ALASKA DEPARTMENT OF FISH AND GAME
JUNEAU, ALASKA

STATE OF ALASKA
William A. Egan, Governor

DEPARTMENT OF FISH AND GAME
James W. Brooks, Commissioner

DIVISION OF GAME
Frank Jones, Director

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

Edited and compiled by
Donald E. McKnight, Research Chief

Volume III
Federal Aid in Wildlife Restoration
Project W-17-4, Jobs 7, 10, 14 and 15

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MEMORANDUM OF TRANSMITTAL

February 23, 1973

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

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

SUBJECT: Annual Report of Survey-Inventory Activities

In 1969 the Game Division initiated a series of annual reports related specifically to survey and inventory activities conducted by staff biologists each year. Surveys and inventories include all routine data collections directed toward assessment of the status of game populations and toward the determination of annual game harvests. These reports include study results and conclusions and, when applicable, recommended hunting regulation changes.

Because experience has shown that these reports are of interest to citizens unfamiliar with Alaska game management unit boundaries, a map showing these boundaries is included in each report. Information in these reports is organized by game species and management units. This year a brief summary of report contents has been added.

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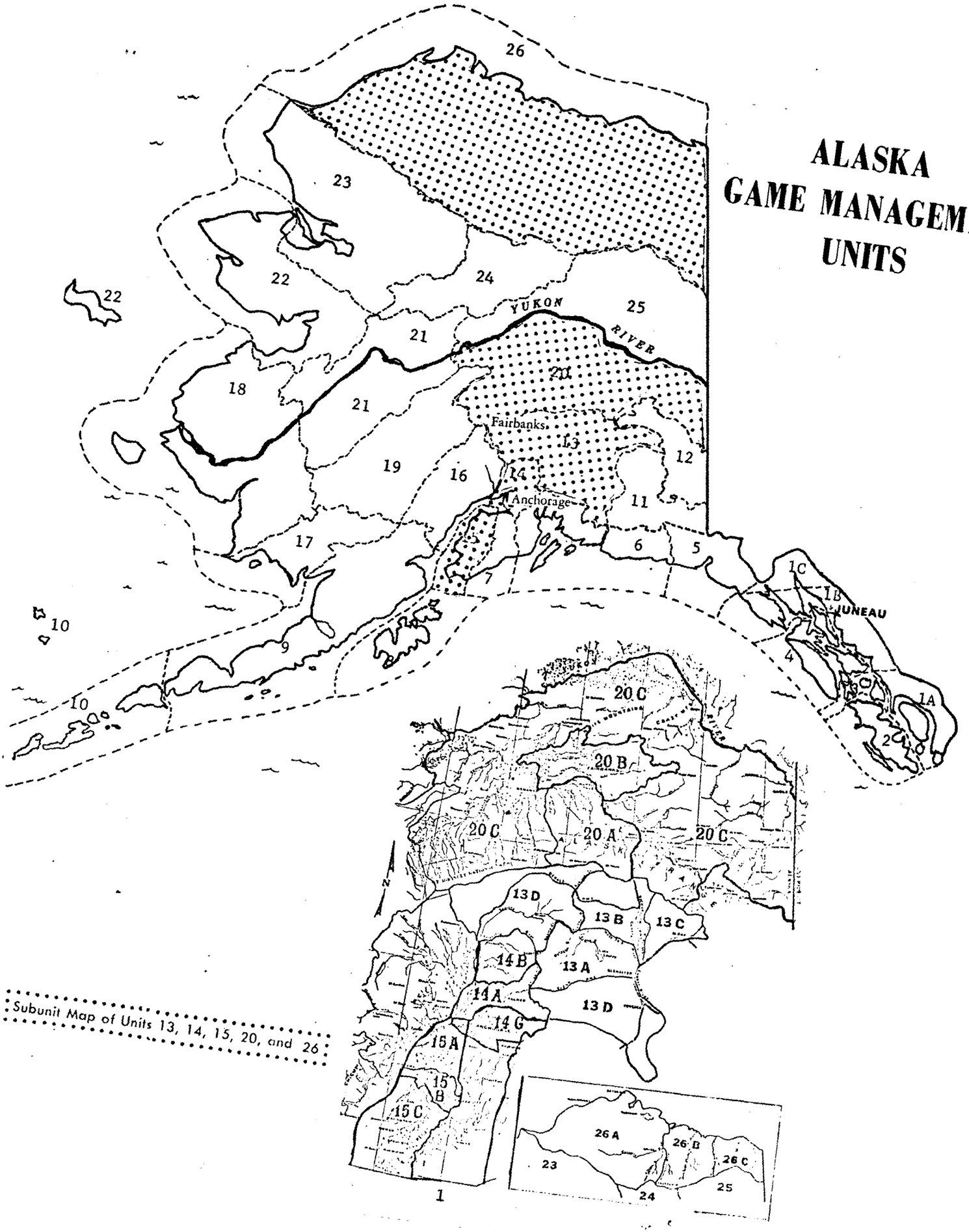
ALASKA GAME MANAGEMENT UNITS



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

STATEWIDE HARVESTS AND POPULATION STATUS

Wolf and Wolverine

Prior to July 1, 1969, when a statewide bounty on wolves and wolverines was in effect, annual harvests of these species were determined from bounty payment records. This source of harvest information was lost when bounty payments were discontinued throughout the state on wolverine and on wolves in all but three management units. A new regulation, effective on July 1, 1971, established the requirement that all wolves and wolverines taken in Alaska must be sealed by an authorized representative of the Department of Fish and Game within 60 days of the time of taking. These sealing documents now provide the source of harvest data.

During the 1971-72 hunting and trapping seasons 1335 wolves were harvested in Alaska. Of this total 731 were males, 519 were females and 85 were of unknown sex. Aerial shooting was the predominant method of take with 644 or 48.2 percent of the total harvested in this manner.

Hunters and trappers harvested 548 wolverines in 1971-72. Of these, 343 were males, 162 were females and 43 were of unknown sex. Ground shooters took 88 (16.1% of the total) and 447 (81.6%) were harvested by trapping and snaring.

Small Game and Furbearers

Statewide small game abundance trends and statewide harvests and trends of furbearer populations are provided in this report along with available information on raptor populations.

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Units 7 and 15 - Kenai Peninsula

Seasons and Bag Limits

Hunting	No open season
Trapping	No open season

Harvest and Hunting Pressure

The Kenai Peninsula has been closed to the taking of wolves since July 1, 1962.

History

Wolves are reported to have become extinct on the Kenai Peninsula sometime around 1914; however, persons have periodically reported seeing wolves. In 1961 a biologist working for the Alaska Department of Fish and Game observed a wolf on the Kenai Peninsula. This observation prompted the closure of Units 7 and 15 to the taking of wolves from 1962 to the present.

In 1968 Dimitri Bader, a Department biologist, observed a pack of 10 wolves near Tustumena Lake while he was surveying moose. This was the first verified and recorded observation of a large pack. Since 1968 numerous sightings of wolf packs have been made and recorded. Appendix I lists wolf sightings made from 1968 through June 1972.

Composition and Productivity

Wolves have been observed in all parts of Unit 15 but the most frequent observations have been made in the area between Skilak and Tustumena lakes and in the vicinity of the Caribou Hills.

A wolf survey was conducted in March 1971 during which one pack of nine wolves was located. A wolf survey conducted in February 1972 resulted in the observation of one pack of four wolves and a single wolf. Heavy timber over much of the Kenai Peninsula makes aerial surveying of wolves difficult. It is doubtful that aerial surveys will ever give a true picture of the number of wolves on the Kenai Peninsula.

Management Summary and Conclusions

Wolves have made a comeback on the Kenai Peninsula as indicated by frequent sightings since 1969. Whether this is the result of expansion of a remnant population or a movement of wolves onto the Kenai from the north is unknown.

Aerial surveys have been unsuccessful in establishing the size of the wolf population on the Kenai Peninsula.

Recommendations

Game Management Units 7 and 15 should remain closed to the taking of wolves until it is determined that the wolf population is large enough to sustain a harvest.

Submitted by: Paul A. LeRoux, Game Biologist III

WOLF - GMU 15 - Kenai Peninsula

APPENDIX I

Wolf Observations

(11/0/68) Dimitri Bader reported seeing a pack of 10 wolves near Nicholi Creek on Tustumena Lake on a moose survey. 15(C)

(12/13/69) Royce Perkins observed nine wolves on Fox River during moose surveys. 15(C)

(12/0/69) Paul LeRoux reported seeing tracks of four wolves on a pond near the head of Tustumena Lake. 15(C)

(2/26/70) Ward Gay reported seeing 14 wolves on the ridge above Timberline Lake. 15(B)

(4/0/70) Nick Steen reported a pack of five wolves, 10 miles north of the moose pens. 15(A)

(8/10/70) Six wolves were observed by Bob LeResche above Timberline about two miles north of Funny River Strip. Two black and four gray. All appeared to be adults. 15(B)

(10/0/70) There were two reports of wolves seen near Lower Funny River strip. Bob Richey and Ron Davis of Soldotna both reported seeing two black and four gray. 15(B)

(10/10/70) Bob LeResche reported hearing wolves howling near the moose pens. 15(A)

(10/13/70) Bob LeResche reported hearing wolves howling near the moose pens. 15(A)

(11/15/70) Dan France, Protection officer, reported seeing three wolves near Marmot Lakes on Cottonwood Creek drainage. Two black, one gray. 15(B)

(12/13/70) Paul LeRoux reported counting tracks of 17 to 20 wolves on Brown Lake. 15(B)

(1/13/71) John Kirkpatrick reported observing one gray wolf 12 miles east of Homer (Perkins regards this report as valid). 15(C)

(2/19/71) A report was made to the Soldotna office by an unknown person that he had seen five or six wolves feeding on a road-killed moose near Sportsmans Lodge. (Validity of this report is questionable - Paul LeRoux). 15(A)

(2/0/70) A report was made to Al Thompson (Protection officer) by persons unknown that two wolves were seen six miles east of the Sterling Store. Tracks were confirmed by Al Thompson. 15(A)

(3/3/71) While surveying for wolves, Paul LeRoux observed one gray wolf on Tustumena Lake between Fox Lake and Bear Creek. Tracks of 10 wolves were seen. Returning two hours and 45 minutes later, tracks were picked up and followed to a pack of eight wolves, none of which was the first wolf observed alone. Total, nine wolves. 15(B)

(4/22/71) Two fresh, wolf-killed moose were found in the Ninilchik River bottom. Tracks indicated about three wolves. Only the nose of the moose was eaten. Location 10 miles upstream from Ninilchik. Observed by Paul LeRoux. 15(C)

(4/7/71) Bob LeResche reported seeing tracks of eight wolves at the head of the south fork of Bear Creek. 15(B)

(9/4/71) Bob LeResche reported seeing one gray wolf five miles southwest of Lower Funny River Strip. 15(B)

(11/21/71) Lyman Nichols, on snowshoes, reported sighting one gray wolf on Surprise Mountain. 15(B)

(12/9/71) Ken Peterson reported seeing two gray wolves near gas flares on an unnamed lake on Swanson River drainage. 15(A)

(1/19/72) Lyman Nichols reported seeing one black wolf and several tracks near Skilak River. 15(B)

(1/26/72) Lyman Nichols reported seeing one black wolf on Surprise Mountain. 15(B)

(2/10/72) Jim Davis found a well cleaned-up moose carcass at the head of Cottonwood Creek. Wolf tracks were observed at the kill (seen on wolf survey). 15(B)

(2/10/72) Paul LeRoux reported sighting one gray wolf on Deep Creek due north of Ninilchik Dome (seen on wolf survey). 15(C)

(2/10/72) Jim Davis reported seeing four wolves, one black, three gray, near the head of the main fork of Moose Creek (seen on wolf survey). 15(B)

(2/24/72) Lyman Nichols reported seeing one black and one brown wolf on Surprise Mountain. 15(B)

WOLF - GMU 7 - Kenai Peninsula

APPENDIX I (cont'd.)

Wolf Observations

Two reports of wolves were made by hunters during the fall of 1970.

(8/0/70) (1) A hunter reported sighting a gray wolf on Crescent Lake Mountain during the 1970 ewe sheep hunt (secondhand report).

(10/0/70) (2) A hunter reported sighting a black wolf near Silvertip (secondhand report).

(12/0/70) A hunter reported seeing four wolves on Swan Lake during the Unit 7 antlerless moose season. Two black and two gray (secondhand report).

(3/18/71) Ken Pitcher reported finding a wolf-killed moose one mile west of Resurrection Creek divide. Tracks and blood indicate kill was made by wolves.

(3/18/71) Ken Pitcher reported finding the tracks of one wolf between the head of Big Indian and Hungry Creek.

(4/19/72) Paul LeRoux found what appeared to be a wolf-killed moose on the fork of the Chickaloon River coming out of American Pass.

Submitted by: Paul A. LeRoux, Game Biologist III

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 9 - Alaska Peninsula

Seasons and Bag Limits

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

Harvest and Hunting Pressure

In the initial year of the wolf sealing requirement, 24 wolves were reported as harvested in Unit 9 (Appendix I). The majority of these wolves were taken by aerial shooting and 59 percent of the known-sex animals were males. The historical reported harvest (Appendix II) has been as high as 51 animals.

Composition and Productivity

No information available.

Management Summary and Conclusions

Hunting and trapping pressure on wolves in Unit 9 is low. Wolves are not overly abundant in spite of the large moose and caribou populations in many areas of the unit. Harvest does not appear to be a major factor in regulating the population.

Recommendations

No changes in seasons or bag limits are recommended.

Submitted by: James B. Faro, Game Biologist III

WOLF - GMU 9 - Alaska Peninsula

APPENDIX I

Alaska Peninsula Wolf Harvest* - 1971-/2

HARVEST			
Males	Females	Unknown	Total
13	9	2	24

CHRONOLOGY BY MONTH

Month	Number	Percent
September	1	4.2
October	1	4.2
November	0	0.0
December	0	0.0
January	1	4.2
February	7	29.2
March	4	16.7
April	10	41.7
Unknown	0	0.0
Total	24	100.1

Method of Take	Number	Percent
Ground shooting	8	33.3
Trapping	2	8.3
Aerial shooting	13	54.2
Unknown	1	4.2
Total	24	100.0

*Data from sealing records.

Submitted by: James B. Faro, Game Biologist III

WOLF - GMU 9 - Alaska Peninsula

APPENDIX II

Historical Wolf Harvest, 1961-1972

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

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

Submitted by: James B. Faro, Game Biologist III

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 11 - Wrangell Mountains-Chitina River

Seasons and Bag Limits

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

Harvest and Hunting Pressure

Since preparation of the 1970 report, a final accounting of the harvest of wolves in 1970-71 by aerial gunners has been compiled. During that year, a total of 23 wolves were reportedly taken by aerial permit holders in Unit 11. Fourteen (61%) of that kill were males.

In regulatory year 1971-72, sealing of all wolves harvested in Alaska became mandatory. For the first time since elimination of bounty payments, accurate measure of harvest is possible. Fifty-six wolves were sealed from Unit 11 of which 57 percent were males. The highest kill by month occurred in March when 23 wolves were reported killed. Aerial hunting accounted for 30 percent of the kill and trapping for 45 percent. The majority of the trapped animals were taken by one person who used an airplane to run his traps. Because of a limit of two wolves per hunting license or aerial permit from Unit 11, it is suspected that some of the animals reported from other units, especially Unit 12, came from Unit 11.

Historical harvests for the unit are presented in Appendix II.

Composition and Productivity

Little data are available, except those which have been gained incidentally while doing other game surveys in the area or from aerial hunter reports. During the reporting period, 10 wolf packs were seen by Department personnel. Mean pack size was 7.6 animals. Pack size varied from 2 to 15. The ratio of blacks to greys was 52:100. Aerial permit holders reported seeing 11 packs totaling 57 wolves for a mean pack size of 5.1. Pack size varied from 1 to 12.

In 1972, a litter of five grey pups was raised at a den in Unit 11. By July 26, the pups had left the den. This was the only active den I knew of in 1972.

Management Summary and Conclusions

Wolves appeared to be reasonably abundant over most of Unit 11 during the reporting period. The majority of the Nelchina and Mentasta

caribou wintered in Units 11 and 12 where they were quite heavily preyed upon by wolves.

The present attitude toward wolves and predation from within Alaska and on the national and even international level suggests that we approach wolf management very cautiously. It is my opinion that wolves are simply a renewable resource, no more important than other game species but certainly no less important. As such, wolves should be managed accordingly. With caribou and probably moose experiencing natural reductions in numbers, it seems rather illogical that wolves should receive complete protection; rather, they too should be hunted. The only means of successfully hunting wolves is through aerial hunting. However, on the national and even broader level, aerial hunting is distasteful to say the least. Because of the value of wolf pelts, there is sufficient incentive for persons to hunt illegally unless our regulations are explicitly written. The greatest source of illegal hunting is different bag limits for adjacent game management units and a variety of bag limits available because of the wolf's dual classification as big game and fur bearer. For instance, with a general hunting license, a person could legally take two wolves, but with an aerial permit he could shoot an additional 10 wolves in some units, and with a trapping license he could kill an unlimited number of wolves.

As with other species in which the pelt is the desired part of the animal, seasons should coincide with the time of year when the pelt is at its best quality. A rather high percentage of the hides I have examined taken after March showed considerable wear which greatly reduces the quality of these pelts.

Recommendations

It is recommended that the bag limit on wolves be two animals per regulatory year, statewide, regardless of the manner in which they are taken and regardless of the type of license used. It is further recommended that the season, both trapping and hunting, terminate on March 31.

Submitted by: Loyal J. Johnson, Game Biologist III

WOLF - GMU 11 - Wrangell Mountains-Chitina River

APPENDIX I

Wolf Harvest, Chronology and Method of Take, 1971-72*

HARVEST			
Males	Females	Unknown	Total
32	23	1	56

CHRONOLOGY BY MONTH

Month	Number	Percent
September	6	10.7
October	0	0.0
November	1	1.8
December	4	7.1
January	4	7.1
February	13	23.2
March	23	41.1
April	4	7.1
Unknown	1	1.8
Total	56	99.9

Method of Take	Number	Percent
Ground shooting	10	17.9
Trapping	25	44.6
Snaring	4	7.1
Aerial shooting	17	30.4
Total	56	100.0

*Data from sealing records.

Submitted by: Loyal J. Johnson, Game Biologist III

WOLF - GMU 11 - Wrangell Mountains-Chitina River

APPENDIX II

Historical Wolf Harvest, 1961-72

Year	Harvest
1961-62[1]	8
1962-63[1]	21
1963-64[1]	24
1964-65[1]	30
1965-66[1]	117
1966-67[1]	70
1967-68[1]	40
1968-69[1]	7
1969-70[2]	10
1970-71[2]	23
1971-72[3]	56

[1]Data from bounty records.
[2]Data from aerial permits - should be considered incomplete.
[3]Data from sealing records.

Submitted by: Loyal J. Johnson, Game Biologist III

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 12 - Upper Tanana, White River

Seasons and Bag Limits

Hunting season	Sept. 1 - Apr. 30	Two wolves
Trapping season	Oct. 1 - Apr. 30	No limit
Aerial shooting permits	Oct. 1 - Apr. 30	
with resident or nonresident hunting license		Two wolves
with resident trapping license		Ten wolves
aerial shooting possession limit statewide		Ten wolves
nonresident aerial shooting possession limit		Two wolves

Harvest and Hunting Pressure

The annual wolf harvests during the period 1960 through 1972 are given below:

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

*Estimated harvest based upon harvest from aerial shooting.

The wolf harvests from 1960-61 through 1968-69 are based on number of wolves submitted for bounty. The wolf kills in 1969-70 and 1970-71 are based on the reported harvest from aerial wolf permits but are inflated by about 49 percent - the percentage of the wolf harvest in 1971-72 that was taken by means other than aerial hunting. The 1971-72 harvest is based on wolf skins submitted for mandatory sealing, as reported by our Statistics Section. These data reveal generally increasing wolf harvests although there are large variations between years. The data suggest increasing hunting pressure, increasing wolf numbers, or both. Although aerial wolf hunting has certainly increased in recent years, most trappers and guides contacted report that wolf numbers have been increasing.

Information on the 1971-72 harvest was derived from sealing data on 67 wolves. Sealing forms for the complete 1971-72 year were not available at the time of this writing. The average pack size was 5.1 wolves. The ratio of black to grey and grey-white wolves harvested was 1 to 5. Of the 63 wolves of known sex, 56 percent were males and 44 percent were

females. Six percent of the kill occurred during November, 85 percent of the kill occurred from January through March, and 9 percent occurred during April. The percentages of wolves killed by specific harvest methods are listed below:

Harvest Method	Percent of Harvest	Harvest Method	Percent of Harvest
Ground shooting	3	Digging out	0
Trapping	29	Aerial shooting	51
Snaring	15	Other	2

As previously noted, aerial shooting accounted for 51 percent of the harvest. A breakdown of pack size, harvest and kill method in specific drainages of Unit 12 is given below:

Harvest (from sealing data)

Drainage	Kill Methods*	Number	Percent	Ave. Pack Size
Tanana R.	2,3,7,3,3,	5	8.9	2.3
Chisana R.	1,3,2,2,5,5,5,5,	8	14.3	3.8
Nabesna R.	5,5,5,5,5,2,2,5,5, 5,5,5,6,2,2,2,5,5,	18	32.1	8.6
Ladue R.	2	1	1.8	1.0
Stover Cr.	2,2,	2	3.6	4.0
Beaver Cr.	5,5,5,	3	5.3	4.0
Jack Cr.	5	1	1.8	1.0
Jacksina Cr.	2,2,2,2,2,2,	6	10.8	
Tetlin R.	5,5,5,5,5,5,5,	7	12.5	8.0
White R.	5,5,5,5,5,	5	8.9	9.0
Unknown	5,5,	2	3.6	7.0
		58		

*Kill Methods: 1 = Ground Shooting, 2 = Trapping, 3 = Snaring, 4 = Digging Out, 5 = Aerial Shooting, 6 = Unknown and 7 = Other.

The value of much of the preceding data will accrue from comparisons made during subsequent years.

Composition and Productivity

No information is available on wolf pack composition or wolf productivity in Unit 12. The reports of high wolf numbers this past year in spite of increasing annual harvests suggest that recruitment is more than adequate to compensate for harvests at present levels.

Management Summary and Recommendations

Although the wolf harvest has gradually increased over the past 12

years, there is no indication yet that productivity is failing to compensate for the harvest. On the contrary, some reports from guides and trappers indicate that wolf numbers may be higher this year than in past years. Because aerial hunting has been legally discontinued, the wolf harvest for 1972-73 may be about half that of the 1971-72 harvest.

It is recommended that the present liberal seasons and bag limits be retained.

Submitted by: Larry Jennings, Game Biologist III

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 13 - Nelchina Basin

Seasons and Bag Limits

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

Harvest and Hunting Pressure

Regulatory year 1971-72 was the first year of a mandatory sealing program for wolves. Final tabulation of the wolf harvest from Unit 13 based on that sealing program (Appendix I) shows that 111 wolves were killed, of which 61 percent were males, 45 percent females and 5 percent unknown. The largest kill by month occurred in February when 31 wolves were reportedly taken. About 70 percent of the kill occurred in February, March and April. The extent of hunting pressure is not known but Unit 13 is a favorite area for aerial wolf hunting. Trappers took 37 percent of the total harvest, aerial shooters took 41 percent and ground shooters took 20 percent. It is known that some wolves reported taken from Unit 12 where the limit was 10 actually were killed in Unit 13 where the limit was two.

A tabulation of the 1970-71 aerial permits which was only partially complete for the 1970 report shows that aerial gunners took 90 wolves in Unit 13 in 1970-71 regulatory year. Because of regulatory limit of two animals per permit which was imposed on January 1, 1971, it is known that these hunter report figures are inaccurate. Fifty-one percent of the harvest was females. There was no way to measure the harvest taken by means other than aerial shooting.

Appendix II presents the historical reported wolf harvest for Unit 13. The unit was closed to the taking of wolves from 1957 to 1965. Data from 1969-70 and 1970-71 are known to be incomplete as the only harvest data available are from returned aerial permits.

Composition and Productivity

Data on wolf populations were gathered primarily while doing other game surveys. These data suggested a marked decrease in the wolf population. During 1970 moose surveys, 12 wolf packs with a total of 112 wolves were seen. The mean pack size was 9.3. During the 1971 surveys only four packs totaling 33 wolves were seen. Sixteen of those were in one pack. The mean pack size was 8.3. During 1970-71 wolf research under job 14.5R, 10 observations totaling 89 wolves for a mean pack size of 8.9 were noted. During the 1971-72 winter research, only three observations of a total of six wolves were seen. Note here that 43.6 hours were flown in 1970-71 and 58.5 hours in 1971-72.

An analysis of aerial permit reports for 1971-72 shows that those permittees saw 34 packs totaling 136 wolves with a pack size of 4.0.

Management Summary and Conclusions

Wolves appeared to be noticeably less abundant during 1971-72 than during the previous year. Possible explanations might be: 1) a heavy harvest the previous year, 2) wolves followed the caribou to Units 11 and 12, and 3) very deep snow and concentrated moose made hunting very easy so there was less movement by wolves.

The present attitude toward wolves and predation from within Alaska and on the national and even international level suggests that we approach wolf management cautiously. It is my opinion that wolves are simply a renewable resource, no more important than other game species but certainly no less important, and as such should be managed accordingly. With caribou and probably moose experiencing natural reduction in numbers, it seems rather illogical that wolves should receive complete protection; rather, they too should be hunted. The only means of successfully hunting wolves is through aerial hunting. However, on the national and even broader level, aerial hunting is distasteful to say the least. Because of the value of wolf pelts, there is sufficient incentive for persons to hunt illegally unless our regulations are explicitly written. The greatest source of illegal hunting is different bag limits for adjacent game management units and a variety of bag limits available because of the wolf's dual classification as big game and fur bearer. For instance, with a general hunting license, a person could legally take two wolves, but with an aerial permit, he could shoot an additional 10 wolves in some units; and with a trapping license he could kill an unlimited number of wolves.

As with other species in which the pelt is the desired part of the animal, seasons should coincide with the time of year when the pelt is at its best quality. A rather high percentage of hides taken after March show considerable wear which greatly reduces the quality of the pelts.

Recommendations

It is recommended that the bag limit on wolves be two animals per regulatory year, statewide, regardless of the manner in which they are taken and regardless of the type of license used. It is further recommended that the season, both trapping and hunting, terminate on March 31.

Submitted by: Loyal J. Johnson, Game Biologist III

WOLF - GMU 13 - Nelchina Basin

APPENDIX I

Wolf Harvest, Chronology and Method of Take, 1971-72*

HARVEST

Males	Females	Unknown	Total
61	45	5	111

CHRONOLOGY BY MONTH

Month	Number	Percent
September	4	3.6
October	4	3.6
November	2	1.8
December	7	6.3
January	17	15.3
February	31	27.9
March	24	21.6
April	22	19.8
Unknown	0	0.0
Total	111	99.9

Method of Take	Number	Percent
Ground shooting	22	19.8
Trapping	41	36.9
Snaring	2	1.8
Aerial shooting	46	41.4
Total	111	99.9

*Data from sealing records.

Submitted by: Loyal J. Johnson, Game Biologist III

WOLF - GMU 13 - Nelchina Basin

APPENDIX II

Historical Wolf Harvest, 1965-1972

Year	Harvest
1965-66[1]	64
1966-67[1]	31
1967-68[1]	120
1968-69[1]	1
1969-70[2]	41
1970-71[2]	91
1971-72[3]	111

[1]Data from bounty records.
[2]Data from returned aerial wolf permits - should be considered incomplete.
[3]Data from sealing program.

Submitted by: Loyal Johnson, Game Biologist III

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 14 - Upper Cook Inlet

Seasons and Bag Limits

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

Harvest and Hunting Pressure

Twelve wolves taken in Game Management Unit 14 were presented for sealing during the 1971-72 season (Appendix I). Of these, six were reported to have been taken by aerial shooting, three by ground shooting and three by trapping. During the 1970-71 season, eight wolves were reported to have been taken, all by aerial shooting. No trapping reports were required in 1970-71. Historical data from bounty records for 1962-63 through 1968-69 indicate wolf harvests in Unit 14 have ranged as low as one in 1968-69 to 30 in 1966-67 (Appendix II). The average harvest from bounty records during this period was 12.7 wolves per year.

In 1971-72, 10 wolves were taken for which the area of harvest is known. Six were harvested in the Knik or Matanuska river drainages and four were taken in Susitna River drainages. All six from the Matanuska or Knik river drainages were taken by trapping or ground shooting.

Of seven wolves taken by aerial shooting in 1970-71 all came from the Big Susitna River drainage.

Composition and Productivity

Five pack sizes reported in 1971-72 ranged from two to eight wolves, with an average of 4.4 wolves per pack. In 1970-71 four packs numbered from four to nine wolves with an average of 6.25 wolves per pack.

Of the wolves taken in 1971-72, five were males, three were females and four were of undetermined sex.

Management Summary and Conclusions

The reported harvest of 12 animals compares favorably with the 1962-63 through 1968-69 average of 12.7 wolves per year. Because 1971-72 was the first year of the sealing program, it is possible that some animals taken were not sealed and thus the harvest may have been greater.

Recommendations

No changes in season length or bag limit are recommended at this time; however, a recent policy inaugurated by the Alaska Department of Fish and Game will disallow the issuance of aerial hunting permits beginning the winter of 1972-73.

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

WOLF - GMU 14 - Upper Cook Inlet

APPENDIX I

Harvest, Chronology and Method of Take, 1971-72*

HARVEST

Males	Females	Unknown	Total
5	3	4	12

CHRONOLOGY BY MONTH

Month	Number	Percent
September	2	16.7
October	0	0.0
November	0	0.0
December	1	8.3
January	1	8.3
February	3	25.0
March	4	33.3
April	1	8.3
Unknown	0	0.0
Total	12	99.9

Method of Take	Number	Percent
Ground shooting	3	25.0
Trapping	3	25.0
Aerial shooting	6	50.0
Total	12	100.0

*Data from sealing records.

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

WOLF - GMU 14 - Upper Cook Inlet

APPENDIX II

Wolf Harvest, 1962-1972

Regulatory Year	Male	Female	Unknown	Total
1962-63[1]	3	0	0	3
1963-64[1]	4	4	0	8
1964-65[1]	6	5	0	11
1965-66[2]	9	6	4	19
1966-67[1]	15	15	0	30
1967-68[1]	7	10	0	17
1968-69[1]	0	1	0	1[5]
1969-70[3]	1	0	0	1
1970-71[3]	5	3	0	8
1971-72[4]	5	3	4	12

[1] Harvest data compiled from bounty records.
[2] Harvest data compiled from bounty records through June 1, 1966.
[3] Harvest data compiled from returned aerial wolf permits.
[4] Harvest data compiled from wolf sealing certificates.
[5] Effective July 21, 1968 no bounty was paid on wolves in Game Management Unit 14.

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

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 16 - West Side of Cook Inlet

Seasons and Bag Limits

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

Harvest and Hunting Pressure

Forty wolves reportedly taken in Game Management Unit 16 were presented for sealing this year (Appendix I). Of these, 21 (52.5%) were reportedly taken by aerial shooting, 15 (37.5%) were taken by ground shooting and four (10%) were taken by trapping.

During the 1970-71 season 21 wolves were reported taken on aerial wolf permits. No trapping reports were required in 1970-71. Historical data from bounty records for the period 1962-63 through 1967-68 indicate wolf harvests ranged from five in 1962-63 to 84 in 1965-66 with an average of 41.5 wolves bounties per year during this period (Appendix II).

Composition and Productivity

Of the wolves taken in 1971-72, 18 were males, 18 were females and four were of unknown sex.

Pack sizes reported for 18 packs in 1971-72 ranged from one to 15 wolves with an average of 4.6 wolves per pack. In 1970-71 pack sizes for 10 packs ranged from one to nine wolves per pack with the same average of 4.6 wolves per pack.

Management Summary and Conclusions

The reported harvest of 40 wolves compares favorably with the 1962-63 through 1967-68 average of 41.5 wolves bountied per year. The possibility exists that not all wolves taken in Unit 16 were reported as having been killed in this unit. The limit of wolves by aerial shooting in Unit 16 was two per season while in the adjacent Unit 19 up to 10 wolves could be taken on aerial permits. The incentive existed for hunters to shoot wolves in Unit 16 and report them as having been taken in Unit 19.

Reported pack sizes in 1971-72 averaged the same as in 1970-71. This index of wolf abundance suggests a population commensurate with that of a year ago.

Recommendations

No changes in season length or bag limit are recommended at this time. However, a recent policy inaugurated by the Alaska Department of Fish and Game will disallow the issuance of aerial wolf permits beginning the winter of 1972-73.

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

WOLF - GMU 16 - West Side of Cook Inlet

APPENDIX I

Harvest, Chronology and Method of Take, 1971-72*

HARVEST

Males	Females	Unknown	Total
18	18	4	40

CHRONOLOGY BY MONTH

Month	Number	Percent
September	2	5.0
October	0	0.0
November	1	2.5
December	0	0.0
January	2	5.0
February	11	27.5
March	8	20.0
April	15	37.5
Unknown	1	2.5
Total	40	100.0

Method of Take	Number	Percent
Ground shooting	15	37.5
Trapping	4	10.0
Aerial shooting	21	52.5
Total	40	100.0

*Data from sealing records.

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

WOLF - GMU 16 - West Side of Cook Inlet

APPENDIX II

Wolf Harvest, 1962-1972

Regulatory Year	Male	Female	Unknown	Total
1962-63[1/]	-	-	-	5
1963-64[1/]	-	-	-	21
1964-65[1/]	-	-	-	37
1965-66[2/]	-	-	-	84
1966-67[1/]	-	-	-	36
1967-68[1/]	-	-	-	66
1968-69[1/]	-	-	-	6[5/]
1969-70[3/]	-	-	-	2
1970-71[3/]	-	-	-	21
1971-72[4/]	18	18	4	40

[1/] Harvest data compiled from bounty records.
[2/] Harvest data compiled from bounty records through June 1, 1966.
[3/] Harvest data compiled from returned aerial wolf permits.
[4/] Harvest data compiled from wolf sealing certificates.
[5/] 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 probably cause of the reduction of wolves reported taken in 1967-68 to 1968-69 in Game Management Unit 16.

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

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 17 - Bristol Bay

Seasons and Bag Limits

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

Harvest and Hunting Pressure

During the 1971-72 season, 28 wolves were reported harvested in Unit 17 (Appendix I). Aerial shooting was responsible for 82.1 percent of the harvest and 64 percent of the known-sex animals taken were males. This is the highest reported harvest for Unit 17 (Appendix II).

Composition and Productivity

No information available.

Management Summary and Conclusions

Residents of Unit 17 report the area has a healthy but widely scattered wolf population. Harvest does not appear to be an important factor in regulating this population.

Recommendations

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

Submitted by: James B. Faro, Game Biologist III

WOLF - GMU 17 - Bristol Bay

APPENDIX I

Harvest, Chronology and Method of Take, 1971-72*

HARVEST

Males	Females	Unknown	Total
16	9	3	28

CHRONOLOGY BY MONTH

Month	Number	Percent
September	1	3.6
October	0	0.0
November	0	0.0
December	2	7.1
January	2	7.1
February	9	32.1
March	5	17.9
April	9	32.1
Unknown	0	0.0
Total	28	99.9

Method of Take	Number	Percent
Ground shooting	5	17.9
Aerial shooting	23	82.1
Total	28	100.0

*Data from sealing records.

Submitted by: James B. Faro, Game Biologist III

WOLF - GMU 17 - Bristol Bay

APPENDIX II

Historical Wolf Harvest, 1961-1972

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

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

Submitted by: James B. Faro, Game Biologist III

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 18 - Yukon-Kuskokwim Delta

Seasons and Bag Limits

Trapping season	Oct. 1 - Apr. 30	No limit
Hunting season	Sept. 1 - Apr. 30	No limit
Aerial shooting permits	Oct. 1 - Apr. 30	
with resident or nonresident hunting license		Two wolves
with resident trapping license		Ten wolves
aerial shooting possession limit statewide		Ten wolves
nonresident aerial shooting psssession limit		Two wolves

Harvest and Hunting Pressure

Wolves are regularly found only on the northeastern and eastern fringes of Unit 18. They are absent throughout the Yukon-Kuskokwim Delta and on Nunivak Island except for the rare wanderer. This is reflected by the reported harvest which has never exceeded four, for hunting and trapping combined. Wolves are in high demand and would be taken at every opportunity if they were available. Because large ungulates are not permanent residents in most of Unit 18, neither are wolves.

Composition and Productivity

No current information is available.

Management Summary and Recommendations

No regulatory changes are proposed. Wolves can be taken under present circumstances with no effects on populations.

Submitted by: Richard H. Bishop, Game Biologist IV

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 19 - McGrath

Seasons and Bag Limits

Hunting season	Sept. 1 - Apr. 30	No limit
Trapping season	Oct. 1 - Apr. 30	No limit
Aerial shooting permits	Oct. 1 - Apr. 30	
with resident or nonresident hunting license		Two wolves
with resident trapping license		Ten wolves
aerial shooting possession limit statewide		Ten wolves
nonresident aerial hunting possession limit		Two wolves

Harvest and Hunting Pressure

Snow depths in 1970-71 and 1971-72 were considerable, which made wolf hunting by aircraft-equipped hunters practical. Some wolves were taken incidentally by trappers and travelers, but most were taken by landing near wolves and shooting them with a high-powered rifle. In 1970-71 neither bounty nor mandatory sealing was in force. In addition to 42 wolves taken in Unit 19 by aerial shooting, an estimated 70 were taken by aerial hunters who landed to shoot, and 10 to 15 were taken by trapping or shooting opportunistically. The actual harvest for the 1970-71 season was therefore about 125. However, up to half of those taken by landing and shooting were taken in Unit 21, reducing the Unit 19 harvest to about 90.

The 1971-72 season will be discussed in the next annual progress report.

Composition and Productivity

No current information available.

Management Summary and Recommendations

Wolf numbers apparently are increasing in Unit 19 based on observations of wolf tracks observed by Department personnel and the public. Comprehensive surveys have not been made.

No changes in regulations are recommended.

Submitted by: Richard H. Bishop, Game Biologist IV

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 20 - Fairbanks, Central Tanana

Seasons and Bag Limits

Trapping season	Oct. 1 - Apr. 30	No limit
Hunting season	Sept. 1 - Apr. 30	Two wolves
Aerial shooting permits	Oct. 1 - Apr. 30	
with resident or nonresident hunting license		Two wolves
with resident trapping license		Ten wolves
aerial shooting possession limit statewide		Ten wolves
nonresident aerial shooting possession limit		Two wolves

Harvest, Trapping and Hunting Pressure

Based on data compiled from sealing certificates received in the Statistics Section, the wolf harvest in Unit 20 for the 1971-72 regulatory year consisted of 277 animals (131 males, 123 females, and 23 sex unknown). Analyses of sealing certificates received in the Fairbanks office indicate a harvest of 212 wolves (105 males, 94 females, and 13 sex unknown). Comparable figures for the past two seasons are not available, since the bounty system was discontinued and a mandatory sealing requirement was not initiated until 1971. Data compiled from bounty forms for the five-year period 1964-1969 indicate the harvest has fluctuated from a high of 366 in 1966-67 to a low of 134 in 1968-69, for a five-year average harvest of 259. The sex composition of the harvest has remained fairly constant; during the 1971-72 season, females comprised 47 percent of the total kill, closely reflecting the five-year average female harvest of 43 percent.

Appendix I summarizes the subunit harvest, pack size, color, chronology of take, method of take, and sex composition of the unit harvest, based on information obtained only from sealing certificates. Subunit 20C, which occupies the largest area and undoubtedly receives the heaviest hunting and trapping pressure, contributed 159 wolves, or 75 percent of the unit harvest. Sixty-seven percent of the total harvest consisted of grays and 24 percent consisted of the black color phase. Harvest chronology data indicate the bulk of the harvest occurred during November (14.6%), December (14.2%), January (12.7%), March (24.5%), and April (19.8%). Trapping and snaring accounted for 59.4 percent of the harvest, while ground shooting and aerial shooting accounted for 9.9 percent and 30.7 percent, respectively.

Appendices II-IV summarize the wolf harvest data extracted from aerial wolf permit returns for permittees who hunted in all or portions of Region III. Although sealing documents indicate 65 wolves were taken by aerial shooting in Unit 20, the number reported taken by successful aerial wolf permittees totals 102, reflecting inconsistencies in our data retrieval system.

Aerial wolf permit data were not compiled on a unit basis for the 1970-71 season; however, the regional harvest showed a marked increase in 1971-72 when 532 wolves were taken, compared to 226 the previous year. Part of this increase can be explained by the omissi[illegible] of Region II returns in 1970-71, which were included in the current tabulation. Data for the 1969-70 season indicate an aerial wolf hunter harvest of 183 for Region III; Unit 20 furnished 46 wolves, or 25 percent of the regional harvest. In 1971-72, 19 percent of the regional harvest came from Unit 20.

Appendix III summarizes the distribution of success for 215 reporting aerial wolf permittees. One hundred and fourteen returns (53%) indicated no wolves were taken, while 20 percent of the successful permittees took one wolf, 21 percent took two, and 19 percent took ten.

Harvest chronology for 507 known date kills taken by aerial wolf hunters in Region III is listed in Appendix IV, and reflects the late season hunting pressure for wolves when weather and snow conditions are more conducive to aerial hunting. Thirty-seven percent of the harvest of 102 wolves in Unit 20 occurred in March, while 46 percent were taken in April.

Composition and Productivity

No current information available.

Management Summary and Recommendations

Analysis of wolf harvest data dating back to 1964 indicates that Unit 20 has sustained a kill in excess of 200 wolves for five of the six seasons for which data are available. Although it is not known whether the wolf population in Unit 20 has increased, decreased, or stabilized over this period, utilization of the wolf resource at the current level of exploitation does not appear to have adversely affected the population. In view of the future curtailment of aerial wolf hunting, methods for utilizing surplus wolves through sport hunting and trapping should be continued. If the current market value (raw wolf hides were being sold for at least $100.00 last winter) remains high, recreational and subsistence trapping will undoubtedly increase. Nevertheless, a significant decrease in future harvests is to be expected with the restriction on aerial hunting, and public sentiment may force the Department to initiate its own control program when competition for the ungulate prey species increases.

If pack size is a measure of abundance, a frequency distribution of pack size for the 1971-72 season may give an insight into relative abundance when compared with data from Interior Alaska for the period 1960-66. Based on data compiled from sealing certificates, 91 packs (2 or more wolves) were observed in Unit 20, containing 32 percent wolves in packs of eight or more, while data from aerial wolf permits indicate 38 packs contained 32 percent wolves in packs of eight or more.

Data compiled in Interior Alaska from 1960-66 indicate that total packs observed rose from a low of 12 in 1960-61 to a high of 121 in 1965-66, while the percent of wolves in packs of eight or more reached a high of 58 percent in 1965-66 from a low of 22 percent in 1963-64. Although meaningful interpretation cannot be made when comparing data on a unit basis with those from a large portion of the state, if pack size for Unit 20 reflects wolf density throughout the Interior, the smaller pack size may indicate a smaller wolf population than existed in 1966. It is not known what population fluctuations occurred during the intervening years.

Submitted by: Mel Buchholtz, Game Biologist II

WOLF - GMU 20 - Fairbanks, Central Tanana

Appendix I

Game Management Unit 20 Wolf Harvest, 1971-72 Regulatory Year, Based on Data Compiled From Sealing Certificates.

	Av. Pack Size	Color					Month of Take									Method of Take					Sex		
		W	Br	Gr	Bl	?	September	October	November	December	January	February	March	April	Month ?	Trap	Snare	Ground Shooting	Aerial Shooting	Trap or Snare	M	F	?
20 A 20A Harvest 19 % Unit Harvest 9.0	5.6	-	2	11	6		-	-	-	4	5	5	1	4		7	-	4	8		12	7	
20 B 20B Harvest 16 % Unit Harvest 7.5	3.1	1	-	10	5		2	1	3	-	1	3	3	3		8	2	6	-		9	6	1
20 C 20C Harvest 159 % Unit Harvest 75.0	5.4	3	3	111	39	3	5	2	27	24	20	6	46	28	1	29	34	10	50	36	76	77	6
20 D 20D Harvest 11 % Unit Harvest 5.2	4.1	-	-	10	1		-	4	1	2	1	1	2	-		7	3	1			7	4	
20 Unspecified 20 Unspec. Harvest 7 % Unit Harvest 3.3	7.0		5	1	1									7					7		1		6
UNIT TOTAL	5.1	4	10	143	52	3	7	7	31	30	27	15	52	42	1	51	39	21	65	36	105	94	13
% of TOTAL		1.9	4.7	67.4	24.5	1.4	3.3	3.3	14.6	14.2	12.7	7.1	24.5	19.8	0.5	24.0	18.4	9.9	30.7	17.0	49.5	44.3	6.1

Submitted by: Mel Buchholtz, Game Biologist II

Appendix II

Region III Wolf Harvest by Unit as Reported by Aerial Wolf Permittees, 1971-72 Regulatory Year.

Unit	Number Taken	Average Pack Size
12	57	8.2
18	2	no data
19	63	7.3
20	102	5.2
21	90	5.0
22	no reported kill	
23	26	3.7
24*	108	6.7
25*	74	6.7
26	no season	
Total Reported Region III Harvest	532	

*An additional 10 wolves were reported taken in Units 24 and 25.

Submitted by: Mel Buchholtz, Game Biologist II

Appendix III

Region III Aerial Wolf Hunter Distribution of Success, 1971-72 Regulatory Year, Based on Data Compiled from Aerial Wolf Permi Returns.

		Number of Reporting Permittees	Percent of Successful Permittees
Killed:	None	101	
	One	23	20.2
	Two	24	21.0
	Three	9	7.9
	Four	7	6.1
	Five	5	4.4
	Six	5	4.4
	Seven	4	3.5
	Eight	5	4.4
	Nine	5	4.4
	Ten	22	19.3
	Eleven	-	-
	Twelve	5	4.4
Total Reporting Permittees, Successful and Unsuccessful, Who Hunted in All or Portions of Region III		215	
Total Successful Permittees		114	

Submitted by : Mel Buchholtz, Game Biologist II

WOLF - GMU 20 - Fairbanks, Central Tanana

Appendix IV

Region III aerial wolf hunter harvest chronology by unit, 1971-72 regulatory year. Known date kills are based on data compiled from aerial wolf permit returns.

	Month of Harvest	Unit Harvest 12 No.	12 %	18 No.	18 %	19 No.	19 %	20 No.	20 %	21 No.	21 %	22	23 No.	23 %	24 No.	24 %	25 No.	25 %	26
1971	October	-		-		-		-		-			-		-		-		
	November	3	5.4	-		-		-		-			-		-		4	5.4	
	December	2	3.6	-		2	3.6	-		-			-		2	1.9	-		
1972	January	5	9.1	-		-		11	10.8	-		NO REPORTED KILL	2	7.7	3	2.8	22	29.7	NO SEASON
	February	11	20.0	-		23	41.8	6	5.9	12	13.3		8	30.8	25	23.6	3	4.0	
	March	13	23.6	-		14	25.4	38	37.2	21	23.3		13	50.0	57	53.8	21	28.4	
	April	21	38.2	2	100.0	16	29.1	47	46.1	57	63.3		3	11.5	19	17.9	24	32.4	
	Sub-total	55		2		55		102		90			26		106		74		

Total known date kills 507

Submitted by: Mel Buchholtz, Game Biologist II

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 21 - Middle Yukon

Seasons and Bag Limits

Hunting season	Sept. 1 - Apr. 30	No limit
Trapping season	Oct. 1 - Apr. 30	No limit
Aerial shooting permits	Oct. 1 - Apr. 30	
with resident or nonresident hunting license		Two wolves
with resident trapping license		Ten wolves
aerial shooting possession limit statewide		Ten wolves
nonresident aerial shooting possession limit		Two wolves

Harvest and Hunting Pressure

Snow depths in 1970-71 and 1971-72 were considerable, which made wolf hunting via airplane practical. Thirty-two wolves were reported taken by aerial hunters. An unknown but probably small number were taken by trappers, and about 35 were known to have been taken by hunters landing and shooting.

The estimated harvest in 1970-71 was 90 to 100 wolves in Unit 21.

Composition and Productivity

No current information is available.

Management Summary and Recommendations

Wolf numbers are apparently increasing in Unit 21, based on increased observations, tracks and wolves by Department personnel and the public.

No changes in regulations are recommended.

Submitted by: Richard H. Bishop, Game Biologist IV

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 24 - Koyukuk

Seasons and Bag Limits

Trapping season	Oct. 1 - Apr. 30	No limit
Hunting season	Sept. 1 - Apr. 30	Two wolves
Aerial shooting permits	Oct. 1 - Apr. 30	
with resident or nonresident hunting license		Two wolves
with resident trapping license		Ten wolves
aerial shooting possession limit statewide		Ten wolves
nonresident aerial shooting possession limit		Two wolves

Harvest and Hunting Pressure

The total number of wolves harvested in Unit 24 during the 1971-72 regulatory year, as indicated by sealing forms, was 117 (66 male, 35 female, 16 sex unknown). This is a decrease from the 1967-68 take of 222 wolves but an increase over the 1968-69 harvest of 58. Harvest figures are not available for the 1969-70 and 1970-71 regulatory years due to the discontinuance of the bounty system in 1969 and the fact that the wolf sealing program was not initiated until the 1971-72 regulatory year.

Composition and Productivity

Three active dens were located in this unit during May, 1972 during efforts to locate dens in the north-central Brooks Range. These dens were located along the eastern and northern edges of the unit and no effort was made to locate dens in the remainder of the unit. According to residents, aerial hunting activity was intense in this unit, and it is probable that the take was undesirably high. A few wolf packs of average size (5-7) were reported by pilots in the southern part of Game Management Unit 25 following the close of the hunting season and a few other sightings have been reported during the summer. Thus, wolves in some numbers remain in the unit. Their numbers may, however, be temporarily depressed.

Management Summary and Recommendations

With the limited information available it is difficult to generalize about the status of the wolf population in Unit 24.

Hunting and trapping seasons should remain as last year's, but aerial hunting should be curtailed or strictly limited in view of the increased harvest and possible low population. Increased human activity accompanying resource development also argues for adopting a more conservative approach.

Submitted by: Robert Stephenson, Game Biologist II

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 25 - Fort Yukon

Seasons and Bag Limits

Trapping season	Oct. 1 - Apr. 30	No limit
Hunting season	Sept. 1 - Apr. 30	Two wolves
Aerial shooting permits	Oct. 1 - Apr. 30	
with resident or nonresident hunting license		Two wolves
with resident trapping license		Ten wolves
aerial shooting possession limit statewide		Ten wolves
nonresident aerial shooting possession limit		Two wolves

Harvest and Hunting Pressure

The total number of wolves harvested in Unit 25 during the 1971-72 regulatory year, as indicated by sealing forms, was 120 (61 male, 51 female, 8 sex unknown). This is considerably greater than the 1967-68 harvest of 59 wolves and the 1968-69 harvest of 61 wolves. Harvest statistics are not available for the 1969-70 and 1970-71 regulatory years. Reports from aerial hunters and from a group of four biologists conducting privately financed work on wildlife in this area suggest that the wolf population was at a moderate to low level during and following the aerial hunting season.

Management Summary and Recommendations

With the limited information available it is difficult to generalize about the status of the wolf population in Unit 25. However, the 1971-72 harvest of wolves is nearly double that of 1967-68 and there is some indication that the population is undesirably low.

Hunting and trapping seasons should remain the same as last year but aerial hunting should be curtailed or at least strictly limited in view of the increased harvest and possible low population level. Increased human activity accompanying resource development also argues for adopting a more conservative approach.

Submitted by: Robert Stephenson, Game Biologist II

WOLF

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 26 - Arctic Slope

Seasons and Bag Limits

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

Closed to the taking of wolves from an aircraft and to the aid or use of an aircraft in trapping wolves.

Harvest and Hunting Pressure

Complete harvest data are not available because time did not allow for the introduction of the sealing program into villages in this unit. The total number of wolves taken in Unit 26 was in all probability small since aerial hunting was disallowed. A few wolves are taken each year by residents of coastal villages. The residents of Anaktuvuk Pass trapped 36 wolves, about half of which were taken in Unit 24. The total number of wolves taken by residents of the unit during the 1971-72 regulatory year is therefore almost certainly less than 50. No rumors or evidence of illegal aerial hunting have been noted. The reported harvests for the regulatory years 1967-68 and 1968-69 were 103 and 67, respectively. Unit 26 was closed to aerial hunting prior to the 1970 hunting season.

Composition and Productivity

Intensive studies of the wolf in the north-central Brooks Range during the past two years show a considerable increase in occurrence of active dens. With roughly the same effort made to locate active dens, three were located in 1970 while the whereabouts of ten were determined in 1972. In addition, the average pack size (winter observations) has increased from about 2.7 to 5.

Management Summary and Recommendations

In the two years following the cessation of aerial hunting in 1970, the wolf population in Game Management Unit 26 has roughly doubled, reaching what might be considered a "normal" density.

The trapping season should remain as last year's. The hunting season should be reopened from September 1 through April 30 with a limit of two wolves.

The prohibition on aerial shooting and trapping with the aid or use of an aircraft should be retained in view of the demonstrated vulnerability of wolves in this unit and the increasing human activity and improved access.

Submitted by: Robert Stephenson, Game Biologist II

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 6 - Prince William Sound - Copper River

Seasons and Bag Limits

Hunting	Sept. 1 - March 31	One wolverine
Trapping	Nov. 16 - March 31	No limit

Harvest and Hunting Pressure

Sealing data on wolverine in Unit 6 revealed 8 males, 12 females and 1 unknown for a total of 21 animals taken during the 1971-72 season (Appendix I). Five trappers accounted for all but one wolverine. Of the 21 taken, 18 were trapped east of the Copper River, two west of the Copper River and one was reported by ground shooting in the Prince William Sound area.

Comparison of the wolverine harvest data for Unit 6 from 1961-62 through 1971-72 (Appendix II) indicates the past seasons' harvest was above average but not abnormally high.

Composition and Productivity

No data available.

Management Summary and Conclusions

Analysis of the harvest and trapping pressure coupled with a general knowledge of wolverine abundance in Unit 6 indicate a resource that is not heavily utilized. Thus, no change in the seasons or bag limits is recommended.

Recommendations

Retain the present hunting season, trapping season bag limits.

Submitted by: Julius Reynolds, Game Biologist III

WOLVERINE - GMU 6 - Prince William Sound - Copper River

APPENDIX I

Wolverine Harvest, Unit 6, 1971-72

HARVEST

Males	Females	Unknown	Total
8	12	1	21

CHRONOLOGY BY MONTH

Month	Number	Percent
December	6	28.6
January	6	28.6
February	5	23.8
March	4	19.0
Total	21	100.0

Method of Take	Number	Percent
Ground shooting	1	4.8
Trapping	20	95.2
Total	21	100.0

Submitted by: Julius Reynolds, Game Biologist III

WOLVERINE - GMU 6 - Prince William Sound - Copper River

APPENDIX II

Historical Wolverine Harvest, Unit 6, 1961-72

Year	Number
1961-62*	14
1962-63	3
1963-64	9
1964-65	12
1965-66	16
1966-67	26
1967-68	8
1968-69	13
1969-70	Unk.
1970-71**	18
1971-72***	21
Total	Ave. 14.0

* Data for the years of 1961-62 through 1968-69 obtained from bounty records.

** Data obtained from a questionnaire to Cordova trappers.

***Sealing data - first year sealing of wolverine was required.

Submitted by: Julius Reynolds, Game Biologist III

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1971

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 23 wolverine were taken in Unit 7 during the 1971-72 season (Appendices I and II). The harvest between 1968, when the bounty was discontinued, and 1971, when the wolverine sealing regulation was enacted, is unknown.

The 1971-72 wolverine harvest was higher than any other recorded harvest since 1961-62. Although data are not available to indicate why the harvest was higher, there appears to have been an increase in trapping interest due to the abundance of lynx.

All wolverine sealed from Unit 7 were taken by the use of traps and snares.

Composition and Productivity

Surveys for wolverine were not conducted; however, an abundance of wolverine sign was noted incidental to other surveys. Based on the observation of an unusual amount of wolverine sign, it is felt that the wolverine population was high during the 1971-72 season.

Management Summary and Conclusions

The 1971-72 wolverine harvest in Game Management Unit 7 was the highest recorded since 1961. The high level of harvest appears to have resulted from more trapping effort and an abundance of wolverine.

Recommendations

No changes are recommended.

Submitted by: Paul A. LeRoux, Game Biologist III

WOLVERINE - GMU 7 - Eastern Kenai Peninsula

APPENDIX I

1971-72 Wolverine Harvest*

HARVEST

Males	Females	Unknown	Total
10	11	2	23

CHRONOLOGY BY MONTH

Month	Number	Percent
September	0	0.0
October	0	0.0
November	2	8.7
December	2	8.7
January	4	17.4
February	7	30.4
March	7	30.4
April	1	4.3
Unknown	0	0.0
Total	23	99.9

Method of Take	Number	Percent
Trapping	22	95.7
Snaring	1	4.3
Total	23	100.0

*Data from sealing records.

Submitted by: Paul A. LeRoux, Game Biologist III

WOLVERINE - GMU 7 - Eastern Kenai Peninsula

APPENDIX II

Wolverine Bounty and Sealing Records

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

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

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 9 - Alaska Peninsula

Seasons and Bag Limits

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

Harvest and Hunting Pressure

During the 1971-72 season, 46 wolverine were reported harvested in Unit 9 (Appendix I). The majority of the animals were taken by trappers. The harvest for Unit 9 has been reported as high as 63 wolverine (Appendix II).

Composition and Productivity

No information available.

Management Summary and Conclusions

Game Management Unit 9 has an excellent wolverine population that is receiving only light hunting and trapping pressure. Harvest does not appear to be a major factor affecting the population.

Recommendations

No changes in season and bag limits are recommended.

Submitted by: James B. Faro, Game Biologist III

WOLVERINE - GMU 9 - Alaska Peninsula

APPENDIX I

1971-72 Wolverine Harvest*

HARVEST

Males	Females	Unknown	Total
28	17	1	46

CHRONOLOGY BY MONTH

Month	Number	Percent
September	0	0.0
October	2	4.3
November	2	4.3
December	1	2.2
January	3	6.5
February	7	15.2
March	16	34.8
April	1	2.2
Unknown	14	30.4
Total	46	99.9

Method of Take	Number	Percent
Ground shooting	11	23.9
Trapping	35	76.1
Total	46	100.0

*Data from sealing records.

Submitted by: James B. Faro, Game Biologist III

WOLVERINE - GMU 9 - Alaska Peninsula

APPENDIX II

Historical Wolverine Harvest 1962-1972

Year	Harvest
1962-63[1/]	14
1963-64[1/]	34
1964-65[1/]	39
1965-66[1/]	40
1966-67[1/]	63
1967-68[1/]	43
1968-69[1/]	10
1969-70[2/]	5
1970-71[3/]	-
1971-72[4/]	46

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 - 1971

Game Management Unit 11 - Wrangell Mountains-Chitina River

Seasons and Bag Limits

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

Harvest and Hunting Pressure

Since termination of bounty payments in 1969, data on wolverine harvests have been lacking. However, beginning in the regulatory year 1971-72, the Alaska Board of Fish and Game adopted a mandatory sealing program which should give precise harvest data. An examination of data for the first year of the sealing program shows that 28 wolverine (20 males and 8 females) were reported taken in Unit 11 (Appendix I). Sixty-eight percent of the harvest occurred in March. Trappers accounted for all but one of the animals taken.

Historical harvest data are presented in Appendix II.

Composition and Productivity

No data. It is interesting to note that of wolverines harvested in Alaska, males have always outnumbered females by about two to one. The 1971-72 harvest was no exception.

Management Summary and Conclusion

In view of the size of this unit, it would appear that a harvest of only 28 wolverines would have little or no effect on the overall population.

Recommendations

No changes in seasons, bag limits or methods and means are recommended.

Submitted by: Loyal J. Johnson, Game Biologist III

WOLVERINE - GMU 11 - Wrangell Mountains-Chitina River

APPENDIX I

Wolverine Harvest, Chronology and Method of Take, 1971-72

HARVEST			
Males	Females	Unknown	Total
20	8	0	28

CHRONOLOGY BY MONTH

Month	Number	Percent
September	1	3.6
October	0	0.0
November	0	0.0
December	0	0.0
January	1	3.6
February	7	25.0
March	19	67.9
April	0	0.0
Unknown	0	0.0
Total	28	100.1

Method of Take	Number	Percent
Ground shooting	1	3.6
Trapping	27	96.4
Total	28	100.0

Submitted by: Loyal J. Johnson, Game Biologist III

WOLVERINE - GMU 11 - Wrangell Mountains-Chitina River

APPENDIX 11

Historical Wolverine Harvest, 1962-1972

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

* Data from bounty records.
**Data from sealing records.

Submitted by: Loyal J. Johnson, Game Biologist III

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 12 - Upper Tanana and White Rive

Seasons and Bag Limits

Hunting season	Sept. 1 - Mar. 31	One wolverine
Trapping season	Nov. 1 - Apr. 30	No limit

Harvest, Trapping and Hunting Pressure

Sealing data indicate that 33 wolverines were taken in Unit 12 during the 1971-72 season. Twenty were males and 13 were females. Reported chronology of the harvest was as follows:

Month	Number	Percent
September	1	3
October	0	0
November	2	6
December	5	15
January	2	6
February	4	12
March	19	58
April	0	0

The accuracy of the above figures is subject to considerable doubt. It seems unlikely that over half the harvest occurred during March when many trappers are pulling their traps because of unfavorable trapping conditions. Instead, it is likely that trappers neglected to have their pelts sealed until near the end of the trapping season when they prepared to sell their catch and then discovered the pelts still unsealed. The regulations specified that wolf and wolverines were required to be sealed within 60 days after being taken. To avoid possible prosecution for not having pelts sealed prior to the 60 day deadline, some trappers probably reported an arbitrary date sometime within the 60 days just prior to when the pelts were sealed. This explanation would account for the large harvest reported for March.

Nearly 94 percent of the harvest was by trapping, 6 percent by ground shooting and none by snaring.

Bounty records revealed the following harvest figures for Unit 12. It is believed most animals taken were bountied.

Year	Number	Year	Number
1962-63	25	1967-68	30
1963-64	17	1968-69	9
1964-65	25	1969-70	no data
1965-66	26	1970-71	no data
1966-67	30	1971-72	33

Management Summary and Recommendations

The wolverine is not and probably never has been abundant, although it does have widespread distribution throughout Alaska. Adult animals are usually solitary and populations are sparse. Present harvest levels appear commensurate with reproduction. There do not appear to be any trends in the hunting or trapping pressure nor any trends in the harvest.

It is recommended the present seasons and bag limits be retained.

Submitted by: Larry Jennings, Game Biologist III

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 13 - Nelchina Basin

Seasons and Bag Limits

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

Harvest and Hunting Pressure

For the first time since termination of bounty payments in 1968, precise harvest figures are available for wolverine. These data are acquired through a mandatory sealing program adopted by the Alaska Board of Fish and Game starting with regulatory year 1971-72. During regulatory year 1971-72 hunters and trappers presented 75 wolverine harvested in Unit 13 for sealing (Appendix I). Of that harvest, 40 were males, 30 were females and five were of unknown sex. Sixty-three percent of the harvest occurred in February and March. Trappers took 80 percent of the harvest, the remaining 20 percent were shot.

Historical harvest data for Unit 13 are presented in Appendix II.

Composition and Productivity

The sex composition of wolverine harvested in Alaska has always been heavily weighted toward males. The 1971-72 Unit 13 harvest showed a higher than usual percentage of females. Without knowing ages of the animals harvested, such data are only interesting.

Management Summary and Conclusions

Wolverine are a seldom encountered creature. Because of the infrequency of encounters, hunting or incidental shooting would have little or no effect on the population. Unit 13 is so large and seldom visited in winter that it seems unlikely that trapping could have an influence on the wolverine population. The number of wolverine shot illegally from airplanes by aerial wolf hunters is unknown but that activity is known to occur. However, in light of the sex ratio in the harvest of 1971-72 and sex ratio by age-class as reported by Rausch and Pearson (1972), the sex ratio in the kill should be watched for the next few years. If future years' harvests show a fairly equal sex ratio, attempts should be made to determine ages of animals harvested.

Recommendations

No changes in season, bag limits or methods and means are recommended.

Literature Cited

Rausch, R. A. and A. M. Pearson. 1972. Notes on the wolverine in Alaska and the Yukon Territory. J. Wildl. Mgmt. 36(2):249-269.

Submitted by: Loyal J. Johnson, Game Biologist III

WOLVERINE - GMU 13 - Nelchina Basin

APPENDIX I

Wolverine Harvest, Chronology and Method of Take, 1971-72

HARVEST			
Males	Females	Unknown	Total
40	30	5	75

CHRONOLOGY BY MONTH

Month	Number	Percent
September	1	1.3
October	0	0.0
November	3	4.0
December	9	12.0
January	7	9.3
February	16	21.3
March	31	41.3
April	0	0.0
Unknown	8	10.7
Total	75	99.9

Method of Take	Number	Percent
Ground shooting	15	20.0
Trapping	60	80.0
Total	75	100.0

Submitted by: Loyal J. Johnson, Game Biologist III

WOLVERINE - GMU 13 - Nelchina Basin

APPENDIX II

Historical Wolverine Harvest, 1962-1972

Year	Harvest
1962-63	37*
1963-64	32*
1964-65	65*
1965-66	102*
1966-67	132*
1967-68	86*
1968-69	No data
1969-70	No data
1970-71	No data
1971-72	75**

* Bounty records.
**Sealing records.

Submitted by: Loyal J. Johnson, Game Biologist III

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 14 - 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

A total of 12 wolverine taken in Game Management Unit 14 were presented for sealing this year (Appendix I). Historical data from bounty records for 1962-63 through 1967-68 indicate wolverine harvests ranged from 9 to 37, with an average of 19.8 wolverine bountied per year (Appendix II).

In 1972, six of the 12 wolverine were taken by ground shooting, five by trapping and one by snaring.

Ten of the 12 wolverine taken in 1972 came from known areas. Two were taken in the Chugach Mountains in Game Management Subunit 14C, one was taken in the Talkeetna Mountains in Subunit 14A, and seven were taken in Susitna River drainages in Subunits 14A or 14B.

Composition and Productivity

Seven of the 12 wolverine taken in 1971-72 were males, three were females and two were of unknown sex.

Management Summary and Conclusions

The reported harvest of 12 wolverine taken during the 1971-72 season is somewhat lower than the 1962-63 through 1967-68 average of 19.8. However, it is questionable if past bounty statistics are comparable with data gathered from required sealing of wolverine. Not all hunters and trappers may be aware of the new regulation.

The Susitna River drainages produced most of the wolverine taken in Unit 14 during the 1971-72 season.

The harvest was evenly divided between trappers and hunters.

Recommendations

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

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

WOLVERINE - GMU 14 - Upper Cook Inlet

APPENDIX I

Wolverine Harvest, Chronology and Method of Take, 1971-72*

HARVEST

Males	Females	Unknown	Total
7	3	2	12

CHRONOLOGY BY MONTH

Month	Number	Percent
September	3	25.0
October	0	0.0
November	1	8.3
December	1	8.3
January	3	25.0
February	1	8.3
March	3	25.0
April	0	0.0
Unknown	0	0.0
Total	12	99.9

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

*Data from sealing records.

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

WOLVERINE - GMU 14 - Upper Cook Inlet

APPENDIX II

Wolverine Harvest from Bounty Records, 1962-1968

Regulatory Year	Harvest
1962-63	9
1963-64	10
1964-65	15
1965-66	37
1966-67	27
1967-68*	21
Average	19.8

*Bounties were not paid in Unit 14 after July 21, 1968.

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

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 15 - Western Kenai Peninsula

Seasons and Bag Limits

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

Harvest and Hunting Pressure

Wolverine sealing records indicate that 25 wolverine were taken in Unit 15 during the 1971-72 season (Appendices I and II). The harvest between 1968, when the bounty was discontinued, and 1971, when the wolverine sealing regulation was enacted, is unknown.

The 1971-72 harvest was considerably higher than any other recorded harvest since 1961-62. Although no data are available to indicate why the 1971-72 harvest was higher, there appears to have been an increase in trapping interest due to the abundance of lynx during the past two years. All wolverine sealed from Unit 15 were taken by the use of traps.

Composition and Productivity

Surveys for wolverine were not conducted; however, an abundance of wolverine sign was noted incidental to other surveys. Based on the abundance of wolverine sign observed it is felt that the population was high during the 1971-72 season.

Management Summary and Conclusions

The 1971-72 wolverine harvest in Game Management Unit 15 was the highest recorded harvest since 1961. The high level of harvest appears to have resulted from increasing trapping effort and an abundance of wolverine.

Some trappers who took wolverine during March complained that females were lactating and indicated that the season should not be open during March.

Recommendations

No changes are recommended.

Submitted by: Paul A. LeRoux, Game Biologist III

WOLVERINE - GMU 15 - Western Kenai Peninsula

APPENDIX I

Wolverine Harvest, Chronology and Method of Take, 1971-72*

HARVEST

Males	Females	Unknown	Total
18	7	0	25

CHRONOLOGY BY MONTH

Month	Number	Percent
September	0	0.0
October	0	0.0
November	1	4.0
December	4	16.0
January	11	44.0
February	6	24.0
March	3	12.0
April	0	0.0
Unknown	0	0.0
Total	25	100.0

Method of Take	Number	Percent
Trapping	25	100.0
Total	25	100.0

*Data from sealing records.

Submitted by: Paul A. LeRoux, Game Biologist III

WOLVERINE - GMU 15 - Western Kenai Peninsula

APPENDIX II

Wolverine Bounty and Sealing Records

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

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

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1971

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

Fifty-one wolverine reportedly taken in Unit 16 were presented for sealing this year (Appendix I). Historical data from bounty records during fiscal years 1962-63 through 1968-69 indicate harvests ranged from 13 to 58 during the period with an average of 36.9 wolverine bountied per year (Appendix II).

In 1971-72 nine (17.6 percent) of the 51 wolverines were taken by ground shooting, 39 (76.5 percent) were trapped, and the method of take is unknown for three (5.9 percent).

Composition and Productivity

Thirty-eight of the 51 wolverine taken in Unit 16 during the 1971-72 season were males, seven were females and six were of unknown sex.

Management Summary and Conclusions

The reported harvest of 51 wolverine taken in Unit 16 compares favorably with the 1962-63 through 1968-69 average of 36.9.

The majority of the wolverines were taken by trapping.

Recommendations

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

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

WOLVERINE - GMU 16 - West Side of Cook Inlet

APPENDIX I

Wolverine Harvest, Chronology and Method of Take, 1971-72*

HARVEST			
Males	Females	Unknown	Total
38	7	6	51

CHRONOLOGY BY MONTH

Month	Number	Percent
September	1	2.0
October	0	0.0
November	5	9.8
December	1	2.0
January	7	13.7
February	8	15.7
March	16	31.4
April	0	0.0
Unknown	13	25.5
Total	51	100.1

Method of Take	Number	Percent
Ground shooting	9	17.6
Trapping	39	76.5
Unknown	3	5.9
Total	51	100.0

*Data from sealing records.

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

WOLVERINE - GMU 16 - West Side of Cook Inlet

APPENDIX II

Wolverine Harvest from Bounty Records, 1962-63 through 1968-69

Regulatory Year	Harvest
1962-63	13
1963-64	43
1964-65	34
1965-66	58
1966-67	51
1967-68	44
1968-69	15
Average	39.9

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

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 17 - Bristol Bay

Seasons and Bag Limits

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

Harvest and Hunting Pressure

Twenty-one wolverine were reported harvested in Unit 17 under the hide sealing program (Appendix I). All animals were reported taken by trappers. The highest reported harvest for this unit was 70 animals during the 1963-64 season (Appendix II).

Composition and Productivity

No information available.

Management Summary and Conclusions

The present level of harvest does not appear to be detrimental to the population.

Recommendations

No changes in season or bag limit are recommended.

Submitted by: James B. Faro, Game Biologist III

WOLVERINE - GMU 17 - Bristol Bay

APPENDIX I

Wolverine Harvest, Chronology and Method of Take, 1971-72*

HARVEST

Males	Females	Unknown	Total
10	5	6	21

CHRONOLOGY BY MONTH

Month	Number	Percent
September	0	0.0
October	0	0.0
November	2	9.5
December	1	4.8
January	0	0.0
February	12	57.1
March	3	14.3
April	0	0.0
Unknown	3	14.3
Total	21	100.0

Method of Take	Number	Percent
Trapping	20	95.2
Snaring	1	4.8
Total	21	100.0

*Data from sealing records.

Submitted by: James B. Faro, Game Biologist III

WOLVERINE - GMU 17 - Bristol Bay

APPENDIX II

Historical Wolverine Harvest, 1962-1972

Year	Harvest
1962-63[1]	8
1963-64[1]	70
1964-65[1]	7
1965-66[1]	27
1966-67[1]	31
1967-68[1]	35
1968-69[1]	24
1969-70[2]	-
1970-71[2]	-
1971-72[3]	21

[1] Data from bounty analysis.
[2] No data available.
[3] Data from hide sealing program.

Submitted by: James B. Faro, Game Biologist III

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 18 - Yukon-Kuskokwim Delta

Seasons and Bag Limits

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

Harvest, Trapping and Hunting Pressure

Wolverines and wolves are distributed similarly in Unit 18. They tend to be found on the northeastern and eastern fringes of the unit. The number killed has ranged from 1 to 7 since 1961-62, with the high in 1967-68. Wolverines are in great demand for their pelts, which are used in parka ruffs. The kill would be higher if more wolverines were available but the existing prey community will not support larger numbers of wolverines.

Management Summary and Conclusions

No regulatory changes are proposed. Wolverines can be taken opportunistically under present regulations with no effect on populations.

Submitted by: Richard H. Bishop, Game Biologist IV

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 19 - McGrath

Seasons and Bag Limits

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

Harvest, Trapping and Hunting Pressure

Hunting and trapping pressure in Unit 19 was light. The 1971-72 harvest was 29, of which 12 were taken by shooting, 14 by trapping and snaring, and 3 by unknown means. Wolverines are taken almost completely fortuitously in this unit.

Management Summary and Conclusions

General population levels appear to be average or above average when compared to other parts of Interior Alaska. Present regulations are well suited to the management situation and needs in Unit 19.

Submitted by: Richard H. Bishop, Game Biologist IV

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 20 - Fairbanks, Central Tanana

Seasons and Bag Limits

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

Harvest, Trapping and Hunting Pressure

Based on sealing certificates, the legally reported harvest of wolverines in Game Management Unit 20 for the 1971-72 season consisted of 55 animals (42 male, 11 female, and 2 sex unknown). Comparable figures for the past two seasons are not available, since the bounty system was discontinued in 1969 and a mandatory sealing requirement was not initiated until 1971. However, data compiled from bounty forms for the five-year period 1964-1969 indicate the harvest has fluctuated from a low of 23 in 1969 to a high of 108 in 1967, for a five-year average in Unit 20 of 73.

Appendix I lists the subunit harvest breakdown, chronology and method of harvest. Subunit 20C, which occupies the largest area and undoubtedly receives the heaviest trapping pressure, contributed 64 percent of the unit harvest. Trapping accounted for 84 percent of the total take, while ground shooting comprised 16 percent of the harvest. Harvest chronology data reflect the late season trapping pressure in the unit; the take in February and March consisted of 33 wolverines, or 61 percent of the total of known-date kills.

Females comprised 21 percent of the harvest of known-sex kills. This may not be an indication of the sex structure of the population, as females which have given birth to young in midwinter remain close to the den site and are less susceptible to trapping.

Management Summary and Recommendations

It is not known whether the higher harvest of wolverines in Game Management Unit 20 in 1971-72 compared to 1968-69 (the last season for which data are available) is a reflection of abundance of animals or increased trapping pressure. Several trappers who were interviewed indicated they could receive from $75 - $100 for their untanned wolverine hides; this high market value undoubtedly sustains a large interest in recreational and subsistence trapping. The high lynx and wolf populations in this unit also provide incentive for hunting and trapping wolverine.

Although wolverine do not appear to be overly abundant in the unit, pressure on the resource is restricted to a relatively few areas where trapping effort is high, notably the Dry Creek - Wood River, Eagle and Central areas. Nevertheless, the potential for overharvest in accessible areas does exist if fur prices remain at the current level, and snow-machines provide greater mobility for trappers.

In the event future harvests decline while fur prices and trapping pressure remain high, it is recommended that a bag limit on trapping be initiated.

Submitted by: Mel Buchholtz, Game Biologist II

WOLVERINE - GMU 20 - Fairbanks, Central Tanana

Appendix I

Unit 20 wolverine harvest, 1971-72 regulatory year. Based on information obtained from sealing certificates.

	No. Taken			Chronology		Method of Harvest	
	Male	Female	?	Month	No. Taken	Ground Shooting	Trapping
GMU 20A	11	1		Sept.	1	2	10
				Nov.	1		
				Dec.	3		
				Feb.	2		
				March	5		
GMU 20B	6			Nov.	3	6	
				Feb.	1		
				March	2		
GMU 20C	25	8	2	Sept.	2	6	29
				Nov.	2		
				Dec.	5		
				Jan.	3		
				Feb.	11		
				March	12		
GMU 20D		2		Sept.	1	1	1
UNIT 20 TOTALS	42	11	2			9	46

Submitted by: Mel Buchholtz, Game Biologist II

WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 21 - Middle Yukon

Seasons and Bag Limits

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

Harvest, Trapping and Hunting Pressure

In 1970-71 neither bounties nor a sealing requirement were in effect so harvest figures are unavailable. However, the 1971-72 harvest was 26, of which 20 were taken by trapping, 5 by snaring, and 1 by shooting. Few trappers presently work in Unit 21 and the harvest is very light.

Management Summary and Recommendations

No changes in regulations are recommended.

Submitted by: Richard H. Bishop, Game Biologist IV

FURBEARER

HARVEST AND VALUE

SURVEY-INVENTORY PROGRESS REPORT - 1971

Statewide

Techniques

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

Findings

The estimated furbearer harvest and approximate value from the 1966-67 season to the 1970-71 season are presented in Appendix I. The average value per pelt is listed in Appendix II.

Management Summary and Conclusions

Overall harvests have continued to decline as a result of changing economic and cultural conditions. Furbearer populations throughout the state generally are unaffected by hunting and trapping. Please refer to the specific game management unit and species for more detailed information when available.

Submitted by: Oliver E. Burris, Game Biologist IV

FURBEARER - Statewide

Appendix I

Furbearer harvest and approximate value.

	1966-67		1967-68		1968-69		1969-70		1970-71	
	Number	Approx. Value $	Number	Approx. Value $	Number	Approx. Value $	Number	Approx. Value $	Number	Approx. Value $
Beaver	12,057	299,000	13,342	293,500	10,474	293,300	9,220	230,500	3,911	101,700
Muskrat	41,300	24,800	48,600	38,900	47,200	59,000	23,000	23,000	16,900	21,100
Mink	13,600	310,100	12,100	338,800	10,900	327,000	14,700	352,800	7,200	180,000
Marten	5,510	86,000	7,180	107,700	6,500	110,500	9,700	174,600	8,100	137,700
Land Otter	3,280	75,400	3,380	84,500	2,500	85,000	3,000	102,000	1,500	49,500
White Fox	1,670	41,700	2,120	42,400	2,400	60,000	4,100	82,000	2,600	44,200
Other Fox	2,200	24,200	3,750	37,500	2,100	29,400	3,500	56,000	3,500	63,000
Lynx	1,920	67,200	2,270	55,700	1,600	75,200	1,600	56,000	1,400	49,000
Weasel	1,510	1,900	1,590	2,000	1,500	1,500	1,200	1,200	600	600
Squirrel	230	100	460	200	300	100	200	50	900	300
Total No.	83,277		94,792		85,474		70,220		46,611	
Total Value		930,400		1,001,200		1,041,000		1,078,150		647,081

Submitted by: Oliver E. Burris, Game Biologist IV

FURBEARER - Statewide

Appendix II

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

	1968-69 Season	1969-70 Season	1970-71 Season
Beaver	28.00	25.00	26.00
Muskrat	1.25	1.00	1.25
Mink	30.00	24.00	25.00
Marten	17.00	18.00	17.00
Land Otter	34.00	34.00	33.00
White Fox	25.00	20.00	17.00
Other Fox	17.00	16.00	18.00
Lynx	47.00	35.00	35.00
Weasel	1.00	1.00	1.00
Squirrel	.33	.25	.33
Wolf	100.00	80.00	100.00
Wolverine	75.00	70.00	75.00
Coyote	20.00	15.00	15.00

Submitted by: Oliver E. Burris, Game Biologist IV

FURBEARERS

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 18 - Yukon-Kuskokwim Delta

Seasons and Bag Limits

Species	Season	Bag Limit
Beaver	Feb. 1 - Mar. 31	10 per season
Coyote	Nov. 10 - Apr. 30	No limit
White Fox	Nov. 10 - Apr. 15	No limit
Red Fox	Nov. 10 - Apr. 15	No limit
Lynx	Nov. 10 - Mar. 31	No limit
Marten	Oct. 20 - Feb. 28	No limit
Mink and weasel	Nov. 10 - Jan. 31	No limit
Land otter	Nov. 10 - Mar. 31	No limit
Squirrels (all species)	No closed season	No limit
Wolf	Oct. 1 - Apr. 30	No limit
Wolverine	Nov. 10 - Mar. 31	No limit

Harvest and Hunting Pressure

Beaver: The downward trend in catch and number of trappers continued. Fifty-eight trappers took 385 beaver in 1971, compared to 128 trappers and a catch of 946 beaver in 1970. Kits comprised 15.6 percent of the harvest in 1971 compared to 21.2 percent in 1970, suggesting lighter exploitation in areas trapped. Similar data from 1959 provide historical perspective on the trend in effort and catch: 357 trappers took 2,766 beaver. Limited surveys and general observations suggest beaver numbers are increasing in Unit 18, and are extending their occupancy further into the Yukon-Kuskokwim Delta (south of the Yukon River) than they have in many years, if ever.

White fox: White fox numbers were high in early 1971. A very few trappers took good catches of fox (30 to 80). The total catch is not known.

Red fox, lynx, marten: No information available.

Mink and weasel: General observations indicate a decline in mink trapping on the Yukon-Kuskokwim Delta as other means of support become more available. Ray Baxter, commercial fisheries biologist at Bethel, reports that hunting mink with a .22 by driving along sloughs and stream banks in early winter is increasing in popularity and is very effective for a short time period.

Land otter, squirrels: No information available.

Composition and Productivity

No studies are being done on composition and productivity except aerial beaver house surveys in selected drainages. These will be summarized in the next progress report.

Management Summary and Recommendations

No regulatory changes are proposed.

Submitted by: Richard H. Bishop, Game Biologist IV

FURBEARERS

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 19 - McGrath

Seasons and Bag Limits

Species	Season	Bag Limits
Beaver		
Unit 19A (Kuskokwim drainage upstream from McGrath and Takotna River)	Feb. 1 - Apr. 15	25 per season
Unit 19B (Downstream from McGrath, except 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	
Coyote	Nov. 1 - Apr. 30	No limit
Red Fox	Nov. 1 - Jan. 31	No limit
Lynx	Nov. 1 - Mar. 31	No limit
Marten	Oct. 20 - Feb. 28	No limit
Mink and weasel	Nov. 1 - Jan. 31	No limit
Muskrat	Nov. 1 - June 10	No limit
Land Otter	Nov. 1 - Mar. 31	No limit
Squirrel (all species)	No closed season	No limit
Wolf	Oct. 1 - Apr. 30	No limit
Wolverine	Nov. 10 - Mar. 31	No limit

Harvest and Hunting Pressure

Beaver: Beaver trapping in 1971 took a decided dip, primarily in response to very difficult trapping conditions (deep snow and thick ice) and to readily available alternate means of support, such as food stamps. In 1971, 78 trappers reported 516 beaver caught compared to 128 trappers with a catch of 1,132 in 1970.

The Holitna drainage closure also contributed to the decline, perhaps by 50 to 75 beaver.

The fact that the decline in trapping occurred in the face of the best beaver pelt values (up to $40) in recent years indicates that other means of obtaining cash or goods purchased with cash were quite available. Abundance and value of beaver seem less likely to influence the number trapped than socio-economic conditions prevailing in this unit.

Coyote: Coyotes are rare in Unit 19. None have been reported by trappers in recent years.

Red Fox: Red fox were abundant in 1971. Few people trap specifically for fox, but they are caught incidentally in marten and wolf/wolverine sets.

Lynx: Lynx are scarce in the McGrath area, but are present in low to moderate numbers in the Nikolai area.

Marten: Marten numbers were high throughout much of Unit 19 in 1971. Substantial catches of marten were made prior to late November when heavy snow stopped essentially all trapping until January, 1972. One fur buyer in the McGrath area bought approximately 1200 marten, which probably represented most of the McGrath-Nikolai catch. Average price paid the trapper was $14.00 per pelt. The same dealer bought about 600 pelts the previous year, 1970-71, at an average price of $16.00.

Mink: Few mink were taken in 1971. Although they were plentiful most trappers avoided them because of the low prices ($2 - $5).

Muskrat: Muskrat hunting was largely a recreational activity in the McGrath area. Muskrats are widely distributed in low numbers. The largest catch I am aware of in 1971 was 60 muskrats, taken by two teenage boys.

Land Otter: Otters were generally abundant but were trapped incidentally to beaver trapping. The catch is unknown but low.

Squirrel: Squirrels are not intentionally trapped in Unit 19.

Composition and Productivity

Aside from beaver, specific surveys relating to abundance, composition and productivity were not done. Beaver house surveys were limited to the Takotna and Nixon Fork rivers. Results are reported in the Beaver Research Progress Report (Bishop, 1973 in prep.).

Management Summary and Recommendations

Present regulations provide more latitude for furbearer harvests than is presently being used or desired, except for land otter. Otter were traditionally hunted in early spring after break-up. A season at that time would encourage harvest of this valuable furbearer. Unfortunately, such a season would likely promote illegal hunting of beaver as well.

Submitted by: Richard H. Bishop, Game Biologist IV

FURBEARERS

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 21 - Middle Yukon

Trapping 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 - Mar. 31	15 per season
Unit 21B (remainder of Unit 21)	Feb. 1 - Feb. 28	15 per season
Coyote	Nov. 1 - Apr. 30	No limit
Red Fox	Nov. 1 - Jan. 31	No limit
Lynx	Nov. 1 - Mar. 31	No limit
Marten	Oct. 20 - Feb. 28	No limit
Mink and weasel	Nov. 1 - Jan. 31	No limit
Muskrat	Nov. 1 - June 10	No limit
Land Otter	Nov. 1 - Mar. 31	No limit
Squirrels (all species)	No closed season	No limit
Wolf	Oct. 1 - Apr. 30	No limit
Wolverine	Nov. 10 - Mar. 31	No limit

Harvest and Hunting Pressure

Beaver: The beaver catch for Unit 21 declined from 1,138 taken by 119 trappers in 1970, to 472 taken by 57 trappers in 1971. Snow reached depths of four to five feet in the Koyukuk-Galena area, and was substantial throughout the unit. That, combined with the increased availability of other means of support, such as food stamps, contributed to the decline in trapping effort. No trapping was done at Koyukuk, and very little at Galena and Nulato. Anvik, Grayling, Ruby and Huslia trappers produced most of the beaver.

Coyote, red fox, lynx: No specific information available. Catches were negligible.

Marten: Marten were abundant in most of Unit 21. The actual take is not known.

Mink, weasel, muskrat, otter, squirrels: No specific information is available. Catches were negligible.

Composition and Productivity

Surveys were not done except for beaver on parts of the Innoko and Dishna rivers. Results will appear in the Beaver Research Progress Report for 1971 (Bishop, 1973, in prep.).

Management Summary and Recommendations

Furbearer regulations allow a much greater harvest than is presently taken or desired. No regulatory changes are necessary at this time.

Submitted by: Richard H. Bishop, Game Biologist IV

FURBEARERS

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 22 - Seward Peninsula

Seasons and Bag Limits

Species	Season	Bag Limit
Hunting:		
Beaver	No open season	
Arctic Fox	Sept. 1 - Apr. 30	Two foxes
Red Fox	Sept. 1 - Apr. 30	Two foxes
Lynx	Sept. 1 - Apr. 30	Two lynx
Mink and Weasel	No open season	
Muskrat	No open season	
Land Otter	No open season	
Ground Squirrel	No open season	
Trapping:		
Beaver	Feb. 1 - Apr. 15	50 per season
Arctic Fox	Dec. 1 - Apr. 15	No limit
Red Fox	Nov. 1 - Feb. 28.	No limit
Lynx	Nov. 1 - Mar. 31	No limit
Mink and Weasel	Nov. 1 - Jan. 31	No limit
Muskrat	Nov. 1 - June 10	No limit
Land Otter	Nov. 1 - Mar. 31	No limit
Ground Squirrel	No closed season	No limit

Harvest and Hunting Pressure

Trapping is becoming a lost art in Unit 22. There are less than five serious trappers, excluding arctic fox trappers on St. Lawrence Island, in Unit 22. Fox hunting is popular in the Nome vicinity when foxes are abundant.

Beaver: Beaver are trapped on the Pikmitalik River in the extreme southern edge of Unit 22, by Stebbins residents. Total unit harvest is less than 50.

Arctic Fox: Arctic foxes are taken at limited localities in Game Management Unit 22, primarily on St. Lawrence Island, where the harvest exceeded 1500 in the winter of 1970-71. The late 1971 harvest is very low, less than 150, due to less foxes and very stormy weather.

Red Fox: Red fox were moderately abundant in the winter of 1970-71, but are much less abundant in late 1971. Consequently there is almost no hunting or trapping pressure.

Lynx: The majority of the lynx taken in Unit 22 are taken at White

Mountain by one trapper. Total harvest at White Mountain will be between 30-40 lynx. Total unit harvest is estimated to be between 45-55 lynx.

Mink and Weasel: There are no known mink trappers in Unit 22. Weasels are still used locally for trim on women's parkas.

Muskrat: A few muskrats are taken by incidental trappers and the skins are used locally.

Land Otter: No trapping effort. A few are caught in fish traps.

Ground Squirrel: Ground squirrels are the heaviest harvested furbearers in Unit 22. A few women at all villages still trap squirrels in the spring for parkas.

Composition and Productivity

Abundance information was obtained from village residents and from field notes taken on aerial surveys.

Beaver: Beaver are most commonly found in the extreme southern end of Unit 22. There are a few beaver on the Unalakleet, Ungalik and Koyuk river systems, which are seldom harvested.

Arctic Fox: Most trappers report fewer sightings of foxes this year, which on St. Lawrence Island is attributable to a marked reduction in the microtine populations.

Red Fox: Less abundant in 1971-72 than 1970-71.

Lynx: Lynx are at a high on the Fish River and apparently are more numerous on the Kuzitrin, Koyuk and Unalakleet rivers in 1971-72 than 1970-71.

Mink and Weasel: No information.

Muskrat: Muskrats are common on most rivers east of Nome.

Land Otter: Land otter tracks are common on most rivers in Unit 22.

Ground Squirrel: Ground squirrels are common throughout the unit.

Management Summary and Recommendations

Furbearers are of relatively little importance to villagers in Unit 22 except for white fox on St. Lawrence Island. Hunting pressure is limited to foxes and was low in 1971 due to reduced fox numbers. Trapping pressure is very light, even though some furbearers are locally abundant.

No changes in season or bag limits are recommended.

Submitted by: Robert E. Pegau, Game Biologist III

FURBEARERS

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 23 - Kotzebue Sound

Seasons and Bag Limits

Species	Season	Bag Limit
Hunting:		
Beaver	No open season	
Arctic Fox	Sept. 1 - Apr. 30	Two foxes
Red Fox	Sept. 1 - Apr. 30	Two foxes
Lynx	Sept. 1 - Apr. 30	Two lynx
Mink and Weasel	No open season	
Muskrat	No open season	
Land Otter	No open season	
Ground squirrel	No open season	
Trapping:		
Beaver	Nov. 1 - Apr. 15	20 per season
Arctic Fox	Dec. 1 - Apr. 15	No limit
Red Fox	Nov. 10 - Feb 28	No limit
Lynx	Nov. 1 - Mar. 31	No limit
Mink and Weasel	Nov. 10 - Jan. 31	No limit
Muskrat	Nov. 1 - June 10	No limit
Land Otter	Nov. 1 - Mar. 31	No limit
Ground squirrel	No closed season	No limit

Harvest and Hunting Pressure

There are almost no serious trappers in Unit 23. Most furbearers are taken incidently to other activities.

Beaver: I am unaware of any beaver being sealed in the last four years.

Arctic Fox: Arctic foxes are taken primarily at Point Hope with a few also taken at Kivalina, Kotzebue and Deering. This year the harvest has been low throughout the unit.

Red Fox: Almost no hunting or trapping pressure.

Lynx: Lynx are becoming abundant, yet the total unit harvest is less than 25, with half of those taken at Shungnak by one person.

Mink and Weasel: No known trapping pressure.

Muskrats: A limited number are taken by fishermen near Selawik.

Land Otter: A limited number are taken incidentally to other activities.

Ground Squirrels: Ground squirrels are still utilized by women for parkas and continue to be trapped extensively; however, this effort has reduced over the last few years.

Abundance and Productivity

Beaver: Beaver dams and houses are very abundant on the Selawik and Kugarak river areas.

Arctic Fox: All trappers report less foxes this year.

Red Fox: Red fox appear to be more numerous this year from aerial surveys and reports of air taxi operators.

Lynx: Lynx are more numerous on the Kobuk, Noatak and upper Selawik river systems.

Mink and Weasel: No information.

Muskrats: Muskrats are common in the Selawik and Kugarak river areas.

Land Otters: Land otter tracks are common on most rivers in Unit 23.

Ground Squirrel: Ground squirrels are common in the drier sites in Unit 23.

Management Summary and Recommendations

Furbearers are of very limited importance to the residents of Unit 23. Although some (lynx) are moderately abundant, there is very limited trapping pressure. Food stamps, welfare and unemployment payments have surplanted furbearers as a winter cash source.

No changes in seasons or bag limits are recommended.

Submitted by: Robert E. Pegau, Game Biologist III

BEAVER

SURVEY-INVENTORY PROGRESS REPORT - 1971

Statewide

Techniques

Since 1957 the stretched pelts of beaver have been sealed and measured to enumerate the harvest and separate the entire catch into age classes. In Alaska beaver hides are traditionally stretched round. The pelts are measured by adding the diameter from nose to the base of the tail, or bottom of the pelt, to the medial diameter. The measurements are taken in inches and the measurements used to establish age classes are: young of the year or kits - less than 53 inches, yearlings - 53 to 59 inches, two year olds - 60 to 64 inches, and adults - 65 inches and larger.

Studies previously made at the Alaska Cooperative Wildlife Research Unit have established the general relationship between the degree of exploitation and the percentage of age classes in the harvest. These relationships are not completely inflexible and should be used as indicators or symptoms rather than conclusive evidence of the effect of the beaver harvest on the population.

When the harvest is comprised of more than 25 percent kits the population can be considered overharvested. A properly harvested population will have 20 percent or less kits in the harvest. A beaver population can be considered to be underharvested when the harvest is composed of less than 15 percent kits.

Since 1957, when this system was basically initiated, numerous exceptions have been noted to these guidelines. Game Management Units are generally large geographic areas, a manageable beaver population may be the beaver inhabitating a relatively small tributary within a unit. Overharvest of drainages or tributaries within a unit is sometimes obscured by a large but conservative harvest in the remainder of the unit. Human populations are not evenly distributed within a unit; therefore, trapping pressures are often disproportionately distributed in relation to beaver abundance and distribution. The potential for overharvest varies with the units and other factors such as the economic well-being of the trappers in the area and the particular type, or style of trapping employed by the trappers. Whenever the harvest is comprised of 20 percent kits, a careful examination of the harvest by tributary or drainage should be made. At the 20 percent level it is highly likely that overexploitation is occurring on some tributaries.

Findings

A standard beaver affidavit analyses made since 1957 is presented in Appendix I. The 1971 harvest of approximately 4,000 beaver may be

an all-time low harvest. The 1971 low harvest is a reflection of changing economic and cultural patterns and, with only a few possible exceptions, the harvest does not reflect declining or overharvested beaver populations.

Management Summary and Conclusions

The beaver sealing program provides a sound basis for proper management and control of the beaver resource. The analyses provide sufficient information to indicate where management problems may be occurring. Aerial cache counts, analyses of the harvest by tributary, and surveys of the local economic situation and trapping modes can provide sufficient information for positive and finite management of the resource. The status of beaver populations and harvest distribution should be carefully examined in Units 9, 12 and 17 (in Unit 17 beaver cache counts and analyses of the harvest by tributaries has been made for several years). The harvest data from Units 14, 15, 18 and 19 also indicate that these units should be examined more carefully (beaver cache counts and analyses of the harvest by tributary have been made in both Units 18 and 19).

Submitted by: Oliver E. Burris, Game Biologist IV

BEAVER - Statewide

Appendix I

Beaver affidavit analysis, 1957-71

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
1	1957	No open season						
	1958	15	24.8	35.7	64.3	330	38	8.7
	1959	15	24.6	37.7	62.3	69	8	8.6
	1960	15	6.9	31.0	69.0	115	14	8.2
	1961	15	28.5	45.9	54.0	99	12	8.2
	1962	15	21.9	34.2	65.8	42	5	8.4
	1963	15	12.4	31.3	68.6	180	20	9.0
	1964	50	16.1	32.7	67.1	204	17	12.0
	1965	50	17.7	43.5	56.5	62	5	12.4
	1966	50	18.9	44.5	55.0	180	19	9.6
	1967	50	16.2	30.3	69.7	99	12	8.3
	1968	50	13.5	30.8	69.2	104	13	8.0
	1969	No limit	15.1	41.1	58.9	75	9	8.3
	1970	No limit	15.2	38.0	62.0	165	24	6.8
	1971	No limit	15.5	25.0	75.0	84	7	12.0
2	1957	No open season						
	1958	15	22.7	36.4	63.7	22	10	2.2
	1959	15	22.2	37.0	63.0	27	2	13.5
	1960	15				75	13	5.8
	1961	15	25.0	39.2	58.9	56	8	7.0
	1962	15	No harvest reported					
	1963	15	21.1	53.7	46.1	52	5	10.4
	1964	50	21.6	49.7	50.3	157	12	13.1

BEAVER - Statewide

Appendix I

Beaver affidavit analysis, 1957-71 (cont'd.)

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
	1965	50	24.7	54.8	45.2	73	8	9.1
	1966	50	33.3	45.8	54.2	55	9	6.1
	1967	50	32.1	60.7	39.3	28	4	7.0
	1968	50	15.0	45.0	55.0	20	2	10.0
	1969	No limit	8.7	39.1	61.2	23	4	5.8
	1970	No limit	21.4	52.4	47.6	42	6	7.0
	1971	No limit	20.0	40.0	60.0	5	1	5.0
3	1957	No open season						
	1958	15			100.0	115	13	8.35
	1959	15	6.3	6.2	93.8	16	3	5.3
	1960	15				57	17	2.8
	1961	15						
	1962	15	No harvest reported					
	1963	15	31.6	57.9	42.1	21	5	4.2
	1964	50	22.5	42.5	57.5	40	3	13.3
	1965	50		33.3	66.6	6	1	6.0
	1966	50			100.0	4	3	1.3
	1967	50	11.1	55.5	44.5	9	4	2.1
	1968	50	19.0	33.3	66.6	21	3	7.0
	1969	No limit	No harvest reported					
	1970	No limit	30.6	45.1	54.9	62	5	12.4
	1971	No limit	40.0	60.0	40.0	20	1	20.0

BEAVER - Statewide

Appendix I

Beaver affidavit analysis, 1957-71 (cont'd.)

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
4*	1962	15	30.5	56.8	33.2	36	3	12.0
	1963					16	1	16.0
	1964	50						
	1965	50			100.0	1	1	1.0
	1966	50	No harvest reported					
	1967	50	6.7	33.4	46.6	15	2	7.1
	1968	50	50.0	50.0	50.0	2	1	2.0
	1969	No limit	33.3	66.6	33.4	3	2	.6
	1970	No limit	50.0	80.0	20.0	10	2	5.0
	1971	No limit	No harvest reported					
5	1971	No limit	60.0		40.0	5	1	5.0
6	1957	20	24.1	40.0	60.0	245	16	15.3
	1958	20	12.9	28.0	72.0	264	15	17.6
	1959	20	14.3	20.2	79.8	168	11	15.3
	1960	40	14.3	35.7	64.3	304	15	20.3
	1961	40	13.2	31.0	68.9	264	15	17.6
	1962	40	13.5	27.1	72.9	155	10	15.5
	1963	50	13.7	24.4	75.6	305	11	27.7
	1964	50	12.3	29.0	71.0	155	8	19.4
	1965	50	20.7	41.5	57.8	135	13	10.4
	1966	50 and no limit***	15.0	38.9	61.1	169	9	18.8

BEAVER - Statewide

Appendix I

Beaver affidavit analysis, 1957-71 (cont'd.)

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
6	1967	50 and no limit***	13.5	32.9	67.1	222	7	31.5
	1968	50 and no limit***	7.1	27.5	73.1	113	11	10.3
	1969	50 and no limit***	39.1	52.1	47.9	48	7	6.8
	1970	50 and no limit***	18.7	42.0	58.0	150	15	10.0
	1971	50 and no limit***	17.3	25.0	75.0	52	7	7.4
7	1957	20	22.7	48.0	52.0	75	14	5.4
	1958	20	15.7	34.8	65.2	89	18	5.0
	1959	20	34.0	52.3	47.7	44	8	5.5
	1960	15	17.2	35.4	64.4	393	67	5.0
	1961	15	15.8	22.4	66.0	236	39	6.0
	1962	15	17.3	36.0	64.+	259	57	4.5
	1963	20	24.5	45.2	54.7	106	15	7.1
	1964	20	30.8	61.5	38.5	13	4	3.3
	1965	20	31.7	51.2	48.8	41	9	4.5
	1966	20	12.0	44.0	56.0	25	10	2.5
	1967	20	7.1	28.5	71.5	14	2	7.0
	1968	20	23.6	45.8	54.2	72	10	7.2
	1969	20	50.0	50.0	50.0	3	3	1.0

BEAVER - Statewide

Appendix I

Beaver affidavit analysis, 1957-71 (cont'd.)

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
7	1970	20	25.0	54.2	45.8	24	4	6.0
	1971	20	11.8	35.3	64.7	17	3	5.6
8	1957	15	23.6	32.9	67.1	140	15	9.3
	1958	20	21.3	35.7	64.3	235	24	9.8
	1959	20	22.7	40.9	59.1	154	12	12.0
	1960	40	28.4	47.7	52.3	369	25	14.8
	1961	No limit	20.1	34.4	64.9	154	10	15.4
	1962	No limit	18.3	33.3	56.7	185	13	14.2
	1963	No limit	22.7	42.4	55.6	268	22	12.2
	1964	No limit	23.3	48.6	51.4	210	18	11.7
	1965	No limit	33.3	51.0	49.0	102	11	9.3
	1966	No limit	25.6	43.2	56.8	199	16	12.4
	1967	No limit	18.5	40.5	59.5	232	9	25.7
	1968	No limit	28.7	53.1	46.9	205	18	11.4
	1969	No limit	28.5	40.7	59.7	175	12	14.5
	1970	No limit	31.3	49.3	50.7	351	24	14.6
	1971	No limit	36.	55.4	44.7	85	8	10.6
9	1957	15	17.0	25.9	74.1	1,469	138	10.6
	1958	15	22.4	34.2	65.8	1,515	141	11.0
	1959	15	23.9	34.7	65.3	1,975	170	11.6
	1960	20	21.9	32.9	67.8	1,768	115	15.4
	1961	20	19.8	32.0	67.3	2,319	161	14.4

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Appendix I

Beaver affidavit analysis, 1957-71 (cont'd.)

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
9	1962	15	28.3	38.0	62.0	933	82	11.3
	1963	15	19.9	34.9	65.1	2,080	161	12.9
	1964	15	26.3	37.9	62.0	951	91	10.5
	1965	15	17.6	31.4	68.6	494	47	10.6
	1966	40 & 15***	22.6	39.2	60.8	554	49	11.3
	1967	40 & 15***	25.3	39.0	61.0	810	69	11.5
	1968	40 & 15***	25.4	34.9	65.9	536	50	10.7
	1969	40 & 15***	23.4	34.4	66.0	148	17	8.7
	1970	40 & 15***	19.6	34.2	65.8	419	37	11.3
	1971	40 & 15***	26.4	42.7	57.3	246	25	9.8
11	1957	20	12.8	15.4	84.6	39	5	7.8
	1958	20			100.0	20	4	5.0
	1959	20	8.5	16.9	83.1	59	5	11.8
	1960	20	35.0	50.0	50.0	20	2	10.0
	1961	20	5.0	30.0	70.0	20	2	10.0
	1962	20				2	1	2.0
	1963	20				16	3	5.3
	1964	20	5.1	30.8	69.2	39	6	6.5
	1965	20	16.7	25.0	75.0	12	2	6.0
	1966	20	0.0	50.0	50.0	4	2	2.0
	1967	20	3.6	10.7	89.3	28	2	14.0
	1968	20	15.8	33.3	66.7	57	4	14.2
	1969	20	10.4	31.2	68.9	77	7	11.0

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Appendix I

Beaver affidavit analysis, 1957-71 (cont'd.)

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
11	1970	No limit	8.5	29.8	70.2	47	6	7.8
	1971	No limit	9.1	42.4	57.6	34	8	4.2
12	1957	5	2.8	13.2	86.8	106	40	2.6
	1958	15	10.5	13.9	86.1	409	85	4.8
	1959	15	11.6	15.1	84.9	423	80	5.3
	1960	15	17.2	35.4	64.6	393	67	5.9
	1961	15	15.8	22.4	66.0	236	39	6.0
	1962	15	17.3	36.0	64.+	259	57	4.5
	1963	15	22.7	32.5	67.5	255	67	3.8
	1964	15	16.0	33.2	66.3	205	63	3.2
	1965	15	6.1	28.3	70.7	99	45	2.2
	1966	15	14.5	32.7	67.3	55	23	2.4
	1967	15	10.8	25.3	74.7	83	23	3.1
	1968	15	16.1	34.5	65.5	87	23	3.8
	1969	15	7.4	19.4	80.6	108	29	3.7
	1970	15	9.5	34.7	65.3	148	32	4.6
	1971	15	12.5	31.3	68.7	16	3	5.3
13	1957	20	20.0	23.5	71.5	165	24	6.9
	1958	20	12.9	22.5	71.5	473	59	8.0
	1959	20	16.4	28.3	71.7	385	37	10.4
	1960	20	23.2	36.9	63.1	507	59	8.6
	1961	20	23.9	44.3	55.0	206	21	9.8

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Appendix I

Beaver affidavit analysis, 1957-71 (cont'd.)

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
13	1962	20	27.5	34.0	66.0	98	13	7.5
	1963	20	19.1	40.6	59.4	335	51	6.6
	1964	20	20.7	34.8	64.1	376	43	8.7
	1965	20	14.6	36.5	63.5	137	28	4.9
	1966	20	19.1	32.8	67.2	257	41	6.3
	1967	20	14.6	34.3	65.7	213	31	6.3
	1968	20	18.8	34.8	65.3	149	29	5.1
	1969	20	8.3	25.9	74.1	204	32	6.3
	1970	20	13.2	27.9	72.1	189	24	7.8
	1971	20	34.4	49.1	50.9	116	15	7.7
14	1957	20	17.7	36.2	63.8	923	84	11.0
	1958	40	16.4	30.6	69.4	1,204	96	12.6
	1959	40	27.2	50.7	49.3	647	49	13.2
	1960	40	24.1	43.4	56.7	844	68	12.4
	1961	40	23.9	44.3	55.0	877	69	9.8
	1962	40	22.3	45.9	54.1	493	38	12.9
	1963	40	24.9	48.1	51.9	789	83	9.5
	1964	40	21.2	46.0	54.0	655	60	10.9
	1965	40	22.2	43.3	56.7	365	41	8.9
	1966	40	16.7	41.6	58.4	665	99	6.7
	1967	40	17.7	41.0	59.0	463	45	10.1
	1968	40	20.0	42.9	57.0	382	50	7.6
	1969	40	16.8	42.4	60.0	220	33	6.6

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Appendix I

Beaver affidavit analysis, 1957-71 (cont'd.)

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
	1970	40	27.2	51.0	49.0	202	32	6.3
	1971	40	20.0	42.0	48.0	50	14	3.5
15	1957	20	17.2	37.9	62.1	303	26	11.7
	1958	40	16.4	27.5	72.5	360	30	12.0
	1959	40	29.8	46.4	53.6	168	15	11.2
	1960	40	17.5	35.3	64.7	379	20	18.9
	1961	40	15.1	33.9	66.1	438	20	21.9
	1962	40	17.7	33.9	66.1	180	14	12.8
	1963	40	18.1	33.2	66.8	254	25	10.1
	1964	40	19.4	36.3	63.7	237	24	9.9
	1965	40	23.8	52.4	42.8	21	4	5.2
	1966	40	20.0	44.0	56.0	25	7	3.6
	1967	40	24.0	34.0	66.0	50	8	6.2
	1968	40	10.5	36.8	63.2	38	5	7.6
	1969	40	39.3	57.1	45.1	135	14	9.6
	1970	40	25.0	58.3	41.7	73	15	4.8
	1971	40	20.7	34.5	65.5	29	7	4.1
16	1957	20	19.4	41.9	58.1	62	5	12.4
	1958	40	13.7	25.7	74.3	1,148	45	25.5
	1959	40	22.1	39.7	60.3	1,715	72	23.8
	1960	40	15.1	35.3	64.7	2,200	95	23.2
	1961	40	20.9	37.9	62.3	1,309	63	20.7

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Appendix I

Beaver affidavit analysis, 1957-71 (cont'd.)

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
16	1962	40	34.3	43.3	56.7	524	34	15.4
	1963	40	18.1	38.3	61.7	1,305	66	19.7
	1964	40	19.5	38.7	62.3	798	39	20.5
	1965	40	15.7	42.5	57.5	381	17	22.4
	1966	40	15.9	39.6	60.4	510	28	18.2
	1967	40	20.5	43.4	56.6	625	27	23.4
	1968	40	23.2	45.0	55.0	732	59	12.4
	1969	40	15.8	41.5	59.1	975	66	14.7
	1970	40	17.9	38.3	61.7	717	62	11.5
	1971	40	17.6	40.2	59.8	279	28	9.9
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

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Appendix I

Beaver affidavit analysis, 1957-71 (cont'd.)

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	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
18	1957	No open season						
	1958	No open season						
	1959	10	31.2	45.1	54.9	2,766	357	7.7
	1960	10	25.7	38.7	61.3	2,013	260	7.7
	1961	10	28.9	44.6	55.3	1,428	187	7.6
	1962	10	34.9	45.1	54.8	817	116	7.0
	1963	10	33.3	50.1	49.9	1,503	202	7.4
	1964	10	30.3	44.7	54.9	666	116	5.7
	1965	10	18.6	36.4	63.6	264	41	6.4
	1966	10	30.6	46.0	54.0	411	66	6.2
	1967	10	31.7	48.6	51.4	765	100	7.6
	1968	10	23.2	38.0	62.0	1,423	194	7.3
	1969	10	19.8	35.6	64.4	975	137	7.1
	1970	10	21.2	37.2	62.8	946	128	7.3
	1971	10	15.6	33.0	67.0	385	58	6.6
19	1957	15	12.5	24.8	75.2	2,200	200	11.1
	1958	20	15.5	24.0	76.0	3,852	256	15.1
	1959	20	16.3	29.3	70.7	4,034	284	14.2
	1960	20	16.7	30.0	70.0	3,128	210	14.9
	1961	20	17.5	30.8	69.1	4,576	307	14.9

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Appendix I

Beaver affidavit analysis, 1957-71 (cont'd.)

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
19	1962	20	19.7	35.2	65.8	3,035	219	13.9
	1963	15	20.0	34.9	65.1	2,250	196	11.4
	1964	25 & 15***	20.0	32.6	67.3	2,148	176	12.2
	1965	25 & 15***	30.7	42.5	57.5	1,290	128	10.1
	1966	25 & 15***	27.6	39.5	60.5	1,510	137	11.0
	1967	25 & 10***	16.3	28.0	72.0	1,105	140	7.1
	1968	25 & 10***	14.0	30.0	70.1	1,368	149	9.2
	1969	25 & 10***	7.4	23.0	77.0	895	98	9.1
	1970	25 & 10***	7.3	22.9	77.1	1,132	128	8.8
	1971	25 & 10***	17.0	31.1	68.9	516	78	6.6
20	1957	15	8.9	16.6	83.4	641	74	8.8
	1958	20	8.7	19.7	80.3	1,869	152	12.3
	1959	20	4.1	17.7	82.3	1,242	119	10.4
	1960	20	9.1	23.3	76.7	1,540	145	10.6
	1961	20	11.4	24.5	75.5	1,435	129	11.1
	1962	20	15.8	25.7	74.1	1,139	96	10.2
	1963	20	9.6	21.7	78.3	1,514	133	13.3
	1964	25	12.2	23.0	76.0	2,176	194	11.2
	1965	25	9.6	24.4	76.7	1,671	163	10.2
	1966	25	14.5	30.5	69.5	1,415	231	6.1
	1967	25	9.0	22.4	77.6	2,164	187	11.1
	1968	25	12.1	27.7	72.2	1,502	152	9.9
	1969	25 closed ***	12.9	29.9	70.1	1,658	156	10.6

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Appendix I

Beaver affidavit analysis, 1957-71 (cont'd.)

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
20	1970	25 closed ***	11.3	29.2	70.8	1,366	148	8.7
	1971	25 closed ***	6.9	13.5	76.5	607	78	7.7
21	1957	15	12.3	23.4	76.6	5,460	490	11.1
	1958	20	11.0	22.6	77.4	6,871	499	13.8
	1959	20	12.7	26.2	73.8	5,771	425	13.6
	1960	20	12.0	25.0	25.8	5,945	381	15.6
	1961	20	12.8	28.7	71.1	5,488	356	15.4
	1962	20	13.6	32.4	67.6	3,833	288	13.3
	1963	20	14.5	29.1	70.9	4,638	343	13.5
	1964	20	16.0	31.3	68.6	2,067	212	9.7
	1965	15	13.7	30.4	69.6	1,478	182	8.7
	1966	15	13.8	29.3	70.7	2,760	261	10.6
	1967	15	13.4	27.7	72.3	1,631	166	9.8
	1968	15	16.1	31.3	68.7	2,353	227	10.4
	1969	15	7.3	24.0	76.0	1,991	185	10.7
	1970	15	6.4	21.5	78.5	1,138	119	9.5
	1971	15	10.5	22.0	78.0	472	57	8.2
22	1957	No open season						
	1958	10	45.2	54.8	45.2	42	10	4.2
	1959	10	18.8	35.4	64.6	48	14	3.4

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Appendix I

Beaver affidavit analysis, 1957-71 (cont'd.)

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
22	1960	10	25.8	41.9	58.1	62	12	5.2
	1961	10	4.7	14.2	85.7	21	3	7.0
	1962	10	26.1	38.2	61.8	42	7	6.0
	1963	20						
	1964	50	19.4	27.6	72.4	98	14	7.0
	1965	50	2.3	13.6	86.4	44	4	11.0
	1966	50	23.2	37.7	62.3	69	6	11.5
	1967	50	20.3	39.1	60.9	69	7	9.6
	1968	50	26.5	47.1	53.0	68	9	7.6
	1969	50	15.4	30.8	69.2	27	4	6.7
	1970	50	None reported					
	1971	50	66.7		33.3	3	1	3.0
23	1957	15			100.0	5	1	5.0
	1958	No open season						
	1959	15				0	0	
	1960	15				0	0	
	1961	15	12.5	50.0	50.0	8	1	8.0
	1962	15		30.0	70.0	7	2	3.5
	1963	15				3	1	3.0
	1964	15						
	1965	15			100.0	5	1	5.0
	1966	15				0	0	
	1967	20				0	0	

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Appendix I

Beaver affidavit analysis, 1957-71 (cont'd.)

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
23	1968	20	50.0	50.0	50.0	2	1	2.0
	1969	20	None reported					
	1970	20	None reported					
	1971	20			100.0	12	1	12.0
24	1957	20	8.2	22.0	78.0	1,486	96	15.5
	1958	25	6.2	23.2	76.8	1,841	105	17.5
	1959	25	6.8	17.6	82.4	1,434	97	14.8
	1960	25	13.0	30.2	69.8	1,375	79	17.4
	1961	25	11.1	30.9	68.5	1,333	88	15.1
	1962	25	8.2	27.8	72.2	1,066	71	15.0
	1963	25	9.5	27.9	72.1	965	70	13.7
	1964	15	6.9	19.0	80.6	578	64	9.0
	1965	15	3.9	22.2	77.7	436	55	7.9
	1966	15	6.9	17.9	82.1	577	69	7.5
	1967	15	7.6	21.7	78.3	432	43	10.0
	1968	20	7.5	24.7	75.3	714	62	11.5
	1969	20	7.2	25.5	74.5	842	64	13.1
	1970	20	3.9	24.6	75.4	508	48	10.5
	1971	20	7.2	31.8	68.2	71	13	5.4
25	1957	15	21.7	31.6	68.4	630	77	8.2
	1958	15	25.9	37.1	62.9	625	77	8.1
	1959	15	21.1	38.3	61.7	725	86	8.4

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Appendix I

Beaver affidavit analysis, 1957-71 (cont'd.)

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
25	1960	15	17.3	33.3	66.7	788	61	12.9
	1961	15	13.4	30.2	69.9	644	70	9.2
	1962	15	15.8	29.1	70.9	430	44	9.8
	1963	20	14.6	27.9	72.1	464	63	7.4
	1964	20	18.4	30.9	69.1	488	63	7.7
	1965	20	21.5	35.9	64.1	383	47	8.1
	1966	20	22.1	33.6	66.4	478	88	5.4
	1967	20	22.6	36.6	63.4	265	38	6.4
	1968	20	19.1	36.9	63.1	236	42	5.6
	1969	20	13.6	36.3	63.7	120	34	3.5
	1970	20	19.5	40.5	59.5	343	61	5.8
	1971	25		9.5	90.5	31	7	4.4
Miscellaneous Areas	1966		22.5	43.8	56.2	80	10	8.0
	1967				100.0	6	3	2.0
TOTAL	1957		13.8	25.8	74.2	14,344	1,351	10.6
	1958		14.1	26.2	73.8	24,484	1,940	12.6
	1959		17.9	31.0	69.0	25,115	2,223	11.3
	1960		16.4	29.4	70.6	26,504	2,028	13.1
	1961		17.6	32.2	67.4	23,859	1,800	13.2
	1962		19.1	33.4	66.6	15,187	1,289	11.7
	1963		18.5	34.0	66.0	19,619	1,739	11.3

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Appendix I

Beaver affidavit analysis, 1957-71 (cont'd.)

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
TOTAL	1964		19.5	33.6	66.3	14,046	1,589	8.8
	1965		17.4	33.4	66.6	8,556	949	9.0
	1966		----	----	----	11,426	1,316	8.8
	1967		18.2	32.8	67.2	12,057	1,165	10.4
	1968		19.1	34.2	65.8	13,342	1,312	10.2
	1969		12.5	30.3	69.7	10,474	1,069	9.7
	1970		15.2	32.4	67.6	9,220	1,038	8.8
	1971		18.4	33.9	66.1	3,911	501	7.8

* Either no open season or no beaver taken during 1957-1961 in Units 4, 5, 10 and 26.

** Part of Unit 17 closed in 1957 and 1958.

***Unit was divided with different bag limits in the subdivisions.

15 year average (1957-71)	15,476	
15 year range (1957-71)	3,911	- 26,504
15 year average (1957-71) no. of trappers	1,420	

Submitted by: Oliver E. Burris, Game Biologist IV

BEAVER

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 17 - Bristol Bay

Seasons and Bag Limits

Feb. 1 - Feb. 28 15 per season

Harvest and Trapping Pressure

Trapping pressure on beaver in Unit 17 has shown a decline during the past three years. The reduction of trapping pressure has resulted in reduced beaver catches as shown in Appendix I.

Abundance and Distribution

Beaver cache data have been gathered from 14 individual streams in Game Management Unit 17. Surveys are conducted in the early fall prior to freeze-up when active beaver houses can be readily identified by stockpiles (caches) of freshly cut browse in the immediate vicinity. Surveys are primarily aerial but each year one or more streams have been floated to determine the number of caches in the main stream channel missed from the air. During the survey the exact position of each cache is marked on a topographic map of the area. Not all of the 14 streams were surveyed in any given year. Survey data for 1968, 1970 and 1971 are summarized in Appendix II. This table indicates a slight reduction in 1971 beaver populations when compared with 1970 cache counts.

Management Summary and Conclusions

The decreased trapping effort in Unit 17 has been the result of good fishing years, low fur prices, adverse weather during the trapping season and a gradual shift away from the traditional way of life by many of the unit residents. The number of beaver caches noted in 1970 was 27 percent higher than the 1968 or 1969 counts. This increase probably reflects the decreasing trapping pressure but undoubtedly was also influenced by stream surveyor Walt Cunningham's increased familiarity with the area and improved ability to locate caches. The 1971 data, however, show a decline of 14 percent in the number of caches for streams surveyed in both 1970 and 1971. This decrease may reflect a winter mortality as a result of the record-breaking low temperature of the 1970-71 winter or it may represent a loss of colonies as a result of flooding during the late summer of 1971. The decline does not appear to be the result of any increase in trapping pressure.

The decreased trapping pressure has not been spread uniformly throughout the unit but has been caused primarily by reduced effort on the less accessible streams. Streams close to the villages are still subjected to heavy trapping pressure and overexploitation is occurring.

With more data available, management by closure or openings of individual streams may be recommended.

Recommendations

No changes in seasons or bag limits are recommended.

Submitted by: James B. Faro, Game Biologist III
Walter Cunningham, Game Technician IV

BEAVER - GMU 17 - Bristol Bay

APPENDIX I

Reported Beaver Harvest, GMU 17, 1957 - 1971

Year	Harvest
1957	367
1958	3,165
1959	3,245
1960	3,721
1961	2,849
1962	1,903
1963	2,172
1964	1,766
1965	957
1966	1,424
1967	2,711
1968	3,158
1969	1,750
1970	1,190
1971	824

Submitted by: James B. Faro, Game Biologist III
Walter Cunningham, Game Technician IV

BEAVER - GMU 17 - Bristol Bay

APPENDIX II

Aerial Beaver Cache Surveys, GMU 17 - Bristol Bay, 1968, 1970 and 1971

Stream	No. of Caches 1968	No. of Caches 1970	% change from 1968	No. of Caches 1971	% change from 1970
Mulchatna River	69	126	+83	119	- 6
Mosquito River	43	50	+16	37	-35
Nushagak River	55	87	+58	NA	NA
Harris Creek	42	35	-17	38	+ 8
Napotoli, N. Fork	12	11	- 8	NA	NA
Napotoli, S. Fork	20	16	-20	NA	NA
Klutuk Creek	21	16	-19	NA	NA
Kokwok River	21	20	- 5	NA	NA
Iowithla River	26	33	+27	32	- 3
Tikchik River	54	70	-30	71	+ 1
Stuyahok River	NA	NA	NA	34	NA
Togiak System	10	59	NA[1/]	52	NA[1/]
King Salmon River	54	66	+22	71	+20
Sunshine Valley	NA	NA	NA	15	NA
Totals	427	589	NA[2/]	469	NA[3/]

1/ Area of survey substantially modified in 1970 and again in 1971. Data not comparable.
2/ For streams surveyed in both 1968 and 1970 there was a 27 percent increase in number of caches observed.
3/ For streams surveyed in both 1970 and 1971 there was a 14 percent decrease in the number of caches observed.

Submitted by: James B. Faro, Game Biologist III and Walter Cunningham, Game Technician IV

LYNX

SURVEY-INVENTORY PROGRESS REPORT - 1971

Statewide

Trapper Questionnaires

Questionnaire forms providing for observations of population trends of lynx, snowshoe hare and grouse have been mailed to a selected group of trappers at the close of each trapping season since 1966. This year 200 questionnaires were mailed out and 75 replies were returned. Replies were tabulated and analyzed as in previous years (see Furbearers Report, Volume VIII, 1968). A summary of the responses was mailed to each cooperator.

Lynx Populations

The average number of lynx harvested per trapper (Appendix I) in 1970-1971 was 4.3, an increase from the 3.6 lynx per trapper in 1969-1970. Fort Yukon area trappers averaged 13.4 lynx per trapper, a decrease from 20 per trapper in 1969-1970.

Fort Yukon indicated a fairly high population of lynx in the 1970-1971 season, definitely higher than in 1969-1970. Other areas were generally low, and except for Delta, were somewhat lower than in the previous season (see Appendix II).

Snowshoe Hare Populations (Appendix III)

All areas indicated a moderately high hare population in 1970-1971 with a strong increase over the 1969-1970 season. Hares should continue to be abundant in the coming season.

Grouse Populations (Appendix IV)

All areas indicated moderately low grouse populations, generally the same or slightly lower than in the 1969-1970 season, except for Fort Yukon. Fort Yukon trappers reported grouse populations much lower than the previous year.

Submitted by: Jeannette Ernest, Game Biologist II

LYNX - Statewide

Appendix I

Summary of replies to the 1970-1971 questionnaire of the lynx harvest.

Area	No. Responses	No. Not Trapped	No. Returned Unanswered	No. Lynx Harvested	Average Per Trapper
Fort Yukon	8	0	0	107	13.4
Fairbanks	19	8	0	17	1.55
Delta	4	0	0	27	6.75
Tok	8	1	2	53	7.57
Glennallen	20	2	2	62	3.44
Other	16	6	0	57	5.7
TOTAL	75	17	4	233	4.31

Submitted by: Jeannette Ernest, Game Biologist II

LYNX - Statewide

Appendix II

Summary of replies to the 1970-1971 trapper questionnaire on lynx populations.

Area	Abundance in 1970-71 Season				Comparison with 1969-1970 Season			
	High	Med.	Low	Index	More	Same	Less	Index
Fort Yukon	5	1	1	7.3	5	2	0	7.9
Fairbanks	0	2	9	1.7	2	4	5	3.9
Delta	0	1	3	2.0	2	2	0	7.0
Tok	0	1	7	1.5	0	4	4	3.0
Glennallen	1	4	13	2.3	3	10	3	5.0
Other	2	4	8	3.3	3	4	6	4.1
TOTAL	8	13	41	1.8	15	26	18	4.8

Submitted by: Jeannette Ernest, Game Biologist II

LYNX - Statewide

Appendix III

Summary of replies to the 1970-1971 trapper questionnaire on hare populations.

Area	Abundance in 1970-1971 Season				Comparison with 1969-1970 Season			
	High	Med.	Low	Index	More	Same	Less	Index
Fort Yukon	6	2	0	8.0	7	0	0	9.0
Fairbanks	5	7	0	6.7	10	2	0	8.3
Delta	3	0	1	7.0	4	0	0	9.0
Tok	5	3	0	7.5	6	2	0	8.0
Glennallen	13	4	1	7.7	11	5	2	7.0
Other	7	7	0	7.0	10	3	0	8.1
TOTAL	39	23	2	7.3	48	12	2	7.9

Submitted by: Jeannette Ernest, Game Biologist II

LYNX - Statewide

Appendix IV

Summary of replies to the 1970-1971 trapper questionnaire on grouse populations.

Area	Abundance in 1970-1971 Season				Comparison with 1969-1970 Season			
	High	Med.	Low	Index	More	Same	Less	Index
Fort Yukon	1	0	7	2.0	0	2	5	2.1
Fairbanks	2	7	3	4.7	3	6	3	5.0
Delta	1	1	2	4.0	1	2	1	5.0
Tok	1	2	5	3.0	2	2	4	4.0
Glennallen	4	4	10	3.7	5	7	6	4.8
Other	1	3	10	2.4	4	3	6	4.4
TOTAL	10	17	37	3.3	15	22	25	4.3

Submitted by: Jeannette Ernest, Game Biologist II

LYNX

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 12 - Tok-Northway

Seasons and Bag Limits

Hunting season	Sept. 1 - Apr. 30	Two lynx
Trapping season	Nov. 1 - Mar. 31	No limit

Harvest and Hunting Pressure

Trapper questionnaires indicated an average of 7.6 lynx trapped per trapper from the Tok area. The harvest reported in the fur dealer-fur export reports was 68 lynx in the 1970-71 season. Trapping pressure seems to be fairly light in Unit 12, with less than ten trappers reporting.

Abundance, Composition and Productivity

According to trapper questionnaires, lynx populations were low around Tok in the 1970-1971 season. Trappers were of the opinion that there were the same number or slightly less lynx than in the previous year.

Management Summary and Recommendations

Lynx populations should continue to increase this coming year, based on hare populations in the area this year. It is believed that lynx populations fluctuate about one year behind the hare populations.

No changes are recommended in season or bag limits.

Submitted by: Jeannette Ernest, Game Biologist II

LYNX

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 20 - Fairbanks, Tanana

Seasons and Bag Limits

Hunting season	Sept. 1 - Apr. 30	Two lynx
Trapping season	Nov. 1 - Mar. 31	No limit

Harvest and Hunting Pressure

From trapper questionnaires we obtained a figure of 2.9 lynx trapped per trapper in the 1970-71 trapping season. Fur dealer and fur export reports indicated 134 lynx harvested from Unit 20 in the 1970-71 season. Trapping pressure seems to depend on the abundance of lynx to some degree.

Abundance, Composition and Productivity

Lynx populations fluctuate in a cyclic pattern, following the snowshoe hare cycle by about a year or so. Trapper questionnaires reported a fairly low population in Unit 20 during the 1970-71 season. Trappers did indicate an increase in lynx numbers over the preceding year.

Management Summary and Recommendations

Lynx should be increasing in abundance for the next year or two in Unit 20. The present harvest should have little effect on the population as lynx populations are mostly influenced by prey abundance.

No changes are recommended in seasons or bag limits.

Submitted by: Jeannette Ernest, Game Biologist II

LYNX

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 25 - Fort Yukon

Seasons and Bag Limits

Hunting season	Sept. 1 - Apr. 30	Two lynx
Trapping season	Nov. 1 - Mar. 31	No limit

Harvest and Hunting Pressure

Fort Yukon trappers averaged 13.4 lynx per trapper in the 1970-1971 season. The total harvest from Unit 25 reported in the fur dealer and fur export reports was 452 lynx. Most lynx from Unit 25 were trapped in the Fort Yukon area or by Fort Yukon trappers.

Abundance, Composition and Productivity

Replies to the trapper questionnaires indicated a high lynx population in the Fort Yukon area in the 1970-1971 season. There have been some recent reports that lynx may be declining in some areas near Fort Yukon, but they should still be fairly abundant this coming year.

Management Summary and Recommendations

No changes are recommended in seasons or bag limits.

Submitted by: Jeannette Ernest, Game Biologist II

UPLAND GAME ABUNDANCE

STATEWIDE SURVEY-INVENTORY PROGRESS REPORT - 1971

Techniques

The standard small game abundance questionnaire was mailed in mid-October, 1971 to 403 people throughout the state, and by early January, 1972, 151 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 the responses was mailed to cooperators in February, 1972.

Findings

Replies to the questionnaire are summarized in Appendix I. Cooperators from the Interior, Gulf, Southeastern, and Western regions felt that grouse populations in 1971 were low and showed a decrease from 1970 with the exception of Southeastern where responses indicated about the same grouse density as in 1970. On the Alaska Peninsula cooperators indicated grouse densities to be moderate and about the same as 1970.

Ptarmigan densities were thought to be moderate in all regions with the exception of the Brooks Range where cooperators felt they were high, showing an increase from 1970. Responses from the Interior, Gulf, and Western regions suggested decreased ptarmigan numbers from 1970, while in Southeastern and on the Alaska Peninsula responses indicated an increase over the previous year.

Cooperators felt hare populations were at moderate levels showing an increase over 1970 in the Gulf, Southeastern, Brooks Range, and Alaska Peninsula regions. Responses from the Interior suggest high hare populations with a slight increase over 1970, while in the Western region populations were thought to be low but slightly higher than 1970.

Management Summary and Recommendations

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.

Submitted by: Jerry McGowan, Game Biologist II

UPLAND GAME ABUNDANCE - Statewide

Appendix I

Summary of replies to questionnaire on grouse, ptarmigan, and hare populations, 1971 (number of replies from each region in parentheses).

Area / Species	Present Abundance				Comparison with 1970			
	High	Mod	Low	Index	More	Same	Fewer	Index
Brooks Range (9)								
Grouse (General)	-	-	-	-	-	-	-	-
Ptarmigan (General)	4	1	0	8.2	1	2	0	6.3
Rock Ptarmigan	0	3	1	4.0	1	2	0	6.3
Willow Ptarmigan	3	1	1	6.6	1	1	0	7.0
Snowshoe Hare	1	3	1	5.0	3	0	0	9.0
Western (16)								
Grouse (General)	0	1	3	2.0	0	2	3	2.6
Ruffed Grouse	0	2	3	2.6	0	1	4	1.5
Spruce Grouse	0	3	4	2.7	0	2	5	2.1
Ptarmigan (General)	6	3	5	3.0	1	3	3	2.3
Rock Ptarmigan	0	1	2	5.6	0	1	2	3.9
Willow Ptarmigan	7	2	3	6.3	4	2	2	6.0
Snowshoe Hare	1	4	6	3.2	7	1	2	7.0
Alaska Peninsula (8)								
Grouse (General)	1	2	0	6.3	1	2	0	6.3
Spruce Grouse	1	2	0	6.3	1	2	1	5.0
Ptarmigan (General)	2	2	1	5.8	3	1	1	6.6
Willow Ptarmigan	3	2	1	6.3	4	0	0	9.0
Snowshoe Hare	1	2	2	4.2	2	3	1	5.7
Southeastern (15)								
Grouse (General)	0	5	3	3.5	3	3	1	6.1
Spruce Grouse	0	3	1	4.0	0	3	0	5.0
Blue Grouse	0	6	3	3.7	1	6	2	4.6
Ptarmigan (General)	1	4	3	4.0	1	4	1	5.0
Willow Ptarmigan	1	0	1	5.0	1	1	0	7.0
Snowshoe Hare	1	3	1	5.0	3	2	0	7.1
Gulf (53)								
Grouse (General)	0	17	12	3.3	1	14	16	3.1
Ruffed Grouse	0	4	5	2.8	1	9	1	5.0
Spruce Grouse	1	17	13	3.5	4	10	21	3.1
Sharptail Grouse	1	6	5	3.7	4	4	7	4.8
Ptarmigan (General)	3	24	7	4.5	5	17	15	3.9
Rock Ptarmigan	1	6	4	3.9	1	9	3	2.8
Willow Ptarmigan	2	12	9	3.8	2	10	13	3.2
Whitetail Ptarmigan	2	5	2	5.0	2	3	3	4.5
Snowshoe Hare	25	12	8	6.5	18	19	9	5.8

Appendix I. (cont'd.)

Area	Species	Present Abundance High	Mod	Low	Index	Comparison with 1970 More	Same	Fewer	Index
Interior (50)									
	Grouse (General)	1	9	27	2.2	3	5	29	2.2
	Ruffed Grouse	1	6	28	1.9	1	10	25	2.3
	Spruce Grouse	2	9	24	2.5	3	10	23	2.8
	Sharptail Grouse	0	6	19	2.0	1	10	15	2.8
	Ptarmigan (General)	5	18	7	4.7	5	19	9	4.2
	Rock Ptarmigan	2	15	4	4.7	2	11	8	3.9
	Willow Ptarmigan	4	12	8	3.0	3	14	7	4.3
	Whitetail Ptarmigan	1	3	3	3.9	1	3	3	3.9
	Snowshoe Hare	32	8	4	7.5	25	11	10	6.3
Statewide									
	Grouse (General)	2	34	45	2.8	8	26	49	3.0
	Ruffed Grouse	1	12	36	2.1	2	23	30	5.1
	Spruce Grouse	4	29	42	3.0	8	27	50	3.0
	Sharptail Grouse	1	13	25	2.5	5	15	23	3.3
	Ptarmigan (General)	21	52	23	4.0	16	46	29	4.4
	Rock Ptarmigan	3	25	11	4.2	4	23	13	4.1
	Willow Ptarmigan	20	29	23	4.8	15	28	22	4.6
	Whitetail Ptarmigan	3	8	5	4.5	3	6	6	4.2
	Snowshoe Hare	61	32	22	6.4	58	36	22	6.2

Submitted by: Jerry McGowan, Game Biologist II

PTARMIGAN

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 20 - Fairbanks, Central Tanana Valley

Season and Bag Limits

Unit 20	Aug. 10, 1970 - April 30, 1971 Aug. 10, 1971 - April 30, 1972	20 a day; 40 in possession

Harvest and Hunting Pressure

A checking station was not operated in 1971 to determine the ptarmigan harvest in Unit 20, consequently no estimates of hunting pressure or harvest can be made. During past years the total fall kill at Eagle Creek, based on check station data, has been well under 20 percent of the estimated fall population. This was probably the case in 1971 at Eagle Creek as well as other popular ptarmigan hunting areas in Unit 20.

Abundance, Composition, and Productivity

The annual census of breeding rock ptarmigan at Eagle Creek (May 20-27, 1971) yielded a tally of 89 territorial males on the 15 square mile study area representing typical Interior Alaska rock ptarmigan breeding range. This is a 13 percent decline in the breeding population from 1970, and a 21 precent decline from the high population of 1969. No evidence of spring hunting at Eagle Creek was detected in 1971.

Management Summary and Recommendations

Rock ptarmigan densities fluctuate strongly over the years in Interior Alaska, but these fluctuations occur independent of fall hunting. It appears that at Eagle Creek a decline in ptarmigan numbers is underway, and this probably holds true throughout the Interior. Preliminary results of a study designed to test the effects of spring hunting of rock ptarmigan indicate that spring hunting may depress breeding densities, at least in years of low numbers (see Game Bird Research Report covering period January 1, 1971 to December 31, 1971). Spring hunting pressure is low in most ptarmigan breeding areas in Unit 20, consequently changes in seasons or bag limits are not recommended at this time.

Submitted by: Jerry McGowan, Game Biologist II

SPRUCE GROUSE

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 20 - Fairbanks, Central Tanana Valley

Season and Bag Limits

Unit 20	Aug. 10, 1970 - April 30, 1971 Aug. 10, 1971 - April 30, 1972	15 a day; 30 in possession

Harvest and Hunting Pressure

There are no systems in effect designed to gather information on grouse harvest and hunting pressure in Unit 20. General observations indicate that hunting pressure was lower on the Steese Highway (between Central and Circle) in the vicinity of the standard count route than in 1970.

Abundance, Composition and Productivity

The standard spruce grouse road counts were conducted on the Steese Highway during September. Excellent weather conditions prevailed and 10 counts were obtained. On the standard Taylor Highway route heavy road traffic interfered with counting activities to the point where information was meaningless. On the Steese an average of 7.4 grouse were seen per morning. This is a decline from 11.7 observations per morning recorded in 1970.

Spruce Grouse Seen on Standard Counts, 1971.

Location	Miles	Number of Counts	Range	Average Grouse per Mile Driven	Conf. Interval at 95%
Steese Highway	19	10	5-11	0.39	0.468 to 0.310

The 1971 standard fall road count suggested a marked decline in abundance of spruce grouse since 1970 when 0.62 spruce grouse were observed per driven mile. Unlike the slight decline in 1970 from the previous year, the marked decline in 1971 was probably apparent to hunters.

Management Summary and Recommendations

Counts will be continued in future years along the Steese, but due to traffic interference the Taylor counts will be discontinued. Efforts will be made to assess game bird hunting interest and pressure in the future. No change in season or bag limit is recommended at present.

Submitted by: Jerry McGowan, Game Biologist II

RUFFED GROUSE

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 20 - Fairbanks, Central Tanana Valley

Season and Bag Limits

Unit 20	Aug. 10, 1970 - April 30, 1971 Aug. 10, 1971 - April 30, 1972	20 a day; 40 in possession

Harvest and Hunting Pressure

No systems are in effect to gather information on harvest or hunting pressure.

Abundance, Composition and Productivity

No standardized counts of ruffed grouse were made in 1971, but observation cards submitted by Department biologists suggest a marked decrease in abundance since 1970. During the period September-November, 6 observations of ruffed grouse were made in the general Fairbanks vicinity. Five of the observations were of single birds, and one was an observation of 2 birds. During the same period in 1970, 23 ruffed grouse observations (12 flocks averaging 4.9 birds and 11 single birds) were made.

Management Summary and Recommendations

Ruffed grouse are known to fluctuate widely in Alaska, independent of hunting pressure, consequently no changes in seasons or bag limits are recommended at this time.

Submitted by: Jerry McGowan, Game Biologist II

SNOWSHOE HARE

SURVEY-INVENTORY PROGRESS REPORT - 1971

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 the 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.

Composition and Productivity

Hares were abundant around the Tok area up until the very latter part of 1971, according to small game abundance questionnaires returned in January, 1972. However, latest reports (February, 1972) indicate that the snowshoe hare population may be declining in the Tok area.

Management Summary and Recommendations

Hares will probably be available in Unit 12 this coming year, but may be declining to the point where hunting becomes unproductive. Hunting itself has little effect on hare populations, however.

No changes are recommended in season or bag limits.

Submitted by: Jeannette Ernest, Game Biologist II

SNOWSHOE HARE

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 20 - Fairbanks, Central Tanana

Seasons and Bag Limits

No Closed Season No Limit

Harvest and Hunting Pressure

We have not attempted to measure the hunting pressure or harvest of hares in Unit 20, but interest in hunting snowshoe hares has been fairly high due to their abundance at this time.

Compostion and Productivity

Hares were very abundant in most areas of Unit 20. Populations were very high around Central, Fairbanks and Delta, with densities of around 1800 per square mile in the Central area and 1500-1600 per square mile around Fairbanks.

Management Summary and Recommendations

Hare populations are expected to remain high in most of Unit 20 this coming year. They may drop off in the Central-Circle area and other areas near the Yukon. Hunting has no perceptible effect on hare populations and the high populations can accommodate much hunting pressure without detrimental effects.

No changes are recommended in seasons or bag limits.

Submitted by: Jeannette Ernest, Game Biologist II

SNOWSHOE HARE

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 22 - Seward Peninsula

Seasons and Bag Limits

No Closed Season	No Limit

Hunting and Harvest Pressure

Snowshoe hares are harvested primarily by young village residents with the bulk of the harvest occurring within three miles of the village.

Spring breakup is by far the largest mortality factor of snowshoe hares in Unit 22 because they inhabit riparian willow stands. Severe floods marked the 1971 breakup and local villagers reported numerous dead rabbits along and in the rivers.

Composition and Productivity

Snowshoe hares are found on the larger river systems in Unit 22. These include the Unalakleet, Shaktoolik, Koyuk, Fish and Kuzitrin river systems.

Most villagers report considerably fewer snowshoe hares in the 1971-72 winter following the severe spring floods of 1971.

Management Summary and Recommendations

Snowshoe hare populations are lower this winter due to high mortality during last spring's breakup. There is only limited hunting pressure and it is mostly restricted to within three miles of a village. It is recommended that the season and bag limit remain unchanged.

Submitted by: Robert E. Pegau, Game Biologist III

SNOWSHOE HARE

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 23 - Kotzebue Sound

Seasons and Bag Limits

No Closed Seasons — No Limit

Hunting and Harvest Pressure

Almost all snowshoe hunting occurs within three miles of a village. Drowning during spring breakup is a major snowshoe hare mortality factor in Game Management Unit 23.

Composition and Productivity

Snowshoe hares occur on the larger river systems in Game Management Unit 23, and these include the Buckland, Selawik, Kobuk and Noatak rivers. Both the Buckland and Kobuk rivers flooded during spring breakup and numerous hares were drowned. Local villagers report less hares this winter than last year.

Management Summary and Recommendations

Snowshoe populations in Game Management Unit 23 are linked to the severity of the spring breakup. Hunting pressure is minimal. It is recommended that the current liberal season and bag limit remain unchanged.

Submitted by: Robert E. Pegau, Game Biologist III

SNOWSHOE HARE

SURVEY-INVENTORY PROGRESS REPORT - 1971

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, there probably isn't a great deal of hunting pressure on hares north of the Yukon, except around villages, as there is no highway system.

Composition and Productivity

Reports have come in that hare populations have crashed around Fort Yukon, Steven's Village and other areas north of the Yukon. No actual measure of populations has been made other than the small game abundance questionnaires and the trapper questionnaires from this area.

Management Summary and Recommendations

Hares are expected to be relatively scarce. Hunting is not a significant influence on hares, therefore no changes are recommended in seasons or bag limits.

Submitted by: Jeannette Ernest, Game Biologist II

ARCTIC HARE

SURVEY-INVENTORY PROGRESS REPORT - 1971

Game Management Unit 22 - Seward Peninsula

Seasons and Bag Limits

No Closed Seasons	No Limit

Harvest and Hunting Pressure

Most hunting of Arctic hares is incidental to other activities. Arctic hares are taken primarily from early November through early May. During the summer they are dispersed and rarely seen. Residents of Shishmaref take the largest number of Arctic hare in Unit 22 and during 1971 the harvest there is estimated to have been between 250-300, mostly from the Serpentine and Arctic rivers. The harvest in the rest of Game Management Unit 22 is sporadic and is estimated to have been less than 100.

Composition and Productivity

Arctic hares are most abundant along the Serpentine, Arctic and Nuluk rivers in Game Management Unit 22. They also occur in scattered localities throughout the unit. Where their range overlaps with snowshoe hares, the Arctic hares are not normally found in the riparian willow stands but occur in willow and alder stands in the foothills. The hills near Teller, Bluff and middle Kuzitrin support some of the larger but disjunct Arctic hare populations.

Management Summary and Recommendations

Arctic hares have been increasing the last two years.

Hunting pressure is limited and concentrated on the larger populations. No change in season or bag limit is recommended.

Submitted by: Robert E. Pegau, Game Biologist III

RAPTOR

SURVEY-INVENTORY PROGRESS REPORT - 1971

Region III - Interior Arctic - Game Management Units 12 and 18-26

Introduction and Objectives

Information on goshawks in this report is from research conducted under Federal Aid Project W-17-4, Job 10.6. Data on other species are taken from a report of survey work conducted by John R. Haugh and Paul R. Spitzer during the summer of 1971. Logistic support for this survey was provided by the Alaska Department of Fish and Game and the Naval Arctic Research Laboratory. The following rivers were surveyed for nesting raptors, (approximate number of miles surveyed in parenthesis): John (105), Alatna (160), Wild (40), Koyukuk and Middle Fork (215), Chandler (105), Siksikpuk (16), Anaktuvuk (108), Nanushuk (55), Killik (45), Okpikruak (25), Colville (100), Itkillik (80), Kobuk (200), Noatak (350) and Tanana (250). Surveys were largely restricted to river courses. Peregrine falcons depend on cliffs overlooking major rivers for nest sites; consequently, findings probably truly reflect peregrine nesting density and distribution. However, gyrfalcons, rough-legged hawks and golden eagles are not dependent on such cliffs and survey findings probably underestimate nesting density and distribution of these species. No data on owls are included in this report.

Goshawks

Goshawk nesting densities and productivity in Interior Alaska were high in 1971, possibly resulting from high hare populations in this region. From 11 nests 27 young fledged, or 2.5 young per nest started. The average clutch size for 11 nests was 3.1. In nine successful nests, hatching success was 96 percent, and 100 percent of the young that hatched survived to fledging age.

Nest No.	Location	Clutch Size	No. Eggs Hatched	No. Young Fledged
1-71	Gilmore Creek	3	3	3
2-71	Dome Creek	1	1	1
3-71	Pearl Creek	3	3	3
4-71	St. Patrick Creek	4	4	4
5-71	Vault Creek	4	4	4
6-71	Engineer Creek	3	3	3
7-71	Isabella Creek	3	2	2
8-71	Goldstream Creek	3	0	0
9-71	Goldstream Creek	3	0	0
10-71	Ketchum Creek	4	4	4
11-71	Birch Creek	3	3	3

Peregrine Falcons

Few active peregrine nests were located in the Brooks Range in 1971 surveys. Apparently this species does not nest to any great extent along the Noatak, Kobuk, Koyukuk and other rivers flowing south out of the Brooks Range. In view of the 1971 surveys, the major portion of the arctic peregrine population probably nests along the Colville River. Consequently, the arctic peregrine population is probably smaller than previously thought. Along the Tanana River (between Tanacross and Big Delta) only four nesting pairs were located in 1971, compared with seven in 1970. The number of young per pair (3.0) in 1971 was about the same as in 1970 (2.9) for birds nesting on the Tanana. The marked decline in the nesting population leads Haugh to believe that if this trend continues, the peregrine will be extinct along the Tanana in this decade. Average number of young for all peregrine nests (2.7) in 1971 was only slightly higher than in 1970 (2.5).

River	Date of Observation	No. of Eggs	No. of Young
Chandler	16 June	4	-
Chandler	20 July	-	3
Nanushuk	16 June	-	-
Nanushuk	19 July	-	3
Nanushuk (May Creek)	20 July	?	?
Siksikpuk	20 July	?	?
Okpikruak	22 July	-	1
Tanana	29 July	?	?
Tanana	30 July	-	3
Tanana	31 July	-	3
Tanana	1 August	-	3

Gyrfalcons

The average number of young for 10 nests was 1.9 in 1971. Arctic gyrfalcon productivity appears to have declined from recent years. In 1968 and 1969 gyrfalcons on the Seward Peninsula fledged an average of 2.9 and 2.5 young per nest, respectively. The average number of young per nest in a sample of four gyrfalcon nests in 1970 was 2.8.

River	Date of Observation	No. of Eggs	No. of Young
Chandler	16 June	1	2
Chandler	16 June	-	2
Chandler	16 June	-	2
Chandler	16 June	-	4
Anaktuvuk	16 June	-	1
Anaktuvuk	16 June	-	2
Anaktuvuk	19 July	-	2
Nanushuk	19 July	-	?
Colville	22 July	-	1
Okpikruak	22 July	-	?
Killik	22 July	-	1
Noatak	14 June	?	?
Noatak	10 July	-	2

Rough-legged Hawks

Ten rough-legged hawk nests contained an average of 2.9 young; however, this figure is minimal because two nests possibly contained more young than indicated below. This is a marked increase from the average number of young (1.9) recorded for five nests of this species in 1970; however, no comparison of nesting density between years can be made.

River	Date of Observation	No. of Eggs	No. of Young
Chandler	16 June	?	?
Chandler	16 June	4	-
Chandler	16 June	?	?
Nanushuk	16 June	?	?
Anaktuvuk	16 June	?	?
Anaktuvuk	19 July	-	-
Noatak	26 June	4	-
Noatak	28 June	3	-
Noatak	5 July	-	-
Colville	22 July	-	4
Colville	22 July	-	2+
Colville	22 July	-	4
Colville	22 July	-	4
Colville	22 July	-	2+
Colville	22 July	-	1
Colville	22 July	-	3
Colville	22 July	-	2
Colville	22 July	-	3
Colville	22 July	-	4

Golden Eagles

Average number of young per nest (1.4) in 1971 is not significantly different from that recorded for 12 nests (1.6) in 1970.

River	Date of Observation	No. of Eggs	No. of Young
John	16 June	-	2
Siksikpuk	20 July	-	1
Noatak	2 July	1	1
Noatak	4 July	-	2
Noatak	5 July	-	2
Noatak	6 July	-	1
Noatak	10 July	-	1
Tanana	29 July	?	?

Miscellaneous Observations

Casual observations throughout the summer of 1971 suggest that sharp-shinned hawks, red tailed-Harlan's hawks, bald eagles, kestrels, merlins, and marsh hawks were common; however, nests of these species were not located. Ospreys appear to be rare in Interior Alaska.

Management Conclusions and Recommendations

The Department should continue to collect information on productivity and status of Alaska raptors populations. We should continue to work closely with land managing agencies in order to designate and protect critical nesting areas.

The scientific collecting and falconry permit system should be tightened in order to reduce illegal traffic of raptors. Import and export of raptors to and from Alaska for the purpose of falconry should be prohibited, and falconry permits should be issued for gyrfalcons and goshawks only. This would afford protection to peregrines and other migratory species, but still allow the practice of falconry with species best adapted for Alaskan conditions.

Submitted by: Jerry McGowan, Game Biologist II