ALASKA DEPARTMENT OF FISH AND GAME
JUNEAU, ALASKA

STATE OF ALASKA
Jay S. Hammond, Governor

DEPARTMENT OF FISH AND GAME
James W. Brooks, Commissioner

DIVISION OF GAME
Frank Jones, Director

ANNUAL REPORT OF SURVEY-INVENTORY ACTIVITIES
PART III CARIBOU, MARINE MAMMALS, MOUNTAIN GOAT, WOLF AND BLACK BEAR

Edited and compiled by
Donald E. McKnight, Research Chief

Volume V
Federal Aid in Wildlife Restoration
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MEMORANDUM OF TRANSMITTAL

May 1975

TO: James W. Brooks, Commissioner
Alaska Department of Fish and Game

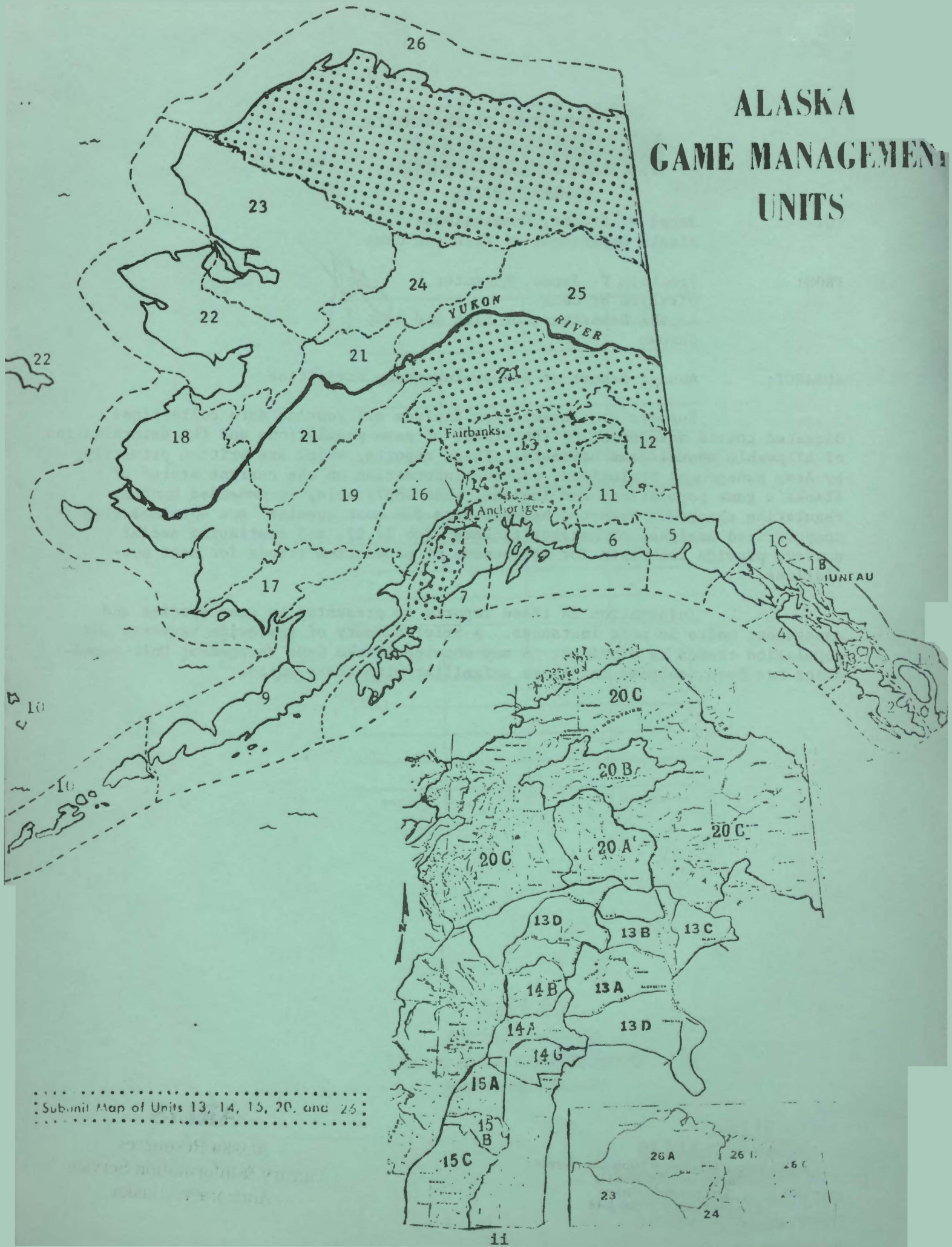
FROM: Franklin F. Jones, Director
Division of Game
Alaska Department of Fish and Game
Juneau

SUBJECT: Annual Report of Survey-Inventory Activities

Surveys and inventories include all routine data collections directed toward assessment of the status of game populations and the determination of allowable annual game harvests. These reports, which are written primarily by Area Management Biologists, provide information on the current status of Alaska's game populations and include, when applicable, recommended hunting regulation changes. Reported harvest data for most species are obtained from computerized analyses of harvest tickets (Job 22.0), and continuing aerial surveys provide the basis for assessment of population trends for most populations.

Information in these reports is presented by game species and management units in most instances. A brief summary of statewide harvests and population trends is provided. A map showing Alaska Game Management Unit boundaries has been included for those unfamiliar with these units.

ALASKA GAME MANAGEMENT UNITS



STATEWIDE HARVESTS AND POPULATION STATUS

Caribou

During the 1973-74 hunting season caribou harvest tickets were required only in Game Management Units 11, 12, 13, 14 and 20. A total of 1,043 hunters reported the harvest of 1,046 caribou from these units, and the total extrapolated harvest from these units was approximately 1,312 animals. The Nelchina herd provided an estimated 810 animals and the harvest from the Delta herd was about 300 animals. Statewide harvests by sport and subsistence hunters, coming mainly from the outlying Arctic, Porcupine and Alaska Peninsula herds were estimated to be 20-25,000 animals.

Easily accessible caribou herds in Southcentral and Interior Alaska (Fortymile, Delta and Nelchina herds) supported only short seasons and low harvests in 1973-74. Numbers of animals remained essentially unchanged in these herds in spite of reduced harvests. The transplanted Kenai Peninsula caribou herd, first opened to hunting in 1972, sustained a harvest of 12 animals in 1973.

Marine Mammals

A moratorium on the taking of marine mammals, imposed by passage of the Marine Mammals Protection Act, resulted in only a limited harvest for subsistence purposes by Alaskan natives in 1973.

Mountain Goat

A harvest of 822 mountain goats was reported by 1,783 goat hunters during the 1973-74 hunting season. Most of these goats were taken in Southeastern Alaska (327 animals) and the Prince William Sound Area (Unit 6 - 138 animals).

Goat populations statewide appear to be recovering from several successive severe winters in the early 1970's. In several easily accessible areas (parts of Units 1 and 15) harvests have been restricted because of increased hunting pressure on localized goat populations.

Black Bear

A total of 501 black bears were sealed during the spring and fall hunts of 1973. Because hunters were not required to seal black bears in much of the state (Interior-Arctic) this harvest figure is minimal.

Black bear populations throughout the state remained high through 1973.

Wolf

Hunters and trappers harvested 970 wolves during the 1973-74 season. Shooting from the ground and trapping were the prevalent methods of taking wolves during this period (36.7% and 47.3% of the total harvest, respectively). Of 933 wolves of known sex, 532 were males and 401 were females.

With no aerial permits being issued during this period, as in 1972, the harvest was considerably lower than that attained in 1971-72 (1,335 wolves). Statewide wolf populations remained stable or declined slightly (except on the Kenai Peninsula where major increases were noted).

MT. GOAT HARVEST -- BY UNIT, SUBUNIT AND SEX; 1973-74

Unit	Male(%)	Female(%)	Unspecified(%)	Total
1A	36(60.0)	20(33.3)	4(6.7)	60
1B	20(62.5)	12(37.5)		32
1C	56(50.0)	56(50.0)		112
1D	44(51.2)	39(45.3)	3(3.5)	86
Total 1	156(53.8)	127(43.8)	7(2.4)	290
Total 4	11(45.8)	13(54.2)		24
Total 5	10(76.9)	3(23.1)		13
Total 6	93(67.4)	43(31.2)	2(1.4)	138
Total 7	93(56.0)	71(42.8)	2(1.2)	166
Total 8	7(50.0)	7(50.0)		14
Total 11	36(61.0)	20(33.9)	3(5.8)	59
Total 12	0	2(100)		2
Total 13	9(75.0)	2(16.7)	1(8.3)	12
14A	2(40.0)	3(60.0)		5
14B	0	0		0
14C	2(33.3)	4(66.7)		6
Total 14	4(36.4)	7(63.6)		11
15A	No Goats Present			
15B	10(58.8)	7(41.2)		17
15C	32(57.1)	23(41.1)	1(2.0)	56
15 unk	4(80.0)	1(20.0)		5
Total 15	46(59.0)	31(39.7)	1(1.3)	78
Unknown Unit	9(60.0)	6(40.0)		15
GRAND TOTAL	474(57.7)	332(40.4)	16(1.9)	822

1973-74 Wolf Harvests by Game Management Unit

Game Management Unit (or subunit)	Harvest
1A	26
1B	7
1C	5
1D	12
2	15
3	27
5	2
6	6
7	1
9	31
11	28
12	37
13A	19
13B	14
13C	12
13D	15
13E	15
14A	5
14B	2
14C	1
15	1
16A	2
16B	11
17	20
18	2
19	39
20A	51
20B	38
20C	208
20D	7
21	102
22	7
23	40
24	60
25	56
26	46

BLACK BEAR HARVEST - 1973

Unit	Resident			Nonresident			TOTAL						
	♂	♀	Unk	♂	♀	Unk	♂	♀	Unk	Total	% of Total	% Male	% Non-Res.
1	15	11	0	7	2		22	13	0	35			
2	0	2	1	0	0	0	0	2	1	3			
3	3	0	0	3	3	0	6	3	0	9			
6	6	2	2	6	0	2	12	2	4	18			
7	11	15	1	5	6	0	16	21	1	38			
8													
9													
10													
11	8	5	0	12	6	0	20	11	0	31			
12													
13	18	17	1	24	8	1	42	25	2	69			
14	43	21	1	5	2	1	48	23	2	73			
15	34	22	6	4	2	1	38	24	7	69			
16	66	35	10	30	12	3	96	47	13	156			
TOTAL	204	130	22	96	41	8	300	171	30	501			

CONTENTS

CARIBOU

SURVEY INVENTORY PROGRESS REPORT - 1973

Game Management Units 7 and 15 - Kenai Peninsula (Kenai Herds)

Seasons and Bag Limits

Unit 7, that portion including the drainages of Resurrection Creek, Big Indian Creek, and all Chickaloon River drainages	Aug. 10-Nov.30 Jan.1-March 31	One caribou; a limited number of caribou by permit only, provided that only antlered caribou may be taken from Jan. 1 - March 31. Conditions and number of permits will be described by Commissioner's announcement.
Remainder of Unit 7 and Unit 15	No open season	

Harvest and Hunting Pressure

Two hundred and fifty permit holders harvested 12 caribou during the 1973-74 season. The harvest was comprised of 11 bulls and 1 cow.

One hundred permits were issued for the period Aug. 10 - Nov. 30. During this period permit holders took 10 bulls and 1 cow. Fifty permits were issued for each of the periods Jan. 1-31; February 1-28 and March 1-31. One bull caribou was taken during the Jan. 1-31 period by a hunter utilizing an aircraft for transportation. No caribou were reported taken during the February or March periods.

Composition and Productivity

A trend survey of the American Pass Herd conducted on March 10, 1974 produced a count of 246 to 251 caribou. The count was thought to have been complete, however, some animals could have been missed. The observation of 246-251 caribou is approximately 40 animals less than expected. Using the past annual growth rate of 36 percent, the 1974 fall population was projected to be approximately 340 caribou.

A survey of the Subunit 15A caribou population conducted on February 18, 1974 revealed 41 caribou wintering on the Moose River Flats. This group was estimated to number 41 to 50 animals.

Management Summary and Conclusions

Two hundred and fifty permit holders harvested 11 bulls and one cow during the 1973-74 caribou season in Unit 7.

The 246 to 251 caribou located during the trend survey was approximately 40 animals less than projected in 1972. The cause of the difference is unknown. It is possible that some animals were missed by the survey.

Based on past growth rates it is estimated that there will be approximately 340 caribou in the American Pass Herd in the fall of 1974.

Recommendations

Permits for the 1974 caribou hunt in Unit 7 should be issued without limit and should be available throughout the season. Approximately 90 caribou should be harvested.

Unit 15 should remain closed to the taking of caribou.

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CARIBOU

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 9 - Alaska Peninsula (Alaska Peninsula and Mulchatna Herds)

Seasons and Bag Limits

July 1 - June 30	Five caribou, provided that not more than three caribou may be taken from August 10 - November 30

Harvest and Hunting Pressure

During the 1973-74 regulatory year, hunting pressure and harvest on both the Alaska Peninsula and Mulchatna caribou herds were the greatest in the units' recorded history. Exact harvest figures are not available since harvest reports are not required for Unit 9. The estimated harvest was approximately 2000 animals or double that estimated for the 1972-73 regulatory year.

Composition and Productivity

Reconnaissance surveys of the Alaska Peninsula herd indicate that, in addition to the traditional calving grounds near Ilnik-Black Lake, the segment of the herd north of Port Moller established secondary calving grounds near the mouth of Cinder River. The major calving grounds south of Port Moller were in the vicinity of Caribou River and the northern portion of the Black Hills. No composition work was accomplished.

Management Summary and Conclusions

The increased hunting pressure on caribou in Unit 9 developed as a response to the restrictive season and bag limits on moose and caribou in the Game Management Units accessible to metropolitan areas. Unit 9's liberal regulations, large caribou population, and high hunter success made the unit a desirable hunting area in spite of relatively expensive logistics for the hunter. The increased pressure and harvest occurred from September through November. During the remainder of the year, the harvest was primarily by unit residents.

The majority of the increased harvest was supported by the Alaska Peninsula herd, particularly the northern portion of the herd between the Naknek River and Port Moller. Access to this area is relatively easy with numerous landing sites for both float and wheel-equipped aircraft. Many hunters used commercial airlines for transportation to King Salmon or Port Heiden and then chartered from there to the actual hunting location. Hunters with their own aircraft tended to work from these airports because of the availability of gasoline. These logistic

factors, coupled with access, concentrated the hunting pressure because of the limited number of areas which would allow aircraft access to the herd.

Both the Alaska Peninsula and Mulchatna herds appear to be growing in size and expanding their ranges. Caribou now commonly utilize the Pacific drainages between Chignik and Wide Bay, and the number of animals wintering in the western portion of Katmai National Monument is increasing. The establishment of secondary calving grounds at Cinder River also reflects this population growth. Unit residents remark upon the increased abundance of caribou.

In recent years, large bands of animals from the Mulchatna herd have wintered in areas other than the "traditional" Mulchatna River-Nikabuna Lakes area. Bands of up to several thousand animals have wintered near Igiugig, Stuyahok River and Kaskanak Creek. Although smaller than the Alaska Peninsula herd, the Mulchatna herd appears able to withstand the increased hunting pressure it is receiving. Hunting is not considered to be having any detrimental effects upon either herd.

Recommendations

If hunting pressure on caribou in this unit continues to grow, a formal program to monitor the harvest should be initiated. Efforts to census the Alaska Peninsula herd should be given high priority in order to establish base line data for management.

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

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CARIBOU

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 10 - Aleutian Islands (except Adak)

Seasons and Bag Limits

Unit 10, except Unimak and Adak Islands	No closed season; no limit
Unit 10, Unimak Island only	August 10-March 31; four caribou

Harvest and Hunting Pressure

Harvest data are not available for any area of Unit 10 except Adak Island. The resource is utilized primarily by local residents. Adak Island data are summarized in a separate report.

Composition and Productivity

No data are available.

Management Summary and Conclusions

Caribou populations on the Aleutian Islands are inaccessible to all but residents in the immediate area. With the exception of the Adak herd, hunting pressure is very light and does not effect any control of population levels. Liberalization of seasons or bag limits would not alter this pattern.

Recommendations

No changes in seasons or bag limits are recommended for Unit 10.

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CARIBOU

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 10 - Aleutian Islands (Adak Island herd)

Seasons and Bag Limits

Adak Island only	Aug. 10-Mar. 31*	Two caribou

*Season may be closed by field announcement.

Harvest and Hunting Pressure

One hundred and eight caribou were killed on Adak Island during the 1973-74 season (Appendix I). The sport harvest consisted of 49 males and 54 females. Five animals (sex unknown) were reported as being found dead with bullet holes (suspected cripple loss), and there was an unconfirmed report of an additional 4 caribou (sex unknown) taken at Shagak Bay.

Composition and Productivity

No data available.

Management Summary and Conclusions

Hunting on Adak Island is almost entirely the result of recreational efforts on the part of military and civilian personnel stationed there. The management policy for the Island is to maintain the herd at approximately 200 animals.

On October 10 a helicopter reconnaissance flight was made to Bay of Islands, Three Arm Bay, Caribou Peninsula and False Bay. Low clouds and turbulence beyond the aircraft's reported capability prohibited a survey of the mountainous area. The helicopter, a UH-46 Delta, had numerous shortcomings for work of this nature; the double rotor blade system creates a noise level that causes the caribou to run as they are approached, total allowable flight time is limited to two hours, and visibility is very poor due to design of this troop carrier. Regulations also prohibited flying lower than 800 feet above mean terrain.

The caribou counted were in the area between Bay of Waterfalls and Beyer Bay in the following groups: 33, 15, 17, 14, 5, 61, 9, and 3 = 157 total.

At the time of the October 10 survey 36 caribou were reported to have been taken by hunters.

Due to the problems involved in trying to accomplish an adequate caribou survey via the helicopter, Sexton then pursued utilization of a two-place Navy T-34 trainer fixed-wing aircraft (owned by the Adak Flying Club) for a caribou reconnaissance.

Mr. Pete Colbensen (the flight instructor for the Adak Flying Club) informed Sexton that he would gladly fly him on a caribou flight, but that he could not get aviation gasoline for the T-34. It seems that the only aviation gasoline truck on Adak was in for repairs.

On Saturday, October 13, the Adak weather started to improve. Sexton asked conservation officer Haggard if he could set up a flight with a Navy UH-46 Delta type helicopter for Saturday afternoon or Sunday. He was told that the helicopters do not fly on the weekends anymore. It seems that Naval personnel on Adak do not work more than 40 hours per week. Therefore a weekend flight for the purpose of counting caribou would be denied according to conservation officer Haggard.

Sunday, October 14, 1973 would have been a perfect day to completely count all of the caribou on Adak Island but neither aircraft was available. Sexton was able to set up a flight via T-34 with Mr. Colbensen on Monday morning, October 15.

Observation conditions prevailing during that flight were overcast skies, ceiling 1800 feet to 2,000 feet, 42 degrees F, S. W. wind at 8 knots when flight commenced and about 32 knots when terminated. The total flying time was two hours. Caribou were difficult to locate due to poor light conditions. Observations were not possible above the 1,500 feet level. Although lower levels of Adak Island were flown, only 42 caribou were tallied. Approximately 48 caribou had been harvested during the hunting season prior to the October 15 survey. Both of the October 1973 surveys should be considered incomplete.

Recommendations

A Caribou Management Cooperative Agreement between the Department of the Navy and the Department of the Interior, Bureau of Sport Fisheries and Wildlife, and the Alaska Department of Fish and Game should be modified. The Cooperative Agreement should include the following:

The Bureau and the Department agree that wise management practices dictate maintaining a post-hunting season caribou population at a level hunters can control on Adak Island. In the event the population increases above a level set by the Department and Bureau surplus animals will be removed.

To manage the caribou, accurate censuses are essential. Unless the population status is monitored regularly the animals must be removed to avoid the probability of habitat damage by an overpopulation. The Navy shall furnish helicopter and/or other means of transport and support to the Bureau and the Department to the extent possible for the following purposes:

1. Censusing caribou.

2. Studying caribou range and maintaining range exclosures.

3. Collecting biological specimens related to caribou management.

4. Removing caribou determined to be excess animals by the Bureau and the Department.

5. Removing caribou in the event of abandonment of the Adak Base.

Based on the last good survey in October 1972, and due to the extent of the hunter caribou kill of 1972-73 and 1973-74 seasons the Alaska Deparmtent of Fish & Game should agree with the Bureau of Sport Fisheries and Wildlife in supporting an allowable post hunting season (pre-calving) population of up to 240 caribou. Considering the new allowable population, approximately 70 caribou should be taken during the 1974-75 season.

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APPENDIX I

Adak Caribou Herd, Population and Mortality 1958 - 1973

Year	Winter Population	Natural Mortality*	Hunting Mortality*
1958	10	1	0
1959	23	1	0
1960	-	0	0
1961	-	1	0
1962	36	0	0
1963	43	0	0
1964**	65	1	4
1965**	87	8	2
1966**	106	3	18
1967**	126	1	24
1968**	163	3	55
1969**	167	0	51
1970**	214	0	53
1971**	230	3	45
1972**	347	1	98
1973**	230(est. Post Hunting population)	0	108

* Essentially, all natural mortality is due to entanglement in wire prior to 1969.

** Allowable harvest: 1964 - 10; 1965 - 30; 1966 - 30; 1967 - 50; 1968 - 50; 1969 - 50; 1970 - 50; 1971 - 50 plus 20 more; 1972 - 50 plus 97 more; 1973 - 140.

PREPARED BY: Jerome J. Sexton, Game Biologist II

SUBMITTED BY: John S. Vania, Management Coordinator

CARIBOU

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 11 - Wrangell Mountains and Chitina Valley (Mentasta Herd)

Seasons and Bag Limits

Aug. 10-Sept. 30	One caribou

Seasons and bag limits from 1968 until 1973-74 are listed in Appendix I. Earlier seasons and bag limits corresponded with those listed for the Nelchina herd (GMU 13, Appendix I).

Abundance and Mortality

Most pertinent management information on the Mentasta caribou herd has been reported in a recent project progress report (Bos, 1974). Because an evaluation of the same material would be largely repetitious, only additional material will be covered below.

A photocensus of the Mentasta herd was attempted during June 22-25, 1974. However, the herd was rapidly dispersing and high winds made flying in the mountains extremely hazardous, so the census was discontinued.

The reported harvest for the Mentasta herd during 1973 was 81, and the extrapolated harvest was 99. Eighty-two percent of the reported harvest (N=81) was bull caribou (N=65).* The principal transportation means used by successful hunters were aircraft (N=55)** (75 percent of the hunters that specified a transportation means) and horses (N=9)** (12 percent).

Management Summary and Recommendations

Approximately 5.5 percent of the adult estimated caribou population (N=1,793) was harvested (N=99) during 1973.

LITERATURE CITED

Bos, G. 1974. Nelchina and Mentasta caribou reports. Alaska Dept. of Fish and Game. Fed. Aid in Wildl. Rest. Proj. W-17-5 and W-17-6, Juneau, 50pp.

* Known sex animals only ** Disregarding non-specified transport means.

PREPARED BY:

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SUBMITTED BY:

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APPENDIX I

Seasons, bag limits, harvests, sex composition of the harvests, and abundance estimates, Mentasta herd, 1968-69 to 1973-74.

Year	Season	Bag Limit	Harvest		Reported Adult Males in Harvest	Estimated Total Adult Caribou
			Known	Estimated (a)	Number (%) (b)	Population (c)
1968-69	Aug. 10 - Mar. 31	3 Caribou	304	----	122 (74%)	----
1969-70	Aug. 10 - Mar. 31	3 Caribou	288	414	203 (71%)	1892
1970-71	Aug. 10 - Sep. 30	3 Caribou	846	1317	519 (62%)	2047
	Nov. 1 - Mar. 31					
1971-72	Aug. 10 - Mar. 31	3 Caribou	1693	2006	742 (45%)	----
1972-73	Aug. 10 - Sep. 20*	1 Caribou**	89	----	60 (69%)	2202
1973-74	Aug. 10 - Sep. 30	1 Caribou	81	99	65 (82%)	----

(a) Estimated harvests were based on extrapolation formulas.

(b) Male percentage in the harvest during 1968-69 was based on a sample size of 164. Percentages are based only on reports where sex of kill was specified.

(c) Skoog tallied 2305 caribou in the Mentasta herd during February 1962 (Bos, 1974). Maximum total estimates made during post calving aggregations of subsequent years are listed. Abundance estimates during 1970 and 1971 were accumulated estimates of group sizes made from a fixed wing aircraft. The 1973 value of 1995 is a preliminary census estimate obtained from direct summer counts without extrapolation.

* Season dates changed from Aug. 10 - Dec. 31 to Aug. 10 - Sept. 20 by authority of field announcement issued July 27, 1972.

** Bag limit changed from three caribou to one caribou by authority of finding of emergency issued July 27, 1972.

Prepared by: Carl McIlroy, Game Biologist III

CARIBOU

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 13 - Nelchina Basin (Nelchina Herd)

Seasons and Bag Limits

Aug. 10 - Sept. 20 — One caribou

Abundance and Mortality

Most pertinent management information on the Nelchina caribou herd has been reported in a recent project progress report (Bos, 1974). Because a detailed evaluation of the data here would be largely repetitious, only additional information will be covered below.

Photocensuses of the Nelchina caribou herd, using techniques developed during 1972 and 1973 (Bos, 1973), were considered to be too costly to use as a routine management tool. In addition, the uncertainty of weather combined with the coordination difficulties between the photo plane and field crews reduced the reliability of the technique. A photocensus was made during June 1974 using hand-held 35mm S.L.R. cameras from slow-flying, fixed-wing aircraft (PA-12 and a Citabria). The Nelchina caribou herd had been previously located and was determined to be suitably aggregated during reconnaissance flights. The main portion of the herd was photographed in one day, and herds in peripheral areas were censused the following day. The total cost of the census was $1,688.77 and it was considered to be sufficiently economical to be an annual management tool. Caribou were counted by projecting slides on white paper, counting and marking off caribou as encountered and using two projectors simultaneously to aid in orientation. A total herd size of 10,245 animals was determined. Slides and portions of slides were recounted where adults could be clearly distinquished from calves. Of 3,554 caribou sampled, 24.1 percent were calves (N=857). Therefore, the number of adults in the post-calving aggregation was calculated to have been 7,776 ([1-.241] 10,245). Using similar calculating procedures, there were 6,147 adults seen during the summer of 1972 and 6,440 adults seen during the summer of 1973.

Harvest report data for 1973 indicated a total harvest of 631. The actual harvest was estimated to have been 810. Sixty-seven percent of the reported harvest (N=412)* was males, and an estimated 543 male caribou (810 x .67) were harvested. Most caribou were not available to roadside hunters. The main transportation means used by successful hunters were aircraft (N=314)** (54 percent of hunters that specified a transportation means) and off-road vehicles (N=183)** (31 percent).

A summary of season, bag limit, estimated harvest, sex composition of the harvest and estimated adult caribou population are presented in Appendix I.

Management Summary and Recommendations

The relatively low hunter harvest for the past two years, combined with the bumper yearling crop during 1973, resulted in a marked increase in herd size during 1974. No changes in seasons or bag limits are recommended at this time.

LITERATURE CITED

Bos, G. 1973. Nelchina caribou report. Alaska Dept. of Fish and Game. Fed. Aid in Wildl. Restoration. Projects W-17-4 and W-17-5, Juneau, 25pp.

Bos, G. 1974. Nelchina and Mentasta caribou reports. Alaska Dept. of Fish and Game. Fed. Aid in Wildl. Restoration. Projects W-17-5 and W-17-6, Juneau, 50 pp.

* Known sex only. ** Disregarding non-specified transport means.

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SUBMITTED BY:

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APPENDIX I

Seasons, bag limits, harvests, and abundance estimates, Nelchina herd, 1946-1973 (a)

Year	Season	Caribou Bag Limit	Estimated Harvest	Reported Adult Males in Harvest Number	%	Estimated Adult Caribou Population (b)
1946-47	Aug 20-Sep 30 Dec 1-Dec 15	Resident - 2 caribou except Non resident-1 caribou calves	200			
1947-48	(same)	(same)	200			
1948-49	Aug 10-Sep 30 Dec 1-Dec 15	(same)	300	175	(97%)	4500-5000
1949-50	(same)	1 caribou except calves	350			
1950-51	(same)	(same)	500			5000-5500
1951-52	(same)	(same)	525			
1952-53	(same)	1 branch-antlered male only	450	291	(93%)	7600
1953-54	(same)	(same)	700	445	(85%)	13200
1954-55	Aug 10-Sep 30 Nov 20-Nov 30	1 caribou except calves	2000	1271	(72%)	40000
1955-56	(same)	2 caribou	4000	1076	(73%)	36000
1956-57	Aug 10-Dec 31	2 caribou	3500	844	(72%)	
1957-58	(same)	3 caribou	2500	1125	(75%)	
1958-59	(same)	3 caribou	3500			
1959-60	(same)	3 caribou	4000	922	(70%)	
1960-61	(same)	3 caribou	5500	2535	(66%)	
1961-62	(same)	3 caribou	8000	3923	(58%)	64100
1962-63	(same)	3 caribou	3500	2640	(69%)	
1963-64	Aug 10-Mar 31	3 caribou	6300	3709	(61%)	
1964-65	(same)	4 caribou	8000	1850	(66%)	
1965-66	(same)	3 caribou	7100	1222	(67%)	
1966-67	(same)	3 caribou	5500	849	(71%)	
1967-68	(same)	3 caribou	4000	740	(65%)	45700
1968-69	(same)	3 caribou	6000	2334	(60%)	
1969-70	(same)	3 caribou	7800	5332	(49%)	
1970-71	Aug 10-Sep 30 Nov 1-Mar 31	3 caribou	7247 (c)	4018	(63%)	
1971-72	Aug 10-Mar 31	3 caribou	10131 (c)	6743	(47%)	
1972-73	Aug 10-Sep 20*	1 caribou **	555 (d)	388	(72%)	6147
1973-74	(same)	1 caribou	810	412	(67%)	6440
1974	(same)	1 caribou	-	-	-	7776

(a) Data from Bos (unpublished material) and from unpublished material in the caribou files.

(b) Census data based on extrapolated total counts in mid-winter censuses and on adult only counts in summer censuses. Estimates prior to 1954-55 may be low by a factor of 2 or more.

(c) Harvest figures include half of the harvest coded to the Mentasta herd.

(d) Based on reported harvest from harvest ticket returns. The actual harvest was probably larger.

* Season dates changed from Aug. 10-Dec 31 to Aug. 10-Sep 20 by authority of Field announcement issued July 27, 1972.

** Bag limit changed from three caribou to one caribou by authority of finding of emergency issued July 27, 1972.

PREPARED BY: Carl W. McIlroy, Game Biologist III

CARIBOU

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 14 - Upper Cook Inlet

Seasons and Bag Limits

Aug. 10 - Sept. 20 One Caribou

The season was reduced by emergency announcement from 235 days with a 3 caribou limit in 1971-72 to 42 days with a 1 caribou limit in 1972-73. During 1973-74, the 42-day season was continued.

Harvest and Hunting Pressure

Thirteen caribou, 11 males and 2 females, were reported taken by hunters in Game Management Unit 14 during the 1973-74 caribou season (Appendix I). This was the smallest harvest from the unit since 1969-70 when these data became available. A record high of 55 caribou were taken from the unit during the 1971-72 season.

Four (30.8 percent) of the caribou were taken by resident hunters and nine (69.2 percent) were taken by nonresidents (Appendix II). Since 1969 the percentage of nonresidents participating in the harvest has been increasing.

Composition and Productivity

Incidental observations of caribou made during a moose survey on December 3, 1973 revealed a minimum of 152 caribou in the Unit 14 portion of the upper Talkeetna and Chickaloon River drainages. An additional 181 caribou were observed on the Unit 13 side of the river. During a sheep survey on June 25, 1974, 137 caribou, including bulls, cows and calves, were observed between the upper Talkeetna River and Iron Creek. No specific effort to look for caribou was made during either of the surveys.

On November 1, 1973 one yearling, bull caribou was illegally taken at Willow in Subunit 14A. Approximately three other caribou had been seen in the area.

Management Summary and Conclusions

Caribou are not an important big game species in Unit 14. Animals in the unit are found on the fringe of the range of the Nelchina caribou herd. With the exception of a small group of caribou frequently seen along the upper Talkeetna River, observations of caribou in Unit 14 are infrequent.

Harvests of caribou from the unit have been low. The 1973-74 harvest of 13 animals was the lowest since the 1969-70 season when these data became available. The greatly shortened season, combined with a reduced bag limit, undoubtedly contributed to the smaller harvest.

Recommendations

Because Alaska's caribou are managed by herds rather than Game Management Units, it is recommended that the season and bag limit for caribou in Unit 14 remain the same as Unit 13 (Nelchina herd).

PREPARED BY:

Jack C. Didrickson & Don Cornelius
Game Biologist III & Game Biologist II

SUBMITTED BY:

John S. Vania
Regional Management Coordinator

Appendix I. Reported Harvest of Caribou from Alaska's Game Management Subunits 14 A and B, 1969-70 through 1973-74.

Year	Males	Percent	Females	Percent	Unspecified	Total
1969-70	Breakdown not available for Unit 14					14
1970-71	"	"	"	"	"	38
1971-72	"	"	"	"	"	55
1972-73	"	"	"	"	"	21
1973-74	11	84.6	2	15.3	0	13

Appendix II. Residency* of Successful Caribou Hunters in Alaska's Game Management Subunits 14 A and B, 1969-70 through 1973-74.

	Resident		Nonresident		Residency	
Year	No.	Percent	No.	Percent	Not Given	Total
1969-70	8	80.0	1	10.0	1	10
1970-71	13	54.1	11	45.8	0	24
1971-72	21	53.8	17	43.5	1	39
1972-73	9	42.9	12	57.2	0	21
1973-74	4	30.8	9	69.2	0	13

* Hunters who took more than one caribou only counted one time.

Prepared by: Jerome Sexton, Game Biologist

Submitted by: Jack C. Didrickson, Game Biologist III
Don Cornelius, Game Biologist II

CARIBOU

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 16 - West Side of Cook Inlet

Seasons and Bag Limits

Aug. 10 - Mar. 31 Three caribou

Harvest and Hunting Pressure

No data were gathered during this report period.

Composition and Productivity

No data were gathered during this report period.

Management Summary and Conclusions

Few data are available on caribou in Unit 16. The caribou that frequent the Rainy Pass area were formerly thought to be part of the Mulchatna caribou herd, but are now felt to be a separate herd which calves in Happy Valley.

Caribou seasons in Units 13, 14, and 20 have been significantly shortened. The Rainy Pass area, which lies approximately 130 air miles from Anchorage, still retains an extended season. Hunters on their way to hunt caribou in the Mulchatna area usually fly through Rainy Pass. Easily accessible caribou that may be encountered are undoubtedly harvested.

No harvest data are currently available on this herd which may attract increasing attention from hunters in the Anchorage area.

Recommendations

The harvest reporting requirements should be expanded to include caribou taken in Units 16 and 19.

PREPARED BY:

Jack C. Didrickson
Game Biologist III

Don Cornelius
Game Biologist II

SUBMITTED BY:

John S. Vania
Regional Management Coordinator

CARIBOU

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 17 - Bristol Bay (Mulchatna Herd)

Seasons and Bag Limits

July 1 - June 30 — Three caribou

Harvest and Hunting Pressure

Hunting pressure on the Mulchatna Herd increased during the 1973-74 season. This increase was apparently the result of high meat prices and the restrictive moose and caribou seasons in the Game Management Units accessible from the road system. However, access to the herd is limited and much of the increased hunting pressure was ineffective. The estimated harvest was approximately 350 animals, or double the estimate for the 1972-73 season.

Composition and Productivity

No work has been accomplished.

Management Summary and Conclusions

Hunting pressure from both guided nonresident hunters and Alaskan residents is increasing. As hunters become more familiar with the area, hunting pressure becomes more effective. At present, the harvest is essentially restricted to the areas with water access or with aircraft or snowmachine after freeze-up. Because of the year-long season, harvest reports are not required for the unit. If the present trend continues these reports may become a necessity.

Reconnaissance surveys of the herd indicate the present level of harvest is not detrimental. However, the increased pressure from residents living outside the unit and guided trophy hunters will necessitate a program to monitor this resource.

Recommendations

A population census should be accomplished in the near future.

No changes in the season or bag limit are recommended at this time.

PREPARED BY:

James B. Faro
Game Biologist III

SUBMITTED BY:

John S. Vania
Regional Management Coordinator

CARIBOU

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Units 12, 20 and 25 - (Fortymile Herd)

Seasons and Bag Limits

August 10 - March 31	Three caribou, provided that not more than one caribou may be taken before December 1

Harvest and Hunting Pressure

Only 34 caribou, consisting of 25 bulls and 9 cows, were reported harvested from the Fortymile herd during the 1973 season. Data gathered during the summer and early fall indicated that the herd contained only 6-8,000 animals, about half of earlier estimates. Fall composition counts showed extremely poor calf survival and the season was closed by emergency regulation on September 28. Most of the harvest occurred along the Seventymile River and near American Summit at 140 mile on the Taylor Highway.

Composition and Productivity

Fall composition counts conducted from the ground on September 18 revealed the following information:

Bulls/100 C	Year./100 C	Ca/100 C	Year. %	Calf %	Cow %	Bull %	Sample Size
48.5	12	15.6	6.9	8	56.6	27.5	607

Data obtained from both ground and aerial counts on September 16-18 were as follows:

Bulls/100 C	Year./100 C	Ca/100 C	Year.%	Calf %	Cow %	Bull %	Sample Size
42	8	16	5	10	60	25	2700

The apparent discrepancy between ground and aerial count data is because of the difficulty of determining yearlings from the air. Such counts usually result in yearlings being classified as adults. The combined air-ground yearling counts will indicate that yearlings are less numerous in the population than they actually are. Observation from the ground more accurately reflects yearling abundance.

Management Summary and Recommendations

In view of the reduced herd size and poor recruitment only a brief open season should be allowed on this herd and the annual harvest should be restricted to 100 animals or less.

Efforts should be made to determine sources of calf mortality as well as to initiate investigations into the quantity and quality of the caribou range or physical condition of the caribou.

Sex and age composition counts should be continued annually. A census should be made every few years to determine herd size and population trend.

A separate research report will be prepared covering findings and details of the census and other work on this herd done in 1973 and 1974.

PREPARED BY:

Larry Jennings
Game Biologist III

SUBMITTED BY:

Oliver E. Burris
Regional Management Coordinator

CARIBOU

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Units 18, 19, 21 - (Including portions of the Mulchatna Herd, the Beaver Mountains Herd, other groups found in the Kuskokwim Mountains and the north slope of the Alaska Range.)

Seasons and Bag Limits

The portions of Units 18 & 21 south of the Yukon River, and Unit 19	Aug. 10 - March 31	Three caribou
The portions of Units 18 & 21 north of the Yukon River, and Units 22-26	No closed season	No limit

Mulchatna Herd

Harvest and Hunting Pressure

Sport hunting activity continued to increase in the Holitna, Stoney and Swift River areas, both in the fall and during the spring of 1973. Hunters were also reaching caribou from the Mulchatna herd by traveling by boat up the North Fork of the Hoholitna. Accurate estimates of the total caribou harvest by sport hunters and subsistence hunters are nearly impossible to make at this time. Based on past knowledge and conversation with hunters and pilots I would estimate the harvest exceeds 300 animals annually.

Seasonal Distribution, Migration and Concentrations

No observations of this herd were made in 1973.

Beaver Mountains Herd

Harvest and Hunting Pressure

Harvest of caribou in the Beaver Mountains (Units 19 and 21) continues to fit the pattern of the past few years. Fall hunting is lightest and removes only a few animals. Spring hunting, via ski-equipped aircraft, account for no more than 50 animals annually.

Seasonal Distribution, Migration and Concentrations

During November of 1973 large groups of caribou were seen feeding in open sedge meadows near the Dishna River approximately 15 miles above the forks with the Tolstoi River. These groups ranged from 40 to 60 caribou a unit, with approximately 300 or more animals in the vicinity. This represents the furthest north movement I have observed in the Beaver herd.

Kuskokwim Mountains Group
(Cloudy-Sunshine Mountains, Nixon Flats, Unit 19)

Harvest and Hunting Pressure

Hunting pressure on the Nixon herd was light during 1973, largely resulting from a scarcity of animals and early departure from the Flats. Caribou reach the Flats on their annual movement into this area about the last week in October. Small groups of caribou were then available to hunters until late November when they moved north and out of this drainage. Total harvest during this period did not exceed six caribou.

Seasonal Distribution, Migration and Concentrations

The first observation of caribou on the Nixon Flats was made on October 24, 1973. Considerable fresh snow had already fallen (16") prior to this date so movement of these animals was easily traced. Signs of 100-200 caribou suggested the main group had headed in a southeasterly direction toward Half-way Mountain and Snowshoe Creek. A few small groups of caribou were located, but most were in very heavy timber.

On October 31, 1973 I tracked several hundred caribou from Page Mountain (Nowitna drainage) to the Nixon Flats in the vicinity of Burnt Top Mountain and the West Fork. This trail joined those found previously. Two groups of caribou, one of 16 and one of 19 were seen near Walbash Creek. Two hunter-killed caribou were located about 6 miles south of the West Fork. Later in November while traveling by snow machine I saw 21 caribou near the West Fork. This was the last observation I made of the Nixon groups in 1973. All during the early winter period there was heavy snowfall and by late December over three feet was on the ground. During this time the movement out of the Flats and back into the Nowitna drainage obviously occurred.

McKinley Herd

Harvest and Hunting Pressure

Sport hunters regularly take caribou in the foothills area between Big River and the Tonsona River. These animals are considered part of the McKinley herd. It is estimated the annual harvest of these caribou may be from 50 to 100, most taken on guided hunts or by fly-in hunters from Anchorage.

Seasonal Distribution, Migration and Concentrations

Aerial surveys of the Alaska Range and adjacent foothills in Unit 19 were conduced on several occasions in 1973. In late February while searching for caribou and wolves on the upper Tonsona River and Swift Fork of the Kuskokwim several small groups of from 10-12 caribou were seen in heavily timbered areas. Signs suggested that perhaps several hundred or more caribou were wintering in this area.

In March 1973 I saw 400-500 caribou in the Rainy-Pass area along with many scattered groups in Happy Valley and Ptarmigan Pass. An estimated 1,000 caribou may have been in this area. Several recent hunter kills were found near Portilla Lake and further up Happy Valley.

During early May 1973 I saw several scattered groups of caribou, totaling 16 animals in the vicinity of Rohn River, Eggert Mountain and Post River. Later in December of 1973 near Prost Lake I found 140 adult caribou and 10 calves. Tracks indicated that more caribou were in the vicinity.

PREPARED BY:

Peter E. K. Shepherd
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SUBMITTED BY:

Oliver E. Burris
Regional Management Coordinator

CARIBOU

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 20 - Fairbanks, Central Tanana Valley (Delta Herd)

Seasons and Bag Limits

Aug. 10 - March 31 — One caribou

Season was closed September 30 by emergency closure

Harvest and Hunting Pressure

Based on harvest ticket returns the reported kill in the Delta herd was 233 caribou during the 1973 season and during 1974 there was no open season (Appendix I). Harvest in 1973 was the lowest since 1970. A reduction in the length of the 1973 season from August 10 - March 31 to August 10 - September 30 and the reduction in bag limit from 3 to 1 were responsible for the decrease in total kill. The reduction in bag limit, however, had only minor effect on total harvest since similar numbers of caribou were killed during the period August 10 - September 30 in 1972 and 1973.

Residents harvested proportionally fewer caribou than nonresidents during the 1973 season compared with the previous two years (Table 1). The shortened season in 1973 eliminated winter hunting which has traditionally been a sport of predominately residents.

The harvest figures reported here include 28 animals taken in 1973 between the Delta and Robertson Rivers. This group of caribou is now considered to be separate from the Delta herd.

Hunting pressure increased during the short season in 1973 over the same period during 1971 and 1972. At the same time hunter success has steadily declined since 1970 (Appendix II). The trend in hunter success parallels the population decline of the Delta herd and indicates animals are becoming more difficult to find. The average number of caribou taken per successful hunter dropped from approximately 1.5 in previous years to 1.0 in 1973 as a result of the bag limit reduction from 3 to 1 (Appendix II).

The percentage of males and females in the harvest has remained relatively steady since 1969, the harvest averaging approximately 70 percent males (Appendix III). The heavy selection of males by hunters is no doubt responsible for the relatively low bull:cow ratio observed in the herd (Appendix IV).

Composition and Productivity

Sex and age composition data for the Delta herd are tabulated from 1969 (Appendix IV). The fall ratio of bulls to cows has remained about 30 bulls:100 cows between 1971 and 1974 in spite of continuous hunter

selection for bulls. Prior to 1971 only one fall count (1969) had been conducted which indicated a higher bull:cow ratio (40:100). Since 1969 there has been a steady decline in the proportion of calves and yearlings in the population. The proportion of calves in fall counts has declined from 28/100 cows and 15 percent of the herd in 1969, to 2/100 cows and 1.5 percent of herd in 1974. Similarly, yearling numbers have dropped due to poor calf crops and high mortality. In October 1969 counts indicated there were 20 yearlings/100 females and yearlings represented 11 percent of the herd. Very few yearlings were found during the fall counts in 1974, 2/100 females and 1.4 percent of the herd. Therefore, in fall 1974 only 3 percent of the animals in the Delta herd were 17 months old or less.

Survey data show calves suffer high mortality from birth throughout the summer and over winter. Calf counts made from a PA-18 in late May 1974 indicated up to 15 calves per 100 adults, however, only 2 calves per 100 females were found in mid-June from ground counts. Ground counts indicating 24 distended mammary/100 females also suggested high neonate mortality. A snow storm in early June 1974 which dropped about 5-10 inches of snow on the calving grounds could have been responsible for a significant proportion of the calf mortality in 1974. Survival of calves from mid-June to the end of October during 1973 and 1974 has been 40 percent and 50 percent, respectively (Appendix IV). Survival of calves from October to the following October was 38, 36 and 20 percent for the past three years, respectively (Appendix IV). To summarize, the rate of mortality in young animals of the Delta herd is high, at least to the age of 17 months. Composition data indicate less than 10 percent of the calves born in 1973 and 1974 lived to 17 months of age. The total population has been declining since the early 1970's and possibly during the late 1960's although information on the herd is sparse. The Delta herd was estimated to be near 5,000 in the mid to late 1960's declining to 1,400 - 2,000 by the fall of 1974.

Management Summary and Recommendations

Regardless of our management policy the Delta herd will continue to decline as long as calf production and survival are low and wolf predation high. It is estimated from age composition and survival data that not over 10 percent of the total population is between 1-4 years of age and another 10 percent is between 4-6 years of age. Hence, approximately 80 percent of the population is over 6 years of age. If we assume most caribou do not live past 12 years and the present productivity trend continues, the population will be approaching zero in 6 years or 1980. Therefore, it is recommended that reproductive, nutritional and pathological studies be initiated on this herd. Wolves should be reduced in numbers by methods deemed feasible by the Department.

PREPARED BY:

William C. Gasaway
Game Biologist II

SUBMITTED BY:

Oliver E. Burris
Regional Management Coordinator

Appendix I. Delta caribou herd harvest by residency of hunter, 1970-71, 1971-72, 1972-73 seasons.

	Total Reported Kill	No. of Animals Taken by Residents	% of Harvest Taken by Residents	No. of Animals Taken by Non-residents	% of Harvest Taken by Non-residents	No. of Animals Taken by Unspecified Residency	% of Harvest by Hunters of Unknown Residency	Season & Bag Limit
1969-70	225	--	--	--	--	--	--	10 Aug.-31 Mar. Limit 3
1970-71	275	182	66	85	31	8	3	10 Aug.-31 Mar. Limit 3
1971-72	624	464	74	143	23	17	3	10 Aug.-31 Mar. Limit 3
1972-73	517	390	75	113	22	14	3	10 Aug.-31 Mar. Limit 3
1973	233	149	64	66	26	18	8	10 Aug.-30 Sept. Limit 1
1974	No Open Season							

Appendix II. Delta caribou herd, summary of successful hunters by residency.

	Total Reporting Hunters (successful & unsuccessful)	Total Successful Hunters	Percent Success	Average Caribou per Successful Hunter	No. of Successful Residents	% of Successful Hunters	No. Successful Non-residents	% of Successful Hunters	No. of Successful Hunters (residency unk.)	% of Successful Hunters
1970-71	293	192	66	1.43	112	58	74	38	6	3
1971-72	644	395	61	1.58	266	67	117	30	12	3
1972-73	602	338	56	1.53	232	69	98	29	8	2
1973	466	233	50	1.00	149	64	66	26	18	8
1974	No Open Season									

Appendix III. Sex composition of caribou harvest from the Delta herd.

Date	Total Harvest	Percent Males	Percent Females	Percent Unknown
1969-70	225	75	24	1
1970-71	275	72	25	3
1971-72	624	62	36	2
1972-73	517	72	26	3
1973	233	68	29	3
1974	No Open Season			

Appendix IV. Summary of sex and age composition and survival in the Delta caribou herd.

Date	Sample Size	Bulls/100 Cows	Yrlgs./100 Cows	Calves/100 Cows	Percent of Sample				Percent Calf and Yearling Survival
					Bulls	Cows	Yrlgs.	Calves	
1969, Oct.	777	40	20	28	21	53	11	15	--
1970, Mar.	838	30	21	--	20	66	14	--	75 (Oct. 69 to Mar. 70)
1971, Oct.	1139	29	11	16	19	64	7	10	--
1972, Oct.	1184	32	6	11	22	67	4	7	38 (Oct. 71 to Oct. 72)
1973, June	1124	4	8	25	3	72	6	18	40 (post calving to fall)
Oct.	1050	29	4	10	20	70	2.8	7	36 (Oct. 72 to Oct. 73)
1974, June	1058	5	4	4	5	89	3	3	50 (June 74 to Oct. 74)
									8 (June 73 to Oct. 74)
Oct.	1141	28	2	2	21	76	1.4	1.5	20 (Oct. 73 to Oct. 74)

CARIBOU

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Units 23, 24 and 26 - (Arctic Herd)

Seasons and Bag Limits

The spring migration in 1973 was relatively normal. Residents of Selawik, Ambler, Shungnak and Anaktuvuk had higher than normal harvest. In the fall, caribou migrated southward mainly through the Baird, Schwatka and Endicott Mountains and hunters from villages on the Kobuk, Selawik and Koyukuk Rivers had above-normal harvest. Residents of Point Hope, Kivalina and Noatak had poor years. Snowfall was light during the winter of 1973-74, and caribou were dispersed throughout many parts of Game Management Units 23, 24 and 26. Consequently, the total harvest in 1973 was above normal as caribou were accessible to most villages throughout the fall and winter.

Composition and Productivity

Attempts to obtain fall composition counts were frustrated due to our inability to locate caribou and landing sites in the same areas.

Management Summary and Recommendations

The total 1973 harvest was above normal because of the widespread dispersal of caribou during the winter. Because of the large size of the Arctic herd and its dispersal, any changes in population numbers would be difficult to detect. It is recommended that a census of the Arctic herd using the air photo technique be scheduled in 1975.

PREPARED BY:

Robert E. Pegau
Game Biologist III

SUBMITTED BY:

Oliver E. Burris
Regional Management Coordinator

CARIBOU

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Units 24, 25, 26 and Yukon Territory, Canada - (Porcupine Herd)

Information collected on this herd will be presented in a separate report. Previous management information was presented in the Annual Report of Survey-Inventory Activities Part III, Volume IV printed in April 1974.

PREPARED AND SUBMITTED BY:

Oliver E. Burris
Regional Management Coordinator

SEA OTTER

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Units 1-16 - Coastal Waters

Seasons and Bag Limits

Units 1 - 26	No open season.
	5 AAC 84.290 TAKING OR CAPTURING OF SEA OTTER. The Commissioner or his authorized representatives may take or attempt to take, kill, possess, capture or pursue sea otter on the waters or lands of the state.

Note: On December 21, 1972 the Marine Mammal Protection Act of 1972 went into effect. This act nullified all state laws relating to the taking of sea otters and placed the authority for regulating take under the Secretary of Interior of the United States. Until regulations to the contrary are issued this act prohibits the taking of sea otters by most U. S. citizens. Depending on how the act is interpreted, it may allow Eskimos, Indians and Aleuts, dwelling on the coast of the North Pacific Ocean or the Arctic Ocean, to take sea otters without limit, provided it is not done in a wasteful manner.

Harvest and Hunting Pressure

No harvest was known to occur.

Composition and Productivity

Two shoreline surveys of the Prince William Sound area were conducted by helicopter, one in June 1973 and the other in March 1974. The purpose was to determine distribution and abundance of marine mammals. All areas previously known to support otters continue to do so. Present distribution is shown in Figure 1. The population still appears to be expanding and new areas are being populated. Indications are that the population will continue to expand and disperse for some time, probably at a fairly rapid rate. A gross, total population estimate for the area is 5,000 otters. The estimate is based on numbers seen during the surveys, 2,015 in June 1973 and 1,441 in March 1974, coupled with data derived from comparative shore - helicopter counts conducted on Amchitka Island.

A report, which includes data from both surveys, is being prepared.

Management Summary and Conclusions

In the Prince William Sound area, sea otter populations still appear to be expanding and new areas are being populated. A gross, total population estimate for the area is 5,000.

PREPARED BY:

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Game Biologist III

SUBMITTED BY:

John S. Vania
Regional Management Coordinator

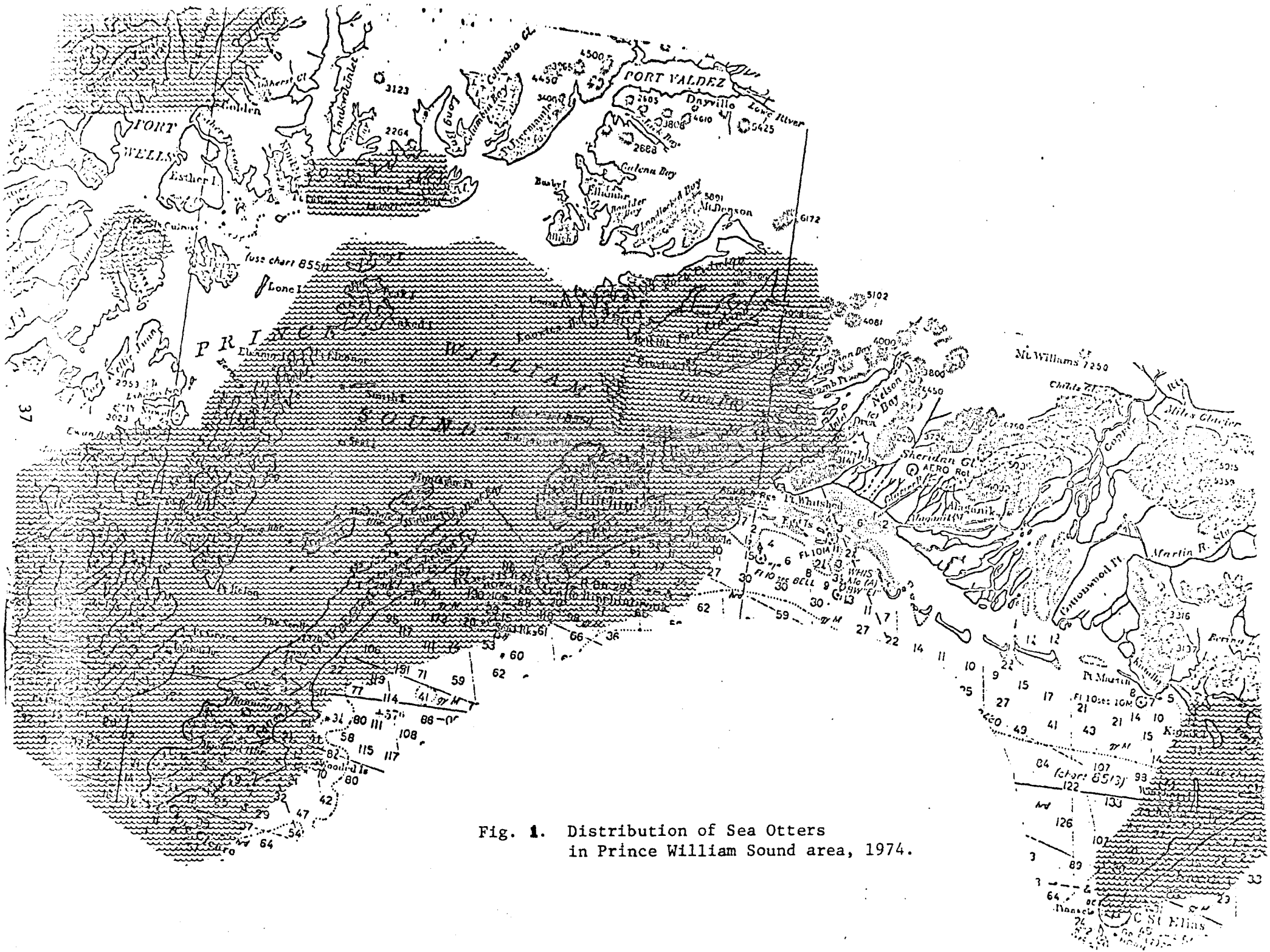

Fig. 1. Distribution of Sea Otters in Prince William Sound area, 1974.

SEA LION

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Units 1-26 - Coastal Waters

Seasons and Bag Limits

No closed season — No limit*

*Provided that the taking of sea lions for commercial purposes in excess of 10 is permitted only under the terms of a permit that may be issued by the Commissioner in consideration of conservation requirements.

Note: On December 21, 1972 the Marine Mammals Protection Act of 1972 went into effect. This act nullified all state laws relating to the taking of all marine mammals including sea lions and placed the authority for regulating the take of sea lions under the Secretary of Commerce of the United States. Indians, Aleuts and Eskimos are permitted to take sea lions however, without any limit provided it is not done in a wasteful manner.

Harvest and Hunting Pressure

No harvest data are available. Some very limited subsistence hunting by Alaskan Natives and depredation killing by commercial fisherman undoubtedly took place but probably did not total 500 animals.

Composition and Productivity

Two helicopter shoreline surveys of the Prince William Sound area were conducted in June 1973 and March 1974 to determine abundance and distribution of marine mammals. All rookeries and hauling grounds were photographed and the numbers of sea lions counted from the photos (Appendix I). Summer hauling grounds and rookeries identified include; Cape St. Elias, Seal Rocks, Lewis Island, The Needle and Pt. Elrington all of which are located in outside waters. During winter, sea lions haul out on all these areas plus Glacier Island, Perry Island and Point Eleanor, which are located in inside waters.

Numbers of sea lions counted during the two surveys were similar, 5,134 during June and 4,614 in March. No difference in winter and summer population size can be detected. A minimal total estimate for the area is 6,500 - 7,500 sea lions.

A report detailing the data from both surveys is now being prepared.

Management Summary and Conclusions

Since the Marine Mammals Protection Act went into effect no significant harvest of sea lions has occurred. Sea lion populations appear to be at or near carrying capacity of their habitat in most areas.

Recommendations

There are no biological reasons for not harvesting sea lions if proper controls are exerted. In specific areas where fishery-sea lion depredation conflicts occur, it may be benefical to have reduced populations. The State of Alaska should continue to work towards obtaining management authority so utilization of this renewable resource can occur.

PREPARED BY:

Kenneth W. Pitcher
Game Biologist III

SUBMITTED BY:

John S. Vania
Regional Management Coordinator

Appendix I. Summary of sea lion rookery and hauling ground counts, Prince William Sound area.

Area	June 1973 Survey	March 1974 Survey
Cape St. Elias	1566	505
Seal Rocks	1733	1750
Lewis Island	1269	1114
The Needle	236	568
Glacier Island	0	55
Pt. Eleanor	0	91
Perry Island	0	153
Pt. Elrington	250	339

HARBOR SEAL

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Units 1 - 16 - Coastal Waters

Seasons and Bag Limits

June 20 - July 31	No Limit
Oct. 15 - April 30	

Note: On December 21, 1972 the Marine Mammals Protection Act went into effect. This act nullified all state laws relating to the taking of all marine mammals including seals and placed the authority for regulating the take of seals under the Secretary of Commerce of the United States. Indians, Aleuts, and Eskimos are permitted to take seals however, without any limit provided it is not done in a wasteful manner.

Harvest and Hunting Pressure

No harvest data are available. Some subsistence hunting by Alaskan natives took place but the harvest probably did not exceed 1,000 animals.

Composition and Productivity

An aerial survey at Port Heiden indicated that the seal population there is stable. For the first time, intensive survey work was conducted in the Prince William Sound area. Two surveys, one in June 1973 and the other in March 1974, were conducted with helicopters to determine distribution and abundance of harbor seals, sea lions and sea otters. During June 5,640 seals were seen and in March 3,165. Population size far exceeds these figures, and is probably over 20,000. Seals are very difficult to see; when under water they can be seen only under the most favorable conditions, i.e. clear, shallow water with good lighting. Even on the surface, seals are difficult to see and many are missed. Useful information on harbor seal distribution, concentrations and hauling areas was obtained but cannot be considered complete due to shortcomings of the survey technique.

A report detailing the data from both surveys is being prepared.

Management Summary and Conclusions

No significant harvest of harbor seal has occurred since the Marine Mammals Protection Act went into effect. Seal populations appear to be at or near carrying capacity of their habitat in most areas.

Recommendations

There are no biological reasons for not harvesting harbor seals if proper controls are exerted. The State of Alaska should continue to work toward obtaining management authority so that utilization of this valuable renewable resource can take place.

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SUBMITTED BY:

John S. Vania
Regional Management Coordinator

MOUNTAIN GOAT

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Subunits 1A and 1B - Southeast Mainland, south from Cape Fanshaw

Seasons and Bag Limits

Aug. 1 - Dec. 31 — Two goats

Harvest and Hunting Pressure

Goat harvest tickets were initiated in 1972 and harvest figures and hunter data are obtained from these ticket returns. Data from this system for Subunit 1A show 133 reporting hunters took 60 goats (60% males) in 1973 and 70 reporting hunters took 32 goats (62.5% males) in Subunit 1B. Of the 50 successful hunters reporting for Subunit 1A, 20 percent took the limit of two goats. In Subunit 1B, 14 percent of the 28 successful hunters took two goats.

Percent of kill by nonresidents was 22 in Subunit 1A and 12 in Subunit 1B. Of the 569 reporting goat hunters in all of Unit 1, 13 percent were nonresidents.

Chronology of the goat harvest shows 12 percent of the Subunit 1A kill occurred in August and November, 43 percent in September and 30 percent in October. No goats were taken in December, and for 3 percent no date was given. In Subunit 1B, 34 percent of the harvest occurred in August, 9 percent in September, 16 percent in October, 28 percent in November, 3 percent in December and 9 percent occurred in unspecified months.

Goat range in Subunit 1B is closer to the population centers of Wrangell and Petersburg and late-season hunting is easier and more popular than in Subunit 1A. Most late-season goat hunting is done by boat and it is more difficult to reach goat ranges from Ketchikan.

Comparable harvest data for 1972 show 48 goats (48% males) taken in Subunit 1A and 37 goats (38% males) taken in 1B. This indicates an increase in the 1973 harvest of 25 percent for Subunit 1A and a decrease of 14 percent for Subunit 1B.

Total goats taken in all of Unit 1 in 1972 was 290, a 39 percent increase over the 209 goats taken in Unit 1 in 1972.

Composition and Productivity

Three flights were made over two established transects which had been flown in 1968 and 1971. Survey results indicated a substantial decline in goat populations from previous surveys in both areas. The following results were obtained from the area between Wilson Arm and Boca de Quadra:

August 16, 1973 - 90 adults and 13 kids in 65 minutes of survey time
September 16, 1973 - 75 adults and 13 kids in 60 minutes of survey time.

In 1971, 155 adults, 56 kids and 9 unknown age goats were seen in 70 minutes of survey time, while 193 adults and 72 kids were counted in 80 minutes of survey time in 1968.

The area east of the Marten River and north of Hidden Inlet was flown for 85 minutes on August 20, 1973 and 59 adults and 22 kids were observed. This same area flown for 83 minutes in 1971 produced 133 adults, 34 kids and 1 goat of unknown age. The 1968 survey of this area showed 298 adults and 73 kids in 115 minutes of survey time.

The indicated reductions in goat populations are probably a result of losses during the severe winters of 1968-1969, 1970-71 and 1971-72. The past two winters have been relatively mild and the goat population should show an increase this fall.

Management Summary and Recommendations

Even though the kill has shown a slight increase while the goat population has dropped substantially, I see no need for reduction of seasons or bag limits. Most of the goat range is difficult to reach and hunting pressure is light except in the areas of easy access, such as the higher lakes.

Substantially more survey work should be done during the next few years, particularly oriented toward defining wintering ranges.

PREPARED BY:

Robert E. Wood
Game Biologist III

SUBMITTED BY:

Harry R. Merriam
Regional Research/Management Coordinator

MOUNTAIN GOAT

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Subunit 1C - Juneau

Seasons and Bag Limits

Aug. 1 - Dec. 31 Two goats

Harvest and Hunting Pressure

Harvest ticket returns indicate 216 people hunted for goats in Subunit 1C during the 1973-74 season. Of these 216 hunters, 93 (43.1%) bagged 112 goats for an average of 0.52 goats per hunter. Sex ratio of the harvest was evenly divided. Harvest data are based upon a statewide return of 72 percent of the issued harvest tickets. Extrapolated, these data indicate 302 hunters spent approximately 1,100 days to bag 157 goats in this subunit.

General harvest statistics, chronology of harvest and percent frequency of mode of transportation per month for the 1973-74 season are shown in Appendix I. Nonresident hunters had higher hunter success (73.3%) that resident hunters (40.8%). Eighty-two percent of the harvest occurred prior to December. The majority of the harvest from October through December was accomplished with boat transportation. Sixty-two percent of the harvest by boat came from Endicott and Tracy Arms, both of which are susceptible to boat hunting. Since July 1, 1972 game regulations have made it illegal to shoot big game animals (except wolves) from a boat in Region I. Although shooting big game from a boat is illegal, protection officers have indicated difficulty in enforcing the new regulation. The increase in late season boat usage, when goats are at relatively low elevations, indicates illegal boat hunting probably did occur. Therefore, a season extension to January 31 which has been suggested by various individuals, cannot be justified.

Goat harvests, numbers of hunters and hunter success for the 1972-73 and 1973-74 seasons are given below.

Season	No. of Males	No. of Females	Total No. Goats	No. Hunters Taking 2	Total No. Success. Hunters	Total No. Hunters	Percent Hunters Success.
1972-73	36	34	70	10	50	149	40.3
1973-74	56	56	112	25	93	216	43.1

Examination of these data reveals the following increases over the 1972-73 season: 45 percent increase in numbers of hunters, 60 percent increase in total number of goats harvested and a 100+ percent increase in numbers of hunters bagging two goats. Of the 60 percent increase in total harvest, most of the increase occurred on areas adjacent to the Juneau road system.

Composition and Productivity

Composition and population counts for Subunit 1C are shown in Appendix II. The Bullard to Stroller White Mountain trend areas had a smaller number of goats, but a higher kid per 100 adults ratio in 1973 than in 1972. Other trend areas produced similar counts, indicating that overall goat populations in Subunit 1C were smaller in 1973.

Reasons for the probable decline in goat numbers are not known, however, it is likely severe winter weather over the past three years has been a major limiting factor. Local goat population declines, particularly in the Juneau area, can, in part, be attributed to increased hunting pressure.

Management Summary and Conclusions

Goat populations in Subunit 1C were lower in 1973 than in 1972. Productivity as reflected by kid:adult ratios was up however, indicating goat populations were beginning to rebound from the severe winters of 1970-71 and 1971-72. Some local declines in goat populations can, in part, be attributed to increased hunting pressure. Overall, however, hunting does not appear to be a limiting factor for Subunit 1C. Therefore, no changes in season or bag limit are recommended.

Analyses of modes of transportation used by successful hunters show that during early portions of the season aircraft and highway vehicles are used as the primary means of transport. In contrast, during the later portion, boats are the primary means of transport. A major portion of the harvest later in the season comes from the Endicott and Tracy Arms areas. Both of these areas are susceptible to hunting from boats, thus some illegal hunting may be occurring.

Recommendations

No season or bag limit changes for most of Subunit 1C are recommended at this time.

Goat populations and hunter activity adjacent to the Juneau road system should be monitored closely during the 1974-75 season. If goat populations continue to decline the season should be closed by emergency announcement. Methods of regulating hunting pressure during periods when goats are most susceptible to hunters will be devised for the 1975-76 season.

Increased law enforcement effort should be directed toward the Endicott and Tracy Arms areas during the later portion of the season.

PREPARED BY:

Warren Ballard
Game Biologist
SUBMITTED BY:

Harry R. Merriam
Regional Research/Management Coordinator

APPENDIX I

General Goat Harvest Statistics for Subunit 1C as Derived from Hunter Harvest Tickets 1973-74

	No. Success. Hunters	No. Unsuccess. Hunters	Total Goat Harvest	Percent Hunter Success
Resident	82	119	98	40.8
Nonresident	11	4	12	73.3
Subtotal	93	123	110*	43.1

*Two goats not included were unspecified as to hunter residence.

CHRONOLOGY OF HARVEST

	Consecutive 7-day Time Periods																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Unk.
# Goats	7	4	15	4	3	4	17	7	3	2	2	1	4	8	6	2	3	4	1	1	5	8	1
Cumulative %				26.8				54.5				61.6				79.5			87.5				100.0

Percent Frequency of Mode of Transportation per Month of Harvest

MODE	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
% Highway Vehicle	33.3	28.6	33.3	22.2	5.9
% Boat	16.7	35.7	41.7	72.2	88.2
% Aircraft	50.0	35.7	25.0	5.6	5.9

Prepared by: Warren Ballard, Game Biologist II

APPENDIX II

Goat Numbers and Age Ratios Obtained from Fixed-Wing Aircraft Surveys of Selected Mountains in Subunit 1C.

	Survey Year					
	1962		1972		1973	
Survey Area	Kids/100 Adults	Total Animals	Kids/100 Adults	Total Animals	Kids/100 Adults	Total Animals
Bullard Mountain			13	9	22	11
Goat Mountain			0	5	0	3
McGinnis Mountain			21	40	37	26
Stroller White Mountain			21	35	20	24
Subtotal	20	177	19	89	26	64
Tear Drop Lake			31	34	20	18
William Henry Mountain			11	68	27	52

Prepared by: Warren Ballard, Game Biologist II

MOUNTAIN GOAT

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Subunit 1D - Haines

Seasons and Bag Limits

Aug. 1 - Dec. 31 Two goats

Harvest and Hunting Pressure

Harvest ticket data, based upon a 72 percent return of issued tickets, indicate there were 150 hunters. Of that total, 66 hunters (44%) bagged 87 goats for an average of 0.58 goats per hunter. Extrapolated, the data indicate 209 hunters expended 750 days to bag 112 goats. Sex ratio of the harvest was 53 percent male and 47 percent female.

Chronology of the harvest was as follows: August - 23, September - 28, October - 13, November - 5 and December - 13.

Modes of transportation of successful hunters were as follows: highway vehicles - 26, boats - 21, airplanes - 15, snow machines - 9 and off-road vehicles - 6.

Comparison of the 1972 with the 1973 season is shown below.

	Goat Harvest				No. Hunters Taking 2		Total No.	Percent Hunter
Season	Males	Females	Unknown	Total	Goats	No. Successful Hunters	Hunters	Success
1972	33	19	3	55	11	44	117	37.6
1973	45	39	3	87	25	66	150	44.0

All figures show increases for the 1973 season. The overall increase in goats harvested was 56 percent, while the increase in numbers of hunters was only 28 percent. Considering the large acreages of available habitat in Unit 1D, the annual harvests for the past several years have probably been insignificant to the population. However, those areas with easy access are receiving greater hunter utilization and therefore the potential exists for localized overhunting.

Composition and Productivity

Population counts on trend areas established during the reporting period are shown in Appendix I. Since this was the first year for the survey, no population trend can be ascertained. However, area residents and pilots are of the opinion that goat populations in the northern half of the unit have declined drastically during the past 3-4 years. Most believe the decline is due to severe winter weather.

Management Summary and Conclusions

The impact of hunting on goat populations is not known. However, since most of the goat range in Unit 1D has difficult access, hunting is probably not a limiting factor except in those areas adjacent to road systems.

Recommendations

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

Trend count areas should be established adjacent to road systems and in the northern portions of the unit.

PREPARED BY:

Warren Ballard
Game Biologist

SUBMITTED BY:

Harry Merriam
Regional Research/Management Coordinator

APPENDIX I

Goat Numbers and Age Ratios for Survey Areas
Established in 1973 - GMU 1D

Survey Area Location	Date	Kids/100 Adults	Total Goats Observed
Davidson Glacier to McClellan Flats	9/18/73	11	42
Henry Clay Mountain	9/19/73	35	81
Sullivan Mountain	9/18/73	14	33
Sullivan River	9/18/73	9	35
Takhin Ridge	9/19/73	23	132

Prepared by: Warren Ballard, Game Biologist II

MOUNTAIN GOAT

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 4 - Admiralty, Baranof, Chichagof and adjacent islands

Seasons and Bag Limits

Chichagof Island	No open season	
Remainder of Unit 4	Aug. 1 - Dec. 31	Two goats

Harvest and Hunting Pressure

Harvest statistics for the 1973-74 regulatory year were derived from an analysis of harvest ticket returns. These data showed 24 goats were taken, 11 of which were males and 13 were females. Chronologically, 9 goats were taken in August, 7 in September, 5 in October 1 in November and 2 in December. Only four hunters took the legal limit of two animals. There appeared to be an increased interest in goat hunting by local hunters in 1973.

The goats on Baranof Island generally occupy extremely rugged and remote terrain and hunting is difficult. It is very unlikely that adverse effects by sport hunting pressure will ever be exerted on the goats in Unit 4.

Composition and Productivity

An aerial survey in early September 1973 was conducted over all areas known to be occupied by goats on Baranof Island. Survey conditions were favorable and an experienced survey pilot was used. The largest number of goats ever recorded on Baranof Island (253) was seen during that survey. Fifty of the animals were kids, for a kid:adult ratio of 24.7:100. Compared to other areas of the state, this appeared to be average productivity.

Management Summary and Conclusion

Except for local situations, perhaps the Katlian and Nakwasina drainages where goats are sometimes rather readily accessible, sport hunting pressure does not appear to be a serious factor on Unit 4 goat populations. Productivity appears adequate and the animals appear to be extending their range southward.

Recommendations

Annual population assessments should be made through aerial surveys in August-September to record the rate of dispersal into new areas on southern Baranof Island and assess productivity.

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

PREPARED BY:

Loyal J. Johnson
Game Biologist III

SUBMITTED BY:

Harry R. Merriam
Regional Research/Management Coordinator

MOUNTAIN GOAT

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 5 - Yakutat

Seasons and Bag Limits

Aug. 1 - Dec. 31 Two goats

Harvest and Hunting Pressure

Harvest ticket returns revealed a total of 32 hunters, 10 of which bagged 13 goats (31% success).

Comparison of general harvest statistics for the 1973-74 season with those from the 1972-73 season is given below.

Year	No. of Males Harvested	No. of Females Harvested	Unknown Harvested	Total Harvest	No. Hunter Taking 2 goats	No. of Success Hunters	Total No. of Hunters	Percent Hunter Success
1972-73	19	13	1	33	3	30	55	54.5
1973-74	10	3	-	13	3	10	32	31.3

All indices, with the exception of number of hunters taking 2 goats, indicate that the 1973-74 season was considerably poorer than the previous season. The decline in total harvest coincides with the change in moose regulations (elimination of the October and November season) which in past years made possible a mixed species bag in Unit 5.

Composition and Productivity

Population counts for 1971 and 1973 are shown below.

Location	Date	Kid/100 Adults	Total Count
Brabazon Range (Harlequin Lake to Novatak Glacier)	10/5/71	32.8	283
Brabazon Range (entire area)	9/16/73	16.7	63
East Nunatak Fiord	9/24/73	20.0	42
East Alsek River	9/21/73	10.0	33

Comparison of the population counts taken on the Brabazon Range in 1971 and 1973 reveals that the goat population in that area has significantly declined. Reasons for the population decline are not known, however, severe winters are thought to be a major factor. The effects of hunting on goat populations are not known, but since the annual harvest for the unit has been so small its influence has probably been insignificant.

Management Summary and Recommendations

All population count and harvest indices indicate that the 1973-74 goat population was lower than those of the previous two seasons. Reasons for the decline are believed, in part, to be severe winter weather.

Although the Unit 5 goat population is relatively low, most of the areas occupied by goats are fairly inaccessible and thus no changes in bag limit or season length are justified at this time.

PREPARED BY:

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SUBMITTED BY:

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Regional Research/Management Coordinator

MOUNTAIN GOAT

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 6 - Prince William Sound

Season and Bag Limits

August 1 - January 31 Two goats

Harvest and Hunting Pressure

One hundred and thirty-eight mountain goats were taken in Game Management Unit 6 during the 1973-1974 season according to harvest report data. This is an increase of 44 percent over the reported harvest of 77 goats during the 1972-1973 season.

The portion of Prince William Sound from Columbia Glacier south to the Copper River receives the majority of hunting pressure and contributes about 50 percent of the goats harvested in Unit 6 (Appendix I.).

The percent of males in the 1973-1974 harvest was 67.4 percent which is comparable to the 1972-1973 take of 63.6 percent males.

The chronology of the harvest (Appendix II) indicates that approximately 70 percent of the harvest occurs during the first half of the season (August, September and October). Weather is probably the major deterrent from November through January.

Resident hunters accounted for 74 percent of the harvest and overall hunter success was 41 percent (Appendix III).

A portion of the Copper River Highway was open during the fall which allowed road hunters from Cordova access to Goat Mountain for the first time since the 1964 earthquake. The reported harvest of 10 goats is minimal. The harvest was probably closer to 20 animals.

Composition and Productivity

Six areas in Unit 6 were flown during 1973 to determine composition, abundance and/or distribution of goats (Appendix IV). A total of 745 goats were counted of which 22 percent was kids.

The Suckling Hills, which were last counted in 1970, showed a 23 percent reduction in numbers of goats.

Management Summary and Conclusions

This year's harvest of 138 goats is probably more realistic than the 77 reported in 1972-1973. Possibly poor compliance with the use of

goat harvest reports the first year they were required accounted for the difference in reported kill for the two seasons.

The reduction of goats on Suckling Hills may be attributed to survey conditions or natural causes. Hunters have only reported 3 goats being taken off Suckling Hills in the past two seasons.

A comparison of mountain goat distribution and abundance with the reported harvest indicates that hunting under the present regulations is not adversly affecting the Unit 6 goat resource.

Recommendations

Retain the present season and bag limits.

PREPARED BY:

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Game Bilogist III

SUBMITTED BY:

John S. Vania
Regional Management Coordinator

APPENDIX I

Mt. Goat - Unit 6

Sex Composition of Harvest by Area

Code	Area	Male	Female	Unk.	Total Harvest	Number* Hunters
6-01	East of Suckling Hills to Icy Bay	9	1		10	7
6-02	Bering Lake-Berg Lake Area	7	3		10	12
6-03	Suckling Hills	2	1		3	2
6-04	Ragged Mountains	10	2		12	16
6-05	Goat Mountain	3	7		10	12
6-06	Rude River to Copper River	27	5		32	54
6-07	Valdez Arm to Rude River	18	7	2	27	54
6-08	Valdez Area	7	5		12	42
6-09	Port Wells-Columbia Glacier	1	0		1	2
6-10	Unit 6 Unknown	3	3		6	52
6-11	Whittier - Port Wells	1	2		3	7
6-12	Kings Bay - Puget Bay	5	7		12	24
	Unit 6	93	43	2	138	284
		67.4%	31.2%	1.4%	100.0%	

* The best educated guess based upon the data available!

PREPARED BY: Julius Reynolds, Game Biologist III

APPENDIX II

Mt. Goat - Unit 6

Chronology of Harvest

1973 - 1974

Year	Month	Number	Percent
1973	August	28	20.3
1973	September	35	25.4
1973	October	31	22.5
1973	November	15	10.9
1973	December	6	4.3
1974	January	14	10.1
1974	Unknown	9	6.5
Total		138	100.0

PREPARED BY: Julius Reynolds, Game Biologist III

APPENDIX III

Mt. Goat - Unit 6

Goat Hunter Distribution of Success

1973 - 1974

	Number	Percent
Hunters killed 0	165	58.9
Hunters killed 1	92	32.9
Hunters killed 2	23	8.2
Total	280	100.0

Goat Harvest by Residency

	Goats	Percent
Resident	102	73.9
Non resident	27	19.5
Unknown	9	6.5
Total	138	99.9

PREPARED BY: Julius Reynolds, Game Biologist III

APPENDIX IV

Mt. Goat - Unit 6

Composition and Productivity Surveys

Area	Date	Adults	Kids	Total	Kids per 100 Adults	% Kids in Total Population
Don Miller Hills	8/14/73	56	14	70	25.0	20.0
Suckling Hills	8/14/73	40	24	64	60.0	37.5
Martin, Tokun, Bering Ridge	8/15/73	11	3	14	27.3	21.4
Ragged Mountains	8/15/73	117	32	149	27.4	21.5
Fidalgo-Jack Bay	8/18/73	335	89	424	26.6	21.0
Mt. Hamilton-Kushtaka Ridge	9/11/73	23	1	24	4.3	4.2
Total		582	163	745	28.0	21.9

PREPARED BY: Julius Reynolds, Game Biologist III

MOUNTAIN GOAT

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 7 - Seward

Seasons and Bag Limits

Unit 7, that portion draining into salt water south and east of Fourth of July Creek.	Aug. 10-Dec. 31	Two goats
Unit 7, that portion west of a line along Sixmile Creek from its mouth near Hope to the Seward Highway, along the Seward Highway to Ptarmigan Creek; north of a straight line from Ptarmigan Creek bridge to Porcupine Island in Kenai Lake, then a straight line from Porcupine Island to the head of Upper Russian Lake; east of the Russian River from Upper Russian Lake to Kenai River and north of the Kenai River from the confluence of Russian River to the Unit 15 boundary.	No open season	
Remainder of Unit 7	Aug. 10-Nov. 15	One goat

Harvest and Hunting Pressure

The 1973 reported harvest was 166 goats taken by 501 hunters for a success rate of 33.1 percent (Appendix I). Males comprised 56.0 percent (93/166) of the harvest, females 42.8 percent (71/166) and unknown sex 1.2 percent (2/166).

Hunters afield increased 66.9 percent from 305 in 1972 to 501 in 1973. Hunter success declined 17.7 percent from 40.2 percent in 1972 to 33.1 percent in 1973 and the harvest increased 30.7 percent.

Comparing the harvest to the minimum goat population by count area (i.e. the number of goats observed on the most recent survey), there are areas that appear to have been overharvested (Appendix II). In four count areas, 2, 6, 8 and 19, the reported harvest equalled or exceeded the number of kids observed on the most recent survey. In four count areas, 5, 7, 10 and 28, the reported harvest exceeded 40 percent of the number of kids observed on the most recent survey. Studies conducted in Washington, South Dakota, Montana and Idaho

indicate that kid survival averages about 40 percent. There is no reason to believe that survival of kids in Alaska is better than in these states. Considering that the reported harvest was a minimum figure and crippling losses and non-retrievable kills were thought to be significant, it appears that overharvest may have occurred in these count areas.

Numbers, Composition and Productivity

Age composition counts were conducted in 9 count areas in 1973, however, the 3 trend count areas were not surveyed. Appendix III provides a comparison of 1973 survey data and 1968 data. The total number of goats observed in the 9 count areas declined 10.3 percent from 390 in 1968 to 350 in 1973. Numbers declined in 4 areas and increased in 5 areas between 1968 and 1973.

Three count areas, 14, 15 and 20, have been closed to goat hunting since 1971. Goat numbers in all three areas have increased slowly since they were closed. In count area 15 numbers were higher in 1973 than in 1968, while in count areas 14 and 20 numbers have not yet risen to the 1968 level. Kids/100 adults was 30.1 in 1973, 14.6 percent below the 1968 level of 36.4.

Management Summary and Conclusions

Hunting pressure increased 66.9 percent from 1972 to 1973 and the harvest increased 30.7 percent. In 8 of 23 count areas the harvest appears to have exceeded the sustained yield level. The large increase in the harvest in certain count areas points out the need for a more closely monitored system for regulating the harvest where access is relatively easy. Shortening seasons would probably not produce the desired results but would concentrate hunting into a shorter time period. Permits appear to offer the best means of controlling hunting pressure and harvest.

Recommendations

The goat season, in areas of excessive harvest, should be closed early in 1974 by field announcement. Closure on September 1 should reduce the harvest by over 60 percent.

Goat hunting in all of Unit 7, except the area east of Ellsworth Glacier and Day Harbor and the area west of Bear Glacier, should be placed on a permit basis. The area should be divided along count area lines and a given number of permits issued in each area commensurate with the desired harvest.

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Game Biologist III

SUBMITTED BY:

John S. Vania
Regional Management Coordinator

Mountain Goat - GMU 7 - Seward

Appendix I

Goat Harvest Unit 7 Total

Year	Males	%	Females	%	Unk.	%	Total	Hunters	Percent Success
1969*	52	(66.7)	24	(30.8)	2	(2.6)	78	--	--
1972	68	(53.5)	57	(44.9)	2	(1.6)	127	305	40.2
1973	93	(56.0)	71	(42.8)	2	(1.2)	166	501	33.1

PREPARED BY: Paul A. LeRoux, Game Biologist III

* Based upon multi-species questionnaire on harvest report packet; believed to be low total.

Mountain Goat - GMU 7 - Seward
Appendix II

1973 Harvest by count area and composition from most recent survey.

Count Area	Harvest				Composition			Year of Survey	Harvest Percent of Total Goats	Kids
	Males	Females	Unk	Tot	Ad	Kids	Tot			
1	0	0	0	0	12	2	14	1974	--	--
2	3	4	0	7	22	5	27	1974	25.7	140.
3	3	1	0	4	62	18	80	1973	5.0	22.2
4	1	1	0	2	73	13	86	1972	2.3	15.4
5	6	9	0	15	84	33	117	1974	12.8	45.5
6	6	6	0	12	20	6	26	1974	46.2	200.0
7	4	5	1	10	54	19	73	1973	13.7	52.6
8	36	27	1	64	120	30	150	1972	42.7	213.3
9	1	5	0	6	46	16	62	1972	9.7	37.5
10	5	1	0	6	34	8	42	1974	14.3	75.0
11	1	2	0	3	29	11	40	1968	7.5	27.3
12	0	1	0	1	44	13	57	1973	1.8	7.7
13*	1	2	0	3	0	0	0	1974	***	***
14*	0	0	0	0	2	0	2	1974	0.0	0.0
15*	1	0	0	1	11	4	15	1974	6.7	25.0
17	2	0	0	2	123	34	161**	1971	1.2	5.9
19	1	0	0	1	8	1	9	1968	11.1	100.0
20*	0	0	0	0	7	3	10	1973	0.0	0.0
26	1	0	0	1	12	4	16	1974	6.3	25.0
27	2	0	0	2	61	26	87	1969	2.3	7.7
28	2	0	0	2	23	3	26	1973	7.7	66.7
30	2	0	0	2		Unsurveyed		--	--	--
31	0	0	0	0		Unsurveyed		--	--	--
Unk.	6	6	0	12	--	--	--	--	--	--
	93	71	2	166						

* No open season
** Includes 4 unclassified
*** This area has been surveyed annually since 1968 and no goats have been observed. Goats reported killed in this area are most likely misreported.

PREPARED BY: Paul A. LeRoux, Game Biologist III

Mountain Goat - GMU 7 - Seward
Appendix III

Goat Numbers and Age Ratios Unit 7 1968 and 1973

Count Area	Adults		Kids		Total		Kid/100 Ad.		% Kids	
	68	73	68	73	68	73	68	73	68	73
1	48	12	21	2	69	14	43.8	16.7	30.4	14.3
2	60	56	22	20	82	76	36.7	35.7	26.8	26.3
3	50	62	19	18	69	80	38.0	29.0	27.5	22.5
7	46	54	16	19	62	73	34.8	35.2	25.8	26.0
12	26	44	9	13	35	57	34.6	29.5	25.7	22.8
14	22	1	10	0	32	1	45.5	0.0	31.3	0.0
15	4	10	2	3	6	13	50.0	30.0	33.3	23.1
20	18	7	3	3	21	10	16.7	42.8	14.3	30.0
28	12*	23	2*	3	14*	26	16.6*	13.0	14.3*	11.5
Total	286	269	104	81	390	350	36.4	30.1	26.7	23.1

* This data from 1969 since that was the earliest survey conducted in the area.

PREPARED BY: Paul A. LeRoux, Game Biologist III

Mountain Goat - GMU 7 - Seward
Appendix IV

Goat numbers and age ratios, Unit 7, 1968-72

Year	Count area 4 Trend area 1		Count area 5 Trend area 2		Count area 8 Trend area 3		Combined Trend areas 1, 2 & 3	
	Kids/ 100 Ad	Total Animals	Kids/ 100 Ad	Total Animals	Kids/ 100 Ad	Total Animals	Kids/ 100 Ad	Total Animals
1968	35.2	207	22.5	60	38.2	170	34.5	437
1969	28.5	144	37.8	120	*	*	32.3	246
1970	27.0	155	23.5	105	22.3	217	28.5	476
1971	26.8	90	30.6	64	19.5	147	23.9	301
1972	17.8	86	37.9	80	25.0	150	25.9	316
1973	Not Surveyed		Not Surveyed		Not Surveyed		--	--

PREPARED BY: Paul A. LeRoux, Game Biologist III

MOUNTAIN GOAT

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 8 - Kodiak and Adjacent Islands

Seasons and Bag Limits

Sept. 1 - Oct. 30	15 goats by permit only; conditions of the hunt to be described by Commissioner's announcement.

Harvest and Hunting Pressure

The 1973 goat harvest totaled 15 animals; 7 males and 8 females (Appendix I). Thirty-two permits were issued and 26 hunters actually went into the field. Hunter success was 58 percent. Hunters took the recommended harvest for the first time since the hunt began in 1968 (Appendix II). Good weather persisting into late October contributed to hunting success. Nine kills were made in September and 6 were made in October. All the kills were made in the Crown Mountain-Hidden Basin vicinity. Two of the successful hunters hunted from Terror Lake and the other 13 hunters began their hunts from Hidden Basin. Aircraft transportation was used by 12 successful hunters while 3 used boats.

Composition and Productivity

An aerial survey conducted on September 18, 1973 produced the highest total count since surveys were begun in 1956 (Appendix III). One hundred and twelve goats were seen during 1.9 flying hours. The kid/adult ratio was 27.3/100, considerably lower than the 42.1/100 recorded in 1972. However, the total kid sightings was only three less than in 1972. Since no attempt was made to separate sex or age classes beyond kids and adults, better than average survival in yearling animals could account for part of this. The survey was flown later in the year than most previous surveys and goats were relatively easy to spot. The lack of significant snow cover undoubtedly contributed somewhat to the relatively high total count.

Management Summary and Recommendations

Sufficient hunting pressure exists to take the current recommended harvest of goats, given good weather conditions during the two-month season. Age composition data and total counts indicate that the population is gradually increasing. The present seasons and bag limits should be retained.

PREPARED BY:

Roger B. Smith
Game Biologist III

SUBMITTED BY:

John S. Vania
Regional Management Coordinator

APPENDIX I

Unit 8 - Mountain Goat Harvest Statistics, 1973*

	No.	Percent
Permits issued	32	100%
Permit holders reporting	32	100%
Reporting permit holders who hunted	26	81%
Successful hunters	15	58%
Mean days hunted per successful hunter	2.7	--
Males harvested	7	47%
Females harvested	8	53%
Total harvest	15	100%

*From hunter interviews

PREPARED BY: Roger B. Smith, Game Biologist III

APPENDIX II

UNIT 8 - MOUNTAIN GOAT HARVEST STATISTICS, 1968 - 1973

Date	Season Dates	Number Permits Issued	Number Hunters Afield	Percent Hunter Success	Number Goats Harvested	Conditions of the Hunt
1968	Sept. 1-30	10*	9	67%	6 (3 M, 3 F)	10 goats by permit; public drawing
1969	Sept. 1-30	10*	11	55%	6 (5 M, 1 F)	10 goats by permit; public drawing
1970	Sept. 1-30	15	8	63%	5 (4 F, 1 UKN)	15 goats by permit; public drawing
1971	Sept. 1 - Oct. 30	25	8	50%	4 (1 M, 3 F)	15 goats by permit; public drawing
1972	Sept. 1 - Oct. 30	40	21	48%	10 (3 M, 4 F, 3 UKN)	15 goats by permit; To be closed by field announcement
1973	Sept. 1 - Oct. 30	32	26	58%	15 (7 M, 8 F)	15 goats by permit; To be closed by field announcement

*5 additional alternate permits issued

PREPARED BY: Roger B. Smith, Game Biologist III

APPENDIX III

Unit 8 - Mountain Goat Sex and Age Composition Counts, 1952-1973

Date	Adult (may include sub-adults)	Kid	Total	Kid/100 Adult	% Kids in Total Count	Observer	Flight Time (Hrs.)
1952-1953	7 males and 11 females, total 18 animals transplanted to Crown Mountain.						
1954			Zero Data				
1955			Zero Data				
1956	-	-	5			Unsigned, undated report.	
1957	2	2	4	100.0	50.0	"	
1958	4	2	6	50.0	33.3	"	
9-19-1959	5	2	7	40.0	28.6	Will Troyer	—
1960			Zero Data				
1961			Zero Data				
1962	14	8	22	57.1	36.3	Will Troyer	—
1963	18	8	26	44.4	30.7	Will Troyer	—
1964	13	13	26	100.0	50.0	Will Troyer	—
1965	22	13	35	59.0	37.1	Will Troyer	--
9-20-1966	38	16	54	42.1	29.6	B. Ballenger	--
9-05-1967	39	19	58	48.8	32.7	B. Ballenger	--
12-20-1968	57	14	71	24.5	19.7	B. Ballenger	2.2
8-05-1969	73	15	88	20.5	17.0	B. Ballenger	2.4
8-22-1970	61	20	81*	32.7	24.7	B. Ballenger	--
1971			Zero Data*				
7-27-1972	64	27	91	42.1	29.7	B. Ballenger	2.3
9-18-1973	88	24	112	27.3	21.4	R. B. Smith	1.9

* "Much snow cover on high elev., goats hard to spot."--B. Ballenger.

PREPARED BY: Roger B. Smith, Game Biologist III

MOUNTAIN GOAT

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 11 - South side of Wrangell Mountains and eastern portion of Chugach Mountains

Seasons and Bag Limits

Aug. 10 - Dec. 31	Two goats

Harvest and Hunting Pressure

Harvest report data for Unit 11 during 1972 and 1973 are compared in Appendices I and II. The goat harvest almost doubled between 1972 and 1973. These data indicate that the increased harvest was because more hunters spent more days in the field with a resulting higher success ratio. The man-days spent hunting by successful hunters were 205 days in 1972 and 423 days in 1973. In 1973 a greater percentage of the hunters killed goats later than in the 1972 season. (Appendix II). The combined information suggests that a large increase in numbers of hunters combined with mild weather allowed longer and, therefore, more successful hunts.

A comparison of the harvest reporting subunits (not shown) suggests the distribution of the goat harvest correlated more with areas receiving heavy sheep hunting pressure than with areas containing more abundant goat populations. This reinforces an assumption that goats may serve as an alternate game species for many hunters who are primarily after sheep.

Subunit reporting data show that about 50 goats were harvested in the Wrangell Mountains during 1973, and about 30 of these goats were taken in the McCarthy vicinity. Assuming a maximum sustained harvest level of 15 percent, a herd size of 200 goats would be required to sustain a harvest of 30 goats. Extrapolations from the number of goats counted during the 1973 sheep-goat survey (McIlroy 1974) indicate that there may be less than 200 goats in the area from Nikolai Butte to the Lakina River.

Composition and Productivity

MacColl Ridge was selected as a sheep and goat trend count area. Twenty-eight goats were counted on MacColl Ridge during 1970, while 43 goats (33 adults, 10 kids) were counted there during 1973.

Management Summary and Conclusions

Overall, the goat harvest is light for the large area in which goats can be found in Unit 11. Goat herds are relatively small in

certain areas within the Wrangell Mountains, however, there is a possibility some of these areas are being over-harvested by hunters who are primarily after sheep. Because of the difficulty anticipated in obtaining compliance by guides with subunit harvest restrictions, unitwide restrictions will probably be more enforceable.

Recommendations

It is recommended that the bag limit on mountain goats be reduced from two to one and that the opening date of the season be delayed to September 1.

LITERATURE CITED

McIlroy, C. 1974. Mountain goat survey-inventory progress report - 1972, Wrangell Mountains, pp 236 - 242. In Annual report of survey-inventory activities, Part I. Fed. Aid in Wildl. Rest. Proj. W-17-5.

PREPARED BY:

Nick Steen
Game Biologist II

Carl McIlroy
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SUBMITTED BY:

John S. Vania
Regional Management Coordinator

APPENDIX I

A Comparison of Mountain Goat Harvest Data for Unit 11 during 1972 and 1973

	1972	1973
Total Hunters:	64	94
Number Successful Hunters (%):	32 (50%)	56 (60%)
Mean Number Days Hunted,		
Successful Hunters:	3.2	4.5
Unsuccessful Hunters:	5.2	5.8
Number Goats Killed:	37	60
Percent Male Goats Harvested [a]:	35%	64%
No. Hunters Killing 2 Goats (%):	5 (16%)	4 (7%)

a. Percentage male goats = (MM/MM+FF) x 100.

APPENDIX II

A Comparison of the Chronologies of the Unit 11 Mountain Goat Harvests during 1972 and 1973

	1972 Harvest		1973 Harvest	
Period	No.	%	No.	%
Aug. 10 - 20	13	35%	7	12%
Aug. 21 - 31	10	27%	9	15%
Sep. 1 - 10	8	22%	16	27%
Sep. 11 - 20	4	11%	11	18%
Sep. 21 - 30	0	-	9	15%
After Sep. 30	2	5%	3	5%
Date Unknown	0	-	5	8%
TOTAL	37		60	

PREPARED BY: Nick Steen, Game Biologist II & Carl McIlroy, Game Biologist III

MOUNTAIN GOAT

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 13 - Upper Nelchina, upper Susitna and western half upper Copper River Basin

Seasons and Bag Limits

August 10-Dec. 31 — Two Goats

Harvest and Hunting Pressure

Harvest data from harvest report returns are available for mountain goats for the 1973 season (Appendix I).

The harvest of goats appears small and is well dispersed over the goat habitat. The low hunter success was expected because past inventory surveys have shown the goats to be dispersed and not abundant in the Chugach Mountians and scarce in the Talkeetna Mountains. The high percentage of males in the harvest may be indicative of hunter selection and lightly hunted goat populations in which males are available to hunters. It should be noted, however, that the sample size is very small.

Composition and Productivity

No recent goat composition counts have been made in Unit 13. Past inventory counts are summarized below.

Area	Date of Survey	Adults	Kid	Total
Tazlina to Klutina Lakes:	Aug. 1959	14	1	15
Tazlina to Klutina Lakes:	Aug. 1969	--	-	71
Nelchina Glacier to Chitina:	Aug. 1969	100	10	110
Coal Creek to Nelchina Glacier:	July-Aug. 1968	--	-	23

These data reflect the low goat density in the Chugach Mountains.

Management Summary and Conclusions

Harvest data for 1972 and 1973 indicate that mountain goats in Unit 13 are lightly hunted. The harvest appears low and well dispersed. Although goat populations are greater in the Chugach than in the Talkeetna Mountains, and goats serve as an alternate game species to the sheep

hunter, the relatively low densities of both species that are found cohabiting the same areas probably result in a low harvest of goats by sheep hunters. It is anticipated that the goat population will not be greatly influenced by continued hunting at the present level.

Recommendations

No changes in seasons and bag limits are recommended.

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SUBMITTED BY:

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Regional Management Coordinator

APPENDIX I

A COMPARISON OF MOUNTAIN GOAT HARVEST DATA IN UNIT 13 DURING 1972 AND 1973

HUNTING PRESSURE AND GOAT HARVEST

	1972	1973
Total Hunters:	43	34
Successful Hunters:	16 (37%)	12 (35%)
Mean Days Hunted-Successful:	2.7	4.4 (11)
Mean Days Hunted-Unsuccessful:	3.4	4.5 (11)
Hunters Killing 1 Goat:	14 (87.5%)	12 (100%)
Hunters Killing 2 Goats:	2 (12.5%)	0
Number of Goats Killed:	18	11
Number (%) Males Hunted:	13 (72%)	9 (82%)

CHRONOLOGY OF THE HARVEST

Period	1972 Harvest		1973 Harvest*	
	Number	Percent	Number	Percent
Aug. 10-20	8	44%	2	17%
Aug. 21-31	2	11%	0	--
Sep. 1-10	1	6%	3	25%
Sep. 11-20	3	17%	1	8%
Sep. 21-30	1	6%	0	--
After Sep. 30	0	--	5	42%
Unk. Date	3	17%	0	--
TOTAL	18		11	

* One goat (8%) was reported taken before season on Aug. 9.

APPENDIX I (Cont.)

HARVEST LOCATION (WHEN SPECIFIED)

	1972 Harvest*		1973 Harvest**	
	Number	Percent	Number	Percent
Chugach Mountains,				
Tiekel River-Kimball Pass:	2	13%	0	--
Klutina-Tonsina:	2	13%	0	--
Tazlina-Nelchina:	6	37%	4	33%
S. Fork Matanuska-Coal Ck.:	6	37%	1	8%
Talkeetna Mountains:	0	--	0	--
Chulitna Hills:	0	--	1	8%

* Two goats (11.1 percent of the total harvest) did not have specific kill locations described.

** Six goats (50 percent of the total harvest) did not have specific kill locations described.

PREPARED BY:

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Game Biologist II

Carl McIlroy
Game Biologist III

MOUNTAIN GOAT

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 14 - Palmer

Seasons and Bag Limits

Unit 14, except for that portion within Chugach State Park	Aug. 10-Nov. 15	One goat
Unit 14 within Chugach State Park	No open season	

Harvest and Hunting Pressure

A total of 11 goats were reportedly harvested by 47 hunters in Unit 14 during 1973 (Appendix I). The 1972 reported harvest was six goats. Hunter success ratios rose from 12 percent in 1972 to 23 percent in 1973. Appendix II reveals that of the 11 goats taken in 1973, 5 were taken in Subunit 14A (2 males and 3 females) and 6 in Subunit 14C (2 males and 4 females).

Harvest report data indicate the 11 successful goat hunters hunted an average of 2.6 days for a goat while 29 of the 36 unsuccessful hunters hunted an average of 3.6 days.

Chronology of harvest data reveals that five of the goats were taken between September 9 and September 12 (Appendix III). The remaining six were scattered throughout the season.

Hunter Creek drainage in Subunit 14C received the heaviest hunting pressure. Harvest report data indicate that 10 of the 36 unsuccessful hunters (28%) and 3 of the 11 successful hunters (27%) hunted in this relatively accessible and fairly small drainage.

Composition and Productivity

A comprehensive age composition survey was flown during 1973 in the portion of Subunit 14A between the Matanuska and Knik Rivers as far east as Coal Creek. Thirty goats, comprised of 25 adults and 5 kids, were tallied (Appendix IV). All but one of the goats were observed in the Knik River drainage east of Metal Creek. The kid/adult ratio was 20.0 kids/100 adult goats or 16.7 percent kids in the population.

The only previously recorded count in this portion of Unit 14 was conducted in July 1968 and included the area between Knik River and Nelchina Glacier. At that time 25 goats (19 adults and 6 kids) were observed in this entire area. The kid/adult ratio was 31.6 kids/100 adults or 24.0 percent kids in the population.

Management Summary and Conclusions

Eleven goats were harvested from Unit 14 during 1973. This represents a significant increase over the 1972 harvest. In general, hunting pressure for goats in Unit 14 was light and well distributed. One exception is Hunter Creek in Subunit 14C where access to a fairly small area populated by goats is less difficult than in most of Unit 14. The extent of interchange between goats in the Hunter Creek drainage and adjacent areas along Lake George and Eklutna Basin is unknown. The effects of hunting on this population of goats should be closely watched.

A survey of the portion of Subunit 14A between the Knik and Matanuska Rivers revealed a small population of goats in this area. Difficult access should prevent an overharvest of this population. The western portion of this count area, where no goats were seen, is more accessible and receives greater hunting pressure from sheep hunters. Three goats were harvested from the portion of Unit 14A between the Matanuska and Knik Rivers during 1973.

One problem in evaluating goat harvests is the loss of animals which are shot and fall into inaccessible places and thus are not retrieved. Some individuals think this may be a significant portion of the harvest. Some attempt should be made to determine the magnitude of this unrecorded loss.

Recommendations

The goat season in Subunit 14A, where there is heavy sheep hunting pressure, should open the day after the closing of sheep season.

PREPARED BY:

Don Cornelius
Game Biologist II

SUBMITTED BY:

John S. Vania
Regional Management Coordinator

Appendix I. Goat Hunter Success Data in Alaska's Game Management Unit 14, 1972 - 1973.

	1972	1973
Total Hunters	50	47
Successful Hunters	6 (12%)	11 (23%)
Unsuccessful Hunters	44 (88%)	36 (77%)
Mean Days Hunted		
Successful Hunters	2.7 days (Sample of 6)	2.6 Days (Sample of 11)
Unsuccessful Hunters	4.2 Days (Sample of 41)	3.6 Days (Sample of 29)

Appendix II. Mountain Goat Harvest by Subunit in Alaska's Game Management Unit 14, 1972 - 1973.

Subunit	Year	Male (%)	Female (%)	Total
14A	1972	0 (0.0%)	1 (100.0%)	1
	1973	2 (40.0%)	3 (60.0%)	5
14B	1972	1 (100.0%)	0 (0.0%)	1
	1973	0 (0.0%)	0 (0.0%)	0
14C	1972	3 (75.0%)	1 (25.0%)	4
	1973	2 (33.3%)	4 (66.7%)	6
TOTAL UNIT 14	1972	4 (66.7%)	2 (33.3%)	6
	1973	4 (36.4%)	7 (63.6%)	11

PREPARED BY: Don Cornelius, Game Biologist II

Appendix III. Chronology of Goat Harvest in Alaska's Game Management Unit 14, 1973.

Period	Harvest	
	Number	Percent
Aug. 10 - 14	1	9.1%
Aug. 15 - 31	1	9.1%
Sept. 1 - 15*	5	45.5%
Sept. 16 - 30	0	0.0%
Oct. 1 - 15	1	9.1%
Oct. 16 - 31	1	9.1%
Nov. 1 - 30	1	9.1%
Unknown Date	1	9.1%

* All goats were taken between September 9 and September 12.

PREPARED BY: Don Cornelius, Game Biologist II

Appendix IV. Goat Age Composition and Ratios in Alaska's Game Management Subunit 14A, 1968 Through 1973.

Area	Date	Adults (includes Sub-adults)	Kids	Total	Kids/100 Adults	% Kids in Total Population
Knik River to Nelchina Glacier	7/68	19	6	25	31.6	24.0%
Knik River to Coal Creek	6/29/73	25	5	30	20.0	16.7%
Friday Creek to Metal Creek	6/29/73	1	0	1	0.0	0.0%
Metal Creek to Grasshopper Valley	6/29/73	18	3	21	16.7	14.3%
Subunit 14A East of Grasshopper Valley	6/29/73	6	2	8	33.3	25.0%

PREPARED BY: Don Cornelius, Game Biologist II

MOUNTAIN GOAT

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 15 - Western Kenai Peninsula

Seasons and Bag Limits

Aug. 10 - Dec. 31 Two Goats

Harvest and Hunting Pressure

The reported harvest in 1973 was 78 goats compared to 96 in 1972 and 39 in 1969 (Appendix I). The 1973 harvest was down 18.8 percent from 1972. The harvest by subunit for 1973 was: 15B-17, up 6.3 percent; 15C-56, down 16.5 percent; 15A-0, unchanged from 1972. Five goats were reported killed in Unit 15 with no subunit given.

In 1973 males comprised 59 percent (46/78) of the harvest, females 40 percent (31/78) and goats of unspecified sex 1.4 percent (1/78) (Appendix I). In 1973 hunter success was 45.2 percent (66/146) with 8.2 percent (12/146) taking two goats (Appendix I). This compares with 50 percent (80/160) success in 1972 with 7.5 percent (12/160) taking two goats. Hunters afield declined from 160 in 1972 to 146 in 1973.

Comparison of harvest to minimum goat populations by count area, i.e. the number of goats observed on the most recent survey, shows areas where overharvest potential exists. This approach does not consider either the number of goats not observed on surveys or movements between areas. Published information on goat kid survival from 10 established goat populations in Washington, South Dakota, Montana and Idaho indicates about a 40 percent survival rate of kids. The 1972 harvest of 61 goats from surveyed areas is equal to 39.9 percent (61/153) of the kids observed in the surveyed area (Appendix II). While this does not take into account the number of goats missed on surveys (thought to be substantial in some areas) the number of unreported kills and non-retrieved kills are also not considered. These data suggest that the harvest of goats in Unit 15 may be near the sustained yield level.

In Subunit 15B (count areas 16, 21 and 22) the harvest exceeded the number of goat kids observed on the most recent survey (Appendix II). Although a unique situation exists in this area (goats utilize dense alder thickets which makes counting extremely difficult), populations in these areas are not thought to be large enough to sustain the reported harvest.

Composition and Productivity

One count area was surveyed in Unit 15 during 1973 (Appendix IV). Comparison of survey data from 1973 and 1968 shows an increase in goat numbers from 18 to 30 with 29 kids/100 adults in 1968 and 25 kids/100 adults in 1973. Goats in this particular area inhabit alder-covered cliffs along Skilak River. The percentage of goats missed in this type of habitat is high and the increase in goats observed in 1973 may not reflect an increase in the number of goats present.

Management Summary and Conclusions

The reason for the 18.8 percent harvest decline in Unit 15 is unknown. Weather in this area limits access and a period of inclement weather could reduce the kill substantially. Closure of Kachemak Bay State Park to the discharge of firearms until after Labor Day was considered a possible cause of the decline, however, it was found that the number of goats taken prior to Labor Day was insignificant. The percentage of the harvest coming from areas contained partly or wholly within the park changed only slightly, being 32.3 percent (31/96) in 1972 and 28.2 percent (22/78) in 1973.

Because the reported harvest in surveyed areas was approximately 40 percent of the kids observed on the most recent survey the maximum allowable harvest may have been approached. Although we feel that a substantial number of goats are not observed on surveys, it must also be considered that the reported kill is an absolute minimum and that a considerable number of goats are killed that are not retrieved and therefore, most likely not reported. Reduction of the bag limit from 2 to 1 goat may have resulted in reducing the harvest by 15 percent or 12 goats in 1973. Since there is no reason to believe that goat survival in Alaska is higher than in other areas, and could be lower, a conservative approached is indicated.

Recommendations

The bag limit should be reduced from 2 to 1 goat per season.

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SUBMITTED BY:

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Regional Management Coordinator

MOUNTAIN GOAT - GMU 15 - WESTERN KENAI PENINSULA

APPENDIX I

Goat harvest and hunting pressure by Subunit for 1969, 1972 and 73, GMU 15.

	15 (A)			15 (B)			15 (C)			Area Unk.			Number of	Percent
Year	MM	FF	UNK	MM	FF	UNK	MM	FF	UNK	MM	FF	UNK	Hunters	Sucess
1969	*	*	*	*	*	*	*	*	*	*	*	*	*	*
1972	0	0	0	11	5	0	41	38	0	*	*	*	160**	50
1973	0	0	0	10	7	0	32	23	1	4	1	0	146***	45

* Data not available.
** 16 hunters reported taking two goats each.
*** 12 hunters reported taking two goats each.

APPENDIX II

Reported harvest for 1972 and 1973, date of latest survey, number of adult goats observed and number of kids observed by count area.

Count Area	Survey Date	Goats Observed		Reported harvest	
		Adults	Kids	1972	1973
16	1973	24	6	2	7
21	1968	0	0	1	4
22	1972	12	2	7	6
23	1972	117	44	16	2
24	1968	134	54	27	17
25	No Surveys	*	*	2	0
29**	1972	146	47	27	18
Total of above count areas		433	153	82	61
Remainder Unit 15		*	*	14	17

* No data available
** A small portion of this count area is in Unit 7 so the number of goats observed in the Unit 15 portion where the 27 goats were reported harvested is slightly less than the figure presented.

APPENDIX III

Description of count areas surveyed in 1968, 1972 and 1973.

Count Area	
Number 16	The area draining into the Skilak River from the east and Russian River above Upper Russian Lake from the west.
Number 22	The area lying within the boundary formed by the Harding Ice Field, Killey River, Killey Glacier, Tustumena Glacier and Glacier Creek.
Number 23a	The area draining to the west between Tustumena Glacier and Fox River.
Number 23b	The area draining to the west between Fox River and Sheep Creek.
Number 23c	The area draining to the west between Sheep Creek and Kachemak Glacier, Bradley Lake and Bradley River.
Number 29	The area south of Petrof Glacier, Wosnesenski Glacier and the creek flowing from the terminus of Wosnesenski Glacier and north of Jackalof Creek and Rocky River.

PREPARED BY: Paul A. LeRoux, Game Biologist III

APPENDIX IV

Goat Numbers and Age Ratios, Unit 15, 1968-73.

Year	Count Area 16		Count Area 22		Count Area 23a		Count Area 23b		Count Area 23c		Tota
	Kids/ 100 Ad.	Total Animals	Kids/ 100 Ad.	Total Animals	Kids/ 100 Ad.	Total Animals	Kids/ 100 Ad.	Total Animals	Kids/ 100 Ad.	Total Animals	
1968	29	18	57.1	11	38.9	25	58.3	38	40.0	63	137
1972	-	-	16.7	14	42.4	47	38.1	58	33.3	56	175
1973	25	30	--	--	--	--	--	--	--	--	3

PREPARED BY: Paul A. LeRoux, Game Biologist III

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 1D - Haines

Seasons and Bag Limits

Hunting	No closed season	No limit
Trapping	Nov. 1 - April 30	No limit

Harvest and Hunting Pressure

Comparison of the wolf harvests for Subunit 1D (1971-72 through 1973-74 seasons) from sealing documents is shown in Appendix I. Ground shooting accounted for a significant amount (72.4%) of the harvest. It is believed that a majority of the wolf harvest occurs incidentally while hunting other species or during nonhunting activities.

Composition and Productivity

No data are available.

Management Summary and Recommendations

Little is known about the distribution and numbers of wolves in Subunit 1D, however, it is believed that the annual harvest is insignificant to the population. No changes in season or bag limit are warranted.

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SUBMITTED BY:

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Regional Research/Management Coordinator

APPENDIX I

Comparison of Unit 1D wolf harvest for 1971-72 season through 1973-74 season according to sealing documents.

Chronology of Harvest

Month	Season 1971-72	1972-73	1973-74
July	--	--	--
August	--	--	--
September	1	--	1
October	2	--	5
November	--	--	3
December	1	--	--
January	3	2	--
February	--	1	1
March	--	3	--
April	--	1	2
May	3	--	--
June	--	--	--
Totals	10	7	12

Method of Take

				Percent
Ground Shooting	7	4	10	72.4
Trapping	2	3	1	20.7
Unknown	1	-	1	6.9
Totals	10	7	12	100.

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Units 2 and 3 and Subunits 1A and 1B - Southern Southeastern Alaska

Seasons and Bag Limits

Hunting	No closed season	No limit
Trapping	Nov. 1 - April 30	No limit

Harvest and Hunting Pressure

Seventy-five wolves were taken in Units 2 and 3 and Subunits 1A and 1B from July 1, 1973 to June 30, 1974. Of these, 53 were taken by trapping and 22 by ground shooting. Most of the harvest taken by trapping was by a relatively few trappers and consequently this portion of the harvest fluctuates considerably from year-to-year. Those wolves taken by shooting are almost entirely taken incidental to hunting of other species and this segment of the harvest should be more representative of the wolf population level.

The 1971-72 wolf harvest for Units 2 and 3 and Subunits 1A and 1B was 180 and the 1972-73 harvest for the same area was 76. No bounty was paid in 1972-73 but it was in effect in 1971-72 and 1973-74 and the harvest levels for each of the three years were probably affected by the changes in bounty payments. While the harvest for the last two years was the same, I feel the current wolf population is well below that of 1972-73. Discussions with pilots, hunters and trappers and my observations of tracks, made during normal activities, indicate a lower wolf population. Single wolves also seem to be more prevalent than in preceeding years.

Black wolves comprised 27 percent of 81 wolves taken in 1971-72, 13 percent of 75 wolves in 1972-73 and 16 percent of 74 wolves taken this year. No white wolves were taken. All others were of the gray color phase.

Ninety percent of the wolves harvested in 1971-72 were taken from November through April. The high month was April when 20 were reported. Trapping probably accounts for almost all of those taken in March and April.

Composition and Productivity

The sex ratio for 74 wolves taken in 1973-74 was 47 percent males. This is the same sex ratio as recorded for 74 wolves taken in 1972-73. The sex ratio of 175 wolves taken in 1971-72 was 58 percent males.

Eleven wolf carcasses were obtained and examined for nutritional steatitis. One female trapped on March 31 carried 5 fetuses approximately one-inch long and another caught April 20 carried 2 fetuses about 3/4-inch long. One trapped on April 8 showed both mammary and uterine development, although no fetuses were found.

Five males weighed an average of 84 pounds and 6 females averaged 73 pounds live weight.

Recommendations

No changes in seasons and bag limits are recommended.

PREPARED BY:

Robert E. Wood
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SUBMITTED BY:

Harry R. Merriam
Regional Research/Management Coordinator

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 5 - Yakutat

Seasons and Bag Limits

Hunting	Sept. 1 - April 30	Two wolves
Trapping	Nov. 10 - April 30	No limit

Harvest and Hunting Pressure

Two wolves were reported taken from Unit 5 during fiscal year 1973-74. One wolf was taken by ground shooting and the other by trapping.

Populations

Wolf sightings on the Yakutat Forelands in 1973 include: Ten wolves (1 white, 2 black and 7 grey) spotted from an automobile November 17 at 24-mile Forest Service Highway (FAS-945) approximately 16 air-miles east of Yakutat; one grey wolf sighted from the ground on Lost River Road three miles southeast of Yakutat on November 17; 20 wolves (1 white, 2 black and 17 grey) observed from an airplane November 18 in the lower Dangerous River area 16 miles southeast of Yakutat and 19 wolves (2 black and 17 grey) spotted from an airplane in the Dangerous River area on December 14.

Management Summary and Recommendations

More information on the relationship of snow density (ability to support loads) and effects of wolf predation on goat and moose are desirable for Unit 5.

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

PREPARED BY:

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WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 6 - Prince William Sound

Seasons and Bag Limits

Hunting	September 1 - April 30	2 wolves
Trapping	October 1 - April 30	No Limit

Harvest and Hunting Pressure

Six wolves were taken in Unit 6 during the winter of 1973-74. One trapper accounted for all 6 wolves, 3 male and 3 female, by ground shooting after spotting them from the air. No known trapping effort was exerted on wolves.

Composition and Productivity

No data are available.

Management Summary and Conclusions

The status of the wolf population, primarily east of the Copper River, is unknown. Reports by moose hunters in August of 1973 indicated considerable wolf activity near Goat Mountain. A trapper utilizing an aircraft commonly saw tracks and/or wolves in the Martin River, Glacier-Martin Lake-Bering Lake triangle. Another trapper observed tracks of a single wolf west of the Copper River twice.

Although no wolf-killed moose were reported to the Cordova Fish and Game office, all 6 wolves killed were reported to have moose hair, bones or meat in their stomachs.

Judging by the number and location of wolves or wolf tracks seen by hunters and trappers, a wolf population of approximately 15-20 wolves is present in Unit 6.

Recommendations

Retain present wolf hunting and trapping regulations.

PREPARED BY:

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SUBMITTED BY:

John S. Vania
Regional Management Coordinator

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 7 - Eastern Kenai Peninsula

Seasons and Bag Limits

Hunting	No open season
Trapping	No open season

Harvest and Hunting Pressure

Unit 7 has been closed to the taking of wolves since July 1, 1962.

Composition and Productivity

A wolf survey was conducted in parts of Unit 7 on March 1 and March 11, 1974 (Appendix I). The areas surveyed included the drainages of Juneau Creek, Resurrection Creek, Big Indian Creek and Chickaloon River; and the valleys of Trail River, Placer River and Twenty Mile River. Wolf sign was very difficult to locate in the mountainous areas since winds crust the snow and blow many of the ridges clear allowing wolves to travel leaving very little sign. Tracks observed were in stream bottoms.

Tracks of two wolf packs were located; one on Thurman Creek, the other on Juneau Creek. Snow conditions were such that it was not possible to estimate the number of wolves in these packs.

Based on reliable reports (Appendix I) there are at least two packs totaling 10 wolves in the area north of the Sterling Highway and east of the Seward Highway. Trappers also have reported signs of a pack in the Russian River drainage and a single animal in the Resurrection River drainage during the winter of 1973-74.

Management Summary and Conclusions

Wolves are regular inhabitants of this unit only in areas where moose, caribou or sheep are relatively abundant. The remainder of the unit does not harbor wolves on a regular basis, probably because of lack of suitable prey. The areas surveyed were only those areas where moose or caribou are abundant.

Results of the survey were not satisfactory for projecting a population estimate for this unit. While reported wolf observations by reliable individuals suggest a minimum of 10 wolves, most people no longer report wolf observations. Based on available data the minimum wolf population in Unit 7 is 10; however, a more realistic figure would be 10 to 20.

Recommendations

It is recommended that wolves be harvested by sport hunting and sport trapping methods.

PREPARED BY:

Paul A. LeRoux
Game Biologist III

SUBMITTED BY:

John S. Vania
Regional Management Coordinator

WOLF

GMU 7 EASTERN KENAI PENINSULA

Appendix I

Wolf Survey Data

A wolf survey was conducted in Unit 7 on 3/1/74 and 3/11/74. Snow had fallen on 2/27/74 and 3/3/74. The area surveyed included the drainages of Juneau Creek, Resurrection Creek, Big Indian Creek and Chickaloon River. Also covered were valleys of Trail River, Placer River and Twenty-Mile River.

(3/11/74) 1 or more (most likely more) wolf tracks observed N 1/4 mile from Juneau Lake.

(3/11/74) Tracks of a good size pack on Thurman Creek. Number not ascertainable.

Wolves have been reported from most parts of Unit 7. Trappers reported a pack working Russian River and a single regularly using Resurrection River drainage this winter. Wolf sign has also been reported from Paradise Valley and Kenai Lake. Davis observed a wolf track on Upper Trail River in Nov. 72 and Davis and LeRoux observed tracks of 2 wolves on Chickaloon Flats in early Oct. 1972. No effort was made to look for wolves in sheep country even though we know wolves hunt some sheep wintering areas.

(9/13/73) 2 wolves (black) reported in Hungary Creek by John Dec of Seward.

(10/5/73) 8 wolves, 5 black, 3 gray, were reported in American Pass by Loren Flagg.

(?) A pack of wolves containing 2 black ? grays reported.

Although we can not make a good estimate of wolf numbers in Unit 7 from available data we feel that wolves are well established in the western half of the Unit north of Seward. We do not expect wolves to utilize most of the remainder of the Unit on a regular basis as the only a-bundant prey species is goat. A good estimate of wolf numbers in the Unit is 10-20. At least 2 packs of wolves range over parts of both Unit 15 and 7.

PREPARED BY: Paul A. LeRoux, Game Biologist III

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 9 - Alaska Peninsula

Seasons and Bag Limits

Hunting	September 1 - April 30	Two Wolves
Trapping	October 1 - April 30	No Limit

Hunting, Trapping and Harvest Pressure

The reported harvest of wolves from Unit 9 during the 1973-1974 seasons was 31 (Appendix I). During the September-October big game "trophy" hunting period, 32.3 percent of the harvest occurred. The winter months of January through March produced 58.1 percent of the kill. Ground shooting accounted for 80.6 percent of the harvest and the sex was nearly equally split between males and females. Historical data are presented in Appendix II.

Composition and Productivity

No data are available.

Management Summary and Conclusions

Sport hunting of wolves is becoming increasingly common in Unit 9. During the past season, two guides offered mid-winter "trophy" hunts for this species with aircraft used for transportation. The incidental harvest of the species during the fall moose, caribou and brown bear seasons also appears to be increasing. Harvest by trappers is declining as trapping is no longer a major activity of any but a few unit residents.

The present level of harvest is not considered to be excessive. Casual observations made by Department personnel and local residents indicate the unit supports a healthy population of wolves.

Recommendations

No changes in seasons or bag limits are recommended.

PREPARED BY:

James B. Faro
Game Biologist III

SUBMITTED BY:

John S. Vania
Regional Management Coordinator

Wolf - G.M.U. 9 - Alaska Peninsula

Appendix I

1973-74 Wolf Harvest

Harvest

Males - 13 Females - 14 Unknown - 4 Total - 31

Chronology by Month

Month	Number	Percent	Month	Number	Percent
July	-	-	January	7	22.6
August	-	-	February	6	19.4
September	6	19.4	March	5	16.1
October	4	12.9	April	-	-
November	2	6.5	May	-	-
December	1	3.2	June	-	-
			Unknown	-	-
			Total	31	100.1

Method of Take	Number	Percent
Ground Shooting	25	80.6
Trapping	3	9.7
Snaring	2	6.5
Unknown	1	3.2
Total	31	100.0

Color of Wolves Taken	Number	Percent
White	1	3.2
Brown	2	6.5
Gray	23	74.2
Black	3	9.7
Unknown	2	6.5
Total	31	100.1

PREPARED BY: James B. Faro, Game Biologist III
Jerome J. Sexton, Game Biologist II

Wolf - G.M.R. 9 - alaska Peninula

Appendix II

Historical Wolf Harvest, 1961-1974

Year	Harvest
1961-62[1/]	4
1962-63[1/]	9
1963-64[1/]	16
1964-65[1/]	44
1965-66[1/]	27
1966-67[1/]	51
1967-68[1/]	24
1968-69[1/]	22
1969-70[2/]	26
1970-71[2/]	7
1971-72[3/]	24
1972-73[3/]	24
1973-74[3/]	31

1/ Data from bounty analysis
2/ Data from aerial permits-should be considered incomplete
3/ Data from hide sealing program

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Jerome J. Sexton, Game Biologist II

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 10 - Aleutian Islands

Seasons and Bag Limits

Hunting	September 1 - April 30	Two Wolves
Trapping	October 1 - April 30	No Limit

Hunting, Trapping and Harvest Pressure

No wolves were reported harvested during the 1973-1974 seasons.

Composition and Productivity

No data are available.

Management Summary and Conclusions

Wolves occur only on Unimak Island in Unit 10. Harvest pressure on the species is light.

Recommendations

No changes in seasons or bag limits are recommended.

PREPARED BY:

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SUBMITTED BY:

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Regional Management Coordinator

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 11 - Wrangell Mountains - Chitina River

Seasons and Bag Limits

Hunting	Sept. 1 - Apr. 30	Two wolves
Trapping	Oct. 1 - Apr. 30	No Limit

Harvest and Hunting Pressure

Wolf harvest data from 1966-67 through 1973-74 are summarized in Appendix I. The total wolf harvests have fluctuated sharply, although these fluctuations were largely due to differing harvesting techniques authorized, differing methods of recording the harvests, differing levels of hunting pressure, and differing snow conditions that affected wolf vulnerability to aerial hunting (McIlroy, 1974). During recent years most wolves were taken by trappers. No increasing or decreasing trends are apparent in percentage of males in the harvest. A tabulation of the harvest locations (not shown) reveals the 1973-74 harvest to have been well dispersed over the drainages of Unit 11.

Abundance, Composition and Productivity

A wolf survey from Drop Creek to the Nabesna River (encompassing the wintering area of the Mentasta caribou herd and including portions of both Units 11 and 12) was made during April 1974. Based on non-duplicating tracks and wolf sightings, the wolf density in that area was estimated to be one wolf per 80 square miles. This value for wolf density was relatively high compared to other areas in Unit 13 that were surveyed during the same time period. Six moose and four sheep carcasses were observed and were believed to have been wolf kills although no ground checks were made.

A comparison of pack observations from 1971-72 through 1973-74 is made in Appendix II. The mean pack size has been hypothesized to be proportional to wolf abundance. Data in Appendix II illustrate a decreasing pack size over a three-year period. No active wolf dens were reported or found in Unit 11 during the past two years.

Management Summary and Conclusions

The total wolf harvest was dispersed over Unit 11 and does not appear to be high considering the abundance of wolves. While moose, hares and caribou (the Nelchina caribou herd has not wintered in large numbers in Unit 11 for two years) have declined as a food source,

sheep are abundant in Unit 11 and are apparently serving as a buffer prey species. This may account for the higher wolf density in Unit 11 as compared to Unit 13.

Recommendations

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

LITERATURE CITED

McIlroy, C. 1974. Wolf survey and inventory progress report - 1972, GMU 11, pp. 22-26. In Annual report of survey-inventory activities, Part III. Fed. Aid in Wildl. Res. Proj. W-17-5.

PREPARED BY:

Carl McIlroy
Game Biologist III

SUBMITTED BY:

John S. Vania
Regional Management Coordinator

APPENDIX I

Wolf Harvest Data from 1966-67 through 1973-74 for GMU 11

	1966-67[a]	1967-68[a]	1968-69[a]	1969-70[b]	1970-71[b]	1971-72[c]	1972-73[c]	1973-74[c]
Total Wolf Harvest:	70	40	7	10	23	56	48	28
Percent Males in Harvest, (Number)[d]:	51%(36)	53%(21)	86%(6)	50%(5)	61%(14)	57%(32)	42%(20)	71%(20)
Number Sex Unknown:	0	1	0	0	0	1	1	0
Ratio Blacks to 100 Grays:	43	29	17	---	---	59	26	35
Method of Kill, Percent (Number);								
Aerial Shooting:	80%(56)	55%(22)	0%(0)	100%(10)	100%(23)	30%(17)	0%(0)	0%(0)
Ground Shooting:	7%(5)	30%(12)	0%(0)	---	---	18%(10)	8%(4)	18%(5)
Trapping/Snaring:	13%(9)	15%(6)	100%(7)	---	---	52%(29)	92%(44)	82%(23)

a. Harvest figures are based on the number of wolves submitted for bounty.
b. Harvest figures are based on returned aerial wolf hunting permits alone. The bounty was discontinued during 1970 and mandatory sealing of wolf pelts was not required until July 1971.
c. Harvest figures are based on mandatory wolf sealing records.
d. Percentage males are based only on wolves whose sex was specified in the data.

Prepared by:

Carl McIlroy, Game Biologist III

APPENDIX II

Comparison of Data Derived from Pack Observations

for the years 1971-72 through 1973-74 - GMU 11.*

	1971-72	1972-73	1973-74
Number of Wolf Packs Sighted:	10	9	8
Mean Pack Size:	7.6	3.8	3.3
Range of Pack Sizes:	2-15	1-13	1-8

* These compilations are based primarily on observations by Department of Fish & Game employees, and they exclude aerial permit and sealing information.

PREPARED BY: Carl McIlroy, Game Biologist III

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 12 - Upper Tanana, White River

Seasons and Bag Limits

Hunting	Sept. 1 - Apr. 30	Two wolves
Trapping	Oct. 1 - Apr. 30	No limit

Harvest, Trapping and Hunting Pressure

Annual wolf harvests from 1960 through 1974 were:

Period	Wolves Taken	Period	Wolves Taken
1960-61	1	1967-68	57
1961-62	8	1968-69	31
1962-63	--	1969-70	60*
1963-64	17	1970-71	30*
1964-65	24	1971-72	94
1965-66	47	1972-73	64
1966-67	38	1973-74	37

*Extrapolated harvest based on take from aerial shooting.

Wolf harvests from 1960-61 through 1968-69 are based on wolves submitted for bounty. The wolf take in 1969-70 and 1970-71 was extrapolated from the reported aerial harvest. From 1971-72 to the present, the kill is based on wolf hides submitted for mandatory sealing. The data indicate large harvest variations from year to year, possibly due to fluctuations or availability of wolves during a given year, and variations in trapping effort due to fur prices and weather conditions.

Average pack size during the 1973-74 harvest was 5.8. The ratio of black to gray wolves was 1 to 2. Sealing data indicated 38 percent were gray, 51 percent black, while coloration was not noted on 11 percent. A breakdown of wolves taken by various methods follows.

Harvest Method	Percent of Harvest
Ground Shooting	21.6
Trapping	64.9
Snaring	13.5

Chronology of Harvest

Month	Number	Percent
September	2	5.4
October	0	0
November	4	10.8
December	10	27.0
January	6	16.2
February	10	27.0
March	5	13.5
April	--	--

A breakdown of pack size and harvest in specific drainages of Unit 12 is given below.

Harvest From Sealing Data

Drainage	Harvest Number	Percent	Avg. Pack Size
Beaver Creek	2	5.4	6.5
Chisana River	5	13.5	7.5
Ladue River	1	2.7	--
Nabesna River	1	2.7	1
Snag Creek	5	13.5	3
Tanana River	12	32.4	6
Tetlin River	3	8.1	1
Tok River	3	8.1	7.3
Unknown	5	13.5	--
	37	99.9	4.6

Composition and Productivity

There are no data available on pack composition or productivity in Unit 12. Aerial surveys were attempted in parts of Unit 12 during mid-March to determine wolf population density, but snow conditions were unfavorable for distinguishing tracks.

Sealing data indicated that 32 percent were females and 68 percent were males. This probably does not reflect sex composition of the Unit 12 wolf population, however, instead it is more likely an indication of trap vulnerability.

Management Summary and Recommendations

Because of generally favorable fur market conditions trapping effort in Unit 12 remains relatively high, resulting in moderate trapping effort directed specifically at wolves.

The wolf population appears to be reasonably high but may be lower than last year, based on harvest figures, casual observations and discussions with trappers. It is doubtful that trapping has been effective in reducing the wolf population level.

No changes in seasons or bag limits are recommended.

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WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 13 - Nelchina, Upper Susitna, and Upper Copper River Basins.

Seasons and Bag Limits

Hunting	Sept. 1 - Apr. 30	Two Wolves
Trapping	Oct. 1 - Apr. 30	No Limit

Harvest and Hunting Pressure

Wolf harvest data from 1965-66 through 1973-74 are compared in Appendix I. The various harvest reporting systems and the variations in allowed harvesting techniques during the mid-1960's through the early 1970's make the total harvest figures of reduced value for any trend comparisons. It is evident, however, that larger harvests have occurred when both aerial and ground harvesting techniques were allowed and reported. The percentage of males in the harvests have fluctuated around 50 percent without apparent trend. The ratio of black to gray wolves appears to show a correlation with wolf abundance. Black/grey ratios were much higher during the mid-1960's, when the wolf population reached it's peak abundance, than they were during the early 1970's when wolves suffered a major decline in abundance. A plot of each kill on a map (not shown) revealed the harvest to be well dispersed.

Abundance, Composition and Productivity

Comparisons of the available data derived from wolf pack observations and wolf censuses for the years 1960-61 through 1973-74 are shown in Appendix II. Mean pack size has been hypothesized to be proportional to wolf density. Other abundance indices may be the range of pack sizes and wolf per hour values found during aerial wolf censuses. No index is completely reliable, but there are indications that wolf numbers peaked during the period 1964 to 1972. The above mentioned indices correlate with data from wolf population censuses. Census data, coupled with subjective population assessments, suggest that there were two peaks of wolf abundance. One peak apparently occurred during 1965-66 and another apparently occurred during 1970-71.

Only one active wolf den was reported this year. Wolf productivity may have been low for the second successive year.

Management Summary and Conclusions

If our census data approximate actual wolf numbers in the old "Nelchina Wolf Study Area," then the wolf harvest for Unit 13 alone this past year (75 wolves) was a substantial portion of the wolf population estimate (207 wolves minimum, estimated near the end of the trapping season for Unit 13 and and northern half of Unit 14). If wolf productivity is also declining, then a continued reduction in wolf numbers may occur.

Wolf census data for subunits of G.M.U. 13 and Unit 11 are compared in Appendix III with moose composition data obtained during 1973-74. Within the areas compared, there is an inverse relationship between wolf abundance and moose calf:cow ratios during November. Correspondingly, there is an inverse relationship between wolf abundance and moose calf:cow ratios in Unit 13 from the late 1950's through the early 1970's (McIlroy, 1974). These space-relative and time-relative comparisons suggest that wolf predation could have been substantially contributing to our declining moose herds in Unit 13.

Recommendations

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

LITERATURE CITED

McIlroy, L. 1974. Moose survey and inventory progress report - 1972, GMU 13, pp. 66-74. In Annual report of survey-inventory activities, Part II. Fed. Aid. in Wildl. Res. Proj. W-17-5.

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APPENDIX I

Wolf Harvest Data from 1965-66 through 1973-74 - GMU 13

	1965-66[a]	1966-67[a]	1967-68[b]	1968-69[c]	1969-70[d]	1970-71[d]	1971-72[e]	1972-73[f]	1973-74[f]
Total Wolf Harvest:	64	31	120	1	41	91	111	80	75
Males in Harvest,[g] Percent (No.):	68%(43)	65%(20)	56%(67)	-	39%(16)	49%(44)	58%(61)	44%(35)	54%(40)
Unknown Sex:	1	0	1	0	0	1	5	0	1
Number Blacks/ Number Grays:	32/26	16/15	45/69	-	-	-	11/68	16/58	23/49
Ratio Blacks to 100 Grays:	123	107	65	-	-	-	16	28	47
Method of Kill, Percent (No.), Aerial Shooting:	-	-	63%(70)	-	100%(41)	100%(91)	41%(46)	-	-
Ground Shooting:	3%(2)	13%(4)	29%(33)	-	-	-	20%(22)	26%(20)	29%(22)
Trapping/Snaring:	97%(62)	87%(26)	8%(9)	-	-	-	39%(43)	74%(57)	71%(53)

a. Harvest figures are based on the number of wolves submitted for bounty. Only ground hunting and trapping were authorized. The reported method of kill was probably incorrect.
b. Harvest figures are based on the number of wolves submitted for bounty. A limited aerial hunt, in addition to ground hunting and trapping, was authorized.
c. No bounty was authorized during this period.
d. Harvest figures are based on returned aerial wolf hunting permits only.
e. Harvest figures are based on mandatory wolf sealing records.
f. Harvest figures are based on mandatory wolf sealing records. No aerial wolf hunting permits were issued during this period.
g. Percentage males in the harvest are based only as wolves whose sex was specified in the data.

PREPARED BY: Carl McIlroy, Game Biologist III

APPENDIX II

Comparisons of the Available Data from Wolf Pack Observations in GMU 13, 1960-61 through 1973-74[a]

	1960-61	1961-62	1965-66	1966-67	1970-71	1971-72	1972-73	1973-74
Mean Pack Size:	4.8	3.9	9.7	4.7	7.0	5.0	2.6	3.3
Range of Pack Sizes:	-	1-10	2-36	1-15	1-23	1-16	1-7	1-5
Hours per Wolf Sighting:	2.0	1.7	-	0.7	0.5	8.4	3.6	1.5
Total Hours/Total Wolves:	38/19	57/33	-	36.5/52	43.6/89	58.5/7	61.7/17	39.5/26
Sample Size, Packs:	18	27	22	21	29	14	21	8
Population Estimate:[b]	79 min.	135 min.	400-450	300	Pack Abundance	Reduced Abundance	Reduced Abundance	207 min.

a. These compilations are based primarily on observations by Department of Fish and Game employees, and they exclude aerial permit and sealing information.

b. Wolf abundance estimates are based on the former "Nelchina Wolf Study Area" which includes Unit 13 and the northern portion of Unit 14. This area contains approximately 25,720 square miles. Numbers, where given, are based on wolf censuses during the winter, but they should be considered as relative (for trend comparisons) rather than absolute.

PREPARED BY: Carl McIlroy, Game Biologist III

APPENDIX III

A Comparison of Fall, 1973 and Spring, 1974 Moose Calf Survival Counts with Wolf Density Estimates

Unit/ Subunit	Oct. - Nov. 1973 Count Areas	Total Moose Observed	Calves Numbers	Calves Percent	March, 1974 Square Miles Per Wolf
13A	12,13,14	1155	140	12.1%	153
13B	2,3,5,6,8,9	1486	208	14.0%	193
13C	10,16,17	518	44	8.5%	98
13D	15	205	17	8.3%	Not Surveyed
13E	1,7,20	1398	174	12.4%	114
Unit 13	1-10,12-17,20	4762	583	12.2%	136
Unit 11	11,18,19	219	8	3.7%	80

PREPARED BY: Carl McIlroy, Game Biologist III

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Subunits 14A and 14B - Upper Cook Inlet

Seasons and Bag Limits

Hunting	Sept. 1 - April 30	Two Wolves
Trapping	Oct. 1 - April 30	No Limit

Harvest and Hunting Pressure

Seven wolves (6 males and 1 female) were reported taken in Game Management Subunits 14A and B during the 1973-74 season (Appendix I). All of these were taken by ground shooting (Appendix II). During the 1972-73 season 13 wolves were harvested in the same area. Data from Subunits 14A and 14B cannot be separated from 14C for previous years. For comparison, the total Unit 14 harvest was 8 wolves during the 1973-74 season. This is below the previous 11-year average of 11.5 wolves taken per year from the entire Unit.

Five of the wolves harvested during the 1973-74 season were taken in Subunit 14A and two came from 14B.

Chronology of harvest indicates the Subunit 14A and B wolf harvests were primarily during the months of November through March.

Composition and Productivity

Pack sizes during 1973-74 were reported by successful hunters and trappers in five instances (Appendix III). The pack sizes ranged from 1 to 9 with an average of 4.4 wolves per pack. In 1972-73 pack sizes in 13 instances averaged 2.5 wolves per pack and during the 1971-72 season 8 packs averaged 2.9 wolves per pack. More single wolves were taken during the 1971-72 and 1972-73 seasons. Only one single wolf was taken during the 1973-74 season. All average pack sizes were computed including single wolves.

Management Summary and Conclusions

The 1973-74 harvest of 7 wolves was half the 1972-73 harvest in Subunits 14A and B. Wolves harvested in Subunits 14A and 14B cannot be separated from 14C during previous years, but the total Unit 14 harvest of 8 wolves is below the previous 11-year average of 11.5 wolves.

No wolves were reported to have been trapped in Subunits 14A and B. This seems unusual in light of the apparent increased interest in trapping reported during the 1973-74 season.

The average pack size during the 1973-74 season was larger than during the previous two years. This may be due in part to a small sample size obtained during this season. The reasons for the small sample size are unclear. A reduction in the number of lone wolves taken by hunters or trappers was apparent.

Recommendations

The opening date of the wolf trapping season should be the same as for other furbearers including lynx, fox, coyote and wolverine. The few wolves trapped in Unit 14, coupled with the chance of accidentally taking other furbearers out of season, warrant this change in the trapping season.

No changes in bag limits are recommended at this time.

PREPARED BY:

Don A. Cornelius
Game Biologist II

SUBMITTED BY:

John S. Vania
Regional Management Coordinator

Appendix I. Wolf Harvest from Bounty Records, Aerial Wolf Permit Returns, and Wolf Sealing Certificates for the Entire Game Management Unit 14, 1962-63 through 1973-74 and Game Management Subunits 14A and 14B, 1972-73 through 1973-74.

Regulatory Year	Game Management Unit 14				Game Management Subunits 14A and 14B Only			
	Male	Female	Unknown	Total	Male	Female	Unknown	Total
1962-63*	3	0	0	3				
1963-64*	4	4	0	8				
1964-65*	6	5	0	11				
1965-66**	9	6	4	19				
1966-67*	15	15	0	30				
1967-68*	7	10	0	17				
1968-69*	0	1	0	1[1/]				
1969-70***	1	0	0	1				
1970-71***	5	3	0	8				
1971-72****	5	3	4	12				
1972-73****	9	5	2	16	7	4	2	13
1973-74****	7	1	0	8	6	1	0	7

* Harvest data compiled from bounty records.

** Harvest data compiled from bounty records through June 1, 1966.

*** Harvest data compiled from returned aerial wolf permits.

**** Harvest data compiled from wolf sealing certificates.

1/ Effective July 21, 1968 no bounty was paid on wolves in Game Management Unit 14.

Prepared by: J. Sexton

Submitted by: Jack C. Didrickson, Game Biologist III

Don A. Cornelius, Game Biologist II

Appendix II. Wolf Harvest by Sex, Chronology, and Method of Take in Alaska's Game Management Subunits 14A and B During the 1973-74 Season.

Harvest	14A		14B		Total 14A & B	
	No.	%	No.	%	No.	%
Males	4	80.0	2	100.0	6	85.7
Females	1	20.0	0	0.0	1	14.3
Unknown Sex	0	0.0	0	0.0	0	0.0
Total	5	100.0	2	100.0	7	100.0
Chronology by Month						
September	0	0.0	1	50.0	1	14.3
October	0	0.0	0	0.0	0	0.0
November	1	20.0	1	50.0	2	28.6
December	0	0.0	0	0.0	0	0.0
January	1	20.0	0	0.0	1	14.3
February	2	40.0	0	0.0	2	28.6
March	1	20.0	0	0.0	1	14.3
April	0	0.0	0	0.0	0	0.0
Total	5	100.0	2	100.0	7	100.1
Method of Take						
Ground Shooting	5	100.0	2	100.0	7	100.0
Trapping	0	0.0	0	0.0	0	0.0
Snaring	0	0.0	0	0.0	0	0.0
Total	5	100.0	2	100.0	7	100.0

Prepared by: J. Sexton

Submitted by: Jack C. Didrickson, Game Biologist III

Don A. Cornelius, Game Biologist II

Appendix III. Wolf Pack Sizes* as Reported by Successful Hunters in Alaska's Game Management Subunits 14A and 14B, 1971-72 through 1973-74.

Year	Number of Packs in Sample	Range of Pack Sizes	Average Pack Size
1971-72	8	1 - 8	2.9
1972-73	13	1 - 10	2.5
1973-74	5	1 - 9	4.4

* Includes single wolves.

Submitted by: Jack C. Didrickson, Game Biologist III

Don A. Cornelius, Game Biologist II

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Subunit 14C - Anchorage

Seasons and Bag Limits

Hunting	Chugach State Park	No open season	
	Remainder of 14C	August 10 - April 30	2 wolves
Trapping	Chugach State Park	No open season	
	Remainder of 14C	October 1 - April 30	No limit

Harvest and Hunting Pressure

During 1973-74 one wolf, a gray-colored male, was reported harvested by trapping in Subunit 14C.

Composition and Productivity

Wolf packs have been reported in the Hunter Creek, Eagle River, Ship Creek and Campbell Creek areas. No other information is available.

Management Summary and Conclusions

Wolves generally restrict their activities to the upper valleys and mountains lying within the Chugach State Park. Harvest pressure on the species is light.

Recommendations

No changes in seasons and bag limits are recommended.

PREPARED BY:

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SUBMITTED BY:

John S. Vania
Regional Management Coordinator

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 15 - Western Kenai Peninsula

Seasons and Bag Limits

Hunting	No open season
Trapping	No open season

Harvest and Hunting Pressure

Unit 15 has been closed to the taking of wolves since July 1962. One male wolf was trapped in Subunit 15C in a wolverine set in 1973-74.

Composition and Productivity

A wolf census, utilizing the track survey method outlined by Bob Stephenson, was conducted February 28, March 1 and March 6, 1974. The survey was initiated following snowfall received on February 27 and March 3. With the exception of the mountainous area, all of the unit was surveyed. Track sightings and summaries of subunits are presented in Appendix I.

Surveying of the mountainous area was omitted because winds there blow the ridges clear and crust the snow, allowing wolves to travel leaving very little sign. The area is, however, utilized regularly by wolves and we have numerous reports of wolf sightings in the area from the Sterling Highway to Fox River.

During the course of the survey tracks of 10 packs totaling 51-56 wolves were observed. A pack of 6 wolves and one lone wolf were observed. Wolf sign was noted throughout the surveyed portion of the unit and seven wolf-killed moose were located.

A table of wolf population estimates for 1961 through 1973 is presented in Appendix II.

Management Summary and Conclusions

Although the wolf survey revealed 10 packs totaling 51 to 56 wolves these figures should be used only as minimums. As mentioned, the mountainous portion of the unit was not surveyed. Also, large portions of the unit are heavily forested wherein tracks can be identified only on lakes, streams and muskegs. It is highly probable that in the short period since snowfall a significant number of wolves may not have traveled far enough to leave signs where they could be observed. A more realistic estimate of the Unit 15 wolf population would be 70-80 wolves.

Assuming a population level of 10 in 1968 and 75 in 1973 the annual rate of increase has been about 45 percent. With the same rate of growth the population should number about 109 animals at the beginning of the 1974-75 wolf hunting season. Since there are approximately 3,500 square miles of suitable habitat in Unit 15 the density in 1973 was about one wolf per 47 square miles of habitat. If there is an increase of 45 percent there will be about 1 wolf per 32 square miles at the start of the 1974-75 season.

Wolf numbers in Unit 15 are high enough to have a significant impact on moose. Mech (1966) reported that 20-21 wolves on Isle Royal annually killed about 142 calves and 83 adults. Based on these data seventy-five wolves in Unit 15 could possibly take 730 moose. However, the diet of wolves in Unit 15 is probably more varied than that of the Isle Royal wolves since more species of prey are available. In addition many of the moose taken by wolves, particularly calves, would not have survived because of other factors.

In order to carry out a successful moose management program it will be necessary to manage wolves also. Since wolves compete directly with man for moose and since moose are in high demand by hunters in Unit 15 the wolf population should be managed at a level that minimizes competition with hunters and yet insures a healthy wolf population well above the threshold of security.

Recommendations

It is recommended that wolves be harvested by both sport hunting and sport trapping methods, and that the harvest be regulated to provide a spring breeding population of about 50 wolves.

Literature Cited

Mech, D.L. 1966. The wolves of Isle Royale. U.S. Nat. Park Serv., Fauna Ser. 7. xiii + 210pp.

PREPARED BY:

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Game Biologist III

SUBMITTED BY:

John S. Vania
Regional Management Coordinator

WOLF

GMU - 15 - WESTERN KENAI PENINSULA

APPENDIX I

Wolf Survey Data.

Wolf surveys were conducted in 15(A), 15(B) and a small part of 15(C) on 2/28/74 and 3/1/74. Several inches of new snowfall on 2/27/74. All of 15(C) including Tustumena Lake was surveyed on 3/6/74. Snow and wind obliterated all signs made previous to 3/3/74. Only fresh signs were noted on surveys.

OBSERVATIONS OF TRACKS

15 (A)

(2/28/74) Tracks of 1-3 (Probably 1) observed on an old kill on a small lake just north of Leaf Lake. (1 gray seen at this location on 3/1/74).

(2/28/74) Tracks of 6 wolves seen in marshy area near Grouse Lake.

(3/1/74) Tracks of 6 wolves (most likely same as those seen near Grouse Lake) observed on Paddle Lake Road.

(3/1/74) Tracks of 8 wolves observed on Marsh Lake, Chatelain Lake, Hidden Lake and Small Lake west of Engineer Lake.

(3/1/74) Tracks of 5 wolves seen between Dorshin Bay and mouth of Skilak River.

Total wolves = 20-23. This is a minimum estimate as single tracks could have easily gone unobserved. Since the survey started less than 12 hours after the most recent snowfall some wolves may not have traveled any distance. Tracks other than on lakes, streams and marshes are impossible to identify.

15 (B)

(3/6/74) Tracks of 2 or more wolves crossing Tustumena Lake going south into the timber.

(3/6/74) Tracks of 8 to 10 wolves on north side of Tustumena Lake on an old kill.

Total wolves = 10-12. Surveys were not conducted in mountainous sheep country as past experience has shown them to be a waste of time. The snow cover is blown hard and tracks are almost impossible to see. Also much of the area is blown clear. From past observations we have followed tracks toward sheep wintering areas and then lost them. It is highly likely that wolves could have been working sheep areas and their sign therefore went unobserved.

15 (C)

(3/1/74) 6 wolves observed by Jim Davis on Fox River Flats, 3 black, 2 gray and 1 unknown.

(3/6/74) Tracks of 5+ wolves were found on Fox River and on Fox River Flats. A fresh kill was found on Fox River Flats and 6 tracks left the kill sight going into thick timber to the east. These were most likely the same wolves observed by Davis on 3/1/74.

(3/6/74) Tracks of 4-6 wolves on Anchor River where tributary flows in from the east just north of Bald Mountain.

(3/6/74) Tracks of 7 or more wolves on Deep Creek 5 miles upstream from junction with south fork.

(3/6/74) Tracks of 2 or more wolves on Deep Creek 3 miles west of Caribou Lake.

Total wolves = 21+

Track surveys indicate a minimum of 51-56 wolves in Unit 15. Considering that mountainous sheep habitat was not covered, the short time since snowfall, and that wolf tracks could only be identified when they were observed in non-wooded areas; this figure must be used as a minimum. There are most likely more wolves in Unit 15 than this survey indicates but there is no reliable way of estimating how many. My estimate is 70-80.

PREPARED BY:

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WOLF

GMU 15 - WESTERN KENAI PENINSULA

APPENDIX II

Wolf Observations and Population Estimates

Year	Population Estimates	Remarks
1961	?	1 wolf observed by Dept. Biologist on moose surveys.
1962-67	?	Occasional reports of wolves or wolf tracks but most thought to be non-reliable reports.
1968	10	One pack of 10 wolves observed by Dept. Biologist while surveying moose.
1969	10-15	One pack of 9 observed near Fox River and tracks of a pack of 4 observed at head of Tustumena Lake.
1970	15-25	Numerous reports and observations of wolves and tracks south of Kenai River.
1971	25-35	Numbers about the same or slightly higher south of Kenai River spreading into 15 (A) and Unit 7.
1972	35-60	Wolves appear to be well established in all of Unit 15 and northwest part of Unit 7.
1973-74	70-80	Refer to Appendix I

PREPARED BY:

Paul A. LeRoux
Game Biologist III

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 16 - West Side of Cook Inlet

Seasons and Bag Limits

Hunting	Sept. 1 - April 30	Two Wolves
Trapping	Oct. 1 - April 30	No Limit

Harvest and Hunting Pressure

Thirteen wolves (6 males, 6 females and 1 unknown sex) were reported taken in Game Management Unit 16 during the 1973-74 season (Appendix I). This is the same number as was taken during the 1972-73 season, but below the 1962-63 through 1972-73 average of 30.1 wolves harvested per year.

Two of the wolves harvested during the 1973-74 season came from Subunit 16A and 11 were taken in 16B (Appendix II).

Both of the 16A and 8 of the 16B wolves were taken by ground shooting. The remaining three wolves from 16B were taken by trapping or snaring.

Chronology of harvest data indicates the harvest was distributed throughout the season with a peak of 38.5 percent of the kill occurring in March.

Composition and Productivity

Pack sizes during the 1973-74 season were reported by successful hunters and trappers in seven instances (Appendix III). The pack sizes ranged from 1 to 7 with an average of 2.0 wolves per pack. All but two of the wolves taken (71.4%) were lone wolves. In 1972-73 pack sizes in seven instances averaged 4.7 wolves per pack and during the 1971-72 season 19 packs averaged 4.4 wolves per pack. Few single wolves were taken during the 1972-73 and 1971-72 seasons. All average pack sizes were computed including single wolves.

Management Summary and Conclusions

The 1973-74 harvest of 13 wolves equaled the 1972-73 harvest but was considerably below the previous 11-year average of 30.1 wolves taken per year. The continued ban on aerial wolf hunting undoubtedly contributed to the reduced harvest.

Only 3 (23.1%) of the wolves were trapped or snared in spite of the apparent increased interest in trapping reported during the 1973-74 season. The number of trappers active in Unit 16 is probably very minimal.

The average pack size during the 1973-74 season was below the level of the previous two years. Five of the seven wolves harvested (71.4%) for which pack size was reported were single wolves. This is well above the number of lone wolves taken in 1972-73 (14.3%) and 1971-72 (26.3%). Reasons for the increase in the number of single wolves reported are unclear, but the small sample size may be a factor.

Recommendations

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

PREPARED BY:

Jack C. Didrickson & Don Cornelius
Game Biologist III & Game Biologist II

SUBMITTED BY:

John S. Vania
Regional Management Coordinator

Appendix I. Wolf Harvest from Bounty Records, Aerial Wolf Permit Returns, and Wolf Sealing Certificates for Alaska's Game Management Unit 16, 1962-63 Through 1973-74.

Regulatory Year	Male	Female	Unknown	Total
1962-63*	-	-	-	5
1963-64*	-	-	-	21
1964-65*	-	-	-	37
1965-66**	-	-	-	84
1966-67*	-	-	-	36
1967-68*	-	-	-	66
1968-69*	-	-	-	6[1/]
1969-70***	-	-	-	2
1970-71***	-	-	-	21
1971-72****	18	18	4	40
1972-73****	9	4	-	13
1973-74****	6	6	1	13

* Harvest data compiled from bounty records.

** Harvest data compiled from bounty records through June 1, 1966.

*** Harvest data compiled from returned aerial wolf permits.

**** Harvest data compiled from wolf sealing certificates.

1/ A new bounty law requiring claimants of bounties to be residents of the Unit in which the wolf was killed went into effect on 7/21/68. It is the probable cause of the reduction of wolves reported taken in 1968-1969 to 1969-1970 in Game Management Unit 16.

PREPARED BY: Jack C. Didrickson, Game Biologist III

Don Cornelius, Game Biologist II

Jerome Sexton, Game Biologist II

Appendix II. Wolf Harvest by Sex, Chronology, and Method of Take in Alaska's Game Management Subunits 16A and 16B during the 1973-74 Season.

Harvest	16A No.	16A %	16B No.	16B %	Total Unit 16 No.	Total Unit 16 %
Males	0	0.0	6	54.4	6	46.2
Females	1	50.0	5	45.5	6	46.2
Unknown Sex	1	50.0	0	0.0	1	7.7
Total	2	100.0	11	100.0	13	100.0
Chronology by Month						
September	1	50.0	1	9.1	2	15.4
October	0	0.0	1	9.1	1	7.7
November	1	50.0	0	0.0	1	7.7
December	0	0.0	2	18.2	2	15.4
January	0	0.0	0	0.0	0	0.0
February	0	0.0	1	9.1	1	7.7
March	0	0.0	5	45.5	5	38.5
April	0	0.0	1	9.1	1	7.7
Total	2	100.0	11	100.0	13	100.0
Method of Take						
Ground Shooting	2	100.0	8	72.7	10	76.9
Trapping	0	0.0	2	18.2	2	15.4
Snaring	0	0.0	1	9.1	1	7.7
Total	2	100.0	11	100.0	13	100.0

PREPARED BY: Jack C. Didrickson, Game Biologist III

Don Cornelius, Game Biologist II

Jerome Sexton, Game Biologist II

Appendix III. Wolf Pack Sizes* as Reported by Successful Hunters in Alaska's Game Management Unit 16, 1971-72 through 1973-74.

Year	Number of Packs in Sample	Range of Pack Sizes	Average Pack Size	Percent of Lone Wolves in Sample
1971-72	19	1 - 15	4.4	26.3%
1972-73	7	1 - 10	4.7	14.3%
1973-74	7	1 - 7	2.0	71.4%

* Includes single wolves.

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Don Cornelius, Game Biologist II

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 17 - Bristol Bay

Seasons and Bag Limits

Hunting	September 1 - April 30	Two Wolves
Trapping	October 1 - April 30	No Limit

Hunting, Trapping and Harvest Pressure

Sealing program data for the 1973-1974 season showed that 20 wolves were harvested in Unit 17 (Appendix I). The harvest was equally divided between ground shooting and trapping. The winter months of January through March produced 65 percent of the harvest. Historical data are presented in Appendix II.

Composition and Productivity

No data are available.

Management Summary and Conclusions

Harvest pressure on wolves in Unit 17 is primarily from residents seeking the species for fur. The sport harvest is increasing slightly. The present level of harvest is not considered excessive.

Recommendations

No changes in seasons or bag limits are recommended.

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SUBMITTED BY:

John S. Vania
Regional Management Coordinator

Wolf - G.M.U. 17 - Bristol Bay

Appendix I

1973-1974 Wolf Harvest

Harvest

Males - 13 Females - 7 Unknown - 0 Total - 20

Chronology by Month

Month	Number	Percent	Month	Number	Precent
July	-	-	January	2	10.0
August	-	-	February	2	10.0
September	-	-	March	9	45.0
October	1	5.0	April	-	-
November	6	30.0	May	-	-
December	-	-	June	-	-
			Unknown	-	-
			Total	20	100.0

Method of Take	Number	Percent
Ground Shooting	10	50.0
Trapping	10	50.0
Snaring	-	-
Unknown	-	-
Total	20	100.0

Color of Wolves Taken	Number	Percent
White	2	10.0
Brown	-	-
Gray	16	80.0
Black	2	10.0
Unknown	-	-
Total	20	100.0

PREPARED BY: James B. Faro, Game Biologist III
Jerome J. Sexton, Game Biologist II

Wolf - G.M.U. 17 - Bristol Bay

Appendix II

Historical Wolf Harvest, 1961-1974

Year	Harvest
1961-62[1/]	0
1962-63[1/]	15
1963-64[1/]	14
1964-65[1/]	1
1965-66[1/]	18
1966-67[1/]	26
1967-68[1/]	24
1968-69[1/]	15
1969-70[2/]	3
1970-71[2/]	13
1971-72[3/]	28
1972-73[3/]	20
1973-74[3/]	20

1/ Data from bounty analysis
2/ Data from aerial wolf permits should be considered incomplete
3/ Data from hide sealing program

PREPARED BY: James B. Faro, Game Biologist III
Jerome J. Sexton, Game Biologist II

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 18 - Yukon-Kuskokwim Delta

Seasons and Bag Limits

Hunting	Sept. 1 - April 30	Two wolves
Trapping	Oct. 1 - April 30	No limit

Harvest, Trapping and Hunting Pressure

The reported 1973-74 harvest of wolves in Unit 18 was two taken in November and January. Both were males harvested by trapping and snaring. Wolves continue to be relatively uncommon except in the fringes of Unit 18 adjacent to Units 19 and 21. However, several packs were reported in the mountains northeast of St. Mary's in the spring of 1973.

Composition and Productivity

No current information is available.

Management Summary and Recommendations

No changes recommended.

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SUBMITTED BY:

Oliver E. Burris
Regional Management Coordinator

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 19 - McGrath

Seasons and Bag Limits

Hunting	Sept. 1 - April 30	Two wolves
Trapping	Oct. 1 - April 30	No limit

Harvest, Trapping and Hunting Pressure

The 1973-74 season witnessed one of the lightest wolf harvests in this area since 1969-70. The wolf harvest for the 1973-74 reporting period was 17 males, 19 females and 3 sex unknown, for a total of 39 (Appendix I). Several factors may have contributed to this decrease in harvest. The most obvious reason was the lack of interest on the part of local hunters, who had hunted early in the winter (November and December) with moderate success due to good tracking conditions and deep snow. However, conditions reversed during the mid-February and March period when normally most wolves are harvested. Tracking became extremely poor then as a result of drifting and packing of the snow. This also affected the hunters' ability to land and shoot wolves due to their increased mobility on the hard surface. Furthermore, wolf packs were more abundant in some Unit 21 drainages which are close to the McGrath area. This tended to shift much of the hunting pressure away from Unit 19.

Seasonal Distribution, Migration and Concentration

Aerial surveys of wolves made in spring 1974 produced observations of 12 packs, consisting of 66 individuals. A summary of these observations is presented in Appendix II. Average pack size was 5.4 wolves, representing a decrease of one wolf over 1973 pack size. This may represent a real decrease in the overall Unit 19 wolf population, since pack size has declined each year since the 1972 counts.

An intensive coverage of the Holitna River drainage revealed an estimated wolf population of nearly 100 individuals. This estimate was based on sightings of 36 individuals in 6 groups and tracks of approximately 7 more packs comprised of an estimated 52 wolves. Applying this population estimate to the area of the drainage covered results in a density of about one wolf per 45 square miles.

A heavy spring snow pack in 1974 tended to confine most wolf activity to the Holitna, Titnuk, and Hoholitna River valleys. Moose were also forced into these riparian habitat and consequently suffered heavy predation during the late winter and spring months. Virtually no calves were found throughout the Holitna drainage suggesting poor winter survival largely attributable to wolves. Considering the additional heavy harvest of these moose by subsistence hunters the level of predation is not considered acceptable from a good management standpoint. Control of

some sort may be necessary to revitalize current moose stocks. Most aircraft borne hunters are reluctant to work this area due to dense brush and "gee pole" timber flats which make landing and shooting impractical. Wolves from this area often have poor pelage which further tends to discourage hunting. Few wolves are trapped in this drainage. These factors suggest any control effort would have to be initiated or supported by the Department of Fish and Game.

Management Summary and Recommendations

Wolf pack size has declined in Unit 19 over the past three years, suggesting some decrease in the population. Local interest in wolf hunting has in part decreased because wolves are more abundant and huntable in adjacent Unit 21. However, elimination of aerial shooting permits is probably the main reason for lack of hunting pressure. Present levels of hunting activity are not utilizing the harvestable surplus of wolves in Unit 19. Because moose populations are low and wolves are continuing to depress recovery of stocks to former levels, some relaxation of aerial hunting regulations is suggested in this unit.

Intensive aerial surveys of the 4300 square mile Holitna watershed during the spring of 1974 produced an estimated current wolf density of about one per 45 square miles. These wolves were largely preying on moose concentrated along the Holitna, Tiknuk, and Hoholitna Rivers. Lack of calves and numerous wolf kills suggested that this level of predation, along with an already low moose population and heavy subsistence hunter utilization, was not in the best interests of sound game management. Because hunters and trappers are reluctant to seek wolves in this area, wolf control measures to revitalize the moose herd in the Holitna drainage may have to be initiated or supported by the Department of Fish and Game.

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SUBMITTED BY:

Oliver E. Burris
Regional Management Coordinator

Appendix I. Wolf - Game Management Unit 19 - McGrath, wolf harvest, chronology and method of take, 1973-74*.

Males	Females	Unknown	Total
17	19	3	39

Chronology by Month

Month	Number	Percent	Month	Number	Percent
July	--	--	January	7	17.9
August	--	--	February	7	17.9
September	3	7.7	March	--	--
October	--	--	April	--	--
November	5	12.8	May	--	--
December	17	43.6	June	--	--
			Total	39	99.9

Method of Take	Number	Percent
ground shooting	23	59.0
trapping	15	38.5
snaring	1	2.6
Total	39	100.1

*data from sealing records

Appendix II. Wolf pack observations 1974 - Unit 19.

Date	Area	Pack Size	Grey	Blk	Brown	Unk.	Snow Conditions
2/27/74	Hoholitna R.	1	1				poor-crusted
2/28/74	Holitna R.	2	1	1			poor-drifted
2/28/74	Shotgun Cr.	7	7				poor-windy
3/6/74	Hoholitna R.	4	1	3			poor-packed
3/15/74	Swift R.	12					fresh light snow 1"
3/15/74	Selatna R.	8	5	3			fresh snow
3/16/74	Shotgun Cr.	1	1				poor-heavy overcast
3/19/74	Titnuk Cr.	8	3	5			2-3" new wet snow
3/19/74	Hoholitna S Fk	4					drifted and hard
3/19/74	Hoholitna	9	1	8			drifted and hard
3/20/74	Big R.	5	3	2			drifted and hard
4/7/74	S Fk Kuskokwim	5	5				none-wind blown
7/20/74	Holitna R.	1*		1			none-near den on riverbar

* incomplete count - tracks indicated rest ran into timber.

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 20 - Fairbanks, Central Tanana Valley

Seasons and Bag Limits

Hunting	Sept. 1 - Apr. 30	Two wolves
Trapping	Oct. 1 - Apr. 30	No limit

Harvest, Trapping and Hunting Pressure

Data compiled from sealing certificates indicate the legally reported harvest of wolves in Game Management Unit 20 for the 1973-74 season consisted of 304 animals (152 M, 146 F, and 6 sex unknown), representing a slight increase over the 1972-73 season when 296 wolves were taken. Although aerial shooting permits were not issued for the past two seasons, the wolf harvest in this unit has increased since the 1971-72 season, the last year in which aerial hunting/trapping was legal, when 277 wolves were presented for sealing. The sex composition of the harvest has remained unchanged the past three seasons; males comprised 51-53 percent of the known-sex harvest since 1971.

Appendix I summarizes the subunit harvest, chronology and method of harvest, and color of wolves taken. Distribution of the harvest among the four subunits was similar to the 1972-73 season; Game Management Unit 20C occupying the largest area and receiving the heaviest trapping pressure, contributed 208 wolves, or 68 percent of the unit harvest. Trapping and snaring accounted for 90 percent of the total take, while 9 percent of the wolves were taken by ground shooting. Approximately 15 hides presented for sealing had evidence of shotgun pellets penetrating the dorsal portion of the pelt, suggesting aerial hunting is still practiced. Sixty-eight percent of the unit harvest of known-coloration wolves consisted of grays, while 28 percent was comprised of the black color phase. Harvest chronology indicates a uniform distribution of the trapping effort throughout the period when most trappers prefer to take wolves (November-March). The percentage of the known-date harvest taken for this five-month period was as follows: November, 16%, December 23%, January 16%, February 16%, and March 24% (see Appendix I).

Composition and Productivity

No current data available.

Population Trends

Pack size (as reported by trappers when hides are presented for sealing) is used as an index to population fluctuations and relative abundance. Table 1 summarizes frequency distribution of wolf packs in Unit 20 for the three years following the establishment of the sealing program. If the reported pack sizes are reasonably accurate the wolf population in the unit appears to have stabilized over the past four

years. Data compiled from Interior Alaska from 1960-66 (summarized in Annual Report of Survey-Inventory Activities, Part III, Volume IV) indicate that wolf density reached a peak in 1965-66 following low numbers in 1963-64. It is not known what population fluctuations occurred during the period 1967-1970.

Table 1. Frequency distribution of wolf packs, GMU 20, 1971-74 regulatory years. Compiled from data obtained from sealing certificates.

Year	Total Packs (2 or more wolves)	Percent Wolves in Packs of 8 or more
1971-72	91	32
1972-73	70	27
1973-74	81	31

Management Summary and Recommendations

Informal observations of wolves made in conjunction with other S & I activities in Interior Alaska, as well as wolf distribution reported by trappers indicate a relatively large wolf population in most of Unit 20. The three-season average harvest (1971-74) of 292 wolves does not appear to have adversely affected the wolf population. Continued harvest at the current level can be expected if the fur market value of wolf pelts remains at the $150-200 level. The heavy hunting pressure on other big game animals in the Fairbanks area increases the potential for wolves taken by ground shooting. Harvest information indicates concentrated trapping activity in accessible drainages; nevertheless, wolves are taken regularly in the immediate Fairbanks area, and the apparent high rate of exploitation has not depleted wolf numbers. The incidence of moose carcasses fed upon and/or killed by wolves in this unit (observed by Department personnel and trappers) and the current low level of calf production suggest that wolf predation may have a significant effect on the ungulate populations in Unit 20. Therefore, utilizing surplus wolves through liberal hunting and trapping seasons should be continued to maintain, and in certain areas, increase the current level of harvest.

PREPARED BY:

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Game Biologist II

SUBMITTED BY:

Oliver E. Burris
Regional Management Coordinator

Appendix I. Unit 20 wolf harvest, 1973-74 regulatory year. Compiled from data obtained from sealing certificates.

	No. Taken			Color				Chronology		Method of Harvest		
	M	F	Unk.	Gray	Black	Brown	White	Month	No. Taken	Ground Shooting	Trapping	Snaring
GMU 20 A	26	24	1	34	13	4	0	Sept.	4	0	31	20
								Oct.	0			
								Nov.	3			
								Dec.	9			
								Jan.	9			
								Feb.	15			
								Mar.	11			
GMU 20B	24	13	1	17	20	1	0	Aug.	1	3	18	16
								Sept.	3	*one road kill		
								Oct.	0			
								Nov.	7			
								Dec.	4			
								Jan.	7			
								Feb.	10			
								Mar.	5			
								Apr.	1			
GMU 20C	99	106	3	149	52	7	0	Sept.	5	22	111	74
								Oct.	1	*one road kill		
								Nov.	36			
								Dec.	56			
								Jan.	30			
								Feb.	22			
								Mar.	55			
								Apr.	2			
								May	1			
GMU 20D	3	3	1	7	0	0	0	Oct.	1	2	3	2
								Nov.	1			
								Dec.	1			
								Jan.	1			
								Feb.	1			
								Mar.	1			
								Apr.	1			
Unit 20 Totals	152	146	6	207	85	12	0		304	27	163	112
										*2 road kills		

Appendix II. Unit 20 wolf harvest by drainage, 1973-74 regulatory year. Only those areas furnishing five or more wolves to the harvest are represented.

Subunit, Drainage	No Taken	% of Subunit Harvest
GMU 20A		
Delta River, Delta Creek	6	12
Little Delta River	7	14
Dry Creek	23	45
Wood River, Gold King	9	18
GMU 20B		
Chena River	11	29
Chatanika River	5	13
Tatalina River	16	42
GMU 20C		
Fortymile River	63	30
Birch Creek	9	4
Healy River, Volkmar River	32	15
Tanana River	6	3
Hess Creek	5	2
Tolovana River	9	4
Nenana River	9	4
Totatlanika River, Healy Creek, Lignite Creek	5	2
Teklanika River, Sushana River, Toklat River	13	6
Kantishna River	11	5

GMU 20D not included due to low harvest (see Appendix I).

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 21 - Middle Yukon

Seasons and Bag Limits

Hunting	Sept. 1 - April 30	Two wolves
Trapping	Oct. 1 - April 30	No limit

Harvest, Trapping and Hunting Pressure

The 1973-74 wolf harvest in Unit 21 was 102, including 59 males, 38 females, and 5 sex unknown (Appendix I). Snowfall, which is always an important factor in wolf hunting, was fairly heavy over most of the unit in 1973-74. Late snowfall in March provided good tracking conditions for the harvest of better than half of the reported wolves taken.

Because Unit 21 has more open terrain and an abundant wolf population, hunter interest has still remained high over the past few years since abolishment of aerial shooting. This plus the fact that many Unit 19 and 21 residents have regularly supplemented their incomes by hunting wolves should assure a reasonable harvest of surplus animals.

Abundance and Population Trends

Four wolf packs were observed in Unit 21 while performing routine management surveys. These packs consisted of 18 individuals or 4.5 animals per pack. Pack averages from these counts were not felt indicative of the current population status of wolves in this unit, since they were made during or following the heaviest wolf hunting activity, which tends to scatter the animals and reduce the observed pack size.

Conversations with Yukon and Koyukuk River residents suggested that wolves were fairly abundant during the winter of 1973-74. Hunting success was probably not as good as in 1972-73, which witnessed the same level of hunting effort, but was affected by poor hunting conditions.

Management Summary and Recommendations

Wolf populations in Unit 21 continued to remain high during 1973-74, but may be down from the 1972-73 level. A reasonable harvest of wolves was taken due to increased hunter interest and good snow conditions during the late spring months of 1974. Continued harvest of surplus wolves in this unit may depend on promulgation of regulations which are less restrictive on methods and means.

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SUBMITTED BY:

Oliver E. Burris
Regional Management Coordinator

Appendix I. Wolf - Game Management Unit 21 - Middle Yukon. Wolf harvest, chronology, and method of take, 1973-74*.

Males	Females	Unknown	Total
59	38	5	102

Chronology by Month

Month	Number	Percent	Month	Number	Percent
July	--	--	January	10	9.8
August	1	1.0	February	14	13.7
September	2	2.0	March	57	55.9
October	--	--	April	2	2.0
November	8	7.8	May	1	1.0
December	7	6.9	June	--	--
			Unknown	--	--
			Total	102	100.1

Method	Number	Percent
ground shooting	79	77.5
trapping	23	22.5
snaring	--	--
unknown	--	--
Total	102	100.0

*data from sealing records

Appendix II. Wolf pack observations - 1974. Game Management Unit 21.

Date	Area	Pack Size	Grey	Blk	Brown	Unk.	Snow Conditions
3/18/74	Dishna R.	3	3				poor-drifted
3/18/74	Mud R. (Inoko)	5					poor-drifted
4/2/74	Yukon R.	2		2			poor-hard packed
4/3/74	Koyukuk	8	8				poor-wind packed

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 22 - Seward Peninsula

Seasons and Bag Limits

Hunting	Aug. 10 - April 30	Two wolves
Trapping	Oct. 1 - April 30	No limit

Harvest, Trapping and Hunting Pressure

Wolf populations on the Seward Peninsula are still low reflecting the previous intensive predator control in conjunction with the reindeer industry. The total reported wolf harvest was 6 and the actual harvest probably did not exceed 12. All of the wolves were taken by shooting from the ground. Grays outnumbered blacks 5 to 1 and pack size averaged 1.2 (Appendix I).

Seasonal Distribution, Migration and Concentration

Wolves appear to be increasing slightly especially on the north side of the Seward Peninsula partially due to the cessation of organized predator control on reindeer ranges.

Management Summary and Recommendations

Liberal bag limits and seasons should be continued to partially deter efforts to have the Department implement predator control.

PREPARED BY:

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SUBMITTED BY:

Oliver E. Burris
Regional Management Coordinator

Appendix I. Chronology of wolf harvest in Unit 22.

Month	Number	Sex			No. of Packs	Average Size	Color	
		M	F	Unk			Gray	Black
Sept.	0							
Oct.	1		1		1	1	1	
Nov.	0							
Dec.	0							
Jan.	1		1		1	1	1	
Feb.	2	1	1		1	2	1	1
March	1			1	1		1	
April	1	1			1	1	1	

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 23 - Kotzebue Sound

Seasons and Bag Limits

Hunting	Sept. 1 - April 30	Two wolves
Trapping	Oct. 1 - April 30	No limit

Harvest, Trapping and Hunting Pressure

The Unit 23 reported wolf harvest in 1973-74 was 41. This is lower than most years and was due in part to a severe cold spell in February when most hunters remained at home.

Trapping is seldom practiced and only three wolves were trapped. Current procedure is to utilize snow machines to hunt whatever game is available including wolves. Of the 41 wolves taken, 21 were males, 16 females and 4 where sex was undetermined (Appendix I). Wolves were taken from 29 different packs that averaged 3.1 wolves per pack. Grays outnumbered blacks 28 to 11 with 2 white wolves also taken. The Selawik and Shungnak areas produced the most wolves.

Seasonal Distribution, Migration and Concentration

Villagers reported that wolf tracks were abundant in the Selawik and Shungnak areas. Shungnak residents reported that the wolves were most abundant during November to January.

Management Summary and Recommendations

Wolves continue to be taken primarily near wintering caribou herds. Trapping activity has continued to decline, so liberal bag limits and seasons can be continued without detrimental effects.

PREPARED BY:

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SUBMITTED BY:

Oliver E. Burris
Regional Management Coordinator

Appendix I. Chronology of wolf harvest in Unit 23.

Month	Number	Sex M	Sex F	Sex Unk	No. of Packs	Average Size	Color Gray	Color Black	Color White
Sept.	2	2			2	1.0	1	1	
Oct.	0								
Nov.	7	2	1	4	3	5.0	6	1	
Dec.	3	2	1		2	1.5	3		
Jan.	3	2	1		2	4.0	2	1	
Feb.	8	4	4		4	5.7	4	4	
March	10	5	5		8	2.0	6	2	2
April	8	4	4		8	3.0	6	2	
TOTAL	41	21	16	4	29		28	11	2

Location of wolves harvest in Unit 23.

Area	Sex Male	Sex Female	Sex Unk	Number of Packs	Average Pack Size
Upper Noatak	2			3	1.0
Noatak	3	2		3	2.0
Kiana	1			1	8.0
Shungnak	7	5		9	2.9
Buckland	1	3		3	2.3
Selawik	7	6	4	8	5.7

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 24 - Koyukuk

Seasons and Bag Limits

Hunting	Sept. 1 - April 30	Two wolves
Trapping	Oct. 1 - April 30	No limit

Harvest, Trapping and Hunting Pressure

The total number of wolves taken in Unit 24 during the 1973-74 regulatory year, as indicated by sealing records, was 60 wolves. In 1972-73, 100 were killed and 129 were taken in 1971-72.

Population Trends, Composition and Productivity

Management information collected in conjunction with research activities conducted under Federal Aid Project W-17-6 and W-17-7, Jobs 14.3, 14.4 and 14.5 will be reported in the 1974 Survey and Inventory Report.

Management Summary and Recommendations

There is a very limited amount of information on wolves and wolf prey in this unit. An accurate management summary with appropriate recommendations is not possible at this time.

PREPARED AND SUBMITTED BY:

Oliver E. Burris
Regional Management Coordinator

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 25 - Fort Yukon

Seasons and Bag Limits

Hunting	Sept. 1 - April 30	Two wolves
Trapping	Oct. 1 - April 30	No limit

Harvest, Trapping and Hunting Pressure

The total number of wolves taken in Unit 25 during the 1973-74 regulatory year, as indicated by sealing records, was 56 wolves. In 1972-73, 48 were killed and 121 were killed in 1971-72.

Population Trends, Composition and Productivity

Management information collected in conjunction with research activities conducted under Federal Aid Project W-17-6 and W-17-7, Jobs 14.3, 14.4 and 14.5 will be reported in the 1974 Survey and Inventory Report.

Management Summary and Recommendations

There is a very limited amount of information on wolves and wolf prey in this unit. An accurate management summary with appropriate recommendations is not possible at this time.

PREPARED AND SUBMITTED BY:

Oliver E. Burris
Regional Management Coordinator

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 26 - Arctic Slope

Seasons and Bag Limits

Hunting	No open season	
Trapping	Oct. 1 - April 30	No limit

Harvest, Trapping and Hunting Pressure

Forty-six wolves were taken in the 1973-74 regulatory year, as indicated by sealing records. In 1972-73, 71 were taken.

Population Trends, Composition and Productivity

Management information collected in conjunction with research activities conducted under Federal Aid Project W-17-6 and W-17-7, Jobs 14.3, 14.4 and 14.5 will be reported in the 1974 Survey and Inventory Report.

Management Summary and Recommendations

There is a very limited amount of information on wolves and wolf prey in this unit. An accurate management summary with appropriate recommendations is not possible at this time.

PREPARED AND SUBMITTED BY:

Oliver E. Burris
Regional Management Coordinator

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 5 - Yakutat

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

The harvest of black bears in Unit 5 during 1973 was 19 animals. This is an increase from the 17 taken the previous year. The take in Unit 5 is so small that large percentage variations can be caused by weather and other factors during the hunting season.

A summary of Unit 5 black bear sport harvest is presented below.

Year	Total Kill	No. Males	% Males 1/	No. Nonres	% Nonres	Mean Skull Size Male 2/	Range	Mean Skull Size Female 2/	Range
1972	17	12	71	10	59	17.9	14.3-19.3	14.2	9.8-15.8
1973	19	12	63	13	68	15.9	13.0-18.8	15.3	12.8-16.3

1/ All male % based on known-sex bears
2/ Length plus width given in inches

The number of bears taken is too small to provide parameters indicating significant changes in sex and age ratios.

One female bear in the blue color phase was harvested in 1973 compared with two blue bears of each sex in 1972.

It is interesting to note the skull sizes of blue color phase bears which are as follows: male - 19.3 inches, female - 14.5 inches and 17.8 inches. The blue color phase evidentaly is not related to the vigor or size of the animal, for the 19.3 inch skull is the largest black bear skull recorded for the Yakutat area.

Populations

Because the blue color phase of the black bear (glacier bear) is one of the most valued big game animals in North America, and the Yakutat area appears to be the region where this color phase most commonly occurs, a major effort was made in spring 1973 to obtain information on Unit 5's black bear population. This was accomplished with aerial surveys totaling 33.2 hours of actual flying time. The area was again censused in the spring of 1974, but not as much time was expended in this effort. Results of these surveys are as follows:

A total of 136 black bear sightings were made in 33.2 hours of flying during the spring of 1973. Eighty-six individual black bears were seen from one to five times each, during a time period of 11 days. One of the 86 black bears observed was of the blue color phase.

In 1974 the observed ratio of blue color phase bears to black color phase bears was 1:29 during late April and early May. This compares with a ratio of 1:136 blue color phase bears to black color phase bears observed in 1973. The 1974 sighting data were collected by Tom Nichols, Fish and Wildlife Protection Officer, and David Johnson (ADF&G). Nichols sighted 75 black bears, two of which were of the blue color phase, in the time period from April 26 to May 15. Johnson sighted 13 black bears, one which was of the blue color phase, in 3.7 hours of aerial surveying on May 13 and 15.

When trying to derive a ratio for the number of black color phase bears to the number of blue color phase bears in a given population, the relative observability of the two color phases must be considered. A black color phase bear was in stark contrast with its background while a blue color phase bear blended in with its background. It is felt that this difference in observability may mean that it is much easier to observe a black color phase bear than a blue color phase bear from the air.

Management Summary and Recommendations

It is not considered that hunting pressure has influenced the black bear population in Game Management Unit 5.

Seasons and bag limits should remain unchanged.

PREPARED BY:

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SUBMITTED BY:

Harry R. Merriam
Regional Research/Management Coordinator

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 6 - Prince William Sound

Seasons and Bag Limits

September 1 - June 30	One bear; provided that the taking of cubs or females accompanied by cubs is prohibited.

(On July 1, 1973 a regulation went into effect that requires hunters who take a black bear in Game Management Units 1-7, 11, and 13-16 on or after that date to salvage the hide or skull of the animal and present both the hide and skull to the Alaska Department of Fish and Game for sealing within 30 days after taking.)

Harvest and Hunting Pressure

Sealing data revealed a fall harvest of only 17 black bears: 11 males, 2 females and 4 sex unknown. Harvest and hunting pressure during the spring season were unknown.

Composition and Productivity

A Prince William Sound black bear survey of key areas was flown June 5, 1973 and 55 bears were sighted. The 1973 survey compared favorably with similar surveys flown in 1971 and 1972 (Appendix I).

Management Summary and Conclusions

Present knowledge of black bear abundance and harvest data is not adequate to determine their status in Unit 6. Sealing data and surveys of key areas should provide the necessary data in the future.

Recommendations

No changes are recommended in the season or bag limit.

PREPARED BY:

Julius Reynolds
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SUBMITTED BY:

John S. Vania
Regional Management Coordinator

APPENDIX I

Prince William Sound Black Bear Survey Data of Key Areas

Location	June 5, 1973	June 5, 1972
Passage Canal	Fogged in	6 adults
Pigot Bay	1 adult	1 adult
Hummer Bay	0	3 adults, S/2 lg.
Barry Arm	7 adults	6 adults, S/2 lg.
College Fiord	10 adults	7 adults, S/1 lg.
		June 5 - 7, 1971
Coghill	4 adults	3 adults
Esther Island	0	3 adults
Eaglek	1 adult	0
Siwash Bay	0	Sow/ 1 sm.
Jonah Bay	0	0
Unakwik	4 adults	3 adults
Wells Bay	3 adults	1 adult
Cedar Bay	2 adults	1 adult
Long Bay	3 adults	3 adults, Sow/2 lg.
Jack Bay	5 adults, Sow/2 lg.	1 adult
Silver Lake	6 adults	1 adult
Fish Bay	0	2 adults
Fidalgo	1 adult	2 adults
Gravina	0	0
Bear Trap	2 adults	1 adult
Olsen Bay	1 adult	0
Sheep Bay	1 adult	1 adult
Simpson Bay	1 adult	1 adult, sow/1 sm.
	55 Total 2 large cubs	61 Total 7 large cubs 1 small cub

Submitted by: Julius Reynolds, Game biologist III

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT -1973

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.

(On July 1, 1973 a regulation went into effect that requires hunters who take a black bear in Game Management Units 1-7, 11 and 13-16 on or after that date to salvage the hide or skull of the animal and present both the hide and skull to the Alaska Department of Fish and Game for sealing within 30 days after taking.)

Harvest and Hunting Pressure

Sealing data indicate that 38 black bears including 16 males, 21 females and 1 unknown sex were taken during the period July 1, 1973 to December 31, 1973. (Appendix I). The only data available for comparison are from the 1969 multispecies harvest questionnaire which was included in the harvest report packet. The 1969 data for the same period (July 1 - Dec. 31) indicated a harvest of 23 black bears. The 1969 data are considered minimal since the multispecies questionnaire was voluntary and no reminder letters were sent out. Also, 1973 data should be considered minimal since it was the first year of the sealing requirement, and cases of bears not being sealed because hunters were not aware of the new sealing requirement are known to have occurred.

The mean skull size for males was 16.06 inches (n = 13) and females 15.38 inches (n = 17) (Appendix I). Comparative data are not available.

Twenty-nine percent (11/38) of the harvest was taken by nonresident hunters and 71 percent (27/38) by residents. Successful nonresidents averaged 3.4 days of hunting to take a black bear while successful residents averaged 2.3 days; however, these data may not be comparable since many bears taken by residents are taken incidental to hunting another species. Seventy-three percent (8/11) of all successful nonresidents were guided while no successful residents utilized guides (Appendix II).

Forty-two percent (16/38) of all successful hunters utilized aircraft; 8 percent (3/38) boats; 8 percent horses; 3 percent (1/38) off road vehicles; and 39 percent (15/38) other means of transportation in taking black bear (Appendix II).

The entire reported harvest was taken between Aug. 10 and Oct. 10 with 47 percent (18/38) occurring between Aug. 10 and Sept. 10 (Appendix III). Assuming that chronology of the harvest in 1973 was the same as in 1969 the projected kill for the period Jan. 1 - June 30, 1973 is 15 bears. This would give a total minimum harvest for 1973 of 53 bears.

Distribution of the harvest was such that no specific area appears to be receiving excessive pressure. The greatest number of bears taken in any locale was four from the Kenai Lake vicinity and five from Resurrection Creek drainage. Only two bears were reportedly taken near saltwater.

Since only successful hunters report via the sealing requirement, there was no measure of hunting pressure on black bears in 1969 or 1973.

Composition and Productivity

Presently the Department has no means of collecting meaningful data on sex and age composition and productivity of black bears in this Unit. Observations of black bears recorded in conjunction with collared moose surveys suggest that initial productivity, in terms of cubs-of-the-year observed, is high (Appendix IV). Yearling recruitment into the population is a more accurate measure of true productivity but is presently not measureable.

Management Summary and Conclusions

The newly initiated sealing requirement should provide a good measure of harvest for between-year comparisons in the future. This year's data should be considered as less than the true harvest because of reported failures to meet the sealing requirement. Relationship of mean skull size to age structure of the population and its management implication are not known at this time since there are no comparative data. These data should prove useful in the future when several years' data are accumulated. The amount of selectivity practiced by hunters for or against large bears is not known.

The harvest of approximately 53 bears from this Unit in 1973 is too small to possibly affect the population adversely. The harvest was very well distributed and it is possible to see more bears in a few hours of flying in a small area than are taken annually. On Sept. 29, 1970, 54 black bears were observed on a 3-hour moose survey in the Chickaloon River and Thurman Creek drainages. On August 8, 1973, 77 black bears were observed on a 4 hour and 40 minute moose survey on the western side of the Kenai Mountains from Big Indian Creek to Mystery Creek (Appendix IV).

Recommendations

No changes in seasons or bag limits are recommended.

Changes should be made in the sealing form to indicate if hunters were pursuing bears, or took them incidental to hunting for another species and whether hunters were selective for any particular class of bear. It would also be useful to know whether the bear was taken for a trophy or for meat and whether or not the meat was salvaged.

A research program should be established to develop management techniques for black bear and to provide basic life history information.

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Paul A. LeRoux
Game Biologist III

SUBMITTED BY:

John S. Vania
Regional Management Coordinator

Appendix I - Black Bear Harvest with Mean Skull Size of Male and Female Bears Sealed in Alaska's Game Management Unit 7 during the period July 1 through December 31, 1973.

Unit	Total Harvest	No. Males	% Males	No. Females	% Females	No. Unknown Sex	% Unknown Sex	Mean Skull Size Male	Mean Skull Size Female
7	38	16	42	21	55	1	3	16.06 inches n = 13	15.38 inches n = 17
							Max.	19.4 inches	16.3 inches
							Min.	13.5 inches	12.9 inches

PREPARED BY: James L. Davis, Game Biologist II and Paul A. LeRoux, Game Biologist III

Appendix II - Residency, Days Hunted, Number of Guided Hunts, and Methods of Transportation for Successful Black Bear Hunters in Alaska's Game Management Unit 7, July 1 through December 31, 1973.

	Residency of Successful Hunters				Av. Days Hunted		No. Guided Hunts				Transportation Used									
	Non-Res		Res.				Non-Res.		Res.		Aircraft		Off Road Vehicle		Boat		Horses		Other	
Unit	No.	%	No.	%	Res.	Non-Res	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
7	11	29	27	71	2.3	3.4	8	73	0	0	16	42	1	3	3	8	3	8	15	39

PREPARED BY: James L. Davis, Game Biologist II and Paul A. LeRoux, Game Biologist III

Appendix III - Chronology of Black Bear Sport Hunting Harvest in Alaska's Game Management Unit 7, July 1, 1973 through December 31, 1973.

Date	Number of Bears Harvested		
	Male	Female	Total
July 1-10			
July 11-20			
July 21-31			
Aug. 1-9 [1]		1	1
Aug. 10-19 [2]	3	1	5[5]
Aug. 20-31	4	5	9
Sept. 1-10 [3]	3	5	9[5]
Sept. 11-20 [4]	2	4	6
Sept. 21-30	3	3	6
Oct. 1-10		2	2
Oct. 11-20			
Oct. 21-Dec. 31			

1 Period August 1-9 used because sheep and goat season opened in most of Unit 7 on August 10.
2 Period August 10-19 used because this time interval represented period when sheep and goat season was open, but before moose season opened on August 20.
3 September 10 was the closing date of moose season in Unit 7.
4 September 20 was the closing date of sheep season in all of Unit 7.
5 Total exceeds summation of male and female because of inclusion of unknown sex.

PREPARED BY: James L. Davis, Game Biologist II and Paul A. LeRoux, Game Biologist III

Appendix IV - Black Bear Age Composition data obtained incidental to Collared Moose Surveys in Alaska's Game Management Unit 7 1973.

Date	Single Adults*	Groups** of Adults	Sows with 1 cub	Sows with 2 cubs	Sows with 3 cubs	Sows with 4 cubs	Total Bears	Area Observed	Hours of Flight Time
7/21/	2	--	--	--	--	--	2	Big Indian Creek	2.0
8/28/	27	--	2	6	7	--	77	Big Indian to Mystery Creek	4.7
9/28	10	--	1	4	--	--	24	Big Indian to Mystery Creek	2.3
9/6/	2	1 (2)	--	1	--	--	7	Big Indian and East Side of Resurrection Creek	1.0
7/10/	4	2 (2)	--	--	--	--	8	-----	2.0
7/21/	2	--	--	--	--	--	2	Big Indian Creek	0.5
7/17/	3	--	--	--	--	--	3	Big Indian Creek	

* Adults includes yearlings.
** Number in parenthesis is group size.

PREPARED BY: James L. Davis, Game Biologist II and Paul A. LeRoux, Game Biologist III

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1973

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.

(On July 1, 1973 a regulation went into effect that requires hunters who take a black bear in Game Management Units 1-7, 11, and 13-16 on or after that date to salvage the hide or skull of the animal and present both the hide and skull to the Alaska Department of Fish and Game for sealing within 30 days after taking.)

Harvest and Hunting Pressure

Because no sealing information was available no work was accomplished.

Composition and Productivity

No work was accomplished.

Management Summary and Conclusions

Black bear are restricted to the northern portion of the unit. Harvest pressure is light and occurs primarily in the Lake Clark area and Cook Inlet area north of Chinitna Bay. Estimated harvest is 10-15 bears annually.

Recommendations

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

PREPARED BY:

James B. Faro
Game Biologist III

SUBMITTED BY:

John S. Vania
Regional Management Coordinator

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1973

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

A requirement that the hide and skull of black bears be presented to the Department of Fish and Game for sealing went into effect on July 1, 1973. This report covers the calendar year 1973; therefore, the data presented are incomplete. Furthermore, it is believed that some successful hunters failed to have bears sealed because they were unaware of the sealing requirement. Sealing data show a harvest of 31 black bears, 20 males and 11 females, with a mean male skull size of 17.0 inches and a mean female skull size of 15.9 inches (Appendix I).

An analysis of the harvest by location of kill shows that 30 of these black bears were taken in the Chitina Valley. The remaining bear is known to have been harvested by a moose hunter on the slopes of Mt. Drum. The opening of the Chitina-McCarthy Road and its expected high utilization could lead to a potential overharvest in that area. Future sealing data should be closely monitored to avert such a possibility. The transportation means reported on the sealing forms (Appendix II) are believed to be inconsistent. Some hunters report transportation means used to gain access to the hunting area while others report the transportation means in use when the black bear was harvested.

The number of black bear hunters cannot be determined, but most black bears are believed to have been harvested incidental to hunts for other big game species. This is suggested by a comparison of the chronology of the harvest to the established hunting seasons for sheep and moose (Appendix III). No black bears were reported killed prior to the August 10 opening of the sheep season or following the September 30 closing of the moose season.

Composition and Productivity

Sealing data show the harvest to be comprised of 65 percent males and 35 percent females. This high male harvest is probably an indication of a lightly hunted population. Age data from the collected teeth are not yet available. No other composition and productivity data are available.

Management Summary and Conclusions

The black bear sealing requirement went into effect on July 1, 1973, although harvest data are reported on a calendar year basis. With only fall harvest data available for consideration, a harvest of 31 black bears was recorded. Black bear hunting was restricted primarily to the Chitina River Valley and was probably done in conjunction with hunts for other species. The hunting pressure is believed to be light, but the opening of the Chitina-McCarthy Road could greatly increase the pressure in that area.

Recommendations

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

PREPARED BY:

Nick Steen
Game Biologist II

SUBMITTED BY:

John S. Vania
Regional Management Coordinator

Appendix III. Chronology of Black Bear Sport Hunting Harvest in Alaska's Game Management Unit 11, July 1, 1973 through December 31, 1973.

Date	No. of Bears Harvested
July 1-10	0
July 11-20	0
July 21-31	0
August 1-9 *	0
August 10-19 **	5
August 20-31	4
September 1-10 ***	7
September 11-20 ****	9
September 20-30	6
October 1-10	0
October 11-20	0
October 21 - December 31	0

* Period August 1-9 used because sheep and goat season opened in most of Unit 11 on August 10.

** Period August 10-19 used because this time interval represented period when sheep and goat season was open, but before moose season opened on August 20.

*** September 10 was the closing date of moose season in Subunit 11.

**** September 20 was the closing date of sheep season in all of Unit 11 and moose season in Subunit 11.

PREPARED BY:

Nick Steen
Game Biologist II

Appendix I. Black Bear Harvest with Mean Skull Size of Male and Female Bears Sealed in Alaska's Game Management Unit II during the period July 1 through December 31, 1973.

Unit	Total Harvest	No. Males	% Males	No. Females	% Females	No. Unknown Sex	% Unknown Sex	Mean Skull Size Male*	Mean Skull Size Female*
11	31	20	65%	11	35%	0	0	17.0(20)	15.9(8)

* Skull sample size in parenthesis.

AppendixII. Residency, Days Hunted, Number of Guided Hunts, and Methods of Transportation for Successful Black Bear Hunters in Alaska's Game Management Unit 11, July 1 through December 31, 1973.

	Residency of Successful Hunters					No. Guided Hunts				Transportation Used									
	Non-res.		Res.		Av. Days	Non-res.		Res.		Aircraft		Off Road Vehicle		Boat		Horse		Other	
Unit	No.	%	No.	%	Hunted	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
11	18	58%	13	42%	3.71	18	100%	0	0	9	29%	3	9.7%	0	0	8	25.8%	11	35.5%

PREPARED BY:

Nick Steen
Game Biologist II

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 12 - Upper Tanana - White River

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

Black bear harvest data are not available for Unit 12. Casual observations indicate the take is small. Although this was a popular species with military personnel and nonresidents, nonresident hunting pressure appears to have declined statewide during 1973 because of increased fees for nonresident big game tags. It is not known if Unit 12 followed this statewide trend. Most residents are opportunistic hunters, resident hunting pressure is usually light and the harvest tends to increase when bears are plentiful and decline when they are not.

The present small harvest is not limiting or controlling the population.

Composition and Productivity

No data are available. Casual observations suggested that black bear populations throughout Unit 12 were moderate in size during 1973.

Management Summary and Recommendations

Unit 12 black bear population fluctuations are not related to hunting pressure. The harvest continues to be small with little hunting effort directed specifically at black bears. No changes in seasons or bag limits are recommended.

PREPARED BY:

Larry Jennings
Game Biologist III

SUBMITTED BY:

Oliver E. Burris
Regional Management Coordinator

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1973

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.

Harvest and Hunting Pressure

A requirement that the hides and skulls of black bears be presented to the Department of Fish and Game for sealing went into effect on July 1, 1973. These sealing data show a harvest of 69 black bears (42 males, 25 females, and 2 sex unknown). The mean skull size of males was 16.2 inches (Appendix I). This report covers the calendar year 1973; therefore, the data presented omit the spring-early summer harvest. Furthermore, it is believed that some successful hunters failed to have bears sealed due to a lack of awareness of the sealing requirement.

Most black bears are believed to have been harvested incidental to hunts for other big game species. This is suggested by a comparison of the chronology of the harvest (Appendix II) to the established hunting seasons for sheep, caribou, and moose. Of the harvested black bears with a known kill date, only 8 were taken prior to the August 10 opening of the sheep and caribou seasons and only 14 following the September 10 closing of the moose season. A breakdown of the harvest by subunits (Appendix I) further supports the concept that most black bears are taken as alternate game species. Subunit 13C had no open season for moose in 1973 and had a harvest of only 1 black bear. Subunit 13B received extensive moose hunting pressure, but this area is known to support only a small black bear population in the drainages of the West Fork of the Gulkana River. The harvest in subunit 13B was only 3 black bears. Subunits 13A, 13D, and 13E contain reasonably abundant black bear populations and sustained harvests of 11, 32, and 22 black bears, respectively.

Subunit 13D has a number of roads and trails providing hunters with access. The large black bear population and good access in 13D help explain why this area produced 46 percent of the Unit 13 black bear harvest. This harvest is not believed to be excessive since the mean skull size of males for subunit 13D is approximately equal to the mean skull size of males for the entire unit (Appendix I).

Transportation means reported on the sealing forms (Appendix III) are considered to be inconsistent. A comparison of transportation means with the reported location of kill indicates that some successful hunters list transportation methods used to gain access to the hunting area while others list the method in use at the time the animal was harvested.

Composition and Productivity

Sealing data for Unit 13 show the harvest to be comprised of 61 percent males, 36 percent females and 3 percent sex unknown (Appendix I). This high male harvest is probably an indication of a lightly hunted population. Age data from the collected teeth are not yet available. No other composition and productivity data are available.

Management Summary and Conclusions

The requirement to have the skull and hide of black bears sealed went into effect July 1, 1973. This report covers the calendar year 1973; therefore, only fall harvest data are available for consideration. The sealing data indicate that black bears are probably a lightly hunted species in Unit 13 and that most hunting pressure on black bears was incidental to hunts for other big game species. An overharvest of black bears in subunit 13D is a possibility if there is a large influx of people accompanying pipeline construction. Future sealing data should be closely monitored to avert that possibility.

Recommendations

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

PREPARED BY:

Nick Steen
Game Biologist II

SUBMITTED BY:

John S. Vania
Regional Management Coordinator

Appendix I. Black Bear Harvest with Mean Skull Size of Male and Female Bears Sealed in Alaska's Game Management Unit 13 during the period July 1 through December 31, 1973.

Unit	Total Harvest	No. Males	% Males	No. Females	% Females	No. Unknown Sex	% Unknown Sex	Mean Skull Size Male*	Mean Skull Size Female*
13A	11	5	45.5	6	54.5	0	0	17.2(5)	15.4(5)
13B	3	1	33.3	2	66.6	0	0	15.8(1)	15.4(2)
13C	1	1	1.0	0	0	0	0	14 (1)	0
13D	32	20	62.5	10	31.3	2	6.3	16.1(16)	15.6(8)
13E	22	15	68.2	7	31.8	0	0	16.1(13)	15.6(5)
Total Unit 13	69	42	60.9	25	36.2	2	2.9	16.2(36)	15.5 (20)

* Skull sample size in parenthesis.

PREPARED BY:

Nick Steen
Game Biologist II

Appendix II. Chronology of Black Bear Sport Hunting Harvest in Alaska's Game Management Unit 13, July 1, 1973 through December 31, 1973.

Date	No. of Bears Harvested
July 1-10	2
July 11-20	2
July 21-31	2
August 1-9*	2
August 10-19	12
August 20-31	15
September 1-10***	19
September 11-20****	9
September 21-30	4
October 1-10	1
October 11-20	0
October 21 - December 31	0
Harvest Date Unknown	1

* Period August 1-9 used because sheep and goat season opened in Unit 13 on August 10.

** Period August 10-19 used because this time interval represented period when sheep and goat season was open, but before moose season opened on August 20.

*** September 10 was the closing date of moose season in Unit 13.

**** September 20 was the closing date of sheep season in all of Unit 13.

PREPARED BY:

Nick Steen
Game Biologist II

Appendix III. Residency, Days Hunted, Number of Guided Hunts, and Methods of Transportation for Successful Black Bear Hunters in Alaska's Game Management Unit 13, July 1 through December 31, 1973.

Unit	Residency of Successful Hunters				Av. Days Hunted	No. Guided Hunts				Transportation Used									
	Non-res.		Res.			Non-res.		Res.		Aircraft		off Road Vehicle		Boat		Horse		Other	
	No.	%	No.	%		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
13A	6	54.5	5	45.5	3.5	3	60	0	0	4	36.4	0	-	0	-	0	-	7	63.6
13B	0	0	3	100	6	0	0	0	0	1	33.3	0	-	0	-	0	-	2	66.7
13C	0	0	1	100	1	0	0	0	0	0	-	0	-	0	-	0	-	1	100
13D	12	37.5	20	62.5	2.6	11	91.7	0	0	10	31.3	2	6.3	1	3.1	3	9.4	16	5
13E	16	72.7	6	27.3	4.9	16	100	1	16.7	13	59.1	0	-	2	9.1	0	-	7	31.8
Total Unit 13	34	49.3	35	50.7	3.6	30	88.2	1	2.9	28	40.6	2	2.9	3	4.3	3	4.3	33	47.8

PREPARED BY:

Nick Steen
Game Biologist II

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 14 - Upper Cook Inlet

Seasons and Bag Limits

Unit 14 (Except for that portion of 14C 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	Sept. 4 - April 30	

(On July 1, 1973 a regulation went into effect that requires hunters who take a black bear in Game Management Units 1-7, 11, and 13-16 on or after that date to salvage the hide or skull of the animal and present both the hide and skull to the Alaska Department of Fish and Game for sealing within 30 days after taking.)

Harvest and Hunting Pressure

Black bears taken only for meat need not necessarily be sealed. Thus the data presented below include bears taken on or after July 1, 1973 and may not include bears from which the hide or skull were not salvaged. In addition, some bears may have been taken by hunters who were not aware of the new sealing requirement and thus are not included in the data.

A total of 73 bears taken in Unit 14 were presented for sealing during 1973 (Appendix I). This includes 48 males (65.8%), 23 females (31.5%), and 2 bears of unknown sex (2.7%). A subunit breakdown reveals 24 males, 17 females and 1 bear of unknown sex came from Subunit 14A, 19 males, 2 females and 1 bear of unknown sex came from Subunit 14B, and 5 males and 1 female were taken in Subunit 14C. An additional 3 females were taken for which the subunit could not be determined.

Residency information was obtained on all 73 bears sealed from Unit 14 (Appendix II). Eight (11.0%) of the bears were taken by nonresident hunters. Six (8.2%) of the bears were taken on guided hunts.

Of the 73 bears taken in Unit 14, nine (12.3%) were taken by hunters utilizing aircraft (6 of the 9 came from Subunit 14B) and 7 (9.6%) were taken by hunters utilizing off-road vehicles.

Hunters taking bears in Unit 14 hunted from 1 to 14 days for their bear, averaging 2.45 days of hunting per successful bear hunter. No effort data are available for unsuccessful black bear hunters.

The chronology of the reported harvest (Appendix III) indicates that 10 of the 73 bears (13.7%) were taken between July 1 and August 9. The remaining 63 (86.3%) were taken from August 10 through October 20

when other big game seasons were open in Unit 14. The majority of these (59 or 80.8%) were taken between August 10 and September 20 when sheep and/or moose seasons were open in Subunit 14A in June 1973. An additional female which had two cubs was taken in defense of life in Subunit 14A in June 1973.

Composition and Productivity

A minimum of fifteen black bears were observed incidental to other Game Division activities in Unit 14 during 1973. Of these, 10 were adult bears and 5 were cubs.

Data from bears sealed in 1973 indicate that the average skull size of 41 male bears on which skull measurements were made was 17.3 inches. Skull sizes for 18 females averaged 15.5 inches.

Management Summary and Conclusions

1973 was the first year during which the black bear sealing regulation was in effect. The data collected will provide background information to use in managing black bears in future years.

A minimum of 73 black bears were harvested from Unit 14 between July 1 and December 31, 1973. Other bears are known to have been taken prior to July 1. Next year an increased reported harvest is expected from Unit 14 as bears taken in May and June are sealed.

Nonresident hunter participation in the black bear harvest in Unit 14 appears minimal (11%) as does the incidence of successful guided hunts (8.2%).

The use of aircraft in successful black bear hunts in Unit 14 (12.3%) and off-road vehicles (9.6%) indicate these are not important factors in gaining access in Unit 14.

The chronology of the harvest suggests that most black bears taken in Unit 14 may be taken while hunting for other species or at least while on multiple species hunts.

PREPARED BY:

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Game Biologist III

Don Cornelius
Game Biologist II

SUBMITTED BY:

John S. Vania
Regional Management Coordinator

Appendix I. Black Bear Harvest with Mean Skull Size of Male and Female Bears Sealed in Alaska's Game Management Unit 14 during the period July 1 through December 31, 1973.

Unit	Total Harvest	No. Males	% Males	No. Females	% Females	No. Unknown Sex	% Unknown Sex	Mean Skull Size Male*	Mean Skull Size Female*
14A	42	24	57.1	17	40.5	1	2.4	17.6 (21)	15.6 (15)
14B	22	19	86.4	2	9.1	1	4.5	16.8 (16)	13.6 (1)
14C	6	5	83.3	1	16.7	0	---	17.4 (4)	---- (0)
14?	3	0	----	3	100.0	0	---	---- (0)	15.3 (2)
Total Unit 14	73	48	65.8	23	31.5	2	2.7	17.3 (41)	15.5 (18)

* Skull sample size in parenthesis.

Submitted by: Jack C. Didrickson, Game Biologist III.

Don Cornelius, Game Biologist II.

Appendix II. Residency, Days Hunted, Number of Guided Hunts, and Methods of Transportation for Successful Black Bear Hunters in Alaska's Game Management Unit 14, July 1 through December 31, 1973.

Unit	Residency of Successful Hunters				Av. Days Hunted	No. Guided Hunts				Transportation Used									
	Non-res.		Res.			Non-res.		Res.		Aircraft		Off Road Vehicle		Boat		Horse		Other	
	No.	%	No.	%		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
14A	3	7.1	39	92.9	2.33	2	66.7	0	---	3	7.1	5	11.9	3	7.1	3	7.1	28	66.7
14B	4	18.2	18	81.8	2.68	2	50.0	1	5.6	6*	27.3	2	9.1	1	4.5	1*	4.5	13	59.1
14C	0	---	6	100.0	2.40	0	---	0	---	0	---	0	---	0	---	2	33.3	4	66.7
14?	1	33.3	2	66.7	3.33	1	50.0	0	---	0	---	0	---	0	---	0	---	3	100.0
Total Unit 14	8	11.0	65	89.0	2.45	5	55.6	1	1.6	9	12.3	7	9.6	4	5.5	6	8.2	48	65.8

* 1 hunter reported using both aircraft and horse and was included twice.

Submitted by: Jack C. Didrickson, Game Biologist III.

Don Cornelius, Game Biologist II.

Appendix III. Chronology of Black Bear Sport Hunting Harvest in Alaska's Game Management Unit 14, July 1, 1973 through December 31, 1973.

Date	No. of Bears Harvested
July 1-10	1
July 11-20	2
July 21-31	5
August 1-9*	2
August 10-19**	11
August 20-31	14
September 1-10***	22
September 11-20****	12
September 21-30	1
October 1-10	0
October 11-20	3
October 21 - December 31	0

* Period August 1-9 used because sheep and goat season opened in most of Unit 14 on August 10.

** Period August 10-19 used because this time interval represented period when sheep and goat season was open, but before moose season opened on August 20.

*** September 10 was the closing date of moose season in Subunit 14A.

**** September 20 was the closing date of sheep season in all of Unit 14 and moose season in Subunit 14B.

Submitted by: Jack C. Didrickson, Game Biologist III.

Don Cornelius, Game Biologist II.

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1973

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 sows accompanied by cubs is prohibited.

Harvest and Hunting Pressure

Prior to July 1973 the only bear harvest data available were from the 1969 multiple species harvest questionnaire which was a part of the harvest report packet. Since compliance was voluntary and reminder letters were not sent these data must be considered minimal.

Beginning July 1, 1973 all black bears taken in Unit 15 were required to be sealed. Sealing records indicate that the harvest between July 1 and Dec. 31, 1973 was 71 bears composed of 38 males, 24 females and 9 sex unknown (Appendix I). Since 1973 was the first year of the sealing requirement and instances are known of persons failing to seal black bears due to unfamiliarity with the regulation these data should be considered conservative.

The 1969 reported harvest was 50 bears with 40 (80 percent taken between July 1 and January 31. Forty-nine percent (35/71) of the harvest came from Subunit 15 (A), twenty-eight percent (20/11) from Subunit 15 (B) and twenty-three percent (16/71) from Subunit 15 (C).

The unitwide mean skull size for males was 16.24 inches (n = 30) and females 15.66 (n = 21) (Appendix I). Mean skull sizes by Subunit are also presented in Appendix I.

Nonresident hunters took 11.3 percent (8/73) of the total harvest and residents took 88.7 percent (63/71) (Appendix II). By subunit, nonresidents took 2.8 percent (1/35) of the harvest in 15 (A), 0.0 percent in 15 (B) and 43.7 percent (7/16) in 15 (C). Nonresidents averaged 3.67 days of hunting to bag a bear while residents averaged 2.51. Comparison of days hunted to bag a bear may not be valid because many residents take bears incidental to hunting other game and may not exercise as much selectivity as nonresidents.

Nineteen percent (13/71) of all successful hunters utilized aircraft to reach the hunting area; 1.4 percent (1/71) off-road vehicles; 22.5 percent (16/71) boats; 11.3 percent (8/71) horses, and 45.5 percent (33/71) other means.

The entire reported sport harvest of bears occurred between Aug. 10 and Oct. 20 with only 1 bear reported taken between Oct. 10 and Oct. 20. One hunter reported taking 2 bears in Unit 15.

A projection of the total 1974 harvest can be made if it is assumed that the chronology of the harvest in 1973 was the same as in 1969. From this the estimated harvest for Jan. 1 to July 1, 1974 would be 18 bears making the total 1974 harvest about 89 bears.

Composition and Productivity

Presently, techniques are not available for measuring sex and age composition of Alaskan black bear populations.

Management Summary and Conclusions

The sealing requirement initiated for black bear on July 1, 1973 should provide a good measure of the harvest in the future. Changes in skull size and sex composition of the harvest will be useful for management purposes but may not be adequate for the intensive management which will probably be necessary in the future.

The 1973 harvest of approximately 89 bears from this Unit is probably below the level of harvest that this Unit can sustain. The harvest was well distributed throughout the Unit.

Recommendations

No changes in the season or bag limit are recommended.

The black bear sealing form should be revised to determine: degree of selectivity exercised; numbers of bears taken incidental to other hunting; how many bears the hunter has taken during the year; whether the bear was taken for meat or trophy and whether the meat was salvaged.

Research to develop techniques for black bear management should be initiated.

PREPARED BY:

Paul A. LeRoux
Game Biologist III

SUBMITTED BY:

John S. Vania
Regional Management Coordinator

Appendix I - Black Bear Harvest with Mean Skull Size of Male and Female Bears Sealed in Alaska's Game Management Unit 15 during the period July 1 through December 31, 1973.

Subunit	Total Harvest	No. Males	% Males	No. Females	% Females	No. Unknown Sex	% Unknown Sex	Mean Skull Size Male*	Mean Skull Size Female*
15 (A)	35	21	60.0	9	25.7	5	14.2	15.79 (17)	16.34 (9)
15 (B)	20	10	50.0	8	40.0	2	10.0	16.27 (8)	15.26 (8)
15 (C)	16	7	43.7	7	43.7	2	12.5	17.75 (5)	14.94 (4)
Total Unit 15	71	38	53.5	24	33.8	9	12.6	16.24 (30)	15.66 (21)

* Skull sample size in parenthesis

Prepared by: Paul A. LeRoux, Game Biologist III

Appendix II - Residency, Days Hunted, Number of Guided Hunts and Method of Transportation for Successful Black Bear Hunters in Alaska's Game Management Unit 15 July 1 through December 31, 1973.

Subunit	Residency of Successful Hunters: Non-Res No.	%	Res. No.	%	No. Guided Hunts: Av. Days Hunted	Non-Res No.	%	Res. No.	%	Transportation Used: Aircraft No.	%	Off Road Vehicle No.	%	Boat No.	%	Horse No.	%	Other No.	%
15 (A)	1	2.8	34	97.2	2.1	0	0	1	2.9	5	14.3	0	0	1	2.9	1	2.9	28	80.0
15 (B)	0	0	20	100	2.7	0	0	1	5.0	3	15.0	0	0	10	50.0	4	20.0	3	15.0
15 (C)	7	43.7	9	56.3	3.7	4	57.1	0	0	5	31.3	1	6.3	5	31.3	3	18.8	2	12.5
Total Unit 15	8	11.3	63	88.7	2.46	4	50.0			13	18.5	1	1.4	16	22.5	8	11.3	33	46.5

Prepared by: Paul A. LeRoux, Game Biologist III

Appendix III - Chronology of Black Bear Sport Hunting Harvest in Alaska'a Game Management Unit 15, July 1, 1973 through December 31, 1973.

Date	Number Bears Harvested 15 (A)	15 (B)	15 (C)	Total
July 1-10				
July 11-20			1	1
July 21-31				
Aug. 1-9*				
Aug. 10-19**	7	4	3	14
Aug. 20-31	8	4	2	14
Sept. 1-10***	8	4	4	16
Sept. 11-20****	7	3	5	15
Sept. 21-30*****	2	5	1	8
Oct. 1-10	2			2
Oct. 11-20	1			1
Oct. 21-Dec. 31				

* Period Aug. 1-9 used because sheep and goat season opened in Unit 15 on Aug. 10.
** Period Aug. 10-19 used because this time interval represented the period when sheep and goat seasons were open, but before moose opened on Aug. 20.
*** Sept. 10 was the closing date of the moose season in Subunit 15 (C).
**** Sept. 20 was the closing day of the moose season in Subunits 15 (A) and 15 (B) West.
***** Sept. 30 was the closing day of the moose season in Subunit 15 (B) East.

Prepared by: Paul A. LeRoux, Game Biologist III

BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1973

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.

(A new regulation went into effect on July 1, 1973 which requires all persons who take black bear in Alaska's Game Management Units 1-7, 11 and 13-16 to present the hide or skull to the Alaska Department of Fish and Game for sealing.)

Harvest and Hunting Pressure

The sealing requirement will allow the Alaska Department of Fish and Game to establish guidelines for future black bear regulatory proposals. Future data will also include the period from January 1 to July 1. Some bears may have been taken by hunters who were not aware of the new sealing requirement and thus are not included in the data.

The reported black bear harvest in Unit 16 totaled 156 animals (Appendix I). Included were 96 males, 47 females and 13 of unknown sex. Unit 16 is comprised of two Subunits, 16A and 16B. In 16A, 8 males, 5 females and 2 bears of unknown sex were recorded as harvested. In 16B, 88 males, 42 females and 10 bears of unknown sex were reported taken. There was one additional bear for which the sex and subunit could not be determined.

Information is not available regarding the number of sportsmen hunting black bears in Unit 16 who are unsuccessful. Hunters taking black bears in Unit 16 hunted from 1 to 23 days, averaging 4.3 days per successful hunter (Appendix II).

Residency information reveals that 108 (69.2%) of the successful hunters were residents, while 48 (30.8%) were nonresidents. Thirty-six (23.1%) of the black bear harvested were taken while on guided hunts. Thirty-five (72.9%) of the nonresidents utilized guides while only one (.9%) of the resident hunters used a guide.

Method of transportation data reveal that 111 (71.2%) of the successful hunters utilized aircraft and 31 (19.9%) used boats. Four of the successful hunters used both boats and aircraft and were included in each category.

The chronology of the reported black bear harvest in Unit 16 reveals that 7 (4.5%) of the animals were harvested between July 1 and August 9

(Appendix III). The remaining 149 (95.5%) were taken during the period August 10 through October 20 when other seasons (including moose) were open in Unit 16.

Composition and Productivity

No flights were conducted during 1973 to determine composition and productivity of black bear.

Management Summary and Conclusions

Unit 16 presently sustains the largest known black bear harvest (156) in the State of Alaska. In spite of the year-round open season, ninety-six percent of these bear were taken in the period from August 10 through October 20 when other big game seasons were open, suggesting that black bears in Unit 16 are taken incidental to other hunting, or while on multiple species hunts.

Nonresident participation in the harvest of black bears was 30.8 percent. Guided hunts were restricted to 36 (23.1%) of the 156 successful black bear hunters.

The aircraft is undoubtedly the most important transportation method used in Game Management Unit 16 with 71.2 percent of the hunters utilizing planes. Boats are second in importance with 19.9 percent of the hunters using them.

1973 was the first year during which the black bear sealing regulation was in effect. The data collected will provide background information for black bear management in future years.

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Appendix I. Black Bear Harvest in Alaska's Game Management Unit 16, with Mean Skull Size of Male and Female Bears Sealed during the Period July 1, through December 31, 1973.

Unit	Total Harvest	No. Males	% Males	No. Females	% Females	No. Unknown Sex	% Unknown Sex	Mean Skull Size Male*	Mean Skull Size Female*
16A	15	8	53.3	5	33.3	2	13.3	15.2 (8)	15.2 (5)
16B	140	88	62.9	42	30.0	10	7.1	16.7 (72)	15.7 (38)
16?	1	-	---	-	---	1	100.0	---------	---------
Total Unit 16	156	96	61.5	47	30.1	13	8.3	16.5 (80)	15.6 (43)

* Skull sample size in parenthesis.

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Appendix II. Residency, Days Hunted, Number of Guided Hunts, and Methods of Transportation for Successful Black Bear Hunters in Alaska's Game Management Unit 16, July through December 31, 1973.

Unit	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 %
16A	1	6.7	14	93.3	2.2	0	---	0	---	1	6.7	2	13.3	1	6.7	0	---	11	73.3
16B	46	32.9	94	67.1	4.4	34	73.9	1	1.1	109*	77.9	1	0.7	30*	21.4	0	---	4	2.9
16?	1	100.0	0	---	2.0	1	100.0	0	---	1	100.0	0	---	0	---	0	---	0	---
Total Unit 16	48	30.8	108	69.2	4.3	35	72.9	1	0.9	111	71.2	3	1.9	31	19.9	0	---	15	9.6

* 4 hunters reported using both aircraft and boat and were included in both categories.

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Appendix III. Chronology of Black Bear Hunting Harvest in Alaska's Game Management Unit 16, July 1 through December 31, 1973.

Date	No. of Bears Harvested
July 1-10	1
July 11-20	0
July 21-30	2
August 1-9*	4
August 10-19**	10
August 20-31	33
September 1-10	53
September 11-20***	37
September21-30	15
October 1-10	0
October 11-20	1
October 21-December 31	0
TOTAL	156

* Period August 1-9 used because sheep season opened in Unit 16 on August 10.

** Period August 10-19 used because this time interval represented the period when sheep season was open, but before the moose season opened on August 20.

*** September 20 was the closing date of sheep season in Game Management Unit 16 and the first moose season in 16A. (Moose season in 16B was August 20 to November 20 when it was closed by Commissioners announcement.)

Submitted by: Jack C. Didrickson, Game Biologist III.
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BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 17 - Bristol Bay

Seasons and Bag Limits

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

(On July 1, 1973 a regulation went into effect that requires hunters who take a black bear in Game Management Units 1-7, 11 and 13-16 on or after that date to salvage the hide or skull of the animal and present both the hide and skull to the Alaska Department of Fish and Game for sealing within 30 days after taking.)

Harvest and Hunting Pressure

Because no sealing information is available no work was accomplished.

Composition and Productivity

No work was accomplished.

Management Summary and Conclusions

Hunting pressure on black bears in Unit 17 is light. Estimated harvest is less than 10 bears annually.

Recommendations

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

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BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 19 - McGrath

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

Black bears were abundant throughout the unit during 1973 and hunting pressure increased proportionately in the McGrath and Sleetmute areas. An estimated 15 to 20 black bears were taken close to McGrath. Many of these were shot during May and June. Sleetmute residents reported sighting and taking many black bears on the Hoholitna and Holitna Rivers during the summer. The estimated kill in the Hoholitna-Holitna area may have been over 30 bears. Other villages on the Upper Kuskokwim reported taking nuisance bears through the spring and summer of 1973.

Abundance, Composition and Productivity

Aerial flights in the general area of McGrath during early May 1973 substantiated reports of an abundant black bear population. Several dens and numerous black bears were observed while flying grizzly surveys in the Upper Kuskokwim drainage from May 9 through May 16.

In early September 1973, during the course of a two-hour flight from McGrath to Sleetmute, I saw 24 black bears. Most of these were on ridgetops between the head of Big Waldren Creek and the east fork of George River.

Management Summary and Recommendations

No regulatory changes are recommended.

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BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 20 - Fairbanks, Central Tanana Valley

Season and Bag Limit

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

Harvest and Hunting Pressure

There is currently no accurate method of evaluating harvest or hunting pressure on black bears in Unit 20. The number of nuisance/depredation complaints received at the Fairbanks office, along with incidental bear observations made by Department employees and numbers of hides received for processing at local taxidermy firms have provided the only indices of harvest and population trends.

Seven reports of wounded or nuisance black bears in Unit 20 were received from the public in 1973, four of which occurred in June. In addition, two bears were shot in defense of life and property in Unit 20, and BLM fire crews dispatched a bear at the Hogatza River fire in Unit 24.

Records maintained by three Fairbanks based taxidermists and receiving stations (Jonas Brothers-New Method Fur Dressing, Dall Alaskan, and Heads West) indicate that 134 black bear hides were processed for tanning and mounting. Based upon informal tabulations or general impressions by each taxidermist, the estimated sport harvest from the Interior was 100 bears, 26 of which were known to have come from Unit 20. Forty-nine bear hides were received for processing prior to July 1, while 85 were received after this date in 1973.

Abundance, Composition and Productivity

Standardized surveys are not conducted in this unit. Bear sightings made incidental to moose surveys on the Tanana Flats (GMU 20A) in May 1973 revealed a total of 11 adults and one cub, compared to 4 bears observed during 1972 in the same survey area. Three adult black bears were seen in a 96 square-mile study area on June 20 and 22 during monthly aerial surveys for moose research activities. Seven adults were present on July 25 and 26; seven on August 15 and 16 and one on September 17 and 18. It is apparent that portions of the unit supported a large bear population during the spring and summer. Indices of population levels in the remainder of the unit are not available.

Management Summary and Conclusions

The crude indices cited above indicated high numbers of black bears in the immediate Fairbanks area in 1973, approaching or exceeding the population level of 1972. Although the current level of harvest is unknown, there does not appear to be an overharvest.

Based on the number of public inquiries received at the Fairbanks office each year regarding black bear hunting techniques and localities, interest in hunting is increasing and can be expected to continue to increase.

Preventive techniques, stressing proper garbage disposal on manned fires and near residential areas, should be continued to reduce the incidence of bear-human conflicts.

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BLACK BEAR

SURVEY-INVENTORY PROGRESS REPORT - 1973

Game Management Unit 21 - Middle Yukon

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

Unit 21 residents reported taking more black bears in 1973 than in the past several years. This increase in harvest was mostly attributed to a larger bear population. Very little sport hunting of black bears occurs in Unit 21. Most black bears are taken during the spring muskrat season, when caught raiding fish racks or camps, and in connection with fall moose hunting. The estimated kill for Unit 21 in 1973 was about 50-70 black bears (estimated from village interviews).

Abundance, Composition and Productivity

Black bears were extremely abundant along the river systems of Unit 21 in 1973. On a six-day canoe trip down the Nowitna River in late May and early June I saw 17 individual black bears. Many of these were small (yearling size) suggesting good survival of cubs from 1972. Bears were very abundant along the Innoko River during the summer. One prospector and trapper commented that there were more bears than moose in that area. I frequently saw black bears on the Innoko Flats while checking moose hunters in early September 1973.

Management Summary and Recommendations

No regulatory changes are recommended.

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