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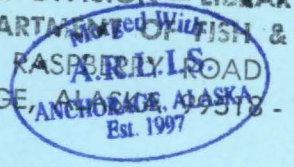

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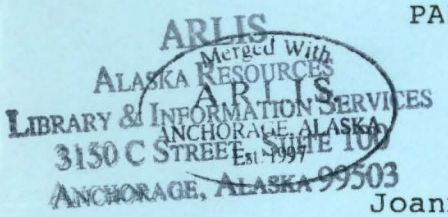
ANNUAL REPORT OF SURVEY-INVENTORY ACTIVITIES

PART VII. BEAVER, FURBEARERS, LYNX, WOLF, AND WOLVERINE



Edited and Compiled by
Joann A. Barnett, Publications Technician

Volume XIII

Federal Aid in Wildlife Restoration
Project W-22-1, Job 7.0, 14.0, and 15.0

(Printed August 1983)

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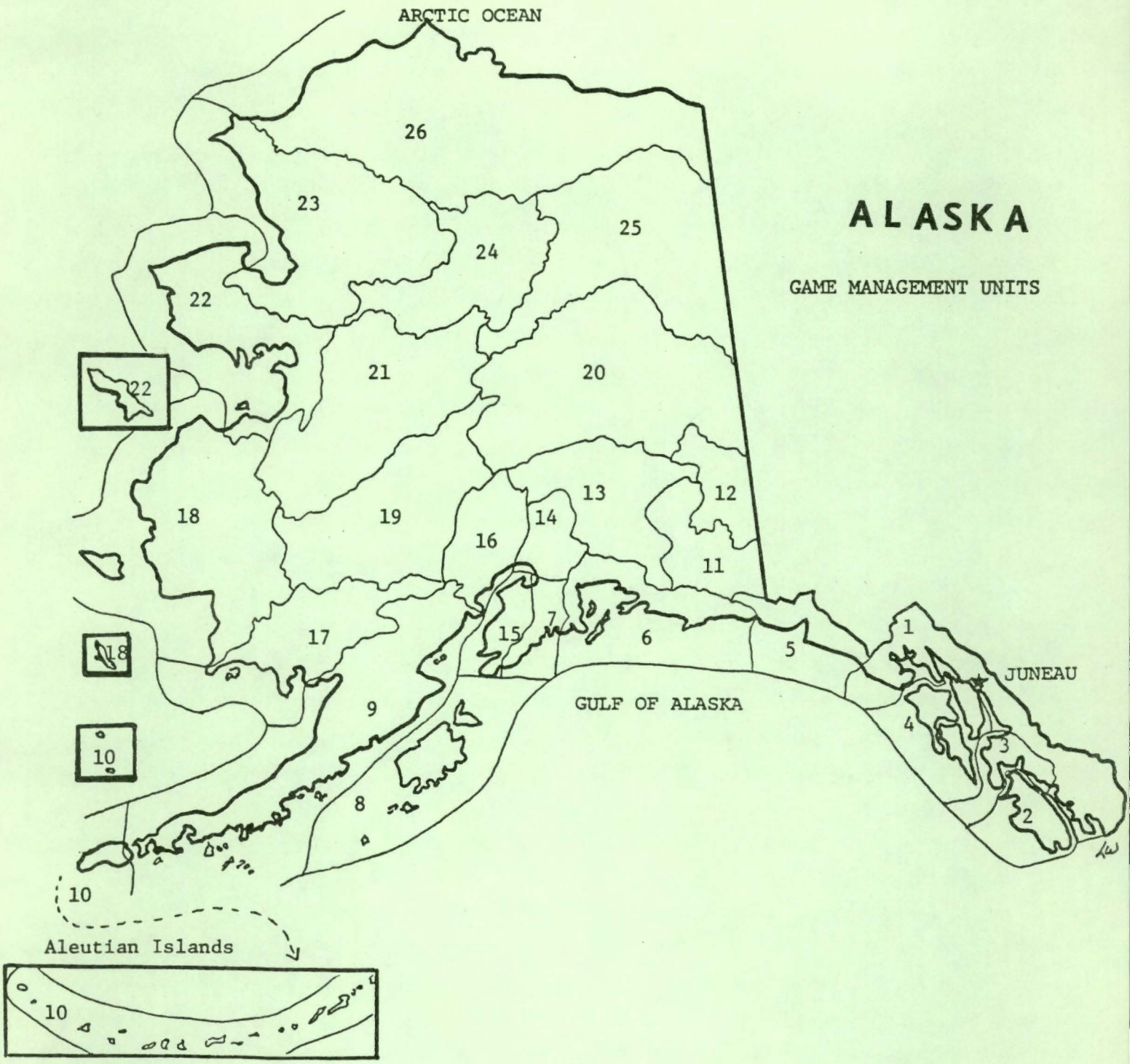
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Statewide Harvest and Population Status

Furbearers

The amount and accuracy of both population data and harvest data on furbearers are highly variable. Harvest data are compiled from sealing of lynx, otter, beaver, wolverine, and wolf. For other species, fur export reports and fur dealer reports are the only source of information. Harvest levels fluctuate more with trapping conditions and economic conditions than with populations.

Wolf

Population status is reported to be variable, but generally stable. Poor trapping conditions throughout much of the Interior limited harvest in 1981-82. Of the Units reporting, Unit 20 had the highest harvest (167), followed by Units 25 (64) and 7 and 15 (63).

Wolverine

Of the 464 wolverine reported taken, 63 were taken in Unit 13, 57 in Unit 20, and 56 in Unit 25; these Units generally yield the highest harvests. Populations are thought to be stable.

Lynx

Lynx populations fluctuate dramatically; length of the "cycle" varies between Units, but appears to be increasing in many areas. Of the reported harvest of 4,851 lynx in 9 Units, 1,436 were taken in Unit 25, followed by Units 20 (637), 21 (487), and 22 (479).

Land Otter

Land otter populations were reported stable, with fluctuations in trapping pressure (and harvest) regulated largely by fur market and economic conditions. Unit 18 reported the largest harvest (389 otters), followed by Unit 4 (184 otters) and Unit 2 (108 otters).

Other Furbearers

Reports are presented for red fox, arctic fox, marten, mink, and weasel, and beaver in some Units where information exists. Harvest and population status data are usually incomplete or estimated by the area biologist.

Robert A. Hinman
Deputy Director

BEAVER

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 17

GEOGRAPHICAL DESCRIPTION: Northern Bristol Bay

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

Unit 17A and 17C	Feb. 13-Feb. 28	10 per season
Unit 17B	Feb. 1-Feb. 28	10 per season

Population Status and Trend

Beaver cache surveys were conducted on October 2-7, 1981 (Appendix A). Ten streams were surveyed, yielding an average density of 1.5 caches/mi of stream surveyed (N = 369).

Generally, the beaver population appears at or near the 1980-81 level. The lower Togiak drainage continues to support the lowest densities of beaver in Unit 17. Several streams such as the Kokwok, Ongivinuck, Harris, and Stuyahok appear to be at peak densities. Several areas of marginal habitat, typically open-tundra, low-vegetation areas with very shallow ponds and streams, were noted where beavers had constructed houses and food caches. Many of these froze during the winter when ice thickness exceeded 3 ft.

Mortality

A total of 201 trappers sealed 1,693 beavers in 1982 (Appendix B). Trapping pressure increased annually from 1976 to 1981. This trend was expected to continue during the 1981-82 season due to the increased season length in Subunit 17B. However, low pelt prices and warm weather in mid-February (which opened many streams) kept trapping pressure at 1980-81 levels.

Percent kits in the harvest remained relatively low (20.9%). Trappers from Togiak and Manokotak had the highest percent kits in their catch (33% and 39%, respectively). None of the harvest from villages along the Nushagak River exceeded 11% kits.

Some mortality occurred in late January and early February when unseasonably warm weather caused flooding of lodges in several areas. Three beavers were reportedly found frozen near their lodges between Dillingham and Manokotak. The remainder of February and early March was very cold, and ice thickness exceeded 3 ft on ponds. Food caches for houses constructed in

marginal habitat on shallow ponds may have frozen solid leading to starvation of the colonies.

Management Summary and Recommendations

During this reporting period, the Board of Game adopted more liberal regulations governing the trapping season (February 1-28 for Subunit 17B) but left the bag limit at 10. While this liberalization may have a short-term positive effect, it is not liberal enough to permit beaver management on a sustained yield basis throughout the Unit. Many remote areas of Unit 17 remain untrapped during the current beaver season. Seasons and bag limit restrictions in these areas must be relaxed to attract pressure to these remote drainages.

PREPARED BY:

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Game Biologist III

SUBMITTED BY:

Leland P. Glenn
Survey-Inventory Coordinator

APPENDIX A. Aerial beaver cache surveys, Unit 17, Bristol Bay, 1975-1981.

River	Miles	1981 caches	Miles/Cache (MC) 1981	1980	1979	1978	1977	1976	1975	% change in M/C from 1980	Survey time (min) 1981	1980	1979	1978	1977	1976
Klutuk	47	67	.70	.72	.73	.73	1.14	1.00	1.38	-03	35	22	26	27	23	27
Kokwok	30	73	.41	.39	.71	.55	1.00	1.07	1.25	+05	30	28	28	28	30	30
Iowithla	62	92	.67	.64	.81	.84	.91	1.29	1.29	+05	28	29	30	35	28	30
Sunshine	12	28	.43	.34	.48	.46	.41	--	1.47	+26	13	18	13	9	10	--
Togiak	60	61	.98	1.22	1.58	.94	1.15	--	3.04	-20	33	46	29	36	36	--
Ongivinuk	32	63	.51	.60	1.00	.73	.68	--	1.28	-15	22	23	15	19	20	--
Harris	29	49	.59	.81	.97	1.00	--	1.45	1.38	-27	18	17	18	15	--	15
Mosquito	29	--	--	.36	--	.62	.64	.81	.63		--	21	--	14	15	15
Mulchatna	65	--	--	.40	--	.76	.80	.80	.51		--	58	--	45	50	42
Stuyahok	40	88	.45	.53	.89	1.10	1.33	1.90	.93	-15	28	23	21	18	22	30
North Fork Napotoli	30	13	2.31	1.67	2.72	2.10	--	1.30	--	+38	12	11	10	12	--	15
South Fork Napotoli	27	15	1.80	1.69	3.00	1.40	--	.84	--	+07	12	11	13	15	--	12
King Salmon	72	--	--	.64	--	.78	1.30	1.38	--		--	32	--	18	28	19
Tikchik	70	--	--	--	.79	--	--	.92	--		--	--	35	--	--	20
Nushagak	87	--	--	--	--	1.10	1.30	--	--		--	--	--	48	44	--
Weary	20	--	--	.69	--	--	--	--	--		--	14	--	--	--	--

UNIT 17

Average M/C 1981 = .67
Average M/C 1980 = .61
Average M/C 1979 = .95
Average M/C 1978 = .84
Average M/C 1977 = .97
Average M/C 1976 = 1.09
Average M/C 1975 = 1.32

"1975-1978 Closed Area"

Average M/C 1981 = .63
Average M/C 1980 = .65
Average M/C 1979 = 1.00
Average M/C 1978 = .83
Average M/C 1977 = .91
Average M/C 1976 = 1.10
Average M/C 1975 = 1.40

APPENDIX B. Annual harvest of beavers, percentages of each age class, and number of trappers in Unit 17 between 1970 and 1982.

Year	Limit	% kits (<53 inches)	% kits and yearlings (≤59 inches)	% adults (>59 inches)	Total no. of beaver	No. of trappers	Avg. no. beaver/ trapper
1970	15	22.6	34.1	65.9	1,190	118	10.1
1971	15	27.5	41.0	59.0	824	80	10.3
1972	15	20.5	34.0	66.0	762	70	10.9
1973	15	23.9	35.8	64.2	1,849	163	11.3
1974	15	23.9	36.6	63.4	1,681	169	9.9
1975	15	15.8	27.1	72.8	929	85	10.9
1976	15	22.2	32.7	66.4	637	66	9.7
1977	15	17.7	32.1	67.2	766	73	10.5
1978	10	23.5	35.5	64.2	802	75	10.7
1979	10	20.5	37.7	62.2	959	125	7.7
1980	10	27.7	40.4	59.6	1,478	190	7.8
1981	10	20.0	34.0	66.0	1,673	207	8.1
1982	10	20.9	33.2	66.8	1,693	201	8.4

BEAVER

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 18

GEOGRAPHICAL DESCRIPTION: Yukon-Kuskokwim Delta

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit*

Unit 18, that portion lying between the Yukon and Kuskokwim Rivers	Jan. 1-Mar. 31	40 beavers
Remainder of Unit 18	Jan. 1-Mar. 31	20 beavers

* A special spring shooting season was opened by emergency order from April 1 to June 10 in that portion of Unit 18 north of the north bank of the Kuskokwim River and west of a line from Napakiak to Ohhagamiut and then to the mouth of the Black River.

Population Status and Trend

Field observations by Department personnel and reports from local trappers indicate beavers continue to be abundant in Unit 18. Residents of tundra villages, particularly in the Hooper Bay-Chevak and Nelson Island areas, frequently remark that expanding beaver populations are destroying their favorite blackfish areas. In response to increased beaver population densities in the tundra areas, an emergency order allowing spring shooting was instituted from April 1 to June 10 in those areas accessible to tundra villages.

Population Composition

Aerial cache counts were conducted in October 1981. Four hundred thirty-one caches were counted in 434 mi of river, yielding an overall mile/cache count of 1.01 (Appendix A). The only aerial cache count conducted prior to 1981 in Unit 18 was of the Tuluksak River in 1970 (Bishop 1971). Thirty-four caches were counted in 100 mi of river yielding a mile/cache count of 2.86. Most of the caches counted (32 of 34) were upriver in the vicinity of the Nyac mining district. A comparison with the 1981 Tuluksak River survey indicates the number of active colonies increased from 34 to 84 in the 11-year interim, and most of the expansion occurred in the downriver, lowland portion of the river. We believe expansions of similar magnitude have occurred in other areas of the Unit.

The mile/cache counts for the Tuluksak and Kwethluk Rivers (0.60 miles/cache) appear to reflect higher densities than counts farther north in the Yukon drainages (Range 0.86-3.31 mi/cache). The difference in density is logical from the standpoint that the Kwethluk and Tuluksak drainages border Unit 17, perhaps the most productive beaver area in the State. Densities of active colonies as high as 0.34 mi/cache have been recently reported for numerous drainages in Unit 17 (Taylor 1982). Perhaps climatic or habitat considerations permit beaver populations in the southern portion of the Unit to be more productive. Because our data are limited, such conclusions are tentative and should be regarded with caution.

Mortality

Data gathered from sealing certificates indicate Unit 18 trappers harvested 1,819 beavers during the 1981-82 season. Although substantially lower than the 1980-81 harvest, the 1981-82 harvest level is similar to harvest levels observed in past years (Appendix B). Although harvests declined in most drainages, the relative magnitude of the declines varied considerably. Among the Yukon River drainages, a slight harvest increase occurred only on the Reindeer River. In other drainages, particularly the Andreafsky River, harvests declined substantially. Among the Kuskokwim drainages, the harvest increased only on the Kwethluk River. Declines in harvest were particularly notable on the Goodnews River and in the Kalskag-Akiak area. We believe unusually thick ice conditions and low prices discouraged trapping activity throughout the Unit.

A decline in the percentage of kits (<54 inches) occurring in the harvest was noted in nearly all drainages. A significant increase was observed only on the Reindeer River system. Because trapping techniques vary widely throughout the Unit, conclusions are difficult to make regarding the reduced percentage of kits in the harvest. Although the vast majority of trappers use snares, some trappers attempt to make sets selective for larger, more valuable beavers, while others attempt to trap as many beavers as possible from a lodge. Because trappers in many cases harvest beavers for the meat, as well as for the pelt, the commercial value of the pelt is not always the most important consideration. Some trappers only count the larger beavers toward their limit. Thus, a harvest of kits is not always considered undesirable by many individuals.

In areas where most trappers attempt to harvest larger beavers, the percentage of kits can be used as a guideline indicating whether a drainage was overtrapped. Libby (1955) suggested that a harvest of kits in excess of 20% indicates that overtrapping is occurring. However, in drainages where nonselective trapping techniques predominate, the percentage of kits in the harvest may merely be a reflection of their relative abundance in the population. In this case, the percentage of kits harvested may not

be an index of productivity. Increased knowledge of local trapping techniques is needed to properly interpret the data.

Because information regarding method of harvest (shot or trapped) is not available from sealing certificates, we were unable to accurately determine the proportion of beavers harvested in the spring shooting season. However, discussions with local villagers indicate the harvest was not high. Although most individuals expressed a desire to take beavers, the limited access of spring and early summer precluded some hunting activity. Spring waterfowl hunting and commercial fishing activities likewise prevented many individuals from making a serious effort to hunt beavers.

Information regarding other sources of mortality is scanty. Because Unit 18 has few wolves, predation is believed to be minimal. Illegal shooting of beavers continues to be a problem in summer and fall in most of the Unit. Because of access limitations, we nevertheless do not believe the illegal harvest to be significant.

Management Summary and Recommendations

Beavers continue to be abundant throughout Unit 18. Although assessment is still in progress, the spring shooting season appears to have had only localized impacts on beaver populations. Due to relatively poor trapping conditions during the winter, the overtrapping problems mentioned in the previous report appeared to be minimal this year.

The following activities are recommended for the 1982-83 reporting period.

1. Continue annual fall cache surveys on selected drainages. Priority will be given to heavily trapped drainages.

2. Continue to establish fur sealers in villages that do not presently have one.

3. Encourage trapping away from villages.

4. Investigate habitat conditions in those drainages with dense beaver populations.

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SUBMITTED BY:

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APPENDIX A. Unit 18 aerial beaver cache surveys, October 1981.

River	River miles	No. caches	Miles/ cache
North Fork Andreafsky	69	59	1.23
East Fork Andreafsky	89	104	0.86
Kashunak	105	58	1.81
Kwethluk	68	113	0.60
Reindeer	53	16	3.31
Tuluksak	50	84	0.60

APPENDIX B. Unit 18 beaver harvest by drainage, 1979-80 season through 1981-82 season.

Location	Year	No. of trappers	No. and % taken by pelt size (inches)				Total	Take/ trapper
			0-53	54-59	60-64	65+		
Andreafsky River	1979-80	12	29(29)	6(6)	29(29)	36(36)	100	8.3
	1980-81	23	55(27)	28(14)	60(29)	63(31)	206	9.4
	1981-82	9	6(11)	7(13)	20(36)	22(40)	55	6.1
Eek River	1979-80	9	17(17)	17(17)	18(17)	50(49)	102	11.3
	1980-81	6	5(10)	12(25)	12(35)	20(40)	49	8.2
	1981-82	11	8(9)	10(11)	18(20)	56(61)	92	8.4
Goodnews River	1979-80	8	23(31)	11(15)	19(26)	21(28)	74	9.3
	1980-81	18	73(39)	20(11)	44(23)	52(28)	189	10.5
	1981-82	6	14(30)	5(11)	12(26)	15(33)	46	7.7
Johnson River	1979-80	20	59(24)	39(16)	45(19)	100(41)	243	12.6
	1980-81	25	72(26)	52(19)	45(16)	105(38)	274	11.0
	1981-82	20	62(27)	23(10)	52(24)	89(39)	226	11.3
Kanektok River	1979-80	5	15(27)	20(36)	5(9)	16(28)	56	11.2
	1980-81	3	25(47)	4(8)	16(30)	8(15)	53	17.7
	1981-82	4	10(32)	8(26)	9(29)	4(13)	31	7.8
Kashunak River	1979-80	6	3(7)	4(10)	18(45)	15(38)	40	6.7
	1980-81	12	34(23)	24(17)	44(30)	43(30)	145	12.1
	1981-82	10	21(18)	22(18)	33(28)	44(37)	120	12.0
Kisaralik River	1979-80	12	27(25)	11(10)	30(27)	42(38)	110	9.2
	1980-81	8	34(39)	6(7)	16(18)	32(26)	88	11.0
	1981-82	6	10(17)	7(12)	13(22)	29(49)	59	9.8
Kuskokwim R. - Akiak, Kalskag	1979-80	19	64(30)	31(15)	40(19)	76(36)	211	11.1
	1980-81	20	39(18)	19(9)	52(24)	106(49)	216	10.8
	1981-82	11	23(19)	19(16)	26(22)	52(43)	120	10.9

APPENDIX B. Continued.

Location	Year	No. of trappers	No. and % taken by pelt size (inches) 0-53	54-59	60-64	65+	Total	Take/ trapper
Kwethluk River	1979-80	17	40(30)	21(16)	22(16)	52(38)	135	7.9
	1980-81	20	71(30)	28(12)	35(15)	107(44)	241	12.1
	1981-82	30	51(19)	37(13)	55(20)	133(48)	276	9.2
Pastolik River	1979-80	0	--	--	--	--	--	--
	1980-81	2	2(50)	2(50)	--	--	4	2.0
	1981-82	5	2(5)	15(39)	10(25)	12(31)	39	7.8
Reindeer River	1979-80	5	13(16)	9(11)	21(25)	40(48)	83	16.2
	1980-81	3	2(7)	6(22)	5(19)	14(52)	27	9.0
	1981-82	3	15(50)	3(10)	11(37)	1(3)	30	10.0
Yukon River - Alakanuk to Pilot Village	1979-80	19	57(28)	29(14)	61(30)	59(28)	206	10.8
	1980-81	45	70(22)	51(16)	95(30)	98(31)	114	7.0
	1981-82	27	44(25)	27(15)	62(36)	42(24)	175	6.5
Yukon River - Pilot Village to Russian Mission	1979-80	11	32(27)	11(9)	31(24)	52(40)	129	11.7
	1980-81	29	31(14)	27(12)	70(30)	102(44)	230	7.9
	1981-82	16	19(10)	27(15)	43(23)	97(52)	186	11.6
Unit 18 (no drainage given)	1979-80	8	17(17)	17(17)	31(31)	35(35)	100	12.5
	1980-81	23	47(21)	45(21)	49(22)	82(37)	224	9.7
	1981-82	14	36(23)	13(8)	47(30)	62(39)	158	11.3
Unit 18 total	1979-80	173	462(25)	267(14)	428(23)	698(38)	1,855	10.7
	1980-81	258	581(24)	348(15)	566(24)	901(38)	2,396	9.3
	1981-82	188	348(19)	252(14)	461(25)	758(42)	1,819	9.7

FURBEARERS

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 1A AND 2

GEOGRAPHICAL DESCRIPTION: Ketchikan and Prince of Wales Island

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

See Trapping Regulations and Fur Animal Hunting Regulations, No. 22.

Population Status and Trend

Snow conditions were suitable for track counts of wolves in late December 1981, and most of Revilla Island was surveyed. The estimated wolf population of Revilla Island from aerial surveys is 25-30 animals. Subsequent ground observations and other verified reports increased this estimate to about 35-40 during January 1982, roughly the same level of wolves estimated to be on Revilla Island during the past 7 years.

Based on discussions with trappers, mink and marten populations are apparently holding fairly steady at a moderate to high level. The populations in areas of good access are generally lower than surrounding areas because of heavy trapping pressure. This applies more to marten than mink because of the ease of trapping marten.

Otter populations are still below the level of the early 1970's but appear to be increasing. Lower fur prices and less trapper interest are the primary reasons. Several of the better otter trappers did not trap otter this year because of poor demand for otter pelts.

Wolverine populations should be in good condition. They occur only on the mainland and are seldom taken, particularly during mild winters when they stay away from the more easily trapped beach areas.

Population Composition

No data were available.

Mortality

The wolf harvest in Subunit 1A was 18, compared to 19 in 1980-81. Fourteen of the 18 were taken on Revilla Island. There were 11 males, 6 females, and 1 of unknown sex in the harvest. Color breakdown was 4 black and 14 brown. Seventy-eight percent of the

18 wolves were taken in November-February period. Six of the 18 were shot; 12 were trapped.

In Unit 2, the 1981-82 harvest was 20 wolves, down from 35 taken last year. Fifty-five percent of the harvest was males; the breakdown by color was 8 black and 12 brown wolves. Ten were shot, and 10 were trapped. The harvest was spread over a much greater period than in Subunit 1A, and only 45% were taken in the November through February period.

Only 1 wolverine was taken in Subunit 1A this year. This compares to 1 taken in 1980-81, 3 taken in 1979-80, and 11 taken in 1978-79.

The otter harvest for both Subunit 1A and Unit 2 declined once again. In Subunit 1A, 42 otter were taken, down 33% from last year, while the 108 taken in Unit 2 represent a 22% decrease from the 138 taken in 1980-81. The sex ratio of otter from Subunit 1A was 62% males, while in Unit 2 it was 45% males. About 20% of the otter taken in both Units were shot; the rest were trapped.

In Subunit 1A, the 42 otter were taken by 10 trappers, down from 13 reporting taking otter in 1980-81. Eighteen trappers took the 108 otter sealed from Unit 2 this year, a decrease from the 22 trappers harvesting otter last year. Otter prices remain low, the probable reason for the declining harvest and trapper participation.

No data were available on the harvest of mink and marten. In general, however, there appears to be less trapper effort for all species, a result of poor pelt prices.

Management Summary and Recommendations

Trapping pressure appears to be generally decreasing with declining fur values. The more dedicated trappers seem to be more affected than the recreational type.

No changes in seasons or bag limits are recommended.

PREPARED BY:

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Game Biologist III

SUBMITTED BY:

Nathan P. Johnson
Regional Management Coordinator

FURBEARERS

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 1B and 3

GEOGRAPHICAL DESCRIPTION: UNIT 1B - Southeast Mainland from Cape Fanshaw to Lemesurier Point

UNIT 3 - Islands of the Petersburg, Wrangell, and Kake Areas

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

See Trapping Regulations and Fur Animal Hunting Regulations, No. 22.

Population Status and Trend

Field observations and trapper reports indicate that wolf populations are increasing in Subunit 1B and Unit 3, with Mitkof, Kupreanof, and Zarembo Islands showing the most marked increases. Mink, marten, and otter populations continued to be good throughout the area, although otter trapping was slow because of poor fur prices. Beaver populations are stable, but little interest in beaver trapping was evidenced. Raccoons and red fox do not occur in these Units. Coyotes and lynx may occur in major drainages of Subunit 1B, but none were trapped in 1981-82. Wolverines are present throughout the area, but are rarely trapped. Smaller furbearers (muskrat, marmot, and squirrel) occur, but are seldom trapped because of the low monetary return on their furs.

Population Composition

The sex composition of harvested wolverines is given in Appendix A for the period 1978-1982. No other information on population composition was collected during the report period.

Mortality

Mortality data are compiled from sealing information; harvest information based on the fur export permit report is not available for this report period. Appendix B is based on sealing data which were collected on wolf, wolverine, beaver, otter, and lynx during 1981-82.

Fourteen wolves (5 males, 7 females, and 2 of unknown sex) were sealed in 1981-82 in Unit 3, as compared to 12 the previous year. Wolves were taken from Mitkof (4), Kupreanof (3), Zarembo (3), Kuiu (2), Wrangell (1), and Etolin Islands (1). Unit 3 harvest

chronology and percent of harvest were as follows: January (4, 29%); February (3, 21%); March (1, 7%); April (1, 7%); May (1, 7%); June, July, August, September, October, and November (0); and December (4, 29%). Six (43%) were taken by ground shooting, 7 (50%) by trapping, none by snaring, and 1 (7%) by other means. One (7%) of the harvested wolves was white, 6 (43%) were brown, 4 (29%) were gray, and 3 (21%) were black.

In Subunit 1B, 5 wolves (1 male, 4 females) were sealed in 1981-82, the same as the 1980-81 harvest. Three were taken from the Thomas Bay area, while 2 were harvested in the Stikine River drainage. Harvest chronology for 1981-82 by month was as follows: 2 in April; 1 each in May, October, and November; and none in the remaining months. Method of take was ground shooting (3, 60%); trapping (1, 20%); snaring (0); and 1 by other means. Color of wolves taken in Subunit 1B was as follows: white (0); brown (1); gray (3); and black (1).

Unit 3 wolf mortality data for the past 21 seasons are shown in Fig. 1. The information was taken from bounty records and the mandatory wolf hide sealing program. Bounties are no longer provided for wolves.

The 1981-82 wolverine harvest in GMU 1 was 4 animals, compared to 2 the previous year. The Unit 3 harvest of 1 wolverine was the same as 1980-81, and was taken in a marten set on Mitkof Island.

The Subunit 1B beaver harvest declined drastically from 63 in 1980-81 to 9 in 1981-82. Increased snow depths in this Unit combined with low fur prices tended to discourage beaver trappers.

Otter sealing data indicated that 29 otters (13 males, 16 females) were taken in Subunit 1B; 77 (47 males, 30 females) were reported harvested in Unit 3. This compares with the 1980-81 totals of 30 and 90, respectively. In Subunit 1B, 20 (69%) were taken in December, 3 (10%) in January, and 6 (21%) in February. In contrast in Unit 3, 25 (33%) were taken in December, 26 (34%) in January, 20 (26%) in February, and 6 (7%) during an unknown month. Method of take in Subunit 1B was as follows: ground shooting (4, 14%); trapping (23, 79%), snaring (0), and other means (2, 7%). In Unit 3, 14 (18%) of the otters were taken by ground shooting, 60 (78%) by trapping, none by snaring, and 3(4%) by other means.

Furbearer seasons and bag limits for 1981-82 for Subunit 1B and Unit 3 are given in Appendix C.

Management Summary and Recommendations

Most furbearer populations are stable or increasing in Subunit 1B and Unit 3. Trapping effort depends on fur prices to a great extent. Trappers depend on boats for transportation and are

subject to the vagaries of weather. Trapping pressure continued to be the highest on mink, otter, and marten, while beaver trapping effort and/or success declined sharply. No changes in seasons or bag limits are recommended.

PREPARED BY:

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SUBMITTED BY:

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APPENDIX A. Wolverine harvest results, fall 1978 through spring 1982.

Season	GMU 1B				GMU 3			
	Males	Females	Unk.	Total	Males	Females	Unk.	Total
1978-79	2	4	--	6	1	--	--	1
1979-80	2	1	--	3	--	1	--	1
1980-81	1	--	1	2	--	--	1	1
1981-82	--	4	--	4	--	1	--	1
Totals	5	9	1	15	1	2	1	4

APPENDIX B. Furbearers sealed in 1981-82, Subunit 1B and Unit 3.

Area	Beaver	Lynx	Otter	Wolf	Wolverine
Subunit 1B	9	0	29	5	4
Unit 3	8	0	77	14	1
Totals	17	0	106	19	5

APPENDIX C. GMU's 1B and 3 furbearer seasons and bag limits, 1981-82.

Species	Trapping season[b]	Limit	Hunting season[b]	Limit
Beaver (except Mitkof Island)	Dec. 1-May 15	None	No open season	--
Beaver (Mitkof Island)	Dec. 1-Feb. 15	None	No open season	--
Coyote	Dec. 1-Apr. 30	None	Sep.1-Apr. 30	2
Red Fox	Dec. 1-Jan. 31	None	Sep.1-Feb. 15	2
Lynx	Dec. 1-Feb. 15	None	Sep.1-Mar. 31	2
Marmot	All year	None	No open season	--
Marten	Dec. 1-Feb. 15	None	No open season	--
Mink and weasel	Dec. 1-Feb. 15	None	No open season	--
Muskrat	Dec. 1-May 15	None	No open season	--
Land otter	Dec. 1-Feb. 15	None	No open season	--
Raccoon	All year	None	All year	None
Squirrel	All year	None	All year	None
Wolf	Nov. 1-Apr. 30	None	All year	None
Wolverine	Dec. 1-Feb. 15	None	Nov. 10-Feb. 15	1

[a] Alaska Trapping Regulations No. 22, effective July 1, 1981-June 30, 1982.

[b] Alaska Hunting Regulations No. 22, effective July 1, 1981-June 30, 1982.

FURBEARERS

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 1C

GEOGRAPHICAL DESCRIPTION: Southeast Mainland North of Cape Fanshaw to the Latitude of Eldred Rock

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

See Trapping Regulations and Fur Animal Hunting Regulations, No. 22.

Population Status and Trend

The status of furbearer populations is not fully understood. No population data have been obtained for several years. Trapper comments indicated at least moderate population levels during the past year in Subunit 1C.

Population Composition

No formal surveys were conducted in Subunit 1C for furbearers.

Mortality

Reductions in trapper effort and harvest level were noted for wolf and otter compared to 1980-81 (Appendix A). For wolverine in 1981-82, effort and harvest remained nearly equal to the previous year. The reported catches of other furbearers could not be fully assessed, since dealer purchases from trapper information used to assess previous year's harvest were not available for 1981-82. However, trapper export information for 1981-82, when compared to the 1980-81 data, indicated 52% and 17% fewer marten and mink skins, respectively, were shipped out of Alaska.

Management Summary and Recommendations

Current seasons and bag limits appear to provide adequate opportunity to take furbearers in Subunit 1C. Areas which provide trapping opportunity near population centers are declining due to expanding residential development. This trend is expected to continue.

PREPARED BY:

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SUBMITTED BY:

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Regional Management Coordinator

APPENDIX A. Subunit 1C furbearer harvest statistics for 1979-80, 1980-81, and 1981-82.

Year	Furbearer sealing documents			Dealer purchases/trapper export documents								Total trappers	
	Wolf	Wolverine	Otter	Beaver	Mink	Muskrat	Marten	Weasel	Lynx	Squirrel	Red fox		
1979-80	4	3	37	18	235	12	365	12	0	0	0	15[a]	29[b]
1980-81	9	5	34	1	170	0	288	0	0	0	0	20[a]	18[b]
1981-82	4	6	19	10[a]	73[c]	0[c]	95[c]	7[c]	0[c]	0[c]	1[c]	12[a]	8[c]

[a] Data from furbearer sealing documents.
[b] Data from dealer purchases from trappers and trapper exports by Unit printouts.
[c] Data from trapper exports only.

FURBEARERS

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 1D

GEOGRAPHICAL DESCRIPTION: Upper Lynn Canal

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

See Trapping Regulations and Fur Animal Hunting Regulations, No. 22.

Population Status and Trend

No formal surveys or inventories were conducted during this report period. However, sealing records, export reports, dealer purchases, and sportsmen interviews indicate stable populations for most species.

Population Composition

No data were available.

Mortality

For those species not requiring sealing, furbearer harvests are determined through mandatory sealing of wolf, wolverine, lynx, otter, and beaver and by examining fur dealer exports, trapper exports, and dealer purchases from trapper reports.

During the 1981-82 season, 1 wolf, 6 wolverines, and 3 otters were sealed in Subunit 1D. This harvest is somewhat lower than that reported for the 2 previous seasons (Appendix A).

Limited data precluded an accurate estimation of the harvest of other furbearers.

Management Summary and Recommendations

The decrease in the number of animals sealed in 1981-82 probably reflects a decline in trapping pressure rather than a fluctuation in furbearer populations. Despite an increase in fur values in

recent years, sportsmen interviews indicate a decrease in the number of "serious" trappers in Subunit 1D. No change in seasons or bag limits is recommended at this time.

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Ronald E. Ball
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SUBMITTED BY:

Nathan P. Johnson
Regional Management Coordinator

APPENDIX A. Fur harvests from Game Management Unit 1D.

Regulatory year	Species		
	Wolf	Wolverine	Otter
1979-80	7	11	6
1980-81	5	3	8
1981-82	1	6	3

FURBEARERS

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 4

GEOGRAPHICAL DESCRIPTION: Admiralty, Baranof, Chichagof, and Adjacent Islands

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

See Trapping Regulations and Fur Animal Hunting Regulations, No. 22.

Population Status, Composition, and Trend

No data were available.

Mortality

No data were available on natural mortality. Harvest levels are determined by sealing beavers and otters and through mandatory reports for other species. In 1981-82, 184 otters were reported taken from Unit 4, compared to 174 otters in 1980-81 (Appendix A). These data are not totally reliable. For example, a hand tally of the 1980-81 otter sealing certificates shows a harvest of 174 animals, while computer printouts show a harvest of only 154 animals.

Otter harvest method during 1977-82 by percent was as follows: 1977-78 (25% shot, 75% trapped); 1978-79 (67% shot, 33% trapped); 1979-80 (23% shot, 77% trapped); 1980-81 (27% shot, 73% trapped); and 1981-82 (46% shot, 54% trapped). Number of persons presenting otter for sealing was as follows: 24 in 1977-78, 26 in 1978-79, 36 in 1979-80, 27 in 1980-81, and 28 in 1981-82.

Between 1972 and 1980, other reported furbearer harvests were as follows: 1972-73 (121 mink, 301 marten); 1973-74 (408 mink, 662 marten); 1974-75 (167 mink, 458 marten); 1975-76 (256 mink, 797 marten)1; 1976-77 (no data); 1977-78 (271 mink, 811 marten, 8 beaver); 1978-79 (489 mink, 801 marten, 1 weasel); and 1979-80 (475 mink, 1,074 marten, 3 weasel, 1 beaver). Reported beaver harvests were 2 and 9 for 1980-81 and 1981-82, respectively.

Harvests of mink, marten, and weasel are estimated by combining fur dealer export, trapper export, and dealer purchase from trapper reports. No data were compiled during this reporting period for use in this report.

Management Summary and Recommendations

Trapping seasons and harvests are thought to be commensurate with local fur resources. An exception is the early opening of northern Admiralty Island creating seasons unique to Southeastern Alaska for species which do not even occur on the island. In addition, mink in this area are not fully prime until early December. Current high prices probably lead to local over-utilization and/or competition between user groups, especially on marten near urban areas. That has been the history of utilization of furbearers and usually corrects itself as fur prices drop.

An easily applied method for more precise and timely measurements of mink and marten harvests is needed. This is especially true for marten. Population indices such as sex ratios and ages of animals harvested are very useful from a management standpoint when correlated with trapping effort. The data management procedures by which harvest information is provided must also be reevaluated to get results to area biologists in a timely manner.

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SUBMITTED BY:

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Regional Management Coordinator

APPENDIX A. Otter harvests from Game Management Unit 4, 1972-82.[a]

Regulatory year	Harvest				% statewide	Location of % of harvest				Chronology of harvest by %				
	Male	Female	Unk.	Total		Admrlty.	Barnf.	Chgof.	Other	Nov.	Dec.	Jan.	Feb.	Unk.
1972-73	--	--	--	90	--	--	--	--	--	--	--	--	--	--
1973-74	--	--	--	121	--	--	--	--	--	--	--	--	--	--
1974-75	--	--	--	44	--	--	--	--	--	--	--	--	--	--
1975-76	--	--	--	113	--	--	--	--	--	--	--	--	--	--
1976-77	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1977-78	78	77		155	7	--	--	--	--	1	22	34	40	3
1978-79	84	70		154	--	9	24	56	11	1	39	27	3	30
1979-80	95	78		173	8	16	39	46	0	1	38	28	11	23
1980-81	81	63	10	154[b]	7	23	24	46	7	6	35	55	1	4
1981-82	82	91	11	184	10	26	15	51	7	2	55	29	14	1

[a] All data derived from dealer purchase from trapper, fur dealer export, and trapper export reports, except otter data after 1977-78 and all beaver harvests.

[b] Hand tally of sealing certificates shows a harvest of 174 otter.

FURBEARERS

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 5

GEOGRAPHICAL DESCRIPTION: Yakutat and Malaspina Forelands, Gulf of Alaska

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

See Trapping Regulations and Fur Animal Hunting Regulations, No. 22.

Population Status and Trend

General observations and interviews with local trappers indicate no significant changes in the status of most furbearer populations in Unit 5 during the report period. However, lynx seem to be increasing in numbers, corresponding to an increasing snowshoe hare population.

Population Composition

No formal furbearer censuses were conducted, but sightings of furbearers and furbearer sign were recorded incidentally to other game surveys. These records and trapper interviews indicate production and survival are generally good for most species.

Mortality

Trapping pressure was light over most of the Yakutat Forelands (Subunit 5A), but was fairly intense in areas adjacent the community of Yakutat. Sealing records indicate 4 otters and 2 wolverines were taken during the report period; all were trapped in the Yakutat vicinity. The numbers of otters and wolverines taken this year correspond closely with harvests of recent years. Based on trapper interviews, harvests of mink and marten were at least as high as in recent years, with estimates of over 200 marten and over 100 mink being taken. No beaver or lynx were known to be taken during the report period.

No known furbearer harvest occurred on the Malaspina Forelands (Subunit 5B) during the report period. The lack of permanent residents and frequent inclement weather in Yakutat Bay restrict access by trappers to this area.

Management Summary and Recommendations

Furbearer populations seem to be healthy and stable across the Unit, but the distribution of trapping pressure is cause for concern and should be monitored closely. Trapping pressure is

heavy in areas accessible from the Yakutat road system, and indications are that it is increasing annually. This pressure, combined with possible loss of habitat because of planned logging activity, could result in adverse effects on existing furbearer populations.

Trapping pressure is light to nonexistent in those areas not accessible from the road system, specifically the lower portions of Seal Creek, Ahrnklin River, and Dangerous River drainages, and all lands southeast of the Dangerous River. Because this area seems to support relatively high furbearer populations, including the only beaver population in Unit 5, directing some trapping pressure into this area would be desirable.

Management of Unit 5 furbearers would benefit greatly from data gathered from sealing or mandatory reporting requirements for all species. Because no such data are available and furbearer harvests appear comparable with those of recent years, no changes in seasons or bag limits are recommended at this time.

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Regional Management Coordinator

FURBEARERS

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 12

GEOGRAPHICAL DESCRIPTION: Upper Tanana and White River Drainages

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

See Trapping Regulations and Fur Animal Hunting Regulations, No. 22.

Harvest and Population Status

Both the lynx population and harvest increased over 1980-81 levels during this reporting period. Sealing documents indicate a 1981-82 harvest of 198 lynx, a 43% increase over the 1980-81 harvest of 138. This is the 3rd consecutive year of increasing harvest, and further increase is expected during the 1982-83 season.

Of the known-sex lynx taken, 53% were males and 47% were females. Assuming kittens have pelt lengths of <35 inches and pelt widths of <8 inches, kittens composed 13% of the harvest. Due to extreme variation in pelt handling, these measurements provide only a crude estimate of productivity. Production during this reporting period approximated that of 1980-81.

Lynx harvests were well distributed throughout Unit 12 during the 1981-82 season; catches were greatest in eastern Unit 12 the previous season. During 1981-82, the upper Tanana, Chisana, and White River drainages together contributed 35% of the harvest; the Tok, Tetlin, and lower Tanana drainages 43%; and the Nabesna drainage 22%.

Otter harvests have been low and stable for the past 5 years. Four land otters (3 females, 1 of unknown sex) were reported taken during the reporting period, compared to 6 during 1980-81. Otters are well distributed but in low densities throughout the Unit. Few trappers set specifically for otters. One otter was taken in each of the following drainages: Jack Creek, Little Tok River, Chisana River, and Tanana River.

Only 10 wolverines were reported taken during this reporting period compared to 29 during the 1980-81 season. This is an extremely low harvest, less than 50% of the 1978-81 average of 23 wolverines. Wolverines are easily trapped, and localized overtrapping has probably reduced populations in popular, accessible areas such as the Tok and Tanana River drainages. The 1981-82 harvest was well distributed throughout Unit 12.

According to local trappers, marten populations remained moderately high during the 1981-82 season. As snowshoe hares continue to increase with associated predator populations such as lynx, canids, and large raptors, marten populations are expected to decrease.

Red fox and coyote numbers apparently increased since the last reporting period, and further increases are anticipated with the hare cycle on the upswing.

Muskrat populations are low in most areas with lower catches and fewer pushups noted in most areas during May 1982. Mink numbers were not noticeably different from the last reporting period.

Management Summary and Recommendations

Furbearers that utilize snowshoe hares as prey are on the increase, i.e., lynx, red fox, and coyote. Marten populations are expected to decline in the next few years as synchronous marten and snowshoe hare cyclic highs have not been observed to occur in the eastern Interior for the past 2 decades.

Current trapping seasons have little relevance to the realities of population levels or susceptibility to trapping. While seasons begin synchronously on November 1, the ending dates for various species are staggered. Sets for wolverine which may remain set until the end of March will also take lynx, the season for which ends March 15. Likewise, coyote sets which may be left until the end of March will also take red fox, the season on which ends February 28. I recommend a uniform November 1-March 15 trapping season for large, terrestrial furbearers. Seasons for aquatic furbearers and mustelids could be set independently of the season for large, terrestrial species.

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Regional Management Coordinator

FURBEARERS

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 18

GEOGRAPHICAL DESCRIPTION: Yukon-Kuskokwim Delta

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

See Trapping Regulations and Fur Animal Hunting Regulations, No. 22.

Population Status and Trend

Conversations with trappers and fur dealers, a mailout trapper questionnaire (2nd year), and personal observation of weather conditions and relative track abundance have provided most of the information used to estimate fur animal population trends. Generally speaking, furbearer populations appear to be healthy and viable. This year's questionnaire (Appendix A) was mailed to 96 trappers. Twenty-five trappers, or 26% of the sample, responded to the questionnaire by commenting on relative abundance of 8 fur animals, trapping conditions, trapping intensity, and income.

Arctic foxes were reported to be present in "normal" densities. As in the last 2 winters, red foxes appeared to be more abundant than usual; however, personal observation indicates that red foxes were not as numerous as in 1980-81, except for several areas reportedly exhibiting densities higher than those of the remainder of the Unit.

Wolf and wolverine numbers apparently remained at their common low levels, but a slight increase in lynx numbers was noted. On the upper portion of the Kuskokwim River drainage in Unit 18 (Gweek, Bogus, and Tuluksak Creeks), reported harvest increased as did the number of tracks observed. Hare densities were high on the Bogus and Ophir Creek watersheds; many tracks were noticeable during aerial survey efforts.

Mink, muskrats, and otters were all reported to have increased at least in some areas. Mink were reported at levels higher than in many years in the area between the Yukon River mouth to Hooper Bay; otherwise, their numbers were normal. Muskrats were slightly more numerous than usual on the Kuskokwim River upstream from Bethel, but significantly reduced throughout the rest of Unit 18 (see Mortality section). Land otters were reported to be at higher than average population levels. Personal observation of otter signs between Bethel and St. Marys indicated that otter

density in the area was considerably higher than average for the Unit.

Climatic factors influenced trapping conditions throughout a significant portion of the Unit. The only area not strongly affected by warming trends followed by hard freezes was the Kuskokwim River upstream from Bethel. Elsewhere, temperatures above freezing were encountered around the last week of November and again during late January and early February.

Mortality

To estimate furbearer harvests, printouts reporting the export of furs by village, by dealers, and by trappers can be employed. However, furs are often transported between villages and Game Management Units, making precise interpretation of export data impossible. Harvest levels estimated in this report have used the export printouts, sealing certificates, the trapper questionnaire, and personal communication between trappers, fur buyers, and biologists.

Export reports accounted for nearly 500 white fox skins shipped from the Unit (Appendix B). If export reports are an accurate indicator of harvest, then total harvest on the Y-K Delta has increased over the past 2 years.

The number of red foxes harvested in Unit 18 during the winter of 1981-82 was about 2,250 (Appendix C), or slightly fewer than the previous 2 years. The harvest continues to decline from the record high of 2,700 taken in 1979-80.

Although the incidence of rabies on the Y-K Delta may have been higher than in the previous several years, it is not believed to have made significant reductions in fox populations. The Environmental Health Laboratory at the PHS Hospital in Bethel reported 43 rabid red foxes on the Lower Kuskokwim and Yukon Rivers during the winters of 1981 and 1982.

Seventy-six lynx were reported harvested from Unit 18 during the reporting period (Appendices C, D). This is higher than the 1977-82 average of 56 and about equal to the recorded high of 75 in 1979.

Most lynx were harvested in the Kilbuck Mountains in the western portion of the Unit. Sixty-seven animals (88% of the harvest) were trapped. January and February were the months of greatest lynx harvest (23 and 28, respectively, totaling 67% of the harvest). Twenty-six trappers reported taking at least 1 lynx.

Although export reports put the Unit 18 marten export at 950 furs (Appendix B), it is quite likely that many of these furs originated in Units 19 or 21. Seven hundred furs were shipped from Bethel. The 1981-82 Unit 18 harvest was about 300 animals.

Mink populations, trapping effort, and prices remain high on the western coast. A minimum of 13,000 mink were taken in the 1981-82 season (Appendix C). Trapping conditions were good during early November, when a high proportion of the yearly harvest is presumed to occur.

Although the effect of warm weather/thawing/refreezing on mink remains unknown, muskrats apparently suffered high mortality when they were first flooded out and then frozen out. The 1981-82 harvest was probably about 9,000 furs (Appendix C). Trappers reported seeing fewer muskrats than usual. Geographical distributions of the mink and muskrat harvest are given in Appendix F and Fig. 1.

In 1981-82, 389 otters were sealed in Unit 18, accounting for 21% of the statewide total (Appendix D). Export reports, trapper pressure, and observed otter signs suggest that the actual harvest was about 500 animals. Trapper questionnaire respondents speculated that otters were seen in the same or slightly higher numbers than in previous years. Geographical distribution of the land otter harvest is given in Appendix E and Fig. 1.

Males composed 59% of the sealed otter harvest (Appendix D). Most otters (46%) were taken by trapping. The number of otters caught in blackfish traps is unknown, but a high percentage (27%) were reported snared. Most otters were trapped in November and December (33% and 27%, respectively). One hundred fifty-five trappers sealed at least 1 otter each, for a take of 2.5 otters/trapper.

Six wolverines were sealed in Unit 18 during the reporting period (Appendices C, D). Observations of wolverines during the year indicate they remain present in small numbers.

Management Summary and Recommendations

No changes in seasons or bag limits are necessary for any fur species in Unit 18 at this time. However, a reevaluation of seasons in neighboring Units 19 and 21 should be undertaken.

The Division biologist had poor luck procuring land otter specimens in 1981-82. Trappers were apparently unwilling to surrender carcasses and skulls due either to unwillingness to retrieve carcasses from the field for the $10 reward offered, or to a preference for taking carcasses home for domestic uses. Due to the low success of this project, it will not be continued at this

time. The economic importance of Y-K Delta aquatic furbearers has been recognized, and research studies (at least on otters) should be encouraged.

PREPARED BY:

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SUBMITTED BY:

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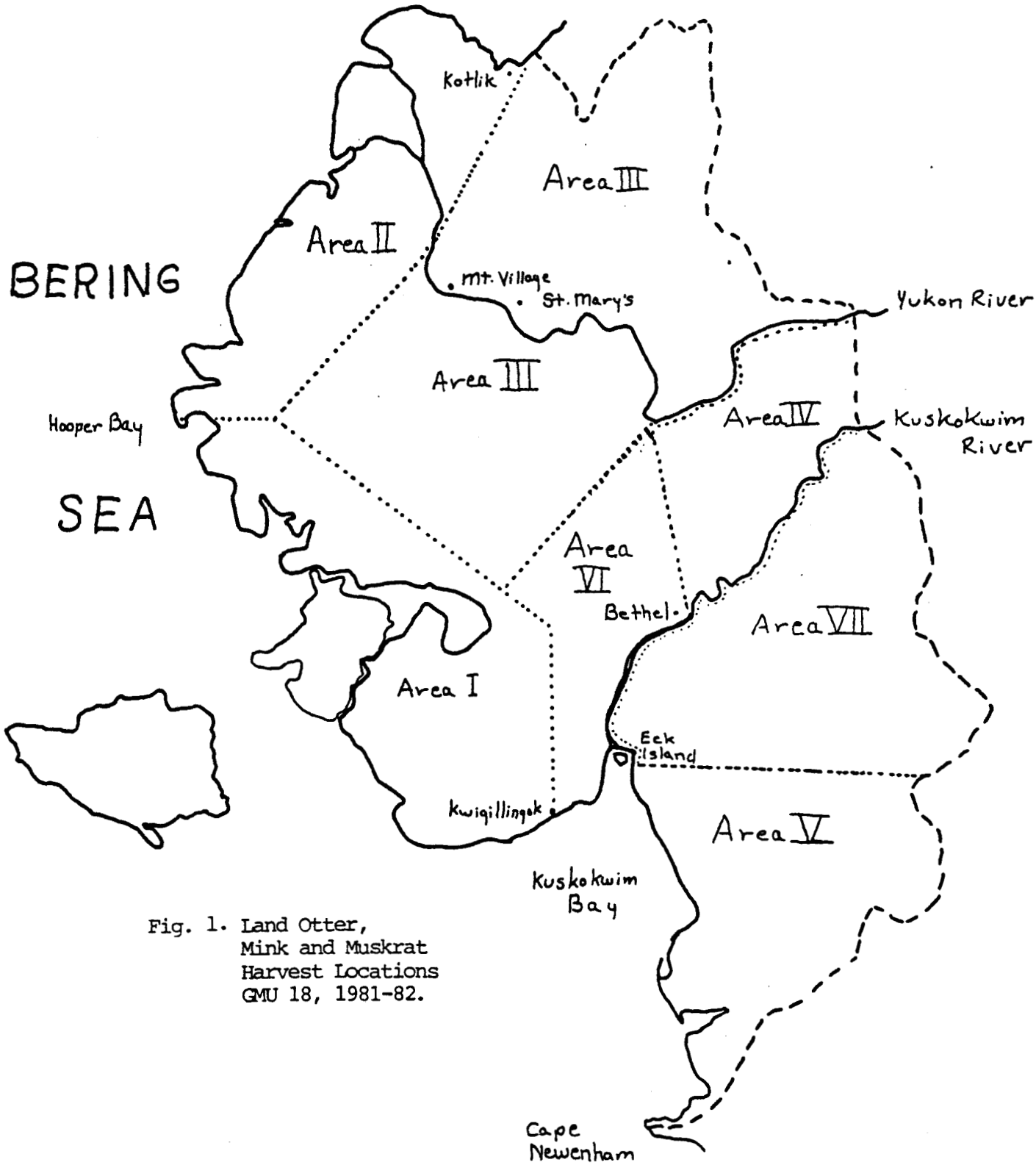

Fig. 1. Land Otter, Mink and Muskrat Harvest Locations GMU 18, 1981-82.

APPENDIX A. Unit 18 trapper interview form, 1980-81 and 1981-82.

NAME _____

ADDRESS _____

_____

Did you trap this year? _____

Compared to the 1979-1980 season, did you see more, less or about the same number of the following animals or their tracks this year?

Animal	More	Less	Same	Comments
Beaver				
Lynx				
Otter				
Wolverine				
Muskrat				
Mink				
Red Fox				
White Fox				

Were trapping conditions (weather, snow, overflow, ice thickness) better, worse or the same as last year?

Were more people trapping than usual this year?

Did you get better prices for your fur this year?

Comments or Suggestions:

APPENDIX B. Fur dealer, trapper, and personal use export reported from Unit 18, 1981-82.

	Mink	Muskrat	Marten	Otter	White fox	Red fox	Weasel	Lynx
Fur dealer export	9,892	7,864	948	462	475	2,017	13	94
Trapper export	121	336	2	6	8	130	--	--
Personal use export	--	--	--	--	1	1	--	--
Totals	10,013	8,200	950	468	484	2,148	13	94

APPENDIX C. Unit 18 estimated furbearer harvests, 1958-59 to 1981-82.

Regulatory year	Red fox	Lynx	Mink	Muskrat	Otter	Wolverine
1958-59	--	--	25,000	--	--	--
1959-60	--	--	11,000	--	--	--
1960-61	--	--	7,000	--	--	--
1961-62	--	--	--	--	--	4
1962-63	--	--	--	--	--	5
1963-64	--	--	--	--	--	6
1964-65	--	--	--	--	--	3
1965-66	--	--	--	--	--	5
1966-67	--	--	--	--	--	4
1967-68	--	--	--	--	--	7
1968-69	--	--	--	--	--	1
1969-70	--	--	--	--	--	
1970-71	--	--	[a]			
1971-72	--	--	[b]	--	[c]	3
1972-73	[d]	--	--	--	[e]	9
1973-74	[f]	--	1,000-	--	300	11
1974-75	500	--	1,000-	--	300+	5
1975-76		--		--		29
1976-77	1,000-	25	1,000+	[g]	500	1
1977-78	1,000	50	800		600	8
1978-79	[h]	75	[i]	[j]	650	9
1979-80	2,750	62	900	15,000	350	13
1980-81	2,500	46	10,000	8,000	600	6
1981-82	2,250	76	13,000+	9,000	500	6

[a] Prices reported as depressed.
[b] Record low harvest.
[c] Harvest up from previous years.
[d] Highest harvest in years.
[e] Otter reported abundant in GMU 18.
[f] Population peak.
[g] Population reported not thriving.
[h] Population reported healthy.
[i] Population up, few harvested.
[j] Population reported healthy.

APPENDIX D. Composition, method of taking, chronology of take, and take per trapper of furbearers sealed from Unit 18, 1981-82.

	Wolverine		Lynx		Otter	
	No.	%	No.	%	No.	%
Harvest						
Female	2	33	37	49	136	34
Male	4	67	38	50	228	59
Unknown	0	0	1	1	25	6
Totals	6	100	76	100	389	100
Method of taking						
Shooting	1	17	3	4	55	14
Trapping	2	33	67	88	177	46
Snaring	3	50	4	5	106	27
Unknown	0	0	2	3	51	13
Totals	6	100	76	100	389	100
Chronology						
Aug.	0	0	0	0	4	1
Nov.	3	50	2	3	127	33
Dec.	0	0	8	11	107	27
Jan.	1	17	23	30	36	9
Feb.	1	17	28	37	58	15
Mar.	1	16	14	18	52	13
Apr.	0	0	0	0	3	1
May	0	0	1	1	2	1
Totals	6	100	76	100	389	100
Total trappers	4		26		155	
Take per trapper	1.5		3.0		2.5	

APPENDIX E. Harvest locations of land otter taken in Unit 18, 1980-81 and 1981-82.

	Geographical area	Harvest 1980-81 No.	1980-81 %	1981-82 No.	1981-82 %
I	Coast from Hooper Bay - Kwigillingok including Baird Inlet, Chevak	56	9	63	16
II	Yukon River Delta, Kotlik to Scammon Bay	136	22	44	11
III	Mt. Village to Russian Mission, Kashunak River, Yukon Flats	156	26	118	31
IV	Upper Johnson River, Paimiut Slough, Russian Mission to Lower Kalskag	44	7	39	10
V	Coast and drainages south of Kuskokwim River	38	6	4	1
VI	Lower Johnson River, tundra villages, Tuntutuliak to Bethel	54	9	57	15
VII	Kuskokwim tributaries, Eek River upstream on south side; Akiak, Tuluksak, Lower Kalskag	122	21	64	16
	Totals	606	100	389	100

APPENDIX F. Unit 18 harvest locations of mink and muskrat from dealer, trapper, and personal use export printouts, 1981-82.

	Geographical area	Mink	Muskrat
I	Coast from Hooper Bay-Kwigillingok including Baird Inlet, Chevak	1,185	907
II	Yukon River Delta, Kotlik to Scammon Bay	671	2,672
III	Mt. Village to Russian Mission, Kashunak River, Yukon Flats	1,072	2,215
IV	Upper Johnson River, Paimiut Slough, Russian Mission to Lower Kalskag	--	--
V	Coast and drainages south of Kuskokwim River	--	--
VI	Lower Johnson River, tundra villages, Tuntutuliak to Bethel	--	648
VII	Kukokwim tributaries, Eek River upstream on south side; Akiak, Tuluksak, Lower Kalskag	--	813
	Totals	2,928	7,255

FURBEARERS

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 19

GEOGRAPHICAL DESCRIPTION: Upper and Middle Kuskokwim River Drainages

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

See Trapping Regulations and Fur Animal Hunting Regulations, No. 22

Harvest and Population Status

Based on sealing certificates, 67 wolverines were harvested (26 males, 23 females, and 18 of undetermined sex). Twenty-four wolverines were taken in Subunit 19A, mostly from the Holitna drainage. The foothills, particularly drainages of the South Fork of the Kuskokwim, were also productive areas. Forty-seven hunters and trappers reported taking wolverines, and the largest catch by a single trapper was 6. Nearly all wolverines taken were caught incidentally to trapping for other species. Although the harvest occurred throughout the hunting and trapping season, the largest catches occurred in February and March.

The reported number of otters harvested in Unit 19 during the 1981-82 season was 81 (43 males, 28 females, and 10 of undetermined sex). Subunits 19A and 19D accounted for the entire Unit 19 catch. Fifty-eight and 23 otters were reported taken from Subunits 19A and 19D, respectively. There was little effort by trappers to specifically take otters because of the relatively low pelt price ($40 average) paid by furbuyers. Otter sign was abundant especially in much of Subunit 19D. Of the 54 trappers who reported taking otters, 38 reported trapping in Subunit 19A. During March, 23 otters were caught; 10-17 otters were taken monthly during the rest of the season.

Fifty-four trappers reported taking 261 lynx in Unit 19; the highest catch by a single trapper was 34 lynx. One hundred forty-four lynx were taken in 19A (mostly in the Aniak area), and 75 were taken in 19C (61 were caught along the South Fork of the Kuskokwim). Thirty-one lynx were taken in 19D mostly near Nikolai and on Tatalina Creek. During February, 65 lynx were reported taken; catches of over 40 lynx were reported for December, January, and March. Lynx tracks were fairly abundant in the foothills of 19C and foothills of the Kilbuck Mountains.

Most trappers indicated that they had poorer marten catches during the 1981-82 season than in previous years. Periods of marked temperature fluctuations in December, January, and February caused traps to be inoperable much of the season. Early November was relatively warm with little snow, so most trappers were unable to get into their trapping areas until late November. Pelt prices were good early in the season ($40-60 for males), but later dropped.

Because of low pelt prices, very little effort was directed toward catching mink. Mink sign was relatively abundant along the Middle Kuskokwim, but less abundant in the Upper Kuskokwim area.

Red foxes were relatively abundant in most of Unit 19, and rabid foxes were confirmed near Aniak and at Telida. The incidence of rabies in foxes at Telida is the farthest inland that the disease has been reported. Although the abundance of foxes appeared higher during the 1981-82 season, the harvest was similar to that of recent years when foxes were less numerous.

There was little effort directed toward muskrat trapping, although pushups were relatively common.

Management Summary and Recommendations

Trapping pressure was generally lower in Unit 19 than in recent years, and the take of most furbearers was slightly lower than last year. The Board of Game adopted a uniform opening date of November 1 for trapping in Unit 19. Nearly all trappers were pleased with the change, and requests for more uniform closing dates have been made.

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FURBEARERS

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 20

GEOGRAPHICAL DESCRIPTION: Central Tanana Valley

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

See Trapping Regulations and Fur Animal Hunting Regulations, No. 22.

Harvest and Population Status

Harvest data for lynx, otter, and wolverine were derived from sealing certificates. Some discrepancies and errors were noted in the computer printout, hence harvest figures given may not be exact. .

According to sealing records, 637 lynx were caught in Unit 20 during the 1981-82 season. The reported harvest by Subunit was as follows: Subunit 20A (102), Subunit 20B (60), Subunit 20C (314), Subunit 20D (68), Subunit 20E (65), and Subunit unknown (28).

The lynx harvest was distributed throughout the season as follows: 148 lynx (23%) taken in November, 144 (23%) in December, 108 (17%) in January, 138 (22%) in February, and 93 (15%) in March. Two lynx were reported taken out of season. The date of take on 6 lynx was not known.

According to sealing records, 29 land otters were caught in Unit 20 during the 1981-82 season. The reported take by Subunit was as follows: Subunit 20A (0 male, 1 female); Subunit 20B (8 males, 3 females, 1 unknown); Subunit 20C (8 males, 2 females); Subunit 20D (2 males, 2 females); Subunit 20E (1 male, 0 female); and Subunit unknown (1 male, 0 female).

The otter harvest occurred throughout the season. The exact chronology of harvest was unavailable.

Sealing documents indicated that 57 wolverines were harvested from Unit 20 during the 1981-82 season. The reported take by Subunit was as follows: Subunit 20A (5 males, 1 female); Subunit 20B (5 males, 1 female); Subunit 20C (10 males, 5 females); Subunit 20D (12 males, 6 females); Subunit 20E (3 males, 1 female); and Subunit unknown (2 males, 0 female).

The wolverine catch occurred throughout the season with 5 (9%) taken in November, 11 (19%) in December, 14 (25%) in January,

12 (21%) in February, and 11 (19%) in March. The date of take was omitted for 4 wolverines (7%).

Summary and Recommendations

The lynx harvest in 1981-82 was almost double that of 1980-81. Whether this was due to better trapping conditions and increased trapping effort or a higher lynx population is unclear. Trappers did report an increase in numbers of lynx in Unit 20 during 1981-82.

The number of otters harvested in 1981-82 was about the same as in 1980-81. The otter population in Unit 20 has remained fairly stable over the past several years, and weather conditions may be the most important factor affecting harvest.

The catch of 57 wolverines in 1981-82 represented a decrease from the 1980-81 catch (72 wolverines), but the same as the take reported for 1979-80 season. The reasons for these harvest fluctuations are unknown.

Furbearer populations fluctuate in response to a number of natural factors, including availability of food and habitat. Except for local situations, trapping is believed to have little influence on the overall abundance of most furbearers.

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FURBEARERS

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 21

GEOGRAPHICAL DESCRIPTION: Middle Yukon

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

See Trapping Regulations and Fur Animal Hunting Regulations, No. 22.

Trapping Conditions

Weather and snowfall did not hamper trapping activities in Unit 21 during the trapping season. Snow was on the ground almost continuously from October 1, and the Yukon River froze on November 4, 1981 which enabled some trappers early access to traplines. Moderate temperatures, rarely below -30 F, prevailed throughout most of the winter. A warm rain in early February produced a heavy ice crust and facilitated access by trappers across areas where snow was deeply drifted. However, there were reports of some pelt damage resulting from rubbing on the ice.

Harvest and Population Status

Hare populations were high and perhaps are still increasing in local areas throughout the Unit. Hare populations peaked in some areas during the winter, as indicated in the Nikolai Slough area by extensive browsing on black spruce trees. Rodent densities were also high, especially on Yukon-Koyukuk floodplain areas which were not subjected to floods for the past 7 years.

Catch data suggest that the lynx population in Unit 21 has increased for the past 2 seasons (Appendix A) following the cyclic increase in hare density.

The numbers of lynx trapped in Subunits 21B and 21D (Appendix B) reflect a substantial lynx population increase in these areas. Trapping effort in 21C has been erratic, and the reported harvest was not necessarily indicative of lynx abundance. In Subunits 21A and 21E, lynx numbers continue to be low, even though trapping intensity has been stable. Apparently, hare populations have not followed the same pattern as in the rest of Unit 21; consequently, lynx numbers have remained low.

Otter catches remained stable in the Unit (Appendix A). Except in 21E, the low prices paid for otter pelts discouraged trapping; most catches were incidental during beaver trapping. Subunit

21E, which produces otter with relatively dark pelts, accounted for more than half the pelts sealed.

Wolverine catches continue to be stable in Unit 21 (Appendix A). An unknown number were used locally for garments and were not sealed.

Because of high rodent numbers, the fox population was high throughout Subunits 21B and 21D. Fox pelts brought good prices during the report period, although some foxes caught after the February rain were damaged.

Marten ranked behind lynx as the species on which most trappers concentrated their efforts. Good prices encouraged trapping effort, although marten abundance varied throughout the Unit. Marten numbers were up in the Nowitna drainage and Kala Hills, stable in the Long Creek drainage, but down in the Yuki drainage and Three-day Slough area.

Coyotes, considered rare in Unit 21, were relatively abundant during the 1981-82 season. Five coyotes were caught in the Galena area and more were seen. Some local trappers who have only been trapping 10 years or less have never seen or trapped coyotes in Unit 21.

Mink populations are probably stable, but low pelt prices discouraged trapping effort throughout Unit 21.

Muskrat populations were low in most of the Unit. Local residents believe that a loss of aquatic habitat coupled with abundant pike populations are responsible for the continuing low in muskrat abundance. There are some areas where muskrats are abundant, but there is little interest in muskrat trapping because of low pelt prices.

Management Summary and Recommendations

Furbearer regulations are adequate to protect local stocks. Low prices more than any other factor continue to discourage intensive trapping.

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APPENDIX A. Unit 21 furbearer catches, 1977-82.

Species	1977-78	1978-79	1979-80	1980-81	1981-82
Lynx	71	82	65	120	487
Otter	67	30	59	82	61
Wolverine	58	54	40	39	44

APPENDIX B. Lynx catches by Subunits in Unit 21, 1977-82.

Subunit	1977-78	1978-79	1979-80	1980-81	1981-82
21A	2	8	5	4	17
21B	33	32	19	15	96
21C	1	1	3	0	11
21D	31	31	39	98	352
21E	21	10	0	3	11
Totals	88	82	66	120	487

FURBEARERS

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 22

GEOGRAPHICAL DESCRIPTION: Seward Peninsula

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

See Trapping Regulations and Fur Animal Hunting Regulations, No. 22.

Harvest and Population Status

During the past year, arctic fox were commonly observed along the entire coastline of the Seward Peninsula, as well as on the major offshore islands (St. Lawrence, Sledge, King, and Little Diomede). Although actual harvest statistics were not available, limited conversation with trappers and hunters indicated that many were successful in harvesting a substantial number of animals during the past winter.

Beaver populations have continually expanded westward during the last 2 decades and have become established in all major drainages east of the Fish and Niukluk Rivers (Subunit 22B). Documentation of new lodges each year suggests that the population is increasing and continuing to disperse westward. Sixteen beavers were reportedly taken by 5 trappers from Unit 22 during the past year; however, this probably does not reflect the true harvest. As in many other parts of the State, some beaver hides taken from the Unit are used for making garments and are not sealed.

No information was available regarding the actual population status of marten within Unit 22. Because of the limited amount of marten habitat, these animals are primarily located in the southeastern portion of the Unit with the Shaktoolik and Unalakleet Rivers probably having the highest population densities. During the past year, no information was available concerning the mortality of marten in Unit 22.

Although mink sign has been reported from most of the major drainages within Unit 22, little is known about their distribution and abundance. Population density is presently unknown, but is considered low in most areas. No mink harvest data were available during the past year in Unit 22.

Although population densities are unknown, it appeared that otters were relatively common and widely distributed throughout Unit 22. During the past 4 years, otter tracks have been observed in every major drainage within the Unit, and appeared to

be most abundant in those areas where a source of thermal groundwater prevented the formation of a solid ice cover. The reported harvest for the past year was 8 otters. Of these, 5 were males, 1 was female, and the remaining 2 were of unknown sex. All of the reported harvest came from the 4 drainages within Subunit 22A. One otter was shot, but all others were taken with traps.

Red foxes were commonly distributed in moderately high numbers throughout the peninsula, with the greatest densities occurring along the major river drainages where ptarmigan and snowshoe hares were almost abundant. Although no accurate information was available on the harvest of red foxes in Unit 22 during the past year, general conversation with hunters and trappers indicated that most were successful in harvesting animals.

Management Summary and Recommendations

Furbearers are generally distributed throughout Unit 22 in all areas of suitable habitat. Most populations have fluctuated in past years; however, these changes in densities were probably caused by environmental factors rather than man-induced mortality.

Because the harvest of furbearers species was low during the past year, regulations are considered adequate and appear to meet the needs of local hunters and trappers within the Unit. Therefore, the present seasons and bag limits should be retained.

Our primary management effort within Unit 22 during the past year has been to obtain accurate harvest data. Sealers have been employed in most of the villages in the Unit to assist and encourage hunters and trappers to seal their furs. This has not been totally effective, however, and the accuracy of the harvest data still needs to be improved. Increased public contact in rural areas to emphasize the management benefits of the sealing programs and an improved enforcement program are needed if we are to obtain satisfactory compliance with the current hunting and trapping regulations. Finally, a data source of some type needs to be implemented for those species which are not required by law to be sealed. Some options might be 1) the use of a statewide trapping questionnaire; 2) a required trapping report; 3) a mandatory sealing program; or 4) the upgrading and reactivating of the fur dealer export report.

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FURBEARERS

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 23

GEOGRAPHICAL DESCRIPTION: Kotzebue Sound

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit:

See Trapping Regulations and Fur Animal Hunting Regulations, No. 22.

Population Status and Trend

Beaver populations are well established in most drainages in Unit 23, except those north and west of the Kobuk River. Two beaver houses were observed on the Kelly River in September 1981, indicating a recent population expansion into this area.

A beaver cache count was initiated in fall 1981. The census area consisted of the Tagagawik River from its mouth to 10 mi upstream, and the Selawik River from 10 mi below to 10 mi above the mouth of the Tagagawik River. The boat survey covered the streams, and the aerial survey covered the adjoining lakes and smaller streams 3 mi on either side of the Selawik and Tagagawik Rivers.

The vehicles used for the cache counts compromised census accuracy and restricted coverage of the study area (Cessna 180 on floats and 12-ft Avon raft powered by 4-hp outboard motor). The Cessna 180 was not maneuverable enough to cover small areas, and the Avon boat could not move upstream.

The data collected thus far do not lend themselves to analysis, and future changes in survey techniques are required. In surveying streams by boat, 11 (78%) used and 3 unused beaver houses were found in 1982, compared to 8 (62%) and 5, respectively in 1981. Aerial counts of lakes indicated 37 (47%) used beaver houses and 41 unused in 1982, compared to 52 (67%) used and 25 unused in 1981.

Arctic foxes are primarily distributed along the coastal fringe of Kotzebue Sound but are more widely distributed inland during periods of high populations. From fall 1976 to spring 1981, no arctic foxes were observed during aerial surveys of moose, caribou, wolves, and musk-oxen. In fall 1981, numerous arctic foxes were observed near the coast between the mouth of the Noatak River and Point Hope. The U.S. Public Health Service Service recorded 3 cases of rabies in arctic foxes during this reporting period.

Red foxes are distributed throughout the Unit. The greatest densities occur along the lower portions of the major drainages where ptarmigan and snowshoe hares are abundant. Relative abundance of red foxes can be obtained by noting the number of foxes observed per hour during moose surveys. The U.S. Public Health Service maintains a record of the incidence of rabies in red foxes for the Unit, a disease that may cause large-scale declines in fox populations (Appendix A).

Lynx numbers have been high since 1976, consistent with the high snowshoe hare population on the lower portions of the Noatak, Kobuk, Selawik, and Buckland River drainages. Since the 1980-81 season, lynx populations have declined in the northern and western portions of the Unit but were still high in the southern and eastern portions.

Marten are present in the northern drainages of the Kobuk River upstream from the Kallarichuk River and on the south side of the Kobuk River upstream from and including the Pick River drainage. Marten are uncommon or absent throughout the remainder of Unit 23.

The Kobuk and the Selawik drainages contain most of the prime mink habitat in Unit 23. The 1980-81 reporting period revealed a high take of mink from these 2 drainages. During moose surveys in the winter and spring of 1981, abundant mink signs were observed on the Selawik and Kobuk Flats. High mink numbers probably resulted from high muskrat popualtions in these areas during the past few years.

Muskrats are common on the lower Noatak, Kobuk, and Selawik Flats. An apparent high in muskrat numbers in 1978-79 was revealed by harvest reports. Harvest information was not available for the 1981-82 reporting period. The springs of 1979-80 and 1980-81 did not afford efficient trapping opportunities because of the timing of breakup and spring flooding. Consequently, the much reduced harvest was not indicative of muskrat abundance in these years. Most muskrats are taken by shooting after breakup, although some individuals still harvest muskrats by trapping pushups on the ice.

Otters are numerous in Unit 23. Habitat is excellent; waterfowl, fish, and muskrats provide an abundant food supply.

Wolverines are more abundant in areas inaccessible to snowmachines or in remote untrapped areas than in areas close to human population centers and with snowmachine access. It is unclear whether the Unit 23 wolverine population is increasing or decreasing because harvest data were the only information collected.

Mortality

Most beavers are taken by shooting after spring breakup. Very few beavers are taken by trapping either through the ice or in flowing streams. Most of the harvest comes from the Selawik River drainage. The age structure of the 1981-82 harvest was as follows: 23% kits, 76% medium-age animals (53-64 inches), and 1% super blankets (>65 inches). The Unit 23 reported beaver harvest for the last 6 years is summarized in Appendix B.

A considerable local demand for arctic fox pelts for parka trim results in an unknown percentage of the total harvest being unrecorded. Recent harvest data are given in Appendix C.

Most red foxes taken are sold and exported from the Unit. Only a small percentage of the local take is used as trim on clothing. Appendix C summarizes historical information on Unit 23 red fox harvests.

The Unit 23 lynx harvest as determined by sealing certificates has increased over the last 5 years (Appendix D). Lynx fur is an export item from this Unit with no appreciable local use for clothing. Lynx pelts are sealed by the Department and by sealing agents in outlying Unit 23 villages.

Marten is not a traditional fur item used locally for clothing. The reported harvest closely represents the actual harvest (Appendix E).

Mink is not a traditional fur item used locally for clothing. The reported harvest closely resembles the actual harvest. Mink harvest records for the last 8 seasons are summarized in Appendix E.

Muskrat fur, although sold commercially, is also traditionally used locally for clothing. Because locally utilized muskrat hides are normally sent to a professional tannery before being sewn into clothing, the reported harvest should approximate the actual harvest. Harvest information is summarized in Appendix E.

Otter fur is preferred locally for clothing trim. Because a significant portion of the actual harvest may be unsealed, the reported take does not represent the total harvest. The 1981-82 harvest was 9 otters as reported from sealing records. Appendix E summarizes harvest records for the last 8 years.

The most sought-after furbearer in Unit 23 is the wolverine. The number of wolverines taken but not sealed is unknown, but it is believed that a large percentage of the harvest is unreported. Wolverine harvests for the last 10 years are given in Appendix F.

Management Summary and Recommendations

The increase in the reported harvest of most furbearers in recent years has resulted from increased interest in trapping, higher fur prices, population increases of some species, and the presence of a large-volume local fur buyer (Alaska Commercial Company, Kotzebue). Trapping seasons are adequate to meet the needs of Unit 23 residents. No changes in trapping seasons or bag limits are necessary.

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APPENDIX A. Comparison of red fox observations during moose surveys and recorded cases of fox rabies, Unit 23, 1976-1982.

Report period	Red fox observations			Reported cases of rabies in red foxes
	Hours of observation	Number of foxes observed	Foxes per hour	
1976-77	32.9	14	.43	3
1977-78	28.7	12	.42	1
1978-79	26.7	34	1.27	0
1979-80	37.0	29	.78	11
1980-81	21.7	22	1.01	0
1981-82	40.8	61	1.49	2

APPENDIX B. Unit 23 beaver harvest, 1976-82.

Harvest year	Total harvest
1976-77	0
1977-78	0
1978-79	3
1979-80	63
1980-81	301
1981-82	73

APPENDIX C. Unit 23 arctic and red fox harvest from trapper export permits and reports of dealer purchases from trappers, 1974-82.

	Arctic fox			Red fox		
Year	Trapper export	Dealer purchases from trappers	Total	Trapper export	Dealer purchases from trappers	Total
1974-75	2	0	2	76	10	86
1975-76	5	1	6	268	40	308
1976-77	10	22	32	426	184	610
1977-78	0	13	13	160	114	274
1978-79	1	174	175	59	1,281	1,340
1979-80	0	15	15	65	1,223	1,288
1980-81	1	13	14	83	878	961
1981-82	--	--	--	--	--	--

APPENDIX D. Unit 23 lynx harvest from sealing certificates, 1977-1982.

			Harvest by area				
Harvest year	Total harvest	% males	West of Noatak River	Noatak River	Kobuk River	Selawik River	Buckland Seward Pen.
1977-78	230	55	0	31	166	27	6
1978-79	385	53	0	117	147	120	1
1979-80	407	54	1	128	139	136	3
1980-81	306	60	1	17	128	143	14
1981-82	482	--	1	77	133	238	34

APPENDIX E. Unit 23 marten, mink, and muskrat harvest from trapper export permits and reports of dealer purchases from trappers, 1974-82.

	Marten			Mink			Muskrat			Otter		
Harvest year	Trapper export	Dealer purchases from trappers	Total	Trapper export	Dealer purchases from trappers	Total	Trapper export	Dealer purchases from trappers	Total	Trapper export	Dealer purchases from trappers	Total
1974-75	2	4	6	56	56	112	56	56	112	4	5	9
1975-76	3	0	3	65	0	65	65	0	65	4	0	4
1976-77	2	7	9	199	0	199	199	0	199	10	3	13
1977-78	12	2	14	123	0	123	123	0	123	1	2	3
1978-79	0	1	1	9	62	71	9	65	71	0	11	11
1979-80	3	29	32	21	81	102	21	81	102	0	9	9
1980-81	6	18	24	195	1,244	1,439	195	1,244	1,439	0	29	29
1981-82	--	--	--	--	--	--	--	--	--	--	--	--

APPENDIX F. Unit 23 wolverine harvest, 1971-82.

Harvest year	Harvest
1971-72	8
1972-73	59
1973-74	27
1974-75	11
1975-76	42
1976-77	53
1977-78	77
1978-79	45
1979-80	25
1980-81	19
1981-82	48

FURBEARERS

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 24

GEOGRAPHICAL DESCRIPTION: Koyukuk River Above Dulbi River

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

See Trapping Regulations and Fur Animal Hunting Regulations, No. 22.

Mortality

Weather did not hamper trapping activities in Unit 24 during the 1981-82 season. Moderate temperatures, rarely dropping below -30 F, prevailed throughout most of the winter. Rain, which fell in early February, did not produce as heavy an ice crust as in other areas of the Interior.

Following the cyclic hare population increase, the lynx harvest has also increased (Appendix A). The majority of lynx trapped came from the Alatna and John River drainages.

Only 11 land otters were reported to have been taken during the 1981-82 season (Appendix A). Low prices were responsible for the low otter harvest. Most otters were caught incidentally to beaver trapping.

Sealing records indicated a catch of 24 wolverines (Appendix A) during the 1981-82 season. Harvest continues to be low and stable, although the total catch was probably higher since some wolverines, utilized locally for garment trim, are not sealed.

Little information is available on other species. Fox populations were high, and marten were locally abundant in southern Unit 24.

Management Summary and Recommendations

Furbearer regulations are adequate to protect local stocks. Low prices continue to discourage intensive trapping.

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SUBMITTED BY:

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APPENDIX A. Furbearer harvest in Unit 24.

Species	1977-78	1978-79	1979-80	1980-81	1981-82
Lynx	101	302	278	439	795
Otter	43	37	54	46	11
Wolverine	36	42	30	47	24

FURBEARERS

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 25

GEOGRAPHICAL DESCRIPTION: Yukon Flats; Chandalar, Porcupine and Black Rivers; Birch and Beaver Creeks

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

See Trapping Regulations and Fur Animal Hunting Regulations, No. 22.

Mortality

Sealing records and the Game Division trapper questionnaire provide the only furbearer harvest and population status information. Limitations of both of these sources must be recognized. Not all fur animals taken are sealed; therefore, these records underestimate harvest. In addition, boundary changes in Unit 25 make it impossible to accurately compare the 1981-82 sealing data with that of past years. The trapper questionnaire provides valuable information on furbearer population status; however, it is entirely the subjective opinion of the responding trappers.

Sealing records indicate that 1,436 lynx were harvested in Unit 25. Most were taken in Subunit 25B (52%) and in Subunit 25D (19%); the other Subunits yielded relatively few lynx. The harvest location was unknown for 270 animals. Reported lynx harvest from Subunit 25A was 77, 748 from Subunit 25B, 72 from Subunit 25C, 269 from Subunit 25D, and 270 from an undetermined Subunit.

Numbers of lynx harvested by various methods were as follows: 893 (62%) by trapping, 502 (35%) by snaring, and 2 (<1%) by ground shooting. Method of take was unknown for 39 (3%) of the animals. The harvest was distributed over the entire season, but December and February were the 2 most important months, with 360 (25%) and 378 (26%) animals taken, respectively.

The trapper questionnaire indicates that population status is variable. A high density of lynx probably exists in most of Subunit 25B and has for at least the last 2 years. The other Subunits probably contain low-to-moderate densities, with slowly increasing populations.

Harvest of only 10 otters was reported on sealing forms as follows: Subunit 25A (1 male, 2 females); Subunit 25B (1 male, 1 female, and 1 of unknown sex); Subunit 25C (none reported

taken); Subunit 25D (1 male, 0 female, 1 of unknown sex); and Subunit unknown (1 male, 1 female). Overall sex determinations of 8 otters taken revealed equal numbers of males and females.

Trapping and snaring were the only methods of harvest employed, with 7 and 3 animals taken by these techniques, respectively. Otters were harvested during every month of the season except April.

Results of the trapper questionnaire indicated that otter density was low in most of Unit 25. The exception was Subunit 25D where density was probably moderate, reflecting higher quality habitat.

The harvest of 56 wolverines was reported on sealing forms as follows: Subunit 25A (12 males, 8 females, 37%); Subunit 25B (10 males, 3 females, 23%); Subunit 25C (none reported taken); Subunit 25D (7 males, 2 females); and Subunit unknown (9 males, 5 females). Most of the wolverine taken were males (68%).

Numbers of wolverines harvested by various methods were as follows: 35 (63%) by trapping, 16 (29%) by snaring, and 5 (9%) by ground shooting. Animals were taken during every month of the season, with most (73%) harvested from December through February.

The trapper questionnaire indicates that wolverine populations are probably stable in Unit 25. Density is probably moderate in Subunits 25A and 25B and low in Subunits 25C and 25D.

Management Summary and Recommendations

Most of the lynx harvested in Unit 25 were taken in Subunit 25B, where density has been increasing for at least the last 2 years. The other Subunits probably contain low density populations that are slowly increasing.

Land otters were lightly harvested. Populations are probably low and stable over most of the Unit, except in Subunit 25D where density is higher due to better quality habitat.

Most of the wolverine harvest was from Subunits 25A and 25B. Density over most of the Unit is moderate-to-low, and the population appears to be stable.

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FURBEARERS

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 12, 19, 20, 21, 24, and 25

GEOGRAPHICAL DESCRIPTION: Interior Alaska

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

See Trapping Regulations and Fur Animal Hunting Regulations, No. 22.

Trapper Questionnaire

The trapper questionnaire was sent to 500 trappers in Units 12, 19, 20, 21, 24, and 25 during spring 1982. No reminder letters were sent, but 230 questionnaires (46%) were returned. Of these, 53 respondents indicated they had not trapped and provided no other information. Data regarding harvest and population trends (Appendices A, B) was provided by 170 questionnaires.

Questionnaire Results - Harvest and Population Levels

Lynx

According to questionnaire responses, lynx catches in the Interior generally averaged about the same per trapper in 1981-82 as in the 1980-81 season, but in some areas changes in the numbers of lynx taken per trapper were indicated. Fort Yukon trappers averaged fewer lynx, with only 15.2/trapper in 1981-82 compared to 28.6 lynx/trapper in 1980-81, while trappers in the Brooks Range averaged 15.8 lynx in 1981-82 compared to 9.0 in 1980-81.

Although lynx populations were reported to be moderately low to moderate throughout the Interior, trappers thought there had been a definite increase in numbers of lynx.

Red Fox

Interior trappers reported an average harvest of 9 foxes/trapper in 1981-82, an increase from the 1980-81 average harvest of 8 foxes/trapper. Delta trappers again reported the highest average take of foxes (17.2/trapper), a decline from the very high average harvest of 32 foxes/trapper in 1980-81.

Fox populations were reported moderately high regionwide, with an increase from 1980-81 levels. All areas except Delta and the Circle-Central area reported increased fox populations. Delta

and Circle-Central area respondents reported that fox populations had remained the same or decreased slightly.

Marten

Regionwide the average catch of marten per trapper during 1981-82 remained about the same as in 1980-81, but changes were reported in some areas. Eagle, Chicken, and Boundary area trappers averaged only about half the number of marten per trapper as in the previous year (37 marten/trapper in 1981-82 compared to 77 in 1980-81). Similarly, Delta area trappers also reported lower average catches. Trappers from other areas reported increased catches.

The Interior marten population was reported to be moderate, with only a slight decline from the previous year.

Muskrat

Muskrat populations were reported low in the Interior, with a slight decrease from 1980-81. Only trappers from the Galena, Ruby, and Nulato areas reported moderate muskrat populations and increased numbers compared to 1980-81.

Mink

Mink populations were reported moderately low in the Interior with little change from the previous year. Circle-Central area trappers reported high and increasing numbers of mink. Reports from most other areas indicated little change or slight declines in mink numbers.

Beaver

Trappers reported moderate numbers of beavers, with no change from 1980-81. Only responses from the Galena, Nulato, Ruby, and Nenana areas indicated high numbers of beavers. Trappers from these areas, plus Healy and Manley area trappers, reported increases in the beaver populations.

Land Otter

Otter abundance was reported to be moderately low to moderate throughout the Interior during 1981-82, and reports from most areas indicated little change or a slight increase in otter numbers.

Wolf

Wolf populations in the Interior were reported to be moderately low overall, with a slight decline in numbers from 1980-81. Trappers from the Healy-Mt. McKinley and Tanana areas reported moderate numbers of wolves; responses from the Galena, Nulato, and Ruby areas indicated moderately high numbers. Trappers from

these areas, as well as the Circle-Central area, reported a slight increase in wolf numbers. Elsewhere in the Interior, wolf numbers were reported to have declined slightly.

Wolverine

Trappers indicated that wolverine populations were moderately low to low throughout the Interior, with a slight decline in numbers from 1980-81. Trappers in the Brooks Range reported moderate numbers of wolverines, with some increase in abundance from 1980-81.

Coyote

Less than half of the respondents had comments regarding coyote abundance, and few trappers reported catching coyotes during the 1981-82 season. Populations were reported to be low and little changed from 1980-81.

Squirrel

Squirrel abundance was reported to be moderate in the Interior, and reports from most areas indicated little population change compared to 1980-81.

Snowshoe Hare

Hare populations were reported at moderate levels in the Interior, and most trappers reported increases in the number of hares since 1980-81. Hare populations remained at high levels in the Brooks Range and Healy-Mt. McKinley areas.

Grouse

In the Manley and Livengood areas, grouse numbers were thought to have increased since the 1980-81 season. In the Delta and Circle-Central area, trappers indicated little change in grouse populations. Elsewhere in the Interior, grouse numbers were thought to be low and less abundant than during 1980-81.

Ptarmigan

Ptarmigan populations were reported to be moderately low, with a decline in numbers throughout most of the Interior. Fairbanks area trappers reported moderate numbers of ptarmigan, however. Populations were thought to have remained much the same in Fairbanks, Delta, and the Circle-Central areas.

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APPENDIX A. Lynx, fox, and marten harvests as indicated by the Trapper Questionnaire, 1981-82.

Area	No. trappers[a] responding	No. lynx taken	No. lynx/ trapper	No. fox taken	No. fox/ trapper	No. marten taken	No. marten/ trapper
Brooks Range	16	142	15.8	105	9.5	668	60.7
Circle, Central	4	24	8.0	5	2.5	45	15.0
Delta	11	40	6.7	155	17.2	92	15.3
Eagle, Chicken, Boundary	11	35	7.0	41	6.5	298	37.3
Fairbanks	38	85	5.7	352	10.7	767	24.0
Fort Yukon	15	137	15.2	140	11.7	686	57.2
Galena, Nulato, Ruby	12	74	11.3	30	5.0	836	83.6
Healy, Mt. McKinley	4	7	3.5	25	8.3	2	2.0
Manley	7	44	11.0	22	5.5	379	63.2
McGrath	11	45	11.3	19	2.7	503	62.9
Nenana, Clear	10	51	10.2	48	8.0	115	19.1
Haul Road, Yukon Flats	8	48	16.0	40	10.0	234	46.8
Tanana	9	17	4.3	16	3.3	477	59.6
Tok, Northway	13	65	7.2	82	9.1	181	25.9
Miscellaneous other	8	26	3.7	78	11.1	770	110.0
Interior totals	177	818	9.1	1,148	9.3	5,823	50.2

[a] Not all trappers trapped for lynx, fox, and marten and some did not indicate their catch. Therefore, these figures represent only the harvest indicated on the questionnaires divided by the number of trappers listing any catch.

APPENDIX B. Interior Alaska furbearer population abundance and trend indices by species based on Trapper Questionnaire.

SPECIES/ Area	Abundance in 1981-82 season[a]				Compared with 1980-81[a]			
	Low	Mod	High	Index[b]	Fewer	Same	More	Index[b]
PTARMIGAN								
Brooks Range	9	4	0	2.2	7	2	2	3.2
Circle, Central	1	0	0	1.0	0	1	0	5.0
Delta	2	7	0	4.1	1	6	2	5.5
Eagle, Chicken, Boundary	3	1	0	2.0	3	1	0	2.0
Fairbanks	1	24	7	5.8	7	11	10	5.4
Fort Yukon	8	4	1	2.8	6	5	1	3.3
Galena, Nulato, Ruby	5	0	0	1.0	2	3	0	3.4
Healy, Mt. McKinley	2	1	0	2.3	2	1	0	2.3
Manley, Livengood	4	2	0	2.3	3	3	0	3.0
McGrath	5	2	0	2.1	5	2	0	2.1
Nenana, Clear	6	2	0	2.0	6	2	0	2.0
Haul Road, Yukon Flats	1	6	0	4.4	1	6	0	4.8
Tanana	4	1	0	1.8	3	1	0	2.0
Tok, Northway	4	5	0	3.1	3	7	0	3.8
Miscellaneous other	4	1	0	1.8	2	2	0	3.0
Interior totals	72	41	7	2.8	53	47	7	3.3

[a] Based on the number of answers to each question; not all cooperators answered all questions.

[b] Index values range from 1.0 through 9.0 and were derived by giving an arbitrary value of 9.0, 5.0, and 1.0 to each "High" (More), "Moderate" (Same), and "Low" (Fewer) answer, respectively. The total value of the answers to each question for each species was divided by the number of answers to that question. An index of 9.0 indicates High (More), 5.0 indicates Moderate (Same), and 1.0 indicates Low (Fewer).

APPENDIX B. Continued.

SPECIES/ Area	Abundance in 1981-82 season[a]				Compared with 1980-81[a]			
	Low	Mod	High	Index[b]	Fewer	Same	More	Index[b]
COYOTE								
Brooks Range	5	0	0	1.0	1	4	0	4.2
Circle, Central								
Delta	1	8	1	5.0	0	8	2	5.8
Eagle, Chicken, Boundary	2	0	0	1.0	0	2	0	5.0
Fairbanks	16	5	0	2.0	3	13	4	4.5
Fort Yukon	9	0	0	1.0	2	6	0	4.0
Galena, Nulato, Ruby	0	0	0	.0	1	0	0	1.0
Healy, Mt. McKinley	1	1	1	5.0	0	3	0	5.0
Manley, Livengood	3	0	0	1.0	0	3	0	5.0
McGrath	2	1	0	2.3	1	2	0	3.7
Nenana, Clear	4	2	0	2.3	0	5	1	5.7
Haul Road, Yukon Flats	4	0	0	1.0	1	2	0	3.7
Tanana	5	0	0	1.0	1	3	0	4.0
Tok, Northway	6	3	1	3.0	0	8	2	5.8
Miscellaneous other	3	0	0	1.0	0	2	0	5.0
Interior totals	61	16	2	2.0	10	61	7	4.8

[a] Based on the number of answers to each question; not all cooperators answered all questions.

[b] Index values range from 1.0 through 9.0 and were derived by giving an arbitrary value of 9.0, 5.0, and 1.0 to each "High" (More), "Moderate" (Same), and "Low" (Fewer) answer, respectively. The total value of the answers to each question for each species was divided by the number of answers to that question. An index of 9.0 indicates High (More), 5.0 indicates Moderate (Same), and 1.0 indicates Low (Fewer).

APPENDIX B. Continued.

SPECIES/ Area	Abundance in 1981-82 season[a] Low	Mod	High	Index[b]	Compared with 1980-81[a] Fewer	Same	More	Index[b]
LYNX								
Brooks Range	2	8	5	5.8	0	8	3	6.1
Circle, Central	1	2	1	5.0	1	2	1	5.0
Delta	7	2	0	1.9	2	4	3	5.4
Eagle, Chicken, Boundary	3	5	0	4.5	2	0	6	7.0
Fairbanks	22	8	1	2.3	1	15	12	6.6
Fort Yukon	11	2	1	2.1	5	6	2	4.1
Galena, Nulato, Ruby	1	4	0	4.2	0	3	2	6.6
Healy, Mt. McKinley	1	2	0	3.7	0	1	2	7.7
Manley, Livengood	3	1	2	4.3	0	1	4	8.2
McGrath	1	5	1	5.0	1	3	3	6.1
Nenana, Clear	5	3	0	2.5	2	3	3	5.5
Haul Road, Yukon Flats	4	1	0	1.8	0	5	1	5.7
Tanana	2	2	2	5.0	0	1	5	8.3
Tok, Northway	5	7	0	3.5	2	3	8	6.8
Miscellaneous other	2	2	1	4.2	0	2	2	7.0
Interior totals	70	54	14	3.4	16	57	57	6.3

[a] Based on the number of answers to each question; not all cooperators answered all questions.

[b] Index values range from 1.0 through 9.0 and were derived by giving an arbitrary value of 9.0, 5.0, and 1.0 to each "High" (More), "Moderate" (Same), and "Low" (Fewer) answer, respectively. The total value of the answers to each question for each species was divided by the number of answers to that question. An index of 9.0 indicates High (More), 5.0 indicates Moderate (Same), and 1.0 indicates Low (Fewer).

APPENDIX B. Continued.

SPECIES/ Area	Abundance in 1981-82 season[a]				Compared with 1980-81[a]			
	Low	Mod	High	Index[b]	Fewer	Same	More	Index[b]
RED FOX								
Brooks Range	1	5	9	7.1	1	4	6	6.8
Circle, Central	1	1	1	5.0	1	1	1	5.0
Delta	0	4	5	7.2	2	6	1	4.6
Eagle, Chicken, Boundary	0	4	4	7.0	0	3	5	7.5
Fairbanks	2	18	14	6.4	0	11	22	7.7
Fort Yukon	5	7	2	4.8	0	5	8	7.5
Galena, Nulato, Ruby	2	4	0	3.7	1	3	3	6.1
Healy, Mt. McKinley	0	3	0	5.0	0	1	2	7.7
Manley, Livengood	2	2	2	5.0	1	3	2	5.7
McGrath	3	5	2	4.6	1	4	4	6.3
Nenana, Clear	3	1	4	5.5	1	2	4	6.7
Haul Road, Yukon Flats	1	4	1	5.0	0	3	3	7.0
Tanana	0	4	3	6.7	0	4	3	6.7
Tok, Northway	1	8	3	5.7	1	7	4	6.0
Miscellaneous other	0	3	2	6.6	0	1	3	8.0
Interior totals	21	73	52	5.8	9	72	71	6.6

[a] Based on the number of answers to each question; not all cooperators answered all questions.

[b] Index values range from 1.0 through 9.0 and were derived by giving an arbitrary value of 9.0, 5.0, and 1.0 to each "High" (More), "Moderate" (Same), and "Low" (Fewer) answer, respectively. The total value of the answers to each question for each species was divided by the number of answers to that question. An index of 9.0 indicates High (More), 5.0 indicates Moderate (Same), and 1.0 indicates Low (Fewer).

APPENDIX B. Continued.

SPECIES/ Area	Abundance in 1981-82 season[a] Low	Mod	High	Index[b]	Compared with 1980-81[a] Fewer	Same	More	Index[b]
MARTEN								
Brooks Range	4	7	1	4.0	3	7	0	3.8
Circle, Central	2	2	0	3.0	3	1	0	2.0
Delta	6	3	0	2.3	1	6	2	5.4
Eagle, Chicken, Boundary	1	8	1	5.0	2	8	0	4.2
Fairbanks	13	16	1	3.4	9	16	2	4.0
Fort Yukon	5	6	3	4.4	6	3	4	4.4
Galena, Nulato, Ruby	2	3	3	6.3	3	4	1	4.0
Healy, Mt. McKinley	1	0	0	1.0	0	1	0	5.0
Manley, Livengood	1	4	2	5.6	2	5	0	3.9
McGrath	3	6	0	3.7	2	6	1	4.9
Nenana, Clear	3	4	1	4.0	3	3	2	4.5
Haul Road, Yukon Flats	0	4	3	6.7	0	5	2	6.1
Tanana	0	5	2	6.1	0	6	1	5.3
Tok, Northway	4	6	0	3.4	3	7	1	4.3
Miscellaneous other	2	1	2	5.0	2	1	1	4.0
Interior totals	47	75	19	4.2	40	78	17	4.3

[a] Based on the number of answers to each question; not all cooperators answered all questions.

[b] Index values range from 1.0 through 9.0 and were derived by giving an arbitrary value of 9.0, 5.0, and 1.0 to each "High" (More), "Moderate"(Same), and "Low" (Fewer) answer, respectively. The total value of the answers to each question for each species was divided by the number of answers to that question. An index of 9.0 indicates High (More), 5.0 indicates Moderate (Same), and 1.0 indicates Low (Fewer).

APPENDIX B. Continued.

SPECIES/ Area	Abundance in 1981-82 season[a] Low	Mod	High	Index[b]	Compared with 1980-81[a] Fewer	Same	More	Index[b]
MUSKRAT								
Brooks Range	7	2	0	1.9	2	6	0	4.0
Circle, Central								
Delta	2	2	0	3.0	2	1	1	4.0
Eagle, Chicken, Boundary	1	0	0	1.0	0	1	0	5.0
Fairbanks	10	3	0	1.9	3	8	1	4.3
Fort Yukon	9	2	1	2.3	4	6	1	3.9
Galena, Nulato, Ruby	2	3	1	4.3	0	4	2	6.3
Healy, Mt. McKinley	1	0	0	1.0	1	0	0	1.0
Manley, Livengood	2	0	0	1.0	0	2	0	5.0
McGrath	3	2	0	2.6	1	4	0	4.2
Nenana, Clear	2	4	0	3.7	1	5	1	5.0
Haul Road, Yukon Flats	4	2	0	2.3	1	4	1	5.0
Tanana	5	0	0	1.0	3	2	0	2.6
Tok, Northway	8	2	0	1.8	4	3	2	4.1
Miscellaneous other	2	3	0	3.4	1	2	1	5.0
Interior totals	59	20	1	2.1	23	43	8	4.2

[a] Based on the number of answers to each question; not all cooperators answered all questions.

[b] Index values range from 1.0 through 9.0 and were derived by giving an arbitrary value of 9.0, 5.0, and 1.0 to each "High" (More), "Moderate" (Same), and "Low" (Fewer) answer, respectively. The total value of the answers to each question for each species was divided by the number of answers to that question. An index of 9.0 indicates High (More), 5.0 indicates Moderate (Same), and 1.0 indicates Low (Fewer).

APPENDIX B. Continued.

SPECIES/ Area	Abundance in 1981-82 season[a] Low	Mod	High	Index[b]	Compared with 1980-81[a] Fewer	Same	More	Index[b]
MINK								
Brooks Range	11	2	0	1.6	5	4	1	3.4
Circle, Central	0	1	1	7.0	0	0	2	9.0
Delta	2	2	1	4.2	1	2	2	5.8
Eagle, Chicken, Boundary	3	2	0	2.6	1	4	0	4.2
Fairbanks	13	13	0	3.0	10	8	5	4.1
Fort Yukon	9	5	0	2.4	2	10	0	4.3
Galena, Nulato, Ruby	2	3	1	4.3	0	4	2	6.3
Healy, Mt. McKinley	1	2	0	3.7	0	3	0	5.0
Manley, Livengood	1	3	0	4.0	0	4	0	5.0
McGrath	3	5	0	3.5	1	6	0	4.4
Nenana, Clear	2	4	0	3.7	1	5	1	5.0
Haul Road, Yukon Flats	5	0	0	1.0	2	3	0	3.4
Tanana	1	4	0	4.2	1	2	1	5.0
Tok, Northway	7	4	0	2.5	7	3	1	2.8
Miscellaneous other	4	1	0	1.8	0	4	0	5.0
Interior totals	63	51	3	2.9	31	62	18	4.5

[a] Based on the number of answers to each question; not all cooperators answered all questions.

[b] Index values range from 1.0 through 9.0 and were derived by giving an arbitrary value of 9.0, 5.0, and 1.0 to each "High" (More), "Moderate" (Same), and "Low" (Fewer) answer, respectively. The total value of the answers to each question for each species was divided by the number of answers to that question. An index of 9.0 indicates High (More), 5.0 indicates Moderate (Same), and 1.0 indicates Low (Fewer).

APPENDIX B. Continued.

SPECIES/ Area	Abundance in 1981-82 season[a]				Compared with 1980-81[a]			
	Low	Mod	High	Index[b]	Fewer	Same	More	Index[b]
BEAVER								
Brooks Range	4	6	0	4.3	0	7	1	5.5
Circle, Central	0	1	0	5.0	0	1	0	5.0
Delta	1	3	1	5.0	1	3	1	5.0
Eagle, Chicken, Boundary	1	1	0	3.0	0	2	0	5.0
Fairbanks	5	16	2	4.5	7	11	4	4.5
Fort Yukon	6	5	2	3.8	1	11	0	4.7
Galena, Nulato, Ruby	0	3	5	7.5	0	6	2	6.0
Healy, Mt. McKinley	1	1	0	3.0	0	1	1	7.0
Manley, Livengood	2	3	1	4.3	0	5	1	5.7
McGrath	2	7	1	4.6	1	7	1	5.0
Nenana, Clear	0	4	1	5.8	0	3	2	6.6
Haul Road, Yukon Flats								
Tanana	1	2	2	5.8	1	2	1	5.0
Tok, Northway	5	2	1	3.0	1	5	1	5.0
Miscellaneous other	0	4	1	5.8	0	3	1	6.0
Interior totals	29	61	18	4.6	13	83	17	5.1

[a] Based on the number of answers to each question; not all cooperators answered all questions.

[b] Index values range from 1.0 through 9.0 and were derived by giving an arbitrary value of 9.0, 5.0, and 1.0 to each "High" (More), "Moderate" (Same), and "Low" (Fewer) answer, respectively. The total value of the answers to each question for each species was divided by the number of answers to that question. An index of 9.0 indicates High (More), 5.0 indicates Moderate (Same), and 1.0 indicates Low (Fewer).

APPENDIX B. Continued.

SPECIES/ Area	Abundance in 1981-82 season[a]				Compared with 1980-81[a]			
	Low	Mod	High	Index[b]	Fewer	Same	More	Index[b]
WOLF								
Brooks Range	8	4	1	2.8	4	4	2	4.2
Circle, Central	2	1	0	2.3	0	2	1	6.3
Delta	9	0	0	1.0	8	1	0	1.4
Eagle, Chicken, Boundary	4	2	0	2.3	3	2	1	3.7
Fairbanks	17	5	3	1.8	8	9	7	4.8
Fort Yukon	9	4	1	2.7	6	5	2	3.8
Galena, Nulato, Ruby	0	3	2	6.6	0	5	1	5.7
Healy, Mt. McKinley	1	1	1	5.0	0	2	1	6.3
Manley, Livengood	2	4	0	3.7	0	5	1	2.3
McGrath	2	5	0	3.9	2	4	1	4.4
Nenana, Clear	5	2	0	2.1	2	5	0	3.9
Haul Road, Yukon Flats	1	6	0	4.4	2	4	1	3.3
Tanana	2	1	2	5.0	2	1	1	4.0
Tok, Northway	7	1	1	2.3	5	4	0	2.8
Miscellaneous other	3	2	0	2.6	2	1	1	4.0
Interior totals	72	41	11	3.0	44	54	20	4.2

[a] Based on the number of answers to each question; not all cooperators answered all questions.

[b] Index values range from 1.0 through 9.0 and were derived by giving an arbitrary value of 9.0, 5.0, and 1.0 to each "High" (More), "Moderate" (Same), and "Low" (Fewer) answer, respectively. The total value of the answers to each question for each species was divided by the number of answers to that question. An index of 9.0 indicates High (More), 5.0 indicates Moderate (Same), and 1.0 indicates Low (Fewer).

APPENDIX B. Continued.

SPECIES/ Area	Abundance in 1981-82 season[a]				Compared with 1980-81[a]			
	Low	Mod	High	Index[b]	Fewer	Same	More	Index[b]
WOLVERINE								
Brooks Range	1	11	1	5.0	0	8	3	6.1
Circle, Central	1	0	0	1.0	0	1	0	1.0
Delta	3	5	1	4.1	3	5	1	4.1
Eagle, Chicken, Boundary	4	1	0	1.8	2	3	0	3.4
Fairbanks	13	9	1	2.9	4	10	6	5.4
Fort Yukon	8	6	0	2.7	3	10	0	4.1
Galena, Nulato, Ruby	4	1	0	1.8	0	5	0	5.0
Healy, Mt. McKinley	2	1	0	2.3	1	2	0	3.7
Manley, Livengood	2	2	0	3.0	1	3	0	4.0
McGrath	4	4	0	3.9	2	4	1	4.7
Nenana, Clear								
Haul Road, Yukon Flats	2	5	0	3.9	2	4	1	4.4
Tanana	1	4	0	4.2	1	3	0	4.0
Tok, Northway	7	3	0	2.2	5	6	1	3.7
Miscellaneous other	3	2	0	2.6	1	2	0	3.7
Interior totals	58	58	3	3.2	29	71	12	4.4

[a] Based on the number of answers to each question; not all cooperators answered all questions.

[b] Index values range from 1.0 through 9.0 and were derived by giving an arbitrary value of 9.0, 5.0, and 1.0 to each "High" (More), "Moderate" (Same), and "Low" (Fewer) answer, respectively. The total value of the answers to each question for each species was divided by the number of answers to that question. An index of 9.0 indicates High (More), 5.0 indicates Moderate (Same), and 1.0 indicates Low (Fewer).

APPENDIX B. Continued.

SPECIES/ Area	Abundance in 1981-82 season[a] Low	Mod	High	Index[b]	Compared with 1980-81[a] Fewer	Same	More	Index[b]
OTTER								
Brooks Range	9	4	0	2.2	1	8	2	5.4
Circle, Central	1	0	1	5.0	0	1	0	5.0
Delta	1	5	0	4.3	0	5	1	5.7
Eagle, Chicken, Boundary	2	0	0	1.0	0	2	0	5.0
Fairbanks	10	9	0	2.9	0	15	3	5.7
Fort Yukon	7	5	0	2.7	2	8	1	4.6
Galena, Nulato, Ruby	0	5	0	5.0	0	5	0	5.0
Healy, Mt. McKinley	1	0	0	1.0	0	1	0	5.0
Manley, Livengood	0	4	0	5.0	0	3	1	6.0
McGrath								
Nenana, Clear	2	3	0	3.4	1	3	1	5.0
Haul Road, Yukon Flats	4	2	0	2.3	1	5	0	4.3
Tanana	2	2	1	4.2	0	3	1	6.0
Tok, Northway	4	3	0	2.7	1	6	0	4.4
Miscellaneous other	3	2	0	2.6	0	4	0	5.0
Interior totals	47	44	4	3.2	8	70	12	5.2

[a] Based on the number of answers to each question; not all cooperators answered all questions.

[b] Index values range from 1.0 through 9.0 and were derived by giving an arbitrary value of 9.0, 5.0, and 1.0 to each "High" (More), "Moderate" (Same), and "Low" (Fewer) answer, respectively. The total value of the answers to each question for each species was divided by the number of answers to that question. An index of 9.0 indicates High (More), 5.0 indicates Moderate (Same), and 1.0 indicates Low (Fewer).

APPENDIX B. Continued.

SPECIES/ Area	Abundance in 1981-82 season[a]				Compared with 1980-81[a]			
	Low	Mod	High	Index[b]	Fewer	Same	More	Index[b]
SQUIRREL								
Brooks Range	3	5	2	4.6	3	6	1	4.2
Circle, Central	--	--	--	--	0	1	0	5.0
Delta	0	4	4	7.0	0	7	1	5.5
Eagle, Chicken, Boundary	0	3	0	5.0	0	3	0	5.0
Fairbanks	5	15	5	5.0	6	15	1	4.1
Fort Yukon	3	8	2	4.7	2	9	1	4.7
Galena, Nulato, Ruby	3	1	1	3.4	1	3	0	4.0
Healy, Mt. McKinley	0	1	0	5.0	0	1	0	5.0
Manley, Livengood	0	3	2	6.6	0	5	0	5.0
McGrath	2	2	1	4.2	1	3	1	5.0
Nenana, Clear	1	4	2	5.6	1	4	2	5.6
Haul Road, Yukon Flats	0	2	4	7.7	0	6	0	5.0
Tanana	0	4	0	5.0	0	4	0	5.0
Tok, Northway	0	6	4	6.6	1	9	1	4.9
Miscellaneous other	2	2	1	4.2	1	2	1	5.0
Interior totals	18	57	29	5.4	16	78	10	4.8

[a] Based on the number of answers to each question; not all cooperators answered all questions.

[b] Index values range from 1.0 through 9.0 and were derived by giving an arbitrary value of 9.0, 5.0, and 1.0 to each "High" (More), "Moderate" (Same), and "Low" (Fewer) answer, respectively. The total value of the answers to each question for each species was divided by the number of answers to that question. An index of 9.0 indicates High (More), 5.0 indicates Moderate (Same), and 1.0 indicates Low (Fewer).

APPENDIX B. Continued.

SPECIES/ Area	Abundance in 1981-82 season[a] Low	Mod	High	Index[b]	Compared with 1980-81[a] Fewer	Same	More	Index[b]
HARE								
Brooks Range	1	1	12	8.1	0	6	4	6.6
Circle, Central	1	0	2	6.3	0	2	1	6.3
Delta	1	8	0	4.6	2	7	1	5.3
Eagle, Chicken, Boundary	0	3	2	6.6	0	3	2	6.6
Fairbanks	1	24	7	5.8	7	11	10	5.4
Fort Yukon	1	8	4	5.9	2	4	6	6.3
Galena, Nulato, Ruby	1	3	2	5.7	0	2	4	7.7
Healy, Mt. McKinley	0	1	1	7.0	0	0	2	9.0
Manley, Livengood	2	2	2	5.0	0	2	4	7.7
McGrath	2	2	2	5.0	1	4	1	5.0
Nenana, Clear	1	5	2	5.5	1	1	6	7.5
Haul Road, Yukon Flats	1	4	2	5.6	1	3	3	6.2
Tanana	1	3	1	5.0	0	2	3	7.2
Tok, Northway	1	8	1	5.0	0	9	2	5.7
Miscellaneous other	1	3	1	5.0	1	1	2	6.0
Interior totals	15	75	40	5.7	15	59	48	6.1

[a] Based on the number of answers to each question; not all cooperators answered all questions.

[b] Index values range from 1.0 through 9.0 and were derived by giving an arbitrary value of 9.0, 5.0, and 1.0 to each "High" (More), "Moderate" (Same), and "Low" (Fewer) answer, respectively. The total value of the answers to each question for each species was divided by the number of answers to that question. An index of 9.0 indicates High (More), 5.0 indicates Moderate (Same), and 1.0 indicates Low (Fewer).

APPENDIX B. Continued.

SPECIES/ Area	Abundance in 1981-82 season[a] Low	Mod	High	Index[b]	Compared with 1980-81[a] Fewer	Same	More	Index[b]
GROUSE								
Brooks Range	7	6	0	2.8	4	4	3	4.6
Circle, Central	1	0	0	1.0	0	1	0	5.0
Delta	1	8	1	5.0	1	8	1	5.0
Eagle, Chicken, Boundary	4	0	0	1.0	4	0	0	1.0
Fairbanks	18	8	1	2.5	18	5	1	2.0
Fort Yukon	8	4	1	2.8	4	8	0	3.7
Galena, Nulato, Ruby	4	1	0	2.8	2	2	1	4.2
Healy, Mt. McKinley	2	1	0	2.3	2	1	0	2.3
Manley, Livengood	4	1	1	3.0	4	1	1	3.0
McGrath	2	2	2	5.0	1	4	1	6.0
Nenana, Clear	6	2	0	2.0	5	3	0	2.5
Haul Road, Yukon Flats	4	3	0	2.7	4	3	0	2.7
Tanana	2	2	0	3.0	3	1	0	2.0
Tok, Northway	5	5	0	3.0	5	6	0	3.2
Miscellaneous other	3	2	0	2.6	1	3	0	4.0
Interior totals	74	46	4	2.7	62	48	7	3.1

[a] Based on the number of answers to each question; not all cooperators answered all questions.

[b] Index values range from 1.0 through 9.0 and were derived by giving an arbitrary value of 9.0, 5.0, and 1.0 to each "High" (More), "Moderate" (Same), and "Low" (Fewer) answer, respectively. The total value of the answers to each question for each species was divided by the number of answers to that question. An index of 9.0 indicates High (More), 5.0 indicates Moderate (Same), and 1.0 indicates Low (Fewer).

FURBEARERS

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 26B and 26C

GEOGRAPHICAL DESCRIPTION: That Portion of the North Slope East of and Including the Itkillik River Drainage

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

See Trapping Regulations and Fur Animal Hunting Regulations, No. 22.

Mortality

Only a small amount of data are available reflecting harvest of furbearers. This is probably due to a combination of factors, including lack of trapping effort (due to high levels of employment), relatively low abundance of some species, and inadequate reporting of harvest. The absence of an area biologist and the consequently low level of Department interaction with the public have also temporarily reduced the amount of general information relating to furbearers.

Available information suggests that only 10 arctic fox and 2 wolverine were taken in Subunits 26B and C during the 1981-82 regulatory year. These figures, especially those pertaining to fox harvest, are certainly low and provide little indication of either population status or harvest of furbearers in this area.

Management Summary and Recommendations

Very little information on furbearer harvest is currently available for Game Management Subunits 26B and C. Area biologists now assigned to these areas should determine the status of trapping effort and general abundance and distribution of furbearers through contact with the area's residents.

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SUBMITTED BY:

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LYNX

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 22

GEOGRAPHICAL DESCRIPTION: Seward Peninsula

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

Hunting	Sept. 1-Mar. 31	Two lynx
Trapping	Nov. 1-Apr. 15	No limit

Population Status and Trend

Because a large portion of Unit 22 is composed of tundra, lynx habitat is primarily limited to Subunits 22A and 22B where the vegetation is dominated by spruce with willows growing along the main drainages. As in most areas of Alaska, lynx numbers within the Unit rise and decline in direct correlation with snowshoe hare and other prey populations.

In December 1977, a State program was implemented requiring the sealing of all lynx hides. Until that time, the annual lynx harvest within the area was thought to be less than 100 animals. One hundred sixty-eight lynx were sealed in 1977-78; the number continued to rise for the next 2 years, reaching what was then an all-time high of 260 animals in 1979-80. The recorded harvest dropped dramatically to 86 animals during winter 1980-81.

During the past winter, lynx and hares were very numerous in all major drainages east of the Fish River (Subunit 22B), and trappers in Unit 22 harvested a record 479 lynx.

Population Composition

No information was available on the sex composition of lynx within the area. The reported composition of the harvest, however, was 245 males (51%), 215 females (45%), and 19 of unknown sex (4%). Data are not available to indicate whether these figures are representative of the entire Unit population.

Mortality

No natural mortality data were available for the Unit during the past year; however, because prey appeared abundant in most drainages, natural mortality was considered to be low. The reported lynx harvest within the Unit during the past year was 479. As previously indicated, this was an all-time high for Unit

22. The distribution of the known harvest for the year is given in Appendix A.

Of the 479 animals taken during the past reporting period, 168 (35%) were taken in Subunit 22A, and the remaining 311 animals (65%) were taken in Subunit 22B. Because villagers take some lynx for personal use, not all hides are sealed each year. In past years, approximately 10% of the catch was assumed not to have been recorded. By applying this correction to the 1981-82 reported harvest, the estimated total lynx harvest for the Unit was 525 animals.

Lynx were taken by trappers during every month of the season throughout the recording period; however, the most productive months for trappers were January, February, and March. The distribution of the lynx harvest by month for the past 4 trapping seasons is given in Appendix B.

As in past years, March was the month in which most lynx were taken. The onset of the breeding season, more favorable weather conditions, and increased daylight probably account for this trend.

Management Summary and Recommendations

Although lynx have been observed in all major drainages within the Unit, Subunits 22A and 22B appear to have the most suitable habitat. All of this year's known harvest came from drainages east of the Fish River, 35% from Subunit 22A, and 65% from Subunit 22B.

As in past years, most lynx were taken in March. This can probably be attributed to the onset of the breeding season, weather conditions, and increased daylight.

Previous records indicate approximately 10% of the animals harvested each year are not sealed. Assuming this were true during this reporting period, the harvest of lynx was probably between 479 and 525. Educational programs and more active enforcement efforts directed toward gaining compliance with sealing regulations are needed if we are to accurately determine the harvest in the future.

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APPENDIX A. Distribution of Unit 22 lynx harvest, 1981-82.

Subunit 22B		Subunit 22A	
River drainage	Number taken	River drainage	Number taken
Fish	13	Ungalik	15
Kwiniuk	25	Shaktoolik	49
Tubutulik	77	Egavik	16
Kwik	53	Unalakleet	85
Koyuk	139	Klikitarik	2
Inglutalik	4	Pikmiktalik	1
Totals	311		168

APPENDIX B. Chronology of Unit 22 lynx harvest, 1978-82.

	1978-79		1979-80		1980-81		1981-82	
Month	No.	% harvest	No.	% harvest	No.	% harvest	No.	% harvest
Nov.	24	10	10	4	6	7	17	4
Dec.	36	15	42	16	8	9	45	9
Jan.	41	17	57	22	16	18	90	19
Feb.	61	26	57	22	13	15	119	25
Mar.	76	32	67	26	30	34	163	34
Apr.	0	0[a]	8	3	14	16	29	6
Unk.	0	0	19	7	2	1	16	3
Totals	238	100	260	100	89	100	479	100

[a] Trapping season closed during this period.

WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 5

GEOGRAPHICAL DESCRIPTION: Yakutat and Malaspina Forelands, Gulf of Alaska

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

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

Population Status and Trend

General observations and hunter and trapper reports indicate no significant changes occurred in the status of the Unit 5 wolf population during the report period. The Subunit 5A population seems to be stable, and the Subunit 5B population may be increasing slightly. Unitwide, reproduction and pup survival seem to be good.

Population Composition

No surveys were conducted specifically to assess wolf populations in Unit 5; however, sightings of wolves and wolf sign were recorded incidentally to other big game surveys. Based on such sightings, the wolf population on the Yakutat Forelands (5A) was estimated to be 45-50 animals.

Wolf sightings and observations of wolf sign have increased on the Malaspina Forelands (5B) since last year's report. Although actual sightings are rare, wolf sign is readily observed along the beach in late winter and spring. Observations during moose survey flights, as well as reports from big game guides and National Park Service personnel, indicate an increasing wolf population. However, it should be noted that human use of this area has increased in recent years and may account for increased sightings of wolves and wolf sign. Primary areas where wolves have been sighted are the Chaix Hills, Samovar Hills, and the Esker Creek drainage. A conservative minimum population estimate for the Malaspina Forelands is 12 wolves.

Mortality

According to sealing certificates, 4 wolves were killed on the Yakutat Forelands during the report period. One wolf each was taken from the Situk, Tanis, Doame, and Dangerous Rivers. Three

were taken by ground shooting, and one was snared. A single wolf was harvested by ground shooting on the Malaspina Forelands.

Management Summary and Recommendations

Wolf numbers seem to be stable on the Yakutat Forelands and increasing slightly on the Malaspina Forelands. Production and survival throughout Unit 5 seem to be good, and are probably related to a series of mild winters and abundant food sources, such as moose, goats, salmon, beavers, and an increasing snowshoe hare population. A consistent wolf harvest is essential to reduce the threat of increased predation on moose and goat populations. Because most wolves are taken opportunistically by hunters, the liberal hunting and trapping seasons should be retained and the public should be encouraged to take advantage of an opportunity for additional recreation and a possible cash return from furs. No change in seasons or bag limits is recommended.

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SUBMITTED BY:

Nathan P. Johnson
Regional Management Coordinator

WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 7 and 15

GEOGRAPHICAL DESCRIPTION: Kenai Peninsula

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

Hunting	Aug. 10-Apr. 30	Two wolves, Unit 7 Four wolves, Unit 15
Trapping	Nov. 10-Mar. 31	No limit

Population Status and Trend

Wolf surveys were flown in conjunction with moose composition surveys over most of the Kenai Peninsula during November 1981. Additional population data were collected during winter during routine aerial surveys. Results of these data indicated that the early winter wolf population was 197 wolves. The pack size observed during this period averaged 10 wolves. Data collected by the U.S. Fish and Wildlife Service during a study ending in 1980 suggested an early winter population of 185 wolves (Peterson 1982). Comparison of these early winter population estimates suggest the wolf population has remained stable during the past 2 years.

Population Composition

No data were available.

Mortality

Sixty-three wolves were reported killed during the 1981-82 hunting and trapping seasons. The harvest was composed of 32 (51%) males and 31 (49%) females. The breakdown by Unit was as follows: Unit 7 (7 males, 6 females) and Unit 15 (25 males, 25 females). Fifteen (24%) were taken by ground shooting; 22 (35%) by trapping; 25 (40%) by snaring; and 1 (2%) by unidentified means. The chronology of the harvest was as follows: August (1, 2%); September (3, 5%); October (none); November (1, 2%); December (1, 2%); January (21, 33%); February (10, 16%); March (12, 19%); and April (1, 2%).

Age data derived from known-age tagged animals or by examination of front leg bones indicated that 29% of the harvest were adults and 71% were pups. The sample size was 42.

Management Summary and Recommendations

The kill of 63 wolves indicated a 32% harvest of the current early winter population estimate of 197 wolves. At this rate of harvest, the population is expected to remain stable. No changes in seasons or bag limits were recommended.

Literature Cited

Peterson, R. O. 1982. Wolves of the Kenai Peninsula, Alaska. In Wolf-Moose Investigations on the Kenai National Wildlife Refuge. Final Rep. USFWS Contract No. 14-16-007-81-5205 and 14-16-0008-2104. 146pp.

PREPARED BY:

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WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 11

GEOGRAPHICAL DESCRIPTION: Wrangell Mountains

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

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

Population Status and Trend

Wolf surveys were not conducted by the Department during 1981-82.

Population Composition

No data were available.

Mortality

Eight wolves were reported killed in Unit 11 during the 1981-82 hunting and trapping seasons. The harvest was down from last year (16 wolves killed) and well below the average for the last 12 years ($\bar{x}$ = 30.4). The harvest was composed of 1 male and 7 females. Based on 1981-82 Unit 11 harvest data, 2 (25%) were taken by ground shooting and 6 (75%) were trapped. Twelve percent of the harvest (1 wolf) was taken in September, 2 (25%) in December, 4 (50%) in January, and 1 (12%) in February.

Management Summary and Recommendations

The relatively low harvest of wolves in recent years apparently reflects changes in land ownership (from Bureau of Land Management to U.S. Park Service) and land use regulations, rather than population change. Future intensive management of Unit 11 caribou and moose will require definitive wolf surveys. No changes in seasons or bag limits were recommended.

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WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 12

GEOGRAPHICAL DESCRIPTION: Upper Tanana and White River Drainages

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

Hunting	Aug. 10-Apr. 30	No limit
Trapping	Nov. 1-Mar. 31	No limit

Population Status and Trend

Wolf numbers were moderate to high throughout Unit 12 and appear to have remained stable during the reporting period. An aerial survey conducted in northern Unit 12 in March 1980 revealed a minimum population of 87 wolves in 17 packs. A moderate intensity survey in March 1982 in the upper Chisana, White River, and Beaver Creek drainages revealed a minimum estimate of 55-60 wolves in 11 packs. In the Nabesna drainage, 2 packs totaling 14 wolves were found in November 1981; in March 1982, an additional 3 packs containing a total of 20-25 wolves were found. Wolf density calculated on the basis of 1980-82 data is 1 wolf/32-35 sq mi.

Population Composition

Pups composed 36% of the known-age 1981-82 harvest, the same as during the 1980-81 season. Females composed 60% of the 1981-82 harvest, also the same as during 1980-81. No other index of population composition is available.

Mortality

A total of 26 wolves was reported taken during the 1981-82 hunting and trapping seasons compared to 21 during the 1980-81 seasons. Snow conditions were favorable for wolf hunting and trapping during winter 1981-82 and probably contributed to the increase in harvest. Harvest was greatest in the Tetlin-Little Tok River drainages with a take of 8 wolves, followed closely by the Chisana River drainage with a take of 7, and the White River-Beaver Creek drainages with a take of 6. Two wolves were reported taken in the Nabesna River drainage and 1 each from the Tok and Tanana River drainages. This level of harvest probably represents less than 10% of the wolf population in Unit 12. No wolves were taken from the Unit 12 portion of the approved wolf control area by Department personnel. Black wolves (14) composed 56% of the harvest, grays 32%, whites 8%, and browns 4%.

Management Summary and Recommendations

The wolf population is of moderate to high density throughout Unit 12, and harvests are low in relation to population size. The wolf population is believed to be stable.

For purposes of moose, caribou, and ultimately wolf management, present wolf densities east of the Nabesna River should be reduced to allow increases in ungulate abundance. The same holds true for that portion of Unit 12 north of the Tanana River. Wolf numbers in the Tok and Little Tok River drainages should be similarly reduced to increase recruitment of yearling moose prior to a moose herd reduction. Details of this recommendation are in the Tok River Operational Moose Management Plan.

Wolves are faring well in Unit 12. Proposed reductions in wolf numbers should be measured in both extent and duration to guarantee a viable wolf population and to increase standing crops of moose and caribou. Thus, both human harvests of ungulates and an adequate prey base for wolves can be increased in the future.

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Regional Management Coordinator

WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 13

GEOGRAPHICAL DESCRIPTION: Nelchina Basin

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

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

Population Status and Trend

There has been no change in last year's estimate of the number of wolf packs (25) in Unit 13 (Ballard, pers. commun.). The total estimated postwinter population of 109 wolves approximates last year's estimate (114 wolves). For these estimates, an average pack size of 4.4 adult wolves was calculated.

Population Composition

For 10 packs intensively studied by Ballard (pers. commun.), the mean number of pups per pack observed in 1982 was 5.3. In comparison, from a number of recent studies of unhunted wolves in North America, a mean pack size of 6.5 adults and 5.0 pups was calculated.

Mortality

Fifty-four wolves were reported killed during the 1981-82 hunting and trapping seasons. Of the total harvest, 26 (48%) were males, 25 (46%) were females, and 3 (6%) were of unknown sex. Based on sealing data only, 23 wolves (43%) were taken by ground shooting, 23 (43%) were trapped, and 8 (14%) were taken by unidentified means. Four (7%) were harvested in September, 2 (4%) in October, 3 (6%) in November, 3 (6%) in December, 9 (17%) in January, 14 (26%) in February, 18 (33%) in March, and 1 (2%) in April.

Management Summary and Recommendations

The wolf trapping season in 1981-82 was shortened by 2 months and realigned to reduce conflicts with other furbearer trapping seasons. Because this change apparently did not affect the wolf harvest, no changes in seasons or bag limits were recommended.

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WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 18

GEOGRAPHICAL DESCRIPTION: Yukon-Kuskokwim Delta

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

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

Population Status and Trend

Field observations and reports from local trappers indicate wolves continue to remain low in density or absent in most areas of Unit 18. Wolves are primarily confined to the eastern portion of the Unit, and their distribution appears to coincide with that of moose. A wolf pack sighted once in the Emmonak-Kotlik vicinity near the mouth of the Yukon in an unverified report was probably transient rather than resident. No aerial surveys were conducted specifically for assessing wolf population distribution and density in Unit 18.

Mortality

Based upon sealing document information, only 1 wolf was reported harvested from Unit 18 during the 1981-82 season. The reported harvest has fluctuated from 0 to 4 since 1959. Since wolf pelts are highly valued in the manufacture of garments, most wolves harvested are probably utilized domestically rather than sealed and sold. We therefore believe the actual harvest to be substantially higher than reported. Reports of illegal aircraft hunting were not received this year as in the past. Individuals who are interested in aerial hunting normally go to other Units where hunting opportunities are better.

Management Summary and Recommendations

The density and harvest of wolves in Unit 18 continue to remain low. Areas where wolves are normally sighted appear to coincide with the distribution of moose. Department personnel should continue to encourage villagers to have all their pelts sealed, even those destined for domestic use. Efforts to establish sealing officers in villages that do not have one should continue

as well. Our knowledge of wolf distribution should improve due to increased moose aerial reconnaisance and survey activities. No change in season or bag limit is recommended at this time.

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WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 19

GEOGRAPHICAL DESCRIPTION: Upper and Middle Kuskokwim River Drainages

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

Hunting	Aug. 10-Apr. 30	No limit
Trapping	Nov. 1-Mar. 31	No limit

Population Status and Trend

Snow conditions were variable during the reporting period, and tracking conditions were inadequate for meaningful surveys in most of Subunits 19A, 19B, and 19C. During periods when suitable conditions existed, most of Subunit 19D and adjacent parts of 21A were surveyed. At least 6 packs with a total of 29-42 wolves occupied the Upper Kuskokwim Controlled Area. An additional 7 packs totaling 38-40 wolves likely occupied the controlled use area during parts of the year.

Five hunters having permits to hunt wolves from the air spent 13 days hunting in Subunits 19A and 19B. They saw 4 packs totaling an estimated 13 wolves--all in Subunit 19B.

Mortality

Aerial wolf hunting permits for Subunits 19A and 19B only were available again during winter 1981-82. One permit was issued for the 1981 portion of the season, but the individual receiving this permit did not hunt. For the 1982 portion of the season, 22 permits were issued; however, only 5 permittees hunted. They took 1 wolf.

Among 29 hunters and trappers who took wolves in Unit 19, 16 were Alaska residents from outside the Unit and 4 were aliens. Of the 51 wolves taken, 21, 29, and 1 were males, females, and of unknown sex, respectively. Seventeen wolves were trapped, 33 were shot from the ground, and 1 was shot from the air. Gray wolves predominated in the harvest. The number of wolves taken of various color phases was as follows: gray, 37; black, 13; and brown, 1. The most productive months for hunting were March, January, and November when 21, 8, and 11 wolves were taken respectively.

The take of 51 wolves was down from the 11-year average of 62. Excluding wolves taken by aerial permittees in past years, the 1981-82 harvest approximates average annual harvests during the past 5 years. Twenty wolves were taken in Subunit 19C (10 along the South Fork of the Kuskokwim), 14 were taken in Subunit 19B (12 from the upper Stony River drainage), 7 were taken in 19A (6 from the Aniak drainage), and 10 in 19D from various areas.

Management Summary and Recommendations

Aerial hunting has resulted in insignificant wolf harvests in Unit 19 except during 1978-79, the 1st season that aerial permits were issued. Although several administrative details were relaxed in 1981-82, few permittees hunted wolves. Because of high fuel costs, it is unlikely that aerial wolf hunting will result in significant harvests in portions of Subunits 19A and 19D where timber or other situations make hunting difficult. Unfortunately, these are areas where larger wolf harvests are needed. Therefore, Department control in these areas will probably be necessary in the future.

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WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 20

GEOGRAPHICAL DESCRIPTION: Central Tanana Valley

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

Hunting	Aug. 10-Apr. 30	No limit
Trapping	Nov. 1-Mar. 31	No limit

A limited number of aerial hunting permits was available to the public for Subunits 20A, 20B, 20D, and portions of 20C. Permits were valid for 7-day periods, with a bag limit of 5 or 10 wolves, depending on the area.

Population Status and Trend

Wolf numbers varied considerably throughout Unit 20; densities were moderate in Subunit 20A, high in Subunits 20B and 20D, and low in Subunit 20E, following the 1981-82 trapping/hunting season. Current information is not available regarding wolf populations in Subunits 20C and 20F.

Aerial surveys and reports from trappers indicated the following fall 1981 wolf population levels and wolf:moose ratios: Subunit 20A and portions of 20C (130-150, 1:28-32); Subunit 20B (175, 1:17); Subunit 20C (no information); Subunit 20D (100, 1:18); Subunit 20E (160-250, 1:7-10); and Subunit 20F (no information).

Population Composition

Based on sex and age composition data obtained from sealing certificates, females and pups composed 44% and 33%, respectively, of the Unit 20 harvest. Pups are taken in higher proportion than they exist in the population when harvests are by conventional methods (trapping, snaring, and shooting from the ground). However, the proportion of pups taken during the 1980-81 season by conventional means and shooting from the air was similar--31% and 35%, respectively. This strongly suggests that wolf production in Unit 20 has declined from the previous year when 47% of the harvest (all methods) was pups.

Mortality

The reported harvest for the 1981-82 season was 167 wolves (Appendix A), a 35% increase from the previous year. The high

take of wolves by Department personnel in the Mosquito Fork-Ketchumstuk area acccounted for the increased harvest. Realignment of Subunit boundaries in 20B, 20C, and 20D should be taken into account when analyzing harvest and population levels (discussed in the previous section).

Unfavorable weather and poor tracking conditions hampered the effectiveness of public aerial hunting during the 1981-82 winter. In areas approved for public hunting, 31 permittees took 16 wolves.

Management Summary and Recommendations

Subunit 20A

Removal of approximately half of the wolves inhabiting the foothills and mountainous portions of Subunit 20A west of the Wood River allowed moose, sheep, and caribou populations to increase. Recruitment of ungulate prey populations in this area should exceed wolf predation the following year; consequently, wolf reduction efforts by the Department should be suspended for the 1982-83 winter.

The wolf population on the northern Tanana Flats has increased. If predation on moose in this area increases to the extent that the harvest objective cannot be sustained, the wolf populations should be reduced during winter 1982-83.

The wolf population adjacent to the Delta River should be reduced to improve moose calf survival in western Subunit 20D. Public aerial shooting permits should be issued to supplement Department efforts in this area.

Subunit 20B

Although wolf densities are high throughout Subunit 20B, removal of wolves should be directed to areas having the highest potential for satisfying the consumptive demands for moose. These areas (in order of priority) are the following: the middle Chatanika-Chena drainages (excluding the East Fork), lower Salcha drainage, and the lower Tatalina-Chatanika drainages. Public aerial shooting permits should be issued to supplement Department efforts in these areas.

Subunit 20D

Although wolf densities are high throughout most of Subunit 20D, removal of wolves should be directed to areas having the highest potential for satisfying the consumptive demands for moose and caribou. These areas (in order of priority) are the following: eastern portions of the Subunit lying between the Johnson and Robertson Rivers, the area south of the Tanana River between the

Delta and Johnson Rivers, and the Shaw Creek Flats-lower Goodpaster drainage. Public aerial shooting permits should be issued to supplement Department efforts in these areas.

Subunit 20E

Removal of 42 wolves by Department personnel in the Mosquito Fork-Ketchumstuk area adjusted the imbalanced predator-prey ratio so that 1 wolf:30-40 moose should exist by fall 1982. Removal of an additional 10-15 wolves will achieve the desired moose management goal for this area.

Management efforts for the remainder of the Subunit should extend the major wolf removal area to the West Fork Dennison-Ladue River area.

Reliance on aerial hunting techniques will be effective only in years when deep snow prevails well into spring. The utilization of radio-collared wolves in conjunction with trapping and aerial hunting has proved effective in eastern Subunit 20D and portions of Subunit 20E. This technique should be employed in other areas approved for wolf reduction. Persons experienced in trapping, handling, and hunting wolves should conduct trapping operations. Trapping should start as soon as favorable conditions exist in fall and continue through spring.

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APPENDIX A. Unit 20 wolf harvest, 1981-82 regulatory year.

Subunit	Age			Sex			
	Pup	Adult	Unk.	Male	Female	Unk.	Total
Trapping/Sport harvest:							
20A & 20C[a]	4	8	--	9	3	--	12
20B	6	14	6	13	13	--	26
20C	--	9	--	4	4	1	9
20D	6	8	--	7	6	1	14
20E	7	11	--	12	6	--	18
20F	--	2	1	1	2	--	3
Public aerial hunting:							
20A	5	2	--	3	4	--	7
20B	--	--	4	--	--	4	4
20D	1	3	1	2	2	1	5
Departmental harvest:							
20A	5	8	4	7	6	4	17
20B	--	--	2	--	--	2	2
20C	1	2	--	2	1	-	3
20D	--	--	5	--	--	5	5
20E	9	24	9	18	14	10	42
Unit totals	44	91	32	78	61	28	167

[a] Control area.

WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 21

GEOGRAPHICAL DESCRIPTION: Middle Yukon

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

Hunting	Aug. 10-Apr. 30	No limit
Trapping	Nov. 1-Mar. 31	No limit

Population Status

Wolf populations appeared stable in Unit 21. In early February, a warm rain fell on the 2-3 ft snowpack. The resulting ice crust enabled wolves to travel widely, which probably facilitated their ability to hunt effectively. Because of these conditions, coupled with poor success of hunters and trappers, wolf numbers are expected to increase. One of the highest wolf densities of Unit 21 was in the Three-day Slough area, which supports a high moose population.

Mortality

Wolf mortality during this reporting period was low because conditions for aerial hunting and trapping were poor. Only 32 wolves from the Unit were sealed, which is the lowest number recorded since 1977. The take from Subunits 21A and 21D was 11 and 14 wolves, respectively. Area of take for 3 wolves was not specified. The harvest was comprised of 12 adults, 8 pups, and 12 wolves of unknown age. The percentage of pups harvested was similar to that recorded for the 1980-81 season. Sixteen male wolves, 14 females, and 2 wolves of unknown sex were taken during the 1981-82 season.

Hunting conditions were poor throughout the spring, and relatively few wolves were shot. As a result, trapping accounted for 14 of 29 (48%) wolves taken. Normally only 25% of wolves taken are trapped.

Management Summary and Recommendations

The dramatic drop in the wolf harvest, coupled with climatic conditions which favored predation by wolves, should have produced an increase in wolf populations. The numbers of wolves should be monitored in early winter, and control efforts considered if a substantial increase in wolf numbers occurs. The areas which may be the most sensitive to increased wolf predation

are Innoko River, Nowitna River, Yuki River, Three-day Slough, and Kaiyuh Flats.

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WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 22

GEOGRAPHICAL DESCRIPTION: Seward Peninsula

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

Hunting	Aug. 10-Apr. 30	No limit
Trapping	Nov. 1-Apr. 15	No limit

Population Status and Trend

No specific surveys or projects were conducted during the reporting period to determine the population status and trend of wolves within the Unit. However, a general knowledge of wolf density and pack sizes was obtained by biologists conducting aerial moose surveys and from conversations with Unit residents.

During the past 5 years, wolves have been sighted in all of the major drainages on the Seward Peninsula. Wolves in the western portion of Unit 22 appear to travel alone or in small groups, while packs numbering 6-10 are more common in the central and eastern portions. Based on the limited information obtained throughout the past year, there are an estimated 50-100 wolves within the Unit.

Population Composition

No information was available.

Mortality

As in past years, recorded hunting and trapping mortality within the Unit was very low. The reported harvest was 4 animals: 1 male, 1 female, and 2 of unknown sex. Two of these animals were reportedly taken from Subunit 22A between Unalakleet and Shaktoolik, while the other 2 came from Subunit 22B near the village of Koyuk. Three wolves were reported to have been shot, and 1 was trapped.

Although the recorded harvest of 4 animals falls below the average take of 7 animals over the last 17 years, it is consistent with the reported harvest during the past 5 years. Because of the high demand for wolf hides (primarily for ruffs) in rural areas, some wolves were probably harvested and not sealed. Taking the above into consideration, 10-15 wolves were probably harvested within Unit 22 during the reporting period.

Because wolf numbers on the peninsula are low and prey is abundant, mortality from natural causes is thought to be insignificant.

Management Summary and Recommendations

Using information gathered from biologists and local residents, I estimate the population of wolves on the Seward Peninsula to be 50-100 animals. The estimated harvest for the Unit was 10-15 wolves, but only 4 were sealed. Wolves have been reported in all major drainages on the peninsula, but during the past year, all of the recorded harvest came from Subunits 22A and 22B.

The number of reindeer within the Unit has been steadily increasing, and reported instances of harassment of these animals by wolves are becoming more numerous. A single aerial wolf hunting permit was issued to the Reindeer Herders Association during the year but was not used. The Department can probably expect additional requests from reindeer herders for a more active predator control program in the future. Although it is presently questionable whether a predator control program over the entire Unit is necessary, future requests for aerial wolf hunting permits should be considered if reindeer predation can be verified.

As in past years, compliance with State sealing regulations has been minimal. Educational programs and more active enforcement efforts directed toward gaining compliance with sealing regulations are needed if we are to accurately determine the harvest in the future. Steps need also be taken to obtain reliable wolf population estimates, as well as to determine the impact of wolf predation on local ungulate populations.

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WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 23

GEOGRAPHICAL DESCRIPTION: Kotzebue Sound

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

Hunting	Aug. 10-Apr. 30	No limit
Trapping	Nov. 1-Apr. 15	No limit

Population Status and Trend

The results of aerial surveys conducted in March and April 1982 indicate that the number of wolves in Unit 23 is probably no less than Quimby's 1981 estimate of 476, and no more than a 1977 estimate of 720 (R. Stephenson, unpubl. data). These estimates correspond to average densities of 1 wolf/97 mi^2 and 1 wolf/64 mi^2, respectively. The wolf population is probably increasing because the caribou population has been increasing dramatically during the past 6 years, and because the level of human harvest during the same period has been relatively low.

Population Composition

Aerial surveys were conducted in March and April 1982 for the purpose of estimating the density of the wolf population in Unit 23. Portions of the Wulik, Kivalina, Noatak, Kobuk, and Selawik drainages were surveyed. Poor weather and/or poor snow-tracking conditions precluded the development of a density estimate comparable in quality to estimates derived from 1981 and 1977 surveys. The 1982 data, however, did provide some useful indications of the numerical trend of wolves in Unit 23.

Combined data from the Wulik-Kivalina and Agashashok-Eli (Noatak drainage) surveys, where caribou were numerous, suggest a density of 1 wolf/76 mi^2. In the Ambler River drainage (Kobuk drainage), an area of moderate numbers of caribou, the estimate was 1 wolf/55-92 mi^2. An estimate of 1 wolf/325 mi^2 was derived from the Nimiuktuk-Kaluktavik (Noatak drainage) survey, where caribou were scarce.

Last year Quimby (1982) reported a density of 1 wolf/90 mi^2 for 85% of Unit 23, and 1 wolf/150-200 mi^2 for the remaining 15%, resulting in an estimate of 476 wolves. Quimby (pers. commun.) believed his figures were a minimum and probably underestimated the actual density. In 1977, a density of 1 wolf/64 mi^2 for a

total of 720 wolves in Unit 23 was reported (R. Stephenson, unpubl. data). He thought these values overestimated the actual number of wolves. I conclude that, as of spring 1982, the density of wolves in Unit 23 was at least as high as in 1981, but perhaps not as high as in 1977.

There is reason to believe that the wolf population may be increasing. The Western Arctic Caribou Herd has undergone dramatic growth during the past 6 years, and it may be assumed that a corresponding increase in availability of caribou as prey for wolves has occurred. In addition, it is doubtful that hunting and trapping mortality have been high enough to prevent an increase in the wolf population. Interestingly, several pilots, trappers, or other members of the public expressed the belief that wolves seemed to be more numerous during winter 1981-82 than during the past several years. This suggests that the number of wolves in Unit 23 may increase significantly in the next few years, and that the increase may already be underway.

Mortality

The total reported harvest of wolves in GMU 23 during the 1981-82 season was 17, including 10 males and 7 females. Twelve adults, 2 pups, and 3 wolves of unknown age were reported on sealing certificates. The sample is too small to reveal anything about the sex or age structure of the population.

Rumors of unreported harvest suggested that about 25 additional wolves were taken. Noncompliance with the wolf-sealing regulation by local users is a reoccurring problem. I think there is a widespread belief among local users of the wolf resource that sealing requirements pertain only to pelts shipped out of the local region. Because most wolf pelts are used locally, the result is a significant unreported harvest.

The total of both the reported harvest and the suspected unreported harvest, 42, is substantially lower than the 1980-81 harvest of approximately 70 wolves. The probable explanation is that poor snow conditions hindered the use of snowmachines and airplanes.

The 1981-82 estimated harvest of 42 wolves appears to be well below the sustained yield. This conclusion is based on the assumption that at least 476 wolves were present, and that sustained yield is 25% (Keith, In Press). Thus, 1981-82 was the 5th consecutive season in which the harvest was apparently below sustained yield, i.e., below the level at which the wolf population would begin to decline. Two things would probably have to occur to alter this trend. First, the pattern of weather and snow conditions would have to be more conducive to the use of snowmachines and airplanes. Second, the price of wolf pelts would have to increase substantially to offset the increasing costs of transportation and equipment used to hunt and trap wolves.

Management Summary and Recommendations

The wolf population in Unit 23 is secure at its present estimated level of 476-720. There are indications that the population is increasing. The level of human harvest appears to be below the growth potential of the wolf population.

The Information and Education program in Unit 23 should include an effort to inform local hunters and trappers about the Department wolf-sealing requirement. Increased enforcement effort may also be required. The wolf survey technique used in 1977, 1981, and 1982 should be evaluated for its applicability to the unique conditions which exist in Unit 23, and in northwest Alaska in general. Significant future growth of the wolf population is anticipated, so it seems advisable, especially from the standpoint of potential impact on the Western Arctic Caribou Herd, to conduct aerial surveys of wolves on an annual basis.

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WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 24

GEOGRAPHICAL DESCRIPTION: Upper Koyukuk River Drainage Above Dulbi River

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit:

Hunting	Aug. 10-Apr. 30	No limit
Trapping	Nov. 1-Mar. 31	No limit

Population Status and Trend

No wolf surveys were conducted in Unit 24 during this report period. Based on the low harvest, the population should be stable or increasing in the Unit.

Mortality

During the 1981-82 hunting and trapping season, 33 wolves were reported taken, the lowest number since mandatory sealing began in 1971. Conditions for landing aircraft and shooting wolves were very poor with only 2 to 3 days between February and April suitable for tracking from the air. The harvest was comprised of 26 adults, 4 pups (14%), and 3 wolves of unknown age. Assuming the wolves were correctly aged, this represents a dramatic drop from 45% and 43% pups composing the 1980-81 and 1979-80 harvests, respectively. The cause for this decline is unknown. Fish and Wildlife Protection officers suspect that 3 aerial hunters, operating during spring 1981, took 100 or more wolves in Unit 24 that were never sealed or attributed to other Units. It is possible that a large harvest concentrated in a small area drastically reduced production during the 1981 breeding season.

Management Summary and Recommendations

The lack of surveys has hampered our efforts to manage wolves in Unit 24. The low harvest should allow the population to stabilize or increase. However, the very low occurrence of pups could be an indication that recruitment is low and numbers are stable or declining.

Surveys should be conducted to determine status and trend in specific areas.

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WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 25

GEOGRAPHICAL DESCRIPTION: Yukon Flats; Chandalar, Porcupine, and Black Rivers; Birch and Beaver Creeks

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

Hunting	Aug. 10-Apr. 30	No limit
Trapping	Nov. 1-Mar. 31	No limit

Population Status and Trend

No systematic surveys of wolf populations were made in Unit 25 because of a shortage of experienced personnel. Incidental observations made during moose surveys and responses to the Departmental trapper questionnaire indicate that wolves are abundant over most of the Unit, particularly in well-drained uplands.

Mortality

Sealing records provide the only mortality information. These records indicate that 64 wolves were taken during the 1981-82 season (Appendix A). Most were harvested in Subunits 25A (20) and 25B (22).

Comparisons between the 1981-82 harvest and past harvests are difficult to make because Unit boundaries were changed for the 1981-82 season. However, harvest appears to be approximately 15% lower than last year over most of the Unit when individual drainages are compared. Sixty wolves were harvested in 5 major drainages during 1980-81, while 51 animals were harvested in those same 5 drainages during 1981-82.

Most of the harvested animals were adults (34), of which 28 were female. Pups composed 31% (20) of the total take. The most common colors were gray (33) and black (27). Trapping was the most common harvest method (24), followed by snaring (21), and ground shooting (17). Harvest method was unknown in 2 cases.

Management Summary and Recommendations

Wolves appear to be abundant over most of Unit 25, particularly in the well-drained uplands of Subunits 25A, 25B, and 25C. No information is available on population trend, and harvest appears to be lower than last year for most of the Unit.

Systematic aerial surveys should be initiated. To accomplish this, additional pilots and observers should be trained to guarantee the availability of personnel during the short period in late winter when survey conditions are suitable.

Surveys are essential if populations are to be properly managed. Wolf predation may be contributing to poor calf survival and recruitment in moose populations in the upland portions of Subunit 25A. In addition, wolves may be an important factor perpetuating a seriously low moose density in Subunit 25D. Resolution of these potential prey-predator imbalances will require reliable wolf population data.

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APPENDIX A. Unit 25 wolf harvest sex and age composition, 1981-82.

Subunit	Sex			Age			Total
	Male	Female	Unk.	Adult	Pup	Unk.	
25A	9	11	0	12	6	2	20
25B	6	7	9	11	8	3	22
25C	6	3	3	7	5	0	12
25D	2	7	1	4	1	5	10
Unit totals	23	28	13	34	20	10	64

WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 26A

GEOGRAPHICAL DESCRIPTION: Arctic Slope West of the Itkillik River

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

Hunting	Aug. 10-Apr. 30	No limit
Trapping	Nov. 1-Apr. 15	No limit

Population Status and Trend

Aerial surveys conducted in a small portion of Subunit 26A and incidental observations from other portions of the Subunit suggest that 144-310 wolves were present during winter 1981-82. This apparent low population density continues a trend of low wolf numbers on the western North Slope.

Population Composition

The only indication of the sex and age composition of the wolf population in Subunit 26A was information recorded from the reported harvest of 21 wolves. The sex and age composition of these wolves was 9 males (5 adults, 4 pups) and 12 females (6 adults, 5 pups, 1 of unknown age). A sample of 21 animals, however, is too small to give a reliable indication of true population composition.

An aerial survey was conducted in the southeast portion of Subunit 26A during April 1982. The total area covered was 10,044 mi^2. Caribou were numerous in approximately 5,472 mi^2 of the survey area, and the density of wolves there was 1 wolf/54-114 mi^2. The remaining 4,572 mi^2 contained very few caribou, and the density of wolves there was 1 wolf/653-1,524 mi^2. I believe that the latter density applies to much, if not most, of the 53,643 mi^2 in Subunit 26A.

Assuming that the density of 1 wolf/54-114 mi^2 applies to 25% of the area in Subunit 26A and that 1 wolf/653-1,524 mi^2 applied to the remaining 75%, then the estimate of total wolf numbers is 144-310.

Mortality

The total reported harvest in Subunit 26A was 21 wolves. Hunters and trappers residing outside the Subunit killed 20. Only 1

local resident turned in a wolf hide for sealing. Most (at least 13) of the wolves were taken in the Killik River drainage where several thousand caribou wintered. A greater number of caribou wintered farther north along the coastal plain where no wolves were reported taken. Unsubstantiated reports, however, suggest that some wolves were taken by local people residing in coastal communities.

Management Summary and Recommendations

Wolf harvest reporting in Subunit 26A appears to be inadequate. Appropriate education, public relations, and enforcement programs would probably alleviate this problem. The number of wolves taken by local residents, mainly using snowmachines, is poorly understood and may be substantially underestimated. In the interest of reducing apparent excessive mortality on wolves in GMU 26, same-day-airborne ground shooting (under a trapping license) will not be allowed during the 1982-83 season. This ruling, however, will not affect the hunting practices of most local residents, a group whose impact on the very low number of wolves present on the coastal plain is poorly understood. Close monitoring of the wolf population will be necessary to determine whether the restriction on hunters with airplanes is effective, and whether additional hunting and trapping restrictions will be necessary.

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WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 26B AND 26C

GEOGRAPHICAL DESCRIPTION: Arctic Slope East of the Colville and Anaktuvuk Rivers

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

Hunting	Aug. 10-Apr. 30	No limit
Trapping	Nov. 1-Apr. 15	No limit

Population Status and Trend

No wolf population surveys were conducted in Game Management Unit 26. Miscellaneous observations made during Department caribou and sheep surveys and reports from pilots and residents suggest, however, that wolves are present in relatively low numbers in mountainous portions of these Subunits and are becoming increasingly rare to the north. No major change in the population appears to have occurred during the last several years.

Population Composition

No composition surveys were conducted during the period covered by this report. However, a harvest of 15 wolves was reported for Subunits 26B and 26C in 1981-82. These included 8 adult males, 5 adult females, 1 male pup, and 1 female pup. The indicated sex ratio of 1.3 males/female is not unusual in view of the small sample. The indicated occurrence of only 13% pups in the population is very low but may be due to the small sample. The color composition of wolves harvested was 6 blacks and 9 grays.

Mortality

During the 1981-82 regulatory year, 15 wolves were taken in Subunits 26B and C. A few additional wolves may have been taken in these areas but not sealed. Eighty-seven percent (13) of the wolves taken were killed by people residing outside Subunits 26B and 26C.

Management Summary and Recommendations

The wolf population in Subunits 26B and C remains relatively low, even though important prey species such as caribou and sheep have remained stable or increased. It appears that hunting, trapping, and natural mortality factors have kept wolves from increasing.

A new regulation banning the use of aircraft in hunting wolves in Unit 26 should help lessen hunting pressure, which is excessive. No other changes in regulations are recommended at this time. However, if the wolf population does not increase within the next few years or shows signs of further decline, additional restrictions on harvest should be considered.

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WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 9

GEOGRAPHICAL DESCRIPTION: Alaska Peninsula

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

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

Population Status and Trend

No data were available.

Population Composition

No data were available.

Mortality

Seventy-two wolverines (42 males, 20 females, and 10 sex unknown) were reported taken during the 1981-82 season. Twenty-one (29%) wolverines were taken by shooting and 51 (71%) by trapping. Unit 9 wolverine harvest by Subunit was as follows: Subunit 9A (1, 1.4%); Subunit 9B (22, 30.5%); Subunit 9C (6, 8.3%); Subunit 9D (6, 8.3%) and Subunit 9E (37, 51.3%). The 1981-82 harvest was twice that reported during the 1980-81 season but nearly equaled the previous 10-year average of 70 wolverines. The reduction in harvest during the previous reporting period was attributed to unfavorable weather conditions that restricted access.

Since the wolverine sealing program began (1971), the sex ratio of males:females in the harvest has averaged 2.0:1.0. The 1981-82 sex ratio was 2.1:1.0. The predominance of males in the harvest probably reflects their more extensive movements and hence greater vulnerability. Unit 9 1981-82 wolverine harvest chronology was as follows: January (20, 27.8%); February (18, 25.0%); March (10, 13.9%); April-August (no reported harvest); September (1, 1.4%); October (7, 9.7%); November (1, 1.4%); and December (13, 18.0%).

Management Summary and Recommendations

Stability of the harvest and sex ratio, and the continuing predominance of males in the harvest, indicated hunting and trapping pressure for wolverines was relatively low. Annual fluctuations

in harvest may result because of variability in snow conditions which influence trapping success.

No changes in season and bag limit were recommended.

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WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 11

GEOGRAPHICAL DESCRIPTION: Wrangell Mountains

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

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

Population Status and Trend

No data were available.

Population Composition

No data were available.

Mortality

Sixteen wolverines were reported killed in Unit 11 during the 1981-82 hunting and trapping seasons. This harvest was similar to that of last year (13 wolverines killed) but well below the average for the last 11 years ($\bar{x}$ = 28). All 16 wolverines were trapped. The harvest was composed of 11 males and 5 females and was distributed over 5 months, from November 1981 to March 1982. Seventy percent (11 wolverines) were taken in February and March.

Management Summary and Recommendations

There presently are no data available for determining wolverine population changes in Unit 11. There is some evidence to indicate a decrease in trapping effort in this area this past year. Recent changes in land ownership and land use regulations may also be a factor in this decrease. No changes in seasons or bag limits were recommended.

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WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 13

GEOGRAPHICAL DESCRIPTION: Nelchina Basin

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

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

Population Status and Trend

Research in portions of Subunits 13A and 13E indicates that wolverine are distributed throughout these Subunits and seasonally shift their use of the area, probably in response to changes in prey status (Gardner and Ballard 1982). During 1981, densities within the study area ranged from 1/76 km^2 (1/29 mi^2) to 1/143 km^2 (1/55 mi^2).

Population Composition

Very little data on population composition were available. Eight wolverines were captured for radio collaring in 1981 (Gardner and Ballard 1982). Of this total, 6 (75%) were adult males and 2 (25%) were adult females.

Mortality

Sixty-three wolverines were reported killed during the 1981-82 hunting and trapping seasons. This represents a substantial increase in take compared to last year (34 wolverines killed) but a decline from 1979-80 (81 wolverines taken). Of the total harvest in 1981-82, 35 (56%) were males, 27 (43%) were females, and 1 (2%) was unknown. Based on sealing data, the chronology of the 1981-82 harvest was as follows: September (1, 2%); November (5, 7%); December (8, 13%); January (15, 24%); February (8, 13%); and March (26, 41%). Eleven (18%) were taken by ground shooting; 48 (76%) by trapping; and 4 (6%) by undetermined means.

Management Summary and Recommendations

Little data are available for determining wolverine population status in Unit 13. Research over the next few years should provide additional information. Harvest fluctuations in recent years are within an acceptable range. No changes in seasons or bag limits were recommended.

Literature Cited

Gardner, C. L., and W. B. Ballard. 1982. Big game studies. Vol II. Wolverine. Final Phase I Rep. Susitna Hydroelectric Proj. Alaska Dep. Fish and Game. Juneau. 43pp.

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WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 16

GEOGRAPHICAL DESCRIPTION: West Side of Cook Inlet

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

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

Population Status and Trend

No data were available.

Population Composition

No data were available.

Mortality

Thirty-six wolverines (17 males, 16 females, and 3 of unknown sex) were reported harvested. All but 6 were taken in Subunit 16B. This harvest is below the 1971-80 average of 58 wolverines. Trapping was the most common method of take, accounting for 65% of the harvest; ground shooting accounted for the remaining 35%. Seventy percent (25) of the wolverines were taken in February and March.

Management Summary and Recommendations

The below average harvest of wolverines was believed to reflect poor trapping conditions rather than a decrease in wolverine numbers. Little snow accumulation with intermittent periods of warm rainy weather made trapping difficult. Similar weather conditions and a low harvest (38) also occurred the previous year.

No changes in seasons or bag limits were recommended.

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WOLVERINE

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 22

GEOGRAPHICAL DESCRIPTION: Seward Peninsula

PERIOD COVERED: July 1, 1981-June 30, 1982

Season and Bag Limit

Hunting	Sept. 1-Mar. 31	One wolverine
Trapping	Nov. 1-Apr. 15	No limit

Population Status and Trend

Throughout the past year, a limited amount of information on wolverine abundance and distribution was gathered by biologists conducting aerial moose surveys and from hunters and trappers within the area. The Unit 22 wolverine population appears to have remained relatively stable during the past decade. Wolverines were distributed throughout the entire Seward Peninsula, with tracks seen in every major drainage, at all elevations, and in all habitat types. Generally, wolverine numbers were lower near human population centers. This was probably due to the animals' solitary habits and to hunting pressure in those areas.

Population Composition

No information was available during the reporting period.

Mortality

Hunting and trapping accounted for all known mortality of wolverines within the Unit during the past year. The reported harvest, from sealing certificates, was 10 animals. Of those, 6 were males and 4 were females. Two of the animals were shot, 1 was snared, and the remaining 7 were taken with traps. A distribution of the winter harvest of wolverines within Unit 22 is given in Appendix A.

Wolverines were taken in every month from November through March, with the highest harvest occurring in March (4 animals). Warmer weather and longer daylight hours were probable factors responsible for the increased take during that month.

Because of the high demand for ruffs in most of the villages, all of the wolverine hides taken from the Unit during the reporting period were probably not sealed. The actual harvest for the winter of 1981-82 was estimated to be 15-20 wolverines.

Management Summary and Recommendations

Although wolverines are distributed throughout the entire Seward Peninsula, the highest densities appear to occur along the major drainages of Subunits 22A and 22B. During the past decade, minor population shifts may have occurred in response to trapping pressure and changes in prey density; however, the size of the Unit 22 wolverine population probably did not change substantially. Ten wolverines (6 males and 4 females) were reportedly taken within the Unit during winter 1981-82. Although this harvest came from 4 different Subunits, 70% of it was reportedly taken from the Tubutulik and Kwik River drainages. As in past years, most wolverines were harvested in March, probably because of the longer days and warmer weather at that time of year. The estimated harvest for the Unit is 15-20 animals and is significantly higher than the reported harvest because many of the wolverine pelts are kept for use as ruffs.

Our primary management effort is to obtain accurate harvest data. In recent years, sealing agents have been employed in many of the villages to assist hunters and trappers in sealing their furs. However, the accuracy of our harvest data still needs to be improved. Satisfactory compliance with sealing regulations will probably be attained only by increasing public contact in rural areas, by improved enforcement, and by emphasizing the management benefits of a sealing program. The harvest needs to be closely monitored to detect changes in magnitude and methods of take. Because the harvest was low this year and the population appears to have remained stable, the same trapping seasons and bag limits can be retained.

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APPENDIX A. Unit 22 wolverine harvest by Subunit, 1981-82.

Subunit	Drainage	Harvest			% harvest by Subunit
		M	F	Total	
22A	Ungalik	0	1	1	10
22B	Tubutulik	1	2	3	30
22B	Kwik	4	0	4	40
22C	Eldorado	0	1	1	10
22D	Kougarok	1	0	1	10
Totals		6	4	10	100