided hunt take. Guided hunts have accounted for 42 percent of the harvest, on the average, since 1974 compared to seven percent taken in 1978.

Comments by a few hunters and guides indicate there has been a gradual decline in the numbers of bears seen for the past few years, particularly in the northwestern portion of Unit 3. This change was noted primarily during the spring season. No adverse effects of the current harvest level have been noted to date. No change in season or bag limit is recommended.

PREPARED BY:

David A. Zimmerman
Game Biologist II

SUBMITTED BY:

Nathan P. Johnson
Region I Research/Management Coordinator

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1978

Game Management Unit 5 - Yakutat

Season and Bag Limit

Sept. 1-June 30	Two bears; provided that not more than one may be a blue or glacier bear and that the taking of cubs or females accompanied by cubs is prohibited.

Population Status and Trend

Black bear populations appear to be stable unit-wide and no major changes in abundance have been observed during this report period.

Population Composition

No aerial or stream surveys were conducted during the 1978 report period, although sightings were recorded incidental to other surveys. Overall, black bears appear to be fairly abundant in Unit 5 and production seems to be good based on general observations.

Mortality

Black bear harvest was down again this year with a total of only eight bears taken (7 in the spring and 1 in the fall) compared to 13 in 1977 and 19 in 1976. Residents harvested three bears and nonresidents accounted for the remaining five bears. Of the eight successful hunters only two salvaged the meat from their kills. Both were Alaska residents.

A single blue phase bear was taken by a nonresident hunting with a guide; the rest were of the black color phase. The kill composition was six males and two bears of undetermined sex. The cementum age of the bears had not been determined by the end of the report period and will be included in a future report.

Management Summary and Recommendations

At present, the black bear population in Unit 5 appears to be stable but the harvest is down compared to the previous two seasons. This decline in harvest is considered to be due primarily to a decrease in hunter pressure and not to a decline in the black bear population. No changes in season or bag limit are recommended.

PREPARED BY:

Ronald E. Ball
Game Biologist II

SUBMITTED BY:

Nathan P. Johnson
Region I Research/Management Coordinator

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1978

Game Management Unit 6 - Prince William Sound and North Gulf Coast

Seasons and Bag Limits

Spring season	Jan. 1-June 30	One bear; provided that the taking of cubs or females accompanied by cubs is prohibited.
Fall season	Sept. 1-Dec. 31	

Harvest and Hunting Pressure

The 1978 black bear sport harvest was 81 animals: 56 males, 20 females, and 5 of unknown sex. This is 37 bears below the 5-year average of 118 (Appendix I). No bears were taken in defense of life or property.

The spring season accounted for 75 bears or 92.6 percent of the total harvest. Only six bears were taken in the fall. This high percentage of bears taken during the spring season is typified in the 1975 and 1977 harvest data (Appendix I). During the spring season, 54 bears were taken in May and 21 in June (Appendix II). The bulk of the 1978 harvest occurred from 10 May through 3 June (Appendix III).

Data on skull size were obtained from 75 bears. The average male skull size for 1978 was 16.6 inches (length plus width) whereas females averaged 15.0 inches (Appendix IV).

The average age of 67 black bears was 5.0 years, males averaged 5.3 years and females 4.3 years (Appendix IV).

The 1978 harvest was reasonably well dispersed geographically; the largest proportion (23%) was taken from the Valdez Arm area (Appendix V).

Composition and Productivity

No data were available.

Management Summary and Conclusions

The 1978 harvest of 81 bears was the smallest since 1974. The reduced harvest is thought to be a function of an early spring. An early spring will result in vegetation "greening up" on snow free, south-facing, mid-elevation slopes about the time bears emerge from their dens. These mid-elevation slopes provide high-quality food which the bears utilize. Bears remaining on these mid-elevation slopes are not readily available to hunters and the spring harvest is correspondingly light. Research studies in western Prince William Sound on radio-collared black bears indicate little use of shoreline areas when an early spring occurs.

Analysis of available data (percent of males in the harvest, percent of harvest occurring in the spring, chronology of the harvest, mean skull size, and location of harvest) indicates a similar pattern in all years and suggests no adverse affects from hunting. The only area of concern is mean ages for bears killed during 1978. A review of mean age data (Appendix IV) for 1973 through 1978 did not indicate a downward trend.

Recommendations

Retain the current seasons and bag limits.

PREPARED BY:

Julius Reynolds
Game Biologist III

SUBMITTED BY:

James B. Faro
Regional Management Coordinator

APPENDIX I

Unit 6

Black Bear Harvest by Year and Sex

Year	Males	Females	Unknown	Total
1974	71 (65.7)*	28 (25.9)	9 (8.3)	108 (99.9)
1975	104 (70.3)	34 (23.0)	10 (6.8)	148 (100.1)
1976	79 (53.7)	61 (41.5)	7 (4.8)	147 (100.0)
1977	58 (54.2)	37 (34.6)	12 (11.2)	107 (100.0)
1978	56 (69.1)	20 (24.7	5 (6.2)	81 (100.0)
Average	74 (62.6)	36 (29.9)	9 (7.4)	118 (100.0)

Black Bear Harvest by Year and Season

Year	Spring	Fall	Unknown	Total
1974	81 (75.0)*	23 (21.3)	4 (3.7)	108 (100.0)
1975	135 (91.2)	13 (8.8)	0 (0.0)	148 (100.0)
1976	108 (73.5)	39 (26.5)	0 (0.0)	147 (100.0)
1977	103 (96.3)	4 (3.7)	0 (0.0)	107 (100.0)
1978	75 (92.6)	6 (7.4)	0 (0.0)	81 (100.0)

* Percent in parenthesis.

Prepared by: Julius Reynolds, Game Biologist III

APPENDIX II

Unit 6

1978 Black Bear Harvest by Season and Sex

SPRING HARVEST

Month	Male	Female	Unknown	Total	(Percent)
May	40*	12	2	54	(66.7)
June	12	8	1	21	(25.9)
Total	52	20	3	75	(92.6)
(Percent)	(69.3)	(26.7)	(4.0)	(100.0)	

FALL HARVEST

Month	Male	Female	Unknown	Total	(Percent)
Sept.	1	0	2	3	(3.7)
Oct.	3	0	0	3	(3.7)
Total	4	0	2	6	(7.4)
(Percent)	(66.7)	(0.0)	(33.3)	(100.0)	

* Includes one male taken 4/30/78.

Prepared by: Julius Reynolds, Game Biologist III

APPENDIX III

Unit 6

1978 Black Bear Harvest Chronology by Month & Day

	SPRING			FALL	
Date	April	May	June	September	October
1			1		
2			2		
3			5		1
4			1	1	1
5					
6			1		
7		1		1	
8		1			
9		1	2		
10		2			
11		1			
12		4	1		
13		1			
14		2			1
15		3			
16		1			
17			3		
18		2	1		
19					
20		5			
21		5			
22		2	1		
23		1			
24		1			
25		3			
26		1			
27		3		1	
28		6			
29		3	1		
30	1	1	2		
31		3			
Total	1	53	21	3	3

SPRING 75 FALL 6

Prepared by: Julius Reynolds, Game Biologist III

APPENDIX IV

Unit 6

Black Bear Skull and Age Data 1973-1978

	Mean Skull Size		Mean Ages		
Year	Male	Female	Male	Female	All Sexes
1973	16.4 (9)*	0.0 (0)	4.4 (10)	0.0 (0)	4.4 (10)
1974	16.4 (58)	15.7 (25)	6.1 (67)	6.0 (25)	6.1 (92)
1975	17.2 (90)	15.6 (30)	7.1 (96)	6.7 (32)	7.0 (128)
1976	16.6 (76)	15.6 (58)	5.9 (77)	6.4 (59)	6.1 (136)
1977	16.4 (53)	15.7 (31)	6.7 (54)	8.4 (36)	7.3 (90)
1978	16.6 (56)	15.0 (19)	5.3 (48)**	4.3 (19)**	5.0 (67)**
Averages	16.7 (342)	15.6 (163)	6.3 (352)	6.6 (171)	6.4 (523)

* Sample size in parenthesis.

** Spring data only.

Prepared by: Julius Reynolds, Game Biologist III

APPENDIX V

Unit 6

Black Bear Harvest

Percent of Harvest by Year and Area

Subunit	Area	1974	1975	1976	1977	1978
6-1	East of Copper River to Icy Bay	4.6	14.9	6.8	15.0	14.8
6-2	Cordova to Copper River	11.1	2.7	14.3	5.6	2.5
6-3	Tatitlek to Cordova	34.3	8.1	12.9	9.4	9.9
6-4	Valdez Arm	4.6	18.9	15.0	14.0	23.5
6-5	Esther Island to Valdez Arm	13.0	21.6	18.4	22.4	18.5
6-6	Port Wells	8.3	12.2	9.5	8.4	12.4
6-7	Passage Canal to Port Nellie Juan	11.1	8.1	3.4	11.2	9.9
6-8	Port Nellie Juan to Cape Fairfield	10.2	9.5	15.0	13.1	6.2
6-10	Unit 6 - Unknown	2.8	4.1	4.8	.9	2.5
Percent		100.0	100.1	100.1	100.0	100.2

Number of Animals Harvested by Year and Area

Subunit	Area	1974	1975	1976	1977	1978
6-1	East of Copper River to Icy Bay	5	22	10	16	12
6-2	Cordova to Copper River	12	4	21	6	2
6-3	Tatitlek to Cordova	37	12	19	10	8
6-4	Valdez Arm	5	28	22	15	19
6-5	Esther Island to Valdez Arm	14	32	27	24	15
6-6	Port Wells	9	18	14	9	10
6-7	Passage Canal to Port Nellie Juan	12	12	5	12	8
6-8	Port Nellie Juan to Cape Fairfield	11	14	22	14	5
6-10	Unit 6 - Unknown	3	6	7	1	2
Total		108	148	147	107	81

Prepared by: Julius Reynolds, Game Biologist III

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1978

Game Management Unit 7 - Seward

Seasons and Bag Limits

Aug. 10-June 30	Three bears; provided that not more than one may be a blue or glacier bear and that the taking of cubs or females accompanied by cubs is prohibited.

Harvest and Hunting Pressure

Sealing certificate records indicate that 52 black bears were harvested in Unit 7 during 1978 (Appendix I). The harvest was comprised of 31 males (65%), 17 females (35%) and 4 bears of undetermined sex. The mean skull size of male and female bears in the harvest was 16.3 and 15.1 inches, respectively.

Forty-nine percent of the 1978 harvest occurred during the spring season, and 51 percent during the fall season (Appendix II). During the spring harvest, 69 percent of the bears taken were males compared to 61 percent during the fall harvest.

Nonresidents accounted for only 4 percent (n=2) of the annual harvest (Appendix III). The average number of days needed for a successful resident hunt was 2.9 days compared to 4.3 days for nonresidents. In 1978, none of the successful hunters in Unit 7 reported using a guide. Highway vehicles (51%) were the most popular means of transportation used to reach hunting areas. Boats (31%) were the second most popular means of transportation. No one reported using off-road vehicles.

The mean age of male bears in the 1978 harvest was 5.1 years compared to 5.4 years from 1973 through 1978 (Appendix IV).

Composition and Productivity

No data were available.

Management Summary and Conclusions

The harvest of 52 black bears in Unit 7 during 1978 was 20 percent lower than the average harvest of 65 from 1974 through 1977. However, the percentage of males (65%) in the 1978 harvest compares closely to the average percentage of males (66%) in the harvests from 1974 through 1977.

The average number of days needed to harvest a black bear has shown a slight, but steady, increase from 1974 through 1978. The mean skull size of male bears in the harvest during 1978 (16.3 inches) is equal to the average male skull size since 1973.

The fact that the harvest has remained relatively large, that the average male skull size has remained unchanged, and that the harvest is heavily skewed toward males suggest that the current level of harvesting is not adversly affecting the population.

Recommendations

No change in season or bag limit is recommended.

PREPARED BY:

Ted H. Spraker
Game Biologist III

SUBMITTED BY:

James B. Faro
Regional Management Coordinator

Appendix I. Black bear harvest and mean skull size of male and female bears harvested in Game Management Unit 7.

Year	Total Harvest	No. Males	Percent[3] Males	No. Females	Percent Females	No. Unknown Sex	Mean skull Size male (in.)[4]	Mean skull Size female (in.)[4]
1969[1]	32	17	57	13	43	2	-	-
1973[2]	38	16	43	21	57	1	16.1 (13)	15.4 (17)
1974	43	22	58	16	42	5	16.8 (19)	15.4 (11)
1975	62	43	80	11	20	8	16.7 (42)	15.1 (10)
1976	99	52	58	38	42	9	16.1 (49)	15.7 (34)
1977	57	36	69	16	31	5	15.8 (31)	15.6 (14)
1978	52	31	65	17	35	4	16.3 (28)	15.1 (14)

1/ Data from multiple species harvest questionnaire.
2/ Harvest for July 1 through December 31 only. Black bear sealing was initiated July 1, 1973.
3/ Percent determined from bears of known sex.
4/ Skull sample size in parenthesis.

PREPARED BY: Ted H. Spraker, Game Biologist III

Appendix II. Chronology of kill for black bears harvested in Game Management Unit 7 from July 1, 1973 through 1978.

	No. bears						Percent of annual harvest				
	1973	1974	1975	1976	1977	1978	1974	1975	1976	1977	1978
April 21-30	-	0	0	0	0	0	-	-	-	-	-
May 1-10	-	1	-	-	-	-	3	-	-	-	-
May 11-20	-	6	4	2	6	1	18	6	2	11	3
May 21-31	-	9	13	15	20	6	26	21	15	36	16
June 1-10	-	7	8	9	4	5	20	13	9	7	14
June 11-20	-	3	11	9	3	3	9	18	9	5	8
June 21-30	-	2	4	6	1	3	6	6	6	2	8
Total Spring	-	28	40	41	34	18	82	64	41	61	49
% Males Spring	-	64	84	54	71	69					
Aug. 10-19	4	3	4	10	4	3	9	6	10	7	8
Aug. 20-31	9	3	7	10	1	1	9	11	10	2	3
Sept. 1-10	7	2	2	11	1	5	6	3	11	2	14
Sept. 11-20	6	1	3	9	7	2	3	5	9	13	5
Sept. 21-30	8	0	3	11	1	5	-	5	11	2	14
Oct. 1-10	2	2	1	3	5	2	6	2	3	9	5
Oct. 11-20	1	1	1	2	1	1	3	2	2	2	3
Oct. 21-31	1	0	1	1	1	0	-	2	1	2	-
Nov.1-Dec.31	0	0	0	0	0	0	-	-	-	-	-
Total Fall	38	12	22	57	21	19	36	36	57	39	52
% Males Fall		58	75	67	63	61					

PREPARED BY: Ted H. Spraker, Game Biologist III

Appendix III. Residency, days hunted, number of guided hunts, and method of transportation for successful black bear hunters in Game Management Unit 7, July 1, 1973 through 1978.

	Residency of successful hunters				Average no. days hunted		Guided hunts				Transmportation used									
	Res.		Non-res.				Res.		Non-res.		Aircraft		ORV		Boat		Horses		Other	
Year	No.	%	No.	%	Res.	Nonres.	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1973	27	71	11	29	2.3	3.4	0	-	8	73	16	72	1	3	3	8	3	8	15	39
1974	39	98	1	3	2.0	1	1	3	1	3	9	21	0	-	16	37	4	9	14	33
1975	54	87	8	13	2.2	2.9	0	-	4	50	9	15	1	2	23	38	1	2	27	44
1976	84	86	14	14	2.6	5.1	4	5	6	43	17	18	3	3	21	22	9	9	45	47
1977	49	88	7	12	2.7	2.6	0	-	0	-	7	13	5	9	10	18	0	-	33	60
1978	50	96	2	4	2.9	4.3	0	-	0	-	5	14	0	-	11	31	1	3	18	51

PREPARED BY: Ted H. Spraker, Game Biologist III

Appendix IV. Mean ages of black bears harvested in Game Management Unit 7.

Year	All[1/] males	All[1/] females	All[1/] sexes	Males 5 yrs.[1/] and older	Females 5 yrs.[1/] and older
1973	4.4 (14)	6.2 (18)	5.4 (32)	7.1 (4)	8.3 (10)
1974	6.3 (16)	5.6 (13)	6.0 (29)	7.7 (11)	8.6 (6)
1975	6.8 (36)	4.7 (8)	6.4 (44)	9.3 (21)	7.5 (3)
1976	5.7 (44)	6.8 (33)	6.2 (77)	9.2 (18)	8.6 (22)
1977	3.6 (32)	4.8 (13)	4.0 (45)	6.8 (4)	7.4 (4)
1978	5.1 (17)	4.7 (9)	5.0 (26)	9.6 (5)	7.1 (3)
Totals	5.4(159)	5.8 (94)	5.6(253)	8.7 (63)	8.3 (48)

1/ Sample size in parenthesis.

PREPARED BY: Ted H. Spraker, Game Biologist III

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1978

Game Management Unit 9 - Alaska Peninsula

Seasons and Bag Limits

No closed season	Three bears; provided that the taking of cubs or females accompanied by cubs is prohibited.

Harvest and Hunting Pressure

Sealing of black bears is not required in Game Management Unit 9 and only limited harvest data are available. In 1978, nine black bears were voluntarily presented for sealing. An estimated 10-20 black bears are harvested annually.

Composition and Productivity

No data were available.

Management Summary and Conclusions

It is believed most black bears are harvested incidental to hunts for other species. Five of the nine bears presented for sealing were harvested in this manner.

Some local residents harvest black bears for meat. The meat was salvaged from six of the nine bears sealed.

Recommendations

No changes in seasons or bag limit are recommended.

SUBMITTED BY:

Nicholas C. Steen
Game Biologist II

PREPARED BY:

James B. Faro
Regional Management Coordinator

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1978

Game Management Unit 11 - Wrangell Mountains

Seasons and Bag Limits

No closed season	Three bears; provided that the taking of cubs or females accompanied by cubs is prohibited.

Harvest and Hunting Pressure

Information from sealing documents indicated a harvest of six black bears during 1978. Five were males and one was a female. In 1978, the mean skull size for the four males was 16.4 inches and the skull size for the female was 13.9 inches (Appendix I).

Resident hunters accounted for 100 percent of the harvest (Appendix II). Guides were not employed by any successful hunters. Sealing records show that 50 percent of the successful hunters listed under "other transportation methods" were on foot hunting near roads. Aircraft were used by 33 percent of the successful hunters. The average number of days needed to harvest a black bear was 1.6.

There were no black bears taken in spring 1978. Data presented in Appendix III indicate that most black bears are taken when seasons are also open for other big game species.

One black bear of the cinnamon color phase was taken in 1978. The total number of black bears not of the black color phase shot since 1973 is six; five were cinnamon and one was probably a black phase mistaken for a blue phase black bear.

Composition and Productivity

Mean skull sizes of bears harvested since 1973 suggest that most bears were 6 years of age or older. Age determination from cementum annuli in premolar teeth is not available at this time.

Management Summary and Conclusions

A comparison of data collected from sealing certificates for the past 5 years indicates that in Unit 11, hunters are harvesting from a lightly hunted population of black bears. The harvest level of bears in Unit 11 reflects chance sightings rather than a direct correlation to black bear abundance.

Recommendations

No changes in season or bag limits are recommended.

PREPARED BY:

Robert Tobey
Game Biologist II

SUBMITTED BY:

James B. Faro
Regional Management Coordinator

Appendix I. Sex and skull size (inches) of black bears harvested in Game Management Unit 11, 1973-1978.

Year	Total harvest	No. males	Percent males	No. females	Percent females	No. unknown sex	Percent unknown sex	Mean skull size (n) Males	Mean skull size (n) Females
1973*	31	20	65	11	35	0	0	17.0 (20)	15.9 (8)
1974	16	10	63	5	31	1	6	16 6/8(10)	15 1/8(5)
1975	7	2	29	5	71	0	0	16 6/8 (2)	16 4/8(3)
1976	10	8	80	1	10	1	10	17 1/8 (8)	16 2/8(1)
1977	15	9	60	3	20	3	20	16 7/8 (9)	15 6/8(3)
1978	6	5	83	1	17	0	0	16.4 (4)	13.9 (1)

* Data available for July 1-December 21, 1973.

PREPARED BY: Robert Tobey, Game Biologist II

Appendix II. Residency, days hunted, number of guided hunts, and methods of transportation for successful black bear hunters in Game Management Unit 11, 1973-1978.

	Residency of successful hunters					No. guided hunts				Transportation used									
	Nonres.		Res.		Avg. No.	Nonres.		Res.		Aircraft		Off-road Vehicle		Boat		Horse		Other	
Year	No.	%	No.	%	days hunted	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1973*	18	58	13	42	3.7	18	100	0	0	9	29	3	10	0	0	8	26	11	35
1974	7	44	9	56	5.3	7	100	0	0	5	31	2	13	0	0	3	19	5	37
1975	1	14	6	86	3.2	1	100	0	0	3	43	1	14	1	14	0	0	2	29
1976	3	30	7	70	3.6	3	100	0	0	7	70	1	10	0	0	0	0	2	20
1977	3	20	12	80	5.8	3	100	0	0	9	64	0	0	2	14	0	0	3	21
1978	0	0	6	100	1.6	0	0	0	0	2	33	1	17	0	0	0	0	3	50

* Data available for July 1 - December 31, 1973.

PREPARED BY. Ted Spraker, Game Biologist II

Appendix III. Relationship of annual black bear harvest to the opening and closing dates of other big game seasons in Game Management Unit 11, 1974-1978.

	Year				
	1974	1975	1976	1977	1978
January 1-May 9	0	0	0	0	0
May 10-20	1	1	2	4	0
May 21-31	0	0	0	1	0
June 1-10	1	0	0	0	0
June 11-20	0	0	0	0	0
June 21-30	0	0	0	0	0
July 1-10	0	0	0	0	1
July 11-20	0	0	0	0	0
July 21-31	0	0	0	0	0
August 1-9[1]	0	0	0	1	0
August 10-19[2]	4	1	0	3	1
August 21-31	2	1	2	1	1
September 1-10[3]	3	2	3	1	3
September 11-20[4]	2	1	2	2	0
September 21-30[5]	3	0	1	2	0
October 1-10	0	1	0	0	0
October 11-20	0	0	0	0	0
October 21-December 31	0	0	0	0	0

1 Hunting seasons for all ungulates closed (January 1 to August 9).
2 Sheep and caribou seasons opened on August 10.
3 Starting in 1975 moose and goat seasons opened on September 1. Previously they opened on August 20 and August 10, respectively.
4 Sheep and moose seasons closed on September 20.
5 Caribou season closed September 30.

PREPARED BY: Robert Tobey, Game Biologist II

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1978

Game Management Unit 13 - Nelchina Basin

Seasons and Bag Limits

No closed season	Three bears; provided that the taking of cubs or females accompanied by cubs is prohibited.

Harvests and Hunting Pressure

The 1978 reported black bear harvest in Unit 13 was 64 bears. Of these, 25 (39%) were reported on sealing forms as taken incidental to other hunting activities. Resident hunters accounted for 83 percent of the black bears taken. Over half (64%) of the successful black bear hunters indicated on sealing forms that the meat had been salvaged.

Most black bears are killed between 10 May and 30 September with over half being taken during the 10 August - 20 September period which coincides with other big game hunting seasons for Unit 13.

Composition and Productivity

No information is available on composition and productivity other than that obtained from sealing documents. The sex and age composition of bears taken by hunters is shown in Appendix I. Indices used to assess population trends have shown little change since sealing began in 1973. Eighteen (28%) of the black bears killed in 1978 were of the cinnamon color phase; this was double the percentage of cinnamon phase bears taken last year.

Management Summary and Conclusions

Harvest data including, percent males, average male skull size and average days hunted, are unchanged when compared to previous year's data. These data suggest that black bear populations in Unit 13 have remained relatively unaltered by existing harvest levels.

Recommendations

No changes in seasons or bag limits are recommended.

PREPARED BY:

Robert Tobey
Game Biologist II

SUBMITTED BY:

James B. Faro
Regional Management Coordinator

Appendix I. Black bear harvest data, Game Management Unit 13, 1973-1978.

Regulatory year	Total kill	No. males	Percent males	No. nonres.	Mean skull size males(mm)	Percent incidental kill	Percent salvaging meat	Season and bag limit
1973	69	42	61	34	411	--	--	3 bears; provided that the taking of cubs or females accompanied by cubs is prohibited. No closed season.
1974	50	32	64	10	413	--	--	Same
1975	71	47	66	15	429	--	--	Same
1976	60	38	63	13	425	48	55	Same
1977	58	37	64	10	421	41	52	Same
1978	64	41	68	11	419	39	64	Same

PREPARED BY: Robert Tobey, Game Biologist II

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1978

Game Management Subunits 14A and B - Upper Cook Inlet

Seasons and Bag Limits

No closed season	Three bears; provided that the taking of cubs or females accompanied by cubs is prohibited.

Harvest and Hunting Pressure

Fifty-seven black bears were harvested in Subunits 14A and 14B during 1978 compared with 45 bears taken in 1977 (Appendix I). Twenty-six bears were taken in 14A, 30 in 14B and one in an unknown area of Unit 14. One additional non-sport killed bear was harvested in Unit 14.

In the past 2 years nearly all black bears harvested in Subunit 14A have been taken by Alaska residents (Appendix II). In Subunit 14B, residents accounted for 63 percent of the 1978 harvest, an increase from the 50 percent taken by residents in 1977.

Seventeen successful black bear hunters (68%) in Subunit 14A reported using "other" methods of transportation. It is believed that most hunters regard their method of transportation as "on foot" and thus fall into the "other" category. Two hunters used boats and three used off-road vehicles. No hunters reported using horses in 14A. In 14B, aircraft were used by 24 percent (6), boats by 12 percent (3), and "other" by 64 percent (16) of the successful hunters.

In 1978, successful black bear hunters in Subunit 14A spent an average of 2.4 days and in 1977, 6.3 days hunting black bears.

Composition and Productivity

Twenty-eight (49%) of the black bears taken in Subunits 14A and 14B were males, 22 (39%) were females and 7 (12%) were of unknown sex.

Eleven (42%) of the black bears taken in Subunit 14A were males, 13 (50%) were females and 2 were of unknown sex. In Subunit 14B, 17 males, 8 females, and 5 of unknown sex were reported taken. A single female with a unspecified kill location was also reported. The mean skull size for male bears harvested in Subunit 14A during 1977 was 15.0 inches (n=15), but this increased to 17.1 inches in 1978 (n=4). For Subunit 14B in 1978 mean skull size was 17.0 inches (n=13).

Management Summary and Conclusions

The black bear harvest in Subunits 14A and 14B appears to have stabilized from previous years. In 1978, the combined harvest for Subunits 14A and 14B was 57 black bears. Forty-five bears were taken in 1977 while in 1976, 1975 and 1974, respectively, 37, 82 and 24 bears were taken. It is probable that the low harvest in 1974 was the result of the "no hunting same day airborne" regulation which went into effect that year. It is also possible that the annual black bear harvests correspond to annual variation of natural foliage; black bear vulnerability is more a function of "sightability" than of bear density.

The percentage of female black bears taken has ranged from a low of 34 percent in 1973 to a high of 48 percent in 1974. Thirty-eight percent of the 1978 black bear harvest in both Subunits was females.

It appears there is a tendency for hunters to increase their efforts in the spring as noted in 1977, and in 1978, the spring harvest in 14A and 14B resulted in 29 kills, the highest recorded to date. Many bear, perhaps attracted by cooking odors, are taken near hunting camps. Several hunters have reported taking bears in the immediate vicinity of such camps.

Recommendations

No changes in seasons or bag limits are recommended.

PREPARED BY:

Jack C. Didrickson
Game Biologist III

SUBMITTED BY:

James B. Faro
Regional Management Coordinator

Appendix I. Black bear harvest with mean skull size of male and female bear sealed in Alaska's Game Management Subunits 14A and B, 1974-78.

Subunit	Year[1/]	Total Harvest	No. Males	Percent[2/] Males	No. Females	Percent[2/] Females	No. Unknown Sex	Mean skull size (n) Males	Mean skull size (n) Females
14A	1974	17	9	53	8	47	0	17.3 (7)	15.9 (5)
	1975	65	33	59	23	41	9	16.1(27)	15.6(22)
	1976	26	14	64	8	36	4	14.6(11	16.8 (6)
	1977	31	15	63	9	37	7	15.0(15)	15.0 (8)
	1978	26	11	42	13	50	2	17.1 (9)	15.5 (9)
14B	1974	7	2	50	2	50	3	17.8 (2)	14.9 (2)
	1975	15	8	62	5	38	2	15.6 (7)	15.2 (4)
	1976	11	5	50	5	50	1	16.6 (4)	15.9 (4)
	1977	10	4	44	5	55	1	17.1 (4)	16.2 (4)
	1978	30	17	57	8	27	5	17.0(13)	15.7 (8)
Unknown	1974	0	0	--	0	--	0	---- (0)	---- (0)
	1975	0	0	--	0	--	0	---- (0)	---- (0)
	1976	1	1	100	0	--	0	16.3 (1)	---- (0)
	1977	4	2	50	2	50	0	12.4 (1)	16.0 (2)
	1978	1	0	--	1	100	0	---- (0)	15.4 (1)
Total	1974	24	11	52	10	48	3	17.4 (9)	15.5 (7)
	1975	80	41	59	28	41	11	16.0(34)	15.5(26)
	1976	48	20	61	13	39	5	15.2(16)	16.5(10)
	1977	45	21	57	16	43	8	16.1(19)	15.4(12)
	1978	57	28	49	22	39	7	17.1(22)	15.5(18)

1/ Data for period 1974, 1975 through 1978 data for period January 1-December 31.
2/ Percentage based on known sex bears.
3/ Samples size in parenthesis.

PREPARED BY: Jack C. Didrickson, Game Biologist III

Appendix II. Reported residency, days hunted and methods of transportation of successful black bear hunters in Alaska's Game Management Subunits 14A and B; July 1, 1974-78.*

		Residency of Successful Hunters					Transportation used									
		Nonres.		Res.		Avg. No.	Aircraft		O.R.V.		Boat		Horse		Other	
Subunit	Year	No.	%	No.	%	Days Hunted	No.	%	No.	%	No.	%	No.	%	No.	%
14A	1974	0	0	17	100	1.6	3	18	2	12	0	0	0	0	12	71
	1975	2	3	63	97	2.2	5	10	9	15	9	15	0	0	38	61
	1976	0	0	23	100	1.8	3	13	2	9	3	13	0	0	15	65
	1977	0	0	30	100	6.3	3	10	1	3	2	7	1	10	23	77
	1978	1	0.4	25	99	2.4	3	12	3	12	2	8	0	0	17	68
14B	1974	4	57	3	43	9.6	3	43	1	14	0	0	1	14	2	29
	1975	0	0	15	100	2.3	2	15	1	8	1	8	1	8	8	62
	1976	4	31	9	69	4.5	7	64	0	0	1	9	1	9	2	18
	1977	5	50	5	50	10.1	5	50	3	30	0	0	0	0	2	20
	1978	11	37	19	63	5.1	6	24	0	0	3	12	0	0	16	64
Unknown	1974	0	--	0	--	---	0	--	0	--	0	--	0	--	0	--
	1975	0	--	0	--	---	0	--	0	--	0	--	0	--	0	--
	1976	1	100	0	0	2.0	1	100	0	--	0	--	0	--	0	--
	1977	0	--	4	100	1.8	1	25	0	--	0	--	0	--	3	75
	1978	0	--	1	100	1.0	0	--	0	--	0	--	0	--	1	100
Unit Total	1974	4	17	20	83	3.8	6	25	3	13	0	0	1	4	14	58
	1975	2	3	78	97	2.2	8	11	10	13	10	13	1	1	46	61
	1976	5	14	32	86	2.7	11	31	2	6	4	11	1	3	17	49
	1977	5	11	39	89	6.8	9	20	4	9	2	5	1	3	28	64
	1978	15	25	44	75	3.9	9	18	3	5	5	10	0	0	34	67

* These data are based on sport-killed bears.

PREPARED BY: Jack C. Didrickson, Game Biologist III

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1978

Game Management Unit 14C - Anchorage

Seasons and Bag Limits

Unit 14C (except that portion in Chugach State Park).	No closed season	Three bears; provided that the taking of cubs or females accompanied by cubs is prohibited.
Unit 14C in Chugach State Park.	Day after Labor Day - April 30	One bear; provided that the taking of cubs or females accompanied by cubs is prohibited.

Harvest and Hunting Pressure

During 1978, 10 black bears were harvested in Subunit 14C. Three were taken from August through October and seven were taken during May and June. During 1976 and 1977, eight bears were taken in the Subunit.

The Eklutna drainages (excluding Thunderbird Creek and the east fork of Eklutna above the lake), the Eagle River drainage, and all Turnagain Arm drainages within Chugach State Park from Campbell Creek on the north to Rainbow Creek on the south were closed to black bear hunting during 1978.

Nine of 10 successful hunters were residents of local communities from Wasilla to Anchorage. Three hunters utilized aircraft, six relied on foot travel only, and one used a boat. Hunters spent an average of 1.4 days afield before killing a bear. Nine hunters reported salvaging the meat for human consumption. Five bears came from the Lake George - Knik River area, two came from the 20 Mile drainage, and three from Peters Creek through Eklutna drainages.

Composition and Productivity

Eight of the bears harvested in 1978 were males and two were females. Mean skull size of the eight males was 17.2 inches. During 1977 the mean skull size was 17.1 inches.

Management Summary and Conculsions

Extensive portions of Subunit 14C are closed to black bear hunting. Historically, several of these closed areas produced a significant percentage of the total black bear harvest in 14C. The bear distribution

and abundance in open hunting areas, as well as the sex ratio and skull size of harvested bears, indicate that present levels of harvest are not excessive.

Recommendations

No change in seasons or bag limits are recommended.

PREPARED BY:

David Harkness
Game Biologist III

SUBMITTED BY:

James B. Faro
Regional Management Coordinator

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1978

Game Management Unit 15 - Western Kenai Peninsula

Seasons and Bag Limits

Aug. 10-June 30	Three bears; provided that not more than one may be a blue or glacier bear and that the taking of cubs or females accompanied by cubs is prohibited.

Harvest and Hunting Pressure

Sealing certificates indicate that 62 black bears were harvested in Unit 15 during 1978 (Appendix I). The harvest was comprised of 33 males (58%), 24 females (42%) and 5 bears of undetermined sex. Additionally, one male bear was accidentally killed during capture for a research project.

The mean skull size of 15.9 inches for male and 15.2 inches for female bears taken during the 1978 harvest is slightly lower than the average skull sizes, 16.3 and 15.4 inches respectively, reported from 1973 through 1977. The largest harvest and highest percentage of males came from Subunit 15C during 1978 compared to Subunits 15A and 15B (Appendix I).

Forty-eight percent of the 1978 bear harvest was taken during the spring season (Appendix II). Males made up roughly 60 percent of both the spring and fall harvests.

Nonresidents accounted for 10 percent of the 1978 harvest (six bears). The mean number of days hunted by successful hunters was 3.0 in 1978 compared to 2.4 in 1977 and 3.1 in 1976 (Appendix III). Highway vehicles were the most popular means of transportation to hunting areas in Subunits 15A (82%) and 15B (45%), whereas boats were more often used in Subunit 15C (48%). Off-road vehicles were the least often used, comprising only 2 percent of all transportation means reported.

The mean age of male bears harvested during 1978 was 5.3 years compared to 5.1 years in 1976 and 4.6 years in 1977 (Appendix IV). The mean age for female bears harvested during 1978 was 5.2 years compared to 6.4 years in 1976 and 6.3 years in 1977.

Composition and Productivity

No data were available.

Management Summary and Conclusions

The 1978 black bear harvest in Unit 15 has shown a significant decline when compared to the harvest of 1976. The large harvest in 1976 appears to have been due to the unusual availability of bears in Subunit 15C. The harvest in Subunit 15C dropped from 72 in 1976 to 31 in 1977, then to 25 in 1978. However, the percentage of males in the 1978 harvest from Subunit 15C was the highest reported (73%) compared to Subunits 15A (53%) and 15B (44%).

Mean skull sizes of male bears harvested during 1978 was only slightly lower than the average from 1973 to 1977 and the mean age of 5.3 years for males in 1978 was slightly higher than the average from 1973 through 1977.

Recommendations

No change in season or bag limit is recommended.

PREPARED BY:

Ted H. Spraker
Game Biologist III

SUBMITTED BY:

James B. Faro
Regional Management Coordinator

Appendix I. Black bear harvest and mean skull size of male and female bears, Game Management Unit 15, and Subunits 15A, 15B, and 15C.

Unit 15

Year	Total harvest	No. males	%[3] males	No. females	%[3] females	No. unknown sex	Mean skull size male (in.)[4]	Mean skull size female (in.)[4]
1969[1]	50	33	69	15	31	2	---	---
1973[2]	71	38	61	24	39	9	16.2 (30)	15.7 (21)
1974	67	42	66	22	34	3	16.3 (37)	14.5 (19)
1975	84	50	67	25	33	9	16.6 (40)	15.6 (20)
1976	128	75	59	47	37	6	16.4 (64)	15.7 (33)
1977	75	48	67	25	35	2	15.7 (42)	15.4 (23)
1978	62	33	58	24	42	5	15.9 (25)	15.2 (22)

Subunit 15A

Year	Total harvest	No. Males	%[3] males	No. females	%[3] females	No. unknown sex	Mean skull size male (in.)[4]	Mean skull size female (in.)[4]
1973[2]	35	21	70	9	30	5	15.8 (17)	16.3 (9)
1974	18	9	50	9	50	0	17.2 (9)	13.5 (8)
1975	16	10	77	3	23	3	15.8 (10)	16.1 (2)
1976	27	15	60	10	40	2	15.8 (14)	16.8 (6)
1977	29	21	75	7	25	1	15.2 (21)	15.4 (7)
1978	17	9	53	8	47	0	16.2 (8)	15.2 (8)

1/ Data from multiple species harvest questionnaire.
2/ Harvest from 1 July - 31 December only. Black bear sealing was initiated 1 July 1973.
3/ Percent determined from bears of known sex.
4/ Skull sample size in parenthesis.

Appendix I (cont.).

Subunit 15B

Year	Total harvest	No. males	%[2]/ males	No. females	%[2]/ females	No. unknown sex	Mean skull size male (in.)[3]/	Mean skull size female (in.)[3]/
1973[1]/	20	10	56	8	44	2	16.3 (8)	15.3 (8)
1974	26	19	73	7	27	0	15.7 (19)	15.0 (6)
1975	21	12	67	6	33	3	16.0 (9)	16.8 (5)
1976	25	13	52	11	48	1	16.7 (12)	15.8 (10)
1977	14	8	57	6	43	0	16.6 (8)	14.8 (4)
1978	11	4	44	5	56	2	15.5 (3)	15.2 (4)

Subunit 15C

Year	Total harvest	No. males	%[2]/ males	No. females	%[3]/ females	No. unknown sex	Mean skull size male (in.)[3]/	Mean skull size female (in.)[3]/
1973[1]/	16	7	50	7	50	2	17.8 (5)	14.9 (4)
1974	23	14	70	6	30	3	16.6 (9)	15.6 (5)
1975	47	26	63	15	37	6	17.2 (21)	15.0 (13)
1976	72	44	61	26	39	2	16.5 (38)	15.3 (17)
1977	30	17	59	12	41	1	16.1 (13)	15.6 (12)
1978	25	16	73	6	27	3	15.7 (12)	14.9 (5)

1/ Harvest for 1 July - 31 December only. Black bear sealing was initiated 1 July 1973.
2/ Percent determined from bears of known sex.
3/ Skull sample size in parenthesis.

PREPARED BY: Ted H. Spraker, Game Biologist III

Appendix II. Chronology of kill for black bears harvested in Game Management Unit 15 from July 1, 1973 through December 31, 1978.

	No. bears						% of annual harvest				
	1973	1974	1975	1976	1977	1978	1974	1975	1976	1977	1978
April 21-30		0	0	2	0	0	-	-	2	-	-
May 1-10		1	3	0	2	4	1	4	-	3	17
May 11-20		3	4	4	4	4	4	6	3	5	17
May 21-31		4	3	10	11	8	6	4	8	15	35
June 1-10		1	8	13	4	5	1	11	10	5	22
June 11-20		0	6	5	3	0	-	9	4	4	-
June 21-30		5	4	2	3	2	7	6	2	9	9
Total Spring		14	28	36	27	23	21	40	29	36	48
% males[1/]		71	71	76	85	61					
Aug. 10-19	14	7	12	19	7	3	10	17	15	9	12
Aug. 20-31	14	11	8	13	2	2	16	11	10	3	8
Sept. 1-10	16	12	6	24	9	6	18	9	19	12	24
Sept. 11-20	15	6	7	17	15	4	9	10	13	20	16
Sept. 21-30	8	11	3	7	6	2	16	4	5	8	8
Oct. 1-10	2	2	6	7	4	4	3	9	5	5	16
Oct. 11-20	1	4	0	3	4	4	6	-	2	5	16
Oct. 21-31	0	0	0	1	0	0	-	-	1	-	-
Nov. 1-Dec. 31	0	0	0	0	1	0	-	-	-	1	-
Total Fall	70	53	42	91	48	25	79	60	70	64	52
% males[1/]	-	60	67	56	56	60					

1/ Percent determined from bears of known sex.

PREPARED BY: Ted H. Spraker, Game Biologist III

Appendix III. Residency, days hunted, number of guided hunts and method of transportaiton for successful black bear hunters, Game Management Unit 15 and Subunits 15A, 15B, and 15C.

Game Management Unit 15

Year	Residency of successful hunters: Non-res. No.	%	Res. No.	%	Av. days hunted	No. guided hunts: Non-res. No.	%	Res. No.	%	Transportation used: Aircraft No.	%	Off-road vehicle No.	%	Boat No.	%	Horse No.	%	Other No.	%
1973[1/]	8	11	63	89	2.5	4	50	2	3	13	18	1	1	16	23	8	11	33	46
1974	15	22	52	78	3.4	8	53	2	4	25	37	4	6	15	22	5	8	17	26
1975	13	16	70	84	3.8	2	15	0	-	26	31	2	2	25	30	6	7	24	29
1976	26	21	101	80	3.1	12	46	3	3	24	19	4	3	34	27	10	8	55	43
1977	14	19	61	81	2.4	6	43	0	-	17	23	1	1	15	20	8	11	33	45
1978	6	10	56	90	3.0	0	-	0	-	5	10	1	2	17	33	1	2	27	53

Game Management Unit 15A

Year	Residency of successful hunters: Non-res. No.	%	Res. No.	%	Av. days hunted	No. guided hunts: Non-res. No.	%	Res. No.	%	Transportation used: Aircraft No.	%	Off-road vehicle No.	%	Boat No.	%	Horse No.	%	Other No.	%
1973[1/]	1	3	34	97	2.1	0	-	1	3	5	14	0	-	1	3	1	3	28	80
1974	2	11	16	89	2.4	0	-	2	12	4	22	3	17	3	17	0	-	8	44
1975	0	0	16	100	2.1	0	-	0	-	0	-	2	13	0	-	0	-	14	87
1976	1	4	26	96	2.1	0	-	1	4	1	4	2	7	2	7	0	-	22	81
1977	0	0	29	100	2.0	0	-	0	-	5	17	1	3	3	10	0	-	20	69
1978	2	12	15	88	1.6	0	-	0	-	0	-	1	6	2	12	0	-	14	82

1/ Harvest for 1 July - 31 December only. Black bear sealing was initiated 1 July 1973.

Appendix III (cont.).

Game Management Unit 15B

Year	Residency of successful hunters: Non-res. No.	Non-res. %	Res. No.	Res. %	Av. days hunted	No. guided hunts: Non-res. No.	Non-res. %	Res. No.	Res. %	Transportation used: Aircraft No.	Aircraft %	Off-road vehicle No.	Off-road vehicle %	Boat No.	Boat %	Horse No.	Horse %	Other No.	Other %
1973[1]/	0	-	20	100	2.7	0	-	1	5	3	15	0	-	10	50	4	20	3	15
1974	9	35	17	65	4.0	4	44	0	-	11	42	0	-	9	35	1	4	5	19
1975	4	20	16	80	4.1	1	25	0	-	9	45	0	-	5	25	3	15	3	15
1976	2	8	23	92	3.6	0	-	1	4	4	17	0	-	10	42	2	8	9	36
1977	2	14	12	86	2.2	0	-	0	-	4	29	0	-	6	43	1	7	3	21
1978	0	0	11	100	2.8	0	-	0	-	2	18	0	-	4	36	0	0	5	45

Game Management Unit 15C

Year	Residency of successful hunters: Non-res. No.	Non-res. %	Res. No.	Res. %	Av. days hunted	No. guided hunts: Non-res. No.	Non-res. %	Res. No.	Res. %	Transportation used: Aircraft No.	Aircraft %	Off-road vehicle No.	Off-road vehicle %	Boat No.	Boat %	Horse No.	Horse %	Other No.	Other %
1973[1]/	7	44	9	56	3.7	4	57	0	-	5	31	1	6	5	31	3	19	2	12
1974	4	17	19	83	3.6	4	100	0	-	10	43	1	4	3	13	4	17	5	22
1975	9	19	38	81	4.5	1	11	0	-	17	36	0	-	20	43	3	6	7	15
1976	21	29	51	71	3.2	12	57	1	1	17	24	2	3	21	29	8	11	24	33
1977	11	35	20	65	3.1	6	55	0	-	8	27	0	-	6	19	7	23	10	32
1978	2	8	23	92	4.4	0	0	0	-	3	13	0	-	11	48	1	4	8	35

1/ Harvest for 1 July - 31 December only. Black bear sealing was initiated 1 July 1973.

PREPARED BY: Ted H. Spraker, Game Biologist III

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1978

Game Management Unit 16 - West Side of Cook Inlet

Seasons and Bag Limits

No closed season	Three bears; provided that the taking of cubs or females accompanied by cubs is prohibited.

Harvest and Hunting Pressure

A total of 169 black bears taken in Unit 16 was sealed during 1978. Four of these were reported as non-sport kills. This is the highest recorded harvest for this Unit since data collection began in fall 1973 (Appendix I).

Sixty-five bears (38%) were taken during the spring season. The majority (24) of these were harvested in May. Of the 104 bears taken in the fall, 62 (60%) were harvested during the first 20 days in September. Characteristics of the black bear harvest since 1973 are shown in Appendix II.

Forty-two bears were harvested in Subunit 16A. The highest previous harvest for this Subunit was recorded in 1977 when 20 were reported taken. The harvest of 117 bears in Subunit 16B is considerably higher than the preceeding 5-year average of 89 bears.

Information on the number of unsuccessful hunters in Unit 16 during 1978 is unavailable. Successful hunters spent an average of 4.9 days hunting black bears in 1978. Successful hunters in the spring spent an average of 3.3 days hunting, less time than successful fall hunters.

Sealing data revealed that the area along the Yentna and Susitna Rivers within 10 miles of their confluence supported approximately 20 percent of the Unit 16 spring black bear harvest in 1978. Ten (16%) were taken between Blockade Glacier and Chakachamna Lake and seven (10%) were harvested along the Petersville Road. No black bears were reported killed in Subunit 16B north or west of Shell Lake during the first 6 months of 1978. During the fall, however, 20 percent of the harvest occurred west of Skwentna. The fall black bear harvest was most concentrated in the Rainy Pass area, between Skwentna and the mouth of the Kahiltna River, and along Alexander Creek.

Composition and Productivity

The mean skull size of 71 male bears harvested in Unit 16 was 16.5 inches (Appendix I). The mean skull size of 54 females was 15.5 inches. The mean size of male skulls has remained the same for 3 consecutive years while those of females have fluctuated from 15.4 to 15.8 inches with no apparent trend.

Age data are not yet available for many of the black bears taken during the 1978 season. Preliminary age data indicate, however, that fewer bears in older age classes (10+) are being harvested.

Management Summary and Conclusions

A trend towards increased hunting pressure on black bears has been readily apparent since 1975. Although there has been substantial fluctuation from year to year, the 1978 harvest was the highest on record.

Although mean skull sizes have remained relatively constant, it is possible that a reduction in the number of bears in older age classes has occurred. Since the size of mature skulls is not a good indicator of age, further conclusions must await the results of cementum ageing.

Recommendations

No changes in seasons or bag limits are recommended at this time. A more thorough analysis of population age structure in the harvest should be made when data become available.

PREPARED BY:

Jack C. Didrickson and Kenton P. Taylor
Game Biologist III and Game Biologist II

SUBMITTED BY:

James B. Faro
Regional Management Coordinator

Appendix I. Harvest by subunit, sex and mean skull size of black bears harvested in Game Management Unit 16 from 1973 through 1978.

Subunit	Year[1]	Total Harvest	No. of Males	% Males[2]	No. of Females	% of Females	No. of Unk. Sex	Mean skull Size Males[3]	Mean skull Size Females
16A	1973	15	8	62	5	38	2	15.2 (8)	15.2 (5)
	1974	15	9	64	5	36	1	15.7 (9)	15.2 (4)
	1975	18	12	75	4	25	2	15.8 (10)	15.3 (4)
	1976	16	10	77	3	23	3	15.9 (9)	15.7 (3)
	1977	20	13	65	5	25	2	16.6 (10)	16.3 (4)
	1978	42	20	48	16	38	6	----	----
16B	1973	140	88	68	42	32	10	16.7 (72)	15.7 (38)
	1974	49	34	72	13	28	2	17.1 (31)	16.1 (11)
	1975	100	63	73	23	27	14	16.8 (53)	15.4 (20)
	1976	76	45	65	24	33	7	16.8 (40)	15.4 (22)
	1977	80	45	56	28	35	7	16.5 (38)	15.7 (26)
	1978	117	63	54	44	38	10	16.5 (38)	15.7 (26)
16 Unknown	1973	1	0	0	0	0	1	----	----
	1974	2	1	50	1	50	0	----	----
	1975	1	1	100	0	0	0	----	----
	1976	0	0	0	0	0	0	----	----
	1977	1	1	0	0	0	0	----	----
	1978	10	2	20	5	50	3	----	----
Total	1973	156	96	67	47	33	13	16.5 (80)	15.6 (43)
	1974	66	44	70	19	30	3	16.8 (41)	15.8 (16)
	1975	119	76	74	27	26	16	16.6 (64)	15.4 (24)
	1976	92	55	67	27	33	10	16.5 (49)	15.4 (25)
	1977	101	59	58	33	33	9	16.5 (49)	15.8 (30)
	1978	169	85		65		19	16.5 (71)	15.5 (54)

1/ 1973 data for period from July 1-December 31; 1974-78 data for calendar year.
2/ Percentage based on known sex bears.
3/ Skull sample size in parenthesis.

PREPARED BY: Jack C. Didrickson and Kenton P. Taylor, Game Biologist III and Game Biologist II.

Appendix II. Chronology of black bear harvest and its relationship to open seasons for other species of big game in Alaska's Game Management Unit 16 from July 1, 1973 through 1978.

	1973	1974	1975	1976	1977	1978
Prior to April 1	--	0	0	0	0	0
April 1-30	--	1	0	0	0	0
May 1-10[1/]	--	2	1	0	0	2
May 11-20	--	14	4	6	6	17
May 21-31	--	8	14	11	2	20
June 1-10	--	2	8	6	8	17
June 11-20	--	3	8	2	8	6
June 21-30	--	3	3	0	6	3
May Unknown	--	3	0	0	0	0
Total Spring Harvest	--	36	38	25	30	65
July 1-10	1	2	0	1	2	9
July 11-20	0	0	1	0	3	2
July 21-31	2	0	2	0	1	2
Aug. 1-9	4	1	3	0	5	3
Aug. 10-19	10	3	4	2	2	6
Aug. 20-31[2/]	33	8	11	6	3	5
Sept. 1-10	53	1	23	25	8	35
Sept.11-20	37	8	25	22	5	27
Sept. 21-30[3/]	15	5	9	7	21	12
Oct. 1-10[4/]	0	1	3	4	11	3
Oct. 11-20	1	0	0	0	4	0
Oct. 21-Dec. 31	0	1	0	0	4	0
Total Fall Harvest	156	30	81	67	69	104

1/ Spring brown/grizzly season runs from May 10-May 25.
2/ Sheep season open but before moose season opened on August 20 in 1973 and 1974.
3/ September 20 is the traditional closing date of sheep season and was the closing date of the moose season in 1975.
4/ September 30 was the closing date of the moose season in 1973, 1974, 1976, 1977 and 1978.

PREPARED BY: Jack C. Didrickson and Kenton P. Taylor, Game Biologist III and Game Biologist II.

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1978

Game Management Unit 17 - Bristol Bay

Seasons and Bag Limits

No closed season	Three bears; provided that the taking of cubs or females accompanied by cubs is prohibited.

Harvest and Hunting Pressure

Sealing of black bears is not required in Unit 17 and only limited harvest data are available. In 1978, one black bear harvested in this Unit was voluntarily presented for sealing. It is estimated that approximately 10-20 black bears are harvested annually from Unit 17.

Composition and Productivity

No data were available.

Management Summary and Conclusions

Most black bears harvested in Unit 17 are believed taken incidental to hunts for other species. Some local residents are believed to harvest black bears for meat.

PREPARED BY:

Nicholas C. Steen
Game Biologist II

SUBMITTED BY:

James B. Faro
Regional Management Coordinator

BROWN/GRIZZLY BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1978

Game Management Unit 1 - Southeast Alaska Mainland

Season and Bag Limit

Sept. 1-June 10	One bear every four regulatory years; provided that the taking of cubs or females accompanied by cubs is prohibited.

Population Status and Trend

Brown bear numbers are thought to be reduced over much of southeast Alaska and the mainland portion is probably no exception. However, there has been an apparent increase in the number of sows with cubs or yearlings sighted. This is an indication of good survival of young age classes and may mean an increase in overall bear numbers.

Population Composition

No survey or inventory data were available.

Mortality

The Unit 1 sport-kill during the 1978 season was 15 bears (11 males, 4 females) based on brown bear sealing documents. One additional female was taken in defense of life and property. Seven males and three females were taken in the spring with four males and one female taken in the fall. The 1978 harvest of 15 bears was intermediate between the kill of 21 in 1976 and 12 in 1977 and is nearly the same as the 17-year average of 15.4 bears. Harvest statistics are shown in Appendix I.

The mean age (8.3 from sample of 6), mean hide size (14.2), and mean skull size (22.0) for the 11 males, compared favorably with previous years' harvest statistics. Guided hunts accounted for four bears, all of which were taken by nonresidents.

Management Summary and Recommendations

The brown bear harvest in Unit 1 has been traditionally low with no apparent detrimental effect on existing population levels. With a decrease in the availability of brown bears in many of the offshore islands of Southeast Alaska, there has been some shift in hunting pressure to the mainland. Records of this effort should be carefully kept and, also the composition of the kill to assure proper harvest levels. At this time, no changes in seasons or bag limits are recommended.

PREPARED BY:

Nathan P. Johnson
Region I Research/Management Coordinator

SUBMITTED BY:

Jack W. Lentfer
Region I Supervisor

APPENDIX I

Brown/Grizzly Bear Sport Harvest, Calendar Years 1961 Through 1977. By: Year, Total Kill, Number of Males, % of Males, No. by Nonresidents, % by Nonresidents, Mean Hide Size of Males, Mean Skull Size of Males, Mean Cementum Lines of Males and Calendar Year Seasons.

GAME MANAGEMENT UNIT 1

Calendar Year	Total Kill	No. Males	% Males[1]	No. Nonres.	% Nonres.	Mean Size Male[2]	Mean Skull Size Male[3]	Mean Cem. Lines Male[4]	Calendar Year Seaso
1961	12	8	67	1	8	13.2 (8)	24.8 (1)		11/1-6/30 9/1-12/31
1962	13	9	75	4	31	14.0 (9)	0		Same
1963	7	4	57	2	29	14.5 (4)	0		Same
1964	20	17	89	2	10	13.1 (17)	23.5 (5)		Same
1965	10	6	60	1	10	13.7 (5)	23.2 (2)		Same
1966	14	10	71	4	29	12.9 (10)	0		Same
1967	29	14	48	7	24	13.2 (15)	23.3 (6)		1/1-6/20 9/1-12/31
1968	17	10	59	4	24	12.9 (10)	20.8 (8)		1/1-6/10 9/1-12/31
1969	24	16	67	1	4	13.7 (16)	21.1 (15)	3.8 (4)	1/1-6/10 9/1-11/30
1970	13	6	46	4	31	11.2 (6)	20.2 (6)		4/1-6/10 9/1-11/30
1971	10	7	70	4	40	13.3 (7)	21.0 (7)	5.4 (7)	4/1-6/10 9/1-12/31
1972	17	8	50	4	24	12.8 (8)	19.7 (7)	5.7 (3)	1/1-6/10 9/1-12/31
1973	11	5	45	2	18	16.0 (4)	21.1 (4)	12.3 (4)	1/1-6/10 9/1-12/31
1974	18	14	78	4	22	13.2 (13)	20.8 (12)	6.4 (12)	Same
1975	13	8	62	2	15	13.7 (8)	21.5 (7)	6.1 (8)	Same
1976	21	10	50	7	33	15.4 (10)	22.4 (10)	6.9 (10)	Same
1977	12	8	66	1	8	14.4 (5)	21.0 (8)		Same
1978	15	11	73	4	27	14.2 (11)	22.0 (11)	8.3 (6)	Same

[1] All male % based on known-sex bears.
[2] Length plus width given in ft. ( ) - sample size.
[3] Length plus width given in inches. ( ) - sample size.
[4] ( ) - sample size.

BROWN/GRIZZLY BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1978

Game Management Unit 4 - Admiralty, Baranof, Chichagof, and Adjacent Islands

Seasons and Bag Limits

Sept. 1-June 5, except Admiralty Island	One bear every four regulatory years; provided that the taking of cubs or females accompanied by cubs is prohibited.
Sept. 1-May 20, Admiralty Island only	One bear every four regulatory years; provided that the taking of cubs or females accompanied by cubs is prohibited.

Harvest and Hunting Pressure

The sport harvest of brown bears from Unit 4 in 1978 was 67 animals, only one more than was taken in 1977. These two years' harvests are only slightly above the historical average for the Unit, but substantially below the high years of the 1972-76 period. The season was shortened considerably by the Alaska Board of Game in an attempt to reduce the harvest.

The composition of the harvest for 1977 was well within the "standard" statistics that have been exhibited since 1962 (Appendix I).

Competition among hunters continued to be a problem, especially after the spring season closed early on Admiralty Island, forcing to the good hunting areas on Chichagof.

The early closure on Admiralty Island was effective in reducing the kill for that island, as only 16 bears were taken there, which is about one-half the mean harvest.

There was one known illegal kill during the spring and one reported defense-of-life kill during the fall.

Composition and Productivity

An attempt was made to count bears on the beaches in Hood Bay on Admiralty Island during the spring. That attempt was largely unsuccessful, mainly because of the large number of people (hunters, fishermen, and recreationists) present at the time. However, when compared to observations made there in earlier years, bear sign was noticeably less abundant.

Further attempts were made to make comparative observations in Kadashan Bay on Chichagof and in Hood Bay in the fall during salmon spawning season. Bear sign appeared to be reasonably plentiful in Kadashan but was disappointingly scarce in Hood Bay. My observations

and those of the Commercial Fisheries weir crew could account for a minimum of 11 bears using the Kadashan drainage.

The weather in 1978 was again quite abnormal, especially during early spring. There was little snow accumulation and green-up occurred early. However, that would not account for the low number of bears on fish streams. Although there was an exceptionally heavy blueberry crop, which might have attracted bears away from fish streams.

We subjected our Unit 4 bear data to computer analysis at the University of British Columbia with their bear population model. The data available and their manipulation in the bear model did suggest a population reduction had occurred. However, the model did not support the contention that the reduction was related to overhunting. On the negative side, the model did show that if a population reduction had occurred, it will be many years recovering to former levels of abundance because of the very low reproductive potential of bears.

Management Summary and Recommendations

It is apparent that the Unit 4 brown bear population does not appear to be at the high levels of former years, although guides reported bears as being more plentiful than in 1977. The Alaska Board of Game shortened the spring season, especially on Admiralty Island, in an effort to reduce the kill, and that action seemed to produce the desired effect. Further reduction of the kill seems appropriate until the population trend and status are more fully understood.

PREPARED BY:

Loyal J. Johnson
Game Biologist III

SUBMITTED BY:

Nathan P. Johnson
Region I Research/Management Coordinator

APPENDIX I. Brown bear sport harvest, calendar years 1961 through 1978, Game Management Unit 4.

Calendar Year	Total Kill	% Kill in Spring	% Males	% Nonresident Kill	Mean Hide Size Male[1]	Mean Skull Size Male[2]	Mean Cem. Lines[3] Male	Female
1961	39	72	80	59	15.1			
1962	44	73	66	66	14.6			
1963	27	67	74	56	14.4			
1964	55	72	67	44	14.2			
1965	64	67	67	52	13.7			
1966	75	65	63	67	13.1			
1967	62	66	69	48	13.2	22.7		
1968	50	72	76	36	12.7	22.3	8.0(10)	
1969	66	67	77	52	13.7	22.7	7.1(32)	
1970	66	85	73	55	13.7	22.0	7.8(40)	
1971	77	78	64	52	14.1	22.7	8.3(44)	8.1(15)
1972	77	66	75	53	14.3	22.5	8.8(55)	6.4(17)
1973	99	72	68	40	13.6	21.6	7.7(63)	8.5(32)
1974	84	74	73	51	13.9	22.2	7.6(57)	7.7(21)
1975	105	72	69	57	14.0	22.2	8.1(66)	6.4(29)
1976	141	79	64	60	14.1	22.4	9.4(90)	8.6(50)
1977	66	83	70	55	13.6	21.6	7.5(44)	8.6(17)
1978	67	73	75	52	13.6	21.5	7.5(49)	7.8(16)

[1]Length plus width given in feet.
[2]Length plus width given in inches.
[3]Tooth sample size given in parenthesis.

BROWN/GRIZZLY BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1978

Game Management Unit 5 - Yakutat

Season and Bag Limit

Sept. 1-May 31	One bear every four regulatory years; provided that the taking of cubs and females accompanied by cubs is prohibited.

Population Status and Trend

Based on general observations, the brown/grizzly bear population on the Yakutat Forelands appears to be stable and possibly increasing. Bears appeared to be more abundant, or at least more visible, during this report period than they have in recent years.

Population Composition

One unsuccessful spring survey was conducted in an attempt to locate brown/grizzly bears and their den sites. The survey was flown in the Russell Fjord area between Disenchantment Bay and Beasley Creek using a Cessna 180. Weather conditions were not conducive to an intensive survey in the mountainous terrain because of rain and gusty winds. Bear sightings were also routinely recorded during all other survey flights in Unit 5. Overall, bears appeared to be more abundant than in recent years.

Four salmon spawning stream surveys were conducted on foot to determine bear utilization of this abundant resource. The streams chosen were those already routinely surveyed by fisheries personnel, on which a data base was available. Although it is accepted that surveys of this type are somewhat subjective, they give a basic trend of resource utilization and provide a generalized feeling for bear abundance.

The first survey was conducted on Sockeye Creek on August 12, 1978. Very little bear sign was observed. Most of the fish carcasses had been washed away a few days earlier by high water and it was assumed that any bear sign was also destroyed. Fisheries personnel indicated that the fish had spawned somewhat early, and that future surveys should be conducted about two weeks earlier for better data.

The second survey conducted was the Mountain Stream, Situk Lake, and Situk River drainage from the outlet of Mountain Stream downstream to the point where U.S. Forest Service Highway 10 crosses the Situk River, a distance of about 24 km. The survey was conducted on August

22, 1978 and indicated considerable bear activity on both streams. Four bears were observed, a large adult about 6.5 km upstream from the bridge and an adult female with two large cubs that were probably either yearlings or 2-year-olds, sighted about 4 km upstream from the bridge. A fifth bear was heard crashing through the underbrush but size could not be determined.

The third stream survey was on Humpie Creek on August 23, 1978. This short stream (1.5 km) showed heavy bear activity.

The fourth survey was an intensive resurvey of the Mountain Stream and upper Situk Lake area. It was conducted over a 4-day period between August 30 and September 2, 1978. During this time, only one bear (a large adult) was actually sighted, but observed sign in the form of scavanged fish carcasses, bear scats, and trails indicated a substantial increase in bear activity since the first survey 8 days prior. This increase can probably be attributed to the timing of the peak of the spawning activity in the stream. According to fisheries personnel, the sockeye salmon that dominate the stream ripen in Mountain and Situk Lakes and then move into the stream for spawning.

The Yakutat sanitary land fill was also monitored for bear activity. Six bears were identified as utilizing the land fill, a female with two yearling or 2-year-old cubs, a yearling male, and two adult bears. The yearling male was captured, marked and relocated in July in preference to destroying it, after it continually made a nusiance of itself by raiding garbage cans. It was transported about 48 km and did not return.

Overall, abundance and reproduction appears to be good and the brown/ grizzly bear population on the Yakutat Forelands looks stable.

No survey was conducted in Unit 5B, the Malaspina Forelands.

Mortality

A total of 27 brown/grizzly bears (20 males, 7 females) were reported killed during the report period. Hunting pressure was about average compared with previous years, but mortality (including non-sport) was the highest recorded for the previous 9 years. The next highest harvest was 22 bears in 1971. Twenty-two of the bears were sport harvest (16 males, 6 females) while an additional five bears (4 males, 1 female) were destroyed in defense of life or property. The spring harvest of 13 bears was composed of 77 percent males (10 bears) and 23 percent females (3 bears) while the fall kill of nine bears consisted of 67 percent males (6 bears) and 33 percent females (3 bears). The non-sport kill was 80 percent males and 20 percent females.

The average skull size for 15 sport-killed males was 23.7 inches while that of six females was 21.4 inches. The average age of the males (sample size 15) was 7.8 years, 0.4 years younger than the 1977 season, but 1.5 years older than the average for the previous 9 years. The average age of five females was 7.4 years, 4.4 years older than the 1977 average and 2.1 years older than the average for the previous 9 years.

Management Summary and Recommendations

At this time, the Unit 5 brown/grizzly bear population appears to be stable and production is fair to good. No changes in season length or bag limit are recommended at this time.

PREPARED BY:

Ronald E. Ball
Game Biologist II

SUBMITTED BY:

Nathan P. Johnson
Region I Research/Management Coordinator

BROWN/GRIZZLY BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1978

Game Management Unit 6 - Prince William Sound and North Gulf Coast

Seasons and Bag Limits

Spring season	May 10-May 25	One bear every four regulatory years; provided the taking of cubs and females accompanied by cubs is prohibited.
Fall season		

Harvest and Hunting Pressure

The 1978 brown bear harvest was 28 animals, 15 males and 13 females. Only one non-sport kill was reported. The 1978 harvest is slightly lower than the 18-year average of 32 bears (Appendix I). The spring harvest of 20 bears is nearly average whereas the fall harvest of eight bears is 38 percent below average (Appendix III). Resident hunters took 64 percent of the harvest, 12 bears in the spring and 6 in the fall (Appendix IV).

In 1978, males averaged 13.7 feet in hide size, 23.1 inches in skull size and 6.9 years of age. In 1978 females averaged 12.7 feet in hide size, 21.2 inches in skull size and 5.0 years of age. Both male and female segments of the harvest compare favorably with the 18-year average (Appendix II).

The distribution of the harvest (Appendix V) was: Montague Island 5, Hinchinbrook Island 2, Valdez to Cordova 4, Copper River Delta 4, and East of Copper River 13. This compares favorably with previous years.

Composition and Productivity

No data were available.

Management Summary and Conclusions

Analysis of 1978 brown bear harvest data compared to harvest data collected since statehood, indicates the current level of harvest and hunting pressure is not adversely affecting Unit 6 bear populations.

Recommendations

Retain the current seasons and bag limits.

PREPARED BY:

Julius Reynolds
Game Biologist III

SUBMITTED BY:

James B. Faro
Regional Management Coordinator

APPENDIX I

UNIT 6

Brown bear sport harvest summary by year, sex of bear, residency of hunter, and length of season.

Calendar Year	Total Kill**	No. of Males	No. of Females	% of Males*	% of Females*	No. of Unknown	No. by Nonres.	% by Nonres.	Length of season
1961	0013	006	007	046%	054%	000	003	023%	303 days
1962	0024	017	007	071%	029%	000	009	038%	303 days
1963	0030	016	013	055%	045%	001	004	013%	303 days
1964	0032	022	007	076%	024%	003	009	028%	303 days
1965	0034	018	016	053%	047%	000	008	024%	303 days
1966	0038	020	017	054%	046%	001	008	021%	303 days
1967	0060	036	019	065%	035%	005	028	047%	293 days
1968	0064	040	019	068%	032%	005	033	052%	283 days
1969	0023	012	010	055%	045%	001	008	035%	237 days
1970	0028	013	014	048%	052%	001	010	036%	113 days
1971	0020	014	006	070%	030%	000	010	050%	68 days
1972	0039	021	017	055%	045%	001	019	049%	68 days
1973	0031	022	007	076%	024%	002	018	058%	68 days
1974	0029	014	015	048%	052%	000	017	059%	68 days
1975	0024	017	007	071%	029%	000	011	046%	68 days
1976	0024	018	006	075%	025%	000	010	042%	68 days
1977	0036	022	011	067%	033%	003	019	053%	68 days
1978	0028	015	013	054%	046%	000	010	036%	68 days
TOTALS	0577	0343	0211	0062%	0038%	0023	0234	041%	

* All percentages are based on total known sex bears.
** Harvest totals for previous years may change as late sealing certificates are added.

PREPARED BY: Lee Miller, Game Technician V

APPENDIX II

UNIT 6

Brown bear sport harvest summary by year, showing mean skull sizes, mean ages and length of seasons.

Calendar year	Mean skull sizes: Male Skull size	Male Sample size	Female Skull size	Female Sample size	Mean ages: All males Age	All males Sample size	All females Age	All females Sample size	All sexes Age	All sexes Sample size	M. > = 5 yr Age	M. > = 5 yr Sample size	F. > = 5 yr Age	F. > = 5 yr Sample size	Length of Season dates
1961	19.6	001	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	303 Days
1962	26.7	005	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	303 Days
1963	23.9	004	20.4	001	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	303 Days
1964	24.5	003	23.0	001	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	303 Days
1965	25.2	003	22.1	004	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	303 Days
1966	24.2	007	22.3	003	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	303 Days
1967	23.7	026	21.7	011	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	293 Days
1968	23.5	036	21.7	017	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	283 Days
1969	23.5	012	20.8	008	08.2	004	08.3	004	08.3	008	12.6	002	13.3	002	237 Days
1970	23.6	012	21.2	014	05.4	008	06.1	009	05.8	017	08.5	003	07.5	006	113 Days
1971	24.9	013	20.2	006	09.9	008	05.3	004	08.4	012	09.9	008	09.8	001	68 Days
1972	22.0	021	20.9	015	05.4	021	07.3	016	06.2	037	08.3	008	10.8	008	68 Days
1973	23.0	021	20.0	007	05.1	018	04.9	006	05.0	024	09.5	005	10.8	001	68 Days
1974	23.2	013	21.1	013	06.4	014	05.8	015	06.1	029	09.0	008	10.9	005	68 Days
1975	23.9	017	21.2	006	07.9	017	05.2	007	07.1	024	09.5	012	10.1	002	68 Days
1976	22.8	016	20.3	005	06.1	017	06.1	006	06.1	023	09.4	008	12.1	002	68 Days
1977	23.1	022	21.2	011	06.8	021	06.5	011	06.7	032	09.9	011	10.2	005	68 Days
1978	23.1	015	21.2	012	06.9	015	05.0	013	06.0	028	13.9	005	10.2	003	68 Days
TOTALS*	23.5	0247	21.2	0134	06.5	0143	06.1	0091	06.4	0234	09.8	0070	10.3	0035	

* Harvest totals for the previous year may change as late sealing certifications are added.

PREPARED BY: Lee Miller, Game Technician V

APPENDIX III

Unit 6

Brown bear sport harvest by season & sex

Year	SPRING				FALL				SPRING AND FALL			
	Male	Female	Unk.	Total	Male	Female	Unk.	Total	Male	Female	Unk.	Total
1961	4	2	0	6	2	5	0	7	6	7	0	13
1962	8	1	0	9	9	6	0	15	17	7	0	24
1963	5	4	1	10	11	9	0	20	16	13	1	30
1964	13	4	2	19	9	3	1	13	22	7	3	32
1965	12	11	0	23	6	5	0	11	18	16	0	34
1966	14	9	1	24	6	8	0	14	20	17	1	38
1967	23	8	3	34	13	11	2	26	36	19	5	60
1968	22	12	4	38	18	7	1	26	40	19	5	64
1969	8	5	1	14	4	5	0	9	12	10	1	23
1970	9	10	0	19	4	4	1	9	13	14	1	28
1971	11	2	0	13	3	4	0	7	14	6	0	20
1972	14	4	1	19	7	13	0	20	21	17	1	39
1973	12	2	1	15	10	5	1	16	22	7	2	31
1974	9	10	0	19	5	5	0	10	14	15	0	29
1975	13	5	0	18	4	2	0	6	17	7	0	24
1976	14	5	0	19	4	1	0	5	18	6	0	24
1977	14	7	2	23	8	4	1	13	22	11	3	36
1978	12	8	0	20	3	5	0	8	15	13	0	28
AVERAGE (18 yr.)	12.1	6.1	.9	19.0	7.0	5.7	.4	13.1	19.1	11.7	1.3	32.1

PREPARED BY: Julius Reynolds, Game Biologist III

APPENDIX IV

Unit 6

Brown bear sport harvest by season, sex & residency - 1978

	SPRING		FALL		SPRING AND FALL	
Sex	Resident	Non Resident	Resident	Non Resident	Resident	Non Resident
Male	6	6	2	1	8	7
Female	6	2	4	1	10	3
Total	12	8	6	2	18 (64.3%)	10 (35.7%)

APPENDIX V

Unit 6

Brown bear sport harvest by location & year

Year	Montague	Hinchinbrook	Valdez-Cordova	Copper River Delta	East of Copper River	Total
1961	4	1	1	3	3	12
1962	1	6	1	1	15	24
1963	11	6	4	3	6	30
1964	6	9	5	1	9	30
1965	5	4	8	10	6	33
1966	6	4	11	5	11	37
1967	15	8	10	7	15	55
1968	15	5	12	10	20	62
1969	5	3	3	5	4	20
1970	2	2	6	2	14	26
1971	6	1	5	3	7	22
1972	11	6	8	4	9	38
1973	1	2	4	6	19	32
1974	6	5	6	1	11	29
1975	2	3	3	0	16	24
1976	1	4	5	6	8	24
1977	5	11	7	1	12	36
1978	5	2	4	4	13	28
Total Number	107	82	103	72	198	562
18 year Average	5.9	4.6	5.7	4.0	11.0	31.2

PREPARED BY: Julius Reynolds, Game Biologist III

BROWN/GRIZZLY BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1978

Game Management Unit 7 - Eastern Kenai Peninsula

Seasons and Bag Limits

Sept. 10-Oct. 10	One bear every four regulatory years; provided that the taking of cubs or females accompanied by cubs is prohibited.

Harvest and Hunting Pressure

Brown bear sealing certificates show that no bears were harvested in Unit 7 during 1978 (Appendix I).

Composition and Productivity

No data were available.

Management Summary and Conclusions

During the past 18 years, 15 sport and 6 nonsport kills of brown bears have been reported. The sport kill consisted of eight males and seven females. Five bears (33% of the sport harvest) have been taken by nonresidents.

Brown bears are relatively abundant in parts of the Unit but there has been little interest in hunting them because of the thick vegetative cover they inhabit.

Brown bears appear to be increasing in numbers over most of the unit and the harvest is well below the sustainable level.

Recommendations

A spring season from 10 May through 25 May should be established and the existing fall season from 10 September through 10 October should be changed to 1 September through 10 October to increase the opportunity to hunt brown bears. This corresponds with recommended season changes in adjacent Unit 7.

PREPARED BY:

Ted H. Spraker
Game Biologist III

SUBMITTED BY:

James B. Faro
Regional Management Coordinator

APPENDIX I

UNIT 7

Brown bear sport harvest summary by year, sex of bear, residency of hunter, and length of season.

Calendar Year	Total Kill**	No. of Males	No. of Females	% of Males*	% of Females*	No. of Unknown	No. by Nonres.	% by Nonres.	Length of season
1961	0001	000	001	000%	100%	000	000	000%	30 days
1962	0001	000	001	000%	100%	000	000	000%	30 days
1963	0000	000	000	000%	000%	000	000	000%	30 days
1964	0000	000	000	000%	000%	000	000	000%	30 days
1965	0000	000	000	000%	000%	000	000	000%	32 days
1966	0000	000	000	000%	000%	000	000	000%	30 days
1967	0001	001	000	100%	000%	000	001	100%	32 days
1968	0000	000	000	000%	000%	000	000	000%	32 days
1969	0002	002	000	100%	000%	000	001	050%	32 days
1970	0002	002	000	100%	000%	000	000	000%	26 days
1971	0000	000	000	000%	000%	000	000	000%	26 days
1972	0001	000	001	000%	100%	000	001	100%	31 days
1973	0002	001	001	050%	050%	000	000	000%	31 days
1974	0000	000	000	000%	000%	000	000	000%	31 days
1975	0001	001	000	100%	000%	000	000	000%	31 days
1976	0003	001	002	033%	067%	000	002	067%	31 days
1977	0001	000	001	000%	100%	000	000	000%	31 days
1978	0000	000	000	000%	000%	000	000	000%	31 days
TOTALS	0015	0008	0007	0053%	0047%	0000	0005	033%	

* All percentages are based on total known sex bears.
** Harvest totals for previous years may change as late sealing certificates are added.

PREPARED BY: Lee Miller, Game Technician V

APPENDIX II

UNIT 7

Brown bear sport harvest summary by year, showing mean skull sizes, mean ages and length of seasons.

Calendar year	Mean skull sizes: Male Skull size	Male Sample size	Female Skull size	Female Sample size	Mean ages: All males Age	All males Sample size	All females Age	All females Sample size	All sexes Age	All sexes Sample size	M. > = 5 yr Age	M. > = 5 yr Sample size	F. > = 5 yr Age	F. > = 5 yr Sample size	Length of Season dates
1961	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	30 Days
1962	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	30 Days
1963	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	30 Days
1964	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	30 Days
1965	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	30 Days
1966	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	30 Days
1967	24.2	001	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	32 Days
1968	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	32 Days
1969	24.3	002	00.0	000	06.8	002	00.0	000	06.8	002	10.8	001	00.0	000	32 Days
1970	19.0	002	00.0	000	02.8	002	00.0	000	02.8	002	00.0	000	00.0	000	26 Days
1971	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	26 Days
1972	00.0	000	21.3	001	00.0	000	11.8	001	11.8	001	00.0	000	11.8	001	31 Days
1973	00.0	000	20.1	001	00.0	000	02.8	001	02.8	001	00.0	000	00.0	000	31 Days
1974	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	31 Days
1975	18.6	001	00.0	000	02.8	001	00.0	000	02.8	001	00.0	000	00.0	000	31 Days
1976	00.0	000	19.7	001	11.8	001	06.8	002	08.5	003	11.8	001	10.8	001	31 Days
1977	00.0	000	21.0	001	00.0	000	06.8	001	06.8	001	00.0	000	06.8	001	31 Days
1978	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	31 Days
TOTALS*	21.6	0006	20.5	0004	05.6	0006	07.0	0005	06.3	0011	11.3	0002	09.8	0003	

* Harvest totals for the previous year may change as late sealing certifications are added.

PREPARED BY: Lee Miller, Game Technician V

BROWN/GRIZZLY BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1978

Game Management Unit 8 - Kodiak and Adjacent Islands

Seasons and Bag Limits

Unit 8, that portion of Kodiak Island south and west of a line from Hidden Basin Creek to the mouth of Kizhuyak River and including Uganik and Amook Islands.	Oct. 25-Dec. 31 April 1-May 15	One bear every four regulatory years by permit only; provided the taking of cubs and females accompanied by cubs in prohibited. See 5 AAC 81.055 and separate permit hunt supplement.
Unit 8, Afognak, Shuyak and Raspberry Islands.	Oct. 25-Dec. 31 April 1-May 15	One bear every four regulatory years by permit only; provided that the taking of cubs or females accompanied by cubs is prohibited. See 5 AAC 81.055 and separate permit hunt supplement.
Unit 8, that portion of Kodiak Island north and east of a line from the mouth of Hidden Basin Creek to the mouth of Kizhuyak River.	Oct. 1-Dec. 31 April 1-May 31	

Harvest and Hunting Pressure

Four hundred and thirty-two permits for hunting brown bear were issued in 1978, with 86 percent of the permittees returning their hunting reports. Hunting pressure was the same as reported in 1979 with 316 reporting hunters. Hunter success from permit reports was 44 percent for the spring season, 29 percent for the fall season and 38 percent overall.

Hunting pressure increased in the drawing hunt from 200 reporting hunters in 1977 to 223 reporting hunters in 1978. The spring season accounted for most of the increase with 160 reporting hunters in 1978 compared to 140 in 1977. Only 113 reporting hunters were recorded in spring 1976. Fall hunting pressure in the drawing hunt has remained relatively stable with 66 hunters in 1976, 60 in 1977 and 63 in 1978.

A decrease in hunting pressure occurred in the registration hunt with only 93 reporting hunters in 1978 compared to 116 hunters in 1977.

Although 207 residents comprised 66 percent of the hunters, only 24 percent were successful. One hundred and nine nonresident hunters recorded 64 percent success.

In 1978, sport hunters took 124 bears, 77 males (62%) and 47 females (38%) (Appendix I). This is the same total harvest as reported in 1977. The 1978 spring harvest totaled 89 bears, 55 males (62%) and 34 females (38%). The fall harvest totaled 35 bears, 22 males (63%) and 13 females (37%). Nonresident hunters took 70 bears for 56 percent of the total annual harvest.

Distribution of the harvest is illustrated in Appendix III. Harvest Subunit 4 recorded 68 bears harvested, well above the 1961-1978 average harvest of 59 bears. This was the highest harvest in this area since 1974 when 72 bears were taken. Only 10 bears were killed in Subunit 1, the Afognak Island area, compared to 16 bears in 1977.

Mean ages and skull sizes of the 1978 harvest are shown in Appendix II. The mean age of 75 males was 6.3 years, well within the range of annual mean ages recorded during the past 10 years. The mean age of 47 females was 6.9 years. Thirty-four males (45%) and 22 females (47%) were age 5 years or older.

Twelve bear mortalities from sources other than sport hunting were documented. Eight bears were killed in defense of life or property, three bears were shot illegally, and one bear was found dead of unknown causes. Nine of these mortalities were recorded from Kodiak and three were recorded from Afognak Island. Three of the bears were killed incidental to deer and elk hunts. The sex composition of these bears was 5 males, 3 females and 4 bears of unknown sex.

The total recorded mortality from all sources was 136 bears. Nine hunters reported wounding a bear which was not recovered. Wounding mortality was estimated at 10 bears and additional unreported illegal kill was estimated at 5-10 bears. The total estimated kill from all sources for 1978 was 150-155 bears.

Composition and Productivity

Aerial composition surveys were conducted by the U.S. Fish and Wildlife Service on alpine transects in the Uganik Bay-Uyak Bay area and on Sturgeon River, Pinnell Creek, Connecticut Creek, Dog Salmon River and in selected Frazer Lake drainages. Results of these surveys are shown in Appendices IV and V.

Cubs-of-the-year comprised 23 percent of all bears seen and yearlings (this category includes some 2-year-old bears) comprised 20 percent. A total of 31 sows with 66 cubs was recorded for an average litter size of 2.1 cubs/sow. One hundred and three single bears comprised 36 percent of the 282 bears observed. Young bears in the cub and yearling classes comprised 44 percent of all bears observed. Sows with cubs or yearlings comprised 20 percent of the observations.

Management Summary and Conclusions

Annual sport harvest of brown bears has been stable during the 3-year period, 1976-78, under the present permit hunting system. The reported harvest ranged from 117 in 1976 to 124 in both 1977 and 1978. Distribution of harvest over the five harvest Subunits varied, but

generally averaged less than the recommended maximum annual harvest levels listed in Appendix III. The recommended maximum annual harvest was exceeded by 13 animals in Subunit 4 in 1978.

The unusually high 1978 harvest in Subunit 4 may be explained by the increasing frequency of use of the available permits by resident hunters. With 96 permits available each year, the percentage use of permits by residents was 63 percent, 58 percent and 78 percent for the 1976, 1977 and 1978 seasons, respectively. Harvest by residents was 16, 15 and 35 bears for these same years.

Although overall harvest has remained relatively stable, hunting pressure in the drawing hunt has steadily increased from 179 hunters in 1976 to 223 hunters in 1978.

Demand for permits has also increased as indicated by the number of resident applicants in excess of the available permits. The number of resident alternates listed went from 10 in 1976 to 85 in 1978.

A questionnaire was sent to 375 hunters who had participated in the 1976 and 1977 drawing hunts. The purpose of the questionnaire was to determine how well hunters accepted the present permit system and to determine the extent of conflict between hunting parties in the same areas. Appendix VI contains a summary of the 212 questionnaires returned.

Generally the results indicated a tolerant and cooperative attitude between hunting parties in the same area. Some hunters contacted other hunters assigned to their areas prior to the season in an attempt to avoid conflicts. Resident hunters were generally more tolerant of other hunters than nonresidents. When presented with three hypothetical options for reducing harvest and hunter density, residents chose a reduction in permit numbers over assigned hunting times. Nonresidents favored the time assignment. Reducing season length was the least favored option.

Recommendations

Annual harvest should be held at or below the recommended levels listed in Appendix III for each Subunit by adjusting permit numbers when necessary. The number of spring permits in Subunit 4 should be reduced to lower the annual harvest by 10-15 bears.

The Afognak Island registration hunt should be changed to a drawing hunt with a fixed number of permits available. Alternate year closures in Unit 9 will result in increased pressure in the Afognak Island brown bear hunt. A rapidly expanding logging road system on Afognak continues to improve hunter access and will probably result in increased defense of life kills.

PREPARED BY:

Roger B. Smith
Game Biologist III

SUBMITTED BY:

James B. Faro
Regional Management Coordinator

APPENDIX I

UNIT 8

Brown bear sport harvest summary by year, sex of bear, residency of hunter, and length of season.

Calendar Year	Total Kill**	No. of Males	No. of Females	% of Males*	% of Females*	No. of Unknown	No. by Nonres.	% by Nonres.	Length of season
1961	0117	077	040	066%	034%	000	073	062%	303 Days
1962	0130	089	041	068%	032%	000	083	064%	303 Days
1963	0109	076	032	070%	030%	001	055	050%	303 Days
1964	0121	073	044	062%	038%	004	062	051%	303 Days
1965	0184	110	073	060%	040%	001	087	047%	303 Days
1966	0200	107	089	055%	045%	004	097	049%	303 Days
1967	0186	107	078	058%	042%	001	092	049%	303 Days
1968	0105	061	043	059%	041%	001	062	059%	303 Days
1969	0097	061	036	063%	037%	000	052	054%	303 Days
1970	0092	061	029	068%	032%	002	044	048%	303 Days
1971	0113	063	042	060%	040%	008	051	045%	303 Days
1972	0132	080	050	062%	038%	002	071	054%	303 Days
1973	0155	086	069	055%	045%	000	091	059%	308 Days
1974	0165	095	070	058%	042%	000	113	068%	308 Days
1975	0119	070	049	059%	041%	000	083	070%	308 Days
1976	0117	073	041	064%	036%	003	067	057%	308 Days
1977	0124	083	041	067%	033%	000	074	060%	308 Days
1978	0124	077	047	062%	038%	000	070	056%	278 Days
TOTALS	2390	1449	0914	0061%	0039%	0027	1327	056%	

* All percentages are based on total known sex bears.
** Harvest totals for previous years may change as late sealing certificates are added.

PREPARED BY: Lee Miller, Game Technician V

APPENDIX II

UNIT 8

Brown bear sport harvest summary by year, showing mean skull sizes, mean ages and length of seasons.

Calendar year	Mean skull sizes: Male Skull size	Male Sample size	Female Skull size	Female Sample size	Mean ages: All males Age	All males Sample size	All females Age	All females Sample size	All sexes Age	All sexes Sample size	M. > = 5 yr Age	M. > = 5 yr Sample size	F. > = 5 yr Age	F. > = 5 yr Sample size	Length of Season dates
1961	25.2	036	21.5	014	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	303 Days
1962	25.0	053	21.7	019	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	303 Days
1963	24.6	046	22.3	016	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	303 Days
1964	24.0	036	22.1	022	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	303 Days
1965	25.2	058	22.0	036	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	303 Days
1966	24.5	064	21.9	046	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	303 Days
1967	23.9	063	21.9	033	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	303 Days
1968	23.9	057	21.8	039	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	303 Days
1969	24.3	058	21.8	033	05.7	052	05.2	032	05.5	084	07.4	028	07.6	015	303 Days
1970	23.8	057	22.1	029	05.5	057	06.8	028	05.9	085	08.6	025	09.3	016	303 Days
1971	24.0	057	21.6	038	06.4	059	05.5	040	06.0	099	10.1	028	09.0	015	303 Days
1972	23.9	078	22.0	048	06.2	077	07.8	046	06.8	123	09.2	036	11.0	025	303 Days
1973	24.5	082	21.5	065	07.4	084	07.0	068	07.3	152	09.4	056	09.9	037	308 Days
1974	24.3	090	21.9	067	07.0	092	07.5	068	07.2	160	08.8	059	09.1	047	308 Days
1975	23.9	065	21.5	042	06.5	066	05.7	047	06.2	113	08.4	039	07.4	027	308 Days
1976	23.6	068	21.7	037	06.2	071	08.8	040	07.1	111	09.2	037	11.9	025	308 Days
1977	23.2	079	21.2	038	05.9	080	06.8	037	06.2	117	09.0	037	10.4	019	308 Days
1978	23.7	072	21.4	046	06.3	075	06.9	047	06.5	122	09.6	034	11.0	022	278 Days
TOTALS*	24.2	1119	21.8	0668	06.4	0713	06.9	0453	06.6	1166	09.0	0379	09.7	0248	

* Harvest totals for the previous year may change as late sealing certifications are added.

PREPARED BY: Lee Miller, Game Technician V

APPENDIX III

Comparison of 1976, 1977 and 1978 annual brown bear harvest with recommended maximum harvest level by Subunit.

Harvest Subunit	1976 harvest	1977 harvest	1978 harvest	Ave. annual 1962-1977	Ave. annual 1976-1978	Recommended maximum annual kill
001 (Afognak, Raspberry, and Shuyak Islands)	17	16	10	13	14	20
002 (NE Kodiak, #202, Ugak Bay side of #203)	10	13	7	15	10	15
003 (#204, 205, 206, 207, Kiliuda Bay side of #203)	18	15	16	18	16	20
004 (#208-219)	50	46	68	61	55	55
005 (#201, 220-226)	22	31	23	27	25	30
Total	117	121*	124	134	120	140

* Three additional bears killed with non-specific location in Unit 8.

PREPARED BY: Roger B. Smith, Game Biologist III

APPENDIX IV

Brown bear composition counts, Kodiak National Wildlife Refuge, 1978.

	Alpine counts		Stream counts		Combined counts	
	No.	%	No.	%	No.	%
Adults	70	51%	89	62%	159	56%
Cubs	44	32%	22	15%	66	23%
Yearlings	24	17%	33	23%	57	20%
	138		144		282	

PREPARED BY: Roger B. Smith, Game Biologist III

APPENDIX V

Brown bear composition surveys in Unit 8, 1978

Aerial alpine composition surveys - 1978*, U.S. Fish & Wildlife

Class	Number	Percent of total
Single bear	40	29
Sow with one cub	4	3
Sow with two cubs	11	8
Sow with three cubs	6	4
Total cubs of year	44	32
Sow with one yearling	0	0
Sow with two yearlings	4	3
Sow with three yearlings	4	3
Sow with four yearlings	1	1
Total yearlings	24	17
Total bears	138	100%

Average litter size - COY = 2.1
Average litter size - yearling = 2.7
* Includes two counts of Uganik transect, one of Uyak transect.

Aerial stream composition surveys - 1978*, U.S. Fish & Wildlife

Class	Number	Percent of total
Single bear	63	44
Sow with one cub	1	1
Sow with two cubs	6	4
Sow with three cubs	3	2
Total cubs of year	22	15
Sow with one yearling	4	3
Sow with two yearlings	7	5
Sow with three yearlings	5	3
Total yearlings	33	23
Total bears	144	100%

Average litter size - COY = 2.2
Average litter size - yearling = 2.06
* Include three counts each of the following streams: Sturgeon, Pinnell, Frazer-Red, Connectic, Dog Salmon.

PREPARED BY: Roger B. Smith, Game Biologist III

APPENDIX VI

Summary of results of hunter questionnaire on permit system for Kodiak brown bear hunting, 1978.

---

1. Were you easily able to recognize and stay within the boundaries of your hunting area?

   98% (200/205) replied YES

2. Did you attempt to contact other hunting parties assigned to your hunting area prior to the season regarding when and where they planned to hunt?

   24% (26/106) of resident hunters had contacted other hunters
   40% (16/140) of Spring 1978 resident hunters had contacted other hunters

3. While hunting brown bear on Kodiak Island, did you encounter other bear hunters in your hunting area?

   Fall 1976 - 21% (6/28) replied YES
   Fall 1977 - 39% (12/31) replied YES
   Spring 1977 - 46% (34/74) replied YES
   Spring 1978 - 63% (50/80) replied YES

4. If you encountered other bear hunters, did you discuss avoiding potential conflicts with them in your respective hunting efforts?

   Fall 1976 - 67% (6/9) replied YES
   Fall 1977 - 73% (8/11) replied YES
   Spring 1977 - 55% (23/42) replied YES
   Spring 1978 - 56% (28/50) replied YES

5. If you contacted other hunters assigned to your area, either prior to the season or in the field, were you able to reach a satisfactory agreement on sharing the hunting area?

   Fall 1976 - 100% (7/7) replied YES
   Fall 1977 - 100% (9/9) replied YES
   Spring 1977 - 87% (27/31) replied YES
   Spring 1978 - 87% (40/46) replied YES

6. If you encountered other bear hunters, did you feel that the number of hunters in your area was excessive?

   Fall 1976 - 25% (2/8) replied YES
   Fall 1977 - 100% (11/11) replied YES
   Spring 1977 - 10% (4/39) replied YES
   Spring 1978 - 30% (12/40) replied YES

7. If you encountered other hunters, did their presence significantly detract from your opportunities to hunt bear?

   20% (23/110) replied YES

8. What is an acceptable distance between adjacent bear hunting camps?

   1 mile - 4% (7/183)
   2-3 miles - 20% (36/183)
   3 miles - 76% (140/183)

9. Did you observe any violations of hunting regulations by other hunters while you were hunting?

   5% (10/182) replied YES

10. Did you feel that the presence of boats, helicopters or fixed-wing aircraft detracted from the quality of your bear hunt?

    Aircraft - 21% (38/177) replied YES
    Helicopter - 12% (20/167) replied YES
    Boats - 10% (18/173) replied YES

11. Which of the following conditions do you consider most important to the quality of your bear hunting experience? Rate in order of importance. (1 is most important, 4 is least important).

	Rating by residents	Rating by nonresidents	Rating by both
Opportunity to see bears	1 (89%)	1 (87%)	1 (88%)
Killing a bear	3 (45%)	2 (45%)	2 (45%)
Scenery & wilderness experience	2 (46%)	3 (42%)	3 (44%)
No other hunters in same area	4 (32%)	4 (38%)	4 (35%)

(The final rating for each category was determined by summing the number of 1st and 2nd ratings for that category)

12. What do you consider to be the minimum acceptable number of days in the field for a brown bear hunt?

5-7 days	8-10 days	11-14 days	Other
12% (26/210)	49% (102/210)	31% (65/210)	8% (17/210)

13. If it becomes necessary to modify the permit system regulations to reduce harvest and/or to reduce conflicts between hunting parties, which one of the following options would you prefer?

	Residents	Nonresidents	All hunters
A. A shorter season with no reduction in number of permits available.	7% (7/98)	6% (6/99)	7% (13/197)
B. The current season but fewer permits available.	45% (44/98)	34% (34/99)	40% (78/197)
C. The current season, no reduction in permits but assign hunters to specific hunting periods by drawing.	35% (34/98)	46% (46/99)	41% (80/197)
D. Other	13% (13/98)	13% (13/99)	13% (26/197)

PREPARED BY: Roger B. Smith, Game Biologist III

BROWN/GRIZZLY BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1978

Game Management Unit 9 - Alaska Peninsula

Season and Bag Limits

Spring season

Unit 9C, the drainages of the Naknek River only	May 1-June 30	One bear every four regulatory years by permit only; provided the taking of cubs and females accompanied by cubs is prohibited. See 5 AAC 81.055 and separate permit hunt supplement.
Remainder of Unit 9C and 9A, 9B, 9D and 9E.	May 10-May 25	One bear every four regulatory years; provided taking of cubs and females accompanied by cubs is prohibited.

Fall season

Unit 9, except the drainages of the Naknek River	No open season*	
Unit 9C, the drainages of the Naknek River only	Sept. 1-Oct. 31	One bear every four regulatory years by permit only; provided the taking of cubs and females accompanied by cubs is prohibited. See 5 AAC 81.055 and separate permit hunt supplement.

* Board policy is that the season in this portion of Unit 9 will be open every other regulatory year.

Harvest and Hunting Pressure

The 1978 Unit 9 brown bear season consisted of three parts: A 61-day spring season and a 61 day-fall season on the lower drainages of the Naknek River, and a 16-day spring season for the remainder of the Unit. Participation in the hunt on the drainages of the Naknek River required a permit, issued only at the King Salmon office of the Department of

Fish and Game. During the spring, 20 hunters obtained permits and harvested three bears, two males and a female. Twenty-nine hunters obtained permits for the fall hunt and harvested three bears, two males and one female. One hundred and seventy-seven additional bears were harvested during the 16 day-spring season in the remainder of Unit 9. Thus, the 1978 total kill was 183 bears, virtually equal to the previous 10-year average of 183.3 bears (Appendix I).

Males constituted 74 percent of the bears taken which is characteristic for a harvest predominantly from a spring season. The mean age (Appendix II) of all males killed was 6.9 years, slightly above the long-term average, while the mean age of harvested males over 5 years old, 9.5 years, equals the long-term value. Mean skull size of males was 24.4 inches, just slightly above the cumulative mean for Unit 9. Parameters for females harvested in 1978 do not differ markedly from previous values and indicate continuing, relatively light hunting pressure on this segment of the population (Appendix II).

Composition and Productivity

Limited data are available on mean litter sizes and cub mortality from observations at the McNeil River State Game Sanctuary. Eight sows were observed with young between 28 June and 25 August, 1978. Four sows were accompanied by a total of 10 young-of-the-year cubs (mean litter size 2.5), two sows were accompanied by a total of five yearlings (mean litter size 2.5) and two sows were accompanied by a total of five 2-year-old young (mean litter size 2.5). The consistency of the litter size may be a function of the small sample size and should not be used as an indicator of low cub mortality.

In fact, of the cubs just listed, three of the young-of-the-year and one yearling were lost during the season. In addition, one of the sows followed by two yearlings this year had been seen in 1977 with three young-of-the-year cubs. Thus, known cub mortality in these eight litters from first spring through age 2 1/2, was 20 percent and the actual value could be higher.

Management Summary and Conclusions

The 61 day spring and fall seasons in the lower Naknek drainage are intended to maintain a reduced, but viable, brown bear population in the vicinity of King Salmon, Naknek and South Naknek in order to limit adverse bear-human interactions. Since 1976, a total of 19 bears have been taken in this area, averaging 3.8 per season. Although bears are regularly seen in the Naknek drainage during the summer, few complaints are received regarding bear depredations or property damage. Thus, the hunt appears to be accomplishing its objective.

The Board of Game has maintained the figure of 150 bears per year as a conservative harvest guideline for the area south of the Naknek drainage. In 1978, a total of 158 bears were killed in this portion of Unit 9, exceeding the guideline by only 5 percent. Under current conditions of hunting pressure and prevailing weather during the open season, it appears that additional regulatory restrictions are not necessary to contain the harvest within acceptable bounds.

Characteristics of the 1978 harvest showed significant changes over those for 1977 (Appendix II). Males constituted 74 percent of the kill, their mean age increased more than 2 years, and their mean skull size increased by 2 inches. These changes, in part, reflect the difference between a spring and fall season. The former generally results in a greater proportion of males and an older age structure in the harvest. The causes of this phenomenon are diverse and include the fact that large males generally emerge from their dens earlier than sows and that many sows are still accompanied by their cubs during the spring season, thus affording protection to both themselves and their offspring. Vulnerability of older males may also be increased in spring as these animals must range over larger areas in search of forage to recoup over-winter weight lost in denning. During fall seasons, these animals have already accumulated fat reserves and can remain secluded in dense brush thereby avoiding detection and harvest.

A comparison of the 1978 results with those from 1976, the last spring season, indicates minor declines in mean age and skull size for all males and minor increases in these statistics for all females. Among mature males mean age increased slightly. This indicates that proportionately more bears under 5 years of age were taken in 1978. Such a change could result from the overall greater kill in 1978 or from an increase in the proportion of young bears in the population. The latter explanation is more likely, the result of apparent high reproductive success in the mid-1970's following heavy harvests of mature males in the preceeding 2 or 3 years. Comparison of the 1979 fall harvest statistics with the 1977 values should clarify these population processes and indicate whether or not the 150 bear guideline is adequate for maintaining the Unit's potential for producing large, older age class bears in the harvest.

Recommendations

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

PREPARED BY:

Christian A. Smith
Game Biologist III

SUBMITTED BY:

James B. Faro
Regional Management Coordinator

APPENDIX I

UNIT 9

Brown bear sport harvest summary by year, sex of bear, residency of hunter, and length of season.

Calendar Year	Total Kill**	No. of Males	No. of Females	% of Males*	% of Females*	No. of Unknown	No. by Nonres.	% by Nonres.	Length of season
1961	0120	084	031	073%	027%	005	071	059%	264 days
1962	0154	108	046	070%	030%	000	096	062%	264 days
1963	0164	102	055	065%	035%	007	114	070%	273 days
1964	0156	103	045	070%	030%	008	110	071%	273 days
1965	0209	136	069	066%	034%	004	138	066%	273 days
1966	0229	157	062	072%	028%	010	172	075%	273 days
1967	0214	147	063	070%	030%	004	163	076%	248 days
1968	0160	113	042	073%	027%	005	134	084%	238 days
1969	0093	066	022	075%	025%	005	067	072%	177 days
1970	0158	103	050	067%	033%	005	119	075%	56 days
1971	0195	122	063	066%	034%	010	137	070%	47 days
1972	0279	154	119	056%	044%	006	203	073%	47 days
1973	0242	138	098	058%	042%	006	183	076%	31 days
1974	0141	075	066	053%	047%	000	114	081%	15 days
1975	0224	120	096	056%	044%	008	141	063%	31 days
1976	0154	108	041	072%	028%	005	087	056%	16 days***
1977	0189	108	077	058%	042%	004	129	068%	16 days***
1978	0183	133	047	074%	026%	003	124	068%	16 days***
TOTALS	3264	2077	1092	0066%	0034%	0095	2302	071%	

* All percentages are based on total known sex bears.
** Harvest totals for previous years may change as late sealing certificates are added.
*** An additional 122 days were open on the lower Naknek drainage.

PREPARED BY: Lee Miller, Game Technician V

APPENDIX II

UNIT 9

Brown bear sport harvest summary by year, showing mean skull sizes, mean ages and length of seasons.

Calendar year	Mean skull sizes: Male Skull size	Male Sample size	Female Skull size	Female Sample size	Mean ages: All males Age	All males Sample size	All females Age	All females Sample size	All sexes Age	All sexes Sample size	M. > = 5 yr Age	M. > = 5 yr Sample size	F. > = 5 yr Age	F. > = 5 yr Sample size	Length of Season dates
1961	26.2	029	21.5	004	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	264 Days
1962	26.6	035	21.1	004	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	264 Days
1963	26.6	050	21.9	008	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	273 Days
1964	26.6	041	22.6	006	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	273 Days
1965	25.7	070	21.8	015	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	273 Days
1966	25.8	061	22.3	015	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	273 Days
1967	24.9	111	21.8	042	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	248 Days
1968	24.2	104	21.6	038	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	238 Days
1969	24.6	064	21.3	019	07.5	055	05.9	019	07.1	074	09.7	034	09.7	007	177 Days
1970	24.0	099	22.2	047	06.9	093	07.0	044	07.0	137	09.8	054	10.6	021	56 Days
1971	24.0	117	21.5	060	06.8	112	05.4	061	06.3	173	10.4	054	09.2	020	47 Days
1972	23.5	146	22.0	112	06.8	146	08.0	115	07.3	261	10.7	066	11.1	067	47 Days
1973	23.5	134	21.5	089	06.0	129	06.8	093	06.3	222	08.3	064	10.2	044	31 Days
1974	22.4	066	21.6	060	05.5	073	07.5	065	06.4	138	10.0	023	11.9	030	15 Days
1975	23.1	117	21.6	093	06.0	119	07.1	094	06.5	213	10.0	048	10.6	047	31 Days
1976	24.5	105	21.1	040	07.5	099	06.5	038	07.2	137	09.4	064	09.2	020	16 Days**
1977	22.4	103	21.5	073	04.5	100	07.0	072	05.5	172	08.3	026	11.2	033	16 Days**
1978	24.4	127	21.5	044	06.9	129	06.8	046	06.9	175	09.5	075	08.8	029	16 Days**
TOTALS*	24.2	1579	21.7	0769	06.4	1055	07.0	0647	06.6	1702	09.6	0508	10.5	0318	

* Harvest totals for the previous year may change as late sealing certifications are added.
** An additional 122 days were open on the lower Naknek drainage.

PREPARED BY: Lee Miller, Game Technician V

BROWN/GRIZZLY BEAR

SURVEY-INVENTORY PROGESS REPORT - 1978

Game Management Unit 10 - Aleutian Islands

Seasons and Bag Limit

Spring season	May 10-May 25	One bear every four regulatory years; provided that the taking of cubs or females accompanied by cubs is prohibited.
Fall season	Oct. 1-Oct. 21	

Harvest and Hunting Pressure

Bear hunting on Unimak Island is controlled by a permit system administered through the U.S. Fish and Wildlife Service. Permits are issued annually. During this reporting period one female brown bear was harvested by a sport hunter (Appendix I). In addition, one female which had been transplanted to the island was killed in defense of life and property at Cape Sarichef Coast Guard Station.

Composition and Productivity

No data were available.

Management Summary and Conclusions

The brown bear range in Unit 10 is restricted to Unimak Island. This island is part of the Aleutian Islands National Wildlife Refuge with access and brown bear hunting closely controlled by the U.S. Fish and Wildlife Service. Data from harvested animals are insufficient to produce meaningful indicators of the population status.

Recommendations

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

PREPARED BY:

Christian A. Smith
Game Biologist III

SUBMITTED BY:

James B. Faro
Regional Management Coordinator

APPENDIX I

UNIT 10

Brown bear sport harvest summary by year, sex of bear, residency of hunter, and length of season.

Calendar Year	Total Kill**	No. of Males	No. of Females	% of Males*	% of Females*	No. of Unknown	No. by Nonres.	% by Nonres.	Length of season
1961	0001	001	000	100%	000%	000	000	000%	243 days
1962	0003	002	001	067%	033%	000	000	000%	243 days
1963	0000	000	000	000%	000%	000	000	000%	273 days
1964	0015	009	006	060%	040%	000	005	033%	273 days
1965	0010	007	003	070%	030%	000	001	010%	259 days
1966	0006	004	002	067%	033%	000	001	017%	259 days
1967	0008	003	005	038%	063%	000	000	000%	248 days
1968	0004	002	002	050%	050%	000	004	100%	217 days
1969	0004	003	001	075%	025%	000	000	000%	201 days
1970	0005	004	001	080%	020%	000	000	000%	47 days
1971	0004	001	003	025%	075%	000	000	000%	47 days
1972	0005	003	002	060%	040%	000	000	000%	47 days
1973	0003	001	002	033%	067%	000	000	000%	47 days
1974	0005	003	002	060%	040%	000	000	000%	47 days
1975	0006	002	003	040%	060%	001	000	000%	37 days
1976	0004	001	003	025%	075%	000	000	000%	37 days
1977	0006	000	005	000%	100%	001	000	000%	37 days
1978	0001	000	001	000%	100%	000	000	000%	37 days
TOTALS	0090	0046	0042%	0052%	0048%	0002	011	12%	

* All percentages are based on total known sex bears.
** Harvest totals for previous years may change as late sealing certificates are added.

PREPARED BY: Lee Miller, Game Technician V

APPENDIX II

UNIT 10

Brown bear sport harvest summary by year, showing mean skull sizes, mean ages and length of seasons.

Calendar year	Mean skull sizes: Male Skull size	Male Sample size	Female Skull size	Female Sample size	Mean ages: All males Age	All males Sample size	All females Age	All females Sample size	All sexes Age	All sexes Sample size	M. > = 5 yr Age	M. > = 5 yr Sample size	F. > = 5 yr Age	F. > = 5 yr Sample size	Length of Season dates
1961	27.6	001	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	243 Days
1962	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	243 Days
1963	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	273 Days
1964	26.6	004	21.9	001	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	273 Days
1965	25.4	003	21.0	001	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	259 Days
1966	26.3	004	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	259 Days
1967	23.0	002	21.9	003	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	248 Days
1968	23.2	002	21.1	002	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	217 Days
1969	27.2	003	21.1	001	14.8	001	05.8	001	10.3	002	14.8	001	05.8	001	201 Days
1970	19.9	004	00.0	000	02.8	004	10.8	001	04.4	005	00.0	000	10.8	001	47 Days
1971	23.4	001	20.8	003	02.8	001	03.8	003	03.6	004	00.0	000	00.0	000	47 Days
1972	19.9	002	21.4	002	03.5	003	07.3	002	05.0	005	00.0	000	10.8	001	47 Days
1973	22.5	001	19.7	002	04.8	001	02.8	002	03.5	003	00.0	000	00.0	000	47 Days
1974	25.9	003	21.5	002	10.0	003	08.1	002	09.2	005	13.1	002	08.1	002	47 Days
1975	22.6	002	20.4	003	05.1	002	07.5	003	06.5	005	07.4	001	15.8	001	37 Days
1976	24.0	001	21.5	003	04.8	001	08.8	003	07.8	004	00.0	000	11.8	002	37 Days
1977	00.0	000	20.4	005	00.0	000	05.4	005	05.4	005	00.0	000	14.4	001	37 Days
1978	00.0	000	22.8	001	00.0	000	17.8	001	17.8	001	00.0	000	17.8	001	37 Days
TOTALS*	24.3	0033	21.0	0029	05.6	0016	06.9	0023	06.3	0039	12.1	0004	11.5	0010	

* Harvest totals for the previous year may change as late sealing certifications are added.

PREPARED BY: Lee Miller, Game Technician V

BROWN/GRIZZLY BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1978

Game Management Unit 11 - Wrangell Mountains, Chitina River

Season and Bag Limits

Fall season	Sept. 1-Oct. 10	One bear every four regulatory years; provided that the taking of cubs or females accompanied by cubs is prohibited.
Spring season	May 10-May 25	

Harvest and Hunting Pressure

Tabulated data on brown/grizzly bear harvests from 1961 through 1978 are presented in Appendix I. The 1978 harvest of 21 bears (seven spring, 14 fall) is one bear less than the 1977 total of 22. The percentage of males in the harvest increased to 62 percent, 2 percent higher than the average since 1961. In 1978, mean hide size decreased by 0.4 feet while the mean skull size and the mean age declined by 1.4 inches and 2.4 years, respectively (Appendix II). Harvest by nonresidents made up 57 percent (12 bears) of the 1977 harvest.

Composition and Productivity

No data were available.

Management Summary and Conclusions

The 1978 harvest of 21 bears is the fourth largest recorded and only six bears less than the record of 27 taken in 1976. The percentage of males in the harvest increased to 62 percent. The mean age of the males decreased to 4.7 years. Data (not shown) listing the ages of individual males harvested indicated that subadult males made up 54 percent of the 1978 harvest. The inherently high vulnerability of subadult males, coupled with good reproductive success could account for the decrease in the age structure and increase in the male harvest.

Recommendations

No change in seasons or bag limits is recommended at this time.

PREPARED BY:

Robert Tobey
Game Biologist II

SUBMITTED BY:

James B. Faro
Regional Management Coordinator

APPENDIX I

UNIT 11

Brown bear sport harvest summary by year, sex of bear, residency of hunter, and length of season.

Calendar Year	Total Kill**	No. of Males	No. of Females	% of Males*	% of Females*	No. of Unknown	No. by Nonres.	% by Nonres.	Length of season
1961	0006	003	002	060%	040%	001	003	050%	154 days
1962	0015	006	009	040%	060%	000	011	073%	154 days
1963	0009	006	003	067%	033%	000	007	078%	154 days
1964	0023	014	007	067%	033%	002	016	070%	154 days
1965	0019	009	009	050%	050%	001	013	068%	154 days
1966	0011	009	001	090%	010%	001	008	073%	154 days
1967	0019	009	010	047%	053%	000	014	074%	154 days
1968	0015	008	007	053%	047%	000	007	047%	154 days
1969	0009	006	003	067%	033%	000	002	022%	62 days
1970	0016	010	006	063%	038%	000	007	044%	48 days
1971	0017	009	005	064%	036%	003	015	088%	21 days
1972	0013	007	006	054%	046%	000	009	069%	31 days
1973	0019	012	007	063%	037%	000	013	068%	48 days
1974	0014	009	005	064%	036%	000	012	086%	48 days
1975	0020	012	007	063%	037%	001	012	060%	56 days
1976	0027	016	008	067%	033%	003	018	067%	56 days
1977	0022	012	010	055%	045%	000	013	059%	56 days
1978	0021	013	008	062%	038%	000	012	057%	56 days
TOTALS	0295	0170	0113	0060%	0040%	0012	0192	065%	

* All percentages are based on total known sex bears.
** Harvest totals for previous years may change as late sealing certificates are added.

PREPARED BY: Lee Miller, Game Technician V

APPENDIX II

UNIT 11

Brown bear sport harvest summary by year, showing mean skull sizes, mean ages and length of seasons.

	Mean skull sizes				Mean ages										
	Male		Female		All males		All females		All sexes		M. > = 5 yr		F. > = 5 yr		Length of
Calendar year	Skull size	Sample size	Skull size	Sample size	Age	Sample size	Age	Sample size	Age	Sample size	Age	Sample size	Age	Sample size	Season dates
1961	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	154 Days
1962	20.0	001	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	154 Days
1963	20.5	001	17.5	001	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	154 Days
1964	21.2	002	21.5	001	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	154 Days
1965	23.5	002	21.1	001	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	154 Days
1966	23.4	003	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	154 Days
1967	23.2	007	20.8	008	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	154 Days
1968	21.0	008	20.3	007	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	154 Days
1969	23.0	005	19.0	003	07.4	005	05.0	003	06.5	008	08.9	004	06.1	002	62 Days
1970	22.2	009	20.2	006	08.3	010	07.5	003	08.1	013	10.4	007	08.8	002	48 Days
1971	23.5	009	21.0	005	08.7	009	08.8	005	08.7	014	09.3	008	08.8	005	21 Days
1972	22.2	007	20.7	004	08.4	007	10.1	004	09.0	011	10.4	005	10.1	004	31 Days
1973	20.5	011	20.1	007	06.4	012	06.5	007	06.4	019	10.0	006	08.7	004	48 Days
1974	21.5	009	20.6	004	06.4	009	09.9	005	07.6	014	08.6	005	09.9	005	48 Days
1975	21.9	011	20.8	005	07.2	010	06.5	006	06.9	016	09.6	006	09.1	003	56 Days
1976	20.4	015	19.9	007	05.8	016	08.6	007	06.7	023	08.8	007	12.8	004	56 Days
1977	20.6	011	20.3	010	06.1	011	11.6	009	08.6	020	09.7	005	12.8	008	56 Days
1978	20.4	011	21.2	008	04.7	013	10.9	007	06.9	020	07.3	004	12.2	006	56 Days
TOTALS*	21.6	0122	20.4	0077	06.7	0102	08.9	0056	07.5	0158	09.4	0057	10.5	0043	

* Harvest totals for the previous year may change as late sealing certifications are added.

PREPARED BY: Lee Miller, Game Technician V

BROWN/GRIZZLY BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1978

Game Management Unit 13 - Nelchina Basin

Seasons and Bag Limits

Sept. 1-Oct. 10	One bear every four regulatory years, provided that the taking of cubs or females accompanied by cubs is prohibited.

Harvest and Hunting Pressure

The 1978 brown bear harvest of 61 brown bears is an increase of 23 bears over the 1977 harvest and is the highest since 1975. Sixty percent of the harvest was comprised of males and the mean age was 6.1 for males and 6.6 for females. Appendices I and II compare the 1978 harvest with harvests from preceding years.

Composition and Productivity

No data were available.

Management Summary and Conclusions

Management decisions on brown bears in Unit 13 have been based on a combination of public demand and analyses of trends in harvest data. Until recently, there has been little demand for additional brown bear hunting time in the Nelchina Basin. Since 1975, a combination of factors has created a demand for a spring brown bear season within Unit 13. These factors include the fear that large areas of Alaska where brown bear hunting has been a popular activity in the past will be placed in a non-hunting category by Federal legislation and concern that a large grizzly population is not compatible with a huntable moose population. The first concern seems justifiable since 11 separate units totaling 56 million acres of Alaska were recently declared to be National Monuments, a status which prohibits or restrains sport hunting. Additional areas may soon be placed in National Park status under a bill (HR-39) which recently passed the U.S. House of Representatives.

The second concern may also have merit since preliminary unpublished data, accumulated under the ongoing bear research program and moose mortality studies, indicate that brown/grizzly bears in Unit 13 consume large numbers of ungulates. This study, however, is as yet incomplete.

If the Department of Fish and Game is to accommodate the demand for additional harvest without deliberately reducing the brown bear population, then additional information on brown bear populations or a more specific analysis of existing information is necessary.

Recommendations

Continue to gather and analyze Unit 13 brown bear harvest data, and obtain life history data through the existing research program.

PREPARED BY:

Sterling Eide
Game Biologist III

SUBMITTED BY:

James B. Faro
Regional Management Coordinator

APPENDIX I

UNIT 13

Brown bear sport harvest summary by year, sex of bear, residency of hunter, and length of season.

Calendar Year	Total Kill**	No. of Males	No. of Females	% of Males*	% of Females*	No. of Unknown	No. by Nonres.	% by Nonres.	Length of season
1961	0041	020	020	050%	050%	001	025	061%	30 days
1962	0034	021	013	062%	038%	000	019	056%	30 days
1963	0041	021	019	053%	048%	001	026	063%	30 days
1964	0036	015	020	043%	057%	001	023	064%	30 days
1965	0044	025	018	058%	042%	001	021	048%	30 days
1966	0063	033	026	056%	044%	004	041	065%	30 days
1967	0031	016	014	053%	047%	001	014	045%	30 days
1968	0038	018	019	049%	051%	001	018	047%	21 days
1969	0017	015	002	088%	012%	000	008	047%	31 days
1970	0027	018	008	069%	031%	001	015	056%	21 days
1971	0072	032	035	048%	052%	005	044	061%	35 days
1972	0048	028	020	058%	042%	000	025	052%	31 days
1973	0044	026	017	060%	040%	001	026	059%	31 days
1974	0072	040	031	056%	044%	001	034	047%	40 days
1975	0080	043	031	058%	042%	006	037	046%	40 days
1976	0059	028	025	053%	047%	006	023	039%	40 days
1977	0038	031	007	082%	018%	000	012	032%	40 days
1978	0063	036	025	059%	041%	002	028	044%	40 days
TOTALS	0848	0466	0350	0057%	0043%	0032	0439	052%	

* All percentages are based on total known sex bears.
** Harvest totals for previous years may change as late sealing certificates are added.

PREPARED BY: Lee Miller, Game Technician V

APPENDIX II

UNIT 13

Brown bear sport harvest summary by year, showing mean skull sizes, mean ages and length of seasons.

Calendar year	Mean skull sizes: Male Skull size	Male Sample size	Female Skull size	Female Sample size	Mean ages: All males Age	All males Sample size	All females Age	All females Sample size	All sexes Age	All sexes Sample size	M. > = 5 yr Age	M. > = 5 yr Sample size	F. > = 5 yr Age	F. > = 5 yr Sample size	Length of Season dates
1961	23.4	002	21.7	001	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	30 Days
1962	21.0	002	19.6	001	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	30 Days
1963	23.3	001	19.9	002	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	30 Days
1964	21.3	005	20.4	004	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	30 Days
1965	21.5	009	21.0	005	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	30 Days
1966	21.2	007	19.9	006	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	30 Days
1967	22.2	013	19.4	011	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	30 Days
1968	22.0	015	19.6	018	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	21 Days
1969	22.0	014	20.2	002	06.7	012	04.8	002	06.4	014	09.1	007	05.8	001	31 Days
1970	20.5	018	19.4	007	05.2	014	05.7	007	05.4	021	09.6	005	08.3	004	21 Days
1971	20.4	031	19.4	032	05.0	026	06.9	033	06.0	059	09.1	008	10.9	015	35 Days
1972	21.3	027	19.7	018	06.9	027	05.3	020	06.2	047	11.1	012	09.1	006	31 Days
1973	21.7	023	20.3	016	06.9	025	07.3	015	07.1	040	11.1	011	08.4	011	31 Days
1974	21.1	038	19.8	027	06.3	039	07.3	028	06.7	067	11.1	016	10.6	016	40 Days
1975	21.7	041	20.2	029	07.2	040	07.7	031	07.4	071	12.4	016	09.8	021	40 Days
1976	21.5	025	19.3	022	06.8	028	05.0	025	05.9	053	10.8	014	08.7	009	40 Days
1977	20.7	026	20.0	007	06.1	028	07.1	006	06.3	034	12.4	009	09.3	004	40 Days
1978	20.6	036	20.0	021	06.1	032	06.6	023	06.3	055	09.7	014	09.6	012	40 Days
TOTALS*	21.2	0333	19.8	0229	06.4	0271	06.6	0190	06.5	0461	10.8	0112	09.7	0099	

* Harvest totals for the previous year may change as late sealing certifications are added.

PREPARED BY: Lee Miller, Game Technician V

BROWN/GRIZZLY BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1978

Game Management Unit 14 - Upper Cook Inlet

Seasons and Bag Limits

Subunit 14B	Sept. 1-Oct. 10	One bear every four regulatory years; provided that the taking of cubs or females accompanied by cubs is prohibited.
Subunit 14A and 14C except that portion of 14C in Chugach State Park.	Sept. 10-Oct. 10	
Subunit 14C in Chugach State Park	No open season	

Harvest and Hunting Pressure

Eight brown bears were killed in Unit 14 during 1978 (Appendix I). Twice as many bears were taken in 1978 as in 1977. Chugach State Park (Subunit 14C) has been closed to brown bear hunting since 1973, and this closure probably contributed to the decrease in the total harvest since that time. Nonresident hunters have taken a smaller portion of each harvest during the 1970's compared to the 1960's, but in 1978 the proportion of nonresidents taking brown bears in Unit 14 increased to 38 percent.

Composition and Productivity

Percentages of males in the harvest have varied greatly, as expected when dealing with small sample sizes. Cumulatively, the weighted mean age of all male bears harvested since 1968 (Appendix II) is 5.6 years. This value is typical for harvested bear populations.

Management Summary and Conclusions

Total bear harvests from Unit 14 have declined in the 1970's relative to the 1960's. This decline is due partly to cessation of brown bear hunting in Subunit 14C since the creation of Chugach State Park. Brown bear nuisance complaints have increased in number annually since the park closure.

Recommendations

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

PREPARED BY:

Jack C. Didrickson
Game Biologist III

SUBMITTED BY:

James B. Faro
Regional Management Coordinator

APPENDIX I

UNIT 14

Brown bear sport harvest summary by year, sex of bear, residency of hunter, and length of season.

Calendar Year	Total Kill**	No. of Males	No. of Females	% of Males*	% of Females*	No. of Unknown	No. by Nonres.	% by Nonres.	Length of season
1961	0014	006	008	043%	057%	000	007	050%	30 days
1962	0007	004	003	057%	043%	000	000	000%	30 days
1963	0013	008	004	067%	033%	001	005	038%	30 days
1964	0012	009	003	075%	025%	000	001	008%	30 days
1965	0015	007	008	047%	053%	000	007	047%	45 days
1966	0005	002	003	040%	060%	000	002	040%	30 days
1967	0012	006	005	055%	045%	001	006	050%	30 days
1968	0011	003	007	030%	070%	001	006	055%	30 days
1969	0002	002	000	100%	000%	000	000	000%	31 days
1970	0004	000	004	000%	100%	000	000	000%	21 days
1971	0016	006	010	038%	063%	000	004	025%	35 days
1972	0004	002	002	050%	050%	000	000	000%	31 days
1973	0001	001	000	100%	000%	000	000	000%	31 days
1974	0003	001	001	050%	050%	001	000	000%	31 days
1975	0005	004	001	080%	020%	000	001	020%	31 days
1976	0008	002	004	033%	067%	002	004	050%	31 days
1977	0004	001	003	025%	075%	000	000	000%	31 days
1978	0008	005	003	063%	038%	000	003	038%	31 days
TOTALS	0144	0069	0069	0050%	0050%	0006	0046	032%	

* All percentages are based on total known sex bears.
** Harvest totals for previous years may change as late sealing certificates are added.

PREPARED BY: Lee Miller, Game Technician V

APPENDIX II

UNIT 14

Brown bear sport harvest summary by year, showing mean skull sizes, mean ages and length of seasons.

Calendar year	Mean skull sizes: Male Skull size	Male Sample size	Female Skull size	Female Sample size	Mean ages: All males Age	All males Sample size	All females Age	All females Sample size	All sexes Age	All sexes Sample size	M. > = 5 yr Age	M. > = 5 yr Sample size	F. > = 5 yr Age	F. > = 5 yr Sample size	Length of Season dates
1961	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	30 Days
1962	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	30 Days
1963	20.2	002	20.4	002	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	30 Days
1964	16.7	001	20.8	001	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	30 Days
1965	25.9	002	20.8	002	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	45 Days
1966	28.1	001	20.0	001	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	30 Days
1967	21.2	004	20.5	004	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	30 Days
1968	21.9	003	19.3	006	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	30 Days
1969	19.5	002	00.0	000	01.8	002	00.0	000	01.8	002	00.0	000	00.0	000	31 Days
1970	00.0	000	19.6	003	00.0	000	05.3	004	05.3	004	00.0	000	06.8	002	21 Days
1971	20.1	005	20.1	009	03.0	006	06.6	010	05.2	016	00.0	000	11.8	004	35 Days
1972	22.2	001	21.0	002	04.8	002	08.7	002	06.7	004	05.8	001	08.7	002	31 Days
1973	00.0	000	00.0	000	02.8	001	00.0	000	02.8	001	00.0	000	00.0	000	31 Days
1974	16.8	001	17.8	001	03.8	001	02.8	001	03.3	002	00.0	000	00.0	000	31 Days
1975	23.0	003	19.4	001	09.8	004	03.8	001	08.6	005	12.5	003	00.0	000	31 Days
1976	24.2	002	19.4	004	10.8	002	06.5	003	08.2	005	17.8	001	12.8	001	31 Days
1977	25.8	001	19.4	002	18.8	001	05.8	003	09.1	004	18.8	001	07.3	002	31 Days
1978	20.2	005	20.2	003	03.4	005	05.1	003	04.1	008	00.0	000	06.8	001	31 Days
TOTALS*	21.5	0033	19.9	0041	05.6	0024	06.1	0027	05.8	0051	13.3	0066	09.4	0012	

* Harvest totals for the previous year may change as late sealing certifications are added.

PREPARED BY: Lee Miller, Game Technician V

BROWN/GRIZZLY BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1978

Game Management Unit 15 - Western Kenai Peninsula

Seasons and Bag Limits

Fall season	Sept. 10-Sept. 30	One bear every four regulatory years; provided
Spring season	May 15-May 25	that the taking of cubs or females accompanied by cubs is prohibited.

Harvest and Hunting Pressure

Brown bear sealing certificates indicate that four males and one female were taken during the 1978 season. The 1978 harvest was comparable to the average annual harvest since 1961 of 4.7 bears. Additionally, two female bears were killed in defense of life and property in the fall of 1978.

All bears taken during the 1978 season were by Alaska residents on non-guided hunts.

Composition and Productivity

No data were available.

Management Summary and Conclusion

Annual harvest characteristics of brown bears killed since 1961 are given in Appendix I and II.

The 1978 sport harvest of brown bears in Unit 15 was well below the sustained yield level. Most bears in Unit 15 are harvested incidental to moose hunting. The low bear harvest in 1978 may have resulted from the delayed opening of bear season (10 September) relative to the opening of moose season (1 September).

Although there is no technique available to adequately census bears, their numbers appear to be increasing. This theory is supported by the increased numbers of reported brown bear sightings and complaints of nuisance bears.

Recommendations

No change in the spring brown bear season.

The fall brown bear season should be changed from 10 September - 30 September to 1 September - 10 October. This lengthening of the

season will provide greater hunting opportunity and would allow later hunting for those sportsmen concerned with hide primeness. This change would correspond with recommended season changes in adjacent Unit 7.

PREPARED BY:

Ted H. Spraker
Game Biologist III

SUBMITTED BY:

James B. Faro
Regional Management Coordinator

APPENDIX I

UNIT 15

Brown bear sport harvest summary by year, sex of bear, residency of hunter, and length of season.

Calendar Year	Total Kill**	No. of Males	No. of Females	% of Males*	% of Females*	No. of Unknown	No. by Nonres.	% by Nonres.	Length of season
1961	0004	002	002	050%	050%	000	000	000%	30 days
1962	0005	002	003	040%	060%	000	003	060%	30 days
1963	0004	002	002	050%	050%	000	000	000%	30 days
1964	0002	002	000	100%	000%	000	002	100%	30 days
1965	0003	001	002	033%	067%	000	001	033%	30 days
1966	0004	001	003	025%	075%	000	001	025%	30 days
1967	0004	002	002	050%	050%	000	001	025%	30 days
1968	0011	007	004	064%	036%	000	001	009%	30 days
1969	0006	004	002	067%	033%	000	000	000%	30 days
1970	0004	002	002	050%	050%	000	001	025%	26 days
1971	0003	002	001	067%	033%	000	000	000%	45 days
1972	0002	001	001	050%	050%	000	000	000%	31 days
1973	0006	003	003	050%	050%	000	003	050%	31 days
1974	0008	004	004	050%	050%	000	002	025%	31 days
1975	0005	003	002	060%	040%	000	000	000%	31 days
1976	0004	004	000	100%	000%	000	001	025%	31 days
1977	0005	002	003	040%	060%	000	001	020%	31 days
1978	0005	004	001	080%	020%	000	000	000%	37 days
TOTALS	0085	0048	0037	0056%	0044%	0000	0017	020%	

* All percentages are based on total known sex bears.
** Harvest totals for previous years may change as late sealing certificates are added.

PREPARED BY: Lee Miller, Game Technician V

APPENDIX II

UNIT 15

Brown bear sport harvest summary by year, showing mean skull sizes, mean ages and length of seasons.

Calendar year	Mean skull sizes: Male Skull size	Male Sample size	Female Skull size	Female Sample size	Mean ages: All males Age	All males Sample size	All females Age	All females Sample size	All sexes Age	All sexes Sample size	M. > = 5 yr Age	M. > = 5 yr Sample size	F. > = 5 yr Age	F. > = 5 yr Sample size	Length of Season dates
1961	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	30 Days
1962	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	30 Days
1963	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	30 Days
1964	23.3	001	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	30 Days
1965	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	30 Days
1966	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	30 Days
1967	24.5	002	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	30 Days
1968	26.0	004	20.0	004	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	30 Days
1969	24.8	003	22.6	002	06.8	002	08.3	002	07.6	004	10.8	001	13.8	001	30 Days
1970	26.2	001	18.1	001	07.8	001	00.0	000	07.8	001	07.8	001	00.0	000	26 Days
1971	19.1	002	19.9	001	02.8	002	01.8	001	02.5	003	00.0	000	00.0	000	45 Days
1972	23.7	001	21.2	001	03.8	001	02.8	001	03.3	002	00.0	000	00.0	000	31 Days
1973	21.0	003	20.3	003	04.8	003	04.1	003	04.5	006	10.8	001	07.8	001	31 Days
1974	20.4	003	21.4	004	07.8	003	08.1	004	07.9	007	16.8	001	09.8	003	31 Days
1975	23.8	003	21.9	001	09.5	003	05.8	002	08.0	005	20.8	001	07.8	001	31 Days
1976	19.3	003	00.0	000	02.3	004	00.0	000	02.3	004	00.0	000	00.0	000	31 Days
1977	22.3	002	21.7	003	02.8	002	08.8	003	06.4	005	00.0	000	10.8	002	31 Days
1978	25.6	004	20.1	001	09.6	004	03.8	001	08.4	005	15.6	002	00.0	000	37 Days
TOTALS*	23.1	0032	20.9	0021	06.0	0025	06.3	0017	06.1	0042	14.0	0007	10.1	0008	

* Harvest totals for the previous year may change as late sealing certifications are added.

PREPARED BY: Lee Miller, Game Technician V

BROWN/GRIZZLY BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1978

Game Management Unit 16 - West Side of Cook Inlet

Seasons and Bag Limits

Spring season	May 10-May 25	One bear every four regulatory years; provided that the taking of cubs or females accompanied by cubs is prohibited.
Fall season	Sept. 1-Oct. 10	

Harvest and Hunting Pressure

Forty-one brown bears were killed during the 1978 season in Unit 16 (Appendix I). In addition, four bears were reported as non-sport harvest. Four males and four females were taken during the spring season. Eighteen males and 14 females were killed during the fall season. Ten bears (24%) were taken by nonresident hunters.

Composition and Productivity

Fifty-five percent of the known-sex brown bears taken in Unit 16 in 1978 were males. The mean ages of bears were 5.7 years for males and 6.5 years for females (Appendix II). Trend line analysis indicates a slight decline since 1969 in the mean age of males in the harvest and a slight increase in the mean age of females.

Mean skull sizes (Appendix II) for both sexes decreased slightly from 1977. The mean skull size for males was 21.5 inches, 1 inch below the average for the previous 17 years. The mean skull size for females was 19.8 inches.

Composition and Productivity

No data were available.

Management Summary and Conclusions

Annual harvests of brown bears in Unit 16 have fluctuated between 18 and 43 bears since 1961. Harvests peaked between 1967 and 1971 when an average of 40 bears per year was taken. During this period, season lengths varied from 76 to 153 days. Harvest levels remained below 30 bears per year between 1974 and 1977 when the season was shortened to 47 days. In 1978, the fall season began 1 September, 9 days earlier than it had during the preceeding 4 years. An increase in the annual sport harvest from 29 to 41 bears resulted. The present level of harvest is approaching the upper limit of what is considered safe for this Unit.

Recommendations

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

PREPARED BY:

Jack C. Didrickson and Kenton P. Taylor
Game Biologist III and Game Biologist II

SUBMITTED BY:

James B. Faro
Regional Management Coordinator

APPENDIX I

UNIT 16

Brown bear sport harvest summary by year, sex of bear, residency of hunter, and length of season.

Calendar Year	Total Kill**	No. of Males	No. of Females	% of Males*	% of Females*	No. of Unknown	No. by Nonres.	% by Nonres.	Length of season
1961	0029	011	016	041%	059%	002	019	066%	153 days
1962	0018	009	009	050%	050%	000	010	056%	153 days
1963	0027	018	008	069%	031%	001	012	044%	153 days
1964	0019	013	006	068%	032%	000	009	047%	153 days
1965	0037	022	008	073%	027%	007	019	051%	153 days
1966	0028	011	016	041%	059%	001	014	050%	153 days
1967	0025	011	012	048%	052%	002	016	064%	153 days
1968	0023	016	007	070%	030%	000	016	070%	153 days
1969	0037	023	013	064%	036%	001	017	046%	76 days
1970	0041	032	008	080%	020%	001	028	068%	81 days
1971	0041	020	019	051%	049%	002	020	049%	81 days
1972	0023	013	009	059%	041%	001	011	048%	67 days
1973	0043	024	016	060%	040%	003	024	056%	56 days
1974	0024	014	008	064%	036%	002	016	067%	47 days
1975	0019	008	010	044%	056%	001	008	042%	47 days
1976	0025	011	012	048%	052%	002	007	028%	47 days
1977	0029	018	010	064%	036%	001	012	041%	47 days
1978	0041	022	018	055%	045%	001	010	024%	56 days
TOTALS	0529	0296	0205	0059%	0041%	0028	0268	051%	

* All percentages are based on total known sex bears.
** Harvest totals for previous years may change as late sealing certificates are added.

PREPARED BY: Lee Miller, Game Technician V

APPENDIX II

UNIT 16

Brown bear sport harvest summary by year, showing mean skull sizes, mean ages and length of seasons.

Calendar year	Mean skull sizes: Male Skull size	Male Sample size	Female Skull size	Female Sample size	Mean ages: All males Age	All males Sample size	All females Age	All females Sample size	All sexes Age	All sexes Sample size	M. > = 5 yr Age	M. > = 5 yr Sample size	F. > = 5 yr Age	F. > = 5 yr Sample size	Length of Season dates
1961	21.7	002	19.2	001	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	153 Days
1962	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	153 Days
1963	23.6	004	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	153 Days
1964	22.8	002	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	153 Days
1965	22.5	005	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	153 Days
1966	24.4	003	20.1	004	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	153 Days
1967	22.6	009	20.5	008	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	153 Days
1968	23.4	013	19.6	007	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	153 Days
1969	22.6	022	20.5	009	06.8	022	05.8	011	06.5	033	11.3	010	09.0	005	76 Days
1970	22.3	030	19.3	006	06.8	028	05.3	008	06.5	036	10.4	014	08.2	004	81 Days
1971	21.7	018	20.1	018	05.1	018	05.3	018	05.2	036	10.4	005	09.6	006	81 Days
1972	23.6	011	20.2	009	08.0	012	07.5	008	07.8	020	11.7	007	09.6	005	67 Days
1973	22.0	021	20.6	015	06.5	024	07.3	015	06.8	039	10.1	011	10.9	008	56 Days
1974	22.2	014	18.9	008	06.6	014	04.0	008	05.7	022	09.6	008	08.1	002	47 Days
1975	21.7	006	20.7	009	07.2	008	08.6	009	08.0	017	11.0	004	10.3	007	47 Days
1976	20.9	009	20.4	008	04.5	011	06.2	011	05.3	022	11.1	002	08.1	006	47 Days
1977	22.8	017	20.0	010	07.6	017	05.8	010	06.9	027	12.1	008	08.2	005	47 Days
1978	21.5	020	19.8	016	05.7	022	06.5	018	06.1	040	11.0	007	09.9	009	56 Days
TOTALS*	22.3	0206	20.1	0128	06.5	0176	06.2	0116	06.4	0292	10.8	0076	09.4	0057	

* Harvest totals for the previous year may change as late sealing certifications are added.

PREPARED BY: Lee Miller, Game Technician V

BROWN/GRIZZLY BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1978

Game Management Unit 17 - Bristol Bay

Seasons and Bag Limits

Spring season	May 10-May 25	One bear every four regulatory years; provided that the taking of cubs or females accompanied by cubs is prohibited.
Fall season	Oct. 7-Oct. 21	

Harvest and Hunting Pressure

The 1978 sport harvest of brown bears in Unit 17 was 25 (Appendix I), 14 of which were taken in the spring and 11 in the fall. Males comprised 71 percent of the spring harvest, 45 percent of the fall harvest and 60 percent overall. Mean hide sizes, skull sizes, and ages were similar to previous values for males, while female sizes declined slightly and age increased noticeably (Appendix II). The percentage of bears killed by nonresidents remained high at 84 percent (Appendix I).

Composition and Productivity

No data were available.

Management Summary and Conclusions

The harvest of bears in Unit 17 declined significantly from previous years' levels and was less than expected. The spring harvest was about as anticipated in view of the open season in adjacent Unit 9, but the fall harvest was more than 50 percent below what would have been projected without a unit-wide season on the Alaska Peninsula. Previous reports have discussed the impact of alternate year openings in Unit 9 on the harvest patterns in Unit 17.

The decline in harvest more likely represents a reduction in hunting effort and/or success due to environmental factors than a decline in the population. All of the measured parameters, which are useful in assessing potential impact of hunting on bear populations (mean age and overall age distribution, sex ratio of all bears and sex ratio of older bears killed, total numbers taken), indicate that bears in Unit 17 are being harvested below the maximum sustainable level.

Recommendations

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

PREPARED BY:

Christian A. Smith
Game Biologist III

SUBMITTED BY:

James B. Faro
Regional Management Coordinator

APPENDIX I

UNIT 17

Brown bear sport harvest summary by year, sex of bear, residency of hunter, and length of season.

Calendar Year	Total Kill**	No. of Males	No. of Females	% of Males*	% of Females*	No. of Unknown	No. by Nonres.	% by Nonres.	Length of season
1961	0002	001	001	050%	050%	000	000	000%	154 days
1962	0002	002	000	100%	000%	000	000	000%	154 days
1963	0003	001	000	100%	000%	002	000	000%	154 days
1964	0004	002	002	050%	050%	000	003	075%	154 days
1965	0006	002	004	033%	067%	000	005	083%	154 days
1966	0009	004	004	050%	050%	001	004	044%	154 days
1967	0011	003	008	027%	073%	000	010	091%	154 days
1968	0010	007	003	070%	030%	000	006	060%	154 days
1969	0006	003	003	050%	050%	000	003	050%	77 days
1970	0023	012	010	055%	045%	001	020	087%	72 days
1971	0033	021	011	066%	034%	001	026	079%	72 days
1972	0036	022	014	061%	039%	000	028	078%	72 days
1973	0041	030	010	075%	025%	001	033	080%	42 days
1974	0029	024	005	083%	017%	000	022	076%	42 days
1975	0029	023	006	079%	021%	000	025	086%	31 days
1976	0037	025	012	068%	032%	000	033	089%	31 days
1977	0042	028	014	067%	033%	000	030	071%	31 days
1978	0025	015	010	060%	040%	000	021	084%	31 days
TOTALS	0348	0225	0117	0066%	0034%	0006	0269	077%	

* All percentages are based on total known sex bears.
** Harvest totals for previous years may change as late sealing certificates are added.

PREPARED BY: Lee Miller, Game Technician V

APPENDIX II

UNIT 17

Brown bear sport harvest summary by year, showing mean skull sizes, mean ages and length of seasons.

Calendar year	Mean skull sizes: Male Skull size	Male Sample size	Female Skull size	Female Sample size	Mean ages: All males Age	All males Sample size	All females Age	All females Sample size	All sexes Age	All sexes Sample size	M. > = 5 yr Age	M. > = 5 yr Sample size	F. > = 5 yr Age	F. > = 5 yr Sample size	Length of Season dates
1961	00.0	000	18.1	001	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	154 Days
1962	18.8	001	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	154 Days
1963	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	154 Days
1964	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	154 Days
1965	20.3	001	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	154 Days
1966	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	154 Days
1967	22.5	002	19.2	008	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	154 Days
1968	23.4	005	20.0	003	00.0	000	00.0	000	00.0	000	00.0	000	00.0	000	154 Days
1969	23.2	002	18.9	002	08.2	002	04.3	002	06.2	004	12.4	001	00.0	000	77 Days
1970	23.1	012	21.1	010	06.1	011	07.6	010	06.8	021	08.4	006	10.5	006	72 Days
1971	23.1	019	21.1	010	06.5	018	06.5	009	06.5	027	10.4	008	08.4	005	72 Days
1972	22.1	021	20.0	013	08.0	021	07.9	014	08.0	035	12.7	010	12.3	007	72 Days
1973	24.3	028	21.4	010	09.6	026	09.7	008	09.7	034	10.9	021	09.7	008	42 Days
1974	23.7	023	21.6	005	07.7	022	08.2	005	07.8	027	09.7	014	09.5	004	42 Days
1975	23.5	021	20.6	006	09.8	023	11.1	006	10.1	029	10.6	020	11.1	006	31 Days
1976	22.9	024	20.9	011	07.7	024	05.2	012	06.9	036	10.3	015	06.7	005	31 Days
1977	23.9	027	21.3	014	09.6	026	06.7	013	08.7	039	10.8	022	09.9	006	31 Days
1978	23.9	014	20.4	010	09.3	013	09.2	009	09.2	022	11.7	009	13.6	005	31 Days
TOTALS*	23.4	0200	20.7	0103	08.4	0186	07.6	0088	08.2	0274	10.7	0126	10.3	0052	

* Harvest totals for the previous year may change as late sealing certifications are added.

PREPARED BY: Lee Miller, Game Technician V

BROWN/GRIZZLY BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1978

Game Management Unit 23 - Kotzebue Sound

Seasons and Bag Limits

That portion draining into the Noatak River upstream from its confluence with the Nimiuktuk River	Sept. 1 - Oct. 10	One bear every four regulatory years by permit only; provided that the taking of cubs or females accompanied by cubs is prohibited. Only 32 permits will be issued.
Remainder of Unit 23	Sept. 1 - Oct. 10	One bear every four regulatory years; provided that the taking of cubs or females accompanied by cubs is prohibited

Population Status and Trend

No information was available.

Population Composition

No information was available.

Mortality

The reported brown/grizzly bear harvest for the 1978 fall season was 30 bears. Of this total, 20 (67%) were males and 10 (33%) were females.

Average skull size for females was 19.4 inches, while the average size for males was 21.5 inches. Average skull sizes since 1965 are 19.4 inches for females and 21.7 inches for males.

The harvest, according to area, was as follows: Cape Lisburne to Noatak drainage - 6 bears, Noatak drainage - 22 bears, Kobuk drainage - 2 bears; the remainder of the unit no reported harvest.

Hunters guided by professional big game guides accounted for the harvest of 21 of the 30 bears. Four of the hunters who obtained permits for the upper Noatak area were successful. Please refer to the Brooks Range Survey-Inventory Report for more information on this hunt. One bear was taken in defense of life and property in the permitted area.

Management Summary and Recommendations

A disproportionate portion (17 bears) of the total harvest (30 bears) occurred in the lower Noatak area, specifically the area below the confluence of the Nimiuktuk River. The Federal Government declared the majority of the Noatak drainage as a national park monument in December 1978. A similar harvest pressure may be diverted to the remainder of the Noatak drainage or that area below the Kelly River and the area west of the Noatak drainage which is not in the monument. This area can not sustain a harvest of 23 bears each fall. The permitted area should be changed to include the Noatak drainage below the confluence of the Kelly River and that area west of the Noatak drainage, to compensate for the change of hunting pressure caused by this change of land management.

PREPARED BY:

David A. Johnson
Game Biologist III

SUBMITTED BY:

Robert E. Pegau
Regional Supervisor

POLAR BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1978

Game Management Units 18, 22, 23 and 26 - Marine Waters

Seasons and Bag Limits

Closed. Except, Alaska Natives may harvest polar bears without limit under provisions of the Marine Mammal Protection Act.

Harvest and Hunting Pressure

Based on sealing certificates, 14 polar bears were harvested throughout Alaska during fiscal year 1979. The harvest was probably higher; but due to lack of personnel in the villages, and a ruling by the State's Attorney General in 1976 (according to the Marine Mammal Protection Act of 1972, it was not mandatory for Natives to have their polar bears sealed), it is possible that bears may have been taken which were not sealed.

The known harvest of 14 bears was comprised of 11 males (79%), 1 female (7%) and 2 bears of unknown sex (14%) and was distributed among 5 villages:

Village	Males	Females	Unknown	Total
Diomede	1	-	-	1
Wales	2	-	-	2
Point Hope	3	1	-	4
Wainwright	4	-	-	4
Barrow	1	-	2	3
Totals	11	1	2	14

The majority of bears taken along the coast were reported to have been attracted to the numerous walrus carcasses along the beaches during the months of November and December.

Distribution and Abundance

Although marine mammal carcasses tended to concentrate the bears along the coast (especially between Shishmaref and Wales), weather and ice conditions were the primary determinants of bear distribution. Numerous storms late in the fall, coupled with very mild temperatures, produced a most unusual winter in the northern Bering Sea. Total freeze up did not occur in many areas until late December or early January. Because of this relatively mild winter in the Bering Sea, and the numerous open leads and abundant seals in the Chukchi and Beaufort Seas, southern movement of polar bears was minimal.

Management Summary and Recommendations

The reported harvest of 14 polar bears during the fiscal year 1979 was one of the lowest on record (Appendix 1) and may have been due to one or more of the following: mild weather and poor ice conditions in the northern Bering Sea, numerous open leads and seals in the Chukchi and Beaufort Seas, Federal restrictions which prohibited the sale of hides and skulls to non-natives, and a lack of either State or Federal regulations requiring all hides to be sealed.

With the Marine Mammal Protection Act of 1972 restricting polar bear hunting and utilization to Alaskan Natives, the annual kill is not expected to reach pre-act levels. Under present regulations, Natives are allowed to kill cubs or sows with cubs. The killing of cubs less than one year old is not only esthetically undesirable to many people, but is certainly wasteful because of the small quantity of meat and hide which can be utilized. Federal law prohibits the sale of hides in their raw state. The absence of an incentive to salvage hides may lead to waste in many instances, and deprive the hunter of an additional source of income. Prior to 1972 and the MMPA, a considerable amount of money went into the economy of many villages as a result of guided polar bear hunts. The prohibition against non-natives taking bears has totally eliminated that source of income.

Continued efforts should be made to return management to the State of Alaska so a biologically sound management program can be instituted in which both Natives and non-natives may derive benefits from a controlled harvest of bears.

PREPARED BY:

Robert Nelson
Game Biologist II

SUMBITTED BY:

Robert E. Pegau
Regional Supervisor

Appendix 1. Total Harvest of Polar Bears in Alaska by Calendar year from 1961 through June 1979.

Origin of the hunt	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979*	Total
St. Lawrence Island	1	0	0	0	0	2	6	10	0	0	0	0	0	3	0	59	19	0	0	5
King Island	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Nome	0	0	2	0	0	0	0	0	4	0	0	5	0	0	0	0	3	0	0	14
Teller	9	9	23	33	37	59	28	39	22	32	13	6	0	0	0	0	0	0	0	310
Wales	4	0	0	0	0	1	1	0	0	1	0	0	1	0	10	13	7	1	2	41
Diomede	2	0	2	2	0	0	5	2	4	0	0	0	5	0	4	5	2	0	1	34
Shishmaref	0	0	1	0	1	13	1	5	3	17	11	17	0	1	27	13	20	2	0	132
Kotzebue	64	53	67	98	109	114	57	104	92	143	84	100	0	0	0	0	1	0	0	1086
Kivalina	0	0	0	0	1	1	0	1	2	0	0	3	0	0	1	0	1	1	0	11
Point Hope	30	73	40	53	54	65	28	47	71	47	38	43	3	14	27	16	11	7	1	268
Lisburne	2	6	2	0	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	16
Point Lay	0	1	0	0	0	2	2	1	0	0	0	0	0	0	0	0	3	3	0	12
Wainwright	2	4	1	6	6	14	24	29	8	17	12	1	4	5	10	10	9	6	0	168
Barrow	34	50	42	54	86	121	62	67	66	69	44	54	5	7	10	9	10	5	1	795
Colville Delta	1	1	4	6	3	5	5	3	5	4	3	5	0	0	0	0	0	0	0	45
Nuiqsut	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	7
Barter Island	0	2	3	0	1	8	1	16	8	5	9	5	0	0	1	1	4	0	0	64
Totals	148	199	187	255	298	405	223	324	288	335	214	239	25	30	90	126	91	25	5	3507

* includes the first six months of 1979 only.