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FURBEARERS

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STATE OF ALASKA
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Project Title: **Southeast Furbearer Population Management**

Project Location: Unit 1A (5000 mi^2)
Ketchikan area including mainland areas
draining into Behm and Portland Canals

Project Objectives and Activities

- Regulate seasons and bag limits to maintain viewable and harvestable populations of furbearers.
- Seal beaver, marten, otter, lynx, and wolverine pelts as they are harvested and presented for sealing.
- Contact reliable observers for general information regarding status and trends of furbearer populations, including the use of an annual trapper survey.

Work Accomplished During the Project Segment Period: We sealed furbearer pelts submitted by trappers. We obtained anecdotal information about the status of furbearer populations from conversations with hunters and trappers and more formal information through a trapper survey.

Progress Meeting Project Objectives: The following numbers of furbearers were harvested from Unit 1A during this report period:

Species	Harvest
Beaver	36
Marten	222
Otter	131
Wolverine	1

Unit 1A beaver harvests were 40% higher than last season, marten harvests 3% higher, and otter harvests by 52%. One wolverine was caught in Unit 1A, compared to none last season.

Project Location: Unit 1B (3000 mi^2)
Southeast Mainland from Cape Fanshaw to Lemesurier Point

Project Objectives and Activities

- Regulate seasons and bag limits to maintain viewable and harvestable populations of furbearers.
- Seal beaver, lynx, marten, otter, and wolverine pelts as they are presented for sealing.

- Contact reliable observers to collect general information about the status and trends of furbearer populations, including the use of an annual trapper survey.

Work Accomplished During the Project Segment Period: During the sealing process we gathered anecdotal information from trappers. We mailed the 1999–00 trapper questionnaires to area trappers and will compile data when questionnaires are returned.

Trapper questionnaire results indicate that heavy snowfall influenced trapper effort and success during the 1998–99 season. Frequent snowfall and persistent snow cover made access and keeping traps open difficult. Winter mortality of deer and moose, due to food shortages and conditions favorable to predation by wolves, may have benefited marten and wolverine survival and reproduction by enhancing food supplies. Marten populations probably remained high and the 1999–00 harvest nearly equaled the high harvest of 1998–99. The wolverine harvest doubled in 1999–00.

Progress Meeting Project Objectives: The following numbers of furbearers were harvested during this report period:

Species	Harvest
Beaver	4
Marten	353
River otter	13
Wolverine	18

Due to remoteness from easy access points, most of Unit 1B is not trapped. Seventeen trappers sealed furbearers from Unit 1B during the report period. The beaver harvest increased from 0 to 4 and the otter harvest was identical to that of 1998–99. The marten harvest was nearly identical to the previous year's harvest, but the wolverine harvest increased 50%. We believe the noted changes in harvest numbers reflect changes in trapper effort and/or weather conditions.

Project Location: Unit 1C (7600 mi^2)
Southeast mainland and the islands of Lynn Canal and Stephens Passage between Cape Fanshaw and the latitude of Eldred Rock, including Sullivan Island and the drainages of Berners Bay

Project Objectives and Activities

- Regulate seasons and bag limits to maintain viewable and harvestable populations of furbearers.

- Seal beaver, lynx, marten, otter, and wolverine pelts as they are presented for sealing.

- Contact reliable observers to collect general information about the status and trends of furbearer populations, including the use of an annual trapper survey.

Work Accomplished During the Project Segment Period: We collected harvest data through the mandatory sealing process and used a trapper questionnaire to gain additional information regarding target species abundance, prey abundance, and trapping patterns and conditions.

Progress Meeting Project Objectives: Trappers sealed 36 beavers, 173 martens, 7 otters, and 4 wolverines. This compares to the previous report period of 7 beavers, 267 martens, 13 otters, and 6 wolverines. Differences in the harvest from the previous year probably reflect changing trapper effort and not furbearer population levels. For instance, the decrease in marten and wolverine harvests are due largely to the absence of effort by a single trapper. Through the use of trapper questionnaires, we will continue to examine fluctuations in fur harvest in future years.

Species	Harvest
River otter	7
Marten	173
Beaver	36
Wolverine	4

Project Location: Unit 1D (2700 mi^2)
Southeast mainland north of the latitude of Eldred Rock, excluding Sullivan Island and the drainages of Berners Bay

Project Objectives and Activities

- Regulate seasons and bag limits to maintain viewable and harvestable populations of furbearers.
- Seal beaver, lynx, marten, otter, and wolverine pelts as they are presented for sealing.
- Contact reliable observers to obtain general information about the status and trends of furbearer populations, including the use of an annual trapper survey.

Work Accomplished During the Project Segment Period: We collected harvest data through the mandatory sealing process. A trapper questionnaire was used to gain additional information regarding target species abundance, prey abundance, trapping conditions, and trapping patterns.

Progress Meeting Project Objectives: Trappers harvested 61 martens, 0 lynx, 1 otter, and 2 wolverines during this report period. The weather was more moderate than in the previous year, and this may be reflected by the increased harvest for all furbearer species in Unit 1D except lynx. The marten harvest increased by nearly one-third from the previous year. The percentage of female martens in the harvest also increased slightly, from approximately 25% in the previous 3 years to one-third for this report period. Two permits were issued under (5 AAC 92.041) to control damage to property by beavers, and 10 animals were harvested and turned in for sealing. Because of the increasing number of calls concerning damage by beavers and the fact that beavers are well established in Unit 1D, the department will be submitting a proposal at the fall 2000 Board of Game meeting to open a beaver trapping season in Unit 1D.

Species	Male	Females	Total Harvest
Beaver			10
Lynx			0
Marten	21	40	61
Otter	1	0	1
Wolverine	1	1	2

Project Location: Unit 2 (3900 mi^2)
Prince of Wales and adjacent islands south of Sumner Strait and west of Kashevarof Passage and Clarence Strait

Project Objectives and Activities

- Regulate seasons and bag limits to maintain viewable and harvestable populations of furbearers.
- Seal beaver, marten, otter, lynx, and wolverine pelts as they are harvested and presented for sealing.
- Contact reliable observers to collect general information about the status and trends of furbearer populations, including the use of an annual trapper survey.

Work Accomplished During the Project Segment Period: We sealed furbearer pelts submitted by trappers. We also obtained anecdotal information about the status of furbearer populations from conversations with hunters and trappers, and we collected more formal information through our trapper survey.

Progress Meeting Project Objectives: The following numbers of furbearers were harvested from Unit 2 during this report period:

Species	Harvest
Beaver	309
Marten	752
Otter	193

Unit 2 beaver harvests were 76% higher than last year, marten harvests were up 22%, and otter harvests were down 32%.

Project Location: Unit 3 (3000 mi^2)
All islands west of Unit 1B, north of Unit 2, south of the
centerline of Frederick Sound, and east of the centerline of Chatham Strait

Project Objectives and Activities

- Regulate seasons and bag limits to maintain viewable and harvestable populations of furbearers.
- Seal beaver, lynx, marten, otter, and wolverine pelts as they are presented for sealing.
- Contact reliable observers to obtain general information about the status and trends of furbearer populations, including the use of an annual trapper survey.

Work Accomplished During the Project Segment Period: During the sealing process we gathered anecdotal information from trappers. The 1999–00 trapper questionnaires were mailed to area trappers, and data will be compiled when questionnaires are returned.

Results of the 1998–99 trapper questionnaire indicate that heavy snowfall influenced both trapper effort and success last season. Frequent snowfall and persistent snow cover made both access and keeping traps open difficult. These factors contributed to the 28% reduction in the Unit 3 marten harvest during 1999–00.

Progress Meeting Project Objectives: The following numbers of furbearers were harvested from Unit 3 during this report period:

Species	Harvest
Beaver	43
Marten	160
River otter	41
Wolverine	0

Due to remoteness from easy access points, most of Unit 3 is not trapped. Forty-five trappers sealed furbearers from Unit 3 in 1999–00. The beaver harvest increased 19%, the otter harvest increased 20%, and the marten harvest decreased by 28% compared to harvests in 1998–99. No wolverines were taken in Unit 3 during the 1999–00 season. We believe the changes in harvest reflect changing trapper effort and weather conditions rather than changes in population levels.

Project Location: Unit 4 (5800 mi^2)
Admiralty, Baranof, Chichagof, and adjacent islands

Project Objectives and Activities

- Regulate seasons and regulations to maintain viewable and harvestable populations of furbearers.
- Seal harvested beaver, marten, and river otter as they are presented for sealing.
- Contact reliable observers to obtain general information about the status and trends of furbearer populations, including the use of an annual trapper survey.
- Enlist and maintain sealing agents in villages in an effort to assure timely sealing and reporting of harvested furbearers.

Work Accomplished During the Project Segment Period: Marten, beaver, and river otter were sealed within 30 days of the close of respective trapping seasons. We examined furs at sealing, and collected data regarding sex and age classes of the harvest. The annual trapper survey was conducted from the Fairbanks office, and we analyzed harvest data by species. Unit 4 trappers donated 25 river otter, 72 mink, and 220 marten carcasses taken during the 1999–00 trapping season that were necropsied to obtain sex and age ratios. Canines from river otter were extracted and submitted for cementum analysis, and findings will be contained in subsequent reports. Small mammal snaptrap lines were sampled in an effort to gather annual abundance indices for predicting marten abundance and recruitment.

Progress Meeting Project Objectives: Harvest of furbearers does not readily reflect population trends or relative abundance. Pelt prices have recently declined, and trapper effort has correspondingly diminished. During the 1999–00 regulatory year, 1132 martens and 109 river otters were sealed. Marten harvest increased significantly from the previous year, probably due in large part to population increases brought about by increased food availability due to deer mortality during winter 1998–99. The river otter harvest was down slightly. Beaver populations are limited to a few areas in Unit 4, and harvest appears negligible. Harvest of mink is difficult to enumerate as there is no sealing requirement, but local trappers suggest that populations appeared depressed. There is no indication that trapper harvest has depressed furbearer populations in the unit. We mailed trapper questionnaires out and tabulated responses, providing indices to abundance of various furbearer species. All project objectives were met during this reporting period.

Species	Males	Females	Unknown	Total
River otter	68	41	0	109
Marten	728	396	8	1132
Beaver	0	0	2	2

Project Location: Unit 5 (5800 mi^2)
Cape Fairweather to Icy Bay, eastern Gulf Coast

Project Objectives and Activities

- Regulate seasons and bag limits to maintain viewable and harvestable populations of furbearers.
- Seal beaver, lynx, marten, otter, and wolverine pelts as they are presented for sealing.
- Contact reliable observers to collect general information about the status and trends of furbearer populations, including the use of an annual trapper survey.

Work Accomplished During the Project Segment Period: Staff sealed furs in Yakutat. We analyzed harvest from furbearer sealing certificates.

Progress Meeting Project Objectives: Commercial Fisheries Division staff in Yakutat sealed furbearers as they were presented at the ADF&G office. Residents of Yakutat as well as nonlocal outdoorsmen contributed anecdotal information concerning sighting of furbearers. Trappers harvested 8 beavers and 1 wolverine. There were no marten or otter harvested during this report period. Differences in the harvest from the previous year are probably reflective of changing trapper effort and not furbearer population levels. For example, the most prolific trapper over the past few years did not trap during this report period.

Species	Harvest
River otter	0
Marten	0
Beaver	8
Wolverine	1

Segment Period Project Costs:

	Personnel	Operating	Total
Planned	25.9	7.0	32.9
Actual	26.8	3.0	29.8
Difference	-.9	4.0	3.1

Submitted by

Bruce Dinneford
Management Coordinator

Project Title: **Southcentral Alaska Furbearer Management**

Project Location: Unit 6 (10,150 mi^2)
Prince William Sound and north Gulf Coast

Project Objectives: Develop measurable objectives for all furbearer species throughout the region.

Work Accomplished During the Project Segment Period: Appointed sealers and ADF&G staff sealed 197 pelts (72 beavers, 46 otters, 70 marten, and 9 wolverines) during 1999–00. Trapping effort was hampered by severe weather during December and January. This was the first regulatory year of sealing marten.

Progress Meeting Objectives: Population objectives have not been established for furbearer species. Progress toward establishing objectives was limited by lack of efficient methods to estimate populations and insufficient funding.

Project Location: Units 7 and 15 (8400 mi^2)
Kenai Peninsula

Project Objectives: Develop measurable objectives for all furbearer species by 2000.

Work Accomplished During the Project Segment Period: The Kenai Peninsula has a diverse complement of furbearers that includes all commonly recognized Alaskan furbearers except arctic fox, flying squirrels, and ground squirrels. The distribution and density of red fox and marten are limited on the Kenai. Red fox were abundant before 1930 according to longtime Kenai residents; however, red fox quickly disappeared as coyotes established and rapidly increased during the 1930s. Marten are moderately abundant in Unit 7 but are rare in Unit 15. Since Marten have never been common in Unit 15, it is suspected that habitat rather than human-induced mortality controls their distribution on the Kenai. Beaver, land otter, wolverine, lynx, coyote, mink and weasel are throughout the Kenai Peninsula at varying densities, dependent upon habitat quality or prey abundance.

Harvested marten, beaver, land otter, wolverine and lynx must be reported to the department within a specified period of time for sealing. Sealing documents for these furbearers indicate the following harvests by unit were reported in 1999–00:

Unit	Marten	Beaver	Land Otter	Wolverine	Lynx
7	63	62	8	10	16
15	0	90	33	3	128
Total	63	152	41	13	144

Units 7 and 15 were opened for trapping lynx from January 1 to February 15 in 1999–00. The reported harvest revealed 16 lynx taken in Unit 7, 83 in Subunit 15A, 14 in 15B, and 31 in 15C. The harvest comprised 29 kittens (21%), 112 adults, and 3 of unknown sex and age. Sex

composition of the harvest was 75 (52%) males, 66 (46%) females, and 3 (2%) of unreported sex.

Lynx and hare populations on the Kenai Peninsula (Units 7 and 15) may be near their peak. The last hare population high was 16 years ago in 1984. Hare numbers are higher than they have been since 1984 in most areas of the peninsula with a noticeable increase in the spring of 1999. Lynx harvest for 1999–00 was 144, compared with 154 in 1998–99 and 145 in 1997–98. However, the percentage of kittens in the harvest dropped from 37% in 1997–98 to 20% in 1998–99 and 21% last season. Preliminary examination of 141 lynx carcasses taken by trappers in 1999–00 from Units 7 and 15 indicated a ratio of 114 males/100 females. Of 18 females older than kittens, 10 (56%) were pregnant with an average of 2.6 placental scars. These figures are lower than those for 1997–98 when 14 (88%) of 16 were pregnant with an average of 4.4 placental scars.

Mink, weasel, muskrat, red fox, squirrel, marmot, and coyote are also harvested on the Kenai; however, sealing is not required for this species. Catch reports from trapper questionnaires indicate that harvest of these furbearers was comparable to harvests in past years.

The Board of Game adjusted several furbearer seasons during their spring 1997 meeting to make seasons on the Kenai consistent across subunits. Beaver, wolf, and coyote seasons are now November 10–March 31; otter, wolverine, and fox seasons are November 10–February 28. Mink, weasel, and marten seasons are November 10–January 31; muskrat is November 10–May 15, and squirrel and marmot have no closed season.

Progress Meeting Objectives: Furbearer populations on the Kenai provide benefits to a diverse group of resource users including both nonconsumptive and consumptive interests. However, due to low funding and lack of staff, we are not meeting objectives for furbearer management. Lynx and beaver censuses have been conducted in small study areas and will possibly be extended to estimate densities by subunits in the future.

Current monitoring of harvests from sealing and reports from trappers suggest all furbearers are in harvestable numbers and populations are stable except lynx, which may have reached its peak population size in 1998–99. The lynx population declined during the late 1980s and started to increase in 1995. This increase was widespread enough to allow a January 1–February 15 season in Units 7 and 15 between 1997 and 2000. Although the harvest remained moderately high, the 2-year reduction in percentage of kittens and placental scars in adult females indicate the season should be reduced to achieve the objectives of the tracking strategy management principles. The season recommended for 1999–00 is January 15–February 15.

The beaver trapping season has been extended on Kenai Peninsula twice in the past decade. The recent increase, opening the season November 10 instead of December 1, resulted in a harvest of 130 beaver in 1998–99, or an 8% decline when compared to the previous year's harvest of 142. In 1999–00 the harvest increased 14% to 152. Low pelt prices are the suspected reason for moderate harvest and interest in trapping beaver rather than a decline in the beaver population. A total of 209 beavers were taken in 1996–97.

No change in season or bag limit is recommended for 1999–00.

Project Location: Unit 8 (8750 mi^2)
Kodiak Archipelago

Project Objectives: Develop measurable objectives for all furbearer species throughout the region.

Work Accomplished During the Project Segment Period: During the 1999–2000 season, 18 trappers brought in 98 otters for sealing, yielding an average of 5.4 otters/trapper. The harvest comprised 47 males (48%), 28 females (29%), and 23 of undetermined sex (24%). Most trappers were local residents (83%), and trapping was the most common method of take (90%). Boats were the most common mode of transportation used by otter trappers (44%), and December was the most productive month (45%). Twenty-two otters (22%) were harvested along the Kodiak road system.

Nine trappers brought in 31 beavers, yielding an average harvest of 3.4 beavers/trapper. Most trappers were nonlocal Alaska residents (56%), and trapping was the most common method of take (87%). Boats were the most common method of transportation used by beaver trappers (58%), and the harvest was primarily distributed during November (74%) and December (23%). Eight (26%) beavers were harvested along the Kodiak road system.

Progress Meeting Objectives: Trapper questionnaire respondents reported that furbearer populations were high. With the current low harvest in other areas, developing management objectives for furbearers is not a high priority.

Project Location: Units 9 and 10 (45,500 mi^2)
Alaska Peninsula, Aleutian, and Pribilof Islands

Project Objectives: Develop measurable objectives for all furbearer species throughout the region.

Work Accomplished During the Project Segment Period: During this report period we did not conduct surveys. We sent questionnaires to a select group of trappers, indirectly estimating furbearer population trends and relative abundance; however, we cannot interpret population status of various species because of a low number of questionnaire returns. Snow and weather conditions were relatively favorable in 1999–2000, but low fur prices continue to reduce trapping effort.

We derived furbearer harvest information from furbearer sealing certificates. The preliminary harvest for 1999–2000 in Unit 9 from sealing certificates was as follows: beavers-56; otters-4; lynx-14; and wolverines 11. No furbearers were sealed from Unit 10. Harvests of lynx was up slightly from the previous year, especially in Unit 9E. Because the 1999–2000 wolf harvest in Unit 9 was near record numbers, it is surprising that the harvest of other furbearers was so low.

During 1999–2000, several red fox and 1 wolf from Subunit 9E tested positive for rabies. The extent of mortality in 1999 among canids in Unit 9 is not fully known.

Progress Meeting Objectives: The lack of efficient methods to estimate and directly monitor populations, compounded by unreliable snow conditions, has hampered our developing measurable population objectives for furbearers in Units 9 and 10. Research on several species continues in other areas, but unless budgets increase, it is unlikely efforts will be extended on the Alaska Peninsula.

The trapper questionnaire, opportunistic observations, and sealing requirements are adequate for management purposes as long as trapping effort remains relatively low. If fur prices and other factors lead to an increase in harvests, more intensive management may be required.

Project Location: Units 11 and 13 (38,300 mi^2)
Wrangell Mountains and Nelchina Basin

Work Accomplished During the Project Segment Period: Trapper questionnaires have been used for 10 years to help determine trapping pressure, harvests, and furbearer abundance. This year we sent questionnaires to 124 Unit 11 and 13 trappers, and to date 42 (34%) have responded. Of those responding, 12 (28%) did not trap during the 1999–00 season. Trappers responding to the questionnaire reported an average of 19 years experience in Alaska. Most trappers averaged between 50 and 100 sets along traplines averaging 35 miles long. Trappers used highway vehicles or snowmachines as transportation. Unit 11 and 13 trappers reported that numbers of most furbearers were similar to last year's numbers, but lynx and hare numbers remained high. Many trappers reported high wolf numbers again this year. Heavy snow fell in much of western and northern Unit 13, and conditions were average in most other portions of Unit 13 and 11.

In September 1995 small mammal trapping was initiated to develop a population abundance index. The objectives were to participate in a statewide effort to document small mammal population trends and determine if an index of prey abundance could be used to predict furbearer population trends. This was the fifth year of this project. Trapping intensity during the fall of 1999 was lower than in previous years. Respective catch rates for 1995, 1996, 1997, 1998, and 1999 were 0.2 (n = 61), 0.05 (n = 11), 0.09 (n = 106), 0.04 (n = 26), and 0.05 (n = 8) catches per trap night. Trapping results indicate that small mammals were more abundant in 1995, declined in 1996, and increased slightly in 1997. Catch rates were lower in 1998 and 1999; however, only 2 habitat types were trapped and problems with malfunctioning traps and severe weather may have affected the catch rate.

Aerial transects, established in 1988 to monitor lynx abundance and population trends, were flown during late March 1998 and March of 2000. Compared to 1997 data, lynx densities were higher in 1998 and remained high in 2000. Track surveys were not flown in 1999 due to poor snow conditions. No new snow fell after 10 February. Snowshoe hare tracks obliterated most other tracks in lynx habitat. Snow conditions were poor in March 2000, but we observed high numbers of lynx tracks on the transects flown.

During the 1999–00 season, 29 wolverines were sealed in Unit 13, down from 33 in 1998–99. In Unit 11, trappers sealed 3 wolverines, down 7 from the 1998–99 sealing. There were 386 lynx

pelts sealed from Unit 13, while trappers sealed 105 lynx taken in Unit 11. Trappers took 148 beavers in Unit 13 during 1999–00. There was no otter sealed and only 1 beaver sealed from Unit 11 during the 1999–00 season. Trappers sealed 82 marten taken from Subunit 13E.

The 1999 harvest of 29 wolverines in Unit 13 is lower than the 1998 take of 33 and similar to the average take of 32 wolverines per year between 1985 and 1998. The 1999 wolverine harvest in Unit 11 of 3 is much lower than the 1998 reported harvest of 7 and lower than the long-term average of 9 animals per year since 1985.

The 1999–00 harvest of 386 lynx in Unit 13 was the highest recorded. This harvest exceeds the take in 1998 of 244 and the take in 1997 of 379. Trappers harvested 200 lynx in Unit 13 in 1996, making this the fourth year of a sustained peak in lynx abundance. The percentage of kittens in the harvest was 26% in 1999–00, 35% in 1998–99, and 40% for 1997–98. The percentage of kittens has been high for the last 5 years. In Unit 11 the lynx harvest during the 1999–00 season was 105. In 1998, 95 lynx were taken and in 1997 only 48 were harvested. Kittens accounted for 41% of the take in 1998 and 23% in 1999. Hare numbers were up in portions of Units 11 and 13 and are considered more abundant than seen in the last 15 years. The last hare cycle in Units 11 and 13 did not result in very high hare numbers and lasted only 1–2 years during the early 1990s. It is apparent that the hare cycle is not following predictions for either the timing or magnitude of peak hare populations. This peak in hare and lynx abundance is higher than previous peaks and is lasting longer.

Otter harvests in Unit 13 the last 10 years have averaged 30 (range = 5–61) animals per year. Trapping effort, not changes in the otter population, causes harvest fluctuation. Harvests have been declining since 1994 when 61 otters were taken. The 1998–99 take from Unit 13 was 19 otters. Data are incomplete for the 1999–2000 season. Trapping pressure for otters peaked in the mid-1990s when demand and prices for otter pelts peaked. Otter harvests peaked in Unit 11 at 12 otters in 1995 and have declined to a harvest of zero in 1997, only 2 in 1998, and zero in 1999.

The Unit 13 1999–2000 reported beaver harvest of 148 was lower than the 1998–99 beaver harvest of 189. Beavers are abundant in Unit 13, so fluctuations in harvests reflect trapping effort. There were no beaver reported taken in Unit 11 in 1997 or 1998, and 1 beaver was reported taken in 1999–00. In Unit 11 beaver harvests have averaged 12 per year for the prior 5 years (range = 0–24). Market conditions also dictate trapping effort in Unit 11 for beaver. In both units most animals are taken either early in the trapping season or during late spring.

Progress Meeting Project Objectives: Lynx are managed under a tracking harvest strategy in which harvests are reduced or eliminated during cyclic declines and lows. If lynx are not taken during the cyclic low, more adults will be available for breeding during the upswing of the cycle and produce more kittens. The value of this strategy to trappers is that they can take more lynx during the high portions of the population cycle simply because there will be more lynx present. Based on this management strategy, lynx seasons have been liberalized during the past 4 years because hares have increased, track counts are up, and the percentage of kittens in the harvest is high. We recommend lengthening the season for the 2000–2001 season by 20 days to take advantage of the current high lynx abundance.

Prices paid for most of the important furbearers taken in Units 11 and 13 declined during the 1997–98 and 1998–99 seasons and remained low in 1999–2000. Economic turmoil in Russia and Asia has caused widespread depression of fur prices. By spring 1999 commercial fur markets had declined so much that local trappers were trying to market their furs through other sources such as taxidermists, tourists, and "cottage" garment makers. Beaver and otter have retained some of their value, but prices paid for lynx, marten, and fox remain low.

Comments received from the trapper questionnaire center on concerns over recreational use of traditional trapping trails. Many trappers reported difficulty maintaining their lines during February and March due to snowmachiners, skiers, and others using the trails. Some reported traps and fur stolen. Late winter trail use has increased in recent years and is of serious concern to many trappers in Unit 13.

This year's questionnaire included questions regarding the recent louse infestation of wolves in the Matanuska-Susitna valley and elsewhere. Trappers were very concerned about the spread of this louse to Unit 13. Few trappers reported catching wolves or coyotes having signs of infestation; however, 1 wolf previously infested was trapped in Unit 11 and had been captured by ADF&G near Wasilla during spring of 1999 when it was treated and released. This incident has created concern over the future of wolf trapping in the Copper River Basin. Trappers will have little incentive to trap wolves if their hides are of diminished value.

Project Location: Units 14 and 16 (18,900 mi^2)
Upper Cook Inlet

Project Objectives: Develop measurable objectives for all furbearer species throughout the region.

Work Accomplished During the Project Segment Period

Unit 14

During the 1990–00 trapping season, 107 beavers, 28 otters, 9 lynx, 6 wolverines, and 38 marten were sealed from Unit 14. One beaver in 14B and 23 beavers in 14C were reported taken under nuisance beaver permits. Minimum harvest data for fur species for which sealing is not required were collected with a voluntary reporting form included with the annual trapper questionnaire. Trappers took at least 13 coyotes, 40 mink, 94 muskrats, 36 red foxes and 18 weasels in Unit 14.

Unit 16

During the 1990–00 trapping season, 106 beavers, 35 otters, 3 lynx, 28 wolverines, and 309 marten were sealed from Unit 16. No beavers were reported taken under nuisance beaver permits. Minimum harvest data for fur species for which sealing is not required were collected with a voluntary reporting form included with the trapper questionnaire. Trappers took at least 9 red foxes, 1 red squirrel, 4 muskrats, 2 mink, 1 coyote, and 5 weasels in Unit 16.

Units 14 and 16

Twenty-six trappers responded to the department's trapper questionnaire, and 22 trapped during 1999–00. Most trappers characterized trapping conditions as fair to good. Frequent snowfall and rain complicated trapping effort for much of the season. Lack of time prevented our collection of data along 5 established track count trend lines.

Progress Meeting Project Objectives

Harvest objectives, based on long-term average harvests, have been established for the fur species for which sealing is required. In Unit 14, only the otter harvest objective was achieved. In Unit 16 we achieved only the wolverine harvest objective. Trapping effort was negatively affected by lackluster fur prices. Harvests should fluctuate in response to trapping conditions, prey densities, and market conditions.

Overall, trappers were very concerned with the spread of lice to wolf populations. Three of 19 respondents had loose or feral dogs on their traplines frequently or occasionally. Two of 19 respondents caught lousy coyotes or wolves. Only 1 respondent increased trapping efforts for beaver in Unit 16 due to an earlier opening in the season.

Developing direct, measurable furbearer population objectives is beyond the limit of our resources. However, track count transects can provide an index of population fluctuations, and these data could be correlated with harvest data. It may be possible, given several years' data, to develop indirect population objectives based on indices of furbearer abundance (e.g., tracks/km on transects). It will be important to continue track transects and also to gather data on track accumulation rates. However, because most trappers in this area trap for enjoyment, the investment necessary to collect data on actual population numbers and dynamics may not be warranted.

Project Location: Unit 17 (18,000 mi^2)
Northern Bristol Bay

Project Objectives: Develop measurable objectives for all furbearer species throughout the region.

Work Accomplished During the Project Segment Period

Beaver: Preliminary fur sealing data for the 1999–2000 trapping season indicate a minimum harvest of 215 beaver (17A-60, 17B-18, and 17C-137). This was less than half the 1998–99 harvest (445), and one-third the previous 5-year average of 645. This was the lowest reported harvest for Unit 17 since sealing records began in 1956. Depressed fur prices contributed to decreased effort by local trappers.

Coyote: No objective data were collected on coyote populations in the unit. Incidental observations suggest that coyotes are becoming more common, extending farther west.

Fox: Red fox are abundant throughout the unit and may be increasing.

Land Otter: Preliminary fur sealing data for the 1999–2000 trapping season indicate a harvest of 36 otters (33% male) during this period (17A-15, 17B-3, 17C-18). This was less than the previous year's harvest (54) and one third of the previous 5-year average of 109. This was the lowest reported harvest for Unit 17 since sealing otters began in 1977. Trappers reported otter were abundant throughout the unit.

Lynx: Preliminary fur sealing data for the 1998–99 trapping season indicate a harvest of 12 lynx (25% male and 92% adult; 17A-0, 17B-0, 17C-12), which is greater than the previous year's harvest (9) and slightly less than the previous 5-year average of 13. Lynx numbers have stabilized throughout the unit at a relatively low level.

Marten: We collected no data on the number of marten taken from the unit during this reporting period. Trappers reported stable marten numbers along the Nushagak, Mulchatna, and Wood River drainages.

Mink: We collected no data on the number of mink taken from the unit during this period. Trappers reported stable mink numbers throughout the unit.

Muskrat: Muskrat populations seemed to remain at dangerously low levels. We collected no data on the numbers of muskrats taken from the unit during this reporting period.

Wolverine: Preliminary fur sealing data for the 1999–2000 trapping season indicate a harvest of 29 wolverines (76% male, 17A-7, 17B-17, 17C-5). This was greater than the number of wolverines taken during 1998–1999 season (23) and less than the previous 5-year average harvest of 43. Trappers reported that wolverine populations remained stable throughout the unit.

Progress Meeting Project Objectives: We sealed pelts and informally interviewed trappers during sealing. Trapper questionnaires were sent to trappers based on previous years sealing documents.

Beaver cache surveys were flown on Iowithla River, Kokwok River, Klutuk Creek, and Harris Creek this reporting period.

No surveys were conducted during this reporting period.

Segment Period Project Costs

	Personnel	Operating	Total
Planned	86.2	5.1	91.3
Actual	86.2	5.1	91.3
Difference	0.0	0.0	0.0

Submitted by

Michael G. McDonald
Assistant Management Coordinator

Project Title: **Interior Furbearer Population Management**

Project Location: Units 12 (9978 mi^2) and 20E (10,681 mi^2)
Upper Tanana, White, Fortymile, Ladue, and Charley River drainages

Objectives

1. Maintain accurate annual harvest records based on sealing documents.

2. As new research and management findings become available, develop specific population and harvest objectives for furbearers.

Activities Planned

1. Conduct trapper questionnaires and interviews to determine the status of various furbearer populations.

2. Seal furs of selected species as they are harvested and presented for sealing to monitor harvest levels and trends (objective 1).

3. Purchase lynx carcasses to assess age and reproductive condition of harvested lynx to monitor impact of lynx tracking harvest strategy.

Activities Accomplished

1. Reviewed population management objectives using results from trapper questionnaires, trapper interviews, sealing documents, and track surveys. Based on these data, no changes to the management objectives were necessary (objective 2).

2. Purchased lynx carcasses from area trappers. Necropsied the carcasses to determine sex and age of the harvested population and to estimate population reproductive performance (objective 1).

3. Sealed fur of harvested lynx, otter, beaver, wolf, and wolverine and used this information to monitor harvest (objective 1).

4. Conducted personal interviews with area trappers and evaluated results from a trapper questionnaire to gain additional insight concerning unitwide furbearer abundance, trends, and trapper effort (objective 1).

Project Location: Unit 19 (36,490 mi^2)
All drainages into the Kuskokwim River upstream from Lower Kalskag

Objectives

Beaver

1. Manage the various subpopulations to maintain a mean pelt size >50 inches, while maintaining <25% kits in the annual harvest.

2. Manage the population to maintain a mean density of not less than 1 active colony/3.2 km of suitable waterway or 0.2 active colonies/km^2 in suitable habitat, as determined during periodic fall cache surveys.

Marten

3. Obtain estimates of annual harvests through comparisons of fur acquisition reports, fur export reports, and trapper questionnaires.

4. Manage the population to maintain >50% males in the annual harvest and a ratio of not more than 1 adult female per 2.0 juveniles in the annual harvest.

Lynx, River Otter, and Wolverine

5. Maintain accurate harvest records based on sealing documents and trapper questionnaires.

6. For wolverine, manage the population to maintain >50% males in the annual harvest.

Muskrat, Mink, Red Fox, Coyote, Ermine, and Squirrel

7. Annually estimate numbers harvested and trends in the respective populations.

Activities Planned

1. Conduct trapper questionnaires and interviews to determine the status of various furbearer populations (objectives 2, 5, and 7).

2. Seal furs of selected species as they are harvested and presented for sealing to monitor harvest levels and trends (objectives 1, 3, 4, 5, and 6).

Activities Accomplished

1. Conducted interviews with trappers and reviewed returned questionnaires (objectives 2, 5, and 7).

2. Sealed furs of selected species (objectives 1, 3, 4, 5, and 6).

Project Location: Units 20A, 20B, 20C, 20F, and 25C (39,228 mi^2)
Central and lower Tanana Valley and middle Yukon River drainage

Objectives

Beaver

1. Manage beaver in the lower Chena River portion of Unit 20B for an annual fall beaver colony density of <0.5 colonies/km^2 of river and mitigate problems arising from beaver activities.

    a. Conduct annual fall beaver cache surveys in the lower Chena River and Badger Slough. Open a limited registration trapping season if densities are ≥ 0.5 colonies/km^2.

    b. Issue nuisance beaver permits to remove problem animals.

    c. Coordinate with Department of Transportation and Public Facilities (DOT/PF) to minimize dammed culverts and flooded roads.

2. Manage beaver in Units 20A, 20C, 20F, 25C and the remainder of 20B for an annual unit harvest that includes <20% kits when unit harvest exceeds 50 beavers.

Lynx

3. Manage lynx with a tracking harvest strategy whereby seasons are most liberal when lynx are abundant and most conservative when lynx are scarce.

    a. Estimate the annual sex and age of harvested lynx by examining carcasses from Units 20A and 20B.

    b. Develop and implement aerial track surveys in Units 20A and 20B to provide indices to trend in lynx and hare populations.

    c. Determine whether lynx pelt measurements can be used to index the number of kittens in the harvest.

    d. Develop maps of trapline distribution through interviews with successful trappers.

Wolverine

4. Manage wolverine harvests in Unit 20A based on estimates of sustainable yield derived from density estimates and modeling.

    a. Complete aerial surveys to estimate density of wolverine in Unit 20A.

    b. Use the model of Gardner et al. (1993) to estimate sustainable wolverine harvests in Unit 20A.

Activities Planned

1. Conduct trapper questionnaires and interviews to determine the status of various furbearer populations (objectives 3 and 4).

2. Seal furs of selected species as they are harvested and presented for sealing to monitor harvest levels and trends (objectives 2, 3, and 4).

3. Purchase lynx carcasses to assess age and reproductive condition of harvested lynx to monitor impact of lynx tracking harvest strategy (objective 3).

4. Conduct beaver cache surveys in Unit 20B (objective 1).

5. Minimize beaver/human conflicts in the Fairbanks area (objective 1).

Activities Accomplished

1. Issued permits and participated in trapping efforts to reduce nuisance beavers (objective 1).

2. Sealed furs (objectives 2, 3, and 4).

3. Processed lynx carcasses to assess sex, age, and reproductive condition of harvested lynx (objective 3).

4. Revised mailing list for the trapper questionnaire (objectives 3 and 4).

Project Location: Unit 20D (5,637 mi^2)
Central Tanana Valley near Delta Junction

Objectives

1. Monitor furbearer population trends and annual harvests of furbearers using sealing documents, fur acquisition reports, fur export reports, trapper questionnaires, and trapper interviews.

   a. Seal furs as they are harvested and presented for sealing and analyze harvest patterns.

   b. Conduct trapper questionnaires and interviews to determine the status of various furbearer populations.

2. Monitor trends in abundance of furbearer prey species by establishing snowshoe hare and small mammal trend surveys.

   a. Conduct snowshoe hare surveys and small mammal trapline surveys to monitor prey abundance.

3. Determine lynx reproductive status by purchasing and examining lynx carcasses and reproductive tracts as needed.

    a. Purchase lynx carcasses from trappers and examine them for reproductive status as needed.

Activities Planned

1. Conduct trapper questionnaires and interviews to determine the status of various furbearer populations (objective 1).

2. Seal furs of selected species as they are harvested and presented for sealing to monitor harvest levels and trends (objective 1).

3. Purchase lynx carcasses to assess age and reproductive condition of harvested lynx to monitor impact of lynx tracking harvest strategy (objective 3).

Activities Accomplished

1. Mailed questionnaires, analyzed harvest data, and interviewed trappers to determine furbearer population status (objective 1).

2. Sealed furs taken by hunters and trappers (objective 1).

3. Purchased lynx carcasses from trappers and determined carcass age and reproductive condition to monitor lynx population trends (objective 3).

4. Conducted snowshoe hare population trend survey (objective 2).

Project Location: Unit 21 (43,925 mi^2)
Yukon River drainage above Paimuit to Tozitna River including Koyukuk River to Dulbi Slough

Objective: Maintain populations at high enough levels to provide for maximum consumptive and nonconsumptive uses.

Activities Planned

1. Conduct trapper questionnaires and interviews to determine the status of various furbearer populations.

2. Seal furs of selected species as they are harvested and presented for sealing to monitor harvest levels and trends.

Activities Accomplished

1. Mailed out trapper questionnaires to area trappers.

2. Organized trapper education course in Galena and conducted informal interviews with 25 trappers concerning furbearer issues.

3. Sealed furbearer hides throughout the management unit.

4. Monitored furbearer harvest of selected species through sealing report forms.

5. Recorded furbearer observations during moose and wolf aerial surveys.

Project Location: Unit 24 (26,055 mi^2)
Koyukuk River drainage above the Dulbi River

Objective: Maintain populations at levels sufficient to provide people with sustained consumptive and nonconsumptive uses.

Activities Planned

1. Conduct trapper questionnaires and interviews to determine the status of various furbearer populations.

2. Seal furs of selected species as they are harvested and presented for sealing to monitor harvest levels and trends.

Activities Accomplished

1. Mailed out trapper questionnaires.

2. Organized trapper education course in Allakaket and Huslia and added participants to the trapper questionnaire mailing list.

3. Sealed furbearer hides in Huslia.

4. Monitored furbearer harvest of selected species through sealing report forms.

5. Recorded furbearer observations during moose and wolf aerial surveys.

Project Location: Units 25A, 25B, 25D, 26B, and 26C (73,756 mi^2)
Eastern Interior, Eastern Brooks Range, and Central and Eastern Arctic Slope

Objectives

1. Maintain accurate annual harvest records and indices of population trends based on sealing documents and trapper questionnaires.

a. Seal furs as they are harvested and presented for sealing and analyze harvest patterns.
b. Conduct trapper questionnaire and interviews to determine the status of various furbearer populations.

Activities Planned

1. Conduct trapper questionnaires and interviews to determine the status of various furbearer populations (objective 1b).

2. Seal furs of selected species as they are harvested and presented for sealing to monitor harvest levels and trends (objective 1a).

Activities Accomplished

1. Sealed furs (objective 1a).

2. Distributed trapper questionnaire, compiled responses, and interviewed trappers regarding current furbearer population levels (objective 1b).

Segment Period Project Costs

	Personnel	Operating	Total
Planned	63.4	21.5	84.9
Actual	36.9	3.1	40.0
Difference	26.5	18.4	44.9

Explanation of costs: The actual allocation of operating funds was 6.5, not 21.5. This left an actual surplus of 3.4. No funds were used for traveling to villages in Unit 19 and 21E to seal furs because a poor trapping season resulted in little need for this service. Lynx track surveys were cancelled in the Fairbanks area because of poor tracking snow. The Galena office was able to accomplish village travel to seal furs under other budgets.

Position vacancies account for some of the underexpenditure in personnel costs. Also, we underreported significant harvest monitoring that was listed under public information and services, a Fish and Game Fund activity.

Submitted by:

Roy Nowlin
Regional Management Assistant

David James
Management Coordinator

Project Title: **Western Alaska Furbearer Population Management**

Project Location: Unit 18 (42,000 mi^2)
Yukon-Kuskokwim Delta

Project Objectives

1. Maintain furbearer populations at healthy levels in Unit 18.

   a. Estimate abundance and use of selected furbearers in Unit 18.

   b. Provide support to the fur sealing program.

2. Minimize adverse interactions between furbearers and the public.

3. Develop updated population management objectives in consultation with the public and other agencies.

Work Accomplished During the Project Segment Period: Information was provided to members of the public (including city offices, trappers, and others) informing hunters and trappers that all harvests of lynx, otter, wolves, and wolverines need to be sealed. We further provided information that beavers will no longer need to be sealed in Unit 18 as of July 1, 2000. Individual trappers were mailed information regarding proper sealing procedures. There were fur sealers active in many Unit 18 villages.

A trapper questionnaire was sent out in spring 2000, and 23 trappers from Unit 18 responded. Trappers continued to put less effort into trapping than in previous years because of poor pelt prices.

Pelts from Unit 18 were sealed opportunistically at the office in Bethel and in the villages. The Department of Public Safety, Division of Fish and Wildlife Protection and the U.S. Fish and Wildlife Service gave considerable sealing assistance. Fur sealing certificates were coded and materials were made available to fur sealers.

One particularly active fur buyer and several active trappers have been instrumental in providing valuable information regarding furbearers in Unit 18. They were interviewed extensively.

Progress Meeting Project Objectives: Abundance of all species of furbearers remained high, especially beaver, fox, marten, and otter. Harvest of furbearers remains well below historic levels. Neither fur sealing nor fur acquisition data is yet complete.

Of all the resources available in Unit 18, fur is the most severely underused. Problems with furbearer populations are due to excessively high numbers. Beaver populations are at or near their highest level, and regulations have been adopted to liberalize harvests. Red fox numbers are also extremely high. We responded to nuisance calls for both species.

Compliance with fur sealing requirements has increased slowly in response to information and educational efforts made by department staff. The number of new trappers being recruited is very

low and probably declining. Since new trappers are usually the least informed, this accounts for the better participation in the regulatory system by the remaining trappers.

Project Location: Unit 22 (25,230 mi^2)
Seward Peninsula and the adjacent mainland drained by all streams flowing into Norton Sound

Project Objectives

1. Establish and maintain viable numbers of furbearers in Unit 22.
   a. Assess harvest, interview hunter/trappers, and seal all furs presented for sealing.
   b. Establish and maintain license vendors and sealers in all Unit 22 villages.
   c. Improve compliance with current sealing requirements through public communication and education.
2. Minimize adverse interactions between furbearers and the public.
3. Develop updated population management objectives in consultation with the public and other agencies.

Work Accomplished During the Project Segment Period: Fur management activities in Unit 22 consisted of sealing furs, distributing regulations, preparing public information releases, participating in the Trapper Questionnaire program, interviewing hunter/trappers, conducting big game harvest surveys in 3 Unit 22 villages, and supporting license vendors and fur sealing agents. We collected the following harvest data through the furbearer sealing program.

Beaver — Nine Unit 22 residents harvested 40 beavers (9 from Unit 22A, 30 from Unit 22C and 1 from Unit 22D). In Unit 22A 5 beavers were snared with the aid of a snowmachine and 4 were shot with use of a boat for transportation. In Unit 22C, 24 beavers were shot and 6 were snared. Twenty-one were taken with the aid of a boat and 9 were taken with the aid of highway vehicles. The one beaver taken in Unit 22D was shot and a highway vehicle was used for transportation.

Lynx — Five individuals, all using snowmachines, harvested 27 lynx, (21 males, 4 females, 2 unknown)). All were trapped or snared in Unit 22A.

River Otter — Four otters were harvested by 3 hunter/trappers. Two males and 1 female were taken in Unit 22A; one was shot and 2 were trapped. One male was trapped in Unit 22C.

Wolverine — We sealed 28 wolverines (22 males, 3 females, and 3 unknown) taken by 24 hunter/trappers in Unit 22. Five were from Unit 22A, 8 from Unit 22B, 5 from Unit 22C, 4 from Unit 22D, and 6 from Unit 22E. Twenty-five wolverines were taken with the aid of a snowmachine, one hunter used an airplane, and 2 used highway vehicles for transportation. Twenty wolverines were shot, 6 were trapped, and 2 snared. Big game harvest surveys in several

Norton Sound villages showed that Elim residents took an additional 2 wolverines and White Mountain and Shaktoolik residents each took 1 additional wolverine that were not sealed.

We interviewed trappers who sealed furs at the Nome Fish and Game office and mailed trapper surveys to those who reported harvesting furbearers in Unit 22. Respondents from Units 22A, 22B, 22C, and 22D all reported that beaver were common or abundant with numbers stable or increasing. We had no trapper reports from Unit 22E, but beaver numbers are believed to be increasing in the Serpentine River drainage. In Units 22A, 22B, 22C, and 22D, hunter/trappers reported that otters were scarce or common and stable. However, harvest of otters declined during this reporting period and last year most respondents felt otters were common or abundant. We have no information about otters in Unit 22E. Red fox were generally common and stable throughout the unit. Wolverines were reported to be common or abundant throughout the unit with numbers stable or increasing. In Unit 22A lynx were reported to be common and increasing. In Unit 22B lynx were generally reported to be scarce but increasing. Respondents from the remainder of the unit said that lynx were scarce or not present in their hunting/trapping areas. Hares were reported to be common to abundant in Unit 22A with numbers increasing and scarce to common, and in the remainder of the unit numbers were increasing. Ptarmigan numbers were abundant and stable throughout the unit.

Progress Meeting Project Objectives: The magnitude of unreported furbearer harvest each year in Unit 22 is substantial and fur sealing records only provide a minimum estimate of harvest. Although fur sealing agents are available in all Unit 22 villages, generally only hides that are commercially tanned or sold outside the region are sealed. In an effort to get better harvest data for furbearers, we included wolves and wolverines in the big game harvest surveys in several Unit 22 villages. Participation in the statewide trapper survey program has been helpful, particularly in assessing abundance of furbearers in different parts of the unit.

Complaints about beavers continue, particularly in the Nome area. Recreational boaters complain about the blockage of waterways, giardia, and concern that beaver dams are preventing salmon from returning to their spawning grounds. We need to work more closely with landowners and managers to minimize or alleviate such problems. Sentiment against beavers might be eased if the public was better educated about beaver and informed of the benefits they provide, such as creating prime silver salmon rearing habitat in beaver ponds. In October 1999 the Board of Game eliminated the sealing requirement for beavers in Unit 22 and identified beavers as a fur animal so beaver can be taken with a hunting license. However, a hunting season for beaver in Unit 22 has not yet been established.

Although red fox numbers are not particularly high, public safety officers in both Nome and Unit 22 villages killed several foxes that tested positive for rabies. Announcements were issued cautioning the public to vaccinate pets and avoid suspicious wildlife.

Efforts to inform the public of the importance of wildlife conservation and the need for regulations have shown results in some communities; the number of individuals purchasing licenses has increased. We need additional contact with local residents, primarily in the villages, if we are to gain more compliance with current regulations.

Project Location: Unit 23 (43,000 mi^2)
Kotzebue Sound and Western Brooks Range

Project Objectives and Activities

1. Maintain furbearer populations capable of sustaining harvests at the 1985–95 levels, recognizing that populations will fluctuate in response to environmental factors.

2. Minimize adverse interactions between furbearers and the public.

Work Accomplished During the Project Segment Period: We collected information regarding the population status of beavers, lynx, river otters, and wolverines from fur sealing certificates, a trapper questionnaire, conversations with unit residents, and our opportunistic observations of furbearers. We maintained furbearer sealing and fur buyer reporting programs.

Beaver — Beaver continued to extend their range throughout Unit 23. New lodges have been observed near Kivalina village. Only a small percentage of new lodges are in habitat suitable for overwinter survival. Kobuk River drainage residents report beaver populations at "medium" levels and stable or increasing. The Selawik beaver population completely utilized all suitable habitat.

Lynx — Lynx numbers remained low in most portions of Unit 23. However, lynx were abundant in the Selawik drainage where snowshoe hare and ptarmigan numbers are high.

Mink and Marten — Trappers in the Kobuk report locally abundant populations of mink and marten. As in past years most marten trapping occurs in the upper Kobuk drainage. Local residents report that both species are stable throughout the unit.

Red Fox — Foxes were common throughout Unit 23, but numbers were lower than in previous years. Four foxes killed near villages in Unit 23 were tested for rabies and 2 were rabid.

River Otter — River otters were abundant in the Noatak, Selawik, and Kobuk drainages. Trappers report these populations were stable.

Wolverine — Based on opportunistic sightings by staff and resident trappers, wolverine populations varied throughout Unit 23. Numbers remained high in portions of the upper Kobuk and Noatak. According to some trappers, high harvests in the lower portions of these drainages have significantly reduced their abundance. Few local residents comply with sealing requirements so we do not know the unit harvest. A community-based harvest assessment program conducted during this reporting period indicated individual villages take 1–5 wolverines annually; however, harvests within an individual village may exceed 20 wolverines in some years. The National Park Service completed the sixth year of a wolverine carcass collection program and continued a wolverine research study in the upper Noatak River drainage. No progress or annual report is available to the State at this time.

Progress Meeting Project Objectives: The department communicated with area trappers to assess trapper effort and distribution and abundance of furbearers. We encouraged unit residents

to become fur sealers. The department continued to administer an annual trapper questionnaire to supplement sealing data and staff observations.

Project Location: Unit 26A (53,000 mi^2)
Western North Slope

Project Objectives:

1. Maintain productive populations and allow harvest opportunities within sustained yield limits.

2. Monitor harvest through the statewide sealing program and by interviewing knowledgeable people in the villages. Develop a better monitoring system.

3. Minimize adverse interactions between furbearers and the public.

4. Develop updated population management objectives in consultation with the public and other agencies.

Work Accomplished During the Project Segment Period

Arctic Fox — Arctic foxes were fairly abundant in Unit 26A. Because hunters and trappers are not required to seal foxes, harvest data are not available for arctic foxes. Low fur prices resulted in relatively few foxes being trapped.

Coyote — Coyotes are very rare in Unit 26A. No population or harvest data are available.

Lynx — Lynx population density is currently very low in Unit 26A. No lynx were reported harvested in the unit.

Red Fox — No population data are available for red foxes in Unit 26A. No red foxes were reported harvested.

River Otter — Although river otters inhabit Unit 26A, their densities are very low. No river otters were reported harvested.

Wolverine — In 1984 the department estimated a minimum population of 821 wolverines in Unit 26A. We do not have a more recent estimate of population size. We observed 3 wolverines during 24 hours of moose count flights in Unit 26A during 1999–2000.

Eleven wolverines from Unit 26A were sealed during 1999–2000. Two were females, 8 were males, and 1 was of unknown sex. Nine were ground shot, 1 was trapped, and 1 method of take was not reported. Trappers used snowmachines for transportation for all wolverines. One was taken in November, 1 in December, 2 in February, 1 in March, and 5 in April. One date of take was not recorded. Local residents harvested all 11 wolverines.

Progress Meeting Project Objectives: It is difficult to determine whether current harvest is within sustained yield limits because of limited population and harvest information. Additional efforts are needed to assess the status of furbearer populations. Inventory of furbearer populations, other than wolves, remains low in priority in Unit 26A compared to other species.

The department has assisted the North Slope Borough to develop a harvest-monitoring program in North Slope villages. Results from this study indicate the following wolverine harvest for 1994–1995: 3 for Anaktuvuk Pass, 8 for Nuiqsut, and 10 for Atqasuk (Brower and Opie, 1996 and 1997). During 1994–1995, 1 wolverine was sealed in Anaktuvuk Pass and none was sealed in Nuiqsut or Atqasuk. According to results from a North Slope census, at least 42 wolverines were harvested in Unit 26A during calendar year 1992 (George and Fuller, 1997). This compares to 11 wolverines sealed during 1992–1993. These results indicate that the sealing program is an ineffective way to monitor harvest in northern Alaska.

Rabid furbearers, particularly arctic foxes, continue to be a problem near human settlements. We work with the North Slope Borough to educate people about rabid animals and pet immunization. Rabid arctic foxes are destroyed when they are reported near villages.

Segment Period Project Costs:

	Personnel	Operating	Total
Planned	33.0	3.0	36.0
Actual	8.6	1.1	9.7
Difference	24.4	1.9	26.3

Explanation of Costs: Staff vacancy in Unit 18 contributed to excess personnel costs.

LITERATURE CITED

BROWER, HK AND RT OPIE. 1996. North Slope Borough Subsistence Harvest Documentation Project: Data for Anaktuvuk Pass, Alaska for the Period July 1, 1994 to June 30, 1995. Department of Wildlife Management, North Slope Borough, Barrow, Alaska. USA.

BROWER, HK AND RT OPIE. 1997. North Slope Borough Subsistence Harvest Documentation Project: Data for Nuiqsut, Alaska for the Period July 1, 1994 to June 30, 1995. Department of Wildlife Management, North Slope Borough, Barrow, Alaska. USA.

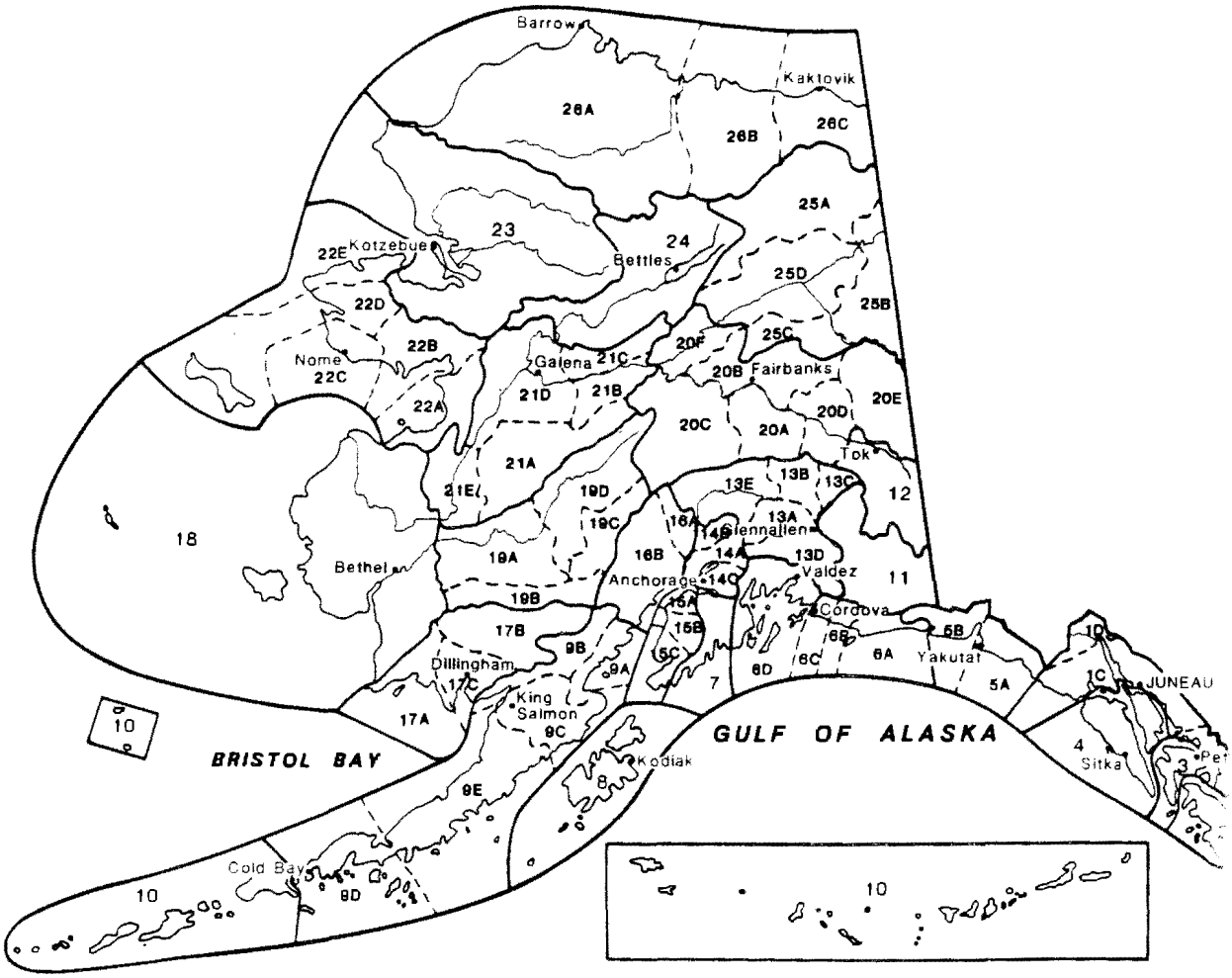
BROWER, HK AND RT OPIE. 1997. North Slope Borough Subsistence Harvest Documentation Project: Data for Atqasuk, Alaska for the Period July 1, 1994 to June 30, 1995. Department of Wildlife Management, North Slope Borough, Barrow, Alaska. USA.

GEORGE, JC AND AS FULLER. 1997. Evaluation of Subsistence Harvest Data from the North Slope Borough 1993 Census for Eight North Slope Villages: for the Calendar Year 1992. Report by Department of Wildlife Management, North Slope Borough, Barrow, Alaska. USA.

Submitted by

Peter Bente
Survey-Inventory Coordinator

Alaska's Game Management Units



The Federal Aid in Wildlife Restoration Program consists of funds from a 10% to 11% manufacturer's excise tax collected from the sales of handguns, sporting rifles, shotguns, ammunition, and archery equipment. The Federal Aid program allots funds back to states through a formula based on each state's geographic area and number of paid hunting license holders. Alaska receives a maximum 5% of revenues collected each year. The Alaska Department of Fish and Game uses federal aid funds to help restore, conserve, and manage wild birds and mammals to benefit the public. These funds are also used to educate hunters to develop the skills, knowledge, and attitudes for responsible hunting. Seventy-five percent of the funds for this report are from Federal Aid.

Golden