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JUNEAU, ALASKA

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ANNUAL REPORT OF SURVEY-INVENTORY ACTIVITIES
PART IV. FURBEARERS, SMALL GAME, WOLF AND WOLVERINE

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STATEWIDE HARVESTS AND POPULATION STATUS

Wolf

The recorded statewide harvest of wolves in 1974-75 was 1,090, near the average of 1,020 from the last 5 years. These data, derived from mandatory sealing of all wolf pelts taken by hunting and trapping, reveal that the largest take was from Unit 20 (291 wolves), followed by Unit 17 (111) and Unit 13 (103). Regionally, 92 were taken in Southeastern Alaska, 376 from Southcentral, and 468 from the Interior-Arctic portion of the state. Seventy-five percent of the harvest was taken from December through March with 51.6 percent by ground shooting, 46.9 percent by trapping or snaring, and 1.5 percent by other means.

Wolf populations were reported to be at relatively high levels throughout much of the state, with population trends either stable or increasing in most areas.

Wolverine

The recorded statewide harvest of wolverines, based on mandatory sealing of pelts, was 805 in 1974-75. Unit 20 produced the largest reported take (122), followed by Unit 13 (96); only 4 units (2,4,8 and 10) reported no take. Although sealing of pelts is required by law, it is suspected that a high percentage of animals taken in rural units (e.g. 18,22,23 and 26) are utilized locally soon after being taken and are consequently not sealed.

We have no index to wolverine abundance, therefore, little knowledge of population trends other than comparative harvest levels. Some concern has been voiced over the impact snow machine hunting may have on wolverine populations in Arctic Alaska, but elsewhere the species seems to be thriving.

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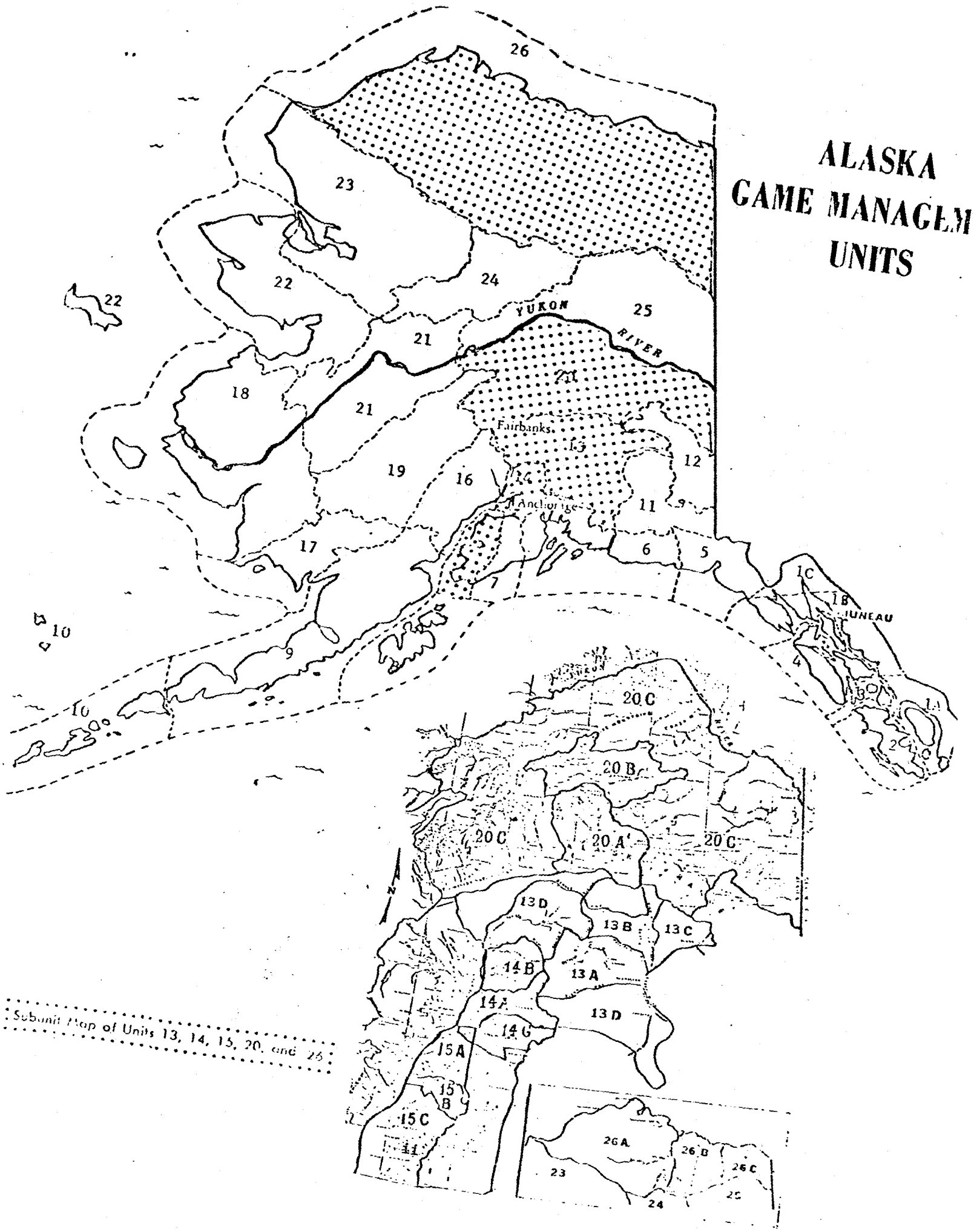
ALASKA GAME MANAGEMENT UNITS



Subunit Map of Units 13, 14, 15, 20, and 26

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FURBEARERS AND SMALL GAME

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Units 12, 20 and 25 - Eastern Interior

Trapper Questionnaire

In May, a new questionnaire covering most furbearers and upland game was sent out to 355 trappers in Units 12, 20 and 25. We wished to determine how such a questionnaire would be received by the trappers, and what sort of response we might expect, before expanding our mailing list statewide.

A total of 116 questionnaires were returned, which was 34 percent of the 335 questionnaires which apparently reached the trappers. Twenty of the original 355 sent out were returned addressee unknown, deceased, etc. Twenty-nine of those responding indicated that they did not trap, but provided no other information. This left 97 questionnaires from which results were tabulated.

Questionnaire Results - Harvest and Population Levels

Lynx. The number of lynx harvested was 18.7 per trapper in the Fairbanks area. Fairbanks trappers averaged only 11.2 lynx each in 1973-74, but that figure may have reflected a greater proportion of inexperienced trappers in the sample that year.

Lynx populations were considered to be moderately low in the Interior, with some decline from 1973-74. A few trappers in Fort Yukon and Beaver felt that there was a slight increase in the number of lynx, but generally, most areas reported a decline in lynx populations.

Red Fox. (Including cross and silver phases). The number of red foxes harvested in the Interior averaged 12 per trapper in 1974-75. Trappers in the Fairbanks area averaged about 10 foxes each or about 1 fox per 2.6 miles of trapline. Most areas reported moderate to moderately high fox populations with no change to a very slight decline from last year, with the exception of the Delta and Manley areas where trappers reported an increase in fox numbers.

Marten. The marten harvest in the Interior in 1974-75 averaged 18.8 per trapper, with Fairbanks trappers taking an average of 27 per trapper, or 1 marten for every 1.4 miles of trapline. Interior trappers generally felt that marten populations were moderately low in 1974-75, with little or no change from the previous year. Fairbanks area trappers felt that marten populations may have declined somewhat from 1973-74 levels, while Manley area trappers reported a slight increase.

Wolf. Wolf sealing forms provide more information on wolf harvests than does the trapper questionnaire. Trappers reported that wolf populations were at moderately high levels with slightly more than in 1973-74, but none seemed to feel that wolf numbers were extremely high or that there had been any extreme increase in the past year.

Wolverine. Wolverine sealing forms provide fair harvest information although many wolverine hides never get sealed. The questionnaire probably does not provide as much harvest information but it does give some indication of population levels: wolverine populations were considered to be at moderate levels with little or no change from 1973-74.

Muskrat. Harvest figures on muskrats are incomplete, but trappers indicated a moderately low muskrat population with a decline from 1973-74. The only areas in which muskrats were reported to be highly abundant were Gakona and Copper Center. In these areas trappers felt that muskrat populations had increased.

Mink. Mink populations were reported to be at moderate levels in the Interior with little or no change from the previous season. Many Fairbanks trappers have concentrated on lynx, fox and marten during the last few years and, consequently, relatively few mink were taken. The best mink harvest figures are available from the Fur Export - Fur Dealer Reports.

Beaver. The beaver sealing program gives much better data on beaver harvests than does the questionnaire. Most trappers considered beaver populations stable and dependent on wise harvest practice.

Squirrel. Squirrel populations were reported to be at moderate levels in the Interior, with little change from the 1973-74 season.

Snowshoe Hare. Snowshoe hare populations were low throughout the Interior as the hare cycle dipped to its lowest point. Most respondents felt that there were fewer hares than in 1973-74.

Grouse. Grouse populations were reported to be low throughout the Interior, with little change from last year.

Ptarmigan. Ptarmigan populations were reported to be low in the Interior with a slight decline from 1973-74.

Conclusions

Response to the new trapper questionnaire indicated that it would be worthwhile to expand the list and send the questionnaire out statewide, with some slight additions and modifications.

Trappers suggested questions on methods of travel, etc. and noted that we had left out several furbearers such as otters, weasels and coyotes. Some indicated confusion in the way the questionnaire was set up. We will attempt to change the questionnaire to take care of these problems.

The main problem with any questionnaire is getting the cooperation of the people surveyed. Some old-time trappers were resentful of this "intrusion" into their "privacy," feeling that the information on take and trapline location was strictly confidential and none of our business. Overcoming this attitude is probably one of our biggest problems.

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Table 1. Summary of replies to the 1973-74 trapper questionnaire: trapline length, lynx, fox and marten harvest.

Area	No. of Trappers	Average trapline length	Lynx Harvested	Lynx/ Trapper	Fox Harvested	Fox/ Trapper	Marten Harvested	Marten/ Trapper
Fort Yukon Circle, Central, Eagle, etc.	9	76 miles	176	19.6	109	12.0	210	26.0
Fairbanks (Unit 20B)	27	46	393	18.7	271	10.0	460	27.1
Delta	8	70	158	22.6	66	11.0	42	21
Clear Healy, Mt. McKinley Area	17	34	184	16.7	67	6	99	20
Manley Tanana, etc.	6	26	42	14	15	3	20	5
Tok Northway	10	41	189	27	39	10	90	18
Total (Interior)	87	42	1142	19	567	10	921	22

Table 2. Interior Alaska furbearer population abundance and trend indices by species based on trapper questionnaire.

SPECIES/ Area	Abundance in 1974-75 Season				Compared with 1973-74			
	Low	Med.	High	Index	Fewer	Same	More	Index
LYNX								
Ft. Yukon Circle, Central, Eagle, etc.	6	4	1	3.2	5	3	3	4.4
Fairbanks	8	15	4	4.4	17	5	4	3.0
Delta	4	3	1	3.5	6	0	1	2.1
Clear Nenana, McKinley Area	10	4	1	2.6	9	2	1	2.3
Manley Tanana, etc.	2	1	0	1.7	1	1	0	3.0
Tok Gakona, Copper Center, Northway	5	3	1	3.2	5	3	1	2.7
Total Interior	31	27	7	3.5	39	12	9	3.0
RED FOX (all color phases)								
Fort Yukon Circle, Central, Eagle, etc.	2	7	2	5.0	1	5	5	6.5
Fairbanks	6	15	9	5.4	14	12	4	3.7
Delta	0	3	4	7.3	0	5	9	7.0
Clear Nenana, McKinley Area	1	9	3	5.6	5	5	2	4.0
Manley Tanana, etc.	1	1	3	6.6	0	1	3	8.0
Tok Gakona, Copper Center, Northway	4	2	0	2.3	5	0	0	1.0
Total Interior	12	36	20	5.5	23	26	15	4.5

SPECIES/ Area	Abundance in 1974-75 Season				Compared with 1973-74			
	Low	Med.	High	Index	Fewer	Same	More	Index
MARTEN								
Fort Yukon Circle, Central, Eagle, etc.	2	4	4	5.8	2	5	3	5.4
Fairbanks	15	7	0	2.3	10	9	3	2.6
Delta	0	3	0	5.0	0	2	0	5.0
Clear Nenana, McKinley Area	1	2	2	5.8	2	2	1	4.2
Manley Tanana, etc.	1	4	0	4.2	1	1	2	6.0
Tok Gakona, Copper Center, Northway	4	4	1	3.7	4	3	2	4.1
Total Interior	22	19	7	3.8	16	20	10	4.5
WOLF								
Fort Yukon Circle, Central, Eagle, etc.	2	4	3	5.8	3	5	2	4.6
Fairbanks	6	7	12	6.0	5	7	12	6.2
Delta	0	2	5	7.9	1	2	3	6.3
Clear Nenana, McKinley Area	0	4	6	7.4	2	3	4	5.9
Manley Tanana, etc.	0	0	2	9.0	0	2	0	5.0
Tok Gakona, Copper Center, Northway	2	4	2	5.0	2	10	3	5.6
Total Interior	9	19	30	6.5	12	20	21	5.7

SPECIES/ Area	Abundance in 1974-75 Season				Compared with 1973-74			
	Low	Med.	High	Index	Fewer	Same	More	Index
WOLVERINE								
Fort Yukon Circle, Central, Eagle, etc.	3	5	2	4.6	2	8	0	4.2
Fairbanks	5	8	4	4.8	5	8	3	4.5
Delta	1	3	1	5.0	1	3	0	4.0
Clear Nenana, McKinley Area	3	5	0	3.5	2	5	0	3.9
Manley Tanana, etc.	0	2	0	5.0	0	2	0	5.0
Tok Gakona, Copper Center, Northway	4	4	0	3.0	2	5	0	3.9
Total Interior	15	25	6	4.2	11	29	3	4.3
MINK								
Fort Yukon Circle, Central, Eagle, etc.	5	1	0	1.7	3	2	1	3.7
Fairbanks	4	7	1	4.0	3	6	3	5.0
Delta	0	2	2	7.0	0	2	1	6.3
Clear Nenana, McKinley Area	5	4	1	3.0	4	5	0	3.2
Manley Tanana, etc.	0	2	0	5.0	2	1	0	2.3
Tok Gakona, Copper Center, Northway	3	3	0	3.0	1	4	0	4.2
Total Interior	11	23	5	4.4	11	18	8	4.7

SPECIES/ Area	Abundance in 1974-75 Season				Compared with 1973-74			
	Low	Med.	High	Index	Fewer	Same	More	Index
MUSKRAT								
Fort Yukon Circle, Central, Eagle, etc.	0	4	2	6.3	2	0	4	6.3
Fairbanks	2	1	1	4.0	2	1	1	4.0
Delta	2	0	0	1.0	0	1	0	5.0
Clear Nenana, McKinley Area	5	1	0	1.7	3	1	1	3.4
Manley Tanana, etc.	3	1	0	2.0	2	1	0	2.3
Tok Gakona, Copper Center, Northway	1	3	3	6.1	0	2	3	7.4
Total Interior	18	5	3	2.7	10	7	4	3.9
BEAVER								
Fort Yukon Circle, Central, Eagle, etc.	0	5	2	6.5	0	5	3	6.5
Fairbanks	0	5	1	5.7	0	5	1	5.7
Delta	2	1	0	2.3	0	2	0	5.0
Clear Nenana, McKinley Area	1	3	4	6.5	1	4	1	5.0
Manley Tanana, etc.	3	0	0	1.0	2	2	0	3.0
Tok Gakona, Copper Center, Northway	3	2	0	2.6	0	3	0	5.0
Total Interior	8	15	7	4.9	3	18	5	5.3

SPECIES/ Area	Abundance in 1974-75 Season				Compared with 1973-74			
	Low	Med.	High	Index	Fewer	Same	More	Index
RED SQUIRREL								
Fort Yukon Circle, Central, Eagle, etc.	1	6	1	5.0	2	3	2	5.0
Fairbanks	3	12	2	4.8	5	10	3	4.6
Delta	0	4	1	5.8	0	3	0	5.0
Clear Nenana, McKinley Area	0	3	1	6.0	1	3	0	4.0
Manley Tanana, etc.	0	1	0	5.0	0	1	0	5.0
Tok Gakona, Copper Center, Northway	0	4	2	6.3	0	4	1	5.8
Total Interior	4	29	6	5.2	8	22	6	4.8

Table 3. Interior Alaska grouse, ptarmigan and snowshoe hare population abundance and trend indices based on trapper questionnaire.

SPECIES/ Area	Abundance in 1974-75 Season				Compared with 1973-74			
	Low	Med.	High	Index	Fewer	Same	More	Index
GROUSE								
Fort Yukon Circle, Central, Eagle, etc.	6	4	0	2.6	2	6	2	5.0
Fairbanks	21	0	1	1.4	5	12	4	4.8
Delta	3	1	0	2.0	0	2	1	6.3
Clear Nenana, McKinley Area	6	1	1	2.5	5	2	2	3.7
Manley Tanana, etc.	2	0	0	1.0	2	1	0	2.3
Tok Gakona, Copper Center, Northway	6	5	0	1.7	6	0	0	1.0
Total Interior	43	13	0	1.9	42	8	2	2.9
PTARMIGAN								
Fort Yukon Circle, Central, Eagle, etc.	4	3	1	3.5	2	5	1	4.5
Fairbanks	16	4	0	1.8	9	9	1	3.3
Delta	2	2	0	3.0	0	3	0	5.0
Clear Nenana, McKinley Area	5	2	2	3.7	2	5	2	5.0
Manley Tanana, etc.	1	1	0	3.0	2	0	1	3.7
Tok Gakona, Copper Center, Northway	4	3	0	2.7	1	5	0	4.3
Total Interior	30	15	3	3.8	15	26	5	4.1

SPECIES/ Area	Abundance in 1974-75 Season				Compared with 1973-74			
	Low	Med.	High	Index	Fewer	Same	More	Index
SNOWSHOE HARE								
Fort Yukon Circle, Central, Eagle, etc.	7	3	0	2.2	7	2	1	2.6
Fairbanks	19	6	0	2.0	19	5	0	1.8
Delta	3	2	0	2.6	3	0	0	1.0
Clear Nenana, McKinley Area	8	1	0	1.4	7	0	1	2.0
Manley Tanana, etc.	2	0	0	1.0	2	1	0	2.3
Tok Gakona, Copper Center, Northway	6	5	0	1.7	6	0	0	1.0
Total Interior	43	13	0	1.9	42	8	2	2.9

FURBEARERS

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 18 - Yukon - Kuskokwim Delta

Seasons and Bag Limits

Species	Seasons	Bag Limits
Beaver	Feb. 1 - March 31	10 per season
Coyote	Nov. 10 - April 30	No limit
White Fox	Nov. 10 - April 15	No limit
Red Fox	Nov. 10 - April 15	No limit
Lynx	Nov. 10 - March 31	No limit
Marten	Oct. 20 - Feb. 28	No limit
Mink and Weasel	Nov. 10 - Jan. 31	No limit
Muskrat	Nov. 10 - June 10	No limit
Otter	Nov. 10 - March 31	No limit
Wolf	Oct. 1 - April 30	No limit
Wolverine	Nov. 10 - March 31	No limit

Harvest and Hunting Pressure

Beaver: The Unit 18 beaver catch dropped sharply from the record season of 1973. Cold weather, deep ice and lack of snow were blamed for the lack of trapping effort during spring 1974. However, it is also likely that the intensive trapping in 1973 left many readily reached colonies in too poor of a condition to warrant the extra time and effort needed to make a worthwhile catch. Overtrapping is obvious in this unit when one notes that kits made up 25.8 percent of the 1973 catch.

In 1974, 95 trappers took 684 beavers compared to a catch of 1,769 beavers by 230 trappers in 1973. Even the highest pelt prices in years failed to motivate trappers during 1974. This suggests that along with inclement weather, the trapping effort of the previous year left many vacant colonies on many of the more easily reached streams.

White Fox: White foxes were fairly abundant on Nunivak and Nelson Islands during 1974. Several hundred were purchased by a Seattle fur buyer at an average of $30.00 per pelt.

Red Fox: Red foxes reached a population peak in 1974. They were common throughout the Yukon-Kuskokwim Delta and excellent pelt prices provided the incentive for trappers to take as many foxes as possible. Roughly 500 were purchased by a single fur buyer at $25.00 to $30.00 per pelt. These red fox pelts are generally not of as good quality as those taken above Aniak on the Kuskokwim and Holy Cross on the Yukon.

Lynx: Lynx were not especially abundant in 1974. Only a few were taken in the Kalskag and Akiak areas.

Mink: Mink trappers were more active in 1974 than in the previous year because the lower river mink populations were more abundant. In addition, pelt prices increased slightly, adding some incentive for the trapper. Less than 1,000 mink were taken during the 1974 season.

Muskrat: Muskrats were found in good numbers over most of the Delta in 1974. No figures were available on the number caught. However, many are used locally for parkas, etc.

Land Otter: Land otters were abundant and fairly substantial numbers of this valuable furbearer reached the market in 1974. An estimated 300 otters were taken by Delta trappers this season.

Management Summary and Recommendations

Beaver cache surveys should be initiated in Unit 18, especially on key drainages. No change in season or bag limit is recommended at this time.

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FURBEARERS

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 19 - McGrath

Seasons and Bag Limits

Species	Season	Bag Limit
Beaver		
Unit 19A (Kuskokwim drainage upstream from McGrath and Takotna River)	Feb. 1 - April 15	25 per season
Unit 19B (downstream from McGrath, except for Holitna River as described below)	Feb. 1 - Feb. 28	10 per season
Unit 19B (Holitna River drainage upstream from its confluence with Hoholitna River except Titnuk Creek)	No Open Season*	

*Holitna River opened by emergency regulation Feb. 1 - Feb. 28 with a limit of 10 beavers.

Coyote	Nov. 1 - April 30	No limit
Red Fox	Nov. 1 - Feb. 15	No limit
Lynx	Nov. 1 - March 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
Otter	Nov. 1 - April 15	No limit
Squirrel (all species)	No closed season	No limit
Wolf	Oct. 1 - April 30	No limit
Wolverine	Nov. 1 - March 31	No limit

Harvest and Hunting Pressure

Beaver: Conditions for spring beaver trapping in 1974 were the best in many years with very little ice, moderate snow depths and warm temperatures. Fall cache surveys also suggested that beavers were continuing to increase on the Takotna and Nixon Forks. In addition, beavers were bringing an average of $35.00 and reached as high as $55.00 for supers and blankets. Despite these factors, trappers did not make any particular effort to harvest beavers.

One hundred and twenty-nine trappers took 808 beavers in 1974 compared to the catch of 1,085 beavers by 155 trappers in 1973.

Coyote: A few coyotes were caught in Unit 19 during 1974. These were taken on the South Fork drainage in the vicinity of Farewell. I saw two during the course of an early November flight in 1974 on the South Fork near Egypt Mountain.

Red Fox: Red foxes were abundant in 1974. Approximately 125 were taken in this unit. The average price paid for red foxes was $45.00 with a high value of $75.00 for better pelts.

Lynx: Nikolai trappers and one trapper on the South Fork took about 50 lynx in 1974. Local pelts brought $85.00 to $125.00.

Marten: The marten population in Unit 19 increased greatly during 1974, no doubt in response to the abundant microtine population. Excellent prices for pelts (averaging $23.00 per skin) added much incentive for trappers to journey afield. More than 2,000 were taken this season.

Mink: Mink were plentiful throughout the upper Kuskokwim, but little effort was expended to trap them. Pelts brought from $10.00 to $20.00.

Muskrat: Muskrat trapping in 1974 was excellent for this area, but few trappers took advantage of this easily caught furbearer. Several trappers took 50-100 muskrats during fall in the McGrath area. No more than 500 muskrats were taken in the McGrath and Nikolai areas. Trapped muskrats were worth about $1.50 to $2.00.

Land Otter: Land otters were again abundant as well as valuable. About 40 were taken in the McGrath area with another 40 to 50 taken in the Sleetmute - Aniak regions. Pelts sold for an average of $45.00 and some for as high as $65.00.

Abundance and Productivity

Marten track counts were made over a 10-mile segment of the Medfra Trail. Track count frequency was recorded per mile of trail. These counts indicated a definite population increase over the same area surveyed in 1973. Examination of marten skins (based on pelt size) suggested that juvenile marten were much more abundant than in 1973.

Beaver cache surveys were made on the Takotna and Nixon Fork Rivers. Results of these surveys were reported in the beaver research progress report.

Management Summary and Recommendations

Present fur regulations are adequate to meet the needs of local trappers and should require no changes. However, beaver populations have continued to increase under little trapping pressure. Liberalization of beaver regulations may encourage use of this resource.

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FURBEARERS

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 21 - Middle Yukon

Seasons and Bag Limits

Species	Season	Bag Limit
Beaver		
Unit 21A (Yukon River drainage upstream from Anvik River and Innoko River upstream from Holikachuk)	Feb. 1 - April 15	25 per season
Unit 21B (remainder of Unit 21)	Feb. 1 - March 31	15 per season

Harvest and Hunting Pressure

Beaver: The beaver catch for Unit 21 increased slightly over the 1,558 beavers taken by 171 trappers in 1973 to 1,608 beavers caught by 166 trappers in 1974. This increase was possibly due to more liberal bag limits and season length as well as better fur prices and good weather conditions in 1974. Aerial beaver cache surveys on the Innoko and Dishna Rivers showed a continued trend upward. Moreover, beavers appear to be abundant in other Unit 21 drainages which are trapped only lightly at present.

Red Fox: The red fox population peaked in the Holy Cross area during 1974. Several hundred were taken by trappers in this area.

Lynx: Fair populations of lynx were found around the Yukon above Galena in 1974. However, no catch figures were available for this area.

Marten: Marten were abundant throughout the unit in 1974. One trapper caught over 300 near the Nowitna River mouth. Catches of over 100 were common. The estimated catch for Unit 21 was in excess of 1,000 marten.

Mink: Little effort was made to trap mink in Unit 21 during 1974. Populations were moderate to high on the Innoko and middle Yukon.

Otter: Otter sign continued to be commonly seen throughout Unit 21, but little or no effort was made to trap them in 1974.

Muskrat: Muskrat "pushups" were frequently observed along the flood plains of the Yukon in 1974. Trappers showed little interest in making any special effort to make large catches of muskrat.

Abundance and Productivity

Beaver cache surveys are made annually on the Innoko and Dishna Rivers. Results of these surveys appeared in the final beaver research report.

Management Summary and Recommendations

Liberalization of beaver bag limits and seasons appears to have influenced trapping effort to some extent. No further changes are anticipated in fur trapping regulations.

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FURBEARERS

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 22 - Seward Peninsula

Seasons and Bag Limits

Species	Season	Bag Limit
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 15	No limit
Ground Squirrel	No closed season	No limit

Harvest and Hunting Pressure

With fur prices continuing to show an upward trend, there was a slight increase in the number of trappers in Unit 22; however, success per unit effort over last year was down for most species. This was a result of unfavorable weather, which made travel by snow machine difficult, and a generally low abundance of furbearers.

Beaver: Beavers occur in low numbers in most of Unit 22, except in the southeast portion. Residents of Unalakleet, Stebbins, and St. Michaels had moderate success. Even though beavers were abundant in some areas, they received little trapping pressure. The total harvest was probably less than 200 animals.

Arctic Fox: Arctic fox populations were down on the mainland in Unit 22, and were below average on St. Lawrence and other islands. Very few white foxes were taken on the mainland, and most were caught incidentally, by trappers seeking red foxes. The few serious trappers remaining on St. Lawrence Island took as many as 50 white foxes each. Most trappers caught less than 10 and did it largely as a recreational pursuit. Total harvest was probably less than 500.

Red Fox: Populations were down from last year, and the more serious trappers caught about half their normal take. This lower success was influenced by unfavorable weather conditions. Foxes were not as abundant along the coast as in prior years. The November 11th storm which caused serious coastal flooding and erosion may have been a factor contributing to lower success because most marine mammal carcasses were covered by sand, and unavailable as winter food.

Foxes were seen congregating near moose and reindeer carcasses. It was not uncommon for 20 to be found in the immediate area of carcasses. In spite of this situation, foxes seemed more widely dispersed than in prior years. The average trapper had a poor to fair season.

Lynx: Even though prices remained high, few lynx were taken and most of these came from the southeast portion of the unit. Both trapper effort and success were down from last year.

Mink and Weasel: The harvest of these animals continued to remain low; probably because mink and weasel density in most places is relatively low, and only the most active trapping efforts produced good catches.

Land Otter: Very low trapping pressure, most animals were killed by snow machine users while traveling across country. The kill was probably less than 50.

Ground Squirrels: Low trapping pressure; but a few individuals still took squirrels in the spring and late fall for parkas.

Abundance and Productivity

Arctic foxes on both the mainland and St. Lawrence Island were down from last year.

Red foxes were still relatively common, but there were fewer animals than last year.

Lynx populations appeared to be lower than any time within the last 5 years.

Land otter populations were low, but there was little change from last year.

Ground squirrels were down from normal, but about the same as last year.

Management Summary and Recommendations

Fur prices have remained high for 2 consecutive years, yet the increase in trapping effort has been minimal. There were only a few trappers in Unit 22 depending on their fur catch for a significant portion of their income. The majority of people who trap do so primarily as a winter recreational activity. It is quite apparent there could be a substantial increase in the harvest without adversely affecting furbearing populations. In light of these facts, liberal seasons and bag limits should be retained.

PREPARED BY:

Carl A. Grauvogel
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SUBMITTED BY:

Oliver E. Burris
Regional Management Coordinator

FURBEARERS

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 23 - Kotzebue Sound

Seasons and Bag Limits

Species	Seasons	Bag Limit
Beaver	Nov. 1 - April 15	20 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 - June 10	No limit
Land Otter	Nov. 1 - April 15	No limit
Ground Squirrel	No closed season	No limit

Harvest and Hunting Pressure

Even with increased fur prices trapping effort remained low in most of Unit 23. Few native trappers remain. Some non-natives interested in trapping seriously have moved into the region. Still, there are probably less than 30 full-time trappers in the entire unit, and with the apparent freeze on land status, the number of newcomers is not likely to increase significantly.

Beaver: Even though beavers are abundant in many portions of Unit 23, trapping pressure was low. A few animals were taken in late winter near Selawik.

Arctic Fox: The arctic fox harvest was low for the second year in a row. The total catch was probably less than 200 animals.

Lynx: The lynx harvest remained low because the population was down, and only a few trappers are proficient at capturing this species. Most lynx were taken in the Kobuk Valley, but the total unit harvest was probably less than 200.

Mink and Weasel: Trapping pressure on these species was extremely low. The majority of these species harvested were from the Selawik River drainages.

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

Land Otters: A few otters were taken incidentally in the spring while snow machining and fishing.

Ground Squirrels: Trapping pressure on ground squirrels was low, but a few squirrels were taken in the spring and fall for parkas.

Abundance and Productivity

Beaver houses and caches were very common on the upper Selawik, Kugarak, and Nuleargowik Rivers, and it appears animals are gradually moving into the drainages of the Kobuk River.

Arctic foxes were less abundant than last year, and populations were below normal.

Red foxes were less abundant than last year, but animals were available to offer moderate trapping success.

Lynx populations were lower than last year, reflecting the continuing decline in the number of hares.

Muskrats are quite numerous throughout the Selawik and Kobuk River drainages and apparently continued to increase their range.

Ground squirrels were numerous, but appeared to be somewhat down from last year.

Management Summary and Recommendations

Fur prices have remained high for 2 consecutive years, and yet, with minor exceptions, there has been little increase in trapping effort. Only a small percentage of the residents in the area are conscientious, full-time trappers. The majority of people who trap do so primarily as a source of winter recreation. It is quite apparent there could be a substantial increase in the furbearer harvest without adversely affecting these populations. In light of these facts, liberal seasons and bag limits should be retained.

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BEAVER

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 17 - Bristol Bay

Seasons and Bag Limits

Feb. 1 - Feb. 28 15 per season

Trapping and Harvest Pressure

The reported harvest for the 1975 season was 928 beavers (Appendix I). A total of 85 trappers sealed beavers for Unit 17 (an average of 10.9 beavers per trapper). The percentage of kits in the harvest (15.8 percent) was the lowest on record.

Composition and Productivity

Cache surveys conducted during fall 1975 were concentrated on the drainages close to villages (Appendix II). Overall there was a 15 percent increase in stream miles per cache over 1974. In 1975 active caches occurred on an average of every 1.32 miles of stream surveyed compared with every 1.15 miles in 1974. As in past years, the greatest distances between caches occurred on drainages near villages.

Management Summary and Conclusions

During the 1975 spring season, trapping was closed by field announcement (II-22-74) for that portion of Unit 17 readily accessible from the villages. Harvest data and fall cache surveys supported the need for the closure to prevent further harvest on an already heavily exploited resource. Only the remote drainages of the upper Nushagak, Mulchatna and Nuyakuk Rivers were left open to trapping. Reduced trapping pressure resulted from the closure. Many trappers were unwilling to combat the rigors of winter trapping away from their village in spite of a strong economic demand resulting from the poor 1974 commercial fishing season. Trappers who traveled to the open area worked a less exploited beaver population with a greater percentage of older age class animals present. This, coupled with the lack of a high kit harvest which normally occurs from drainages near the villages, resulted in the low percentage of kits.

The fall cache surveys did not indicate significant increases in the number of beavers in the closed area. Several possible explanations exist, including the use of a different pilot and observer, and the fact

that surveys were conducted later than in 1974. However, major increases were not expected duirng this first year. Because of the intensity of past trapping, few young surplus animals would be available to establish new houses. Increases in the number of active houses are expected in the next 2 years. When surveys indicate the resource is sufficiently recovered to sustain harvest, the area should be reopened to trapping.

Public acceptance of the closure has been good because the need for restrictive measures was generally recognized. Before reopening the area to trapping, beaver regulations should be developed with the aid of the local Advisory Committee and village representatives. The only way to prevent the reoccurrence of past abuses will be to develop a resource management program that has local support.

Recommendations

The trapping closure effected by Field Announcement II-22-74 should be made regulation and maintained for a period of 3 to 5 years. The area should not be reopened to trapping until data indicate there are sufficient beaver resources to withstand harvest pressure.

PREPARED BY:

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SUBMITTED BY:

John S. Vania
Regional Management Coordinator

Beaver - GMU 17 - Bristol Bay

Appendix I

Historical Beaver Harvest for Unit 17

Game Mgmt. Unit	Year	Limit	Percent Kits (Under 54")	Percent Kits and Yearlings (Under 59")	Percent Adults (Over 59")	Total No. of Beaver	No. of Trappers	Avg. No. Beaver/ Trapper
17	1957	10	22.9	36.8	63.2	367	46	8.0
	1958	15	19.1	33.0	67.0	3,165	263	12.0
	1959	10	19.6	29.4	70.6	3,245	369	8.8
	1960	15	24.3	34.2	65.8	3,721	279	13.3
	1961	15	23.1	24.7	65.2	2,849	230	12.3
	1962	15	29.5	41.5	58.5	1,903	175	10.8
	1963	15	23.3	36.8	63.2	2,172	189	11.5
	1964	15	28.4	38.4	61.6	1,766	180	9.8
	1965	15	22.1	34.9	65.1	957	97	9.9
	1966	15	25.2	37.9	62.1	1,424	143	10.0
	1967	15	25.3	37.0	63.0	2,711	215	12.6
	1968	20	25.7	36.4	63.6	3,158	198	15.9
	1969	15	No Harvest reported			Est. 1,750	Est. 150	Est. 11.6
	1970	15	22.6	34.1	65.9	1,190	118	10.1
	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	36.6	63.4	1,681	169	9.9
	1975	15	15.8	27.2	72.8	928	85	10.9

PREPARED BY: James B. Faro, Game Biologist III

Aerial Beaver Cache Surveys, GMU 17, Bristol Bay, 1974 and 1975.

Appendix II

River	River Miles	Caches	1975 M/C	1974 M/C	% Change	1975 Time (Min.)	1974 Time (Min.)
Klutuk	47	34	1.38	2.5	-45%	24	25
Kokwok	30	24	1.25	.7	79%	26	36
Iowithla	62	48	1.29	1.72	-25%	38	40
Sunshine	25	17	1.47	1.14	29%	11	N.A.
Togiak	76	25	3.04	N.A.	N.A.	37	N.A.
Ongivinuk	32	25	1.28	1.03	24%	22	24
Harris	29	21	1.38	1.5	- 8%	12	20
Mosquito	29	46	.63	.66	- 5%	18	20
Mulchatna	52	101	.51	.44	16%	46	80
Stuyahok	40	43	.93	.63	48%	22	40

Average M/C 1975 = 1.32

Average M/C 1974 = 1.15

1975 = 15% increase in M/C

SUBMITTED BY: James B. Faro, Game Biologist III

SNOWSHOE HARE

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 12 - Upper Tanana - White River

Seasons and Bag Limits

No closed season — No limit

Harvest and Hunting Pressure

Neither hunting pressure nor harvest of hares in Unit 12 has been measured, but interest in hunting snowshoe hares generally depends on their abundance. Hares are often hunted on the Taylor Highway and other highways in the vicinity of Tok in conjunction with outings for moose and other game.

Abundance and Distribution

Snowshoe hare populations have been declining in Unit 12 since the end of 1971 and populations are at a low level in most areas, however, some isolated areas have moderate numbers of hares.

Hares will probably remain scarce for the next year or two, then start to increase in number.

Management Summary and Recommendations

While some hares may be available in Unit 12, their numbers have become so low that hunting is unproductive. However, hunting itself has little effect on the hare population cycle.

No changes in season or bag limit are recommended.

PREPARED BY:

Jeannette R. Ernest
Game Biologist II

SUBMITTED BY:

Oliver E. Burris
Regional Management Coordinator

SNOWSHOE HARE

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 20 - Fairbanks, Central Tanana

Seasons and Bag Limits

No closed season — No limit

Harvest and Hunting Pressure

Interest and snowshoe hare hunting pressure vary directly with hare abundance. Areas around population centers such as Fairbanks and Delta consistently receive the highest pressure.

Abundance and Distribution

Snowshoe hare populations have declined to a "low" around Fairbanks and are fairly low in most areas near Delta. Hares seem to be fairly scarce throughout Unit 20.

Management Summary and Recommendations

Hare populations will probably stay fairly low in Unit 20 for the next few years. Moderate densities of hares may presently be found in certain localized areas of prime habitat.

The hunting pressure exerted on hare populations at the various stages of their "cycle" has no noticeable effect on their population trend.

No changes in season or bag limit are recommended.

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SNOWSHOE HARE

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 25 - Fort Yukon

Seasons and Bag Limits

No closed season — No limit

Harvest and Hunting Pressure

Although the harvest has not been measured, hunting pressure on snowshoe hares north of the Yukon River is thought to be very low except in localized areas around villages.

Abundance and Distribution

Snowshoe hare populations have been low for several years in the vicinity of Fort Yukon, Stevens Village and other areas north of the Yukon. While populations are starting to increase in some areas, hares are not expected to be abundant anywhere in Unit 25 during 1975.

Management Summary and Recommendations

Hares are expected to be relatively scarce during the next few years. Since hunting has no significant influence on the population trends of this species no changes in season or bag limit are recommended.

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UPLAND GAME ABUNDANCE

SURVEY-INVENTORY PROGRESS REPORT - 1974

Statewide

Techniques

The standard, small game abundance questionnaire was mailed in mid-October 1974 to 275 people throughout the state, and by the end of January 1975, 150 replies had been received. As in the past, the bulk of responses came from the Interior and Gulf regions. Replies were tabulated and analyzed as in previous years (see Game Bird Report, Vol. 5, 1965, pp. 2 and 3). A summary of responses was mailed to cooperators in March 1975.

Findings

Replies to the questionnaire are summarized in Appendix I.

Grouse populations were fairly low statewide, with moderate levels of blue grouse reported from Southeastern Alaska. Respondents from most areas felt that numbers of grouse had remained much the same as in 1973, except in the Alaska Peninsula and western Alaska, where cooperators felt that grouse populations were increasing.

Ptarmigan were reported to be moderately low in most areas with the exception of the Alaska Peninsula and Kodiak, where replies indicated fair populations. Cooperators also felt that ptarmigan numbers had remained about the same in most areas, with perhaps a slight decline in the Interior, and a definite increase on Kodiak Island.

Snowshoe hare populations were generally at low levels and decreasing over the state except for the western area where cooperators felt there were moderate numbers, and a slight increase from 1973. Replies from Southeastern Alaska indicated that hare populations there were about the same as 1973.

Management Summary and Conclusions

The standard, small game questionnaire has, over the years, indicated that grouse, ptarmigan, and hare populations fluctuate considerably throughout the state, and it is felt that present hunting pressure has little effect on such fluctuations. No change in seasons or bag limits is recommended at this time.

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Appendix I. Summary of replies to questionnaire on grouse, ptarmigan an hare populations, 1974.

Area and Species	Present Abundance				Comparison with 197			
	High	Mod.	Low	Index	More	Same	Fewer	Inc x
Brooks Range (10)								
Spruce Grouse	0	0	3	1.0	1	1	1	5
Ptarmigan (general)	1	2	3	3.7	3	1	2	5.6
Rock Ptarmigan	0	1	1	3.0	0	1	1	3
Snowshoe Hare	0	1	5	1.7	0	1	5	1.7
Western (17)								
Grouse (general)	1	1	2	4.0	2	3	0	6.6
Spruce Grouse	1	2	5	2.0	2	1	2	5.0
Ptarmigan (general)	2	4	5	3.9	3	2	6	3.9
Willow Ptarmigan	2	5	3	4.6	4	4	4	5.0
Snowshoe Hare	4	5	3	5.3	9	3	3	6.6
Alaska Peninsula (7)								
Spruce Grouse	0	2	2	3.0	2	1	1	6.0
Ptarmigan (general)	2	1	1	6.0	3	0	1	4.0
Willow ptarmigan	1	2	2	4.2	2	1	2	5.0
Snowshoe Hare	1	1	2	4.0	1	3	0	8.0
Kodiak (5)								
Ptarmigan (general)	2	2	0	7.0	2	1	1	6.0
Snowshoe Hare	0	1	3	2.0	1	1	2	4.0
Southeastern (15)								
Grouse (general)	2	2	2	5.0	1	4	1	5.0
Blue Grouse	2	6	1	5.4	2	5	2	3.1
Ptarmigan (general)	0	4	5	2.8	2	4	3	4.0
Snowshoe Hare	0	1	3	2.0	1	2	1	5.0
Gulf (51)								
Grouse (general)	0	5	28	1.6	2	18	15	3.5
Ruffed Grouse	0	1	11	2.3	0	5	6	2.8
Spruce Grouse	0	8	32	1.8	5	14	20	3.5
Sharptail Grouse	0	0	11	1.0	1	5	5	3.6
Ptarmigan (general)	1	17	22	2.9	4	17	17	3.6
Rock Ptarmigan	0	7	7	3.6	1	7	6	3.6
Willow Ptarmigan	2	10	18	2.9	4	11	11	3.9
Whitetail Ptarmigan	0	4	4	3.0	0	6	2	4.0
Snowshoe Hare	4	18	23	3.3	6	11	31	2.3
Interior (45)								
Grouse (general)	2	5	28	2.0	6	18	10	4.5
Ruffed Grouse	1	6	29	1.9	1	20	11	3.8
Spruce Grouse	1	6	28	1.9	5	16	10	4.4
Sharptail Grouse	0	1	19	1.2	0	13	4	4.1
Ptarmigan (general)	0	5	18	2.1	3	6	13	2.8
Rock Ptarmigan	0	2	16	1.4	1	7	9	3.1
Willow Ptarmigan	2	5	12	2.9	0	8	8	3.0
Whitetail Ptarmigan	0	0	5	1.0	0	2	2	3.0
Snowshoe Hare	2	11	27	2.5	5	4	29	2.5

Appendix I. Continued.

Area and Species	Present Abundance				Comparison with 1973			
	High	Mod.	Low	Index	More	Same	Fewer	Index
Statewide (150)								
Grouse (general)	5	15	65	2.2	14	45	28	4.4
Ruffed Grouse	2	10	42	2.0	3	27	19	3.7
Spruce Grouse	2	17	65	2.0	12	32	34	3.9
Sharptail Grouse	0	1	30	1.1	1	18	9	3.9
Blue Grouse	2	6	1	5.4	2	5	2	5.0
Ptarmigan (general)	8	30	54	3.0	20	32	42	4.1
Rock Ptarmigan	2	12	26	2.6	3	17	19	3.4
Willow Ptarmigan	7	29	36	3.4	11	28	26	2.6
Whitetail Ptarmigan	0	5	9	2.4	0	9	4	3.8
Snowshoe Hare	13	37	65	2.9	23	36	71	3.5

PTARMIGAN

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 20 - Fairbanks, Central Tanana

Seasons and Bag Limits

August 10 - April 30	20 per day; 40 in possession

Harvest and Hunting Pressure

No systems were in operation to determine harvest or hunting pressure in Unit 20 during the 1974-75 season.

Abundance, Composition and Productivity

The annual count of breeding rock ptarmigan (May 15-22, 1974) revealed 61 territorial males on the 15 square mile study area. This is the lowest ptarmigan recorded at Eagle Summit since annual spring counts began in 1959. These counts are thought to be accurate within 5 percent of the actual number of males present, consequently the 6 percent decline from 1973 possibly represents only a slight decline. Since 1968 the rock ptarmigan population has declined at Eagle Summit. Data from the annual Small Game Abundance Questionnaire suggested that a declining trend has existed throughout the Interior since 1970.

Attempts were made to conduct fall brood counts at Eagle Summit, but meaningful counts were not obtained due to poor weather conditions.

Management Summary and Recommendations

See Ptarmigan Survey and Inventory Report for 1973.

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SUBMITTED BY:

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SPRUCE GROUSE

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 20 - Fairbanks, Central Tanana

Seasons and Bag Limits

August 10 - April 30	15 per day; 30 in possession

Harvest and Hunting Pressure

There were no systems in effect to gather information on grouse harvest or hunting pressure in Unit 20, although at least 25 spruce grouse were known to have been taken along the count route during autumn 1974.

Abundance, Composition and Productivity

Standard spruce grouse road counts on the Steese Highway were made between September 17 and 26, 1974. During the 6 valid counts along the 19 mile (30.4 km) route an average of 0.27 birds per mile driven were observed. This figure is down somewhat from that recorded in 1973 (0.53), and considerably below the 9-year average of 0.85. Data from the annual Small Game Abundance Questionnaire also indicated a relatively low population throughout the Interior in 1973.

Spruce Grouse Observed
on Standard Grouse Count, 1974

Location	Number of Counts	Range	Average Number of Grouse Observed per Mile	Confidence Interval at 95%
Steese Highway	6	2-8	0.27	0.17 to 0.37

Management Summary and Recommendations

See Spruce Grouse Survey and Inventory Report for 1973.

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SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Units 12 and 20 - Eastern Interior

The Department provided logistic support to Dr. John R. Haugh for a survey of nesting peregrine falcons along the Tanana River during July 1974. This was the only raptor survey with which the Department was involved in 1974. The following report by Haugh summarizes the Tanana peregrine surveys conducted during the period 1970-74.

RECENT HISTORY OF PEREGRINE FALCONS IN THE TANANA VALLEY, ALASKA[1]

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Abstract. A study was conducted from 1970 to 1974 on a population of peregrine falcons (Falco peregrinus) along a 300 mi (483 km) stretch of the Tanana River in Interior Alaska. Observations on the pattern of abandonment of former nesting sites and changes in the birds' reproductive success were made in an attempt to gain insight into factors causing the decline of this population. Seven pairs were found in 1970, and by 1974 only a single pair remained. During this period the number of young produced declined from 20 in 1970 to 1 in 1974. The last nesting sites to be abandoned by the adults were those on high cliffs and sites isolated from human activity. This pattern of cliff abandonment suggests man has had a direct influence in hastening the disappearance of the birds from the more accessible eyries, but other factors may have also influenced the population.

[1] Cooperatively supported by the State University of New York Research Foundation and the State of Alaska Department of Fish and Game.

INTRODUCTION

This paper reports the results of a five year study on changes in the population of peregrine falcons along the Tanana River in Interior Alaska. Data were collected on the physical features of nest sites, site occupancy and reproductive success, adult behavior, and the effects of man in an attempt to determine the factors influencing the population dynamics of the falcons.

The crash of peregrine falcon populations over widespread areas of North America and Europe during the last three decades has aroused the concern of environmental biologists on both continents (Hickey 1969). For a while, it appeared that populations of birds in Alaska, and perhaps regions of northern Canada, were not being affected as were the more southerly populations (Cade et al. 1968). By 1970, however, evidence was accumulating that some northern populations had declined or were

failing to reproduce successfully (Cade and Fyfe 1970, White and Cade 1970), and the possibility that these populations might soon suffer the fate of the southerly populations was recognized.

In 1970 an organized effort was made to census as many breeding populations as possible to determine the status of the peregrine in North America (Cade and Fyfe 1970). As part of this effort, I conducted a survey on the Tanana River, the first concerted study of the population in that area (Haugh 1970). From 1971 to 1974 I continued to study population changes of falcons along the Tanana and to make observations on their reproductive success.

The major focus of my investigation was to determine if the population decline observed elsewhere in North America was occurring in this area of Alaska, and, if so, to see if abandonment of known nesting sites and declines in reproductive success were following the same pattern observed among other populations of this species in North America.

I gratefully acknowledge J. D. McGowan for his help with the logistics of this project. I thank Tom J. Cade and Alan H. Treiber for suggestions relating to the study and for reading previous drafts of the manuscript. I am also indebted to numerous individuals in the Fairbanks office of the Alaska Department of Fish and Game for their cooperation and assistance.

THE STUDY AREA

The Tanana River is one of the largest Alaskan rivers. From its origin at the confluence of the Nabesna and Chisana Rivers in eastern Alaska, it flows over 400 mi (644 km) before emptying into the Yukon River near the village of Tanana in central Alaska. Throughout its length the river flows through the forests of the Alaska taiga.

Along its course, the river passes through a U-shaped valley. In many areas it is braided into numerous small channels and flows around extensive groups of islands and gravel bars. This has resulted in the right and left extremes of the river being separated from each other by distances of a mile or more in some sections. Cliffs are found only where the river encounters hills, and there are extensive intermediate areas where suitable nesting habitat for cliff-nesting birds, such as the peregrine, is lacking. The cliffs on the Tanana River are small to medium in size, generally ranging from 10 to 300 ft in height (3 to 91 m), although occasional rock outcrops on the sides of hills are somewhat higher above the water. The majority of the cliffs front on the river, but in some areas rocky outcrops are somewhat back from the river on the sides of hills.

Somewhat unique among Alaskan rivers, the Tanana flows parallel to the Alaska Highway, and at points where it approaches the highway, access for launching boats is available. Nevertheless, except between Fairbanks and Nenana and within a few miles upriver from Big Delta, where considerable river traffic is at times encountered, the river maintains its wilderness quality and is largely devoid of man's influence. During the five years of my study, I never encountered another person on

the river between Tanacross and Healy Lake, a distance of approximately 90 mi (145 km), where numerous rapid areas and braided sections make boating dangerous. Many other areas along the river were similarly impressive for their lack of human activity. Thus, the Tanana exhibits along its length the characteristics of both a wilderness river, where man may not appear for weeks or months at a time, and a recreational stream where man's influence is felt almost daily. Until recently, peregrine falcons nested along the river in both of these contrasting situations.

METHODS

In each of the five years of the investigation, a boat trip was made over the course of the study area from Tetlin Junction to Nenana, a distance of approximately 300 river mi (483 km) as measured on U.S.G.S. maps with a scale of 1:63,360. The trips were made during the month of July at a time when viable eggs had hatched and young falcons were in the nests. Because of other research commitments, it was not always possible to conduct the survey at exactly the same time each year. The observations in 1970 and 1973 were made during the first half of July when downy young were in the eyries. In 1971, 1972 and 1974, studies were conducted during the last two weeks of July when the young birds were within a few days of fledging. Except for some previously abandoned eyrie sites between Fairbanks and Nenana, I did not make observations during June when the adult falcons were incubating eggs, a time at which disturbances might increase the possibility of nesting failure.

A total of 13 sites were examined in each year of the study. Six of these sites (8 through 13) were reported to have been active in the 1960's (Gerald Swartz, personal communication). The seven other sites (1 through 7) were examined as part of my original survey (Haugh 1970) and were found active at that time. When possible, all actual nesting sites (eyries) of the falcons were climbed to and examined at close hand. A climbing rope and standard mountaineering techniques were used to reach nesting ledges. Occasionally, when it proved impossible to actually reach an eyrie, the site was observed from another point on the cliff with the aid of 9x35 Nikon binoculars. Using one of these two methods, I was successful in observing the nesting sites of all pairs of falcons located during the course of the study.

RESULTS

Occupancy and reproductive success. Eyrie sites 8 through 13 were found to be unoccupied during the initial survey in 1970, and no evidence of reoccupancy was found in subsequent years. At the seven occupied eyries (sites 1 through 7) adult falcons fledged 20 young in 1970. In 1971, eyries 4, 6 and 7 were unoccupied, and no evidence was found to indicate falcons returned to the cliffs or attempted to nest in any year after 1970. From 1971 to 1973 seven to nine young were produced at the four remaining active cliffs, but in 1974 only one cliff was occupied in July by adult falcons, and only a single young was fledged at this site. A detailed search of nesting ledges and prominent points on cliffs 2 and 5, where falcons might pluck prey or leave prey remains, failed to reveal any evidence that birds had returned in 1974. Peregrines were

observed in early June at cliff 3 by an Alaska Department of Fish and Game research biologist (Tony Smith, personal communication), but this pair either failed to lay or had an early nesting failure, for they were not present in July. Table 1 summarizes the reproductive data from the Tanana River from 1970 to 1974.

Physical characteristics of nesting sites. Eyries 1, 2 and 3 were located on three of the highest and most inaccessible cliffs on the river. At sites 1 and 3 the rock faces were high dissected and, in order to locate the eyries, several hours of climbing and searching were necessary. Site 2 was a sheer rock wall, rising approximately 300 ft (91 m) directly from the river and with a number of ledges situated at locations difficult or impossible for me to reach with the climbing equipment I had available. All three eyries were located along stretches of the Tanana where rapids and log jams were common and served to make river travel dangerous to inexperienced boaters. During five boat trips past these eyries I never observed other river travelers or signs of human activity.

Eyries 4, 5 and 7 were located on relatively small, low cliffs with but one or two suitable nesting ledges. These three sites were easy to reach, and sophisticated climbing techniques were not necessary if caution was used. They were, however, isolated from the general flow of human activity on the river by the location of the cliffs off the main channels of the river. The cliffs at sites 5 and 7 were located on a slow moving stretch of the river with heavy boat traffic, but were set back on small sloughs where boat traffic was not possible. To reach these cliffs it was necessary to walk several hundred feet through trees which tended to screen the cliff from the main river. Over the screen birds at these eyries did have a partial view of the river, especially farther up and down the valley. The immediate foreground, however, was hidden from view by the trees.

Eyrie 4 was readily visible from the main channels of the river but was somewhat isolated on a small side channel by several gravel bars and log jams which discouraged boats from entering this channel and approaching the cliff. The river was swift flowing in this region, but because of easy access from the highway some boat traffic was evident. Local people traveling the river used the channel on the side of the river opposite the cliff, and others would also be naturally directed away from the eyrie cliff by the wider channels and safer water on the opposite side. Thus, by being far enough removed from the main traffic so not to be observed or disturbed by travelers on the river, the falcons at eyrie 4 were as isolated as those at eyries 5 and 7.

Eyrie 6 was unique during my study in being a relatively small cliff with few nesting ledges and located on a well-traveled portion of the river less than a mile from a boat-docking area and access site. The nesting site was located less than 100 ft (30 m) above the water. This site, therefore, did not possess the features which served to isolate the other eyries from disturbance.

Nine nesting attempts at sites 1, 2 and 3 on the Tanana gave the following measurements: height of nesting site above the river, 180 ft or 55 m (range 150-280 feet or 46-85 m); distance below brink of cliff, 85 ft or 26 m (range 15-100 feet or 6-30 m). Sites 4 thorugh 7 were located on smaller cliffs and average measurements for the four nesting sites were: height of nesting site above the river, 100 ft or 30 m (range 50-175 ft or 13-53 m); distance below brink or cliff, 20 ft or 6 m (range 10-30 ft or 3-9 m). All eyrie sites along the Tanana faced in a westerly or southerly direction.

Behavior of adult peregrines. A considerable difference in behavioral response to intrusion was observed among adult birds during the course of the study. Pairs at eyries 1, 2 and 3 rarely experienced river travelers and readily responded to my presence by calling and flying from the cliff, even when I was a considerable distance from the nesting site (0.25 mi or 0.4 km). Falcons at eyries 4, 5 and 7 did not call or leave the cliff unless a close approach was made by someone walking through the woods in the case of eyries 5 and 7, or entering the small side channel in the case of eyrie 4. The adults at eyrie 6 did not respond to travelers passing less than 100 ft (30 m) below the eyrie on the river. Only when I climbed the cliff and approached close to the actual nesting ledge did the falcons call or fly from the cliff. When I was in the nest with the young, the adult birds flew to the opposite end of the cliff and remained silent.

DISCUSSION

The results of the present study (see Table 1) show a pattern of rapid decline in the number of adults and fledged young. The pattern has three main characteristics: (1) the failure of non-breeding adults to return to previously occupied cliffs, (2) the failure of peregrines from other populations to recolonize cliffs, and (3) the early abandonment of low cliffs that are poorly isolated from human activity.

The first two characteristics are at odds with other reported studies where (1) in declining populations, non-breeding birds frequently were observed to return and occupy cliffs (see Hickey 1969), and (2) peregrines from other localities recolonized empty eyries, especially if the eyries were in desirable locations (Hickey 1942, Ratcliff 1963 and 1972). The failure of birds to recolonize the Tanana Valley area may be related to the failure of other populations of Alaskan peregrines to reproduce successfully. For example, the peregrine population in northern Alaska along the Colville River appears to have suffered a severe decline in the early 1970's (Haugh, unpublished data).

The third characteristic mentioned above is similar to previously reported studies which show that eyries located from human activity are occupied longer than other eyries (Rice 1969), and that eyries located on the largest cliffs are preferentially occupied (Hickey 1942, Ratcliff 1972). Eyries 1, 2 and 3 in the present study (the last to be abandoned) were located on the largest cliffs on the river and were the most isolated. Eyries 4, 5, 6 and 7, as well as eyries 8 through 13 (abandoned rather early) were located either on accessible cliffs or poorly isolated from

disturbing activities. This pattern of abandonment suggests that man has played a role in the decline of the peregrines along the Tanana, perhaps by shooting the adults or otherwise disturbing the nesting birds. Although I have no direct evidence that falcons were shot during my study, spent shotgun shells were found on the tops of eyrie cliffs on four different occasions, and these shells may have been fired at the falcons. Some direct human interference was observed, and, during the 1970 survey, I saw a group of falconers on the river. Rechecking two eyries, I found that four young falcons were missing. I was later informed by the Alaska Department of Fish and Game that these same falconers were known to have removed six young peregrines from the Tanana eyries.

The success of the peregrines at site 6 until 1970, despite significant disturbance below the eyrie (see above) and after sites at other similarly exposed cliffs were abandoned, is of interest. The nearly complete lack of defense exhibited by this pair is probably a reflection of their adaptation to man and the regular activities below the eyrie. The failure of this pair to respond to their activity may have prevented their detection and allowed for their survival after pairs on other low and exposed cliffs along the river had disappeared. Similar examples of the ability of the peregrine to adapt to man, in the absence of other negative factors, can be found in the observations of Hall (1955) and Herbert and Herbert (1965) and the continued success of Spanish peregrines (T. J. Cade, personal communication).

In light of the ability of healthy peregrine populations to adapt to man's presence and recover from heavy predation (see Ratcliffe 1963), the pattern of abandonment and decline observed in the Tanana Valley suggests that the activity of man has hastened (rather than caused) the decline of a population already weakened by other detrimental factors. This view is reinforced by the decline of other more isolated populations, such as the birds along the Colville River. The possibility exists that the organochlorine pesticides, apparently a primary factor in the drastic decline of the British peregrines (Ratcliffe 1963 and 1972), may have influenced the birds along the Tanana.

Cade et al. (1968:177) found in 1966 that Interior Alaskan falcons along the upper Yukon were "perilously balanced near the threshold level of organochloride residues that initiates dysgenic reproductive behavior and eventual population decline." It appears that most residues in Alaskan peregrines are from organochlorides accumulated by the birds in their winter areas in Central and South America (Peakall et al. 1975). Since the Tanana peregrines are part of the Interior Alaskan population with similar ecology, it is possible that residue levels in these birds would be similar to those of the Yukon falcons in 1966. Since the late 1960's the species has been considered too rare for specimens to be collected solely for analysis, but three addled eggs were obtained in 1969 and three more were obtained in 1973 from eyries along the Tanana River. The analysis of these eggs (and eggs obtained from the Colville River as well) has provided evidence that eggshell thinning and organochloride levels are similar to those normally expected to prevent adequate reproduction for population maintenance (Peakall et al. 1975) and suggest

that organochloride contamination may have also influenced the decline of the Tanana River falcons.

The decline of peregrine populations in North America and Europe has generally been associated with peculiar reproductive failures, followed after a time by the disappearance of adults from their nesting cliffs (Hickey 1969). The decline in the number of fledged young from 20 in 1970 to 1 in 1974, and the reduction of adult pairs, suggest that the Tanana falcons may be exhibiting a similar pattern. Without observations at the eyries in June, it is impossible to state with certainty, however, that only one or perhaps two pairs of falcons attempted to nest in 1974. Nevertheless, the failure to locate any sign of birds (i.e. prey remains, excretion, non-breeding adults) at previously occupied sites does strongly suggest this. Moreover, the failure of any eyrie site along the Tanana to be reoccupied once abandoned lends support to the idea that what is involved is not a temporary nesting failure but a permanent loss of breeding pairs. Whether this is the result of reproductive failure and failure of fledglings to survive to enter the breeding population, increased adult mortality, or a combination of these factors is unclear. It is clear, however, that without a dramatic reversal in the present population trend, the extinction of the Tanana River peregrines is likely in the near future.

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Table 1. Falcon reproductivity and eyrie characteristics on the Tanana River, 1970 to 1974.

Eyrie No.	Cliff Accessibility* and Description**	Number of Live Young				
		1970 July 4-16	1971 July 29-Aug. 1	1972 July 25-29	1973 July 6-10	1974 July 20-28
1	AA	3	?	2	1	1
2	AA	3	3	2	1	X
3	AA	3	3	0	3	X
4	AC	1	X	X	X	X
5	AC	4	3	3	3	X
6	CB	2	X	X	X	X
7	BB	4	X	X	X	X
8	BB	X	X	X	X	X
9	BB	X	X	X	X	X
10	CA	X	X	X	X	X
11	CB	X	X	X	X	X
12	CC	X	X	X	X	X
13	BB	X	X	X	X	X
	Total Young	20	9+	7	8	1

Table 1 (continued)

(X) = No adults present at time of survey. (0) = Adults present, no young produced. (?) = Adults present, young fledged at time of observation and could not be located.

*Cliff Accessibility. The first letter in each pair indicates the accessibility of the cliff to human activity or disturbance. (A) = Low accessibility, cliff off main river channel and located where boats are unlikely to pass or on a section of river where fast water or rapids discourages river travel; cliff not readily accessible from land. (B) = Moderate accessibility, cliff on main channel but along a section of river with little river travel, or cliff off main river channel but moderately accessible by land. (C) = High accessibility, cliff on main channel and in area of regular river travel, or cliff readily accessible by land.

**Cliff Description. The second letter of each pair indicates the degree of protection provided by the structure of the cliff for nesting falcons (with respect to climbers or other potential human disturbance). (A) = Cliffs providing maximum protection, over 200 ft (61 m) with sheer faces having several ledges inaccessible except with the aid of ropes and sophisticated climbing techniques. (B) = Cliffs providing moderate protection, under 200 ft (61 m) with most ledges accessible with ropes and minimal climbing ability. (C) = Cliffs providing little protection, under 200 ft (61 m) with ledges accessible without ropes or climbing aids.

Management Summary and Recommendations

The Department should work to obtain endangered species habitat classifications for all traditional peregrine nesting cliffs on the Tanana River between Tok and Nenana.

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WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1974

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

Seasons and Bag Limits

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

Harvest and Hunting Pressure

Thirty-three wolves were taken in Subunit 1A and 10 were taken in Unit 2 during 1974. There was a 27 percent increase over 1973 for Subunit 1A and a decrease of 33.3 percent for Unit 2 (Appendix I). Bounty payments were made during both years and only wolves taken in the unit where the hunter or trapper resided could be bountied. This requirement undoubtedly caused some wolves taken on Prince of Wales Island (Unit 2) by Ketchikan residents to be reported being taken from Subunit 1A.

The wolf harvest in Unit 2 was about evenly distributed from September through March while in Subunit 1A, 30 percent were taken in December and 39 percent during the March-April period. Nine percent were taken in each November and February.

Seventy-three percent of the Subunit 1A wolf take was by trapping and the remaining 27 percent by ground shooting. Eighty-eight percent of the wolves were of the brown-gray color phase and 12 percent were black. In Unit 2, 40 percent were taken by trapping and 40 percent by shooting. Two were run over by logging trucks. Only one (10%) of the wolves taken in Unit 2 was black. The other nine were of the brown-gray color phase.

Composition and Productivity

Males comprised 65 percent of the 31 wolves sealed from Subunit 1A in 1974-75 and 50 percent of the 10 wolves from Unit 2.

Of the 33 Subunit 1A wolves, 17 came from Revilla Island, 14 from the mainland and 2 from Duke Island.

Two flights were made over parts of Revilla Island in early February and two were made over the same area in late March. I would estimate from these flights that there were between 30 and 40 wolves on the island. Only four of the 17 wolves taken on Revilla Island were taken after these flights.

Recommendations

If the bounty payments are to be continued the law requiring the hunter or trapper to reside in the unit where the wolf was taken should be eliminated. This would improve the accuracy of data on location of kill.

No changes are recommended in seasons or bag limits.

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Appendix I

Alaska Wolf Harvest from Mandatory Sealing Records 1971-72 through 1974-75
Units 1A and 2

Subunit-1A

Year	Males	Females	Unknown	Total	% Taken by Trapping	% Black
1971-72	39	23	0	62	77	29
1972-73*	9	12	1	22	64	9
1973-74	12	14	0	26	81	39
1974-75	20	11	2	33	73	12

Unit 2

Year	Males	Females	Unknown	Total	% Taken by Trapping	% Black
1971-72	19	18	5	42	64	No Data
1972-73*	13	15	1	29	62	7
1973-74	7	8	0	15	60	0
1974-75	5	5	0	10	40	10

* Bounties not paid during fiscal 1972-73

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SURVEY-INVENTORY PROGRESS REPORT - 1974

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

Comparison of wolf harvests for Subunit 1D (1971-72 through 1974-75) as derived from sealing documents is shown in Appendix I. Trapping accounted for 73.3 percent of the 15 wolves (9 male, 5 females and 1 unknown) harvested during 1974. This is in contrast to prior seasons when 72 percent of the harvest was taken by ground shooting. Ground shooting accounted for a harvest of two wolves (1 male and 1 female) in Subunit 1C.

Composition and Productivity

No data were available.

Management Summary and Recommendations

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

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APPENDIX I

Comparison of Unit 1D wolf harvest for 1971-72 season through 1974-75 season according to sealing documents.

Chronology of Harvest

Month	Season 1971-72	1972-73	1973-74	1974-75
July	--	--	--	--
August	--	--	--	--
September	1	--	1	--
October	2	--	5	1
November	--	--	3	5
December	1	--	--	7
January	3	2	--	--
February	--	1	1	--
March	--	3	--	1
April	--	1	2	1
May	3	--	--	--
June	--	--	--	--
Totals	10	7	12	15

Method of Take

Ground Shooting	7	4	10	3
Trapping	2	3	1	11
Snaring	--	--	--	1
Other	1	--	1	--
Totals	10	7	12	15

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 5 - Yakutat

Seasons and Bag Limits

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

Harvest and Hunting Pressure

Nine wolves (4 males and 5 females) were reported taken by ground shooting in Unit 5 during 1974.

Composition and Productivity

Wolf numbers and track observations made during this reporting period are presented below.

Date	No. and Type of Observation	Area	Observers
2/26/75	20 wolves*	Dry Bay	John Winters
3/10/75	4 wolves*	Seal Creek	John Winters
3/14/75	6 wolves*	Mouth Italio R.	David Johnson
3/16/75	25 sets tracks & 7 wolves	Situk R. to Deception Hills	D. Johnson & Don Strode
3/17/75	3 wolves*	Johnson's Slough	Tom Nichols
3/20/75	19 wolves*	Arhrklin R.	John Winters

* Sightings made in association with moose kill.

Management Summary and Recommendations

More information is needed on the effects of wolf predation on moose populations.

The current annual harvest is insignificant to the wolf population and no changes in seasons or bag limits are recommended.

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SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 6 - Prince William Sound

Season and Bag Limits

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

Harvest and Hunting Pressure

Four wolves were taken in Unit 6 during the 1974-1975 season. One trapper, trapping wolverine via Super Cub, accounted for all four animals. No other known effort was exerted to take wolves.

Composition and Productivity

No data were available.

Management Summary and Conclusions

The status of the wolf population in Unit 6 is unknown. Since the introduction of moose to the Copper River Delta, wolves have been permanent residents, primarily feeding on moose and goats. For the past 3 or 4 years it has appeared that there are from 2-4 packs of wolves east of the Copper River. They do not appear to be increasing. The wolf population in Unit 6 is probably less than 20 animals.

Recommendations

Retain the current seasons and bag limits.

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SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 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	No open season	

Harvest and Hunting Pressure

The first open hunting season since 1961 resulted in the harvest of 6 wolves in Game Management Units 7 and 15. The harvest was composed of 5 males and 1 female. One female wolf was taken in Unit 7, one male in Subunit 15A and four males in Subunit 15C.

Two hundred and thirty-eight permits were issued. Permits were available without limit throughout the hunting seasons. Most permits were obtained by persons so that they could take a wolf if they had the opportunity, very few actually hunted for wolves.

Composition and Productivity

A wolf census utilizing the track survey method outlined by Bob Stephenson was conducted March 6-9 following fresh snow received on March 5, 1975. Tracks of 16 packs totaling 74-84 wolves were observed. Pack size ranged from 2-12 and averaged 4.9 (Appendix I).

In Unit 7 only the major drainages and the caribou wintering area on Big Indian Creek were surveyed. In Unit 15 none of the mountainous areas were surveyed and fog prevented surveying parts of the Caribou Hills and Ninilchik Dome area. Less than 80 percent of the wolf range in Units 7 and 15 was surveyed. Considering that the survey was incomplete, these data can only be used for a minimum population estimate. A more realistic estimate of the population can be made by expanding the total number by 25 percent. Projecting the population on this basis would give 20 packs totaling 92-105 wolves and a density of one wolf/50-57 mi^2. These densities compare favorably with densities in Interior Alaska where Robert Stephenson reported in the neighborhood of one wolf/50 mi^2.

Population estimates back to 1968 are presented in Appendix II.

Management Summary and Conclusions

Although the survey revealed 16 packs totaling 74-84 wolves these figures should be used only as minimums. A more realistic estimate of the population is 20 packs totaling 92-105 wolves. The relatively low average pack size of 4.9 may have been the result of pack splitting associated with mating since the survey was conducted close to breeding time.

As mentioned in the 1973 Survey-Inventory report 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 level that maintains their competition with hunters at an acceptable level yet insures a secure healthy wolf population.

Recommendations

Wolves should be harvested to provide a spring breeding population of about 50 and 20 in Units 15 and 7, respectively.

Since hunters harvested only 6 wolves during the 1974-75 season trapping should be initiated to provide a more realistic harvest. At least 30 wolves should be harvested in the 1975-76 season.

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APPENDIX I. Wolf - Game Management Units 7 and 15 - Kenai Peninsula Wolf Survey Data.

Survey Area	Date	Flight Time	Mi^2 of Wolf Range	Number of Packs	Pack Sizes	Total Wolves Enumerated	Sq. Mi. Per Wolf
7	3/6/75	6.2	1,700	4	3,3,4,7-9	20-22	77-85
15 (A)	3/6/75	6.8	1,300	3	4,10,3-4	17-18	72-76
15 (B)	3/7 & 9/75	5.2	900	6	2,2,6,4,2,8-12	22-26	35-41
15 (C)	3/8/75	3.2	1,300	3	1,6-8,8-9	15-18	72-87
Total 7 & 15		21.4	5,200	16		74-70	

APPENDIX II. Wolf observations and population estimates.

Year	Population Estimates	Remarks
1961	?	1 wolf observed by Dept. Biologist on moose surveys.
1962-67	?	Occasional reports of wolves or wolf tracks but most thought to be non-reliable reports.
1968	10	One pack of 10 wolves observed by Dept. Biologist while surveying moose.
1969	10-15	One pack of 9 observed near Fox River and tracks of a pack of 4 observed at head of Tustumena Lake.
1970	15-25	Numerous reports and observations of wolves and tracks south of Kenai River.
1971	25-35	Numbers about the same or slightly higher south of Kenai River spreading into 15 (A) and Unit 7.
1972	35-60	Wolves appear to be well established in all of Unit 15 and northwest part of Uni
1973-74	70-80	Based on expansion of survey data.
1974-75	90-105	Based on expansion of Appendix I data by 25%.

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SURVEY-INVENTORY PROGRESS REPORT - 1974

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

The reported 1974-75 harvest of wolves from Unit 9 was 52 (Appendix I). Males predominated in the known sex harvest (63.5 percent) and ground shooting accounted for 92.3 percent of the animals. As in previous years, the majority of the harvest (65.4 percent) occurred between January and March. Historical data are presented in Appendix II.

Composition and Productivity

No data were available.

Management Summary and Conclusions

The incidental sport harvest of wolves during the fall big game seasons continued to increase in 1974-75. This reflects both increased interest by sport hunters and a healthy overall wolf population for the unit. Snow conditions during the winter months favored ground shooting by airborne trappers and contributed to the high level of harvest. Traditional trapping techniques produced only four animals.

The present level of harvest is not considered to be excessive. Observations by Department personnel and local residents indicate the unit continues to support a healthy wolf population.

Recommendations

No changes in seasons or bag limits are recommended.

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

APPENDIX I

1974-75 Wolf Harvest

Harvest

Males - 33 Females - 14 Unknown - 5 Total - 52

Chronology by Month

Month	Number	Percent	Month	Number	Percent
July	-	-	January	11	21.2
August	-	-	February	14	26.9
September	5	9.6	March	9	17.3
October	9	17.3	April	2	3.8
November	1	1.9	May	-	-
December	1	1.9	June	-	-
			Unknown	-	-
			Total	52	99.9

Method of Take	Number	Percent
Ground Shooting	48	92.3
Trapping	4	7.7
Snaring	-	-
Other	-	-
Total	52	100.0

Color of Wolves Taken	Number	Percent
White	3	5.8
Brown	3	5.8
Gray	40	76.9
Black	6	11.5
Unknown	-	-
Total	52	100.0

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

Appendix II

Historical Wolf Harvest, 1961-1975

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

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

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WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1974

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

A single wolf was reported harvested during the 1974-74 hunting season. No wolves were taken by trapping and this is only the second wolf reported taken in the unit since 1961-62.

Composition and Productivity

No data were available.

Management Summary and Conclusions

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

Recommendations

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

Recommendations

No changes in seasons or bag limits are recommended.

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SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 11 - Wrangell Mountains - Chitina River

Seasons and Bag Limits

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

Harvest and Hunting Pressure

Thirty-four wolves were reported harvested during the 1974-75 season. Harvest data from 1966-67 through 1974-75 are summarized in Appendix I. Annual wolf harvest reports have fluctuated sharply, although these fluctuations were largely due to differing harvesting techniques authorized, differing methods of recording the harvests, differing levels of hunting pressure and differing snow conditions that affected wolf vulnerability to aerial hunting (McIlroy 1974). During recent years most wolves were taken by trappers. No increasing or decreasing trends are apparent in percentage of males in the harvest. A tabulation of the harvest locations (not shown) revealed the 1973-74 harvest to have been well dispersed over the drainages of Unit 11.

Abundance, Composition and Productivity

Mean pack size has been hypothesized to be proportional to wolf abundance. Data in Appendix II illustrate a decreasing pack size over a 3-year period. The sample size during 1974-75 was too small to be meaningful.

Management Summary and Conclusions

Aside from harvest data, there has been little information obtained about wolves in Unit 11. Indications are that wolves are abundant. The harvest was dispersed over Unit 11 and does not appear to be high considering the apparent abundance.

Recommendations

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

LITERATURE CITED

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

PREPARED BY:

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SUBMITTED BY:

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APPENDIX I

Wolf Harvest Data from 1966-67 through 1974-75 for GMU 11

	1966-67[a]	1967-68[a]	1968-69[a]	1969-70[b]	1970-71[b]	1971-72[c]	1972-73[c]	1973-74[c]	1974-75[c]
Total Wolf Harvest:	70	40	7	10	23	56	48	28	34
Percent Males in Harvest, (Number)[d]:	51%(36)	53%(21)	86%(6)	50%(5)	61%(14)	57%(32)	42%(20)	71%(20)	53%(18)
Number Sex Unknown:	0	1	0	0	0	1	1	0	0
Ratio Blacks to 100 Grays:	43	29	17	--	--	59	26	35	45
Method of Kill, Percent (Number):									
Aerial Shooting:	80%(56)	55%(22)	0%(0)	100%(10)	100%(23)	30%(17)	0%(0)	0%(0)	0%(0)
Ground Shooting:	7%(5)	30%(12)	0%(0)	--	--	18%(10)	8%(4)	18%(5)	27%(9)
Trapping/Snaring:	13%(9)	15%(6)	100%(7)	--	--	52%(29)	92%(44)	82%(23)	73%(25)

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

PREPARED BY: Carl McIlroy, Game Biologist III

APPENDIX II

Comparison of Data Derived from Pack Observations for the years 1971-72 through 1974-75 - GMU 11.*

	1971-72	1972-73	1973-74	1974-75
Number of Wolf Packs Sighted:	10	9	8	3
Mean Pack Size:	7.6	3.8	3.3	4.3
Range of Pack Sizes:	2-15	1-13	1-8	1-8

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

PREPARED BY: Carl McIlroy, Game Biologist III

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 12 - Upper Tanana-White River

Seasons and Bag Limits

Hunting	Aug. 10 - April 30	2 wolves
Trapping	Oct. 1 - April 30	No limit

Harvest and Hunting Pressure

The harvest in Unit 12 during the 1974-75 season consisted of 19 males, 20 females and 1 of undetermined sex. According to sealing records, trapping and ground shooting accounted for 87.5 and 10.0 percent, respectively, of the wolves taken. In 2.5 percent of the cases the method of take was not recorded. Wolves of the black color phase were most commonly taken and accounted for 47.5 percent of the season's harvest. Gray and brown color phases comprised 37.5 and 15.0 percent, respectively, of the harvest.

Wolf harvest and pack size as determined from sealing documents appear in Table 1.

Table 1. Wolf harvest and pack size by drainage in Unit 12, 1974-75.*

Drainage	Harvest	Average Pack Size
Beaver Creek	6	5
Chisana River	10	4
Nabesna River	6	3
Tanana River	1	-
Tok River	3	2
White River	2	1

*Harvest figures presented here are from wolves sealed in Tok and do not represent the total kill for Unit 12.

Management Summary and Recommendations

Trapping effort throughout Unit 12 did not appear to decline during 1974-75. The reported harvest remained about the same as last year and approximately equaled the 14-year average of 37 animals. Pack size data, harvest levels, conversations with trappers and casual observations suggest the wolf population may have declined from the high levels experienced during the 1973-74 period. While intensive trapping effort may have contributed to the suspected population decline, it is unlikely that trapping was a major factor except in local instances. In view of the ungulate calf survival in much of Unit 12, a depressed wolf population would appear to be desirable, therefore, no changes in seasons or bag limits are recommended at this time.

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WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1974

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 three wolves were reported harvested during the 1974-75 season. Considering that aerial hunting was not authorized during 1974-75, this year's harvest was relatively high. Harvest data from 1965-66 through 1974-75 are compared in Appendix I. The various harvest reporting systems and the variations in allowed harvesting techniques during the mid-1960's through the early 1970's make the total harvest figures of reduced value for any trend comparisons. It is evident, however, that larger harvests have occurred in the past when both aerial and ground harvesting techniques were allowed and reported. The percentage of males in the harvests has fluctuated around 50 percent with no apparent trend. The ratio of black to gray wolves (Appendix I) appears to show a correlation with apparent wolf abundance (Appendix II). Black/gray ratios were much higher during the mid-1960's, when the wolf population reached its peak abundance, than they were during the early 1970's when wolves suffered a major decline in abundance. A plot of each kill on a map (Fig. 1) revealed the 1974-75 harvest to be well dispersed except for heavy harvesting around Tonsina Lake-Tonsina River and around the Nelchina River.

Abundance, Composition and Productivity

Comparisons of available data derived from wolf pack observations and wolf censuses for the years 1960-61 through 1974-75 are shown in Appendix II. Mean pack size has been hypothesized to be proportional to wolf density. Other abundance indices may be the range of pack sizes and wolf per hour values found during aerial wolf censuses. No index is completely reliable, but these combined indices support the view that wolf numbers peaked during the period 1964 to 1972. The above mentioned indices correlate with data from wolf population censuses. Census data, coupled with subjective population assessments, suggest that there were two peaks of wolf abundance. One peak apparently occurred during 1965-66 and another apparently occurred during 1970-71. The reduction in wolf numbers during 1966-67 was probably due to legal and illegal aerial hunting coupled with poor pup survival. Only one of several wolf dens checked during the summers of 1972 and 1973 was active, suggesting that poor pup survival was a factor in the low 1973 census value.

Several active wolf dens were found during 1974, but wolf-related activities were high due to the initiation of wolf research in this area; observations this year may not be comparable to previous years.

Management Summary and Conclusions

The current wolf harvest is relatively high but still inadequate to control wolf numbers in the absence of aerial hunting. Combined information suggests that wolves have been fluctuating at a level of abundance since the mid-1960's, possibly controlled by natural limits of territory size and pup survival. Continued declines in moose calf survival in recent years have caused a reassessment of the wolf as a major limiting factor to Alaska's ungulate species. Wolf research in Unit 13 was intensified this year to more precisely describe the conditions and extent of wolf control on moose numbers, primarily, and on sheep and caribou, secondarily.

Recommendations

The wolf research program presently underway in portions of the Nelchina Basin should be continued for a minimum of 3 years. Results of this study should provide us with increased knowledge and further data needed to better assess the status of this species.

PREPARED BY:

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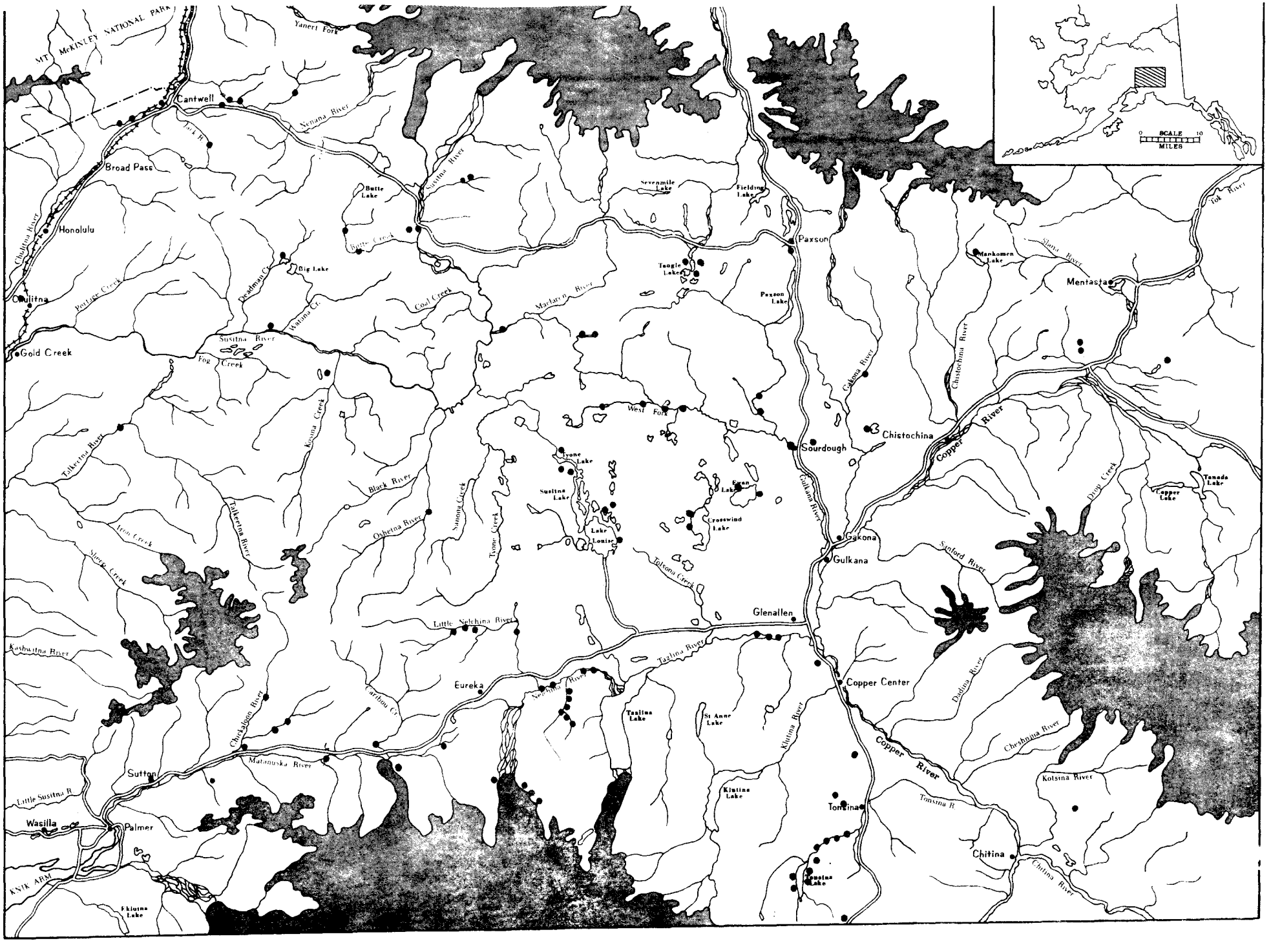
SUBMITTED BY:

John S. Vania
Regional Management Coordinator

Figure 1. Kill locations of 95 wolves killed in Unit 13 during 1974-75. A total of 102 wolves were reported killed, but harvest locations of some wolves were not reported.



APPENDIX I

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

	1965-66[a]	1966-67[a]	1967-68[b]	1968-69[c]	1969-70[d]	1970-71[d]	1971-72[e]	1972-73[f]	1973-74[f]	1974-75[f]
Total Wolf Harvest:	64	31	120	1	41	91	111	80	75	103
Males in Harvest, Percent (No.):	68%(43)	65%(20)	56%(67)	-	39%(16)	49%(44)	58%(61)	44%(35)	54%(40)	52%(54)
Unknown Sex:	1	0	1	0	0	1	5	0	1	0
Number Blacks/ Number Grays:	32/26	16/15	45/69	-	-	-	11/68	16/58	23/49	20/77
Ratio Blacks to 100 Grays:	123	107	65	-	-	-	16	28	47	26
Method of Kill, Percent (no.), Aerial Shooting:	-	-	65%(78)	-	100%(41)	100%(91)	41%(46)	-	-	-
Ground Shooting:	3%(2)	13%(4)	8%(9)	-	-	-	20%(22)	25%(20)	29%(22)	40%(41)
Trapping/Snaring:	97%(62)	84%(26)	28%(33)	-	-	-	39%(43)	71%(57)	71%(53)	58%(60)
Other:	-	3%(1)	-	-	-	-	-	4%(3)	-	2%(2)

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

PREPARED BY: Carl McIlroy, Game Biologist III

APPENDIX II

Comparisons of the Available Data from Wolf Pack Observations in GMU 13, 1960-61 through 1974-75[a]

	1960-61	1961-62	1965-66	1966-67	1970-71	1971-72	1972-73	1973-74	1974-75
Mean Pack Size:	4.8	3.9	9.7	4.7	7.0	5.0	2.6	3.3	4.3
Range of Pack Sizes:	-	1-10	2-36	1-15	1-23	1-16	1-7	1-5	1-14
Hours per Wolf Sighting:	2.0	1.7	-	0.7	0.5	8.4	3.6	1.5	—
Total Hours/Total Wolves:	38/19	57/33	-	36.5/52	43.6/89	58.5/7	61.7/17	39.5/26	—
Sample Size, Packs:	18	27	22	21	29	14	21	8	32
Population Estimate:[b]	79 min.	135 min.	400-450	300	Peak Abundance	Reduced Abundance	Reduced Abundance	207 min.	—

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

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

PREPARED BY: Carl McIlroy, Game Biologist III

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 14 - Upper Cook Inlet

Seasons and Bag Limits

Hunting:

Subunit 14A & 14B	Aug. 10 - April 30	Two wolves
Subunit 14C in Chugach State Park	No open season	

Trapping:

Subunit 14A & 14B	Oct. 1 - April 30	No limit
Subunit 14C in Chugach State Park	No open season	

Harvest and Hunting Pressure

Twenty-four wolves (13 males, 10 females and 1 of unknown sex) were reported taken in Game Management Subunits 14A and B during the 1974-75 season (Appendix I). No wolves were harvested in Subunit 14C. Fourteen (58.3 percent) were taken by ground shooting and the remaining 10 were taken by trapping or snaring. This is the geatest reported harvest from Unit 14 since the 1966-67 season when 30 wolves were bountied from this unit. The harvest of 24 wolves is well above the previous 12-year average of 11.2 wolves/year.

The 1974-75 harvest was significantly affected by three hunter-trappers who took 11 wolves at Hatcher Pass on March 8, 1975. The animals accounted for 61.1 percent of the wolves taken in Subunit 14A.

Eighteen of the wolves harvested during the 1974-75 season were taken in Subunit 14A and 6 in Subunit 14B.

Chronology of harvest data indicates that 17 (70.8 percent) of the wolves were taken during March and 5 (20.8 percent) were taken in December.

At least one additional wolf is known to have been taken by a hunter in Subunit 14A, but it was not presented to the Department for sealing.

Composition and Productivity

Pack sizes during the 1974-75 season were reported by successful hunters and trappers in nine instances (Appendix III). The pack sizes ranged from 1 to 12 with an average of 5.2 wolves per pack. Reported

pack sizes were larger than previous years (2.9 in 1971-72, 2.5 in 1972-73, and 4.4 in 1973-74). Only two single wolves were reported taken during the 1974-75 season. All average pack sizes were calculated including single wolves.

Management Summary and Conclusions

The 1974-75 harvest of 24 wolves was the second highest reported harvest for Unit 14 since these data were collected beginning with the 1962-63 season. It is also the greatest reported harvest for Subunits 14A and B in the 3 years for which the subunit breakdown is available. The taking of 11 wolves at Hatcher Pass by three hunter-trappers, one of whom reported using a snow machine, significantly increased the harvest. Most (70.8 percent) of the 1974-75 harvest occurred during March.

The average pack size of 5.2 wolves per pack was the highest reported in 4 years and continues an upward trend in reported pack sizes.

Other indices, such as reports of wolf activity in Subunit 14A, combined with harvest data suggest that the wolf population in Subunits 14A and B is higher that it has been in recent years.

Recommendations

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

No changes in bag limits are recommended at this time.

PREPARED BY:

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SUBMITTED BY:

John S. Vania
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Appendix I. Wolf Harvest from Bounty Records, Aerial Wolf Permit Returns, and Wolf Sealing Certificates for the Entire Game Management Unit 14, 1962-63 through 1974-75 and Game Management Subunits 14A,14B, 14C, 1972-73 through 1974-75.

Regulatory Year	Game Management Unit 14				Game Management Subunits 14A and 14B only				14C
	Male	Female	Unknown	Total	Male	Female	Unknown	Total	Total On
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	2
1973-74****	7	1	0	8	6	1	0	7	1
1974-75****	13	10	1	24	13	10	1	24	0

* 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, Game Biologist III

Appendix II. Wolf Harvest by Sex, Chronology, and Method of Take in Alaska's Game Management Subunits 14A and B During the 1974-75 Season.

HARVEST	14A		14B		Total 14A & B	
	No.	%	No.	%*	No.	%*
Males	10	55.6	3	60.0	13	56.5
Females	8	44.4	2	40.0	10	43.5
Unknown Sex	0	----	1	----	1	----
TOTAL	18	100.0	6	100.0	24	100.0
CHRONOLOGY BY MONTH						
September	0	0.0	0	0.0	0	0.0
October	1	5.6	0	0.0	1	4.2
November	0	0.0	0	0.0	0	0.0
December	5	27.8	0	0.0	5	20.8
January	0	0.0	0	0.0	0	0.0
February	1	5.6	0	0.0	1	4.2
March	11	61.1	6	100.0	17	70.8
TOTAL	18	100.1	6	100.0	24	100.0
METHOD OF TAKE						
Ground Shooting	9	50.0	5	83.3	14	58.3
Trapping	4	22.2	1	16.7	5	20.8
Snaring	5	27.8	0	0.0	5	20.8
TOTAL	18	100.0	6	100.0	24	99.9

* Percentage based on known sex wolves.

PREPARED BY: Jack C. Didrickson, Game Biologist III

Appendix III. Wolf Pack Sizes* as Reported by Successful Hunters in Alaska's Game Management Subunits 14A and 14B, 1971-72 through 1974-75.

Year	Number of Packs in Sample	Range of Pack Sizes	Average Pack Size
1971-72	8	1 - 8	2.9
1972-73	13	1 - 10	2.5
1973-74	5	1 - 9	4.4
1974-75	9	1 - 12	5.2

* Includes single wolves.

PREPARED BY: Jack C. Didrickson, Game Biologist III

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1974

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

Forty-one wolves (20 males, 18 females and 3 of unknown sex) were reported taken in Game Management Unit 16 during the 1974-75 season (Appendix I). This was the third largest harvest from Unit 16 since the 1962-63 season when these data first became available. The average harvest during the period 1962-63 through 1973-74 was 28.7 wolves per year.

Three of the wolves harvested during the 1974-75 season came from Subunit 16A and 38 were taken in 16B (Appendix II).

One (33.3 percent)) of the Subunit 16A and 30 (78.9 percent) of the 16B wolves were taken by ground shooting. The remaining wolves were trapped or snared except one wolf that was hit and killed by a motorized vehicle in Subunit 16B.

Chronology of harvest data indicates 18 wolves (43.9 percent) were taken during the month of March, 9 (22.0 percent) during February and 6 (14.6 percent) during April. The remainder were scattered throughout the season except that no wolves were taken during October.

Composition and Productivity

Pack sizes during the 1974-75 season were reported by successful hunters and trappers or by Department personnel (from field observations) in 36 instances. Pack sizes ranged from 1 to 18 with an average of 5.9 wolves per pack. Only 8.3 percent of the wolves were alone at the time of observation. This is the largest reported average pack size since these data were first collected during the 1971-72 season. In a very small sample of 7 packs the average pack size was 2.0 wolves per pack during the 1973-74 season. All average pack sizes were computed including single wolves.

Management Summary and Conclusions

The 1974-75 harvest of 41 wolves was the largest reported harvest since the 1967-68 season when 66 wolves were taken. It was well above the previous 12-year average of 28.7 wolves/year. Trapping and snaring accounted for 22 percent of the Unit 16 wolf harvest in 1974.

The average pack size during the 1974-75 season was at the highest level in the 4 years since these data have become available. The number of packs observed from which these data were collected (36) is also the largest sample on record. The number of lone wolves (3 or 8.3 percent) was the lowest on record during this 4-year period.

Observation trends and harvest information indicate the wolf population in Unit 16 is increasing at this time.

Recommendations

No changes in bag limits or season length are recommended.

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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 1974-75.

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

* Harvest data compiled from bounty records.

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

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

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

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

PREPARED BY: Jack C. Didrickson and Don Cornelius
Game Biologist III and Game Biologist II

Appendix II. Wolf Harvest by Sex, Chronology, and Method of Take in Alaska's Game Management Subunits 16A and 16B During the 1974-75 Season.

HARVEST	16A No.	16A %*	16B No.	16B %*	Total Unit 16 No.	Total Unit 16 %*
Males	1	50.0	19	52.8	20	52.6
Females	1	50.0	17	47.2	18	47.4
Unknown Sex	1	----	2	----	3	----
TOTAL	3	100.0	38	100.0	41	100.0
* Percentage based on known sex wolves.						
CHRONOLOGY BY MONTH						
September	0	0.0	2	5.3	2	4.9
October	0	0.0	0	0.0	0	0.0
November	0	0.0	2	5.3	2	4.9
December	0	0.0	3	7.9	3	7.3
January	0	0.0	1	2.6	1	2.4
February	2	66.7	7	18.4	9	22.0
March	1	33.3	17	44.7	18	43.9
April	0	0.0	6	15.8	6	14.6
TOTAL	3	100.0	38	100.0	41	100.0
METHOD OF TAKE						
Ground Shooting	1	33.3	30	78.9	31	75.6
Trapping	2	66.7	5	13.2	7	17.1
Snaring	0	0.0	2	5.3	2	4.9
Other*	0	0.0	1	2.6	1	2.4
TOTAL	3	100.0	38	100.0	41	100.0

* One male was hit and killed by a motorized vehicle.

PREPARED BY: Jack C. Didrickson and Don Cornelius
Game Biologist III and Game Biologist II

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 1974-75.

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%

* Includes single wolves.

PREPARED BY: Jack C. Didrickson and Don Cornelius
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WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 17 - Bristol Bay

Seasons and Bag Limits

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

Hunting, Trapping and Harvest Pressure

The harvest of 111 wolves from Unit 17 represented a better than five-fold increase over the unit's established harvest pattern (Appendices I and II). Ground shooting accounted for 93.7 percent (104 wolves) of the harvest and trapping the remaining 6.3 percent (7 wolves). All but three wolves were taken during the period February through April. The sexes were nearly equally represented in the harvest.

Composition and Productivity

No data were available.

Management Summary and Conclusions

The record harvest of 111 wolves was the result of high fur prices, snow conditions that favored ground shooting by the airborne trapper and an intense effort by a few individuals to harvest wolves. About two-thirds of the harvest was accomplished by three persons. The 1974-75 level of harvest is probably excessive for the unit's wolf population to support over a continuous period. When snow conditions develop that favor the use of light aircraft as a harvest tool, it may be desirable to restrict this method of transportatiion. A bag limit on the number of wolves trapped with the aid of aircraft or closure of the trapping season during a portion of the late winter could also restrict the harvest level. Harvest by traditional trapping methods and sport hunting remains low and does not represent a significant impact upon the unit's wolf population.

Recommendations

No changes in season or bag limits are recommended.

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SUBMITTED BY:

John S. Vania
Regional Management Coordinator

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

APPENDIX I

1974-75 Wolf Harvest

Harvest

Males - 56 Females - 54 Unknown - 1 Total - 111

Chronology by Month

Month	Number	Percent	Month	Number	Percent
July	-	-	January	-	-
August	-	-	February	28	25.2
September	-	-	March	64	57.7
October	1	0.9	April	16	14.4
November	-	-	May	-	-
December	2	1.8	June	-	-
			Unknown	-	-
			Total	111	100.0

Method of Take	Number	Percent
Ground Shooting	104	93.7
Trapping	7	6.3
Snaring	-	-
Other	-	-
Total	111	100.0

Color of Wolves Taken	Number	Percent
White	3	2.7
Brown	11	9.9
Gray	79	71.2
Black	18	16.2
Unknown	-	-
Total	111	100.0

Prepared by:

Jerome J. Sexton
Game Biologist II

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

APPENDIX II

Historical Wolf Harvest, 1961-1975

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

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

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

WOLF

SURVEY-INVENTORY PROGRESS REPORT 1974

Game Management Unit 18 - Yukon - Kuskokwim Delta

Seasons and Bag Limits

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

Harvest, Trapping and Hunting Pressure

The reported 1974-75 harvest of wolves in Unit 18 was four (3 males and 1 female). All were taken in February and three of the four wolves taken were trapped. Wolves, although relatively uncommon in Unit 18, were reported as far down the Kuskokwim as Bethel during winter 1974-75. One was shot within the city limits of Bethel. Sightings of wolves on the tundra and along the Kuskokwim were more prevalent this winter than in the recent past.

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 - 1974

Game Management Unit 19 - McGrath

Seasons and Bag Limits

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

Harvest, Trapping and Hunting Pressure

Demand for wolf fur stimulated increased interest in trapping and hunting in Unit 19 during winter 1974-75. The wolf harvest for this reporting period was 40 males and 23 females, for a total of 63 animals (Appendix I). Deep powder snow throughout most of the winter, along with intermittent fresh snowfall in the spring months, aided ground hunters who accounted for more than 90 percent of the harvest.

Composition, Productivity and Distribution

Aerial wolf surveys were limited to a few flights during February and March 1975. All of these surveys were made in the Holitna, Stony and Swift River areas. Wolves were not as abundant in the Holitna drainage as they were in spring 1974. However, a large part of the Mulchatna caribou herd spent most of the winter on the upper Stony River and Hoholitna River, attracting many wolf packs into this area. While the appearance of numerous caribou may have been involved in the shifting wolf population, I believe snow conditions also had much to do with wolf movements. Deep powder snow in the Hoholitna and Holitna drainages restricted wolf activity to a great extent. Adjacent areas such as the King Salmon, Nushagak and Upper Mulchatna watersheds were windpacked and more easily traversed, as were the foothills of the Stony River where wolf sign was abundant.

Management Summary and Recommendations

Harvest of wolves in Unit 19 increased over the low level of the 1973-74 season. An intensified demand for wolf furs, along with favorable snow conditions, played an important role in both hunter interest and wolf distribution. Wolf predation in the Holitna drainage appeared to have been alleviated by wolf movement into adjacent watersheds where snow conditions and availability of prey species were more suitable. No change in seasons or bag limits is recommended at this time.

PREPARED BY:

Peter E.K. Shepherd
Game Biologist III

SUBMITTED BY:

Oliver E. Burris
Regional Management Coordinator

Appendix I. Wolf - Game Management Unit 19 - McGrath, wolf harvest, chronology and method take, 1974-75*.

Males	Females	Unknown	Total
40	23	0	63

Chronology by Month

Month	Number	Percent	Month	Number	Percent
July	--	--	January	3	3.2
August	--	--	February	12	19.0
September	2	3.2	March	21	33.3
October	3	4.8	April	11	17.5
November	8	12.7	May	--	--
December	3	4.8	June	--	--
			Unknown	--	--
			Total	63	100.0

Method of Take	Number	Percent
Ground shooting	58	92.1
Trapping	2	3.2
Snaring	3	4.8
Other	--	--
Total	63	100.0

*data from sealing records

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 20 - Fairbanks, Central Tanana

Seasons and Bag Limits

Hunting	Aug. 10 - April 30	2 wolves
Trapping	Oct. 1 - April 30	No limit

Harvest, Trapping and Hunting Pressure

The number of wolves presented for sealing indicates a harvest of 291 animals in Unit 20 for the 1974-75 hunting/trapping season, consisting of 156 males, 126 females and 9 of unknown sex. This represents a slight decrease (4%) from the 1973-74 harvest of 304. The sex composition of the current harvest (55% males) showed little change from the previous season (51% males).

Appendix I summarizes subunit harvests, chronology, method of harvest and color of wolves taken. Distribution of the harvest among the four subunits was similar to that of 1973-74. Game Management Subunit 20C, representing the largest area, contributed 183 wolves, or 63 percent of the unit harvest (compared to 68% the previous season). Trapping and snaring accounted for 83 percent of the total take. Although 15 percent of the wolves were reported taken by ground shooting, evidence of shotgun pellets penetrating the dorsal portion of several pelts suggests that some of these were taken from the air. Among wolves of known coloration, 72 and 23 percent were of the gray and black color phases, respectively.

The percentages of known-date harvests for the 5-month period from November-March are as follows: November, 10 percent; December, 17 percent; January, 17 percent; February, 20 percent and March, 24 percent. Wolf trapping effort and success occurred slightly later in the winter during the 1974-75 season than in previous years.

Appendix II lists those areas furnishing significant numbers of wolves to the 1974-75 harvest. Harvest density remained high within traditional areas in the central Alaska Range (Wood River, Dry Creek, Nenana River, Yanert River) and western Alaska Range (Kantishna and Toklat Rivers), Fortymile, Chena, Healy, Birch and Beaver Creek drainages. However, several areas receiving little or no trapping effort in the past (Charley River, Zitziana River, Cosna River and Goldstream Creek) yielded a relatively large number of wolves. An influx of trappers into these areas may account for this trend, especially in the Goldstream area north of Fairbanks where excessive mortality of local dogs (approximately 30) resulted from predation by a pack of 6 wolves between September 1974 and February 1975. Intensive trapping effort in this vicinity removed 10 wolves.

Population Trends

Pack size may be used as an index to population fluctuation and relative abundance assuming that: (1) trappers/hunters are reasonably accurate in reporting size of packs and (2) discrete packs can be identified when two or more trappers may be harvesting from the same packs. Table 1 summarizes the frequency distribution of wolf packs in each subunit during the 1974-75 season.

Table 1. Frequency distribution of wolf packs, GMU 20, 1974-75 season, compiled from data obtained from sealing certificates.

Subunit	Total Packs (2 or more wolves)	Percent wolves in packs of 8 or more
20A	12	58
20B	17	24
20C	69	26
20D	5	20
Total	103	29

Pack size in Subunit 20A was considerably larger than in the remainder of the unit. Wolf density may indeed be higher in the area due to increased availability of ungulate prey species. Trappers reported 12 packs in Subunit 20A totaling 105 wolves prior to the hunting/trapping season. This should be considered a minimum figure because additional packs may not have been detected in the extreme eastern and western portions of Subunit 20A because they are not within established traplines. Removal of 51 wolves from this subunit in 1973-74 apparently had little effect in depressing wolf numbers, as trappers reported high wolf densities in traditional trapping areas.

Table 2 summarizes frequency distribution of wolf packs in Unit 20 (all subunits combined) for the 4 years following the establishment of the sealing program.

Table 2. Frequency distribution of wolf packs, GMU 20, 1971-75 regulatory years. Compiled from data obtained from sealing certificates.

Year	Total Packs (2 or more wolves)	Percent wolves in packs of 8 or more
1971-72	91	32
1972-73	70	27
1973-74	81	31
1974-75	103	29

Although the number of packs in the unit increased substantially from the 1973-74 season (probably reflecting expanded trapping effort into previously unharvested areas) pack size varied little during the

past four seasons. Population increase may be occurring in portions of the unit (20A); nevertheless, wolf numbers appear to have stabilized.

Management Summary and Recommendations

Predator-prey relationships in Unit 20 have reached the point where long-term management goals for moose cannot be achieved without implementing immediate procedures to reduce wolf numbers. Poor calf production and survival indicate a declining moose population throughout most of Unit 20. Limited research in Subunit 20A indicates that wolf predation may be a significant factor in depressing the moose population. Annual harvests of approximately 300 wolves the past 3 years have failed to reduce wolf density. Measures to reduce the wolf population are now necessary to augment conventional trapping/hunting methods in reducing the impact of wolf predation.

Management goals for most of the unit are to maintain a viable wolf population for recreational and economic return to trappers while minimizing competition between wolves and man for the same ungulate prey species. Liberal seasons and bag limits should be maintained for both ground and aerial harvest means.

Data on pack size, movements and food habits of wolves should be obtained from trappers to supplement proposed department studies in Subunit 20A.

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SUBMITTED BY:

Oliver E. Burris
Management Coordinator

Appendix I. Unit 20 wolf harvest, 1974-75 regulatory year. Compiled from data obtained from sealing certificates.

	No. Taken			Color				Chronology		Method of Harvest		
	M	F	Unk.	Gray	Black	Brown	White	Month	No. Taken	Ground Shooting	Trapping	Snaring
GMU 20 A	33	20	6	40	12	5	2	Aug.	0			
								Sept.	2	8	30	21
								Oct.	0			
								Nov.	5			
								Dec.	8			
								Jan.	6			
								Feb.	13			
								Mar.	14			
								Apr.	11			
GMU 20B	17	21	1	33	5	1	0	Aug.	0	6	10	20
								Sept.	2	*2 train kills, 1 road kill		
								Oct.	0			
								Nov.	4			
								Dec.	10			
								Jan.	10			
								Feb.	6			
								Mar.	5			
								Apr.	2			
GMU 20C	99	82	2	126	49	8	0	Aug.	4	30	106	45
								Sept.	4	* 1 train kill, 1 found dead		
								Oct.	5			
								Nov.	17			
								Dec.	27			
								Jan.	32			
								Feb.	38			
								Mar.	50			
								Apr.	6			
GMU 20D	7	3	0	10	0	0	0	Aug.	0	1	5	4
								Sept.	0			
								Oct.	1			
								Nov.	2			
								Dec.	3			
								Jan.	2			
								Feb.	1			
								Mar.	0			
								Apr.	1			
Unit 20 Totals	156	126	9	209	66	14	2		291	45	151	90

Appendix II. Unit 20 wolf harvest by drainage, 1974-75 regulatory year. Only those areas furnishing 5 or more wolves to the harvest are represented.

Game Management Unit	Drainage	No. Taken	Percent of subunit harvest
20A	Wood River, Gold King	18	31
	Dry Creek	14	24
	Wood River Buttes	8	14
	Tanana River	5	8
20B	Chena River	16	41
	Goldstream Creek	10	26
	Tatalina River	6	15
20C	Fortymile River	36	20
	Birch Creek	32	17
	Healy Lake, Healy River, Volkmar River	22	12
	Nenana River, Yanert River	20	11
	Charley River	15	8
	Zitziana River, Cosna River	11	6
	Kantishna River, Toklat River	11	6
	Beaver Creek	10	5
	Tanana River	8	4
	Tolovana River, Minto Flats	5	3

GMU 20D not included due to low harvest

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 21 - Middle Yukon

Seasons and Bag Limits

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

Harvest, Trapping and Hunting Pressure

The 1974-75 wolf harvest in Unit 21 was 37, including 21 males and 16 females (Appendix I). This represented a considerable decrease over the previous year's take, but should not be interpreted as a reflection of wolf abundance. Snowfall was again quite heavy over this unit and presumably should have benefited wolf hunters, although many airborne wolf hunters and trappers are reluctant to land in deep powder snow to shoot one or two wolves. Reports from many middle Yukon villages and pilots suggested wolves were abundant along the main Yukon River. However, limited observations and discussion with some local wolf hunters suggested that many of the major tributary streams (Nowitna, Innoko and lower Koyukuk Rivers) did not support as many wolves as in previous years. These observations may represent some major shifts in wolf distribution resulting from differences in prey abundance. This assumption is based on low, wintering moose populations in the Nowitna and upper Innoko Rivers. It is difficult, though, to explain low wolf populations in the Koyukuk valley where wintering moose were reported abundant.

Management Summary and Recommendations

The 1974-75 wolf harvest in Unit 21 was considerably lower than in 1973-74. While this drop may represent a decrease in wolf abundance, it may also be related to prey distribution and subsequent movement of wolf packs. Wolves were abundant along the Yukon, but not in some of the major tributary streams which have supported healthy wolf populations in the past few years. Reluctance of airborne hunters to take wolves in deep snow greatly influenced the harvest. Relaxation of aerial hunting restrictions is recommended in this unit. Aerial inventory of wolf abundance and distribution should be conducted throughout Unit 21 during spring 1976.

PREPARED BY:

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SUBMITTED BY:

Oliver E. Burris
Regional Management Coordinator

Appendix I. Wolf - Game Mangement Unit 21 - Middle Yukon, wolf harvest, chronology, and method of take, 1974-75*.

Males	Females	Unknown	Total
21	16	0	37

Chronology by Month

Month	Number	Percent	Month	Number	Percent
July	--	--	January	4	10.8
August	--	--	February	9	24.3
September	1	2.7	March	19	51.4
October	1	2.7	April	--	--
November	--	--	May	--	--
December	3	8.1	June	--	--
			Unknown	--	--
			Total	37	100.0

Method of Take	Number	Percent
Ground shooting	23	62.2
Trapping	13	35.1
Snaring	1	2.7
Other	--	--
Total	37	100.0

*data from sealing records

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 22 - Seward Peninsula

Seasons and Bag Limits

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

Harvest, Trapping and Hunting Pressure

The wolf population on the Seward Peninsula is still low reflecting the previous intense predator control by reindeer herders and federal government agents. The reported harvest was six wolves, five of which were taken during predator control operations. The actual harvest in Unit 22 was estimated to have been 15-20 wolves, with most being taken in the southeastern part of the unit.

Seasonal Distributions, Migration and Concentration

Wolves or wolf tracks on most of the Seward Peninsula are seldom seen during aerial surveys.

Management Summary and Recommendations

Wolves are still considered predators on most of the Seward Peninsula. Liberal bag limits and seasons should be maintained to allow herders and hunters to provide their own predator control.

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WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 23 - Kotzebue Sound

Seasons and Bag Limits

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

Harvest, Trapping and Hunting Pressure

The reported wolf harvest in Unit 23 during the 1974-75 season was 38. The reported harvest was low due to lack of village sealers in some villages during late winter months. February and March are usually the best hunting months, but this year only eight wolves were reported taken in February and none in March.

Trapping only accounted for six wolves, the rest being taken by ground shooting. Of the 38 wolves taken, 23 were males and 15 were females (Appendix I). Wolves were taken from 19 different packs averaging 3.5 wolves per pack. Grays outnumbered blacks 22 to 12 with 4 white wolves reported taken. The Selawik and Noatak areas produced the most wolves.

Seasonal Distribution, Migration and Concentration

Wolves in Unit 23 appeared to be the most abundant in the lower Noatak and south of the Kobuk River between Kiana and Shungnak, in conjunction with the wintering Arctic caribou herd.

Management Summary and Recommendations

Wolves continue to be taken primarily near wintering caribou herds. Although the value of wolf pelts has increased there has been almost no increase in trapping activity. Liberal bag limits and seasons can be continued without detrimental effects.

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Oliver E. Burris
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Appendix I. Chronology of wolf harvest in Unit 23.

Month	No.	Sex M	F	Unk.	No. packs	Average Size	Color Gray	Black	White
Sept.	1		1		1	1.0	1		
Oct.									
Nov.	14	11	3		6	3.0	6	5	3
Dec.	8	4	4		4	3.6	5	2	1
Jan.	7	5	2		5	1.0	4	3	
Feb.	8	3	5		3	5.6	6	2	
March									
April									

Location of wolves harvested in Unit 23.

Area	Sex M	F	Unk	No. of packs	Average pack size
Upper Kobuk	3	3		2	7.5
Mid Kobuk	3	4		3	5.2
Noatak	8	2		6	1.6
Selawik	7	5		5	2.5
Kivalina	1	1		2	1.2
Lower Kobuk	1			1	1.0

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 24 - Koyukuk

Seasons and Bag Limits

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

Harvest, Trapping and Hunting Pressure

The total number of wolves taken in Unit 24 during the 1974-75 season, as indicated on sealing records, was 65, 33 males and 32 females. Most (81.5%) were harvested from December through March by ground shooting.

In 1973-74 (November-March), 60 wolves were sealed. Of these, 37 were males and 23 females. Forty-five percent were taken by ground shooting, 50 percent by trapping.

Population Trends, Composition and Productivity

Data gathered in the northcentral Brooks Range indicated that wolf populations in the northern portion of Unit 24 near Anaktuvuk Pass increased from a density of approximately 1 wolf per 124 square miles in spring 1971, to 1 wolf per 75 square miles in spring 1973.

Management Summary and Recommendations

There is a very limited amount of information on wolves and wolf prey in this unit. Wolf surveys might be improved by radio-tracking techniques, as discussed in Stephenson's 1975 Progress Report for Project W-17-7, Job 14.3R. Surveys conducted after the first tracking snow accumulates in early winter would provide information on pup survival. There could be some increase in efficiency by combining the wolf survey effort with fall moose surveys currently conducted in many areas of the Interior and Arctic. No change in season or bag limit is recommended at this time.

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SUBMITTED BY:

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Regional Management Coordinator

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 25 - Fort Yukon

Seasons and Bag Limits

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

Harvest, Trapping and Hunting Pressure

The total number of wolves taken in Unit 25 during the 1974-75 season, as indicated by sealing records, was 48 compared to 56 taken in 1973-74. Most of the wolves harvested in 1974-75 were taken from January through April by trapping (48%) and ground shooting (35%). In the 1973-74 season most wolves were taken from December through March by trapping (41%), ground shooting (34%) and snaring (25%).

Population Trends, Composition and Productivity

Of 48 wolves sealed in the 1974-75 season, 29 were males and 19 females. No information was available on age. In 1973-74, 33 of the 56 wolves sealed were males, 17 were females and 6 unknown.

Management Summary and Recommendations

Information on wolves and wolf prey in this unit is very limited. Wolf surveys might be improved by radio-tracking techniques, as discussed in Stephenson's 1975 Progress Report for Project W-17-7, Job 14.3R. Surveys conducted after the first tracking snow accumulates in early winter would provide information on pup survival. There could be some increase in efficiency by combining the wolf survey effort with fall moose surveys currently conducted in many areas of the Interior and Arctic. No changes in seasons or bag limits are recommended at this time.

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WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 26 - Arctic Slope

Seasons and Bag Limits

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

Harvest, Trapping and Hunting Pressure

Six wolves from Unit 26 were sealed during the 1974-75 season. Of these, five were males. In 1973-74, 46 wolves were sealed from this unit, but apparently 54 of these wolves were harvested from the Anaktuvuk Pass area. The sex and age ratio (Appendix I) for the 54 wolves harvested in the Anaktuvuk Pass area during 1973-74 was 26 percent male pups, 21 percent female pups, 38 percent adult males, and 15 percent adult females and 20 animals with sex unknown.

Population Trends, Composition and Productivity

Data gathered in the northcentral Brooks Range indicate that wolf populations in the vicinity of Anaktuvuk Pass increased from a density of approximately 1 wolf per 124 square miles in spring 1971 to 1 wolf per 75 square miles in spring 1973. During the winters of 1973-74 and 1974-75 the subjective observations made by the residents of Anaktuvuk Pass indicated that the wolf population in the vicinity of this village showed no further increase over the level observed in 1973. However, in the eastern Arctic and in the vicinity of the Colville and Chandler Rivers northwest of Anaktuvuk there were indications of a significantly reduced wolf population.

Management Summary and Recommendations

Information on wolves and wolf prey in this unit is limited. Wolf surveys might be improved by radio-tracking techniques, as discussed in Stephenson's 1975 Progress Report for Project W-17-7, Job 14.3R. Surveys conducted after the first tracking snow accumulates in early winter would provide information on pup survival. There could be some increase in efficiency by combining the wolf survey effort with fall moose surveys currently conducted in many areas of the Interior and Arctic. No changes in season or bag limit are recommended at this time.

PREPARED BY:

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Game Biologist II

SUBMITTED BY:

Oliver E. Burris
Regional Management Coordinator

Appendix I. Taken from Stephenson's 1975 progress report on Project W-17-7, Job 14.3R. Sex and age composition of wolves harvested by residents of Anaktuvuk Pass, winters 1971-72, 1972-73 and 1973-74. Animals of unknown sex and age were not included in the calculation of percentages. The adult classification includes wolves over one year of age (juveniles and adults).

Trapping Period	Male Pups		Female Pups		Male Adults		Female Adults		Total Pups		Total Adults			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	Unk.	Total
1970-71	--	--	--	--	--	--	--	--	--	--	--	--		20*
1971-72	10	43	7	30	6	26	0	0	17	74	6	26	8	31
1972-73	24	41	11	19	15	25	9	15	35	59	24	41	5	64
1973-74	9	26	7	21	13	38	5	15	16	47	18	53	20	54
Total	29	25	25	22	34	29	14	12	68	59	48	41	33	149

*Approximate total of wolves taken, records of age and sex were not obtained in this year.

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Units 1 through 5 - Southeast Mainland and Yakutat

Seasons and Bag Limits

Hunting	Dec. 1 - Jan. 31	One wolverine
Trapping		
Units 1 - 4	Dec. 1 - Jan. 31	No limit
Unit 5	Nov. 10 - Jan. 31	

Harvest and Hunting Pressure

Thirty-nine wolverines (21 males 9 females and 9 unknown sex) were taken in these units during the reporting period (Appendix I). Ninety-two percent were taken by trapping. Most wolverines were probably taken incidentally to wolf trapping.

Composition and Productivity

No data were available.

Management Summary and Conclusions

Very little hunting or trapping pressure is directed specifically toward wolverines.

Recommendations

No changes are recommended in the season or bag limit.

PREPARED BY:

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SUBMITTED BY:

Robert E. Pegau
Regional Research/Management Coordinator

APPENDIX I

Wolverine harvest FY 75 Units 1 through 5 1/

Unit	Sex	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Unk.
1A	M				4	1			
	F					4			
	Unk								
1B	M								
	F								
	Unk				1				
1C	M				1	2			
	F					2			
	Unk				3	1			
1D	M				7	2		1	
	F					2			
	Unk				1				1
3	M				2	1			
	F					1			
	Unk				1				
5	M								
	F								
	Unk	1							
TOTALS		1			20	16		1	1

1 no wolverine sealed from units 2 and 4 in FY 75.

Prepared by: Warren Ballard
Game Biologist II

APPENDIX II

Method of take of wolverines FY 75 Units 1 through 5

Method	Unit 1A	1B	1C	1D	2	3	4	5
Ground Shooting	1	0	0	1	0	0	0	1
Trapping	8	1	9	13	0	5	0	0
TOTAL	9	1	9	14	0	5	0	1

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 6 - Prince William Sound

Seasons and Bag Limits

Hunting	September 1 - March 31	One wolverine
Trapping	November 16 - March 31	No limit

Harvest and Hunting Pressure

The wolverine harvest in Unit 6 was 20 animals: 11 males and 9 females. All 20 animals were taken by six trappers with one person accounting for 65 percent (13) of the harvest. Ninety percent of the harvest was taken using traps and 90 percent of the harvest occurred during December, January and February (Appendix I).

The 1974-75 harvest of 20 wolverines is an "average" harvest but is considerably below the previous two seasons (Appendix II).

Most (75 percent) of the harvest occurred east of the Copper River.

Composition and Productivity

No available data.

Management Summary and Conclusions

The 1974-75 harvest data indicate the wolverine resource in Unit 6 received relatively light harvest pressure. Only six persons took wolverines, and only five wolverines were taken west of the Copper River including Prince William Sound. The harvest of 15 wolverines east of the Copper River is not excessive considering the amount of 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 HARVEST 1974 - 1975*

Unit 6

Harvest

	Males	Females	Unknown	Total
Number	11	9	0	20
Percent	55.0	45.0	0	100

Chronology by Month

Date	Number	Percent
December 1974	5	25.0
January 1975	6	30.0
February 1975	7	35.0
March 1975	2	10.0
Total	20	100.0

Method of Take

Method	Number	Percent
Ground Shooting	2	10.0
Trapping	18	90.0
Total	20	100.0

* Wolverine Sealing Data

Submitted by: Jerome 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
1971 - 1972***	33
1973 - 1974***	55
1974 - 1975***	20
Total	248
Average	19.1

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

Submitted by: Julius Reynolds, Game Biologist III

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1974

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

Wolverine sealing records show that 19 wolverines were harvested in Unit 7 during the 1974-75 season (Appendices I and II). One wolverine was taken by hunting and 17 by trapping. One wolverine was a nonsport kill taken in defense of property. The harvest was composed of 10 males and 9 females.

The 1974-75 harvest (19) was up 58 percent from the 1973-74 season (12) and down 21 percent from the record harvest of 24 in 1972-73.

Composition and Productivity

Data from which composition and productivity could be determined were not available. Ten wolverines were taken during March when most adult females have young.

Management Summary and Conclusions

The harvest rebounded sharply from the low harvest of 1973-74 and was composed of 41.7 percent (5) females. The significance of the unusually high proportion of females in the harvest is not known at this time. In most units females make up about 30-35 percent of the harvest indicating that an even sex ratio in the harvest may be abnormal and cause for concern. If the high incidence of females in the harvest continues in the 1975-76 harvest, future harvests should be reduced.

Recommendations

No change in season or bag limits are recommended this year.

PREPARED BY:

Paul A. LeRoux
Game Biologist III

SUBMITTED BY:

John S. Vania
Regional Management Coordinator

WOLVERINE 1974-75

Unit 7

Appendix I

Harvest

Males - 10 Females - 9 Unknown - 0 Total - 19

Month	Number	Percent
July	1*	5.3
August	-	-
September	-	-
October	-	-
November	1	5.3
December	1	5.3

Months	Number	Percent
January	-	-
February	6	31.6
March	10	52.6
April	-	-
May	-	-
June	-	-
Unknown	-	-
Total	19	100.1

Method of Take	Number	Percent
Ground Shooting	2*	10.5
Trapping	16	84.2
Snaring	1	5.3
Other	-	-
Total	19	100.0

* One male was taken in defense of property.

Submitted 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

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

- Zero Data

Submitted By: Paul A. LeRoux, Game Biologist III and Spencer Linderman, Game Biologist II

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1974

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

The harvest of 72 wolverines during the 1974-75 season was a decline from the record harvest of 89 wolverines in 1973-1974. Males comprised 67 percent of known-sex harvest. The harvest was equally divided between trapping and ground shooting and 89 percent of the harvest occurred during the last four months of the season.

Composition and Productivity

No data were available.

Management Summary and Conclusions

The harvest of wolverines from Unit 9 remained high because of high fur prices. Winter snow conditions favored ground shooting by airborne trappers and, for the first time, this method of take produced half the animals. Harvest by hunters during the fall months remained low, indicating sport hunting is having only a minor affect. At this time the harvest level does not appear to be detrimental to the population.

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

WOLVERINE - G.M.U. 9 - ALASKA PENINSULA

APPENDIX I

1974-1975 Wolverine Harvest

Harvest

Males - 48 Females - 18 Unknown - 6 Total - 72

Chronology by Month

Month	Number	Percent	Month	Number	Percent
July	--	--	January	11	15.3
August	--	--	February	17	23.6
September	1	1.4	March	20	27.8
October	5	7.0	April	--	--
November	2	2.8	May	--	--
December	16	22.2	June	--	--
			Unknown	--	--
			Total	72	100.1

Method of Take	Number	Percent
Ground Shooting	36	50.0
Trapping	36	50.0
Snaring	--	--
Other	--	--
Total	72	100.0

SUBMITTED BY: Jerome J. Sexton, Game Biologist II

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

APPENDIX II

Historical Wolverine Harvest 1962-1975

Year	Harvest
1962-1963[1/]	14
1963-1964[1/]	34
1964-1965[1/]	39
1965-1966[1/]	40
1966-1967[1/]	63
1967-1968[1/]	43
1968-1969[1/]	10
1969-1970[2/]	5
1970-1971[3/]	--
1971-1972[4/]	46
1972-1973[4/]	71
1973-1974[4/]	89
1974-1975[4/]	72

1/ Data from bounty analysis

2/ Data from harvest report cards

3/ No data available

4/ Data from hide sealing program

Submitted by James B. Faro, Game Biologist III

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 10 - Aleutian Islands

Seasons and Bag Limits

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

Hunting, Trapping and Harvest Pressure

No wolverines were reported taken during the 1974-1975 season from this unit.

Composition and Productivity

No data were available.

Management Summary and Conclusions

Wolverines are restricted to Unimak Island in Unit 10. Harvest pressure on this species is light.

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

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1974

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

A comparison of the annual wolverine harvests from 1961 through 1975 is shown in Appendix I. The wolverine harvest was relatively low during the 1974-75 season as compared to the two previous years. However, fur prices have steadily increased for the past three years. Additional harvest data for the period 1971-72 through 1974-75 are shown in Appendix II. The percentage of males in the harvest has steadily decreased from 1971-72 (71%) to 1974-75 (52%). Chronology of the harvest (AppendixII) indicates a near even amount of trapping success from December to March, with the highest success in March. More than 90 percent of the 160 wolverines taken during the past four seasons were taken in traps.

Composition and Productivity

No information was available.

Management Summary and Conclusions

The wolverine harvest remained relatively low until recent years when fur prices increased substantially. This season (1974-75) the harvest was 53 percent (29/55) of what it was during the 1973-74 season. The probable reason for this reduction in harvest is that seven of the traditional trappers did not trap this season, whereas they accounted for 30 wolverines last season. Some of these trappers were employed by pipeline companies.

One bit of data of major concern is that the male/female ratio of the harvest (29) has nearly approached equality (52%/48%). If the sample size is sufficient, this ratio would be expected in a heavily trapped area, since males are more vulnerable to trapping, or an area with little reproduction where the 1 to 4 year age classes are missing (Rausch and Pearson 1971). At present, sufficient biological data are not available to determine productivity. However, a plot of the distribution of the harvest on a map (not shown) does not reveal concentrated harvesting over a large area. Consequently, the low sample size has either produced a biological artifact or reproduction has been low.

Since the harvest was low and because of the inaccessibility of most of Unit 11, additional restrictions on hunting or trapping do not appear necessary at this time.

Recommendations

No changes in seasons or bag limits are recommended at this time. Trapping effort vs. success in the Long Lake area should be monitored to prevent a local overharvest.

Literature Cited

Rausch, R.A. and A.M. Pearson. 1972. Notes on the wolverine in Alaska and the Yukon Territory. Jour. Wildl. Manage. 36(2):249-268.

PREPARED BY:

Ted Spraker
Game Biologist II

SUBMITTED BY:

John S. Vania
Regional Management Coordinator

APPENDIX I

Comparison of Annual Wolverine Harvests from 1961-62 through 1974-75 - G. I 11

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

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

APPENDIX II

Wolverine Harvest Data from 1971-72 through 1974-75 - GMU 11[a]

	1971-72	1972-73	1973-74	1974-75
Total Wolverine Harvest:	28	48	55	29
Percent (No.) Males in Harvest[b]:	71%(20)	70%(33)	62%(32)	52%(15)
Harvest Chronology, Percent (No.);				
November:	-(-)	-(-)	2%(1)	7%(2)
December:	-(-)	38%(18)	20%(11)	21%(6)
January:	4%(1)	33%(16)	44%(24)	21%(6)
February:	25%(7)	17%(8)	22%(12)	21%(6)
March:	68%(19)	10%(5)	7%(4)	27%(8)
Other Months:	4%(1)	2%(1)	6%(3)	3%(1)
Unknown:	-(-)	-(-)	-(-)	-(-)
Method of Take, Percent (No.);				
Ground Shooting:	4%(1)	2%(1)	-(-)	7%(2)
Trapping:	96%(27)	92%(44)	93%(51)	93%(27)
Snaring:	-(-)	6%(3)	6%(3)	-(-)
Other:	-(-)	-(-)	2%(1)	-(-)

a. Harvest data areabased on sealing data only.

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

PREPARED BY: Ted Spraker, Game Biologist II

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 12 - Upper Tanana-White River

Seasons and Bag Limits

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

Harvest and Hunting/Trapping Pressure

Wolverine harvests from sealing data are shown below:

Period	Harvest
1971-72	33
1972-73	52
1973-74	46
1974-75	59

The sex composition of the 1974-75 reported harvest was 39 males, 18 females and 2 of undetermined sex.

While the Unit 12 wolverine harvest shows a general upward trend, it is believed that this may represent increased trapping intensity rather than a significant increase in the wolverine population level.

Chronology of the harvest was as follows:

	No.	%		No.	%
November	13	22.0	February	7	11.9
December	15	25.4	March	8	13.6
January	11	18.6	Unknown	5	8.5

All wolverines submitted for sealing were reported taken by trapping.

Management Summary and Recommendations

Wolverine trapping effort and harvest appear closely related to fur market conditions. During periods in which fur prices are high, trapping effort and harvests tend to increase and vice versa.

Wolverine populations are normally of low density and no reliable methods for determining population levels are currently available for general use. Some indices are available, however, and these, combined with information gathered from trappers, suggest that wolverine populations in Unit 12 were relatively high during the 1974-75 trapping season. Because trapping has little effect on wolverine populations except for local instances, it is recommended that no changes be made in trapping seasons or bag limits.

PREPARED BY:

Larry Jennings
Game Biologist III

SUBMITTED BY:

Oliver E. Burris
Regional Management Coordinator

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1974

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

Seasons and Bag Limits

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

Harvest and Hunting Pressure

Annual wolverine harvests from 1962-63 through 1974-75 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 1974-75 based on sealing data are shown in Appendix II. The percentage of males in the harvest has been relatively high. Most of the harvest occurred relatively late in the 1971-72 trapping season when compared to subsequent years, probably because aerial wolf hunting (legal during 1971-72 but not thereafter) was most productive during late winter. More wolverines were exposed to legal and illegal harvesting during 1971-72. Most wolverines (80 to 88 percent) were taken by trapping. A plot of the distribution of the harvests on a map illustrates relatively heavy harvesting in the Lake Louise - Nelchina vicinity (primarily females) and in the Klutina - Tonsina vicinity (primarily males). Wolverine harvest trends in these locales will be monitored in subsequent years to follow any changes that may result from heavy harvesting.

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 concentration of harvesting appears to have occurred in two areas. A large female component in the harvest could indicate that the wolverine population in this area was being significantly impacted by trapping pressure. The sex ratios of the two heavily trapped areas did not show this response, although the samples are small. Harvest data from these heavily trapped areas will be monitored in the future to observe secondary changes caused by primary changes in the population due to harvesting.

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 Southcentral Alaska, 1957-1968. Trans. N. A. Wildl. Nat. Res. Conf. 34:117-131.

PREPARED BY:

Ted Spraker
Game Biologist II

SUBMITTED BY:

John S. Vania
Regional Management Coordinator

APPENDIX I

Comparison of Annual Wolverine Harvests from 1962-63 through 1973-74 - 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	90 ***
1968-69	No Data**		

* 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.

APPENDIX II

Wolverine Harvest Data from 1971-72 through 1974-75 - GMU 13[a]

	1971-72	1972-73	1973-74	1974-75
Total Wolverine Harvest:	75	140	121	90
Percent (No.) Males in Harvest[b]:	53%(40)	64%(89)	63%(76)	61%(55)
Harvest Chronology, Percent (No.);				
November:	4% (3)	14%(20)	17%(21)	7% (6)
December:	12% (9)	23%(32)	20%(24)	10% (9)
January:	9% (7)	19%(27)	23%(28)	20%(18)
February:	21%(16)	26%(36)	23%(28)	27%(24)
March;	41%(31)	15%(21)	15%(18)	31%(28)
Other Months:	1% (1)	3% (4)	2% (2)	5% (5)
Unknown:	11% (8)	- (-)	- (-)	- (-)
Method of Take, Percent (No.);				
Ground Shooting:	20%(15)	9%(13)	8%(10)	11%(10)
Trapping:	80%(60)	86%(121)	88%(106)	87%(78)
Snaring:	- (-)	4% (5)	4% (5)	2% (2)
Other:	- (-)	1% (1)	- (-)	- (-)

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, and 0 harvested wolverines of unspecified sex during 1971-72, 1972-73, 1973-74, and 1974-75, respectively.

PREPARED BY: Ted Spraker, Game Biologist II

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1974

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

Seasons and Bag Limits

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

Harvest and Hunting Pressure

Twenty-two wolverines taken in Game Management Subunits 14A and 14B were presented for sealing during the 1974-75 season (Appendix I). Sixteen wolverines were taken in these subunits during the 1973-74 season and 22 during the 1972-73 season (Appendix II). Prior to the 1972-73 season wolverines taken in Subunits 14A and 14B were recorded with those taken in the remainder of Unit 14. No wolverines were reported taken in Subunit 14C during the 1974-75 season. Fourteen wolverines were taken in Subunit 14A and 8 in 14B.

The take of 22 wolverines for the entire unit was above the unit average of 19.8 wolverines bountied during the 1962-63 through 1967-68 seasons. It also exceeded the harvest of 16 wolverines taken during the 1973-74 season.

Three (13.6 percent) wolverines were taken by ground shooting and 19 (86.4 percent) were taken by trapping or snaring.

Chronology of harvest data indicates 12 of the 22 wolverines were taken in February or March. The remainder were scattered throughout the season except that no wolverines were taken in October.

Composition and Productivity

Sixteen (76.2 percent) of the 21 wolverines for which the sex was known were males and 5 (23.8 percent) were females.

Management Summary and Conclusions

The harvest of 22 wolverines from Subunits 14A and 14B was an above average harvest for these subunits. As has been the case in previous years trapping or snaring accounted for most of the harvest. February and March were the most productive months for wolverine trappers during the 1974-75 season. Male wolverines predominated in the harvest with approximately 3 males taken for each female.

Recommendations

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

PREPARED BY:

Jack Didrickson & Don Corneilus
Game Biologist III and II

SUBMITTED BY:

John S. Vania
Regional Management Coordinator

Appendix I. Wolverine Harvest by Sex, Chronology and Method of Take in Alaska's Game Management Subunits 14A and B During the 1974-75 Season.

HARVEST

AREA	MALES	FEMALES	UNKNOWN	TOTAL
Combined Subunits 14A and 14B	16	5	1	22
14A	12	2	0	14
14B	4	3	1	8

CHRONOLOGY BY MONTH

Month	14A and B No.	14A and B %	14A No.	14A %	14B No.	14B %
September	2	9.1	1	7.1	1	12.5
October	0	0.0	0	0.0	0	0.0
November	3	13.6	1	7.1	2	25.0
December	2	9.1	2	14.3	0	0.0
January	3	13.6	2	14.3	1	12.5
February	5	22.7	2	14.3	3	37.5
March	7	31.8	6	42.9	1	12.5
TOTAL	22	99.9	14	100.0	8	100.0

METHOD OF TAKE

Ground Shooting	3	13.6	2	14.3	1	12.5
Trapping	17	77.3	10	71.4	7	87.5
Snaring	2	9.1	2	14.3	0	0.0
TOTAL	22	100.0	14	100.0	8	100.0

SUBMITTED BY: Jack Didrickson
Donald Cornelius

Appendix II. 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 1974-75.

	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
Average number bountied 1962-63 through 1967-68	19.8	

* 1962-63 through 1967-68 data from bounty records.
1971-72 through 1974-75 data from wolverine sealing records.

SUBMITTED BY: Jack Didrickson
Donald Cornelius

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 15 - Western Kenai Peninsula

Seasons and Bag Limits

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

Harvest and Hunting Pressure

Wolverine sealing records indicate that 14 wolverines were harvested in Unit 15 during the 1974-75 season (Appendices I and II). Three were taken by hunting and 11 by trapping. The harvest was composed of 10 males, 3 females and 1 sex unknown.

This year's harvest was one animal less than the 1973-74 harvest which was down 25 percent from 1972-73.

Composition and Productivity

Data from which composition and productivity could be determined were not collected. The sex ratio in the harvest is most likely biased toward males because of their wider ranging habits and consequently their vulnerability to trapping.

Management Summary and Conclusions

The lower harvest of wolverines during the past two seasons is possibly the result of a lower population due to normal fluctuations. With males comprising more than 50 percent of the harvest, it is unlikely that hunter or trapper harvesting is responsible for a possible lowered population.

Two lactating females were sealed during March. Concern has been expressed by local fur buyers and some trappers about trapping wolverine that have young. Although the effects on the population of taking females with young are negligible, trappers generally feel bad about it and if it were general knowledge, there would most likely be a protest against it.

Recommendations

No changes in seasons or bag limits are recommended this year.

PREPARED BY:

Paul A. LeRoux
Game Biologist III

SUBMITTED BY:

John S. Vania
Regional Management Coordinator

WOLVERINE 1974-75

Unit 15

Appendix I

Harvest

Males - 10 Females - 3 Unknown - 1 Total - 14

Chronology by Month

Month	Number	Percent	Month	Number	Percent
July	-	-	January	1	7.1
August	-	-	February	4	28.6
September	2	14.3	March	6	42.9
October	-	-	April	-	-
November	1	7.1	May	-	-
December	-	-	June	-	-
			Unknown	-	-
			Total	14	100.0

Method of Take	Number	Percent
Ground Shooting	3	21.4
Trapping	11	78.6
Snaring	-	-
Other	-	-
Total	14	100.0

Submitted By:

Jerome J. Sexton
Game Biologist II

WOLVERINE COUNTY AND SEALING RECORDS - UNIT 15

Appendix II

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

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

Submitted by: Paul A. LeRoux, Game Biologist III and
Spencer Linderman, Game Biologist II

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1974

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

Forty-five wolverines taken in Unit 16 during the 1974-75 season were presented for sealing (Appendix I). This is below wolverine harvest levels during the period 1971-72 through 1973-74, but above the average of 36.9 wolverines bountied during the period 1962-63 through 1968-69 (Appendix II).

Eleven of the wolverines were taken in Subunit 16A and 34 in Subunit 16B. Harvests in Subunit 16A have risen from 5 during 1972-73 to 10 in 1973-74 to the current level. Harvests in Subunit 16B have dropped from 59 during the 1972-73 season to 42 during 1973-74 to the current level.

Seventeen (37.8 percent) of the wolverines harvested in Unit 16 were taken by ground shooting and 27 (60.0 percent) were taken by trapping. One wolverine (2.2 percent) was found dead with a muzzle full of porcupine quills.

Chronology of harvest data indicates that 24 (53.3 percent) of the wolverines were taken during February and March. The remainder were scattered through the season except no wolverines were taken during October.

Composition and Productivity

Twenty-five (59.5 percent) of 42 known-sex wolverines were males and 17 (40.5 percent) were females. The sex was unknown for an additional 3 wolverines.

Management Summary and Conclusions

The reported harvest of 45 wolverines was the lowest harvest from Unit 16 in four years. It was, however, above the 1962-63 through 1968-69 average of 36.9 wolverines bountied per year. Subunit 16B is that portion of the unit where the decline in harvest occurred. Comparisons of trapper pressure on wolverines from year to year are unavailable.

Trapping accounted for 60 percent of the wolverines taken from Unit 16 and ground shooting for 37.8 percent during the 1974-75 season. During the 1973-74 season trapping or snaring accounted for 92.3 percent of the harvest. It appears that interst in hunting, or at least the opportunity to shoot wolverines, increased during the 1974-75 season.

Recommendations

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

PREPARED BY:

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

SUBMITTED BY:

John S. Vania
Regional Management Coordinator

Appendix I. Wolverine Harvest by Sex, Chronology and Method of Take in Alaska's Game Managment Unit 16 During the 1974-75 Season.

HARVEST

AREA	MALES	FEMALES	UNKNOWN	TOTAL
Combined Subunits 16A and B	25	17	3	45
16A	7	4	0	11
16B	18	13	3	34

CHRONOLOGY BY MONTH

	16A and B		16A		16B	
Month	No.	%	No.	%	No.	%
September	2	4.4	1	9.1	1	2.9
October	0	0.0	0	0.0	0	0.0
November	6	13.3	0	0.0	6	17.7
December	7	15.6	0	0.0	7	20.6
January	6	13.3	1	9.1	5	14.7
February	10	22.2	5	45.5	5	14.7
March	14	31.1	4	36.4	10	29.4
TOTAL	45	99.9	11	100.1	34	100.0

METHOD OF TAKE

Ground Shooting	17	37.8	5	45.5	12	35.3
Trapping	27	60.0	5	45.5	22	64.7
Snaring	0	0.0	0	0.0	0	0.0
Other	1	2.2	1*	9.1	0	0.0
TOTAL	45	100.0	11	100.0	34	100.0

* Wolverine found dead with its face full of porcupine quills.

SUBMITTED BY: Jerry Sexton, Game Biologist II

Appendix II. 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 1974-75.

	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
Average number bountied 1962-63 through 1968-69	36.9			

* 1962-63 through 1968-69 data from bounty records.
1971-72 through 1974-75 data from wolverine sealing records.

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Donald Cornelius, Game Biologist II

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 17 - Bristol Bay

Seasons and Bag Limits

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

Hunting, Trapping and Harvest Pressure

The largest harvest in Unit 17 history (78 animals, Appendices I and II) was reported for the 1974-1975 seasons. Most of these wolverines (47 animals) were taken by traditional trapping methods and the remainder by ground shooting. Males outnumbered females in known-sex harvest by two to one.

Composition and Productivity

No data were available.

Management Summary and Conclusions

High prices for wolverine in the fur market and late winter snow conditions that favored ground shooting by the airborne trapper stimulated the record 1974-1975 harvest in Unit 17. In previous years ground shooting accounted for only a few animals, but 31 wolverines were reported for the past season. The chronology of the harvest shows 75.6 percent of the wolverines were taken in February and March. Four wolverines were reported harvested in April after the season on this species was closed. Harvest pressure on wolverines in the unit was the greatest since the winter of 1963-1964.

Should the level of harvest remain at the 1974-1975 level or increase in future years, restrictions in the season or in trapping methods and means may be necessary.

Recommendations

No changes in seasons or bag limits are recommended.

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WOLVERINE - G.M.U. 17 - BRISTOL BAY

APPENDIX I

1974-1975 Wolverine Harvest

Harvest

Males - 50 Females - 25 Unknown - 3 Total - 78

Chronology by Month

Month	Number	Percent	Month	Number	Percent
July	--	--	January	5	6.4
August	--	--	February	31	39.7
September	2	2.5	March	28	36.1
October	--	--	April	4	5.1
November	1	1.3	May	--	--
December	7	9.0	June	--	--
			Unknown	--	--
			Total	78	100.1

Method of Take	Number	Percent
Ground Shooting	31	39.7
Trapping	46	59.1
Snaring	1	1.3
Other	--	--
Total	78	100.1

Submitted by:

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

APPENDIX II

Historical Wolverine Harvest, 1962-1975

Year	Harvest
1962-1963[1/]	8
1963-1964[1/]	70
1964-1965[1/]	7
1965-1966[1/]	27
1966-1967[1/]	31
1967-1968[1/]	35
1968-1969[1/]	24
1969-1970[2/]	--
1970-1971[2/]	--
1971-1972[3/]	21
1972-1973[3/]	45
1973-1974[3/]	22
1974-1975[3/]	78

1/ Data from bounty analysis

2/ Data not available

3/ Data from hide sealing program

Submitted by James B. Faro, Game Biologist III

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 18 - Yukon-Kuskokwim Delta

Seasons and Bag Limits

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

Harvest, Trapping and Hunting Pressure

The 1974-75 harvest of wolverines in Unit 18 was three males and two females. The total reported catch of 5 wolverines was a decrease from the 1973-74 catch of 11. Probably not all wolverines taken in Unit 18 are legally sealed before being used for parka ruffs, etc. In addition to the decreased reported catch, the frequency of wolverine observations decreased over those of the prior two years.

Management Summary and Conclusions

The decreased catch and observations of wolverines suggest some decrease in numbers may also have occurred.

Wolverine continues to be an extremely valuable fur. Large, light, well-striped pelts are bringing over $200 per pelt. Most taken in Unit 18 are used locally. Therefore, compliance with sealing regulations is only minimal. Only a concerted effort through I & E contact can promote sealing regulation compliance.

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WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 19 - McGrath

Seasons and Bag Limits

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

Harvest, Trapping and Hunting Pressure

The 1974-75 harvest of wolverines was 43 animals, composed of 28 males, 14 females and 1 sex unknown. The Unit 19 catch seems to have been relatively stable over the last three years, despite a noticeable population increase.

Management Summary and Conclusions

During spring 1975 wolverine observations were less frequent than in the 1972-74 period. I believe the population reached a peak in 1973.

Hunters and trappers continued to take wolverine as often as the opportunity presented itself. Fur prices for the valuable and durable wolverine pelt reached their highest levels in 1974-75. Compliance with sealing requirements in Unit 19 is felt to be nearly 100 percent.

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WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 20 - Fairbanks, Central Tanana

Seasons and Bag Limits

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

Harvest, Hunting and Trapping Pressure

The number of wolverines presented for sealing indicates a harvest of 122 animals for Unit 20 during the 1974-75 hunting/trapping season, consisting of 80 males and 42 females. This represents a 16 percent decrease from the 1973-74 harvest of 146. The sex composition of the current harvest (66% males) showed little change from the previous season (64% males).

Appendix I summarizes the subunit harvests, chronology and methods of harvest for wolverines taken. Distribution of the harvest among the 4 subunits is similar to the 1973-74 season; Game Management Unit 20C, occupying the largest area, contributed 74 wolverines or 61 percent of the unit harvest (compared to 64% the previous year). Trapping accounted for 85 percent of the total take, while 4 percent and 10 percent of the wolverine were taken by ground shooting and snaring, respectively. Harvest chronology indicates a fairly uniform distribution of trapping effort/success throughout the preferred trapping period (November-March). The percentage of the known date harvest taken for the 5-month period is as follows: November, 17 percent; December, 20 percent; January, 21 percent, February, 16 percent and March, 21 percent.

Appendix II lists those areas furnishing substantial numbers of wolverines to the 1974-75 harvest. Harvest density remained high within traditional trapping areas in central portions of the unit (Wood River, Goldstream Creek, Dry Creek, Tanana Flats), as well as drainages of Hess Creek, Fortymile River, Healy River, Birch Creek, Beaver Creek, Toklat River and Kantishna River.

Management Summary and Recommendations

Unit 20 has sustained an annual harvest in excess of 100 wolverines the past 3 seasons. Intensive trapping effort apparently has not reduced the availability of wolverines. Although the sex composition of the population is not known, the higher proportion of males in the harvest since 1972-73 (64%-66%) may not adversely affect reproductive potential. Three successive mild winters and high market value of wolverine pelts ($150.00 in some cases) contributed to the current harvest and interest in recreational and subsistence trapping. High numbers of other furbearers in the Interior (wolf, lynx and fox) provided additional trapping incentive. The improved economic outlook for the Fairbanks area and the anticipated decline in fox and lynx populations will probably reduce trapping effort,

if not harvest as well, in the immediate future. In the event harvests decline substantially while fur prices and trapping pressure remain high, it is recommended that a bag limit on trapping be established.

Management goals for wolverine in this unit should be to provide the maximum opportunity to harvest these furbearers for recreational and/or economic return within limitations of pelt primeness and potential overharvest.

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Appendix I. Unit 20 wolverine harvest, 1974-75 regulatory year.
Based on information obtained from sealing certificates.

	No. Taken		Chronology		Method of harvest			
Area	M	F	Month	No. Taken	Ground Shooting	Trapping	Snaring	Unk.
GMU 20A	20	13	Nov.	6	1	28	4	-
			Dec.	5				
			Jan	8				
			Feb.	7				
			Mar.	7				
GMU 20B	10	11	Nov.	5	-	9	2	-
			Dec.	2				
			Feb.	2				
			Mar.	2				
GMU 20C	50	24	Oct.	2	3	64	6	1
			Nov.	9				
			Dec.	16				
			Jan.	17				
			Feb.	11				
			Mar.	16				
			Apr.	2				
			Unk.	1				
GMU 20D	-	4	Sept.	1	1	3	-	-
			Nov.	1				
			Dec.	1				
			Mar.	1				
Unit 20 Totals	80	42		122	5	104	12	1

Appendix II. Unit 20 wolverine harvest by drainage, 1974-75 regulatory year. Only those areas furnishing 3 or more animals to the harvest are represented.

Area	No. Taken	Percent of Subunit Harvest
GMU 20A		
Tanana Flats	11	33
Wood River	7	21
Gold King	4	12
Dry Creek	4	12
Delta River, Delta, Creek, Little Delta River	6	18
GMU 20B		
Goldstream Creek	8	73
GMU 20C		
Fortymile River	10	14
Healy River (Delta Area)	4	5
Hess Creek	6	8
Beaver Creek	3	4
Birch Creek	8	11
Nenana River	8	11
Teklanika River, Toklat River, Kantishna River	11	15

GMU 20D not represented due to low harvest

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 21 - Middle Yukon

Seasons and Bag Limits

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

Harvest, Trapping and Hunting Pressure

The 1974-75 harvest of wolverines was 34, consisting of 25 males, 8 females and 1 unknown sex. This figure represents a small decrease from the 1973-74 harvest of 46, and may be in response to both lack of pressure and lower wolverine populations. Since relatively the same number of trappers were afield both years I would be inclined to suggest that wolverines were not as abundant in 1974-75. Trapping pressure on beavers fell off drastically in some of the better wolverine areas and this could account for a number of wolverine avoiding the pelt boards.

Management Summary and Conclusions

Despite high pelt values for wolverines the catch declined in Unit 21 during the 1974-75 season. Lack of pressure (due to shifts in beaver trapping effort) and lower populations may have, in combination, led to the smaller catch.

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WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 22 - Seward Peninsula

Seasons and Bag Limits

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

Harvest and Hunting Pressure

The reported harvest of 2 wolverines was one of the lowest for Unit 22. It is primarily a reflection of the loss of most village sealers to jobs on the pipeline. Based on visits to the villages the actual wolverine harvest in Unit 22 was estimated to be 20-30 wolverines.

Management Summary and Recommendations

The local demand for wolverine pelts is so high that most pelts are cut into ruffs as soon as they dry. To accurately measure the catch there must be someone in each village who could and would seal wolverines as they are caught. Wolverines are quite vulnerable in this unit and most within a 30 mile radius of a village will be harvested.

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WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 23 - Kotzebue Sound

Seasons and Bag Limits

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

Harvest and Hunting Pressure

The program to enlist local residents in each village to seal wolverines was adversely affected by the availability of jobs on the oil pipeline. Most of the village sealers who had been recruited were the more ambitious workers in each village and consequently they were the ones that were the first to obtain employment on the pipeline. The 1974-75 reported harvest is low due to the loss of several village sealers. The following is the reported wolverine harvest in Unit 23.

Year	Number	Year	Number
1959-60	3	1967-68	9
1960-61	1	1968-69	30
1961-62	4	1969-70	No data available
1962-63	2	1970-71	No data available
1963-64	51	1971-72	7
1964-65	16	1972-73	55
1965-66	5	1973-74	28
1966-67	11	1974-75	9

Weather conditions during February and March, the peak wolverine harvest months, were relatively good. The harvest was estimated to be 35-45 wolverines. Over three-fourths of the reported harvest came from the Upper Kobuk River area.

Management Summary and Recommendations

The demand for wolverine pelts in Unit 23 exceeds the supply so most are utilized in the village where the hunter or trapper lives. Attempts should be made to locate reliable village sealers which are relatively permanent in the village. Most wolverines within 25 miles of a village will be harvested.

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WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 24 - Koyukuk

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 harvest for the 1974-75 hunting and trapping season was 22 (15 males and 7 females). This was a decrease from the 1973-74 harvest of 48 (40 males and 8 females).

The following table lists the harvests for Unit 24 from 1959 to 1975.

Year	Number	Year	Number
1959-60	4	1967-68	24
1960-61	4	1968-69	0
1961-62	0	1969-70	No data available
1962-63	11	1970-71	No data available
1963-64	10	1971-72	12
1964-65	16	1972-73	15
1965-66	5	1973-74	48
1966-67	11	1974-75	22

There was little change in the methods used to take wolverines from the 1973-74 season to the 1974-75 season. In 1974-75, 5 percent were taken by ground shooting, 81 percent by trapping and 14 percent by snaring. In the 1973-74 season, 4 percent were taken by ground shooting, 77 percent by trapping and 19 percent by snaring. In the 1974-75 season 46 percent of the wolverines were taken in March compared to 25 percent taken in March 1973-74, 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 harvest in Unit 24. Local utlization of wolverines for ruffs and garment trim results in wolverine skins being manufactured into various items before they are sealed. Harvest patterns in Unit 24 are associated with trapping techniques unlike Units 22 and 23 where a much higher percentage of the wolverine are taken by ground shooting. Despite substantial increases in the fur markets for many species of furbearers and the continued high value of wolverine, the total trapping effort has not increased greatly. It is unlikely that there will be any management problems caused by excessive harvests of wolverines.

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WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1974

Game Management Unit 25 - Ft. Yukon

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 harvest for the 1974-75 hunting and trapping season was 64 (39 males, 24 females, 1 sex unknown). This was a considerable decrease from the 1973-74 harvest of 127 (64 males, 41 females, 22 sex unknown).

The harvests for Unit 25 from 1959 to 1975 are listed in the following table.

Year	Number	Year	Number
1959-60	12	1967-68	29
1960-61	56	1968-69	29
1961-62	22	1969-70	No data available
1962-63	32	1970-71	No data available
1963-64	35	1971-72	41
1964-65	42	1972-73	74
1965-66	48	1973-74	127
1966-67	20	1974-75	64

Wolverines in Unit 25 are taken by trapping techniques. None were reported taken by hunting in either 1971-72 or 1972-73, and only four percent in 1973-74 and five percent in 1974-75. In most seasons the harvest tends to be evenly distributed between the months of November, December, January, February and March.

Management Summary and Recommendations

The accuracy or completeness of the sealing program in this unit has not been determined, however, it is unlikely that all wolverines taken in Unit 25 are being sealed. Local utilization of wolverine skins for ruffs and garment trim is probably much less than in several of the other game management units such as Units 18, 22, 23 and 26. Harvest figures taken from the number of wolverine skins sealed in the unit are probably a better measure of the harvest compared to those units where there is a high utilization of wolverine skins. It appears that wolverines are not taken by hunting or ground shooting (shooting is allowed as a legal method of trapping). The increased harvest in the 1973-74 season is most likely a result of the substantial improvement in the fur market and the increase in trapping effort. The decline in harvest in 1974-75 may reflect decreased trapping effort because of employment by Unit 25 residents on the Trans-Alaska pipeline.

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WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1974

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 harvest from the 1974-75 season was only 3 (2 males and 1 female). The harvest from the 1973-74 season was only 5 (4 males and 1 female).

The historical record of harvests for Unit 26 for the last 15 years is as follows:

Year	Number	Year	Number
1959-60	13	1967-68	25
1960-61	31	1968-69	17
1961-62	8	1969-70	No data available
1962-63	10	1970-71	No data available
1963-64	42	1971-72	2
1964-65	No data available	1972-73	5
1965-66	11	1973-74	5
1966-67	33	1974-75	3

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. Very few are taken by traditional trapping techniques.

Management Summary and Recommendations

Prior to the discontinuation of the wolverine bounty it was felt that the bounty system and harvest estimates derived from the bounty system were not accurate measures of the wolverine kill in Unit 26. The very high value of wolverines for parka ruffs and other garment trim in this unit resulted in few wolverines being held for the bounty. This situation has not changed in reference to the wolverine sealing program and it's highly likely that the wolverine harvest in Unit 26 has been grossly underestimated for many years. Recent increases in the value of furs and particularly wolverine have not been of substantial influence in this area because the high value of wolverine skins has persisted for many years.

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