ALASKA DEPARTMENT OF FISH AND GAME

JUNEAU, ALASKA

STATE OF ALASKA
Bill Sheffield, Governor

DEPARTMENT OF FISH AND GAME
Don W. Collinsworth, Commissioner

DIVISION OF GAME
W. Lewis Pamplin, Jr., Director
Robert A. Hinman, Deputy Director

ANNUAL REPORT OF SURVEY-INVENTORY ACTIVITIES

PART XV. WOLF

Edited and Compiled by
Barbara Townsend, Publications Technician

Volume XVI

Federal Aid in Wildlife Restoration

Project W-22-4, Job 14.0

(Printed June 1986)

CONTENTS


ARCTIC OCEAN
ALASKA
GAME MANAGEMENT UNITS
26
23
25
24
22
22
21
20
13
12
18
19
16
14
11
7
15
17
18
6
5
1
Juneau
9
4
3
10
GULF OF ALASKA
8
2
10
Aleutian Islands

STATEWIDE POPULATION STATUS AND HARVEST OF WOLVES

Game Division staff estimate that the pre-trapping, fall/winter 1984 wolf population in Alaska was between approximately 4,500 and 6,100 animals statewide. Estimates of the number of wolves, number of packs, and the 5-year trend of the status of wolves by game management unit/subunit are given in Table 1. It is important to recognize that these are conservative estimates and that the quality of the estimates varies among the game management units because the information from which the estimates are derived is not comparable from 1 unit to another. Sources of information include aerial surveys, incidental sightings, sealing records, reports from the public, and from other agencies. However, different combinations of information were used in deriving estimates for any given game management unit, so direct comparisons of estimates between 2 or more units should not be made. Finally, population estimates given in Table 1 for any particular game management unit may differ from the estimate given in the report on that unit if the estimates were made for different times of the year. For example, the estimates in Table 1 are, for the most part, fall/winter pre-trapping estimates, while some of the population estimates presented in the following reports are spring, post-trapping estimates.

The statewide harvest of wolves during the 1984-85 regulatory year is estimated to be between 1,042-1,100 animals. At the time this report was prepared, statewide sealing records showed a minimum of 1,042 wolves taken, and hearsay evidence from the public indicates that additional wolves were taken but not sealed. The geographic distribution of the harvest, based on sealing records, is given in Table 2.

Since sealing began in 1971-72, the harvest in 1984-85 has been higher than in the preceding 8 years but lower than during 2 previous seasons, 1974-75 and 1975-76, when harvests exceeded 1,200 animals. Most of the increase in harvest took place in Units 9, 19, and 21, areas of the state which experienced excellent late-winter trapping conditions, especially for those trappers who utilize aircraft and ground shooting as methods of taking wolves. However, such conditions (good snow cover combined with good flying weather) appear to occur only once in 6 to 10 years in those units where this method of take can be used. In units that are heavily forested, have extremely rugged terrain, or routinely have bad flying weather, this method of take cannot be used and the harvests in such areas are less variable from year to year.

The annual estimate of wolf harvest is based on the number of wolf pelts sealed. Because the Department does not have offices or sealing agents in each community in Alaska and because pelts are in high demand locally, particularly for use as ruffs on parkas, some pelts are "home dressed" and put to use with ever being sealed. The number that are taken and not sealed is not known. To overcome this problem, it will be necessary for us to inform people of the importance of harvest information to our wolf management program. It will also be necessary to make it easy for individuals to comply with the sealing requirement, especially in rural areas of the state.

Herbert R. Melchior
Statewide Furbearer Coordinator

Table 1. Estimated statewide wolf population status (pre-trapping season, fall/winter 1984).

GMU/Subunit	Wolf population	Number of packs	5-Year trend
* * * * * * * * * * * * * * * * * Region I * * * * * * * * * * * * * * * * *			
1A	165	23	Stable
1B	36 - 50	6	Stable
1C	72	13 - 15	Stable
1D	20 - 25	4	Stable
2	100 - 150	20	Stable
3	36 - 70	10 - 12	Slightly increasing
4	-0-	-0-	------
5A	20 - 25	4	Stable
5B	10 - 12	2	Stable
Subtotal	459 - 569	82 - 86	------
* * * * * * * * * * * * * * * * * Region II * * * * * * * * * * * * * * * * *			
6	20 - 30	4	Stable
7	35 - 45	4 - 5	Stable
8	-0-	-0-	------
9	135 - 165	14	Stable or slightly increasing
10	15 - 25	2	Unknown
11	100 - 150	12	Stable
13	275 - 285	28	Stable
14	60 - 70	9	Stable
15	150 - 160	14 - 16	Stable
16	40 - 50	6	Stable
17	190 - 240	22	Increasing
Subtotal	1,020 - 1,220	115 - 118	------

GMU/Subunit	Wolf population	Number of packs	5-Year trend
* * * * * * * * * * * * * * * * * *	Region III	* * * * * * * * * * * * * * * * * *	
12	200 - 210	32	Stable
19A	80 - 100	10 - 15	Slightly increasing
19B	60 - 100	8 - 12	Slightly increasing
19C	30 - 50	6 - 7	Stable
19D	90 - 120	14 - 18	Increasing
20A	234	26	Increasing
20B	168	25	Increasing
20C	120 - 140	20 - 25	Stable or slightly decreasing
20D	71 - 80	12 - 13	Stable
20E	195	27	Stable
20F	60 - 100	10 - 15	Stable or slightly decreasing
21A	160	18	Stable or slightly decreasing
21B	60 - 90	8 - 10	Increasing
21C	24 - 40	5	Stable
21D	100 - 120	16	Stable
21E	70 - 90	8 - 10	Stable
24	150	24	Stable
25	500 - 900	60 - 130	Stable or slightly decreasing
26B	20	3 - 4	Increasing
26C	40 - 50	4 - 5	Stable
Subtotal	2,432 - 3,117	336 - 437	------
* * * * * * * * * * * * * * * * * *	Region V	* * * * * * * * * * * * * * * * * *	
18	25 - 50	5	Slightly increasing
22	50 - 150	7 - 20	Slightly increasing
23	350 - 720	65 - 130	Stable to slightly increasing
26A	145 - 310	14 - 30	Stable to slightly increasing
Subtotal	570 - 1,230	91 - 185	------
TOTAL	4,481 - 6,136	624 - 826	------

Table 2. Number of wolves sealed, by Game Management Unit, 1984-85.

GMU	Number sealed
1	38
2	43
3	7
4	--
5	16
6	3
7	5
8	--
9	52
10	--
11	38
12	20
13	127
14	6
15	42
16	18
17	41
18	3
19	112
20	103
21	152
22	12
23	65
24	56
25	69
26	14
TOTAL	1,042

WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNITS: 1A and 2

GEOGRAPHICAL DESCRIPTION: Ketchikan and Prince of Wales areas

PERIOD COVERED: 1 July 1984-30 June 1985

Season and Bag Limit

See Trapping Regulations No. 25 and Fur Animal Hunting Regulation No. 25.

Population Status and Trend

No wolf surveys were flown during the past winter because of poor snow conditions. A large increase in wolf harvest from Prince of Wales Island (Unit 2) occurred this year, while the Subunit 1A harvest declined substantially compared with last year's harvest. The drop in the Subunit 1A harvest was due in part to a lower wolf population. Reasons for the increase in the Unit 2 harvest are unknown.

Mortality

The wolf harvest in Subunit 1A was 15 this year compared with 33 animals last year. The mainland part of the harvest increased to 8 wolves, compared with 5 in 1983-84, while the Revilla Island harvest dropped from 28 last year to 7 this year. Some of the change in harvest on Revilla Island was due to a decrease in trapper effort, but a drop in the wolf population also occurred.

Males composed 40% of the harvest in Subunit 1A. Thirteen percent of the harvest was black; 80% of the animals were classed as the gray color phase. Seventy-three percent of the harvest was taken during the January-March period. Three of the 15 wolves were shot; the rest were trapped.

In Unit 2, the 1984-85 harvest was 43 wolves, which was an increase of 79% compared with 1983-84. Sixty-two percent of the harvest were male and 67% of the wolves taken were gray. Ground shooting and trapping accounted for 21 wolves each. The extensive road system contributed to the high percentage of wolves taken by shooting. Sixty-two percent of the harvest occurred in the December-February period; wolves were taken during every month from August through April.

Management Summary and Conclusions

Wolf pelt prices are poor, and interest in trapping wolves is relatively low. It is unlikely that harvest by humans has any appreciable effect on wolf populations in this area. No changes in seasons or bag limits are recommended.

PREPARED BY:

Robert E. Wood
Game Biologist III

SUBMITTED BY:

Sterling Eide
Regional Supervisor

WOLF

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: 1 July 1984-30 June 1985

Season and Bag Limit

See Trapping Regulations No. 25 and Fur Animal Hunting Regulations No. 25.

Population Status and Trend

Individual sightings by hunters and reports by trappers indicate increasing numbers of wolves on the mainland. Populations appear to be stable in other areas. Because many factors regulate the harvest, trapping success is not a good indicator of wolf population sizes.

On 29-30 December 1984, Mitkof and Kupreanof Islands were surveyed by aircraft for 5 hours and 42 minutes in conjunction with a predator/prey study. Visibility was good with almost 100% snow cover in open areas; 2 observers were present in addition to the pilot. All wolf tracks were followed from 1st sighting until no longer visible. The surveys indicated at least 2 packs of wolves on each island and 2-4 individuals in each pack. No kill sites were observed, and only 1 rendezvous site was located.

Mortality

Nine wolves were taken by trappers and hunters in Unit 3, compared with the 1983-84 harvest of 7. The harvest in Subunit 1B was 10, the same as in 1983-84. Not all wolves taken incidentally by moose and deer hunters are reported. Because wolf hides are not in prime condition in late summer and early fall, hunters may leave the hides in the field and fail to report the kills. The annual Unit 3 wolf harvest has ranged from 9 to 82 animals since 1961 (Table 1). A bounty was paid for wolves from 1962 through 1969 and again from 1973 through 1977.

In Subunit 1B, the sex composition of the harvest was 40% males and 60% females. Eight wolves (80%) were trapped, 1 (10%) was shot and 1 (10%) was snared. One trapper concentrated on wolves and accounted for 6 (67% of all wolves taken in Subunit 1B). Two other individuals took 2 wolves each. The chronology of harvest was as follows: December, 3 (30%); February, 2 (20%); March, 4 (40%); and April, 1 (10%).

In Unit 3, the sex composition of the harvest was 3 males, 5 females, and 1 sex unknown. Two wolves were shot (22%), 6 (67%) were trapped, and 1 (11%) was snared. December was the most successful month with 44% of the harvest, followed by February and March with 22% each. October, with 1 wolf taken, accounted for the remaining 12%. Only 3 individuals submitted more than 1 wolf for sealing.

Management Summary and Recommendations

Interest in wolf trapping is currently low because of the effort and expense involved in trapping. Trapping is a secondary source of income for most trappers. Seasonal occupations such as logging or fishing provide the main source of income for many trappers. "Weekend trappers," as recreational trappers are sometimes called, usually concentrate on smaller furbearers because they are easier to trap and skin and are accessible from the road system. Some conflicts have occurred between trappers for the right to trap certain areas which are easily accessible.

PREPARED BY:

Charles R. Land
Game Technician V

SUBMITTED BY:

Sterling H. Eide
Regional Game Supervisor

Table 1. Wolf harvest for Game Management Unit 3, 1961-85.

Year	No. of wolves
1961-62	18
1962-63	26
1963-64	37
1964-65	27
1965-66	52
1966-67	40
1967-68	82
1968-69	15
1969-70	72
1970-71	33
1971-72	57
1972-73	24
1973-74	27
1974-75	11
1975-76	24
1976-77	15
1977-78	9
1978-79	16
1979-80	17
1980-81	12
1981-82	14
1982-83	16
1983-84	17
1984-85	9

WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 1C

GEOGRAPHICAL DESCRIPTION: Southeast mainland north of Cape Fanshaw to the latitude of Eldred Rock

PERIOD COVERED: 1 July 1984-30 June 1985

Season and Bag Limit

See Trapping Regulations No. 25 and Fur Animal Hunting Regulations No. 25.

Population Status and Trend

The wolf population west of Lynn Canal along the Chilkat Range is believed to be in good condition. Numbers seem to have remained relatively high for the past several years. With a growing and expanding moose population in the area, the wolf population is expected to remain stable. One trapper reported removing 4 wolves from a pack of 8 in Berner's Bay during the past season. Eight wolves were observed while Department staff were conducting an aerial survey for moose in the drainages of Berners Bay in late fall of 1984. The wolves that were reported trapped probably belonged to the pack seen during the survey because color descriptions of individual wolves were the same. Populations for the remainder of the unit have stayed about the same for the past several years.

Mortality

The 1984-85 wolf harvest in Subunit 1C consisted of 9 wolves that were sealed and 1 female wolf that was reported by a trapper but not sealed (Table 1). Sex composition of the harvest was 5 males and 5 females.

The pelt colors were 8 greys and 2 blacks. Of the 10 wolves taken, 4 were shot and 6 trapped. Chronology of the harvest was as follows: 1 wolf was taken in September 1984; 2 in December 1984; 1 in February 1985; 1 in March; 2 in April; and 2 in May. Two wolves were taken in the Chilkat Range, 5 in Berners Bay, and 3 in the area south of Taku Inlet.

Management Summary and Recommendations

No significant changes in trapping pressure were noted compared with the previous year. Wolf population numbers in the Chilkat Range area appear to be high; however, no quantitative information is being collected at this time. Current hunting and trapping regulations are believed to be appropriate.

PREPARED BY:

David W. Zimmerman
Game Biologist II

SUBMITTED BY:

Sterling Eide
Regional Supervisor

Table 1. Wolf trapping and sport hunting harvest in Subunit 1C, and the numbers of hunters and trappers, 1979-85[a].

Season	Number of wolves taken by trappers	Number of trappers	Number of wolves taken by hunters	Number of hunters
1979-80	4	3	0	0
1980-81	5	4	4	4
1981-82	4	4	0	0
1982-83	6	4	0	0
1983-84	6	3	2	2
1984-85[b]	6	3	4	4

[a] Data obtained from sealing documents.

[b] Includes 1 female wolf that was reported taken but not sealed.

WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 1D

GEOGRAPHICAL DESCRIPTION: Upper Lynn Canal

PERIOD COVERED: 1 July 1984-30 June 1985

Season and Bag Limit

See Trapping Regulations No. 25 and Fur Animal Hunting Regulations No. 25

Population Status and Trend

No wolves were observed by Department field staff during the period, and reports from the public do not indicate any change in population trends.

Mortality

Three trappers killed a total of 4 wolves during the report period (Table 1). All animals were gray; all were shot. A male and female were taken from the Taiya River in November, while the other 2 (both males, both gray) came from the Klehini and Tsirku drainages in April and May.

Management Summary and Recommendations

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

PREPARED BY:

W. Bruce Dinneford
Game Biologist III

SUBMITTED BY:

Sterling H. Eide
Regional Supervisor

Table 1. Game Management Unit 1D historical wolf harvest, 1971-85.

Year	Sex composition of harvest			
	Male	Female	Unknown	Total
1971-72	4	4	5	13
1972-73	3	3	3	9
1973-74	8	1	3	12
1974-75	9	5	1	15
1975-76	2	1	0	3
1976-77	7	6	0	13
1977-78	4	0	0	4
1978-79	8	1	0	9
1979-80	5	3	1	9
1980-81	3	2	0	5
1981-82	0	1	0	1
1982-83	3	0	0	3
1983-84	4	2	0	6
1984-85	3	1	0	4
Mean	4.5	2.1	0.9	7.6

WOLF

SURVEY - INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 5

GEOGRAPHICAL DESCRIPTION: Cape Fairweather to Icy Bay, Eastern Gulf Coast

PERIOD COVERED: 1 July 1984-30 June 1985

Season and Bag Limit

See Trapping Regulations No. 25 and Fur Animal Hunting Regulations No. 25.

Population Status and Trend

Wolf population numbers appear to be similar to those of the previous year. More sightings of dead moose were reported in the late February to mid-April period compared with the previous 2 winters. Because of the higher-than-average snowfall (Appendix A) and little melt during February through mid-April, moose kills were more visible in the early spring but probably did not indicate more wolf predation and/or higher wolf numbers.

Mortality

Fourteen wolves were reported taken by 7 trappers during the reporting period. The harvest was composed of 9 males (7 gray, 2 black) and 5 females (4 gray, 1 white). Pack size information was not available for most animals sealed, but in 5 cases the mean pack size was 2.2 wolves (range 1 to 6). Only 1 of 14 wolves taken was trapped; the remainder were shot (most after being spotted aerially). Chronology of the harvest was as follows: September, 1 (7%); January, 5 (36%); February, 6 (43%); March, 1 (7%); and May, 1 (7%). Distribution of the 1984-85 wolf kill was as follows: Alsek River drainage, 5 (36%); Old Situk/Situk River drainages, 3 (22%); Tawah Creek drainage, 2 (14%); Ahrnklin River drainage, 2 (14%); Tanis River drainage, 1 (7%); and East River drainage, 1 (7%). The 1984-85 kill of 14 wolves was the highest on record (Table 1) and exceeded the 1963-84 mean of 6.1. Because harvest records prior to the initiation of the sealing requirement were probably low estimates, the recent years' take may not be a large increase in harvest compared with previous years.

Management Summary and Recommendations

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

PREPARED BY:

W. Bruce Dinneford
Game Biologist III

SUBMITTED BY:

Sterling H. Eide
Regional Supervisor

Table 1. Game Management Unit 5 wolf harvest, 1963-85.

Year	Harvest
1963-64	1[a]
1964-65	4
1965-66	7
1966-67	3
1967-68	6
1968-69	8
1969-70	2
1970-71	10[b]
1971-72	2
1972-73	5
1973-74	2
1974-75	9
1975-76	11
1976-77	7
1977-78	1
1978-79	9
1979-80	11[c]
1980-81	6
1981-82	4
1982-83	11
1983-84	10
1984-85	14
Mean	6.5

[a] Harvest data from 1963-64 through 1970-71 from aerial permits and bounty records.

[b] Harvest data from 1971-72 through 1984-85 from mandatory sealing certificates.

[c] Four wolves were reported taken in addition to the two that were sealed.

APPENDIX A. Historical snowfall records, Yakutat, 1949-85.

Year	Number of days with "x" inches snow on ground					Total Snowfall
	Trace-14	15-29	30-44	45-60	60+	
1948-49	NA	--	--	--	--	241
1949-50	NA	--	--	--	--	122
1950-51	NA	--	--	--	--	193
1951-52	84	35	41	33	3	242
1952-53	138	0	0	0	0	139
1953-54	128	53	7	0	0	190
1954-55	63	70	34	32	6	338
1955-56	83	57	22	30	21	278
1956-57	143	9	0	0	0	181
1957-58	106	2	6	8	1	121
1958-59	111	51	5	4	13	286
1959-60	119	30	23	0	0	246
1960-61	109	14	22	9	0	238
1961-62	119	47	3	6	0	207
1962-63	124	7	6	1	0	129
1963-64	160	25	7	0	0	286
1964-65	120	24	15	5	0	253
1965-66	76	62	22	20	0	219
1966-67	85	48	59	2	5	293
1967-68	115	17	0	0	0	177
1968-69	43	53	70	10	0	237
1969-70	103	5	0	0	0	230
1970-71	98	40	55	0	0	313
1971-72	48	16	21	12	119	317
1972-73	61	44	42	22	0	239
1973-74	65	75	23	0	0	178
1974-75	69	58	35	4	0	327
1975-76	16	80	85	10	0	403
1976-77	83	26	0	0	0	168
1977-78	126	31	2	0	0	124
1978-79	67	55	43	0	0	139
1979-80	101	24	2	0	0	129
1980-81	71	3	0	0	0	71
1981-82	84	81	0	0	0	175
1982-83	100	8	2	0	0	86
1983-84	99	12	0	0	0	136
1984-85	81	30	49	0	0	275
Average	110	41	24	7	6	211

WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 6

GEOGRAPHICAL DESCRIPTION: Prince William Sound, North Gulf Coast

PERIOD COVERED: 1 July 1984-30 June 1985

Season and Bag Limit

See Trapping Regulations No. 25 and Fur Animal Hunting Regulations No. 25.

Mortality

Three wolves, including 2 females and 1 of unknown sex, were killed during this reporting period. Two were taken in Subunit 6A near Icy Bay, and the 3rd was taken along the Rude River in Subunit 6D. Two were shot and 1 was trapped. Age data were not recorded. Only 46 wolves have been killed in Unit 6 since 1963.

Management Summary and Recommendations

Recent harvest records are not believed to reflect wolf population trends in the unit. Hunting and trapping effort for wolves has decreased in recent years due to marginal weather conditions and reduced interest of experienced wolf hunters.

No changes in seasons or bag limits are recommended.

PREPARED BY:

Herman Griese
Game Biologist III

SUBMITTED BY:

Leland P. Glenn
Survey-Inventory Coordinator

WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 7 and 15

GEOGRAPHICAL DESCRIPTION: Kenai Peninsula

PERIOD COVERED: 1 July 1984-30 June 1985

Season and Bag Limit

See Trapping Regulations No. 25 and Fur Animal Hunting Regulations No. 25.

Population Status and Trend

Wolf surveys were flown in conjunction with moose composition surveys over portions of the Kenai Peninsula during November 1984. Additional population data were collected in the northwestern portion of Unit 7 and Subunit 15A during a wolf ectoparasite control program. Population data from remaining portions of Units 7 and 15 were derived from local trappers. Results of these data indicate the early winter wolf population was approximately 200 animals. The average pack size was 10 wolves, unchanged from previous yearly averages. Comparison of wolf population estimates over the past several years suggests the number of wolves on the Kenai Peninsula has remained stable.

Mortality

Forty-seven wolves were killed during the hunting and trapping seasons. The sport harvest comprised 22 males, 24 females and 1 of unknown sex.

Eleven (23%) wolves were taken by ground shooting, 10 (21%) by trapping, and 26 (55%) by snaring. The harvest chronology was as follows: October, 1; November, 4; December, 21; January, 5; February, 12; March, 3; and April, 1. Thirty-four (74%) of 46 wolves reported by color were gray; the remaining 12 (26%) were black.

Management Summary and Recommendations

The sport harvest of 47 wolves suggests that 24% of the early winter population (200 wolves) was killed. At that level of harvest and with pack sizes averaging 10 members, the Kenai Peninsula wolf population is expected to remain stable or increase slightly.

No changes in seasons or bag limits are recommended.

PREPARED BY:

Ted H. Spraker
Area Game Biologist

SUBMITTED BY:

Leland P. Glenn
Survey-Inventory Coordinator

WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 9 and 10

GEOGRAPHICAL DESCRIPTION: Alaska Peninsula and Unimak Island

PERIOD COVERED: 1 July 1984-30 June 1985

Season and Bag Limit

See Trapping Regulations No. 25 and Fur Animal Hunting Regulations No. 25.

Population Status and Trend

Wolves occur throughout Unit 9 and on Unimak Island in Unit 10. Observations recorded by biologists, trappers, and hunters are the only sources of population trend information. Although these reports are not uniform in number or quality, there appears to have been a slight increase in wolf numbers in the region during the past several years.

Mortality

Wolf harvest in Unit 9 has been relatively stable since 1962, averaging 23 wolves annually, until 1984-85 when the harvest increased significantly to 51. This increase in harvest is due to several factors, including increased population size, more effort by hunters and trappers, and ideal weather and snow conditions during March. Sealing records indicate that the number of wolves reported as shot (19) increased slightly compared with previous years while the number trapped (30) increased dramatically. Analysis of sealing records suggests that many of the wolves reported as trapped were probably shot, either legally or illegally, by aerial hunters/trappers. The percentage of harvest taken during March (33%) more than tripled compared with the average for the 5 previous years. The chronology of harvest was as follows: October, 1; November, 5; December, 11; January, 8; February, 9; and March, 17. Three wolves were reported taken from Subunit 9A, 20 from 9B, 7 from 9C, 0 from 9D and 19 from 9E.

Management Summary and Recommendations

Prior to 1984-85, the wolf populations in Unit 9 and on Unimak Island were probably underharvested, with an estimated 15-20% of the population being taken. Given the adequate prey base that exists in this area, wolves could probably sustain a harvest of

approximately 30%. The 1984-85 harvest may have approached this level, but that magnitude of harvest is unlikely to be sustained when spring weather conditions are more normal. Consequently, no changes in seasons or bag limits are recommended.

PREPARED BY:

Richard A. Sellers
Game Biologist III

SUBMITTED BY:

Leland P. Glenn
Survey-Inventory Coordinator

WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 11

GEOGRAPHICAL DESCRIPTION: Wrangell Mountains

PERIOD COVERED: 1 July 1984-30 June 1985

Season and Bag Limit

See Trapping Regulations No. 25 and Fur Animal Hunting Regulations No. 25.

Population Status and Trend

Observations of wolves by Department biologists, coupled with reported sightings by hunters and trappers, suggest wolves are numerous in most of the unit.

Mortality

Thirty-six wolves, including 24 males and 12 females, were reported killed during the hunting and trapping seasons. The chronology of harvest was as follows: November, 9; December, 1; January, 6; February, 12; and March, 8. Of these wolves, 20 were killed by ground shooting, 15 by trapping, and 1 by snaring.

Management Summary and Recommendations

Annual wolf harvests have fluctuated in relation to changes in trapping effort and weather conditions. Wolves are numerous in the northern and western portions of the unit where the Mentasta caribou herd winters. Wolves are also numerous in the lower Chitina Valley in association with sheep, mountain goat, and moose populations. Along the Chitina-McCarthy Road wolves tend to be less numerous because moose numbers are very low and trapping pressure is higher near homesteads.

No changes in seasons or bag limits are recommended.

PREPARED BY:

Robert W. Tobey
Game Biologist III

SUBMITTED BY:

Leland P. Glenn
Survey-Inventory Coordinator

WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 12

GEOGRAPHICAL DESCRIPTION: Upper Tanana and White River drainages

PERIOD COVERED: 1 July 1984-30 June 1985

Season and Bag Limit

See Fur Animal Hunting Regulations No. 25 and Trapping Regulations No. 25.

Population Status and Trend

Based on an aerial survey of the Tetlin National Wildlife Refuge and incidental observations made during ungulate surveys, the wolf population in Unit 12 is estimated to contain approximately 170-190 wolves in 25 packs plus singles. Wolf density is approximately 1 wolf/47 mi^2, and the population is thought to be stable.

Mortality

A harvest of only 12 wolves was reported during the 1984-85 season, a significantly lower harvest than that reported for 1983-84 (23) and 1982-83 (38). The 1984-85 take amounted to only 6% of the population, a biologically insignificant harvest level. Of the 12 wolves reported taken, 6 were trapped, 2 were snared, and 4 were shot from the ground. The harvest was well-distributed throughout Unit 12.

Management Summary and Recommendations

The wolf population in Unit 12 is of moderate to high density compared with other areas in the Interior. Wolf numbers have nearly increased to levels that existed prior to control efforts in northwestern Unit 12. Since Department control efforts were halted, wolf numbers have not been kept at desired levels anywhere in Unit 12 despite annual harvests by the public.

Wolf distribution in Unit 12 is positively correlated with abundance of prey, primarily moose. A combination of wolf and bear predation is directly responsible for declining moose numbers in the Tetlin and Little Tok River drainages. Elsewhere in Unit 12 predation has contributed substantially to the

maintenance of low moose densities. Wolf numbers were significantly greater in Unit 12 during the 1960's and early 1970's prior to dramatic declines in the numbers of their ungulate prey.

For purposes of moose, caribou, and wolf management, wolves should be reduced temporarily to provide for increases in moose and caribou numbers. Following restoration of ungulate populations, wolf populations could be allowed to increase in response to greater food availability. If moose numbers continue to decline, wolf numbers are also expected to decline.

PREPARED BY:

David G. Kelleyhouse
Game Biologist III

SUBMITTED BY:

Jerry D. McGowan
Survey-Inventory Coordinator

WOLF

SURVENTORY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 13

GEOGRAPHICAL DESCRIPTION: Nelchina and Upper Susitna Rivers

PERIOD COVERED: 1 July 1984-30 June 1985

Season and Bag Limit

See Trapping Regulations No. 25 and Fur Animal Hunting Regulations No. 25.

Population Status and Trend

The spring 1985 wolf population estimate for Unit 13 was 125 wolves (post-trapping season). This figure was similar to the 1983 and 1984 population estimates of 135 and 120 wolves, respectively.

Mortality

One hundred and twenty-six wolves were reported killed during the season. This was an increase of 8 wolves over the previous year's harvest of 118. Males composed 53% (67) of the harvest, females 41% (51), and the sex was not reported for 6% (8) of the harvest. Eighty-five wolves were taken by ground shooting, 34 by trapping, 4 by snaring and 3 by unknown methods. The chronology of harvest was as follows: August, 1; September, 1; November, 11; December, 13; January, 4; February, 38; and March, 58.

Management Summary and Recommendations

The spring population estimate was obtained by conducting aerial wolf track surveys. During mid-March, 2 observers flying in fixed-wing aircraft (PA-18) spent 19 hours surveying approximately 20% (3,300 mi^2) of the unit's wolf habitat. All sightings of wolves were recorded. All wolf tracks observed were followed, if possible, until the wolves were sighted or until an accurate estimate of the number of wolves present could be determined. The population estimate for the surveyed area was then extrapolated to the entire unit.

Wolf harvests have been increasing in Unit 13 since 1980. In 1983-84 and again this year, ground shooting was reported as the most successful method of harvest. Good snow conditions during the past 2 years have allowed trappers to land and shoot wolves.

The harvest by humans remains the largest mortality factor for wolves in the unit and is currently controlling population size. In past years, the wolf population has sustained itself and even increased despite heavy harvests. Changes in season dates or bag limits will be recommended if the wolf population declines to a spring population of less than 120-125 wolves.

PREPARED BY:

Robert W. Tobey
Game Biologist III

SUBMITTED BY:

Leland P. Glenn
Survey-Inventory Coordinator

WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 14

GEOGRAPHICAL DESCRIPTION: Upper Cook Inlet

PERIOD COVERED: 1 July 1984-30 June 1985

Season and Bag Limit

See Trapping Regulations No. 25 and Fur Animal Hunting Regulations No. 25.

Mortality

Six wolves, 3 males and 3 females, were reported killed during the 1984-85 trapping season. All animals were taken using either traps or snares. Three wolves were reported taken from the Chickaloon River drainage, and 1 each were taken from the Knik River and Twentymile River drainages. The average harvest for the previous 5 years was 9 wolves.

Management Summary and Recommendations

No changes in seasons or bag limits are recommended.

PREPARED BY:

Michael G. McDonald
Game Biologist II

SUBMITTED BY:

Leland P. Glenn
Survey-Inventory Coordinator

WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 16

GEOGRAPHICAL DESCRIPTION: West side of Cook Inlet

PERIOD COVERED: 1 July 1984-30 June 1985

Season and Bag Limit

See Trapping Regulations No. 25 and Fur Animal Hunting Regulations No. 25.

Mortality

Eighteen wolves were reported killed in Unit 16, with the harvest divided equally between Subunits A and B. The sex of the harvest was 11 males, 5 females, and 2 of unknown sex. The methods of take included 14 killed by ground shooting, 1 by trapping, 2 by snaring, and 1 in which the method of take was not recorded.

Management Summary and Recommendations

Wolves are not abundant in Unit 16 and annual harvest is low. No changes in seasons or bag limits are recommended.

PREPARED BY:

James B. Faro
Game Biologist III

SUBMITTED BY:

Leland P. Glenn
Survey-Inventory Coordinator

WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 17

GEOGRAPHICAL DESCRIPTION: Northern Bristol Bay

PERIOD COVERED: 1 July 1984-30 June 1985

Season and Bag Limit

See Trapping Regulations No. 25 and Fur Animal Hunting Regulations No. 25.

Population Status and Trend

Except in Subunit 17A, general observations during moose and caribou surveys indicate a stable wolf population at moderate to high densities. The population was estimated in February 1985 to be between 190-240 wolves in 22 or more packs. Historically, wolf densities in Subunit 17A have been low. The caribou population located in Subunit 17B has been increasing in recent years, which has had a positive effect on the growth of the wolf population.

Mortality

Preliminary results indicate that 39 wolves, including 14 males, 20 females, and 5 of unknown sex, were killed during this reporting period. All but 2 wolves were taken in Subunit 17B. This was a dramatic increase over last year's harvest of 7 wolves. Chronology of harvest indicates that 13 wolves were taken during March when snow conditions were excellent for trapping throughout the unit. Harvest chronology during other months was as follows: September, 2: November, 3; December, 5; January 8; and February, 5.

Management Summary and Recommendations

Attempts to survey wolves in Subunit 17B, where population size is assumed to be the largest, have been unsuccessful due to poor tracking conditions in recent years. While snow conditions were near optimum for hunting during this reporting period, no period of good tracking conditions lasted more than a few hours due to nearly constant surface winds throughout the winter. Techniques using track counts to estimate wolf abundance will be largely unsuccessful in the northern Bristol

Bay area where wind and snow conditions are generally poor. For this reason an alternate method to census wolves should be explored.

PREPARED BY:

Kenton P. Taylor
Game Biologist III

SUBMITTED BY:

Leland P. Glenn
Survey-Inventory Coordinator

WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 18

GEOGRAPHICAL DESCRIPTION: Yukon-Kuskokwim Delta

PERIOD COVERED: 1 July 1984-30 June 1985

Season and Bag Limit

See Trapping Regulations No. 25 and Fur Animal Hunting Regulations No. 25.

Population Status and Trend

Although wolves remain extremely uncommon throughout Unit 18, sightings by Department of Fish and Game personnel, pilots, and local trappers indicate that at least 2 wolf packs spent the winter in several portions of Unit 18. A pack of 5-7 wolves was observed in the eastern Kilbuck Mountains (near the borders of Units 17 and 19) on several occasions during fall and early winter. Another small pack is believed to have wintered in the northern Andreafsky and Chuilnak Mountains near the borders of Subunits 22A and 21E. Although we did not actually observe this pack, numerous tracks and 2 moose kills were found during late winter and spring 1985. The distribution of wolves appears to reflect the distribution of moose, and both are sighted consistently only in the eastern portion of the unit. Wolves are virtually absent from the vast lowland of the Yukon-Kuskokwim Delta due to a scarcity of moose and other large prey.

No aerial surveys were specifically conducted to determine the population status and distribution of wolves in Unit 18.

Mortality

Conditions for travel by snowmachine were good during much of the trapping season, and trapping pressure on all furbearers, including wolves, was higher than normal. Sealing certificates indicate that 3 wolves were harvested in Unit 18 during the 1984-85 season. Two wolves were reported harvested by Unit 18 trappers on our 1984-85 trapper questionnaire. Because questionnaire results account for roughly 1/4 to 1/3 of the estimated harvest of species for which we have adequate data (such as lynx), the actual wolf harvest may be higher. The domestic demand for wolf pelts is high, and most of the wolves caught are not sold, and thus not sealed.

We received no reports of hunters illegally shooting wolves from aircraft during the current reporting period. In the past, we have occasionally received reports of illegal aerial gunning occurring near Holy Cross and Paimiut Slough. Although the open terrain characterizing much of the unit is ideal for aircraft hunting, the scarcity of wolves effectively discourages such activities.

Management Summary and Recommendations

Wolves continue to remain extremely uncommon throughout Unit 18. Wolves are sighted only in peripheral areas near the northeastern and eastern boundaries of the unit. The low density of ungulates in Unit 18 effectively limits the number of wolves.

Efforts to establish new sealing agents and encourage trappers to seal all wolf pelts should continue. Until compliance with the sealing requirement improves substantially, much of our sealing data are not useful for management purposes. An unconventional, but perhaps effective, approach to the problem would be to use the furbearer sealing program as part of a promotional contest. For each fur sealed, a trapper would gain 1 entry in a unit-wide raffle. The prize could be a commodity such as a snowmachine or rifle. The program would give much-needed public attention to furbearer sealing and to furbearer management in general.

PREPARED BY:

Steven Machida
Game Biologist II

SUBMITTED BY:

David A. Anderson
Survey-Inventory Coordinator

WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 19

GEOGRAPHICAL DESCRIPTION: Upper and middle Kuskokwim River drainage

PERIOD COVERED: 1 July 1984-30 June 1985

Season and Bag Limit

See Fur Animal Hunting Regulations No. 25 and Trapping Regulations No. 25.

Population Status and Trend

An aerial survey of most of Subunit 19D, adjacent portions of Subunits 19C and 21A, and the Stony River drainages in Subunits 19A and 19B was conducted during late March 1985. The wolf population was found to be greater than estimated in nearly all areas. The Upper Kuskokwim Controlled Use Area (UKCUA) in Subunit 19D had at least 10 packs with a fall population of 53-61 wolves. Only 5 wolves were known to have been taken, hence the spring, pre-pupping population was between 48 and 56 wolves. In the remainder of Subunit 19D there were at least 11 packs with a fall population of at least 63 wolves. Of these, at least 18 wolves (3 packs) probably ranged in the UKCUA.

In Subunit 19C between the Subunit 19D boundary and the Alaska Range, 7 packs (at least 38 wolves) probably ranged into the UKCUA. Three other packs (24 wolves) occurred in southern portions of Subunit 19C.

Including 3 wolf packs (24 wolves) from Subunit 21A, the UKCUA is used by 23 packs. The fall 1984 wolf population that used the area numbered at least 134, and the 1985 pre-pupping population numbered at least 102.

In the Stony River drainage there were at least 50-71 wolves (8 packs) in the spring pre-pupping population. There may have been as many as 88-119 wolves (16 packs) during fall until January, when some hunting started.

Population Composition

Information from sealing certificates shows females composed 45% of the population.

Mortality

One hundred ten wolves (59 males, 49 females, and 2 wolves of unknown sex) were reportedly taken in Unit 19 during the 1984-85 season. This was the 2nd highest harvest recorded for Unit 19. Excellent tracking conditions that existed during March, when over half of the wolves were taken, and the large wolf populations that had been lightly harvested (especially during the last 2 years), accounted for the unusually high harvest. Thirty-six hunters and trappers took wolves in Unit 19 during 1984-85. This marked the most interest in harvesting wolves since the early 1970's. Seventy-five percent of the take was by shooting from the ground, 14% by trapping, 3% by snares, and 8% by unknown methods.

Only 5 of the 25 wolves reported taken in Subunit 19A were from areas other than the Stony River drainage. This is similar to the pattern of previous years. Some of the 20 wolves reported taken in the Subunit 19A portion of the Stony River drainage were likely taken in Subunit 19B.

Subunit 19B, especially the Stony River drainage, continued to be the most productive area for wolf hunters. Forty-eight wolves were reported taken in Subunit 19B. Of these, 30 were from the Stony River drainage.

Twenty-six wolves were reported taken in Subunit 19C; 10 of these were from the Farewell area. The remaining 16 were taken from 9 different drainages.

Only 11 wolves were taken in Subunit 19D, 10 of which were taken by shooting from the ground. Six of the wolves were probably from 1 pack.

Management Summary and Recommendations

After 2 years of the lowest wolf harvests on record for Unit 19, the take in 1984-85 was the highest since the mid-1960's when aerial hunting was legal. Large wolf populations were high and the good tracking conditions during March combined to make hunting relatively productive. Relatively few trappers attempted to take wolves with traps or snares.

Wolf surveys during late March, after most of the harvest had occurred, indicated continued high wolf populations in much of Unit 19 and adjacent portions of Subunit 21A. Moose and caribou populations in much of Subunit 19D are very low and appear unable to sustain continued high predation coupled with harvest by humans.

Five wolf packs in Subunit 19D compete directly with hunters for moose and caribou. Wolves in these packs should be radio-collared to determine their effect on moose and caribou populations in this subunit.

PREPARED BY:

Robert E. Pegau
Game Biologist III

SUBMITTED BY:

Jerry D. McGowan
Survey-Inventory Coordinator

WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 20

GEOGRAPHICAL DESCRIPTION: Central Tanana Valley

PERIOD COVERED: 1 July 1984-30 June 1985

Season and Bag Limit

See Fur Animal Hunting Regulations No. 25 and Trapping Regulations No. 25.

Population Status and Trend

A wolf census was conducted on the Tanana Flats portion of Subunit 20A during spring 1985. Between 50 and 64 wolves were estimated to occupy the Tanana Flats. Deep snow was widespread, but in the foothills of the Alaska Range the snow was windblown and hardpacked. Field observations and reports from the public indicate that several packs normally found in the Flats occupied the foothills of the Alaska Range adjacent to the Flats. This may have been due to snow conditions.

After talking with trappers and other members of the public, and reviewing observations of wolves made during moose surveys, it appears that wolf numbers have returned to levels present prior to wolf control in the central portion of Subunit 20B. Wolf control activities during winter 1984-85 removed significant numbers of wolves from 4 packs in western Subunit 20B, but affected a relatively small area and were insufficient to obtain the goal of 1 wolf:50 moose.

No wolf surveys were conducted in Subunits 20C and 20F. However, observations suggest there are few moose per wolf, even though wolf densities are relatively low. Thus, wolf predation on moose is probably keeping moose densities depressed.

Subunit 20D wolf numbers have increased steadily since the large harvest of 1982-83.

Wolves in the southwest portion of Subunit 20E have increased to levels similar to those prior to control efforts in 1980. Wolf numbers in the remainder of Subunit 20E remain stable.

Mortality

During the 1984-85 season 103 wolves were taken in Unit 20 (Table 1), a decrease of 7% from the previous year. Subunits 20C and 20E showed the largest decrease in take. Very little wolf trapping effort occurred in Subunit 20E because the exceptionally high marten population attracted much of the trappers' interest. No reason is known for the reduced wolf harvest in Subunit 20C. Wolf harvest in Subunit 20D remained stable. Subunit 20B had an increase in take, primarily due to removal of 26 wolves from western Subunit 20B by Department personnel. Shooting from the ground and snaring accounted for 56% and 26%, respectively, of the wolves taken by the public (Table 2).

Management Summary and Recommendations

Wolf numbers have increased to levels present prior to control efforts in all of Unit 20 except western Subunit 20B where wolf control is presently being conducted.

Ungulates are far below carrying capacity in Unit 20, and moose numbers will not increase substantially unless wolf numbers decrease. A wolf:moose ratio of 1:50 should be reached and maintained until desired ungulate numbers are reestablished.

Information is needed on wolf pack distribution, territory sizes, and number of animals in packs in Subunit 20C.

PREPARED BY:

Edward B. Crain
Game Technician III

SUBMITTED BY:

Jerry D. McGowan
Survey-Inventory Coordinator

Table 1. Unit 20 wolf harvest, 1984-85.

Subunit	Males	Females	Sex unknown	Total
20A	11	12	0	23
20B	21	19	0	40
20C	3	1	0	4
20D	10	6	2	18
20E	5	5	1	11
20F	4	3	0	7
Total	54	46	3	103

Table 2. Method of take for wolves taken in Unit 20, 1984-85.

Subunit	Ground shooting	Trapped	Snared	Unknown	Department take	Total
20A	16	3	4	0	0	23
20B	7	5	2	0	26	40
20C	4	0	0	0	0	4
20D	2	5	12	0	0	19
20E	10	1	0	0	0	11
20F	4	0	2	0	0	6
Total	43	14	20	0	26	103

WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNITS: 21A and 21E

GEOGRAPHICAL DESCRIPTION: Innoko and middle Yukon drainage

PERIOD COVERED: 1 July 1984-30 June 1985

Season and Bag Limit

See Fur Animal Hunting Regulations No. 25 and Trapping Regulations No. 25.

Population Status and Trend

An aerial wolf survey of the upper Nowitna and upper Innoko drainages was conducted in late March 1985.

On the Nowitna River upstream from Sulukna, there were 9 wolf packs with at least 54 wolves during fall, and 39-41 wolves in the spring pre-pupping population. These wolves preyed on moose along the Nowitna River and on Sunshine Mountain Herd caribou near Meadow Creek.

On the Innoko River upstream from Dishna there were 7 packs with at least 27 wolves in the pre-pupping population. Eight packs (60 wolves) composed the population prior to the hunting and trapping season. Trappers reported another 6 wolf packs (45 wolves) on the Iditarod and middle Innoko Rivers where most hunting occurs. At least 44 wolves constituted the spring pre-pupping population on the middle and upper Innoko drainage.

Population Composition

Nearly equal numbers of males (46) and females (45) were taken in Subunit 21A during the 1984-85 season; in Subunit 21E, 7 males and 5 females were harvested.

Mortality

Ninety-one wolves were reported taken in Subunit 21A by 15 trappers. Most of the take occurred during March (47) and January (26). One wolf was trapped, 4 were snared, and the remainder (86) were shot. Thirteen wolves were taken from 5 of the 9 packs on the upper Nowitna. Most hunting pressure was directed toward wolves on the middle Innoko, which has relatively open terrain and where good hunting conditions existed during spring 1985. Seventy-four wolves were taken from 12 of

the 14 packs in the Innoko drainages of Subunit 21A. Two large packs were eliminated. At the close of trapping season there were 2 packs of 8 wolves each, and at least 9 packs of 2-5 wolves each in the Innoko drainage.

In Subunit 21E, all 12 wolves taken were from the lower Innoko drainage. Nine wolves were shot and 3 were trapped.

Management Summary

Ideal trapping conditions coupled with a high wolf population resulted in a near record take of wolves in Subunits 21A and 21E during the 1984-85 season. The upper Nowitna drainage is difficult to hunt and only 1 of the 5 packs using this area was eliminated. Several packs using the upper Nowitna area during winter 1984-85 preyed on Sunshine Mountain Herd caribou. This pattern is expected to continue, and wolves in the area will probably readily occupy range used by the pack that was eliminated.

Hunters were particularly successful in the middle Innoko and lower Iditarod drainages. During the last 4 years the kill has been 10-74 wolves. These harvest levels have not produced a decline in wolf populations.

PREPARED BY:

Robert E. Pegau
Game Biologist III

SUBMITTED BY:

Jerry D. McGowan
Survey-Inventory Coordinator

WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNITS: 21B, 21C, and 21D

GEOGRAPHICAL DESCRIPTION: Middle Yukon River drainages

PERIOD COVERED: 1 July 1984-30 June 1985

Season and Bag Limit

See Fur Animal Hunting Regulations No. 25 and Trapping Regulations No. 25.

Population Status and Trend

No wolf surveys were conducted during the report period. However, personal observations and discussions with hunters and trappers suggest that wolf packs occupy traditional areas and that pack size is stable. Excellent aerial tracking conditions and good snow cover contributed to a higher than average harvest. The harvest was similar to those of previous years in the northern part of Unit 21.

Mortality

Hunters and trappers reported taking 56 wolves during the 1984-85 season. Conditions were good for using aircraft and snowmachines to hunt wolves. Only 10 wolves were taken with traps or snares. The harvest, by subunit, was: 21B, 5 wolves; 21C, 5 wolves; and 21D, 46 wolves. The harvest comprised 34 males, 21 females, and 1 wolf of unknown sex. Pelage coloration was as follows: 39 grays, 16 blacks, and 1 white wolf.

Management Summary

Wolf populations presently appear stable in Unit 21. With the exception of Subunit 21A, the harvest was equal to the average annual take for the past 7 years. Cooperation by trappers in reporting pack size and location has aided the Department.

PREPARED BY:

Timothy O. Osborne
Game Technician III

SUBMITTED BY:

Jerry D. McGowan
Survey-Inventory Coordinator

WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 22

GEOGRAPHICAL DESCRIPTION: Seward Peninsula

PERIOD COVERED: 1 July 1984-30 June 1985

Season and Bag Limit

See Trapping regulations No. 25 and Fur Animal Hunting Regulations No. 25.

Population Status and Trend

No surveys or research projects were conducted during the past year to specifically determine population status and distribution of wolves within Unit 22. Information on wolf densities and harvest, however, was gathered by biologists conducting other surveys; from a trapper questionnaire; and from local residents. Although wolves appear to be abundant in Subunits 22A and 22B, their density remains extremely low unit-wide. I expect wolves to increase in future years because the unit presently supports a relatively high moose population, reindeer herds are thriving, and caribou (from the Western Arctic Herd) are observed seasonally in large numbers within Subunits 22A and 22B.

Mortality

Harvest information gathered from sealing certificates indicates that 10 wolves (4 males, 5 females, and 1 of unknown sex) were taken during the reporting period. Eight wolves were shot by 3 hunters during January; 1 was trapped in the Koyuk River drainage (Subunit 22B); 2 were reportedly trapped by a single trapper during November in the South River drainage; and 2 were trapped in the Unalakleet River drainage (Subunit 22A).

Harvest information gathered from a trapper questionnaire indicates a much higher harvest than that indicated by sealing certificates. Of the 23 people interviewed, 9 indicated they had harvested a total of 22 wolves during the reporting period. Of these, 12 were reportedly taken within drainages of Subunit 22A, and the remaining 10 were harvested from drainages within Subunit 22B.

Based on the above information and the fact that not all hunters and trappers were interviewed, I estimate the unit-wide harvest of wolves to have been 25-35 animals during the reporting period.

Management Summary and Recommendations

Snow conditions and mild weather (particularly during January through March) generally provided good traveling conditions throughout much of the unit. It appears that Unit 22 trappers do not spend much time actually trapping wolves, because most of the harvest continues to be incidental to other activities (e.g., trapping for other species of furbearers and/or hunting moose or caribou).

Information obtained from the trapper questionnaire indicates that most harvested wolves are retained within the family or sold to other village residents and made into ruffs, mitts, etc. Compliance with wolf sealing requirements within Unit 22 remains very low; most village residents continue to seal only those pelts that are to be tanned or otherwise sold. If we are to increase the reliability of our harvest data we need to promote an active information and education effort and an enforcement program to improve public compliance with sealing regulations. A program also needs to be initiated to improve our understanding of local wolf habits and population dynamics, as well as to determine the impact of wolf predation on local moose and reindeer populations.

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

PREPARED BY:

Robert R. Nelson
Game Biologist II

SUBMITTED BY:

David A. Anderson
Survey-Inventory Coordinator

WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 23

GEOGRAPHICAL DESCRIPTION: Kotzebue Sound

PERIOD COVERED: 1 July 1984-30 June 1985

Season and Bag Limit

See Trapping Regulations No. 25 and Fur Animal Hunting Regulations No. 25.

Population Status and Trend

Trappers responding to the 1985 Unit 23 trapper survey had differing impressions of wolf abundance, depending on the area in which they trapped. Those who trapped in the Noatak River drainage believed that the wolf population was at a medium to high level and that there were more wolves during the 1984-85 season than during 1983-84. Individuals who trapped in the remaining major drainages of Unit 23 believed that wolf numbers were at a medium to low level and that there were fewer wolves during 1984-85 than during 1983-84.

Wolf surveys were not conducted during 1984-85. For this reason, we cannot make definitive statements about the status of the population at this time. However, incidental observations made of wolves and wolf signs during other 1984-85 big game surveys suggest that the population is at or close to its 1983-84 level.

Mortality

Sixty-three wolves were reported harvested from Unit 23 during the 1984-85 season, including 42 males (67%) and 21 females (33%) (Table 1). The reported harvest has remained fairly constant since 1982-83 (Table 1). In addition to the reported harvest, however, a substantial number of wolves are harvested each year and used by local residents for clothing, but are not reported.

Management Summary and Recommendations

Quantitative information on wolf distribution and abundance is needed for Unit 23. The most recent survey of wolves in Unit 23 was conducted in 1980-81. At that time, wolf densities were

estimated to range from 1 wolf/79 mi^2 to 1 wolf/104 mi^2. With this information to build upon, future surveys of a similar nature are needed to establish population estimates and trends. Ideally, a wolf survey would be conducted annually.

Noncompliance with sealing requirements continues to be a problem throughout Unit 23. As a result, reported harvest is undoubtedly substantially lower than actual harvest. The Unit 23 information and education program should include an effort to inform local hunters and trappers of wolf sealing requirements. Additionally, increased enforcement may be necessary to ensure better compliance.

PREPARED BY:

Douglas N. Larsen
Game Biologist II

SUBMITTED BY:

David A. Anderson
Survey-Inventory Coordinator

Table 1. Reported Unit 23 wolf harvest, 1980-85.

Year	Males	Females	Unknown	Totals
1980-81	--	--	--	55[a]
1981-82	10	8	0	18
1982-83	25	19	1	45[b]
1983-84	30	14	3	47
1984-85	42	21	0	63

[a] Original figure was 70, based on an overestimate of records that were, at the time, misplaced.

[b] Erroneously reported as 19 in the 1982-83 S&I report.

WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 24

GEOGRAPHICAL DESCRIPTION: Koyukuk River drainage above Dulbi River

PERIOD COVERED: 1 July 1984-30 June 1985

Season and Bag Limit

See Fur Animal Hunting Regulations No. 25 and Trapping Regulations No. 25.

Population Status and Trend

No wolf surveys were conducted during the report period. However, discussions with hunters and trappers suggest that wolf abundance and distribution are similar to those of previous years. Wolf populations are apparently stable.

Mortality

Hunters and trappers reported taking 61 wolves during the 1984-85 season. Conditions were good for using aircraft and snowmachines for hunting wolves. Only 5 wolves were taken with traps or snares. The harvest comprised 34 males, 25 females, and 2 of unknown sex. Pelage coloration was 44 gray and 17 black wolves.

Management Summary

The wolf population presently appears stable in Unit 24. Harvest was equal to the average annual take for the last 7 years. The lack of funds for surveys has hampered efforts to manage wolves in Unit 24. Cooperation by trappers in reporting pack size and location has aided the Department.

PREPARED BY:

Timothy O. Osborne
Game Biologist III

SUBMITTED BY:

Jerry D. McGowan
Survey-Inventory Coordinator

of Unit 25 wolves is taken, and where development of moose management plans will require knowledge of prey-predator relationships.

PREPARED BY:

Roy A. Nowlin
Game Biologist III

SUBMITTED BY:

Jerry D. McGowan
Survey-Inventory Coordinator

WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 25

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

PERIOD COVERED: 1 July 1984-30 June 1985

Season and Bag Limit

See Fur Animal Hunting Regulations No. 25 and Trapping Regulations No. 25.

Population Status and Trend

No systematic wolf surveys were conducted in Unit 25. However, surveys during past years and recent observations indicate a low wolf density (1 wolf/140-160 mi^2) in Subunit 25D (West) and a relatively high density in the remainder of the unit.

Mortality

Sealing records of the wolf harvest provide the only reliable mortality information. These records indicate 69 wolves were taken, with most harvested in Subunits 25A (36%) and 25D (35%) (Table 1). The most common method of take was ground shooting (52%), followed by trapping (35%) and snaring (13%). Of the total number harvested, sex was determined for 56 animals; 30 (54%) were males and 26 (38%) were females (Table 2). Sixty-two percent of the wolves taken were gray (Table 3), and most of the harvest occurred during December (20%) and March (52%) (Table 4). Total harvest increased by 28 wolves during this reporting period compared with the preceding year. Most of the increase occurred in Subunits 25A and 25D (West). The take was also 13 more than the average annual take of wolves for the past 4 years.

Management Summary and Recommendations

Wolves appear to be abundant throughout most of Unit 25. The exception is Subunit 25D (West), where density is low. No information is available on population trend, and harvest appears to have increased.

Surveys should be conducted in Subunit 25D (East). No information is available from this area where a major portion

Table 1. Method of take for wolves in Unit 25, 1984-85.

Subunit	Ground shooting	Trapping	Snaring	Total
25A	15	7	3	25
25B	6	6	3	15
25C	0	4	1	5
25D (West)	7	1	1	9
25D (East)	8	6	1	15
Total	36	24	9	69

Table 2. Sex of wolves taken in Unit 25, 1984-85.

Subunit	Male	Female	Unknown	Total
25A	14	10	1	25
25B	4	4	7	15
25C	3	2	0	5
25D (West)	2	2	5	9
25D (East)	7	8	0	15
Total	30	26	13	69

Table 3. Pelt color for wolves harvested in Unit 25, 1984-85.

Subunit	Pelt color				Total
	White	Gray	Black	Unknown	
25A	3	14	6	2	25
25B	0	8	6	1	15
25C	0	4	1	0	5
25D (West)	0	9	0	0	9
25D (East)	0	8	5	2	15
Total	3	43	18	5	69

Table 4. Month of take for wolves harvested in Unit 25, 1984-85.

Subunit	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	Total
25A	0	0	3	7	0	0	15	0	25
25B	1	0	1	3	2	3	5	0	15
25C	0	0	0	0	0	3	2	0	5
25D (West)	0	0	2	0	0	1	6	0	9
25D (East)	0	0	1	4	1	0	8	1	15
Total	1	0	7	14	3	7	36	1	69

WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNIT: 26A

GEOGRAPHICAL DESCRIPTION: Arctic Slope west of the Itkillik River

PERIOD COVERED: 1 July 1984-30 June 1985

Season and Bag Limit

See Fur Animal Hunting Regulations No. 25 and Trapping Regulations No. 25.

Population Status and Trend

Wolf population status for most of the western North Slope continues to be unknown at this time. The most recent population estimate was made by D. James who placed the Subunit 26A population at 144-310 wolves during winter 1981-82. This estimate and more recent incidental observations suggest a relatively low population density within the Subunit (1 wolf/173-373 mi^2).

Mortality

The 1984-85 reported harvest in Subunit 26A was 8 wolves. By comparison, 2 wolves were reported taken in 1983-84 and 7 were reported in 1982-83. In 1981-82 (the last season same-day airborne hunting was allowed in the subunit) the reported harvest was 21 wolves.

No information on natural mortality is available for the reporting period.

Management Summary and Recommendation

The actual number of wolves killed by hunters and trappers certainly exceeded the 8 wolves reported on sealing certificates. R. O. Stephenson (pers. commun.) believes that 15-20 wolves were actually taken by hunters from Anaktuvuk Pass, although only 8 were reported, 4 of which were taken from Subunit 26A. The actual harvest from Subunit 26A could easily be 2-3 times the reported harvest.

There are several reasons why the taking of wolves is often not reported in communities on the western North Slope. One is that fur sealing regulations are not actively enforced. Also, fur

sealing does not work very well when pelts are not sent out to a tannery but are processed locally and cut up immediately into ruffs and other clothing items. It is also difficult to locate villagers who are willing to act in the State's interest as fur sealers. People who have accepted these or similar positions have often been regarded with suspicion or hostility by other village residents. In fact, many North Slope residents are suspicious of state government and do not appear willing to recognize the State as having management authority over wildlife on the North Slope.

None of these problems are insurmountable, but they do demand significant allocations of money and personnel time. To date, wolf management has not been assigned a high enough priority in Subunit 26A to justify these costs.

Several strategies should be adopted to resolve these problems. Regarding harvest reporting, the Department of Fish and Game must commit itself to developing a stronger management presence on the North Slope. This requires permanently resolving housing, office, and aircraft facility problems so that Department representatives can spend more time both in the field and working with village residents. The Department must become known and accepted in North Slope communities before an atmosphere of trust and understanding can mature.

Understanding harvest patterns of people who have traditionally been subsistence hunters is basic to management of all species in Subunit 26A, not just to wolves. Development of methods to accurately estimate caribou harvest, presently a high managment priority, should eventually aid in the development of methods to estimate wolf harvest.

Harvest estimation requires public understanding and participation, and is a problem with social, cultural, and political aspects that are well outside the province of traditional wildlife biology. Developing harvest estimates will require close coordination with Subsistence Division.

Accurate harvest accounting will most likely occur on a routine basis when someone living in each community is hired to collect harvest data on wolves and other species. If this individual could sell licenses and perform other nonregulatory functions, both the Department and the community would benefit. Villagers would be dealing with a familiar person with job-related responsibilities to the Department. Employment could be on a part-time basis, and these positions could be coordinated and contracted through regional municipal goverment such as the North Slope Borough.

The highest priorities for wolf management in Unit 26A are development of reliable and valid means of assessing the harvest, and establishment of a routine method for monitoring changes in wolf abundance. No changes in seasons or bag limits are recommended at this time.

PREPARED BY:

John N. Trent
Game Biologist III

SUBMITTED BY:

David A. Anderson
Survey-Inventory Coordinator

WOLF

SURVEY-INVENTORY PROGRESS REPORT

GAME MANAGEMENT UNITS: 26B and 26C

GEOGRAPHICAL DESCRIPTION: Arctic Slope east of and including the Itkillik drainage and east of the Colville River

PERIOD COVERED: 1 July 1984-30 June 1985

Season and Bag Limit

See Fur Animal Hunting Regulations No. 25 and Trapping Regulations No. 25.

Population Status and Trend

Wolf numbers in Subunit 26B have increased since the late 1970's, but still remain low relative to available prey. Recent population trends in Subunit 26C are less well-known. Current populations are probably 15-25 wolves in Subunit 26B and 25-30 in Subunit 26C.

A radiotelemetry study conducted by the U. S. Fish and Wildlife Service in the Arctic National Wildlife Refuge (ANWR) indicates that some wolves follow the migratory Porcupine Caribou Herd into and out of Subunit 26C. Wolves collared in Subunit 26C have dispersed into the Yukon Territory, Subunit 26B, as far west as the Selawik River in northwestern Alaska, and as far south as the Yukon Flats. Pack structure is unstable, possibly due to high mortality. A combination of dispersal, hunting, and disease (rabies and distemper) removed 11 of 18 wolves collared in ANWR between April 1984 and April 1985. No dens known to be occupied in 1984 were used in 1985, but 4 new dens were located in 1985. The population estimates in both years were similar, however, suggesting that immigration and productivity offset dispersal and mortality.

Mortality

Two wolves were reported shot in Subunit 26B. No wolves were sealed from Subunit 26C, but 3 (2 with collars) are known to have been shot by Kaktovik residents.

Three wolf carcasses collected from Subunit 26B (2 with radio collars) tested positive for rabies, as did 2 from Subunit 26C (both with radio collars).

Additional unreported mortality is probably the result of harvest by Nuiqsut residents, shooting from the Dalton Highway, and aerial hunting. Shooting from aircraft as well as landing and shooting are prohibited in all of Unit 26, but these activities still occur.

Management Summary and Recommendations

Subunit 26B could presently support more wolves, as it has in the recent past. The situation may be different in Subunit 26C, where there are few resident caribou and the winter prey base for wolves is relatively low. Dispersal and disease may be limiting population size in Subunit 26C. Nevertheless, harvest still removes many wolves from Subunit 26C and is probably limiting wolf numbers in Subunit 26B.

Reducing illegal harvest in an area as remote as the North Slope is difficult. Removal by U. S. Fish and Wildlife Service of an illegal hunting camp in ANWR has probably contributed to the recent recovery of wolf numbers in Subunit 26B, but spring hunting of wolves from snowmachines remains a problem at Kaktovik and possibly at Nuiqsut. Local demand for pelts is high, and ease of travel by snowmachine, the long daylight, and the good snow conditions of April make wolves particularly vulnerable. Taking of pregnant females after the March breeding season can greatly affect productivity.

Information and education programs are needed in Unit 26 to reduce illegal wolf harvest, including the widespread use of snowmachines to run down wolves. Regulations to reduce the season or to impose a bag limit should be considered and discussed with local advisory committees. The importance of reporting harvest and the legal requirement to seal hides should also be stressed.

PREPARED BY:

Kenneth R. Whitten
Game Biologist II

SUBMITTED BY:

Jerry D. McGowan
Survey-Inventory Coordinator