ALASKA DEPARTMENT OF FISH AND GAME
JUNEAU, ALASKA

STATE OF ALASKA
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DEPARTMENT OF FISH AND GAME
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DIVISION OF GAME
Robert A. Rausch, Director

ANNUAL REPORT OF SURVEY-INVENTORY ACTIVITIES
PART IV. BISON, BEAVER, FURBEARER, WALRUS, WOLF, WOLVERINE

Edited and compiled by
Robert A. Hinman, Deputy Director

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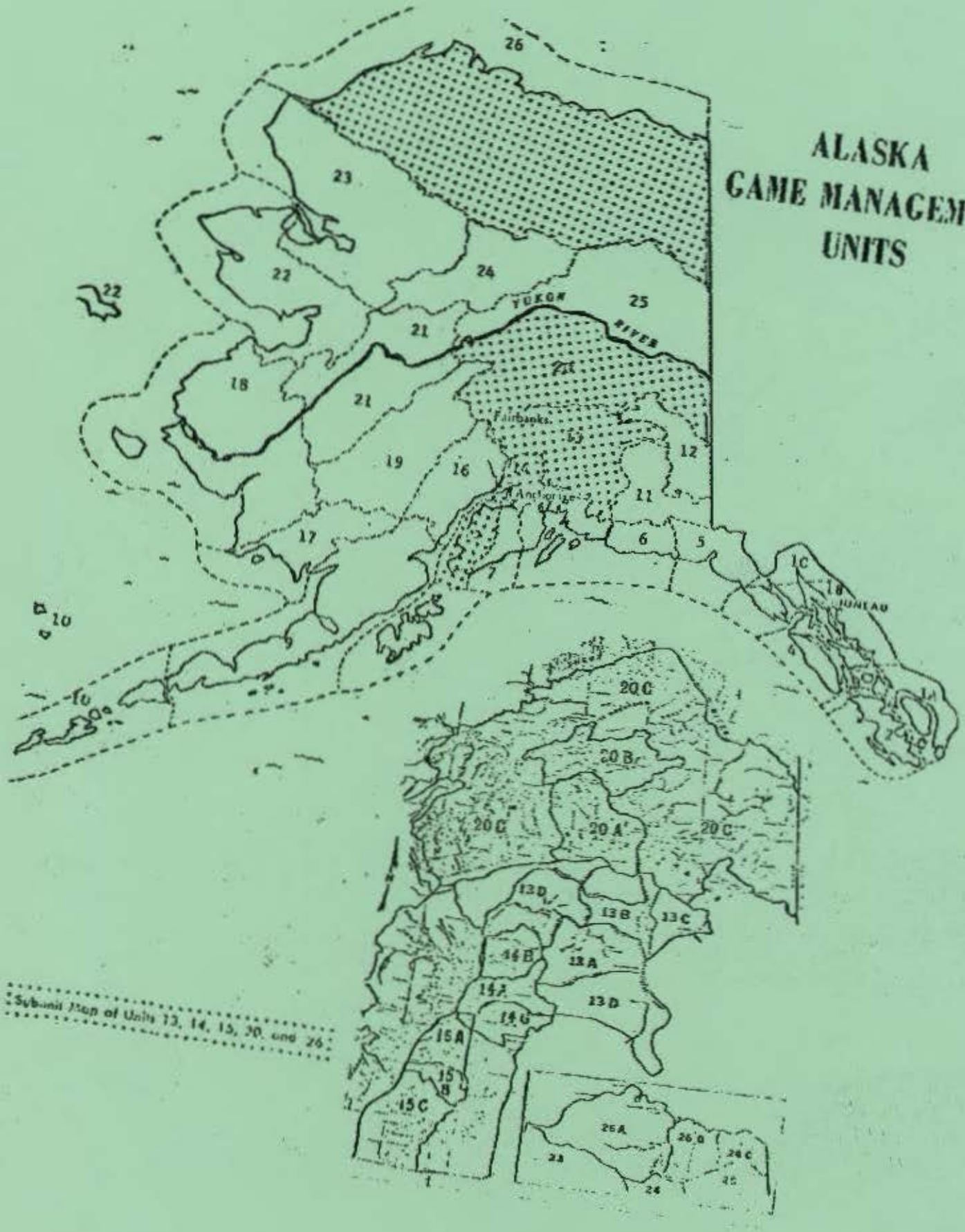
ALASKA GAME MANAGEMENT UNITS



Bison

The 1975 harvest was 72 bison (12 from Copper River, 10 from Farewell, and 50 from Delta). No animals were taken from the fourth herd, Chitina River. Total population of the 4 herds is at least 521 animals. All herds, particularly the Delta and Farewell herds, showed good calf survival, and all herds appear to be healthy and thriving.

Beaver

The 1975 beaver harvest was 7516, down from 8396 in 1974 and 10,864 in 1973. Decline of harvest probably reflects economic and cultural situations and not a decline in beaver populations. In most areas, beaver populations are healthy and often underharvested; the sealing data indicate that some areas may be overharvested and should be studied further.

Furbearers

Statewide furbearer harvests declined in both number of pelts taken (75,050) and total value ($2,321,615) compared to 1974, but both were still well above the average for the last five years. Fluctuations are due to economic and cultural conditions rather than changes in furbearer populations, which are generally in good condition.

Wolf

The statewide harvest of wolves in 1975-76 was 1243, slightly higher than the average for the last five years (1142). The units contributing most heavily to the harvest were 13, 20, and 23, with harvests of 110, 335, and 152, respectively. The Unit 20 take included 64 wolves taken by Department biologists in a control program.

Wolf population levels varied from one part of the state to another; populations have generally peaked and may be beginning to decline in Units 12 and parts of Unit 20 and elsewhere are stable or increasing. In no area (except perhaps Unit 20A) is the current harvest affecting wolf population levels.

Wolverine

The statewide harvest of wolverines in the 1975-76 season was 984, very near the average for the last 4 years. Of these, 21.2 percent were taken by ground shooting, 72.5 percent by trapping, 4.9 percent by snaring, and 1.4 percent by other means. While a hunting season (with a limited bag limit) is provided, most wolverines are taken by trappers. Units 9, 13, and 20 sustained the highest level of harvest, with 115, 105, and 144 wolverines taken, respectively.

Although no population estimates are available, it appears that the wolverine population is fairly high and is not being adversely affected by the current level of harvest.

R.A.H.

1975-76 ALASKA WOLVERINE HARVEST*

GMU	Wolverines Taken
1	33
2	0
3	3
4	0
5	0
6	30
7	24
8	0
9	115
10	0
11	35
12	33
13	105
14	24
15	8
16	86
17	51
18	29
19	62
20	144
21	32
22	26
23	42
24	20
25	66
26	16
TOTAL HARVEST	984

* Figures are taken from the Big Game Data Index File and may differ slightly from figures given in the reports.

R.A.H.

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EDITOR'S NOTE

The following 1975 reports will be included in the 1976 Annual Report of Survey-Inventory Activities:

Caribou - GMU 20 - Fairbanks, Central Tanana

Mountain Goat - GMU 1C - Juneau

Muskox - GMU 18 - Yukon-Kuskokwim Delta

Muskox - GMU's 22, 23, 26

Polar Bear - GMU's 22 and 23 - Seward Peninsula, Kotzebue Sound

Seal - GMU's 18, 23, 26

Sheep - GMU's 23, 24, 25, 26 - Brooks Range

Sheep - GMU's 20, 25 - Alaska Range E. of McKinley, Tanana Hills-White Mts.

Sheep - GMU's 12, 13, 20 - Alaska Range E. of McKinley

Sheep - GMU 12 - Mentasta Mts., North Slope Wrangell Mts.

Sheep - GMU's 9, 16, 17, 19 - Alaska Range West

Wolf - GMU 20 - Fairbanks, Central Tanana

R.A.H.

BISON

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 11 - Chitina River Herd

Seasons and Bag Limits

To be announced	One bison every five regulatory years by permit only.

Abundance and Distribution

Maximum numbers of the Chitina bison herd observed during annual surveys are given in Appendix I. Thirty-five bison, a new high number, were observed during 1975. The herd has been increasing more rapidly in recent years. The calculated rate of increase of total herd size from 1965 to 1971 was 13.8 percent annually whereas the rate of increase from 1971 to 1975 was 20.8 percent annually. The herd wintered near Bear Island again this year as they have the 3 previous years. Snow depth was 10-14 inches and 3 of 10 horses overwintering near the bison herd died, apparently of starvation. No bison carcasses were seen.

Harvest and Hunting Pressure

No public hunts have been held for this herd.

Recommendations

1. Stabilize bison numbers at a lower level until range studies have been completed. Public hunts should be on a permit basis with time zoning used to maintain a low hunter density.

2. Investigate bison range on the Chitina River to determine the key forage species and assess their trend.

3. Work with the Bureau of Land Management to obtain a new assessment of the best use of land south of Bear Island, perhaps to exclude overwintering of horses on that area and provide for an alternate winter range for the Chitina bison herd.

PREPARED BY:

Carl McIlroy
Game Biologist III

SUBMITTED BY:

John S. Vania
Regional Management Coordinator

APPENDIX I

Maximum Number of Yearling and Older Bison Observed during Aerial Surveys of the Chitina Bison Herd.

Year	Chitina Bison Herd		
	Total	Calves	Adults[a]
1962[b]	35	0	35
1963	28	--	--
1964	12	5	7
1965	6	1	5
1966	9	0	9
1967	12	2	10
1968	16	2	14
1969	15	0	15
1970	16	2	14
1971	16	3	13
1972	No Data		
1973	23	4	19
1974	32	6	26
1975	35	--	--

a. The adult category includes yearling and older bison.

b. The Chitina bison herd may have resulted from a transplant of 35 animals during 1962.

PREPARED BY: Carl McIlroy, Game Biologist III

BISON

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 11 - Copper River Herd

Seasons and Bag Limits

To be announced	One bison every five regulatory years by permit only.

Abundance and Productivity

Maximum numbers observed for the Copper River bison herd are given in Appendix I. The 1975 tally of 76 adults was lower than expected. An additional group of about 20 adult bison was observed in another location the previous day, and the total of about 96 bison may be closer to actual herd size.

The herd was not located close to a landing strip during the summer of 1975, and a composition count from the ground could not be made. Observations of small groups indicated normal yearling increments.

Harvest and Hunting Pressure

Harvest data for the Copper River herd are given in Appendix II. Hunter participation (56 hunters) during 1975 was relatively low. The 1975 hunt occurred from September 23 through October 6 and was not extended because only a few hunters were still afield. The reduced hunter density resulted in fewer complaints.

Eight bison were harvested during the 2-week hunt, although the desired harvest was about 20 bison. The hunt occurred early, relative to previous years, and winter conditions arrived later than normal. As a result, most bison were feeding on forbs in timber and were less vulnerable to hunters. Hunters frequently reported being in the vicinity of bison, hearing them nearby, or inadvertently spooking them while walking through timber. My impression was that this was a highly enjoyable hunting experience for most participating hunters. The problem in future hunts will be to obtain the desired harvest while maintaining enjoyable hunting conditions.

Residence and transportation means used by hunters during recent years are compared in Appendix III. Although numbers of hunters from the Copper River Valley during 1975 remained high, there was a substantial decrease in numbers of participating hunters from all other localities. Aircraft and boats continued to be the principal transportation means used.

Management Summary

Bison were not positioned so that biologists could get an accurate total count or a ground composition count during 1975. However, approximately 96 adults were seen in two separate groups, and calf survival appeared satisfactory. The 1975 harvest of 8 bison was lower than desired, but hunting conditions were very enjoyable for most hunters. A normal number of local hunters registered for the hunt, but the number of nonlocal hunters was reduced. The delay of winter conditions causing the bison to remain in timbered habitats and the reduction in numbers of nonlocal hunters were probably the principal causes of the low harvest.

Recommendations

1. Begin the hunt on September 1 (when bison are less vulnerable because more are feeding within timbered areas rather than on frozen sedge meadows, and when river boat operation is not hindered by icing) and continue the hunt until the desired harvest is reached.

2. Register hunters at the Glennallen office rather than at Wilson's Air Service.

3. Keep the herd size to approximately 60 overwintering adults.

4. Allow mechanized hunters to use only designated corridors, landing strips and lakes.

PREPARED BY:

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SUBMITTED BY:

John S. Vania
Regional Management Coordinator

APPENDIX I

Maximum Number of Yearling and Older Bison Observed During Aerial Surveys of the Copper River Bison Herd.

Year	Total	Calves	Adults[a.]
1950[b.]	17	0	17
1961	29	--	--
1962	74	13	61
1963		No Data	
1964	97	17	80
1965	84	19	65
1966	79	7	72
1967	51	14	37
1968	102	19	83
1969	100	18	82
1970	119	21	98
1971	87	11	76
1972	82	12	70
1973	97	18	79
1974	111	14	97
1975	89	13	76[c.]

a. The adult category includes yearling and older bison.

b. The Copper River herd resulted from a transplant of 17 bison to the Nabesna Road vicinity during 1950. By 1961, they had become established at their present home range.

c. An additional group of about 20 adults was reported from a different location by another observer.

PREPARED BY:

Carl McIlroy
Game Biologist III

APPENDIX II

Harvest Data for the Copper River Bison Herd.

Regulatory Year	Number of Registered Hunters	Harvest		Percent Males In Harvest	Number (percent) Bison through 4 Years of Age[a].		
		Total	Males		Males	Females	Sample
1964-65	43	14	10	71			
1965-66	42	11	9	82			
1966-67	No Season						
1967-68	No Season						
1968-69	74	13	6	46	1(8%)	4(33%)	12
1969-70	74	16	7	44	4(27%)	4(27%)	15
1970-71	96	13	6	46	1(8%)	5(38%)	13
1971-72	No Season						
1972-73	No Season						
1973-74	101	16	7	44	1(6%)	3(19%)	16
1974-75	94	22	11	50	7(30%)	5(20%)	22
1975-76	56	8	4	50	3(38%)	1(13%)	8

a. Bison ages were determined by tooth replacement (Fuller, 1959). Age data for several hunts are not available.

PREPARED BY: Carl McIlroy, Game Biologist III

APPENDIX III

Residence and Transportation Means Used by All Hunters during the 1973 through 1975 Copper River Bison Hunts.

	1973		1974		1975	
	Number	(Percent)	Number	(Percent)	Number	(Percent)
Residence,						
Anchorage vicinity:	68	(67%)	39	(41%)	23	(41%)
Fairbanks vicinity:	8	(8%)	8	(9%)	0	(-)
Copper River Valley:	19	(19%)	27	(29%)	33	(59%)
Other Locations:	6	(6%)	20	(21%)	0	(-)
Transportation Means, [a]						
Aircraft:	52	(55%)	52	(55%)	28	(56%)
Boat:	40	(42%)	39	(41%)	22	(44%)
Off-Road Vehicle:	3	(3%)	0	(-)	0	(-)
Horses:	0	(-)	3	(3%)	0	(-)
Unknown:	7	(-)	0	(-)	6	(-)

a. Some hunters use more than one transportation means. Percentages are based on the total excluding the "unknown" category.

PREPARED BY: Carl McIlroy, Game Biologist III

BISON

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 19 - McGrath (Farewell Herd)

Seasons and Bag Limits

Unit 19	Sept. 20 - Oct. 10	One bison

Harvest and Hunting Pressure

Ten hunters' names and five alternates were drawn for the 21-day 1975 Farewell bison hunt. Hunters were assigned (in order drawn) to one of three weekly hunting periods. Assignments were in groups of three with three and four hunters per period.

Eight of the first 10 hunters drawn and 2 of the alternates were successful during the hunt. The 1975 harvest was composed of seven adult bulls and three adult cows. Inclement weather the last week of the season required that the hunt be extended until October 15.

Herd Size, Composition and Productivity

Aerial surveys of the Farewell bison herd were made on May 16 and July 7, 1975. These counts verified an excellent rate of growth (Appendix 1). At least 22 calves were produced, again surpassing previous calving records. The total population prior to the 1975 hunt was estimated at 106 bison, but a few lone bulls occupying habitat outside the count area may not have been recorded. One lone bull was seen during mid-summer 1975 on the Unit 16 side of Rainy Pass.

Range and Habitat

Conditions on the winter range during 1974-75 were somewhat more severe than in the previous year; however, severe cold weather persisting into late January and deep snow pack seemed to have little effect on the Farewell herd.

Management Summary and Recommendations

Continued good production and survival has permitted the Farewell herd to show an excellent rate of increase. A permit drawing hunt allowing removal of at least 15 animals is recommended for fall 1976.

PREPARED BY:

Peter E. K. Shepherd
Game Biologist III

SUBMITTED BY:

Oliver E. Burris
Regional Management Coordinator

Appendix I. Bison observations on South Fork Kuskokwim River, 1975.

Date	Observer	Bison Seen				Survey Conditions
		Adult	Yearling	Calves	Total	
5/16/75	Shepherd	72	0	19	91	good
7/7/75	Shepherd	84	0	22	106	good

BISON

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Units 20A and 20D - Delta Junction

Seasons and Bag Limits

Units 20(A) and 20(D)	Sept. 22 - 28 Oct. 6-Nov. 16	*50 bison; one bison every five regulatory years by permit only.

* Thirty-five bison permits were issued for the regular Delta bison hunt requiring that the hunter be accompanied by a Department employee. An additional 15 permits were issued whereby the hunter received orientation prior to hunting but was not accompanied by Department representatives.

Harvest and Hunting Pressure

Fifty hunters drew permits for the Delta bison hunt from a total of 3,200 applicants. Thirty-five mature bison (23 bulls and 12 cows) were taken during the accompanied hunt, and 15 bulls were taken during the unaccompanied hunt. The 15 unaccompanied hunters were divided into 3 groups (5 hunters each) and each group had a 2 week period in which to take a bison. These hunters received a short orientation course covering sex identification, habits of bison, bullet placement, hunter safety and landowner relations. All unaccompanied hunters took a bison, and the hunt was considered successful by Department personnel, landowners and hunters.

Additional (non-hunting) known mortality totaled eight bison (three cows, two bulls, and two calves and a bull taken for the Delta Chamber of Commerce barbeque).

Total known mortality for 1975 was 42 bulls, 14 cows, 1 female calf and 1 bull calf. Known mortality during 1974 was 45 bison (20 cows and 25 bulls).

Composition, Productivity and Herd Size

Bison classification counts conducted during late October 1975 showed 38 bulls, 49 yearlings and 70 calves per 100 cows. The 291 animals classified probably represented 95 percent of the Unit 20 population. In absolute numbers there were 113 cows, 43 bulls, 56 yearlings and 79 calves.

The 1975 prehunt population estimate was 350 animals without any known mortality. The pre-calving population for spring 1976 should be approximately 275 animals. The herd size appeared to have stabilized as a result of hunting, accidents and other mortality.

Seasonal Distribution, Range Utilization and Conditions

Range utilization on bison summer range was estimated using exclosures. Based on production rates within the exclosed areas, it was estimated that 49 percent of the forage on the summer range, or 404 pounds of forage per acre, was removed by grazing. Use of this range by bison was rated as moderate to heavy, although it appeared to be in good general condition. On a long-term basis, however, the amount of summer range appears to be declining through natural succession.

Experimental application of commercial fertilizers at various rates boosted forage production an average of 234 percent to 1855 pounds per acre. In the future, fertilization may play a significant role in bison management.

During the period June through August 1975, a total of 1,500 pounds of salt was used to delay the bison migration from the Delta River to the Clearwater farm area. In past years bison had usually crossed the Delta River by the first week of August, thus arriving at the farm area at the peak of harvest. Since the salting program was started, bison have remained across the river (away from the farming areas) until the last week of August.

Management Summary and Recommendations

The Delta bison herd appeared to be in extremely good physical condition. Production and survival were very high. If the annual increment were not cropped, the herd would continue to increase.

The immediate management plan for the Delta bison herd is to maintain 1) a pre-calving population of 250-275 animals, 2) a sex ratio of 40 bulls per 100 cows, 3) an average age of 8 years for bulls and 7 years for cows, and 4) a harvest of 50 animals per year.

To accomplish the desired harvest and to further the practice of unaccompanied bison hunting, a split season is recommended with 35 guided and 15 accompanied hunters. The accompanied portion of the hunt should occur during the last week of September, and all 35 bison should be taken within a seven day period. The remaining 15 bison should be taken at a rate of 5 per week following the accompanied hunt. Sex and age of bison taken in both hunts should be 25 bulls (mostly young bulls) and 25 cows (16 adult and 9 yearlings). By removing animals of these age and sex classes, the bull:cow ratio and the average age of the herd will progress toward the objectives stated above.

Also included in the terms of the public drawing should be the understanding that alternates to the guided hunt may be called at any time until the next drawing so that problem animals or animals that are seriously injured may be removed from the herd.

A free ranging herd of bison in one of Alaska's farming areas creates some unusual problems. Agriculture is increasing, thus creating a temporary increase in bison winter range. If large fields are fenced or not planted, bison will be faced with a serious winter feed shortage. The

Department is considering the establishment of a bison refuge in the Delta area to stabilize the available winter range through various techniques. Benefits would probably accrue to other game animals, especially moose wintering in the area.

PREPARED BY:

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SUBMITTED BY:

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Regional Management Coordinator

BEAVER

SURVEY-INVENTORY PROGRESS REPORT - 1971 through 1975

Statewide

Techniques

Since 1967 the stretched pelts of beaver have been sealed and measured to enumerate the harvest and to determine the age composition of the catch. In Alaska beaver hides are traditionally stretched round. Pelts are measured by adding the diameter from nose to the base of the tail, or bottom of the pelt, to the medial diameter. These measurements are taken in inches and age classes are established on the following basis: young-of-the-year or kits (less than 53 inches), yearlings (53 to 59 inches), two-year-olds (60 to 64 inches) and adults (65 inches and larger).

Studies previously made at the Alaska Cooperative Wildlife Research Unit have determined the general relationship between the degree of exploitation and the percentage of certain age classes in the harvest. A beaver population can be considered underharvested when the take is composed of less than 15 percent kits. However, since 1957, when pelt measurement was added to the beaver sealing procedure, exceptions to this rule have been noted. For example, Game Management Units are generally large geographic areas, but a manageable beaver population may consist of beavers inhabiting a relatively small tributary within a unit. Overharvests of drainages or tributaries within a unit are sometimes obscured by a large but conservative harvest in the remainder of the unit. Human populations are not evenly distributed within the units; therefore, trapping pressures are often disproportionately distributed in relation to beaver abundance and distribution. The potential for overharvest varies between units and involves such factors as quality of beaver habitat within the unit, economic status of trappers residing in the unit, and trapping techniques employed by trappers. Whenever the catch exceeds 20 percent kits, a careful examination of the harvest by tributary or drainage should be made. When kits comprise 20 percent of the harvest in a unit it is highly likely that over-exploitation is occurring on some tributaries.

Findings

The beaver harvest has been separated into age classes since 1957 by the measurements recorded on beaver sealing documents. The harvest by game management unit and age class since 1971 is recorded in Appendix I. In 1973 the reported statewide beaver harvest was 10,864. In 1974 and 1975 harvests declined to 8,396 and 7,516, respectively. This trend is thought to reflect economic and cultural situations within Alaska and not a statewide decline in beaver populations.

Management Summary and Conclusions

The beaver sealing program provides a sound basis for proper management of the beaver resource. It furnishes the information required to detect management problems. Aerial cache counts, analyses of the harvest by tributary, surveys of local economic situations and trapping modes can provide information sufficient for positive management of the resource.

The 1975 beaver harvest data suggest that additional information may be needed in Units 2, 3, 6, 7, 9, 13, 15, 18, and 23. In these units kits comprised at least 20 percent of the harvest. Because of the very low harvests recorded in Units 6, 7, 15 and 23, additional field efforts are not justified at this time.

PREPARED AND SUBMITTED BY:

Oliver E. Burris
Regional Management Coordinator

Appendix I. Reported beaver harvests, 1971-1975.

Unit	Year	Limit	Size Composition of Harvest (percent) (Under 54")	(Under 59")	(Over 59")	Related Take	No. of Trappers	Ave. Catch/ Trapper
1	1971	No limit	15.5	25.0	75.0	84	7	12.0
	1972	No limit	0.0	20.0	80.0	5	3	1.7
	1973	No limit	7.3	20.0	80.0	169	18	9.4
	1974	No limit	11.7	22.1	77.9	168	13	12.9
	1975	No limit	9.4	28.3	71.7	154	19	8.1
2	1971	No limit	20.0	40.0	60.0	5	1	5.0
	1972	No limit	0.0	66.7	33.3	3	1	3.0
	1973	No limit	40.8	66.7	33.3	27	4	6.7
	1974	No limit	7.7	30.8	69.2	39	3	13.0
	1975	No limit	27.3	45.5	54.5	22	4	5.5
3	1971	No limit	40.0	60.0	40.0	20	1	20.0
	1972	No limit	25.0	50.0	50.0	8	3	2.7
	1973	No limit	44.5	44.5	55.5	9	5	1.8
	1974	No limit	No harvest reported					
	1975	No limit	No harvest reported					
4	1971	No limit	No harvest reported					
	1972	No limit	0.0	0.0	100.0	1	1	1.0
	1973	No limit*	0.0	100.0	0.0	1	1	1.0
	1974	No limit*	No harvest reported					
	1975	No limit*	-	-	-	1	1	1.0
5	1971	No limit	60.0	60.0	40.0	5	1	5.0
	1972	No limit	No harvest reported					
	1973	No limit	No harvest reported					
	1974	No limit	100.0	100.0	0.0	2	1	2.0
	1975	No limit	No harvest reported					
6	1971	10 & no limit*	17.3	25.0	75.0	52	7	7.4
	1972	10 & no limit*	35.8	56.7	43.3	67	8	8.4
	1973	10 & no limit*	12.3	33.7	66.3	188	11	17.1
	1974	10 & no limit*	21.1	33.3	66.7	109	13	8.4
	1975	10 & no limit*	22.4	48.9	51.1	99	9	11.0

Appendix I. (Continued).

Unit	Year	Limit	Size Composition of Harvest (percent) (Under 54")	(Under 59")	(Over 59")	Related Take	No. of Trappers	Ave. Catch/ Trapper
7	1971	20	11.8	35.3	64.7	17	3	5.6
	1972	20	10.0	23.3	76.7	30	5	6.0
	1973	20	27.8	51.6	48.4	126	12	10.5
	1974	20	28.1	45.6	54.4	57	6	9.5
	1975	20	25.8	38.7	61.3	37	9	4.1
8	1971	No limit	36.5	55.4	44.7	85	8	10.6
	1972	No limit	32.0	40.0	60.0	52	6	8.7
	1973	No limit	24.3	43.4	56.6	115	9	12.8
	1974	No limit	18.6	37.2	62.8	220	16	13.8
	1975	No limit	13.2	39.6	60.4	129	13	9.9
9	1971	40 and 15*	26.4	42.7	57.3	246	25	9.8
	1972	40 and 20*	21.3	36.0	64.0	337	27	12.5
	1973	40 and 20*	19.7	35.4	64.6	726	57	12.7
	1974	40 and 20*	18.8	37.6	62.4	212	28	7.6
	1975	40 and 20*	23.8	43.0	77.0	439	35	12.5
11	1971	No limit	9.1	42.4	57.6	34	8	4.2
	1972	No limit	33.4	33.4	66.6	3	2	1.5
	1973	No limit	0.0	16.7	83.3	6	3	2.0
	1974	No limit	0.0	33.4	66.6	3	1	3.0
	1975	No limit	8.3	8.3	91.7	12	5	2.4
12	1971	15	12.5	31.3	68.7	16	3	5.3
	1972	15	25.0	37.5	62.5	9	5	1.8
	1973	15	13.6	28.4	71.6	81	16	5.1
	1974	15	6.7	20.0	80.0	31	6	5.2
	1975	15	0.0	40.0	60.0	5	4	1.3
13	1971	20	34.4	49.1	50.9	116	15	7.7
	1972	20	0.0	6.7	93.3	16	7	2.3
	1973	20	17.1	30.8	69.2	117	25	4.7
	1974	20	18.6	49.1	50.9	59	17	3.5
	1975	20	26.3	42.6	57.4	80	14	5.7

Appendix I. (Continued).

Unit	Year	Limit	Size Composition of Harvest (percent) (Under 54")	(Under 59")	(Over 59")	Related Take	No. of Trappers	Ave. Catch/ Trapper
14	1971	40	20.0	42.0	58.0	50	14	3.5
	1972	40	34.8	43.5	56.5	23	6	3.8
	1973	40	18.6	35.0	65.0	159	37	4.3
	1974	40	29.2	50.9	49.1	106	21	5.0
	1975	40	17.0	41.5	58.5	153	30	5.1
15	1971	40	20.7	34.5	65.5	29	7	4.1
	1972	40	41.5	58.7	41.3	29	5	5.7
	1973	40	24.2	46.0	54.0	133	20	6.6
	1974	40	12.4	44.9	55.1	92	13	7.1
	1975	40	48.5	57.6	42.4	33	5	6.6
16	1971	40	17.6	40.2	59.8	279	28	9.9
	1972	40	13.8	31.6	68.4	329	25	13.1
	1973	40	19.7	39.8	60.2	620	58	10.7
	1974	40	14.6	38.2	61.8	377	39	9.7
	1975	40	18.4	41.5	58.5	783	74	10.6
17	1971	15	27.5	41.0	59.0	824	80	10.3
	1972	15	20.5	34.0	66.0	762	70	10.9
	1973	15	23.9	35.8	64.2	1,849	163	11.3
	1974	15	23.9	38.6	61.4	1,681	169	9.9
	1975	15	15.8	27.1	72.9	929	85	10.9
18	1971	10	15.6	33.0	67.0	385	58	6.6
	1972	10	20.6	39.7	60.3	961	133	7.2
	1973	10	24.4	38.0	62.0	1,769	230	7.7
	1974	10	25.8	40.4	59.6	684	95	7.2
	1975	10	20.7	36.7	63.3	1,389	181	7.7
19	1971	25 and 10*	17.0	31.1	68.9	516	78	6.6
	1972	25 and 10*	13.3	27.2	72.8	597	93	6.4
	1973	25 and 10*	12.9	29.7	70.6	1,089	155	7.0
	1974	25 and 10*	10.5	25.3	74.7	808	129	6.3
	1975	25 and 10*	9.8	24.0	76.0	1,188	150	7.9

Appendix I. (Continued).

Unit	Year	Limit	Size Composition of Harvest (percent) (Under 54")	(Under 59")	(Over 59")	Related Take	No. of Trappers	Ave. Catch/ Trapper
20	1971	25 closed*	6.9	23.5	76.5	607	78	7.7
	1972	25 closed*	6.4	20.4	79.6	1,136	103	11.0
	1973	25 closed*	10.3	24.1	75.9	1,523	170	9.0
	1974	25 closed*	8.0	24.6	75.4	1,183	133	8.9
	1975	25 closed*	9.2	24.6	75.4	685	89	7.7
21	1971	15	10.5	22.0	78.0	472	57	8.2
	1972	15	8.3	28.4	71.6	1,029	112	9.2
	1973	15	11.3	28.3	71.7	1,558	171	9.1
	1974	15	10.0	26.7	73.3	1,608	166	9.7
	1975	15	5.8	20.5	79.5	753	96	9.8
22	1971	50	66.7	66.7	33.3	3	1	3.0
	1972	50	No harvest reported					
	1973	50	22.9	48.6	51.4	35	4	8.8
	1974	50	32.8	42.6	57.4	61	11	5.5
	1975	50	8.1	32.4	67.6	37	7	5.3
23	1971	20	0.0	0.0	100.0	12	1	12.0
	1972	20	No harvest reported					
	1973	20	45.4	54.5	45.5	11	4	2.8
	1974	20	28.6	28.6	71.4	7	1	7.0
	1975	20	20.0	33.3	66.7	15	1	15.0
24	1971	20	7.2	31.8	68.2	71	13	5.4
	1972	20	4.8	18.1	81.9	116	13	8.9
	1973	20	8.9	22.3	77.7	305	45	6.8
	1974	20	5.3	22.5	77.5	572	66	8.6
	1975	20	7.9	24.7	75.3	295	37	8.0
25	1971	20	0.0	9.5	90.5	31	7	4.4
	1972	20	13.8	34.1	65.9	123	28	4.4
	1973	20	23.0	37.9	62.1	248	30	8.3
	1974	20	12.4	33.0	67.0	317	55	5.7
	1975	20	18.5	35.2	64.8	281	31	9.1

Appendix I. (Continued).

Unit	Year	Limit	Size Composition of Harvest (percent) (Under 54")	(Under 59")	(Over 59")	Related Take	No. of Trappers	Ave. Catch/ Trapper
Statewide Total	1971		18.4	33.9	66.1	3,911	501	7.8
	1972		14.3	30.6	79.4	5,636	663	8.5
	1973		17.8	33.0	67.0	10,864	1,248	8.7
	1974		15.1	31.6	68.4	8,396	1,003	8.4
	1975		15.0	31.5	68.5	7,516	899	8.4

*Unit was divided with different bag limits in the subdivisions and/or closed areas.

5 year average (1971-75) harvest - 7,265
5 year range (1971-75) harvest - 3,911-10,864
5 year average (1971-75) no. of trappers - 863

FURBEARER

SURVEY-INVENTORY PROGRESS REPORT - 1972-75

Statewide

Techniques

The techniques and procedures employed to estimate the harvest of furbearers and derive the approximate value of the furbearer resource are detailed in the annual furbearer report, Annual Project Segment Report, Volume IX, Job 2 (printed June 1971).

Findings

The estimated furbearer harvest and its approximate value for 1971-72 through the 1974-75 season are presented in Appendix I. The average value per pelt is listed in Appendix II.

Management Summary and Conclusions

Overall harvests have fluctuated as a result of changing economic and cultural conditions. Furbearer populations throughout the state have generally been unaffected by hunting and trapping. For more information refer to the Game Management Unit and species of interest.

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Appendix I. Furbearer harvest and approximate value.

	1970-71		1971-72		1972-73		1973-74		1974-75	
	Number	Approx. Value $	Number	Approx. Value $	Number	Approx. Value $	Number	Approx. Value $	Number	Approx. Value $
Beaver	3,911	101,700	5,950	208,250	10,860	380,100	8,400	294,000	7,520	300,800
Muskrat	16,900	21,100	16,590	31,650	31,900	79,750	40,278	100,695	34,920	104,760
Mink	7,200	180,000	3,420	102,600	7,680	268,800	10,700	321,000	6,540	261,600
Marten	8,100	137,700	8,410	168,200	8,710	217,750	17,970	539,100.1	11,350	397,250
Land Otter	1,500	49,500	2,010	100,500	2,570	141,350	2,540	114,300	2,010	120,600
White Fox	2,600	44,200	1,650	41,250	1,790	53,700	2,340	81,900	730	29,200
Other Fox	3,500	63,000	2,370	59,250	5,310	185,850	14,580	583,200	5,680	340,800
Lynx	1,400	49,000	3,190	159,500	5,130	589,950	8,970	1,121,250	5,100	765,000
Weasel	600	600	560	560	800	800	2,470	2,964	940	1,410
Squirrel	900	300	490	245	2,170	1,085	1,700	1,275	260	195
Total No.	46,611		44,640		76,920		109,948		75,050	
Total Value		647,081		872,005		1,919,135		3,159,684		2,321,615

Appendix II. Approximate average value per pelt for all sizes and qualities, based on fur market reports, fur auction reports and occasional reports from trappers and dealers.

	1971-72 Season	1972-73 Season	1973-74 Season	1974-75 Season
Beaver	35.00	35.00	35.00	40.00
Muskrat	1.50	2.50	2.50	3.00
Mink	30.00	35.00	30.00	40.00
Marten	20.00	25.00	30.00	35.00
Land Otter	50.00	55.00	45.00	60.00
White Fox	25.00	30.00	35.00	40.00
Other Fox	25.00	35.00	40.00	60.00
Lynx	50.00	115.00	125.00	150.00
Weasel	1.00	1.00	1.20	1.50
Squirrel	.50	.50	.75	.75

FURBEARERS

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 18 - Yukon-Kuskokwim Delta

Seasons and Bag Limits

Species	Trapping Season	Bag Limit
Beaver	Feb. 1 - Feb. 28	10 per season
Coyote	Nov. 10 - Apr. 30	No limit
White fox	Nov. 10 - Apr. 15	No limit
Red fox	Nov. 10 - Apr. 15	No limit
Lynx	Nov. 10 - Mar. 31	No limit
Mink and Weasel	Nov. 10 - Jan. 31	No limit
Muskrat	Nov. 10 - June 10	No limit
Land otter	Nov. 10 - Mar. 31	No limit
Squirrel (all species)	No closed season	No limit
Wolf	Oct. 1 - Apr. 30	No limit
Wolverine	Nov. 10 - Mar. 31	No limit

Beaver

Harvest statistics for the 1974-75 season suggest that interest in beaver trapping was renewed among residents of Unit 18. During the season 181 trappers took 1389 beavers. During the previous season 95 trappers took 684 beavers. Thus, in one year both the number of trappers and the catch more than doubled. Fur prices and favorable trapping conditions provided the motivation for the increased trapping effort.

White Fox

White fox were less abundant during the 1974-75 season than in 1973-74. The largest catches were taken on Nunivak Island. It was estimated that less than 200 white fox were taken in Unit 18.

Red Fox

Red fox abundance remained fairly high on the Yukon-Kuskokwim Delta during the 1974-75 season. A continued increase in pelt values prompted trappers to seek red fox at every opportunity, and the Unit 18 harvest was probably close to 500 red fox.

Lynx

Lynx were very scarce in Unit 18 during the 1974-75 season. Some were taken along the lower Yukon and in the area between Kaltag and Akiak.

Mink

Mink prices, although not high, were sufficient to encourage some trapping. Mink populations continued to increase on the Yukon-Kuskokwim Delta, but the estimated catch for the 1974-75 season did not exceed 1000.

Muskrat

Muskrats were reported to be abundant in some portions of Unit 18 during the 1974-75 season, but no harvest figures are available.

Land Otter

Land otters were again abundant on the Yukon-Kuskokwim delta and the estimated catch exceeded 300.

Abundance and Productivity

Beaver cache surveys were initiated on several drainages where relatively high trapping pressure was known to exist. The surveys suggested that on the lower portions of these streams, unlike the headwaters, trapping pressure was excessive.

Management Summary and Recommendations

Intensive beaver harvests on many streams in Unit 18, especially those readily accessible by boat, have severely reduced populations. The present seasons and bag limits should remain in effect.

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SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 19 - McGrath area

Seasons and Bag Limits

Species	Trapping Season	Bag Limit
Beaver		
Unit 19(A), that portion of Unit 19 which includes that part of the Kuskokwim drainage lying upstream from McGrath and including the Takotna River drainage	Feb. 1 - Apr. 15	25 per season
Unit 19(B), that portion of Unit 19 includes that part of the Kuskokwim drainage downstream from McGrath, except that portion of Unit 19(B) described below	Feb. 1 - Feb. 28	10 per season
Unit 19(B), that portion comprising the Holitna drainage from the confluence of the Holitna River and the Hoholitna upstream, except for the Titnuk Creek drainage		No open season
Coyote	Nov. 1 - Apr. 30	No limit
Red fox	Nov. 1 - Feb. 15	No limit
Lynx	Nov. 1 - Mar. 31	No limit
Marten	Oct. 20 - Feb. 28	No limit
Mink and Weasel	Nov. 1 - Jan. 31	No limit
Muskrat	Nov. 1 - June 10	No limit
Land otter	Nov. 1 - Apr. 15	No limit
Squirrel (all species)	No closed season	No limit
Wolf	Oct. 1 - Apr. 30	No limit
Wolverine	Nov. 10 - Mar. 31	No limit

Beaver

One hundred fifty trappers took 1188 beavers from Unit 19 during the 1974-75 trapping season. During the 1973-74 season 808 beavers were caught. The increased effort during 1974-75 and resulting catch may have been prompted by the promise of increased pelt values. Actually, pelt values did not reach the level of the previous year. Snow and ice conditions were not as favorable for trapping during the 1974-75 season as they were the previous year.

Coyote

Only one coyote was reported taken in Unit 19 during the 1974-75 season. This animal was trapped on the Takotna River.

Red Fox

Red fox were relatively scarce during the 1974-75 trapping season, but approximately 100 were taken in Unit 19. The average pelt value was over $65.00 with better red and cross furs bringing over $100.00 per skin.

Lynx

Although lynx were not abundant in Unit 19, trappers took approximately 40 during the 1974-75 season. Lynx brought from $150.00 to over $300.00 this season. One lynx caught near Aniak was sold for $500.00.

Marten

The marten population appeared to be reaching a peak during the 1974-75 season. A rapid increase in pelt prices resulted in a marked increase in the number of trappers. Male martens were worth $30.00 to $45.00, and female martens averaged about $25.00 per skin. Trappers probably caught over 2,500 martens in Unit 19 during the 1974-75 season.

Observation of marten tracks on the Medfra trail and examination of marten skins suggested that the marten population was as large and productive as in 1974.

Mink

Mink continued to be abundant throughout Unit 19, although few trappers made special efforts to catch them. The estimated catch for 1974-75 was around 300 mink, mostly from the Aniak-Kalskag area. Pelt value increased somewhat from that of the previous year, and large males brought from $25.00 to $35.00. There was little demand for female mink; consequently, they brought less than $15.00 per skin.

Muskrat

Muskrats were not abundant during the 1974-75 season, and the Unit 19 take was probably less than 500.

Land Otter

Land otters were again abundant, but relatively few were trapped. Most were taken by trappers in the Sleetmute, Aniak and Kalskag areas. About 150 otters were caught in Unit 19 during the 1974-75 season.

Management Summary and Recommendations

Beaver populations continued to increase despite the trapping pressure. Liberalization of beaver seasons and bag limits is recommended for most of Unit 19.

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FURBEARERS

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 21 - Middle Yukon

Seasons and Bag Limits

Species	Trapping Season	Bag Limit
Beaver		
Unit 21(A), that portion of Unit 21 which includes the Yukon drainage lying upstream from the Anvik River	Feb. 1 - Mar. 31	15 per season
Unit 21(A), that portion of Unit 21 which includes the Innoko River drainage upstream from Holikachuk	Feb. 1 - Mar. 31	25 per season
Unit 21(B), the remainder of Unit 21	Feb. 1 - Feb. 28	15 per season
Coyote	Nov. 1 - Apr. 30	No limit
Red fox	Nov. 1 - Feb. 15	No limit
Lynx	Nov. 1 - Mar. 31	No limit
Marten	Oct. 20 - Feb. 28	No limit
Mink and Weasel	Nov. 1 - Jan. 31	No limit
Muskrat	Nov. 1 - June 10	No limit
Land otter	Nov. 1 - Apr. 15	No limit
Squirrel (all species)	No closed season	No limit
Wolf	Oct. 1 - Apr. 30	No limit
Wolverine	Nov. 1 - Mar. 31	No limit

Harvest and Hunting Pressure

Beaver

The beaver catch and trapping effort for Unit 21 (753 beavers caught by 96 trappers) decreased from the 1608 beavers taken by 166 trappers during the 1974-75 season. Reduced trapping pressure during 1974-75 was due largely to deep snow, heavy ice and lack of interest. The thick ice discouraged many trappers that ventured out for the spring season. Although beaver pelts were averaging about $35.00 per skin, with supers and blankets bringing up to $55.00 per pelt, trappers were reluctant to trap beavers. Beaver colonies continued to flourish in nearly all Unit 21 drainages, with the exception of the Yukon Valley floodplains. Beavers have increased and are occupying formerly vacant habitat.

Red Fox

Not as many fox were taken as during the past few years, but rising pelt values encouraged trappers to take those that were available. Trappers in the Holy Cross, Shageluk, Anvik, and Grayling areas had the best trapping success. The Unit 21 fox catch was probably less than 100 during the 1974-75 season.

Lynx

Lynx populations began to decrease rapidly and only scattered individuals were taken along the Yukon floodplain during the 1974-75 season.

Marten

Martens were again fairly abundant over most of Unit 21. A rise in fur value resulted in increased trapping pressure following the January 1976 fur sale. During this sale marten prices reached unprecendented highs of $42.00 for good large males. Good lots averaged from $32.00 to $36.00 during late winter. Prices paid for martens were the highest since 1951-1952. The estimated catch for Unit 21 during the 1974-75 season was probably over 1500 martens.

Mink

Mink were largely ignored by most trappers because pelt prices were low, except for large pelts which brought $25.00 to $30.00. Female mink were nearly worthless, bringing only $5.00 to $10.00. Mink were moderately abundant over most of Unit 21.

Otter

Otter populations remained high over much of Unit 21, but trapping pressure was light despite good pelt values.

Muskrat

Muskrats again received very little trapping pressure, except during the spring months when a few were taken incidental to other activities.

Management Summary and Recommendations

Restrictive beaver seasons and bag limits should be lifted entirely from this unit.

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FURBEARERS

SURVEY-INVENTORY PROGRESS REPORT - 1975-76

Game Management Unit 22 - Seward Peninsula

Seasons and Bag Limits

Beaver	Feb. 1-April 15	50 per season
Arctic Fox	Nov. 10-April 15	No limit
Red Fox	Nov. 10-April 15	No limit
Lynx	Nov. 1-March 31	No limit
Mink and weasel	Nov. 1-Jan. 31	No limit
Muskrat	Nov. 1-April 16	No limit
Land Otter	Nov. 1-April 16	No limit
Ground Squirrel	No closed season	No limit

Harvest and Hunting Pressure

For the third consecutive year fur prices continue to show an upward trend, and in Unit 22 there was a corresponding increase in trapping effort. In general, trapping success was higher in 1975 than in 1974. Lack of snow early in the season hampered trappers by restricting their travel, but this situation existed only through December.

Beaver - Beaver abundance increased in all major drainages east and south of the Kwiniuk River. Trapping pressure has not kept pace with this expanding population, and in most areas few, if any, beaver are taken. The one exception is the extreme southeastern portion of the unit near Stebbins where a few individuals take beaver in the late winter. Throughout Unit 22 trapping pressure was light, and the overall harvest probably did not exceed 200 beaver.

Arctic Fox - Arctic fox numbers were higher on both the mainland and the Bering Sea Islands. High catches were recorded by trappers from Wales and Shishmaref on the mainland. In other locations only a few white fox were taken, and these were often caught in sets designed for red fox. Since 1974 interest in trapping has increased among residents of St. Lawrence Island. Gambell and Savoonga trappers were moderately successful. Total harvest on the Bering Sea Islands was probably less than 1000 white fox.

Red Fox - After a rather poor year in 1974, populations appeared to increase during 1975. Marine mammal carcasses were abundant along the coast. several trappers reported high catches of red fox. Between 1974 and 1975, fox numbers also increased in the interior of the Seward Peninsula. Trappers in this area experienced fair success. The average seasonal catch per trapper was about 20 red fox (including those animals shot).

Lynx - Even though lynx pelts brought record prices, the harvest was relatively low. Most of the catch was by residents of White Mountain, Elim and Koyuk, but the total Unit 22 harvest probably did not exceed 150 animals. Trapping success declined for the second consecutive year.

Mink and Weasel - The harvest of these animals continued to remain low. Mink and weasel density appeared to be higher in 1975 than in 1974, though few, if any, trappers took advantage of the situation.

Land Otter - Trapping pressure on land otters continued to be very low. The total harvest for Unit 22 was probably less than 25.

Ground Squirrel - A few individuals took squirrels in the spring and late fall, but the trapping pressure continued to be very low.

Abundance and Productivity

Arctic fox populations on both the mainland and St. Lawrence Island showed slight increases.

Red fox were quite common and exhibited a marked increase in numbers.

Lynx populations appeared to decline again for the third consecutive year.

Ground squirrel populations have remained relatively unchanged.

Management Summary and Recommendations

Fur prices have remained high for three consecutive years but there has been only a slight increase in trapping effort. There are only a few trappers in Unit 22 who depend on fur for a significant portion of their income. The majority of trapping in Unit 22 occurs as a recreational activity. There could be a substantial increase in the harvest of furbearers without adversely affecting populations. Beaver trapping should be encouraged in the eastern portion of the unit. No changes in furbearer seasons or bag limits are recommended.

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FURBEARERS

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 23 - Kotzebue Sound

Seasons and Bag Limits

Species	Trapping Season	Bag Limit
Beaver	Nov. 1 - Apr. 15	20 per season
Arctic Fox	Nov. 10 - Apr. 15	No limit
Red Fox	Nov. 10 - Apr. 15	No limit
Lynx	Nov. 1 - Mar. 31	No limit
Mink and Weasel	Nov. 1 - Jan. 31	No limit
Muskrat	Nov. 1 - June 10	No limit
Land Otter	Nov. 1 - Apr. 15	No limit
Ground Squirrel	No closed season	No limit

Harvest and Hunting Pressure

For several years prior to 1974 both trapping effort and the number of full time trappers in Game Management Unit 23 declined slowly. Increased fur prices during the last three years resulted in a slight increase in overall trapping effort.

Beaver

Village residents from Selawik and the lower Kobuk valley reported a substantial increase in the abundance of beavers. Beavers appear to be rapidly extending their range to the west and north. Despite their abundance, particularly in the Selawik drainage, trapping pressure was very low. The total harvest was estimated at less than 200 beavers. There were indications most of the animals taken were shot.

Arctic Fox

Arctic fox were more abundant near the coast than in 1974. While trapping effort was also greater than in 1975, the total catch did not exceed 400 animals.

Lynx

The lynx harvest remained low for the second consecutive year. Until recently few individuals in Unit 23 regularly trapped lynx. However, with each pelt bringing over $200, lynx-trapping efforts were greater than at any time during the last 10 years. Even with the increased effort, however, the harvest did not exceed 300 animals.

Mink and Weasel

Trapping pressure on these species was extremely low. The majority of mink and weasels harvested were taken from the Selawik River drainage.

Muskrat

Muskrat trapping pressure was practically nonexistent, but quite a few animals were shot during spring in the Kobuk and Selawik drainages. The muskrat harvest was probably less than 500.

Land Otters

The few otters harvested resulted from incidental taking during the spring.

Ground Squirrels

Trapping and harvest of ground squirrels was slight, but a few animals were taken in the spring and fall for parkas.

Abundance and Productivity

No furbearer surveys were conducted in Unit 23. Observations in the course of other investigations and reports from local residents indicated a substantial number of beaver houses on the upper Selawik, Kugarak, and Nuleargowik Rivers. Beaver sign was also abundant on drainages of the lower Kobuk.

Arctic fox were more abundant than in 1974, especially along beach fringes. This may have resulted from the increased number of walrus carcasses along the beach.

Red fox showed a marked increase in abundance, and their reproductive success also appeared to be high.

Although hare populations were on the increase, lynx numbers continued to decline.

Muskrats were quite common throughout the Selawik and Kobuk drainages as they apparently continued to increase their range.

Ground squirrels were numerous, but no change in abundance was detected.

Management Summary and Recommendations

Fur prices have remained high for three consecutive years, but only a slight increase in trapping effort has resulted. Few trappers in Unit 23 depend on their fur catch for a significant portion of their income. Therefore, the majority of trapping in Unit 23 is a winter recreational activity. It is apparent that there could be a substantial increase in the harvest without adversely affecting furbearer populations.

Beaver trapping should be encouraged throughout the unit, particularly in the Selawik drainage, and liberal seasons and bag limits should be retained for all furbearers.

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WALRUS

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Units 17-26 - Coastal Waters

Harvest and Hunting Pressure

On October 21, 1972, Congress enacted the Marine Mammal Protection Act, which limited the right to harvest marine mammals to Alaskan Natives. There were no hunting restrictions imposed upon Natives provided that: 1) the take was not accomplished in a wasteful manner, and 2) the animals were used for subsistence or their raw products were used in the production of articles for the arts and crafts industry.

With few exceptions, passage of the Marine Mammal Act has had little effect on Native hunting methods. In fact, the Act allows Natives to be less selective in taking walruses. Whereas former State regulations restricted hunters to five female walruses per year, Federal law now permits Natives to kill an unlimited number of walruses of any age or sex.

The number of walruses killed and retrieved during calendar year 1975 was estimated at 2378, but the actual kill was much higher. Most hunters attempted to take walruses while the animals rested on the pack ice. Because of their large size, immediate immobilization of walruses requires a well placed shot. Therefore, under normal hunting circumstances, it was common for wounded animals to escape into the water before dying. Walruses were also hunted in the water when pack ice was scarce or lacking. Under these conditions the rate of loss was high because carcasses, especially those of large bulls, sank easily. While loss varies depending on the experience of the crew and the hunting conditions under which walruses are taken, it is usually between 1.5 and 2.5 times the retrieved kill. Therefore, the total 1975 walrus harvest, including loss, was estimated at 4271.

The 1975 retrieved harvest was composed of 1488 males (63%), 650 females (27%) and 240 calves (10%). Further information regarding the 1975 harvest is detailed in Appendix I.

Although the estimated total kill included walruses lost as a result of of hunting, it did not include those which had perished as a result of accidents. In 1973, 80 to 130 carcasses were found on beaches at the Punuk Islands (south of St. Lawrence Island). In 1975 Natives from the village of Savoonga found an additional 30 fresh carcasses. The causes of death were not determined in either case, but there was no indication that these animals had been shot. Since thousands of walruses haul-out on the beach at this location, death may have resulted from trampling when the herds were frightened by a loud sound, such as a low aircraft. Other investigators have suggested the animals may have died from wounds inflicted by natural predators, such as killer whales. While this type of mortality was insignificant in relation to the total population, the phenomena certainly warrants further study.

Composition and Productivity

Several attempts were made to conduct composition counts of nursery herd females as they passed through the Bering Strait in early June. Adverse weather and ice conditions delayed our arrival to the survey area until June 13. By that time most of the parturient females had moved north into the Chukchi Sea where such surveys were impractical. Utilizing a 21 foot canopy Boston Whaler and three observers, two large groups of walruses were classified on June 13 and 17. One group was positioned on ice flows approximately 10 miles south of Diomede and the second group occupied similar habitat approximately 15 miles southeast of King Island. During the survey approximately 4000 walruses were seen, and observers attempted to classify approximately 2000 walruses. The walruses classified were in groups comprised of 2 to 500 individuals.

Walrus surveys conducted by visual observation are subject to considerable error because of the gregarious nature of the animals and their tendency to leave the ice en masse when disturbed. Under such counting conditions surveys produce only estimates of herd composition. Among the walruses classified, males outnumbered females by nearly two to one; this probably reflected the fact that the survey was conducted near the end of the spring migration. Most of the females migrate north earlier in the year. The most meaningful statistic derived from surveys of this nature is the percentage of females supporting young. Of an estimated 666 walrus classified as females, 16 percent (108) supported calves of the year and 6 percent (39) were accompanied by young one year of age or older. Approximately 500 walrus were judged to be females of breeding age. Therefore, 22 percent of the mature females supported new calves, and 8 percent were accompanied by yearlings. Because the bulk of the nursery herd had passed the survey area prior to our observations the calf composition figure presented here must be considered a minimum estimate.

Management Summary and Recommendations

The number of walrus carcasses found on Alaskan beaches has been widely publicized, especially since passage of the Marine Mammal Protection Act which specifically prohibited wanton waste. During July and August over 100 fresh carcasses were observed on beaches from the Seward Peninsula to Cape Espenberg. Although a significant number were headless, beachcombing by plane and boat was common. Probably a majority of the skulls were removed for ivory after the walruses had washed onto the shore.

In view of the high rate of loss by walrus hunters, 100 carcasses on the beach are not considered excessive mortality. All walrus hunters should strive to reduce all forms of hunting loss. Hunters should be made fully aware of the far-reaching consequences of utilizing hunting methods that result in killing large numbers of unretrieved animals.

Within the last decade the Eskimo life style has changed from a subsistence to a cash-oriented economy. As hunters need more cash,

annual walrus harvests will probably increase. With an estimated 170,000 walruses in the Bering and Chukchi Seas, past harvests have not been excessive, but until the animals taken are more fully utilized annual statewide harvests should not exceed 2500 animals. A seasonal bag limit of 10 walruses, not more than 5 of hwich may be females, per hunter sould be considered. Fifteen walruses per year exceeds the nutritional requirements of any Alaskan family.

In the past, sport hunting by Alaskan residents and nonresidents (accompanied by Native crews) provided needed cash resources to local economies. Under this sport hunting situation harvests were relatively low, and animals taken were well utilized. Therefore, it is recommended that guided hunting be reinstated and hunters be allowed one walrus per year.

PREPARED BY:

Carl A. Grauvogel
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SUBMITTED BY:

Oliver E. Burris
Regional Management Coordinator

Appendix I. Retrieved and total kill of walrus in Alaska, 1975.

Location	Walrus Retrieved	Males		Females		Calves		Estimated Percent Hunting Loss	Estimated Total Kill
		No.	(%)	No.	(%)	No.	(%)		
Yukon-Kuskokwim	9	8	(90)	1	(10)	0	--	50	18
Nome	95	73	(77)	19	(20)	3	(3)	60	238
King Island	24	13	(54)	8	(33)	3	(13)	40	40
Gambell	641	263	(41)	216	(34)	162	(25)	50	1282
Savoonga	466	360	(77)	64	(14)	42	(9)	40	776
Little Diomede	793	523	(66)	244	(31)	26	(3)	30	1126
Wales	116	42	(36)	70	(60)	4	(4)	50	232
Teller	0	--	--	--	--	--	--	--	--
Brevig Mission	0	--	--	--	--	--	--	--	--
Shishmaref	85	66	(78)	19	(22)	0	--	70	283
Kivalina	3	3	(100)	0	--	0	--	50	6
Pt. Hope	10	10	(100)	0	--	0	--	50	20
Pt. Lay	31	31	(100)	0	--	0	--	50	62
Wainwright	65	61	(94)	4	(6)	0	--	40	108
Barrow	15	15	(100)	0	--	0	--	50	30
Other Areas*	25	20	(80)	5	(20)	0	--	50	50
TOTALS	2378	1488	(63)	650	(27)	240	(10)	44	4271

*The columns "males" and "females" include all age groups with the exception of calves of the year.

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1975

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

Seasons and Bag Limits

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

Harvest and Hunting Pressure

Thirty-four wolves were taken in Subunit 1A and 44 were taken in Unit 2 between July 1, 1975 and June 30, 1976. This is a 3 percent increase for Unit 2 over last year. The number of wolves taken both by trapping and shooting in Unit 2 increased from 1974-75.

The distribution of the harvest from Subunit 1A was about evenly divided by month from October through April except for March when 38 percent of the harvest occurred. In Unit 2, 86 percent of the harvest occurred during the trapping season (November through April). March, with 21 percent of the total, was also the peak harvest month for Unit 2.

Trapping accounted for 79 percent of the harvest in Subunit 1A and 50 percent in Unit 2. The rest of the wolves in both units were taken by shooting. The more extensive road system and logging activity in Unit 2 is the most apparent reason for the higher percent of wolves taken by shooting in this unit.

Black wolves made up 27 percent of the Subunit 1A harvest and 9 percent of the Unit 2 harvest. The rest were of the brown-gray color phase.

The sex ratio of the 34 wolves taken in Subunit 1A in 1975-76 was 47 percent males. The ratio for 41 wolves taken in Unit 2 was 37 percent males.

Age ratios of wolves as determined from examination of the fusing ends of radius and ulna bones indicated 55 percent of 42 wolves from Unit 2 were adults, while in Subunit 1A, 64 percent were adults.

Of the 34 wolves taken in Subunit 1A, 16 were taken on Revilla Island. The remaining 18 were taken on the mainland portion of the unit. The Revilla portion of the harvest this year was similar to the 17 of 33 wolves taken last year from the same area.

Composition and Productivity

No aerial surveys to ascertain wolf numbers were flown in 1975-76, primarily because of the lack of suitable snow conditions throughout the winter.

Management Summary and Conclusions

The 1975-76 wolf harvest in Unit 2 reversed a downward trend that started in 1969-70 and is the largest since 1970-71. It is still well below 64 wolves, the average annual kill during the 10-year period of highest reported harvests from 1962-1972.

Recommendations

If the bounty payments are to continue, the law requiring the hunter or trapper to reside in the unit where the wolf is taken should be eliminated. This would improve the accuracy of data on location of kill, as some wolves taken in Unit 2 are undoubtedly reported as taken in Subunit 1A.

PREPARED BY:

Robert E. Wood
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SUBMITTED BY:

Robert E. Pegau
Regional Research/Management Coordinator

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1974 AND 1975

Game Management Units 1B and 3 - Petersburg, Wrangell Area

Seasons and Bag Limits (1974-75 and 1975-76)

Hunting	No closed season	No limit
Trapping	November 1-April 30	No limit

Harvest and Hunting Pressure

Sealing and bounty documents have provided a reasonably accurate record of wolves taken in Units 1 and 3 since 1961-62. These data were tabulated by fiscal year. Unfortunately, Unit 1 data were not separated by subunit until 1971-72. Appendices I through IV show sex, age and chronology of the wolf harvest for Units 1B and 3 for 1974-75 and 1975-76 and Appendix V summarizes harvest statistics since 1961-62.

Seasons and bag limits have always been liberal in Units 1 through 3, and wolves are normally taken as opportunity permits. These are the only units in the State in which a wolf bounty has been in effect continously. During 1974-75, 12 wolves were taken in Unit 1B and 11 in Unit 3. In 1975-76, 16 were taken in Unit 1B and 24 in Unit 3.

There has been a downward trend in harvest for both units since 1967-68, when 82 wolves were taken in Unit 3. The most noticeable difference occurred in 1972-73, when wolf populations declined to the point at which trapping was no longer profitable. Since then most wolves have been taken incidental to other hunting and trapping activities.

Composition and Productivity

Deer is the major food species for wolves in Unit 3, while in Unit 1B, deer, moose and mountain goats are all available. The drastic reduction in deer populations in Unit 3 since 1968-69 was followed by a decline in wolf populations, a fact which became evident in 1970-71. This decline has not been as apparent in Unit 1B. Past data have shown that in healthy wolf populations from 40 to 50 percent of wolves taken are pups; the pup segment of the population becomes smaller in populations showing downward trends. This has happened in both Units 1B and 3, where the pup segment was less than 30 percent in 1975-76. The present status of wolf populations is fair in Unit 1B and low in Unit 3.

Management Summary and Recommendations

Wolf populations have declined in both Units 1B and 3 since 1968-69. They are presently lowest in Unit 3. In spite of the low wolf population in Unit 3, the predator-prey ratio is unbalanced because of extremely low deer population. The impact of wolves on deer is demonstrated by comparison

with similar deer habitats which do not support wolves. The islands of Unit 4 do not have wolves, and deer populations are presently good and on the increase. Several small islands in Unit 3 also do not support wolves and have fair to good deer populations. Other islands in Unit 3 which are inhabited by wolves and which in some instances are separated by less than a mile of water from the wolf-free islands have almost no deer; these same islands supported some of the highest deer populations in Region I in the mid-1960's.

If deer are to be managed, it is essential that wolf populations be maintained at acceptable levels. Public hunting and trapping alone will not accomplish this when deer populations fall below a given level. Deer are the most important big game species to residents of Unit 3. It is recommended, therefore, that wolf populations in Unit 3 be further reduced and maintained at a low level until deer populations have demonstrated sufficient recovery.

When a reduction in wolf populations proves necessary to the maintainance of predator-prey balance, every effort should be made to achieve this objective by encouraging public hunting and trapping. State control programs are extremely costly. Ten wolves taken by public hunters and trappers in Southeast Alaska provide a net return of about $1250, including $50 bounty per wolf and sale of pelts. The same number of animals taken under a control program would cost the State at least $10,000. It is recommended that when wolf control is deemed necessary a financial incentive be provided to public hunters and trappers. To be effective this incentive should be adjustable to economic and other conditions of specific locations. Legislative action would therefore be required to replace fixed bounty payments with a system of flexible payments.

PREPARED BY:

Harry R. Merriam
Game Biologist III

SUBMITTED BY:

Robert E. Pegau
Regional Research/Management Coordinator

APPENDIX I

WOLF 1974-75
Sub Unit One B

Harvest

Males - 5 Females - 6 Unknown - 1 Total - 12

Chronology by Month

Month	Number	Percent	Month	Number	Percent
July	--	--	January	1	8.3
August	--	--	February	1	8.3
September	3	25.0	March	1	8.3
October	--	--	April	--	--
November	--	--	May	3	25.0
December	3	25.0	June	--	--
			Unknown	--	--
			Total	12	99.9

Method of Take	Number	Percent
Ground Shooting	9	75.0
Trapping	3	25.0
Snaring	--	--
Other	--	--
Total	12	100.0

Color of Wolves Taken	Number	Percent
White	--	--
Brown	2	16.7
Gray	6	50.0
Black	3	25.0
Unknown	1	8.3
Total	12	100.0

APPENDIX II

WOLF 1975-76
SUBUNIT 1B

Harvest

Males - 7 Females - 9 Unknown - 0 Total - 16

Chronology by Month

Month	Number	Percent	Month	Number	Percent
July	--	--	January	3	18.8
August	1	6.2	February	2	12.5
September	--	--	March	1	6.2
October	--	--	April	1	6.2
November	4	25.0	May	--	--
December	4	25.0	June	--	--
			Unknown	--	--
			Total	16	99.9

Method of Take	Number	Percent
Ground Shooting	3	18.8
Trapping	13	81.3
Snaring	--	--
Other	--	--
Total	16	100.1

Color of Wolves Taken	Number	Percent
White	1	6.2
Brown	9	56.3
Gray	5	31.3
Black	1	6.2
Unknown	--	--
Total	16	100.0

Age (Determined by Examining the Fusing Ends of Radius and Ulna Bones)

	Number	Percent
Adult	11	68.8
Pup	4	25.0
Unknown	1	6.2
Total	16	100.0

APPENDIX III

WOLF 1974-75

Unit 3

Harvest

Males - 3 Females - 8 Unknown - 0 Total - 11

Chronology by Month

Month	Number	Percent	Month	Number	Percent
July	--	--	January	5	45.5
August	--	--	February	--	--
September	--	--	March	1	9.1
October	--	--	April	3	27.3
November	--	--	May	--	--
December	2	18.2	June	--	--
			Unknown	--	--
			Total	11	100.1

Method of Take	Number	Percent
Ground Shooting	3	27.3
Trapping	8	72.7
Snaring	--	--
Other	--	--
Total	11	100.0

Color of Wolves Taken	Number	Percent
White	--	--
Brown	4	36.4
Gray	6	54.5
Black	1	9.1
Unknown	--	--
Total	11	100.0

APPENDIX IV

WOLF 1975-76
UNIT 3

Harvest

Males - 12 Females - 12 Unknown - 0 Total - 24

Chronology by Month

Month	Number	Percent	Month	Number	Percent
July	--	--	January	2	8.3
August	--	--	February	8	33.3
September	1	4.2	March	4	16.7
October	--	--	April	6	25.0
November	1	4.2	May	--	--
December	1	4.2	June	1	4.2
			Unknown	--	--
			Total	24	100.1

Method of Take	Number	Percent
Ground Shooting	11	45.8
Trapping	12	50.0
Snaring	1	4.2
Other	--	--
Total	24	100.0

Color of Wolves Taken	Number	Percent
White	--	--
Brown	7	29.2
Gray	8	33.3
Black	9	37.5
Unknown	--	--
Total	24	100.0

Age (Determined by Examining the Fusing Ends of Radius and Ulna Bones)

	Number	Percent
Adult	16	66.6
Pup	7	29.2
Unknown	1	4.2
Total	24	100.0

APPENDIX V

Historical wolf harvest in Game Management Units 1B and 3 from sealing and bounty data.

Year	Unit 1B	Unit 3
1961-62		18
1962-63		26
1963-64		37
1964-65		27
1965-66		52
1966-67		40
1967-68		82
1968-69		15
1969-70		72
1970-71		38
1971-72	19	57
1972-73	1	24
1973-74	7	27
1974-75	12	11
1975-76	16	24

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Subunits 1C and 1D - Juneau and Haines

Seasons and Bag Limits

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

Harvest and Hunting Pressure

During 1975 Subunit 1D had a reported harvest of three wolves compared to 14 for the previous year while Subunit 1C had a harvest of 12 wolves. Ground shooting accounted for 12 wolves and three were taken by trapping. In contrast to these data, during 1974 ground shooting accounted for five and trappers took 12 animals. An early and prolonged snow accumulation in late October 1975 made wolf trapping very difficult.

Composition and Productivity

Age composition of the annual harvest could indicate productivity of a population if the take was high enough and if the method of take was suitably random, but the current harvest level is too low to establish trends. In Subunit 1C five wolves were aged as pups, five as adults, and the ages of two were not determined. In Subunit 1D all wolves sealed were of unknown age.

In the past 4 years (September 1972 to September 1976) I have made many aerial and ground surveys over most of Subunits 1C and 1D. Wolves are present on all mainland areas from Cape Fanshaw north to the Canadian border, at both Haines and Skagway, and again south in the Chilkat Range. The smaller islands in Lynn Canal may not have wolves, at least none have been reported. Sightings of wolf-like animals on Douglas Island have been reported by Juneau residents to the Juneau Fish and Game offices, but these may be free-ranging dogs.

Berners Bay had six wolves during winter 1975-76 and nine were in the Taku River drainage during winter 1975-76. A pack of 10 wolves was observed in the Endicott River area in winter 1974-75. I spotted three wolves by Endicott Lake in February 1976. In August 1976 Don Strode heard and saw what he considered to be five wolves near Sumdum Mountain at the 2,500 foot level. Charley Wallmo, U.S. Forest Service, and myself had a wolf approach within 50 yards of us at the 2,500 foot level of the Chilkat Range near Humpy Creek in July 1975. Joe Fox, wildlife research student from the University of Alaska, saw several wolves on William Henry Mountain in the Chilkat Range in August 1976. I photographed three wolves at 3,000 feet elevation at Goat Lake near Skagway, Alaska on a fresh goat kill in February 1974. Tracks of six wolves were identified on a ridge-top at 2,500 feet on the south side of Meade Glacier on

Sinclair Mountain in February 1976. Thirteen wolves were spotted during winter 1972-73 on the Davidson Glacier Peninsula. Thirteen wolves were spotted in Adams Inlet in January 1973 feeding on a calf moose. About the only place I have not seen wolf activity in Subunits 1C and 1D is that area behind Juneau between Mendenhall and Herbert Glaciers.

Management Summary and Recommendations

The number of wolves taken by hunting and trapping is thought to be insignificant. Trapping season starts in November and coincides with inclement weather. Trapping wolves in this area is most productive before there is snow on the ground. Pelt primeness and fur quality are unknown for the month of October. The problem of the incidental take of bears at wolf trap sites may be significant in October. Data need to be gathered on differential trapping success by various methods in October, as well as information on fur quality.

The trapping season should be opened October 1 if wolf hides are of economic value and if such an activity would not be harmful to bears. One method of regulating and yet studying the effects of an October trapping season is to issue permits for the month of October and outline methods (experimental and current) for each permittee which would minimize the chances of taking a bear.

PREPARED BY:

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SUBMITTED BY:

Robert E. Pegau
Regional Management/Research Coordinator

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 5 - Yakutat

Seasons and Bag Limits

Hunting	No closed season	No limit
Trapping	Nov. 10 - Apr. 30	

Harvest and Hunting Pressure

Eleven wolves (7 males, 4 females) were harvested, all by ground shooting, during the reporting period.

Populations

Wolf sign was noted during the November moose surveys. Sixteen wolves (12,2,1,1) were observed as were tracks of at least 15 more, for a minimum population estimate of 31 animals on the Yakutat Forelands. On the Malaspina Forelands one wolf and tracks of seven others were observed for a minimum estimated population of eight.

Management Summary and Recommendations

No changes in seasons and bag limits.

PREPARED BY:

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SUBMITTED BY:

Robert E. Pegau
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WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 6 - Prince William Sound

Season and Bag Limits

Hunting	Aug. 10 - Apr. 30	Two wolves
Trapping	Nov. 10 - Mar. 31	No limit

Harvest and Hunting Pressure

Seven wolves were taken in Unit 6 during the 1975-76 hunting and trapping seasons (Appendix I). Two trappers, trapping by aircraft, accounted for all seven wolves. No other known effort was exerted to take wolves.

Composition and Productivity

No data were available.

Management Summary and Conclusions

The wolf population in Unit 6 appears to be static. The annual removal of three to seven wolves during the past four winters (Appendix II) appears to be holding the wolf population at a level of approximately 20 wolves or less.

In Unit 6 wolves normally inhabit the area from the Copper River to Icy Bay. Occasionally a track or two may be seen west of the Copper River on the Delta but there does not appear to be a resident pack utilizing the area.

Recommnedations

Retain the current seasons and bag limits.

PREPARED BY:

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SUBMITTED BY:

John S. Vania
Regional Management Coordinator

APPENDIX I

WOLF SEALING DATA 1975 - 1976

UNIT 6

Harvest

Male	Female	Unknown	Total
1	6	0	7
14.3%	85.7%		100.0%

Chronology

Month	Number	Percent
December 1975	5	71.4
January 1976	2	28.6
Total	7	100.0

Method of Take

Ground shooting	7	100.0%

Color of wolves taken

Gray	7	100.0%

PREPARED BY: Jerome Sexton, Game Biologist II
Julius Reynolds, Game Biologist III

APPENDIX II

WOLF HARVEST DATA

UNIT 6

Year	Number
1963 - 1964*	1
1964 - 1965*	1
1965 - 1966**	5
1966 - 1967*	0
1967 - 1968*	0
1968 - 1969*	0
1969 - 1970**	1
1970 - 1971**	0
1971 - 1972***	0
1972 - 1973***	3
1973 - 1974***	6
1974 - 1975***	4
1975 - 1976***	7
Total	28
Average	2.15

* Bounty records.
** Bounty records and aerial permits.
*** Mandatory sealing.

PREPARED BY: Jerome Sexton, Game Biologist II
Julius Reynolds, Game Biologist III

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Units 7 and 15 - Kenai Peninsula

Seasons and Bag Limits

Hunting	Nov. 1 - Feb. 28	One wolf by permit only. Season will be closed by field announcement when 10 wolves have been taken; conditions of the hunt will be described by Commissioner's announcement.
Trapping	Nov. 10 - March 31	No limit

Note: USF&WS did not allow hunting or trapping of wolves on the Kenai National Moose Range in Subunits 15B or 15C during the 1975-76 season.

Harvest and Hunting Pressure

The 1975 hunting and trapping seasons resulted in the harvest of 21 wolves in Game Management Units 7 and 15 (Appendices I & II). Trapping and snaring accounted for 12 (57%) of the 21 wolves taken.

Four males and five females were taken in Unit 7, four males and eight females in Unit 15. Of the 20 known-age animals, 14 (70%) were pups and the remainder adults.

Wolf hunting permits were available throughout the hunting season. Most permits were obtained by persons so that they could take a wolf if one appeared while they were hunting other game. Ninety-seven permits were issued in 1975, compared to 238 in 1974. The difference may be attributed to the 1975 trapping season, since persons possessing a valid trapping license were allowed to shoot wolves without a special permit.

Composition and Productivity

Due to lack of adequate snowfall, no wolf track surveys were attempted in 1975.

Although pups made up 70 percent of the reported harvest, the sample size was too small to allow inferences to be made. Unit 15 population estimates are presented in Appendix III.

Management Summary and Conclusions

In recent years the Kenai Peninsula wolf population has expanded in numbers and range.

As mentioned in the 1974 Survey-Inventory reports, the demand for moose by hunters in these units is very high. To carry out a successful moose management program will necessitate managing wolves at a number that maintains their competition with hunters at an acceptable level yet insures a secure and healthy wolf population.

The desired harvest of 30 wolves was not achieved despite a trapping season and a hunter limit of 10 wolves.

Recommendations

Wolves should be harvested at a level which would provide a spring breeding population of about 50 in Unit 15, and 20 in Unit 7.

PREPARED BY:

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Game Biologist III and Game Biologist II

SUBMITTED BY:

John S. Vania
Regional Management Coordinator

WOLF 1975-76
UNIT 7

Harvest

Males - 4 Females - 5 Unknown - 0 Total - 9

Chronology by Month

Month	Number	Percent	Month	Number	Percent
July	--	--	January	1	11.1
August	--	--	February	4	44.4
September	--	--	March	2	22.2
October	--	--	April	--	--
November	2	22.2	May	--	--
December	--	--	June	--	--
			Unknown	--	--
			Total	9	99.9

Method of Take	Number	Percent
Ground Shooting	3	33.3
Trapping	3	33.3
Snaring	3	33.3
Other	--	--
Total	9	99.9

Color of Wolves Taken	Number	Percent
White	--	--
Brown	--	--
Gray	8	88.9
Black	1	11.1
Unknown	--	--
Total	9	100.0

Age (Determined by Examining the Fusing Ends of Radius and Ulna Bones)

	Number	Percent
Adult	4	44.4
Pup	5	55.6
Unknown	--	--
Total	9	100.0

NOTE: Units 7 & 15 hunting season Nov. 1-Feb. 28 one wolf by permit only; season will be closed by field announcement when 10 wolves have been taken; conditions of the hunt to be described by Commissioner's Announcement.

Units 7 & 15 trapping season Nov. 10-March 31; No limit (However, U.S.F.& W. did not allow hunting or trapping of wolves on the Kenai National Moose Range in Game Management Subunits 15B or 15C during the 1975-76 season.)

Prepared By:

Jerome J. Sexton
Game Biologist

WOLF 1975-76
UNIT 15
(including all subunits)

Harvest

Males - 4 Females - 8 Unknown - 0 Total - 12

Chronology by Month

Month	Number	Percent	Month	Number	Percent
July	--	--	January	--	-=
August	--	--	February	4	33.3
September	--	--	March	--	--
October	--	--	April	--	--
November	6	50.0	May	--	--
December	2	16.7	June	--	--
			Unknown	--	--
			Total	12	100.0

Method of Take	Number	Percent
Ground Shooting	6	50.0
Trapping	5	41.7
Snaring	1	8.3
Other	--	--
Total	12	100.0

Color of Wolves Taken	Number	Percent
White	--	--
Brown	2	16.7
Gray	6	50.0
Black	4	33.3
Unknown	--	--
Total	12	100.0

Age (Determined by Examining the Fusing Ends of Radius and Ulna Bones)

	Number	Percent
Adult	2	16.7
Pup	9	75.0
Unknown	1	8.3
Total	12	100.0

NOTE: Units 7 & 15 hunting season Nov. 1-Feb. 28 one wolf by permit only; season will be closed by field announcement when 10 wolves have been taken; condition of the hunt to be described by Commissioner's Announcement.

Units 7 & 15 trapping season Nov. 10-March 31; No limit (However, U.S.F.& W. did not allow hunting or trapping of wolves on the Kenai National Moose Range in Game Management Subunits 15B or 15C during the 1975-76 season.)

Prepared By:

Jerome J. Sexton

APPENDIX III

WOLF

GMU 15 - WESTERN KENAI PENINSULA

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 Unit 15A 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	Based on expansion of survey data.
1974-75	90-105	Based on expansion of previous data by 25%.

PREPARED BY: Paul A. LeRoux, Game Biologist III

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 9 - Alaska Peninsula

Seasons and Bag Limits

Hunting	August 10-April 30	Two wolves
Trapping	October 1-April 30	No limit

Hunting, Trapping and Harvest Pressure

Twenty-seven wolves were reported harvested during the 1975-76 season in GMU 9 (Appendix I). The harvest breakdown by sex shows 12 males and 15 females. Age composition of wolves presented for sealing shows 40.7 percent young-of-the-year, 25.9 percent adults, and 33.3 percent of undetermined age. As in previous years, the harvest occurred primarily from January through March (77.4%).

Composition and Productivity

No data were available.

Management Summary and Conclusions

The harvest of 27 wolves compared favorably with the 12-year mean of 29 wolves per year (Appendix II). A regulation requiring that the long bones of the left front leg remain attached to the hide until sealed went into effect during this reporting period. Age data were obtained from these bones.

Recommendations

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

PREPARED BY:

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SUBMITTED BY:

John S. Vania
Regional Management Coordinator

WOLF 1975-76
UNIT 9
APPENDIX I

Harvest

Males - 12 Females - 15 Unknown - 0 Total - 27

Chronology by Month

Month	Number	Percent	Month	Number	Percent
July	--	--	January	11	40.7
August	--	--	February	5	18.5
September	--	--	March	3	11.1
October	3	11.1	April	2	7.4
November	--	--	May	--	--
December	3	11.1	June	--	--
			Unknown	--	--
			Total	27	99.9

Method of Take	Number	Percent
Ground Shooting	23	85.2
Trapping	4	14.8
Snaring	--	--
Other	--	--
Total	27	100.0

Color of Wolves Taken	Number	Percent
White	--	--
Brown	1	3.7
Gray	22	81.5
Black	4	14.8
Unknown	--	--
Total	27	100.0

Age (Determined by Examining the Fusing Ends of Radius and Ulna Bones)

	Number	Percent
Adult	7	25.9
Pup	11	40.7
Unknown	9	33.3
Total	27	99.9

Prepared By:

Jerome J. Sexton
Game Biologist

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

Appendix II

Historical Wolf Harvest, 1961-1976

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
1974-75 3/	52
1975-76 3/	27

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

PREPARED BY: James B. Faro, Game Biologist III

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 10 - Aleutian Islands

Seasons and Bag Limits

Hunting	August 10-April 30	Two wolves
Trapping	October 1-April 30	No limit

Hunting, Trapping and Harvest Pressure

No wolves were reported taken from this unit during the 1975-76 season.

Composition and Productivity

No data were available.

Management Summary and Conclusions

Wolves occur only on Unimak Island in Unit 10. Hunting pressure on the species is light; since 1962 only two animals have been reported taken, one in 1972 and one in 1974.

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

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 11 - Wrangell Mountains - Chitina River

Seasons and Bag Limits

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

Harvest and Hunting Pressure

Eighteen wolves were reported harvested during the 1975-76 season. Harvest data from 1966-67 through 1975-76 are summarized in Appendix I. During recent years most wolves have been taken by trapping and snaring. Data from the 1975-76 harvests indicated that 33 percent (6) of the harvest was adults, 17 percent (3) was pups and 50 percent (9) was of undetermined age. No increasing or decreasing trends are apparent in percentage of males in the harvest. A tabulation of the harvest location (not shown) reveals the 1975-76 harvest was dispersed over the drainages of Unit 11.

Abundance, Composition and Productivity

Pack size data were eliminated from sealing certificates this year. This information together with wolf observation reports was used to determine an estimated mean pack size and number of wolf packs for Game Management Unit 11. Previous data (not shown) illustrate a decreasing pack size over the 3-year period from 1971 through 1974. The sample size for 1974-75 and 1975-76 was too small to be meaningful, however, information from reliable local sources indicates that wolves are still abundant.

Data pertaining to composition and productivity were not available.

Management Summary and Conclusions

Besides harvest data, there has been little information obtained about wolves in Unit 11. Indications are that wolves were abundant.

Recommendations

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

PREPARED BY:

Ted Spraker
Game Biologist II

SUBMITTED BY:

John Vania
Regional Management Coordinator

APPENDIX I

Wolf Harvest Data from 1966-67 through 1975-76 for GMU 11

	1966-67[a]	1967-68[a]	1968-69[a]	1969-70[b]	1970-71[b]
Total Wolf Harvest:	70	40	7	10	23
Percent Males in Harvest, (Number)[d]:	51%(36)	53%(21)	86%(6)	50%(5)	61%(14)
Number Sex Unknown:	0	1	0	0	0
Ratio Blacks to 100 Grays:	43	29	17	--	--
Method of Kill, Percent (Number):					
Aerial Shooting:	80%(56)	55%(22)	0%(0)	100%(10)	100%(23)
Ground Shooting:	7%(5)	30%(12)	0%(0)	--	--
Trapping/Snaring:	13%(9)	15%(6)	100%(7)	--	--
Other:	0%(0)	0%(0)	0%(0)	0%(0)	0%(0)
Age Structure of Harvest[f]:					
Adult	--	--	--	--	--
Pup	--	--	--	--	--
Unknown	--	--	--	--	--

	1971-72[c]	1972-73[c]	1973-74[c]	1974-75[c]	1975-76[c]
Total Wolf Harvest:	56	48	28	34	18
Percent Males in Harvest, (Number)[d]:	57%(32)	42%(20)	71%(20)	53%(18)	50%(9)
Number Sex Unknown:	1	1	0	0	0
Ratio Blacks to 100 Grays:	59	26	35	45	42
Method of Kill, Percent (Number):					
Aerial Shooting:	30%(17)	0%(0)	0%(0)	0%(0)	0%(0)
Ground Shooting:	18%(10)	8%(4)	18%(5)	27%(9)	33%(6)
Trapping/Snaring:	52%(29)	92%(44)	82%(23)	73%(25)	45%(8)
Other:	0%(0)	0%(0)	0%(0)	0%(0)	22%(4)[e]
Age Structure of Harvest[f]:					
Adult	--	--	--	--	33%(6)
Pup	--	--	--	--	17%(3)
Unknown	--	--	--	--	50%(9)

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.
e. Four wolves taken by unreported method in 1975-76.
f. Determined by examining the fusing end of radius and ulna bones, initiated in 1975-76.

PREPARED BY: Ted Spraker, Game Biologist II

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 12 - Upper Tanana Valley

Seasons and Bag Limits

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

Harvest, Hunting and Trapping Pressure

The 1975-76 wolf harvest in Unit 12 was 40 animals, 17 males and 23 females. This figure is about the same as that reported for the 1974-75 season but represents a decline from harvests recorded during the period 1971-1973. Marked fluctuations in annual harvests may be caused by several factors, including availability of wolves, fur prices and availability of jobs.

Sealing data indicated the harvest was comprised of 60 percent adult wolves and 35 percent pups. Ages were determined by leg bones for 95 percent of the wolves taken. Sealing information indicated 23 females and 17 males were harvested; these data probably represent trap vulnerability or other factors rather than the sex composition of the population.

Seventy-five percent of the wolves taken were trapped, 20 percent were snared and only 5 percent were shot from the ground. Among the 40 wolves taken, 65 percent were gray, 25 percent black and 10 percent brown.

The largest harvests occurred during December, January and March when 20, 22 and 40 percent, respectively, of the take was reported. Only 2.5 percent of the harvest occurred during April. Most wolves were harvested in the Nabesna River drainage, where 19 were reported taken. Ten wolves were taken on the Chisana, four on the Tanana, three on Beaver Creek and one on the Tok River.

Management Summary and Recommendations

For the second consecutive year wolf harvests in Unit 12 have declined, despite favorable fur market conditions and a relatively large number of active trappers. Indications are that wolf populations were fairly high during the period 1971-74 but since that time have declined. It is doubtful, however, that trapping contributed significantly to that decline.

There is no biological justification for continuing with a two wolf bag limit for hunters while no limit is placed on trappers. The hunter bag limit should be eliminated. No other changes are recommended.

PREPARED BY:

Larry B. Jennings
Game Biologist III

SUBMITTED BY:

Oliver E. Burris
Regional Management Coordinator

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1975

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

Seasons and Bag Limits

Hunting	Aug. 10 - Apr. 30	Two Wolves
Trapping	Oct. 1 - Apr. 30	No Limit

Harvest and Hunting Pressure

One hundred and ten wolves were reported killed in Game Management Unit 13 during the 1975-76 season. Although 29 animals were taken by Department personnel in a research program designed to evaluate predator-prey relationships, four were not sealed because of loss or irretrievability in the field and are therefore not reported in the annual data compilation, which takes into account only those animals actually sealed. The remaining 85 wolves were taken by hunters and trappers. The wolf harvest by hunters and trappers declined by 4 percent from the 1974-75 harvest of 103 wolves. The total harvest for 1975-76 (110) represents an increase of 11 percent over 1974-75. Harvest data from the 1966-1975 seasons are compared in Appendix I. The percentage of males in the reported harvest has fluctuated around 50 percent without apparent trend (Appendix I). A plot of each kill on a map (not shown) revealed that the 1975-76 harvest was well dispersed except for heavier harvesting in the Unit 13 predator/prey experimental area.

Abundance, Composition, and Productivity

Abundance, composition, and productivity data are available at this time and will be reported under Job No. 14.3R.

Management Summary and Conclusions

The current wolf harvest appears to be relatively high, but the figures are influenced by the number of wolves taken in the experimental area. As research data becomes available, meaningful management conclusions can be made.

Recommendations

The wolf research program presently underway in portions of the Nelchina Basin should be continued for a minimum of three years. Results of that study should provide us with increased knowledge and further herd data needed to better assess the status of this species.

PREPARED BY:

Ted Spraker
Game Biologist II

SUBMITTED BY:

John S. Vania
Regional Management Coordinator

APPENDIX I

Wolf Harvest Data from 1965-66 through 1974-75 - GMU 13

	1966-67[a]	1967-68[b]	1968-69[c]	1969-70[c]	1970-71[c]	1971-72[d]	1972-73[e]	1973-74[e]	1974-75[e]	1975-76
Total Wolf Harvest:	31	120	1	1	91	111	80	75	103	110
Males in Harvest,* Percent (No.)	65%(20)	56%(67)	-	39%(16)	49%(44)	58%(61)	44%(35)	54%(40)	52%(54)	55%(61)
Unknown Sex:	0	1	0	0	1	5	0	1	0	0
Number Blacks/ Number Grays:	16/15	45/69	-	-	-	11/68	16/58	23/49	20/77	38/64
Ratio Blacks to 100 Grays:	107	65	-	-	-	16	28	47	26	59
Method of Kill, Percent (No.)										
Aerial Shooting:	-	65%(78)	-	100%(41)	100%(91)	41%(46)	-	-	-	-
Ground Shooting	13%(4)	8%(9)	-	-	-	20%(22)	25%(20)	29%(22)	40%(41)	33%(36)
Trapping/Snaring:	84%(26)	28%(33)	-	-	-	39%(43)	71%(57)	71%(53)	58%(60)	44%(48)
Other:	3%(1)	-	-	-	-	-	4%(3)	-	2%(2)	24%(26)

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. Bounty discontinued and harvest data was based on aerial permits only.
d. Harvest figures are based on mandatory wolf sealing records.
e. Harvest figures are based on mandatory wolf sealing records. No aerial wolf hunting permits were issued to the public during this period.
* Percentage of males in the harvest is based on wolves whose sex was specified in the data.
** Twenty-nine wolves (25%) were taken by Department personnel on scientific collecting permits. One wolf was taken illegal. Only 25 were sealed; 4 (unsealed) were irretrievable kills, not included in the data.

PREPARED BY: Ted Spraker, Game Biologist II

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1975

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

Seasons and Bag Limits

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

Harvest and Hunting Pressure

Sixteen wolves were harvested during 1975-76 from Subunits 14A and B (Appendix I). Reported harvests have varied widely since 1962-63. Comparisons throughout this period should be made cautiously. Wolf harvest reporting has varied from bounty records (when the location of kill was not always precise), to no required harvest reporting (1967-68 and 1969-70), to harvest data based on returned aerial permits (when trapped, snared, ground shot, etc. wolves were not reported), and to sealing certificates (compulsory, with improved precision about location of kill).

The harvest by subunits, month, and method of take during 1975-76 is shown in Appendix II. Only 12.5 percent of the wolves was taken by ground shooting. Fifty percent of the harvest occurred during February and March. Age data (not shown in the appendices) based on epiphyseal closures of 16 wolves are as follows: 50 percent adults (8 wolves), 37.5 percent pups (6 wolves), and 12.5 percent unknown age (2 wolves).

Composition and Productivity

Recorded pack observations have been insufficient in number to provide composition information. No productivity information was available. Reports from the public indicate that wolves are common in abundance (where subjective choices are rated as abundant, common, uncommon, and rare).

Management Summary and Conclusions

The reported harvest of 13 wolves in Subunit 14A, with a suburban-rural human density, was obtained mainly by trappers. The harvest of three wolves in Subunit 14B mainly reflects that area's inaccessibility. Wolves in Unit 14 primarily exist in primitive areas and to the margins of human settlement on the valley floor. Wolves are numerous but not as numerous as the existing moose abundance and area would allow. Wolves in Unit 14 are probably limited by territory size, a low degree of trapping pressure and by human displacement in more settled areas. There are some livestock depredation problems, but the existing balance among wolves, humans, and the prey of wolves appears satisfactory.

Recommendations

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

PREPARED BY:

Jack C. Didrickson and Carl McIlroy
Game Biologist III and Game Biologist III

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, 1976-63 through 1975-76 and Game Management Subunits 14A and 14B, 1972-73 through 1975-76.

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	8	4	2	14
1973-74****	7	1	0	8	6	1	0	7
1974-75****	13	10	1	24	13	10	1	24
1975-76****	11	8	0	19	9	7	0	16

* 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: Jack C. Didrickson and Carl McIlroy
Game Biologist III and Game Biologist III

Appendix II. Wolf Harvest by Sex, Chronology, and Method of Take in Alaska's Game Management Subunits 14A and 14B During the 1975-76 Season.

HARVEST	14A No.	14A %	14B No.	14B %	Total 14A & B No.	Total 14A & B %
Males	7	53.8	2	66.7	9	56.3
Females	6	46.2	1	33.3	7	43.8
Unknown Sex	0	0.0	0	0.0	0	0.0
TOTAL	13	100.0	3	100.0	16	100.1
CHRONOLOGY BY MONTH						
September	0	0.0	0	0.0	0	0.0
October	0	0.0	0	0.0	0	0.0
November	1	7.7	0	0.0	1	6.3
December	3	23.1	2	66.7	5	31.3
January	2	15.4	0	0.0	2	12.5
February	1	7.7	0	0.0	1	6.3
March	6	46.2	1	33.3	7	43.8
TOTAL	13	100.1	3	100.0	16	100.2
METHOD OF TAKE						
Ground Shooting	1	7.7	1	33.3	2	12.0
Trapping	8	61.5	1	33.3	9	56.3
Snaring	4	30.8	1	33.3	5	31.3
TOTAL	13	100.0	3	99.9	16	100.1

PREPARED BY: Jack C. Didrickson and Carl McIlroy
Game Biologist III and Game Biologist III

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 16 - West Side of Cook Inlet

Seasons and Bag Limits

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

Harvest and Hunting Pressure

Thirty-four wolves (15 males and 19 females) were reported taken in Game Management Unit 16 during the 1975-76 season (Appendix I). Because of varying methods of recording the harvest since 1962-63, harvest trends prior to 1971-72 cannot be accurately assessed. Since 1971-72, however, harvest data have been based on sealing certificates. The harvest has fluctuated widely during this latter period without apparent trend.

Sex ratios of harvested wolves, the chronology of the harvest, and the method of take during 1975-76 are compared for Subunits 16A and 16B in Appendix II. Most of the harvest (29 of 34 wolves) was taken in subunit 16B. Almost half of the harvest occurred during March, and ground shooting was the principal harvesting method. Of 34 wolves aged by epiphysial fusion, 62 percent (21) was adults, 24 percent (8) was pups, and 15 percent (5) was were of unknown age.

Composition and Productivity

There were relatively few recorded wolf pack observations during 1975-76 (Appendix III). Five packs were recorded with an average of 4.4 wolves per pack. Field reports indicated that wolf abundance has been stable or perhaps increasing in Unit 16.

Management Summary and Conclusions

Recorded wolf harvest data prior to 1971-72 were not comparable with subsequent data obtained from sealing records. Numbers of harvested wolves have varied greatly since sealing began, probably in response to factors extrinsic to the wolf population (presence of tracking snow and complete snow cover during late winter; degree of interest among aircraft using wolf hunters; fur prices; etc.). Most wolves were taken by ground shooting during February and March. Less than one-third of the wolves of known age were pups.

Recommendations

No changes in bag limits or season lengths are recommended.

PREPARED BY:

Jack C. Didrickson and Carl McIlroy
Game Biologist III and Game Biologist III

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 1975-76.

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	0	13
1973-74****	6	6	1	13
1974-75****	20	18	3	41
1975-76****	15	19	0	34

* 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 16.

PREPARED BY: Jack C. Didrickson and Carl McIlroy
Game Biologist III and Game Biologist III

Appendix II. Wolf Harvest by Sex, Chronology, and Method of Take in Alaska's Game Management Subunits 16A and 16B During the 1975-76 Season.

HARVEST	16A No.	16A %*	16B No.	16B %*	Total Unit 16 No.	Total Unit 16 %*
Males	3	60.0	12	41.4	15	44.1
Females	2	40.0	17	58.6	19	55.9
Unknown Sex	0	0.0	0	0.0	0	0.0
TOTAL	5	100.00	29	100.0	34	100.0
CHRONOLOGY BY MONTH						
August-September	1	20.0	2	6.9	3	8.8
October	0	0.0	0	0.0	0	0.0
November	0	0.0	2	6.9	2	5.9
December	0	0.0	3	10.4	3	8.8
January	0	0.0	4	13.8	4	11.8
February	1	20.0	5	17.2	6	17.7
March	3	60.0	13	44.8	16	47.1
April	0	0.0	0	0.0	0	0.0
TOTAL	5	100.0	29	100.0	34	100.1
METHOD OF TAKE						
Ground Shooting	3	60.0	27	93.1	30	88.2
Trapping	2	40.0	1	3.4	3	8.8
Snaring	0	0.0	1	3.4	1	2.9
Other	0	0.0	0	0.0	0	0.0
TOTAL	5	100.0	29	99.9	34	99.9

* Percentage based on known sex wolves.

PREPARED BY: Jack C. Didrickson and Carl McIlroy
Game Biologist III and Game Biologist III

Appendix III. Wolf Pack Sizes* as Reported by Successful Hunters and Field Observations by Fish and Game Personnel in Alaska's Game Management Unit 16, 1971-72 through 1975-76.

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%
1974-75	36	1 - 18	5.9	8.3%
1975-76	5	2 - 7	4.4	0.0%

* Includes single wolves.

PREPARED BY: Jack C. Didrickson and Carl McIlroy
Game Biologist III and Game Biologist III

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 17 - Bristol Bay

Season and Bag Limits

Hunting	August 10-April 30	Two wolves
Trapping	October 1-April 30	No limit

Hunting, Trapping and Harvest Pressure

The reported harvest of 47 wolves from Unit 17 during the 1975-76 season was a 58 percent decrease from the record harvest of 111 the previous year, but double the average established between 1970-1974 (Appendix II). Ground shooting accounted for 91.5 percent (43 wolves) of the harvest, and trapping the remaining 8.5 percent (four wolves). The harvest consisted of 60 percent females, 38 percent males and 2 percent unknown sex (Appendix I). Twenty-one percent of the harvest was young-of-the-year.

Composition and Productivity

No data were available.

Management Summary and Conclusions

Volcanic eruptions on Augustine Island in January, 1976, deposited ash over much of GMU 17. These deposits hampered landings by ski-equipped aircraft until fresh snow was deposited in late February. The restriction imposed on the use of aircraft for transportation by this phenomenon probably contributed significantly to the reduced harvest. Harvest chronology showed only ten animals harvested prior to March.

The regulation requiring the long bones of the left front leg to remain attached to the hide until sealed went into effect during this report period. Age data were obtained from these bones. The age breakdown for GMU 17 shows ten (21.3 percent) of the harvested wolves were young-of-the-year. In adjoining GMU 9, aging by the use of long bones showed 41 percent of the harvest as young-of-the-year. Caution must be applied in attempting to derive conclusions from the apparent discrepancies because of the small sample sizes.

The 1975-76 harvest was not believed to be biologically detrimental to the population.

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

WOLF 1975-76
UNIT 17
APPENDIX I

Harvest

Males - 18 Females - 28 Unknown - 1 Total - 47

Chronology by Month

Month	Number	Percent	Month	Number	Percent
July	--	--	January	1	2.1
August	--	--	February	9	19.2
September	--	--	March	28	59.6
October	--	--	April	9	19.2
November	--	--	May	--	--
December	--	--	June	--	--
			Unknown	--	--
			Total	47	100.1

Method of Take	Number	Percent
Ground Shooting	43	91.5
Trapping	4	8.5
Snaring	--	--
Other	--	--
Total	47	100.0

Color of Wolves Taken	Number	Percent
White	--	--
Brown	1	2.1
Gray	39	83.0
Black	7	14.9
Unknown	--	--
Total	47	100.0

Age (Determined by Examining the Fusing Ends of Radius and Ulna Bones)

	Number	Percent
Adult	34	72.3
Pup	10	21.3
Unknown	3	6.4
Total	47	100.0

Prepared By:

Jerome J. Sexton
Game Biologist

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

APPENDIX II

Historical Wolf Harvest, 1961-1976

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
1974-75 3/	111
1975-76 3/	47

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

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 18 - Yukon-Kuskokwim Delta

Seasons and Bag Limits

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

Harvest, Trapping and Hunting Pressure

The 1975-76 wolf harvest in Unit 18 was three wolves, all of which were males. Wolves were relatively scarce in Unit 18 and only occasional strays were taken.

Management Summary and Recommendations

No changes are recommended.

PREPARED BY:

Peter E. K. Shepherd
Game Biologist III

SUBMITTED BY:

Oliver E. Burris
Regional Management Coordinator

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 19 - McGrath

Seasons and Bag Limits

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

Harvest, Trapping and Hunting Pressure

The 1975-76 wolf harvest in Unit 19 was 82 (39 males and 43 females). Other aspects of the harvest are summarized in Table 1. The 1975-76 take represented a significant increase over that of 1974, but it should not be regarded as an indication of wolf abundance. Snow conditions, especially in February and March, were excellent for wolf hunting. Good conditions along with persistent hunting pressure probably led to a large take during the 1975-76 season. Very favorable fur prices also provided incentive to trappers and airborne hunters.

Table 1. Chronology, method of take and age composition of the 1975-76 wolf harvest, Unit 19.*

Chronology of harvest			Method of take			Age composition		
Month	Take	Percent	Method	Take	Percent	Age	Take	Percent
September	4	5	ground shooting	72	88	adult	57	70
October	2	2	trapping	8	10	pup	20	24
November	1	1	snaring	1	1	unknown	5	6
December	1	1	other	1	1			
January	5	6				Total	82	100
February	9	11	Total	82	100			
March	57	70						
April	3	4						
Total	82	100						

*Data from sealing records.

Management Summary and Recommendations

The fairly high abundance of wolves and rising fur prices stimulated hunting and trapping. However, wolves were relatively unharvested in portions of Unit 19 where heavy cover precluded successful use of aircraft for access. Wolf populations in these areas remain unharvestable under present regulations.

PREPARED BY:

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SUBMITTED BY:

Oliver E. Burris
Regional Management Coordinator

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 21 - Middle Yukon

Seasons and Bag Limits

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

Harvest, Trapping and Hunting Pressure

The 1975-76 wolf harvest in Unit 21 was 77 (47 males, 28 females and 2 wolves of unknown sex). Other aspects of the harvest are summarized in Table 1. The 1975-76 take represented a significant increase over that of the 1974-75 season. However, the increased harvest reflected heavier hunting pressure rather than an increase in wolf abundance. Heavy spring snows, good tracking light, and high fur prices stimulated much hunting activity in the Innoko River and Nowitna River drainages. Large packs of over 20 wolves were seen in both these river valleys during spring 1976.

Table 1. Chronology, method of take and age composition of the 1975-76 wolf harvest, Unit 21.*

Chronology of harvest			Method of take			Age composition		
Month	Take	Percent	Method	Take	Percent	Age	Take	Percent
November	5	7	ground shooting	56	73	adult	43	56
December	8	10	trapping	9	12	pup	12	15
January	1	1	snaring	12	15	unknown	22	29
February	11	14	other	--	--			
March	51	66				Total	77	100
April	1	1	Total	77	100			
Total	77	99						

Management Summary and Recommendations

The increased wolf harvest in Unit 21 for the 1975-76 season resulted from renewed interest on the part of hunters and trappers. This interest resulted from high pelt prices, good hunting and tracking conditions, and fairly high abundance of wolves. Harvests of wolves in this unit were still short of desirable levels in several important moose wintering areas along the lower Innoko River and lower Middle Yukon River.

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SURVEY-INVENTORY PROGRESS REPORT - 1975-1976

Game Management Unit 22 - Norton Sound-Seward Peninsula

Seasons and Bag Limits

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

Harvest, Trapping and Hunting Pressure

Based on sealing certificates, only 2 wolves were taken during the 1975-76 season. This was the lowest reported harvest recorded since the advent of the sealing program. Because of poor snow conditions wolves were not readily accessible to hunters or trappers, but this does not totally account for the small harvest. Most wolves killed were probably not reported. Compared to other years there was less contact with Unit 22 village residents, and this probably resulted in poor compliance with the sealing regulations. The wolf kill in the unit was estimated to be 15 to 20 animals. Most, if not all, of these were shot by hunters traveling on snow machines.

Seasonal Distribution, Migration and Concentrations

Reports of aircraft owners, trappers and village residents suggested that wolves were expanding their range on the Seward Peninsula.

Two packs of approximately 10 animals each were sighted in drainages of the Koyuk River. On several occasions a group of 12 or more wolves were observed feeding on reindeer in the upper Niukluk drainage. Single wolves and small groups of three or less were commonly seen along drainages of the Serpentine River, often as far west as the village of Shishmaref. Based on these reports, the wolf population in Unit 22 is estimated to be between 50 and 75 animals.

Management Summary and Recommendation

The history of wolf management on the Seward Peninsula has been one of intensive predator control, primarily in response to the lobbying efforts by the reindeer industry. Since 1972, predator control has been relatively ineffective (largely due to limitation on the use of aircraft). Consequently, the wolf population has increased. In rural areas there has probably been a corresponding increase in the harvest, but this has not been documented because of poor compliance with the sealing requirements. Typically, wolf hides are cut up for domestic purposes and not presented for sealing. More effort should be directed toward gaining compliance with the sealing regulations in the rural villages.

A realistic estimate of the Unit 22 wolf population should be obtained, along with its potential or real impact upon ungulate populations. No changes are recommended in seasons and bag limits.

PREPARED BY:

Carl A. Grauvogel
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SUBMITTED BY:

Oliver E. Burris
Regional Management Coordinator

WOLF

SURVEY-INVENTORY PROGRESS REPORT -1975-76

Game Management Unit 23 - Kotzebue Sound

Seasons and Bag Limits

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

Harvest, Trapping and Hunting Pressure

The reported wolf harvest, based on sealing certificates, was 152 animals. This kill was considerably higher than the average for the past three years. Several factors may have contributed to the increased harvest: 1) wolves were abundant compared to previous years when aerial hunting was allowed, 2) fall migration of the Western Arctic caribou herd was primarily along the coast and brought wolves into the area, and 3) the price of pelts ranged from $150 to $300, providing a greater incentive to take wolves.

Sealing records indicated the harvest consisted of 94 males, 56 females and 2 wolves of unknown sex (Appendix I). Gray wolves comprised over 50 percent of the total kill (104 wolves). Color of the remaining wolves harvested was as follows: 33 black, 7 white, 6 brown and 20 of undetermined color. The largest harvest came from the lower Kobuk valley, but this partly reflected the conscientious efforts of sealing officers at Kiana. Because approximately 10,000 caribou wintered in the nearby Kiana Hills, wolves were probably abundant in the lower Kobuk valley during the winter of 1975-76.

Throughout Unit 23, the trapping pressure was considered low, although more effort was expended than in recent years. Trapping accounted for 24 wolves. One wolf was snared, but the bulk of the harvest (112 wolves) was shot by hunters using snow machines for transportation. Not all the wolves taken during the season were sealed, and the harvest was estimated to be 175 wolves.

Seasonal Distribution, Migration and Concentrations

With the cessation of aerial hunting in 1972, all indications point to an increasing wolf population. Village residents throughout the unit reported seeing more wolves than at any time during the last 10 years. A reliable trapper from Noatak reported that two packs (40 individuals) frequented his trapline. Residents from Noorvik and Kiana estimated there were over 50 wolves ranging through the Kiana Hills. These animals were often seen within 1 or 2 miles of the villages. In the vicinity of Purcell Mountain, where several thousand caribou wintered, aircraft owners killed over 30 wolves from the ground. These hunters indicated that an additional 50 wolves occupied the region. Taking into account information from knowledgeable villagers, data from sealing records, and

observations made during aerial survey work, the number of wolves wintering in Unit 23 was estimated to be between 500 and 800 animals.

Management Summary and Recommendations

In light of the greatly reduced population of the Western Arctic caribou herd (down from 240,000 to less than 100,000), an increased harvest of wolves appears desirable.

A preferred method for wolf reduction is hunting and trapping by village residents. Even though seasons were liberal and wolf hides commanded premium prices, relatively few wolves were taken from the unit. Therefore, to achieve the desired harvest, it appears necessary to allow limited aerial hunting. Since there is a current lack of detailed wolf population data, aerial hunting should be strictly controlled by permit. The permit system should have restrictions limiting the number of permits issued and the number of wolves to be taken. No changes in seasons or bag limits are recommended.

PREPARED BY:

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Oliver E. Burris
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WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1975-1976

Game Management Unit 24 - Koyukuk

Seasons and Bag Limits

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

Harvest, Trapping and Hunting Pressure

The total harvest of wolves in Unit 24 during the 1975-76 season was 45 (25 males and 20 females). Traditional trapping methods accounted for more than half (58%) of the harvest, and ground shooting accounted for 38 percent. The harvest occurred throughout the season; only 4.4 percent was taken in April.

The total number of wolves taken in Unit 24 during the 1974-75 season, as indicated on sealing records, was 65 (33 males and 32 females). Most (82%) were harvested during the period December through March by ground shooting.

Management Summary and Recommendations

There is a very limited amount of information on wolves in this unit. Results of surveys presently being conducted will be used to formulate management recommendations in the future. No changes in seasons or bag limits are recommended at this time.

PREPARED BY:

Jeannette R. Ernest
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SUBMITTED BY:

Oliver E. Burris
Regional Management Coordinator

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 25 - Fort Yukon area

Seasons and Bag Limits

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

Harvest, Trapping and Hunting Pressure

Data compiled from sealing certificates indicated that during the 1975-76 season, 49 wolves were taken in Unit 25. The annual take has varied between 48 and 56 animals during the last three seasons. In the 1971-72 season 121 wolves were reported to have been taken from Unit 25. However, this figure was probably inflated by aerial hunters who reported wolves killed in other areas as having been taken in Unit 25, so it is possible that the 1971-72 harvest did not exceed 60 wolves.

Population Trends, Composition and Productivity

The low proportion of pups (22%) in the population indicates a stable population which is being exploited lightly. The unit is clearly capable of sustaining the present level of take and could probably sustain a much higher level.

Management Summary and Recommendations

More information concerning the status of wolves and wolf prey needs to be gathered. Seasons and bag limits should remain the same as present regulations.

PREPARED BY:

Harry Reynolds
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SUBMITTED BY:

Oliver E. Burris
Regional Management Coordinator

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 26 - Arctic Slope

Seasons and Bag Limits

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

Harvest, Trapping and Hunting Pressure

In the 1975-76 regulatory year, 34 wolves were killed in Unit 26 and presented for sealing. Six were taken in 1974-75, 46 in 1973-74, and 71 in 1972-73. These records do not accurately reflect the number of wolves actually taken by trappers because there is a high local demand for wolf hides to be used for garments and trappers do not usually present such hides for sealing.

Population Trends, Composition and Productivity

Wolves in Unit 26 appeared to be at low densities; however, moderate densities existed near caribou wintering areas and in some portions of the foothills.

Of the 34 wolves reported taken, 17 (50%) were males. The age composition of the wolves killed was: adults, 47 percent; pups, 32 percent; unknown age, 21 percent.

Management Summary and Recommendations

The population level of wolves in this area appeared to be increasing very slowly from a low in 1970. Wolves may be approaching the "normal" density for Arctic Slope habitat. It is recommended that the hunting season be open from September 1 through April 30 with a limit of two wolves. The prohibition of trapping with the aid or use of an aircraft should remain in effect.

PREPARED BY:

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Game Biologist III

SUBMITTED BY:

Oliver E. Burris
Regional Management Coordinator

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Units 1-5 - Southeastern Alaska

Seasons and Bag Limits

Hunting - Units 1-5	Dec. 1-Jan. 31	One wolverine
Trapping - Subunit 1C and Unit 4, that portion of Admiralty Island including all drainages from Point Marsden north to Point Retreat, thence all drainages on the east, south to Point False Pybus.	Nov. 10-Jan. 31	No limit
Remainder of Units 1 and 4 and Units 2 and 3	Dec. 1-Jan 31	
Unit 5	Nov. 10-Jan 31	

Harvest and Hunting Pressure

Thirty-six wolverines (23 males, 13 females) were taken in Region I during the reporting period. Ninety-four percent was taken by trapping.

Composition and Productivity

No data were available.

Management Summary and Conclusions

There is very little hunting and trapping pressure aimed specifically at wolverines in Region I. One reason for the low harvest is the current hunting season which is restrictive in both timing and duration. The season should open on September 1, as it does in Units 6-26, to permit wolverine to be taken incidentally to other fall hunting activities.

Recommendations

No changes in trapping season or bag limits, but it is recommended that the hunting season be opened on September 1.

PREPARED BY:

Roland Quimby
Game Biologist II

SUBMITTED BY:

Robert E. Pegau
Regional Management/Research Coordinator

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 6 - Prince William Sound

Season and Bag Limits

Hunting	Sept. 1 - Mar. 31	One wolverine
Trapping	Nov. 10 - Mar. 31	No limit

Harvest and Hunting Pressure

The wolverine harvest in Unit 6 was 15 males and 15 females. Seventy percent (Appendix I), of the harvest was taken by trapping and 83 percent was taken in December, January and February.

A total of four trappers trapped in Unit 6 during the 1975-1976 season and took 87 percent (26/30) of the harvest. One trapper took 18 wolverines or 60 percent of the total harvest.

Eighty percent (24/30) of the wolverines were taken east of the Copper River.

The 1975 harvest of 30 wolverines is about average for the past 5 years (Appendix II).

Composition and Productivity

No data were available.

Management Summary and Conclusions

The 1975 harvest data indicate that the wolverine resource in Unit 6 was not being adversely affected by the current regulations and harvest pressure. Only one person, trapping east of the Copper River via super cub, was taking a significant number of wolverines. The past season's harvest east of the Copper River was 24 animals, not an excessive harvest considering the size of the area.

Recommendations

Retain the present hunting and trapping regulations.

PREPARED BY:

Julius Reynolds
Game Biologist III

SUBMITTED BY:

John S. Vania
Regional Management Coordinator

APPENDIX I

WOLVERINE 1975 - 1976

Unit 6

Harvest

Males - 15 Females - 15 Unknown - 0 Total - 30

Chronology by Month

Month	Number	Percent	Month	Number	Percent
July	--	--	January	9	30.0
August	--	--	February	7	23.3
September	1	3.3	March	3	10.0
October	1	3.3	April	--	--
November	--	--	May	--	--
December	9	30.0	June	--	--
			Unknown	--	--
			Total	30	99.9

Method of Take	Number	Percent
Ground Shooting	8	26.7
Trapping	21	70.0
Snaring	--	--
Other*	1	3.3
Total	30	100.0

* One wolverine taken by unreported method.

Prepared By: Jerome J. Sexton, Game Biologist II
Julius Reynolds, Game Biologist III

APPENDIX II

WOLVERINE HARVEST DATA

Unit 6

Year	Number
1961 - 1962*	14
1962 - 1963*	3
1963 - 1964*	9
1964 - 1965*	12
1965 - 1966*	16
1966 - 1967*	26
1967 - 1968*	8
1968 - 1969*	13
1969 - 1970	Unk
1970 - 1971**	18
1971 - 1972***	21
1972 - 1973***	33
1973 - 1974***	55
1974 - 1975***	20
1975 - 1976***	30
Total	278
Average	19.9

* Bounty records.
** Cordova trapper questionnaire.
*** Sealing records.

Prepared by: Julius Reynolds, Game Biologist III

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 7 - Eastern Kenai Peninsula

Seasons and Bag Limits

Hunting	Sept.1-March 31	One wolverine
Trapping	Nov.10-March 31	No limit

Harvest and Hunting Pressure

Twenty-four wolverines were harvested in Unit 7 during the 1975-76 season (Appendices I and II), 13 males, 9 females and 2 of unknown sex. Nineteen wolverines were taken by trapping, 2 by snaring and 3 by ground shooting.

Composition and Productivity

Data from which composition and productivity could be determined were not collected. The sex ratio of the harvest may be biased toward males because of their wider ranging habits.

Management Summary and Conclusions

The 1975-76 take of 24 wolverines deviated little from harvests of the past 5 years. Of the known sex animals in the harvest, females totaled 40.9 percent (9/22).

Current lows in the cycles of many small game species suggest that this rate of wolverine harvest may not be maintained indefinitely, particularly if ptarmigan numbers experience a major decline.

Recommendations

No changes in seasons or bag limits are recommended.

PREPARED BY:

Paul LeRoux
Game Biologist III

Dave Hardy
Game Biologist II

SUBMITTED BY:

John S. Vania
Regional Management Coordinator

Appendix I

WOLVERINE 1975-76

Unit 7

Harvest

Males - 13 Females - 9 Unknown - 2 Total - 24

Chronology by Month

Month	Number	Percent	Month	Number	Percent
July	--	--	January	6	25.0
August	--	--	February	8	33.3
September	2	8.3	March	8	33.3
October	--	--	April	--	--
November	--	--	May	--	--
December	--	--	June	--	--
			Total	24	99.9

Method of Take	Number	Percent
Ground Shooting	3	12.5
Trapping	19	79.2
Snaring	2	8.3
Other	--	--
Total	24	100.0

Prepared By:

Jerome J. Sexton
Game Biologist

APPENDIX II

Wolverine Bounty and Sealing Records - Unit 7

Year	Males	Females	Unknown	Total
1961-62[1/]	--	--	1	1
1962-63[1/]	--	--	5	5
1963-64[1/]	--	--	16	16
1964-65[1/]	--	--	20	20
1965-66[1/]	--	--	11	11
1966-67[1/]	--	--	17	17
1967-68[2/]	--	--	--	--
1968-69[2/]	--	--	--	--
1969-70[2/]	--	--	--	--
1970-71[2/]	--	--	--	--
1971-72[3/]	10	11	2	23
1972-73[3/]	16	5	3	24
1973-74[3/]	7	5	0	12
1974-75[3/]	10	9	0	19
1975-76[3/]	13	9	2	24

1) Data from bounty records.
2) Bounty discontinued, no record of harvest.
3) Data from sealing records.

-- Zero Data

Prepared by: Paul A. LeRoux, Game Biologist III and David M. Hardy, Game Biologist II.

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 9 - Alaska Peninsula

Seasons and Bag Limits

Hunting	September 1-March 31	One wolverine
Trapping	November 10-March 31	No limit

Hunting, Trapping and Harvest Pressure

A harvest of 115 wolverines (49 males, 27 females, 39 unknown) was reported taken in GMU 9 during the 1975-76 season (Appendices I and II). Trapping accounted for 86 percent (99 wolverines) of the harvest and ground shooting the remaining 14 percent (16 wolverines).

Composition and Productivity

No data were available.

Management Summary and Conclusions

The harvest of wolverines from GMU 9 was the highest on record, reflecting the highest fur prices in years. Reported harvest methods followed the pattern established prior to the 1974-75 season. During the 1974-75 season, ground shooting accounted for 50 percent of the harvest. Only 3 wolverines were taken by sport hunters and these animals are believed to have been taken during hunts for other species.

Recommendations

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

PREPARED BY:

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SUBMITTED BY:

John S. Vania
Regional Management Coordinator

WOLVERINE 1975-76
Unit 9

APPENDIX I

Harvest

Males - 49 Females - 27 Unknown - 39 Total- 115

Chronology by Month

Month	Number	Percent	Month	Number	Percent
July	--	--	January	29	25.2
August	--	--	February	24	20.9
September	2	1.7	March	23	20.0
October	1	0.9	April	--	--
November	16	13.9	May	--	--
December	20	17.4	June	--	--
			Unknown	--	--
			Total	115	100.0

Method of Take	Number	Percent
Ground Shooting	16	13.9
Trapping	99	86.1
Snaring	--	--
Other	--	--
Total	115	100.0

Prepared By:

Jerome J. Sexton
Game Biologist

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

APPENDIX II

Historical Wolverine Harvest 1962-1976

Year	Harvest
1962-63 1/	14
1963-64 1/	34
1964-65 1/	39
1965-66 1/	40
1966-67 1/	63
1967-68 1/	43
1968-69 1/	10
1969-70 2/	5
1970-71 3/	--
1971-72 4/	46
1972-73 4/	71
1973-74 4/	89
1974-75 4/	72
1975-76 4/	115

1/ Data from bounty analysis

2/ Data from harvest report cards

3/ No data available

4/ Data from hide sealing program

Prepared By: James B. Faro, Game Biologist III

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 10 - Aleutian Islands

Seasons and Bag Limits

Hunting	Sept.1-Mar.31	One wolverine
Trapping	Nov.10-Mar.31	No limit

Hunting, Trapping and Harvest Pressure

No wolverine were reported taken from this unit during the 1975-1976 season.

Composition and Productivity

No data were available.

Management Summary and Conclusions

Wolverines are restricted to Unimak Island in Unit 10. Hunting pressure on the species is light.

Recommendations

No changes in seasons or bag limits are recommended.

PREPARED BY:

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Game Biologist III

SUBMITTED BY:

John S. Vania
Regional Management Coordinator

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 11 - Wrangell Mountains, Chitina River.

Seasons and Bag Limits

Hunting	Sept.1-March 31	One wolverine
Trapping	Nov.10-March 31	No limit

Harvest and Hunting Pressure

Since 1971-72 the average annual harvest from Unit 11 has been 39 wolverines, with the highest annual harvest in 1973-74, 55 wolverines (Appendix I). Additional harvest data from winters 1971-72 through 1975-76 are shown in Appendix II. The percentage of males in the harvest has declined steadily since the 1971-72 season (71 percent) until 1974-75 (52 percent). The 1975-76 percentage of males in the harvest approximates the 1974-75 percentage at 53 percent and 52 percent, respectively. Chronology of the harvest (Appendix II) indicates 71 percent (25) of the harvest occurred during December and January. For the past 5 years, of the 195 wolverines taken in Unit 11, 93 percent were reported taken by trapping.

Composition and Productivity

No information was available.

Management Summary and Conclusions

The wolverine harvest for Game Management Unit 11 has remained relatively low when compared to the vast area of the unit. However, the percentage of males in the harvest has declined steadily since the 1971-72 season and has nearly approached equality with the female percentage for the past two seasons. If the sample size is sufficient, this ratio would be expected in a heavily trapped area, males being more vulnerable to trapping, or an area with little reproduction. At present, sufficient biological data are not available to determine productivity.

Harvest locations do not reveal concentrated harvesting over a large area. Consequently, the low sample size has either produced a biological anomaly reproduction has been low, or heavy harvesting has occurred in localized areas such as the Hanagita Lake and the Long Lake areas.

Recommendations

No changes in seasons or bag limits are recommended at this time. Trapping effort vs. success in the Hanagita Lake and the Long Lake areas should be monitored to prevent local overharvests.

PREPARED BY:

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SUBMITTED BY:

John S. Vania
Regional Management Coordinator

APPENDIX I

Comparison of Annual Wolverine Harvests from 1961-62 through 1975-76 - GMU 11

Year	Harvest	Year	Harvest
1961-62	1*	1969-70	No data**
1962-63	7*	1970-71	No data**
1963-64	38*	1971-72	28***
1964-65	12*	1972-73	48***
1965-66	30*	1973-74	55***
1966-67	33*	1974-75	29***
1967-68	22*	1975-76	35***
1968-69	22*		

* Harvest figures are from bounty records.
** The bounty was discontinued on wolverine, and no harvest data are available.
*** Harvest figures are from sealing records.

PREPARED BY: Ted Spraker, Game Biologist II

APPENDIX II

Wolverine Harvest Data from 1971-72 through 1975-76 - GMU 11[a]

	1971-72	1972-73	1973-74
Total Wolverine Harvest:	28	48	55
Percent (No.) Males in Harvest[b]:	71%(20)	70%(33)	62%(32)
Harvest Chronology, Percent (No.):			
November:	-(-)	-(-)	2% (1)
December:	-(-)	38%(18)	20%(11)
January:	4% (1)	33%(16)	44%(24)
February:	25% (7)	17% (8)	22%(12)
March:	68%(19)	10% (5)	7% (4)
Other Months:	4% (1)	2% (1)	6% (3)
Unknown:	-(-)	-(-)	-(-)
Method of Take, Percent (No.):			
Ground Shooting:	4% (1)	2% (1)	-(-)
Trapping:	96%(27)	92%(44)	93%(51)
Snaring:	-(-)	6% (3)	6% (3)
Other:	-(-)	-(-)	2% (1)

	1974-75	1975-76
Total Wolverine Harvest:	29	35
Percent (No.) Males in Harvest[b]:	52%(15)	53%(18)
Harvest Chronology, Percent (No.):		
November:	7% (2)	11% (4)
December:	21% (6)	34%(12)
January:	21% (6)	37%(13)
February:	21% (6)	14% (5)
March:	27% (8)	-(-)
Other Months:	3% (1)	3% (1)
Unknown:	-(-)	-(-)
Method of Take, Percent (No.):		
Ground Shooting:	7% (2)	3% (1)
Trapping:	93%(27)	91%(32)
Snaring:	-(-)	6% (2)
Other:	-(-)	-(-)

a. Harvest data are based on sealing data only.

b. Percentage males are based only on animals where sex was specified. There were 0, 1, 3, 0 and 1 harvested wolverines of unspecified sex during 1971-72, 1972-73, 1973-74, 1974-75, and 1975-76 respectively.

PREPARED BY: Ted Spraker, Game Biologist II

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 12 - Upper Tanana Valley

Seasons and Bag Limits

Hunting	Sept. 1-Mar. 31	One wolverine
Trapping	Nov. 1-Mar. 31	No limit

Harvest, Hunting and Trapping Pressure

Sealing information indicated a harvest of 33 wolverines in Unit 12 during the 1975-76 season. The harvest consisted of 17 males, 15 females and 1 animal of unknown sex. Harvest chronology for 32 of the 33 animals taken was as follows:

Month	Harvest	Percent
November	10	30.3
December	5	15.2
January	8	24.2
February	6	18.2
March	3	9.1

Among the reported 1975-76 harvest, 38 wolverines were trapped, 4 were snared and 1 was killed on the road. Trapping accounted for 28 percent of the harvest and continued to be the most common method of capture.

Management Summary and Recommendations

With the current high market value for wolverine pelts, considerable trapping effort appeared to be directed toward this species during the 1975-76 seasons. Judging from the harvest data, Unit 12 wolverine populations were probably at a moderately high level. Except for local instances, trapping probably had little influence on overall wolverine population levels.

No changes in seasons or bag limits are recommended.

PREPARED BY:

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SUBMITTED BY:

Oliver E. Burris
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WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1975

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

Seasons and Bag Limits

Hunting	Sept. 1 - Mar. 31	One wolverine
Trapping	Nov. 10 - Mra. 31	No limit

Harvest and Hunting Pressure

The annual wolverine harvests from 1962-63 through 1975-76 are shown in Appendix I. The high harvests in the mid-1960's coincided with increased harvests of wolves and with reported substantial increases in illegal aerial hunting (Rausch 1969). The increased harvests during recent years are probably a result of increased trapping effort following the upswing in fur prices during 1972. Harvest data from 1971-72 through 1975-76, based on sealing data, are shown in Appendix II. The percentage of males in the harvest has been relatively high and a high percentage (80-88%) was taken by trapping. A plot of the distribution of the harvests on a map (not shown) illustrated relatively high harvests in the Klutina-Tonsina vicinity (primarily females). Wolverine harvest trends in these areas will be monitored in subsequent years to follow any changes that may result from heavy harvests.

Composition and Productivity

No information was available.

Management Summary and Conclusions

Only indirect information based on harvest data was available for wolverines. The total harvest appears small compared to the size of Unit 13, although a harvest concentration appears to have occurred in the Klutina-Tonsina area of Subunit 13D. Should wolverine harvests start affecting a substantial portion of the wolverines within an area, the sex ratio of the harvest should show a larger female component. The sex ratio of this area did show the expected response, although the sample size was small. Harvest data from Subunit 13D will be monitored in the future.

Recommendations

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

LITERATURE CITED

Rausch, R. A. 1969. A summary of wolf studies in South-central Alaska, 1957-1968. Trans. N. A. Wildl. Nat. Res. Conf. 34:117-131.

PREPARED BY:

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SUBMITTED BY:

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Regional Management Coordinator

APPENDIX I

Comparison of Annual Wolverine Harvests from 1962-63 through 1975-76 - GMU 13

Year	Harvest	Year	Harvest
1962-63	37*	1969-70	No Data**
1963-64	32*	1970-71	No Data**
1964-65	65*	1971-72	75 ***
1965-66	102*	1972-73	140 ***
1966-67	132*	1973-74	121 ***
1967-68	86*	1974-75	96 ***
1968-69	No Data**	1975-76	105 ***

* Harvest figures are from bounty records.
** The bounty was discontinued on wolverine during this period, and no information on the harvest is available.
*** Harvest figures are from sealing records.

PREPARED BY: Ted Spraker, Game Biologist II

APPENDIX II

Wolverine Harvest Data from 1971-72 through 1975-76 - GMU 13[a]

	1971-72	1972-73	1973-74
Total Wolverine Harvest:	75	140	121
Percent (No.) Males in Harvest[b]:	57%(40)	65%(89)	65%(76)
Harvest Chronology, Percent (no.):			
November:	4% (3)	14%(20)	17%(21)
December:	12% (9)	23%(32)	20%(24)
January:	9% (7)	19%(27)	23%(28)
February:	21%(16)	26%(36)	23%(28)
March:	41%(31)	15%(21)	15%(18)
Other Months:	1% (1)	3% (4)	2% (2)
Unknown:	11% (8)	- (-)	- (-)
Method of Take, Percent (no.):			
Ground Shooting:	20%(15)	9%(13)	8%(10)
Trapping:	80%(60)	86%(121)	88%(106)
Snaring:	- (-)	4% (5)	4% (5)
Other:	- (-)	1% (1)	- (-)

	1974-75	1975-76
Total Wolverine Harvest:	96	105
Percent (No.) Males in Harvest[b]:	61%(59)	55%(58)
Harvest Chronology, Percent (No.):		
November:	4% (4)	10%(11)
December:	9% (9)	25%(26)
January:	20%(19)	16%(17)
February:	31%(30)	27%(28)
March:	29%(28)	13%(14)
Other Months:	5% (5)	9% (9)
Unknown:	1% (1)	- (-)
Method of Take, Percent (No.):		
Ground Shooting:	14%(13)	11%(12)
Trapping:	84%(81)	87%(91)
Snaring:	2% (2)	1% (1)
Other:	- (-)	1% (1)

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a. Harvest data are based on sealing data only.

b. Percentage males are based only on animals where sex was specified. There were 5, 3, 1, 0 and 1 harvested wolverines of unspecified sex during 1971-72, 1972-73, 1973-74, 1974-75, and 1975-76 respectively.

PREPARED BY: Ted Spraker, Game Biologist II

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 14 - Upper Cook Inlet

Seasons and Bag Limits

Subunits 14A, 14B and 14C (except Chugach State Park)

Hunting	Sept. 1 - March 31	One wolverine
Trapping	Nov. 10 - March 31	No limit

Subunit 14C in Chugach State Park

Hunting and Trapping	No open season

Harvest and Hunting Pressure

Twenty-four wolverines were taken in Unit 14 during the 1975-76 hunting-trapping season (Appendix I). The harvest since the mid-1960's has fluctuated without apparent upward or downward trend. Since 1972, however, wolverine trapping and hunting has been prohibited in Chugach State Park.

Of the 24 wolverines taken from Unit 14, eight were taken in Subunit 14A, 14 from Subunit 14B, and the remaining two were taken in Subunit 14C (Appendix II). Of twenty-two wolverines of known sex, 55 percent was males. Eighty-seven percent of the harvest occurred from December through March, and 38 percent of the harvest was taken by trapping.

Composition and Productivity

No population composition information is available.

Management Summary and Conclusions

The only useful population indices in harvest data are sex ratios and trends of harvest levels. Harvest levels have fluctuated so greatly that any minor upward or downward population trends were obscured. The past occurrence of masking influences, such as prohibition of hunting in Chugach State Park and higher fur prices, further reduces the usefulness of harvest reports as an index of population size. Sex ratios are usually biased toward males in lightly harvested areas, and the value of 55 percent males in this year's harvest appears within the normal range. The available information, therefore, indicates that the population is not being markedly altered by past harvest levels.

Recommendations

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

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SUBMITTED BY:

John S. Vania
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Appendix I. Wolverine Harvest from Bounty Records and Wolverine Sealing Data in Alaska's Game Management Unit 14, 1962-63 through 1967-68 and 1971-72 through 1975-76.

	Harvest *	
Regulatory Year	Total Unit 14	Subunits 14A and B
1962-63	9	Breakdown Not Available
1963-64	10	Breakdown Not Available
1964-65	15	Breakdown Not Available
1965-66	37	Breakdown Not Available
1966-67	27	Breakdown Not Available
1967-68	21	Breakdown Not Available
1968-69 through 1970-71	No Data	No Data
1971-72	12	Breakdown Not Available
1972-73	36	22
1973-74	16	16
1974-75	22	22
1975-76	24	22
Average number bountied 1962-63 through 1967-68	19.8	

* 1962-63 through 1967-68 data from bounty records.
1971-72 through 1975-76 data from wolverine sealing records.

PREPARED BY: Jack Didrickson, Game Biologist III
Carl McIlroy, Game Biologist III

Appendix II. Wolverine Harvest by Sex, Chronology and Method of Take in Alaska's Game Management Subunit 14 During the 1975-76 Season.

HARVEST

AREA	MALES	FEMALES	UNKNOWN	TOTAL
Combined Subunits 14A and 14B	12	8	2	22
14A	4	3	1	8
14B	8	5	1	14
14C	0	2	0	2

Including all Subunits

Males - 12 Females - 10 Unknown - 2 Total - 24

Chronology by Month

Month	Number	Percent	Month	Number	Percent
July	--	--	January	7	29.2
August	--	--	February	4	16.7
September	--	--	March	5	20.8
October	--	--	April	--	--
November	3	12.5	May	--	--
December	5	20.8	June	--	--
			Unknown	--	--
			Total	24	100.0

Method of Take	Number	Percent
Ground Shooting	2	8.3
Trapping	20	83.3
Snaring	2	8.3
Other	--	--

PREPARED BY: Jack Didrickson, Game Biologist III
Carl McIlroy, Game biologist III

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 15 - Western Kenai Peninsula

Seasons and Bag Limits

Hunting	Sept. 1-March 31	One wolverine
Trapping	Nov. 10-March 31	No limit

Harvest and Hunting Pressure

Eight wolverines were harvested in Unit 15 during the 1975-76 season (Appendices I and II). Two were trapped in Subunit 15B, 5 were trapped and one was shot in 15C. The harvest was composed of four males, two females and two unknown sex.

Composition and Productivity

Data from which composition and productivity could be determined were not collected. The sex ratio of the harvest is probably biased toward males because of their wider ranging habits.

Management Summary and Conclusions

The 1975-76 harvest of eight wolverines was the lowest in a series of declining harvests recorded during the 1970's. This reduced take was probably the result of a lower population due to normal fluctuations. Reduced trapping pressure associated with the general scarcity of lynx resulted in a low harvest.

The continued low percentage of females in the harvest implies that trapping pressure is not a major limiting factor.

Recommendations

No changes in seasons or bag limits are recommended at present. A continued decline may require restricted seasons and/or bag limits.

PREPARED BY:

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SUBMITTED BY:

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Appendix I

Wolverine 1975-76

Unit 15

(Including all Subunits)

Harvest

Males - 4 Females - 2 Unknown - 2 Total - 8

Chronology by Month

Month	Number	Percent	Month	Number	Percent
July	--	--	January	2	25.0
August	--	--	February	1	12.5
September	--	--	March	--	--
October	1	12.5	April	--	--
November	1	12.5	May	--	--
December	3	37.5	June	--	--

Method of Take	Number	Percent
Ground Shooting	1	12.5
Trapping	7	87.5
Snaring	--	--
Other	--	--
Total	8	100.0

Prepared By:

Jerome J. Sexton
Game Biologist

Appendix II

Wolverine Bounty and Sealing Records - Unit 15

Year	Males	Females	Unknown Sex	Total
1961-62[1]	-	-	1	1
1962-63[1]	-	-	-	-
1963-64[1]	-	-	3	3
1964-65[1]	-	-	13	13
1965-66[1]	-	-	15	15
1966-67[1]	-	-	16	16
1967-68[1]	-	-	19	19
1968-69[2]	-	-	-	-
1969-70[2]	-	-	-	-
1970-71[2]	-	-	-	-
1971-72[3]	18	7	0	25
1972-73[3]	14	6	0	20
1973-74[3]	11	3	1	15
1974-75[3]	10	3	1	14
1975-76[3]	4	2	2	8

[1] Data from bounty records.
[2] Bounty discontinued, no record of harvest.
[3] Data from sealing records.
- Zero Data

Prepared By: Paul A. LeRoux, Game Biologist III and David Hardy, Game Biologist II.

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 16 - West Side of Cook Inlet

Seasons and Bag Limits

Hunting	Sept. 1 - March 31	One wolverine
Trapping	Nov. 10 - March 31	No limit

Harvest and Hunting Pressure

Eighty-six wolverines were taken in Unit 16 during the 1975-76 hunting-trapping season (Appendix I). Harvest levels have fluctuated greatly since the early 1960's, but this year's harvest is the largest recorded from Unit 16. Although most of the Unit 16 wolverine harvest came from Subunit 16B, both Subunits 16A and 16B experienced harvest increases this year.

Fifty-seven of 86 (66%) of the wolverines harvested were males (Appendix II). All of the harvesting occurred during November through March, indicating there was no incidental harvesting by big game hunters. Most wolverines were taken by ground shooting (37%) and trapping 58%).

Composition and Productivity

No population composition information is available.

Management Summary and Conclusions

The harvest level this year exceeded previous years' harvests, indicating either increased pressure, vulnerability, or population size. The continuing high fur prices have probably maintained or increased trapping pressure. The most changeable component of harvest may be that portion shot illegally by aerial hunters, and this factor may markedly change overall vulnerability. However, percentages of wolverine taken by "ground shooting" during 1975 (37%) was similar to 1974 (38%) and changing vulnerability was probably not a factor. No indices of wolverine population size are available, although the continuing dominance of the male segment (66% of the harvest was males) indicates that the population sex ratio has not been markedly skewed by harvesting.

Recommendations

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

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SUBMITTED BY:

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Appendix I. Wolverine Harvest from Bounty Records and Wolverine Sealing Data in Alaska's Game Management Unit 16, 1962-63 through 1968-69 and 1971-72 through 1975-76.

	Harvest *			
Regulatory Year	Total Unit 16	16A	16B	Unknown Subunit
1962-63	13	Breakdown Not Available		
1963-64	43	Breakdown Not Available		
1964-65	34	Breakdown Not Available		
1965-66	58	Breakdown Not Available		
1966-67	51	Breakdown Not Available		
1967-68	44	Breakdown Not Available		
1968-69	15	Breakdown Not Available		
1969-70 through 1970-71	No Data			
1971-72	51	Breakdown Not Available		
1972-73	67	5	59	3
1973-74	52	10	42	0
1974-75	45	11	34	0
1975-76	86	15	71	0
Average number bountied 1962-63 through 1968-69	36.9			

* 1962-63 through 1968-69 data from bounty records.
1971-72 through 1975-76 data from wolverine sealing records.

PREPARED BY: Jack C. Didrickson, Game Biologist III
Carl McIlroy, Game Biologist III

Appendix II. Wolverine Harvest by Sex, Chronology and Method of Take in Alaska's Game Management Unit 16 During the 1975-76 Season.

HARVEST

AREA	MALES	FEMALES	UNKNOWN	TOTAL
Combined Subunits 16A and B	57	29	0	86
16A	9	6	0	15
16B	48	23	0	71

CHRONOLOGY BY MONTH

	16A and B		16A		16B	
Month	No.	%	No.	%	No.	%
September	0	0	0	0	0	0
October	0	0	0	0	0	0
November	9	10	1	7	8	11
December	15	17	2	13	13	18
January	19	22	6	40	13	18
February	23	27	5	33	18	25
March	20	23	1	7	19	27
TOTAL	86	99	11	100	71	99

METHOD OF TAKE

	16A and B		16A		16B	
	No.	%	No.	%	No.	%
Ground Shooting	32	37	4	27	28	39
Trapping	50	58	11	73	39	55
Snaring	3	3	0	0	3	4
Other	1	1	0	0	1*	1
TOTAL	86	99	15	100	71	99

* Wolverine found dead, apparently killed by wolves.

PREPARED BY: Jack C. Didrickson, Game Biologist III
Carl McIlroy, Game Biologist III
Jerome Sexton, Game Biologist II

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 17 - Bristol Bay

Seasons and Bag Limits

Hunting	September 1-March 31	One wolverine
Trapping	November10-March 31	No limit

Hunting, Trapping and Harvest Pressure

A harvest of 51 wolverines (37 males, 12 females, 2 unknown) was reported taken in GMU 17 during the 1975-76 season (Appendices I and II). This was a decline of 27 wolverines from a record high of 78 during the 1974-75 season. Approximately one-half of the wolverine harvest (25) was taken by ground shooting.

Composition and Productivity

No data were available.

Management Summary and Conclusions

Volcanic eruptions on Augustine Island in January 1976 deposited ash over much of GMU 17. These deposits hampered landings by ski-equipped aircraft until fresh snow was deposited in late February. The restrictions imposed on the use of aircraft for transportation by this phenomenon probably contributed significantly to the reduced harvest. Only 4 wolverines were harvested by ground shooting during January and February. In March, 19 were harvested by ground shooting.

The 1975-76 harvest was in line with harvest levels from previous years and not considered detrimental to the wolverine population in GMU 17.

Recommendations

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

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WOLVERINE 1975-76

Unit 17

APPENDIX I

Harvest

Males - 37 Females - 12 Unknown - 2 Total- 51

Chronology by Month

Month	Number	Percent	Month	Number	Percent
July	--	--	January	5	9.8
August	--	--	February	14	27.5
September	--	--	March	28	54.9
October	--	--	April	--	--
November	1	2.0	May	--	--
December	3	5.9	June	--	--
			Unknown	--	--
			Total	51	100.1

Method of Take	Number	Percent
Ground Shooting	25	49.0
Trapping	22	43.1
Snaring	4	7.8
Other	--	--
Total	51	99.9

Prepared By:

Jerome J. Sexton
Game Biologist

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

APPENDIX II

Historical Wolverine Harvest, 1962-1976

Year	Harvest
1962-63 1/	8
1963-64 1/	70
1964-65 1/	7
1965-66 1/	27
1966-67 1/	31
1967-68 1/	35
1968-69 1/	24
1969-70 2/	--
1970-71 2/	--
1971-72 3/	21
1972-73 3/	45
1973-74 3/	22
1974-75 3/	78
1975-76 3/	51

1/ Data from bounty analysis

2/ Data not available

3/ Data from hide sealing program

Prepared By: James B. Faro, Game Biologist III

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 18 - Yukon-Kuskokwim Delta

Seasons and Bag Limits

Hunting	Sept. 1 - Mar. 31	One wolverine
Trapping	Nov. 10 - Mar. 31	No limit

Harvest, Trapping and Hunting Pressure

During the 1975-76 season 29 wolverines (19 males and 10 females) were taken in Unit 18. Chronology of the harvest and methods of take are summarized in Table 1.

Table 1. Chronology and method of take for 1975-76 wolverine harvest, Unit 18.*

Chronology of harvest

Month	Take	Percent
December	5	17
January	2	7
February	9	31
March	13	45
Total	29	100

Method of take

Method	Take	Percent
ground shooting	4	14
trapping	22	76
snaring	3	10
Total	29	100

*Data from sealing records.

This catch represented a considerable increase over past harvests. Higher populations and rapidly rising fur prices were probably responsible for this change. Snow machines were used commonly to pursue and take fox and wolverines in Unit 18. This method probably accounted for more animals than the other methods of taking.

Management Summary and Recommendations

Wolverines appeared to be more abundant in Unit 18 than during the past few years. High fur prices have created a good market for skins. Hunters and trappers actively sought wolverines to supplement their incomes from fur trapping.

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SUBMITTED BY:

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WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 19 - McGrath

Seasons and Bag Limits

Hunting	Sept. 1 - Mar. 31	One wolverine
Trapping	Nov. 1 - Mar. 31	No limit

Harvest, Trapping and Hunting Pressure

During the 1975-76 season 62 wolverines were taken in Unit 19. The harvest was comprised of 42 males, 18 females, and 2 wolverines of unknown sex. Chronology of the harvest and methods of take are summarized in Table 1.

Table 1. Chronology and method of take for 1975-76 wolverine harvest, Unit 19.*

Chronology of harvest

Month	Take	Percent
September	2	3
November	7	11
December	5	8
January	8	13
February	16	26
March	24	39
Total	62	100

Method of take

Method	Take	Percent
ground shooting	19	31
trapping	40	64
snaring	3	5
Total	62	100

*Data from sealing records.

Rapidly rising pelt values and an abundance of wolverines may have been largely responsible for the significant increase in this year's harvest. Hunters and trappers using aircraft were responsible for a good share of the reported harvest. Ground trappers reported abundant signs of wolverines throughout the unit, and some took several pelts during the season. Use of aircraft for access has become common for both recreational and guided hunters in Unit 19. Many wolverines harvested in this manner were taken incidental to wolf hunting activities.

Management Summary and Recommendations

The Unit 19 wolverine harvest had increased greatly. This has resulted primarily from rising pelt values and high abundance of wolverines. Hunters and trappers using aircraft were responsible for a significant proportion of the harvest. This situation bears close scrutiny because wolverines are highly vulnerable to hunters under conditions ideal for the use of aircraft for access. Curtailment of such use may be necessary if wolverine populations decline and fur prices remain high.

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WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 20 - Fairbanks, Central Tanana Valley

Seasons and Bag Limits

Hunting	Sept. 1-Mar. 31	One wolverine
Trapping	Nov. 1-Mar. 31	No limit

Harvest, Hunting and Trapping Pressure

The number of wolverines presented for sealing indicated a harvest of 144 animals from Unit 20 during the 1975-76 hunting/trapping season. The harvest consisted of 78 males, 62 females and 4 unknown sex. This represents an 18 percent increase from the 1974-75 harvest of 122. The sex composition of the current harvest (56% males) consisted of 10 percent fewer males than were taken during the 1974-75 season.

Seventy-seven percent of the harvest (111 wolverines) was taken from Unit 20C. Distribution of the harvest from this subunit indicated that animals were uniformly distributed from the Canadian border to Minchumina, although drainages of Birch Creek, Hess Creek and the upper Nenana River contributed 32 percent of the harvest. Harvest density indicated that relatively high numbers of wolverines inhabited the Tanana Flats (Unit 20A), where 12 animals were trapped or snared.

Trapping accounted for 86 percent of the total take, while 13 percent were taken by snaring.

Harvest chronology indicated a fairly uniform distribution of trapping effort and success throughout the preferred trapping period (November-March). The percentage of the known date harvest taken for the five month period is as follows: November, 15 percent; December, 27 percent; January, 24 percent; February, 17 percent; March, 16 percent.

Management Summary and Conclusions

Unit 20 has sustained an annual harvest in excess of 100 wolverines for 4 of the 5 seasons since the establishment of the sealing program. Since 1972-73, harvests have averaged 136 animals. Intensive trapping effort continues to occur in traditional areas; however, this localized harvest does not appear to have adversely affected the reproductive potential or availability of wolverines. A combination of mild winter and high market value of wolverine, as well as other furbearers, undoubtedly provided incentive for recreational and subsistence trapping.

The higher proportion of females in the current harvest may not be of a magnitude significant to depress productivity; if the sex composition of future harvests shows a higher proportion of females, a slight population decline may occur. Nevertheless, reliable information from

trappers in Unit 20 indicated the wolverine population appeared stable at a high level.

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WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 21 - Middle Yukon

Seasons and Bag Limits

Hunting	Sept. 1 - Mar. 31	One wolverine
Trapping	Nov. 1 - Mar. 31	No limit

Harvest, Trapping and Hunting Pressure

During the 1975-76 season 32 wolverines were taken in Unit 21. The harvest was comprised of 19 males, 21 females and one wolverine of undetermined sex. Chronology of the harvest and methods of take are summarized in Table 1.

Table 1. Chronology and method of take for 1975-76 wolverine harvest, Unit 21.*

Chronology of harvest			Method of take		
Month	Take	Percent	Method	Take	Percent
November	5	16	ground shooting	13	41
December	6	19	trapping	18	56
January	1	3	snaring	1	3
February	5	16			
March	15	47	Total	32	100
Total	32	101			

*Data from sealing records.

The 1975-76 catch was slightly lower than those of recent years, but it remained relatively high compared to long term catch records from Unit 21. While wolverines were abundant in Unit 21 during 1975, they were not hunted to the extent of those in adjacent units.

Management Summary and Recommendations

The slight decrease in the wolverine harvest for Unit 21 was probably related to lowered trapping and hunting effort. Wolverines were abundant in this unit and appeared to be increasing slowly.

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WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1975-1976

Game Management Unit 22 - Norton Sound-Seward Peninsula

Seasons and Bag Limits

Hunting	Sept. 1-Mar. 31	One wolverine
Trapping	Nov. 1-Mar. 31	No limit

Harvest, Trapping and Hunting Pressure

Based on sealing certificates there was a reported harvest of 33 wolverine in Unit 22 during the 1975-76 season. There has been a gradual increase in the wolverine harvest during the past five years. This reflects an increase in trapping and sealing effort rather than population growth. Certainly, a doubling in pelt value over the past four years has contributed somewhat toward the higher harvest. Traditionally, most hides were used locally for clothing, but in the last two years an increasing number have been offered for sale.

The harvest was evenly distributed throughout the winter months, suggesting a rather constant hunting effort. Trapping and shooting accounted for all animals taken, but trapping was by far the most productive. Of the 33 wolverine harvested 29 (88%) were trapped. The sex composition of the harvest was about evenly distributed between sexes; 18 males and 15 females were taken.

Seasonal Distribution, Migration and Concentration

As in other units, little is known of wolverine populations in Unit 22. Harvest data and comments from hunters suggest a stable population, but the small number of animals taken annually precludes accurate population assessments. Data from sealing records indicated that the broad river valleys of the Seward Peninsula such as the Koyuk, Kuzitrin, Unalakleet and Niukluk provided important wolverine habitat.

Management Summary and Recommendations

While the primary management effort to date has been to obtain accurate harvest data, the system for obtaining such data requires considerable improvement. Employing a village agent has improved the sealing program, but satisfactory compliance will probably be attained only by increased public contact in the rural villages.

Although wolverines are probably "overharvested" within a 20 mile radius of most villages, hunting and trapping pressure is very low in the remainder of Unit 22. No changes in seasons and bag limits are recommended.

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Regional Management Coordinator

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1975-1976

Game Management Unit 23 - Kotzebue Sound

Seasons and Bag Limits

Hunting	Sept. 1-Mar. 31	One wolverine
Trapping	Nov. 1-Mar. 31	No limit

Harvest, Trapping and Hunting Pressure

The 1975-76 reported harvest of wolverines in Unit 23, based on sealing data, was 50 animals. On the average, 30 wolverines have been harvested in the unit annually during the last 5 years, but in 1972 only 7 animals were reported to have been taken. Compliance with the sealing requirement varies considerably; therefore, changes in the number of animals sealed annually probably reflects the amount of effort directed toward obtaining compliance with the requirement rather than fluctuations in wolverine abundance. During the 1975-76 season numerous trips were made to the villages, and compliance with the sealing regulation was greater than in the past. Still, a considerable number of trappers failed to have their animals sealed. The total Unit 23 harvest was estimated to be 60 to 79 wolverines. Males comprised over half the reported harvest.

The kill was rather uniformly distributed throughout the entire winter season. Trapping and ground shooting were the means used to take 98 percent of the harvest. Thirty-eight wolverines were trapped (76% of the harvest) while 11 (22% of the harvest) were shot. One wolverine was caught with a snare. Harvest statistics for the 1975-76 season are summarized below.

	Sex				Method of harvest		
Month	Male	Female	Unknown	Total	Trapping	Shooting	Snaring
November	3	1	0	4	4	0	0
December	5	5	0	10	9	1	0
January	8	3	0	11	7	3	1
February	6	2	0	8	5	3	0
March	6	7	2	15	11	4	0
April	2	0	0	2	2	0	0
Total	30	18	2	50	38	11	1

Management Summary and Recommendations

While the primary management effort to date has been to obtain accurate harvest data, the system for obtaining such data requires

considerable improvement. Employing a village agent has improved the sealing program, but satisfactory compliance will probably be attained only by increased department contact in the rural villages.

Although wolverines are probably "overharvested" within a 20 mile radius of most villages, hunting and trapping pressure is very low in the remainder of the unit. No changes in seasons and bag limits are recommended.

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WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 24 - Koyukuk Valley

Seasons and Bag Limits

Hunting	Sept. 1-March 31	One wolverine
Trapping	Nov. 1-March 31	No limit

Harvest, Trapping and Hunting Pressure

The reported Unit 24 wolverine harvest for the 1975-76 hunting and trapping season was 20 (19 males and 1 female). This was a slight decrease from the 1974-75 harvest of 22 (15 males and 7 females).

Methods used to take wolverines were little changed from the previous season. In 1974-75, 5 percent were taken by ground shooting, 81 percent by trapping and 14 percent by snaring. In the 1975-76 season, 5 percent were taken by ground shooting, 60 percent by trapping and 35 percent by snaring. In the 1974-75 season 46 percent of the wolverines were taken in March compared to 15 percent taken in March 1975-76, but otherwise the take was spread over November through March both years.

Management Summary and Recommendations

It is unlikely that the present sealing program accurately reflects the Unit 24 harvest. Local utilization of wolverines for ruffs and garment trim results in many skins not being sealed. In Unit 24 most wolverine are trapped or snared, unlike Units 22 and 23, where a much higher percentage of the wolverine are taken by ground shooting. Despite the continued high value of wolverine pelts, the total trapping effort has not increased greatly. It is unlikely that there will be any management problems caused by excessive harvests of wolverines in the near future.

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WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 25 - Ft. Yukon area

Seasons and Bag Limits

Hunting	Sept. 1-March 31	One wolverine
Trapping	Nov. 1-March 31	No limit

Harvest, Trapping and Hunting Pressure

The reported Unit 25 wolverine harvest during the 1975-76 hunting and trapping season was 66 (38 males and 28 females). This was little changed from the 1974-75 harvest of 63 (38 males, 24 females and 1 of undetermined sex). All wolverines taken in Unit 25 were trapped. Traditionally, trapping has been the primary method used for harvesting wolverines in Unit 25.

Neither the accuracy nor the completeness of the sealing program in Unit 25 has been determined, but it is unlikely that all wolverines taken were sealed. However, harvest figures taken from the number of skins sealed in Unit 25 probably provide a better measure of harvest than in units where there is a high local utilization of wolverine skins for garment trim.

Recommendations

Harvests are not thought to have a significant impact on wolverine abundance. No changes in season or bag limit are recommended at this time.

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WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1975

Game Management Unit 26 - Arctic Slope

Seasons and Bag Limits

Hunting	Sept. 1-March 31	One wolverine
Trapping	Nov. 1-March 31	No limit

Harvest, Trapping and Hunting Pressure

The reported Unit 26 wolverine harvest from the 1975-76 season was 16 (10 males and 6 females). The harvest from the 1974-75 season was only 3 (2 males and 1 female).

The method of harvesting wolverines in Unit 26 is essentially the same as the techniques used in Units 22 and 23, where wolverines are hunted and shot, generally with the aid of a snowmachine. Very few are taken by traditional trapping techniques. In 1975-76, 88 percent were taken by shooting.

Management Summary and Recommendations

The apparent increase in harvest in 1975-76 may simply reflect that a greater proportion of wolverines taken were sealed. Prior to the cancelation of the wolverine bounty it was felt that the bounty system did not provide an accurate measure of the wolverine kill in Unit 26. The very high local utilization of wolverines for parka ruffs and other garment trim resulted in few wolverines being held for the bounty. This situation has not changed under the sealing program; therefore, it is likely that the wolverine harvest in Unit 26 has been grossly underestimated for many years. Nevertheless, harvests are not thought to have significantly influenced wolverine abundance. No changes in season or bag limit are recommended.

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