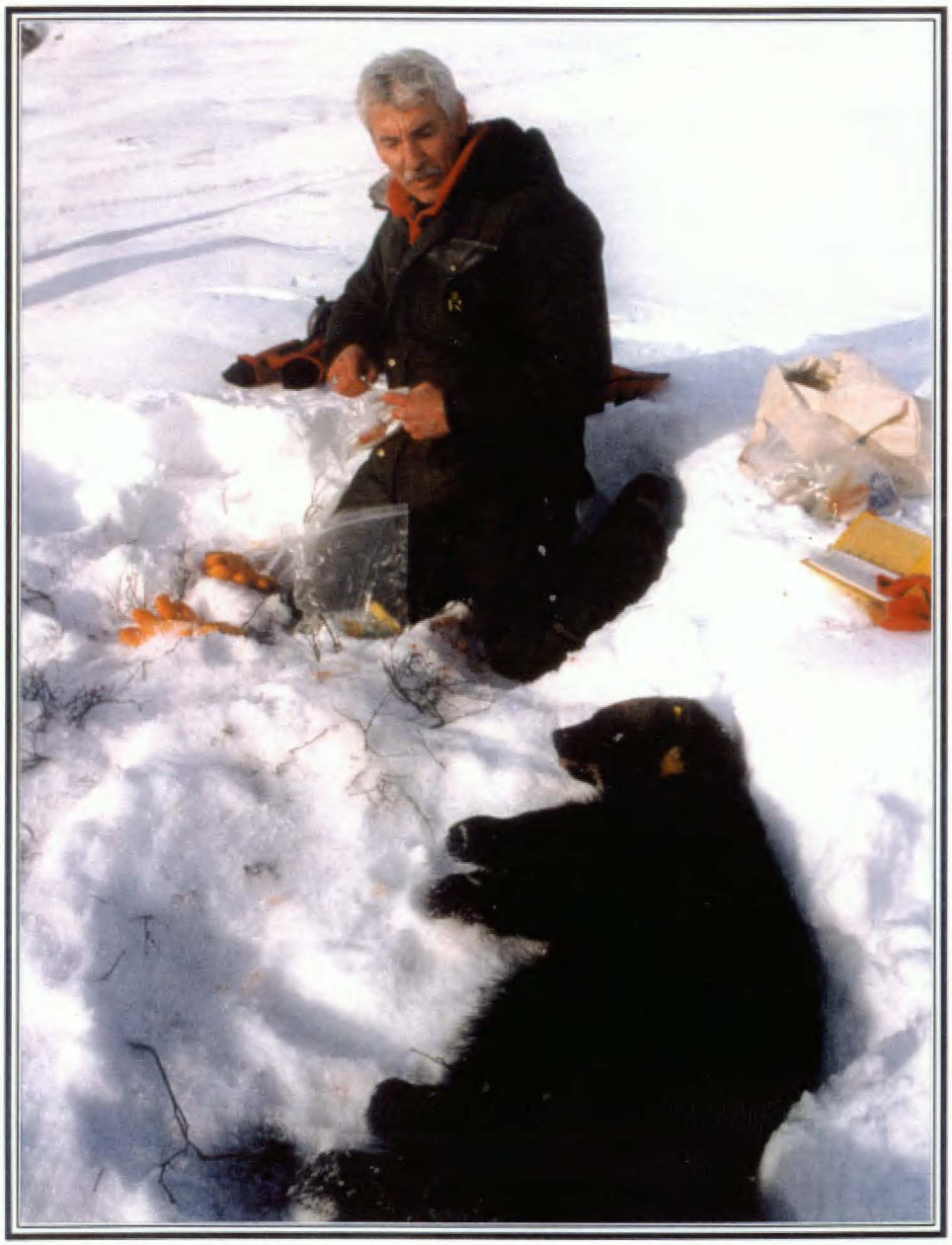
Alaska Department of Fish and Game
Division of Wildlife Conservation

Federal Aid in Wildlife Restoration
Annual Performance Report
Survey-Inventory Activities
1 July 1998- 30 June 1999

FURBEARERS

Mary V Hicks, Editor



Masteller

Grant W-27-2
Study 7.0
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STATE OF ALASKA
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DEPARTMENT OF FISH AND GAME
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Project Title: **Southeast Furbearer Population Management**

Project Location: Unit 1A (5,000 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 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 sealed furbearer pelts submitted by trappers. We also 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	14
Marten	206
Otter	68
Wolverine	0

Unit 1A beaver harvests were down 47% from last season, marten harvests increased 30%, and otter harvests declined by 41%. One wolverine was caught in Unit 1A, down from 3 last season. Based on information collected from our 1997/98 trapper questionnaire, trappers believe that beavers are common in Unit 1A (*Index of Abundance* (I_A) = 50, n = 2), marten are scarce (I_A = 38, n = 4), mink are abundant (I_A = 75, n = 4), and otters are common (I_A = 50, n = 4).

Project Location: Unit 1B (3,000 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 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 1998/99 trapper questionnaires were mailed to area trappers, and data will be compiled when they are returned.

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

Species	Harvest
Beaver	0
Marten	365
Otter	13
Wolverine	9

Due to extensive remoteness from easy access points, most of Unit 1B is not trapped. Twelve trappers sealed furbearers from Unit 1B. Beaver and otter harvests decreased compared to those of 1997. The marten harvest increased in Unit 1B. We believe the noted changes in harvest numbers reflect changes in trapper effort and weather conditions rather than changes in population levels.

Project Location: Unit 1C (7,600 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 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 fur 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. We also set out 2 bait stations monitored with remote cameras to assess the distribution of fishers in Unit 1C.

We collected mink and weasel carcasses for ongoing genetics work at the University of Alaska Fairbanks.

Progress Meeting Project Objectives: Trappers sealed 7 beavers, 267 marten, 13 otters, and 6 wolverines. Unit 1C furbearer populations are healthy. Otter and wolverine harvests remained nearly the same as the previous year, while marten harvest increased by more than 50%. The harvest of beaver declined by about 50%. Differences in the harvest from the previous year probably reflect changing trapper effort and not furbearer population levels. The large increase in marten, for instance, was largely due to 1 trapper exploiting new territory. Through the use of trapper questionnaires, we will continue to examine fluctuations in fur harvest in future years.

Species	Harvest
River otter	13
Marten	267
Beaver	7
Wolverine	6

Project Location: Unit 1D (2,700 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 fur 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 48 marten but failed to catch any wolverine or otter during this report period. The marten harvest was down nearly 50% from the previous year. Due to unusually heavy snowfall in Unit 1D, trappers were denied access to many areas they might otherwise have trapped, and this was reflected in the low harvest.

Species	Harvest
Marten	48

Project Location: Unit 2 (3,900 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 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 sealed furbearer pelts submitted by trappers. We also obtained anecdotal information about the status of furbearer populations from conversations with hunters and trappers, and 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	100
Marten	583
Otter	285

Unit 2 beaver harvests were down 29%, marten harvests decreased 44%, and otter harvests increased 46%. Based on information collected from our 1997/98 trapper questionnaire, trappers believe that beavers in Unit 2 are abundant (I_A = 61, n = 9), marten are abundant (I_A = 54, n = 13), mink are abundant (I_A = 79, n = 14), and otters are abundant (I_A = 79, n = 12).

Project Location: Unit 3 (3,000 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 1998/99 trapper questionnaires were mailed to area trappers, and data will be compiled when they are returned. In a cooperative project with the Forest Service, we captured 3 marten and fitted them with radio collars. This was in addition to the 2 previously collared marten on Mitkof Island and 13 marten radiocollared on Kupreanof Island. During the year 2 marten on Mikof and 4 on Kupreanof were trapped by the public. Three marten slipped their collars on Mitkof and 1 slipped a collar on Kupreanof. One marten on Mitkof and 1 on Kupreanof were capture mortalities.

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

Species	Harvest
Beaver	35
Marten	221
Otter	33
Wolverine	0

Due to extensive remoteness from easy access points, most of Unit 3 is not trapped. Twenty trappers sealed furbearers from Unit 3 in 1998/99. The beaver and otter harvest decreased in Unit 3 and the marten harvest stayed about the same. We believe the noted changes in harvest numbers reflect changing trapper effort and weather conditions rather than changes in population. The Department of Transportation was issued a permit to remove beavers that were damming a culvert on the Mitkof Highway. Four of the beavers and 1 otter included in the Unit 3 harvest were taken under this permit.

Project Location: Unit 4 (5,800 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 seasons. We examined furs at sealing and obtained data concerning sex and age classes of the harvest. The annual trapper survey was

conducted from the Juneau office. We analyzed harvest data by species. Unit 4 trappers donated 70 river otter carcasses and 120 marten carcasses taken during the 1998/99 trapping season that were necropsied to obtain sex and age ratios in the harvested subpopulations. Canines from river otter were extracted and submitted for cementum analysis, and findings will be contained in subsequent reports. We established small mammal snaptrap lines 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 1998/99 regulatory year, a total of 559 martens and 143 river otters were sealed. Marten harvest declined significantly from the previous year, probably due in large part to depressed pelt prices on international markets. The river otter harvest was near the historical mean, following the high harvest of over 200 otters the previous year. Beaver populations are limited to a few select 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 are depressed. There is no indication that trapper harvest has depressed furbearer populations in the unit. We mailed trapper questionnaires 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	81	62	0	143
Marten	358	200	1	559
Beaver	0	0	2	2

Project Location: Unit 5 (5,800 mi^2)

Cape Fairweather to Icy Bay, east 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 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: Staff sealed furs in Yakutat. We analyzed harvest from furbearer sealing certificates. Mink and weasel carcasses were collected for an ongoing genetics project at the University of Alaska Fairbanks.

Progress Meeting Project Objectives: Commercial Fisheries Division staff in Yakutat sealed furbearers as they were presented at that ADF&G office. Residents of Yakutat and nonlocal

outdoorsmen contributed anecdotal information concerning sightings of furbearers. Trappers harvested 3 otters, 3 beavers, 134 martens, and 3 wolverines. The marten harvest was down 40% from the previous year, otter harvest was 60% lower, beaver was 50% lower, and the wolverine harvest was down 1 from the previous year. Unusually heavy snows probably limited the area that trappers could access and subsequently contributed to the lower harvests.

All 3 beavers were trapped on airport property with a special permit issued by the Department of Fish & Game.

Species	Harvest
River otter	3
Marten	134
Beaver	3
Wolverine	3

Segment Period Project Costs:

	Personnel	Operating	Total
Planned	20.5	11.5	32.0
Actual	24.3	6.5	30.8
Difference	-3.8	5.0	1.2

Explanation: The difference is due to area staff spending less time than anticipated traveling to interview sealing agents and trappers.

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 130 pelts (59 beavers, 60 otters, and 11 wolverines) during 1997/98. Trapper interest was minimal because of low pelt prices.

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

Project Location: Units 7 and 15 (8,400 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 long-time 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 for sealing. Sealing documents for these furbearers indicate the following harvests by unit were reported in 1998/99:

Unit	Marten	Beaver	Land Otter	Wolverine	Lynx
7	55	67	2	9	23
15	0	63	33	8	131
Total	55	130	35	17	154

Units 7 and 15 were opened for trapping lynx from January 1 to February 15 in 1998/99. The reported harvest revealed 23 lynx taken in Unit 7, 84 in Unit 15A, 16 in 15B, and 31 in 15C. The harvest comprised 31 kittens (20%), 116 adults, and 7 of unknown sex and age. Sex

composition of the harvest was 82 (53%) males, 65 (42%) females, and 7 (5%) 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 14 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 1998/1999 was the highest reported for the Kenai Peninsula at 154, compared with 145 in 1997/98. However, the percentage of kittens in the harvest dropped from 37% to 20% last season. Preliminary examination of 55 lynx carcasses taken by trappers in 1998/99 from Units 7 and 15 indicated a ratio of 117 males/100 females. Of 16 females older than kittens, 13 were pregnant with an average of 2.0 placental scars. These figures are lower than those for 1997/98; 14 of 16 were pregnant with an average of 4.4 placental scars. The carcass data and harvest indicated kitten production and survival were lower than in previous years, which fails to support the observations of an increased hare density.

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

The Board of Game adjusted several furbearer seasons during their spring 1997 meeting to make seasons on the Kenai consistent across units. Beaver, wolf and coyote seasons are now November 10 to March 31; otter, wolverine and fox are November 10 to February 28; mink, weasel and marten are November 10 to January 31; muskrat is November 10 to 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 our objectives for furbearer management. Lynx and beaver censuses have been conducted in small study areas and will possibly be extended to estimate densities by subunit in the future.

The current monitoring of harvests from sealing and reports from trappers indicate all furbearers are in harvestable numbers and populations are stable with the exception of lynx, which is increasing. The lynx population declined during the late 1980s and started to increase in 1995. This increase was widespread enough to allow a January 1 to 31 season in Unit 7 and Units 15B and C in 1996–97 and a January 1 to February 15 in Units 7 and 15 in 1997–98.

The beaver trapping season has been extended on the Kenai Peninsula twice in the past decade. The recent extension, opening the season November 10 instead of December 1, resulted in 32% of the harvest being taken in November. However, due to low prices and lack of trapping effort, the 1997–98 harvest (142) was 32% lower than the previous year (209). No change in season or bag limit is recommended for 1998–99.

Project Location: Unit 8 (8,750 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 1998–99 season, 17 trappers brought in 168 otters for sealing, yielding an average of 9.9 otters/trapper. The harvest comprised 73 males (44%), 58 females (35%), and 37 of undetermined sex (22%). Most trappers were local residents (94%), and trapping was the most common method of take (80%). Boats were the most common mode of transportation used by otter trappers (63%), and November was the most productive month (65%). Forty-five otters (27%) were harvested along the Kodiak road system.

Nine trappers brought in 29 beavers, yielding an average harvest of 3.2 beavers/trapper. Most trappers were local residents (67%), and trapping was the most common method of take (97%). Beaver trappers (76%) used boats as the most common method of transportation, and the harvest was almost evenly distributed between December (48%) and November (45%). Six (21%) 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, the low number of returns makes it difficult to interpret population status of various species. Snow and weather conditions were relatively favorable in 1998–99, but low fur prices reduced trapping effort.

We derived furbearer harvest information from furbearer sealing certificates. The preliminary harvest for 1997–98 in Unit 9 from sealing certificates was as follows: beavers-85; otters-60; lynx-38; and wolverines 36. No furbearers were sealed from Unit 10. Harvest of lynx was up slightly from the previous year, especially in Unit 9E.

During spring 1998 several red fox carcasses and 1 coyote from Unit 9E tested positive for rabies. This was the first confirmed rabid coyote in Alaska. The extent of mortality in 1998 among canids in Unit 9 is not fully known at this time.

Progress Meeting Objectives: The lack of efficient methods to estimate and directly monitor populations, compounded by unreliable snow conditions, has hampered 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 125 Unit 11 and 13 trappers, and to date 52 (42%) have responded. Of those responding, 19 (37%) did not trap during the 1998–99 season. Trappers responding to the questionnaire reported an average of 19.2 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 numbers of most furbearers were similar to last year, but lynx and hare numbers were increasing. This year snow conditions varied, with some areas receiving deep snow while other areas had average snowfall.

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 third year of this project and trapping intensity was increased to 100 traps for 3 nights in 4 different habitat types. Respective catch rates for 1995, 1996, 1997, and 1998 were 0.2 (n = 61), .05 (n = 11), .09 (n = 106), and .04 (n = 26) catches per trap night. Trapping results suggest small mammals were more abundant in 1995, declined in 1996, and increased slightly in 1997. Catch rate was lower in 1998; 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. Snow condition for most of the count was excellent with 2 days passing between fresh snow and the survey flight. Compared to 1997 data, it appears that lynx densities were higher in 1998. In all surveys during 1998, we counted 43 fresh tracks and 15 old tracks, compared to 24 fresh and 54 old tracks observed in 1997. Old tracks were more numerous in 1997 because of a lack of fresh snow before the surveys. Track surveys were not flown in 1999 due to poor snow conditions. No new snow fell after the 10th of February. Snowshoe hare tracks obliterated most other tracks in lynx habitat.

During the 1998–99 season, 31 wolverines were sealed in Unit 13, down from 34 in 1997–98. In Unit 11 trappers sealed 8 wolverines, down from 24 in 1997–98. There were 266 lynx pelts

sealed from Unit 13, while trappers sealed 133 lynx taken in Unit 11. Trappers sealed 19 otters and 203 beavers in Unit 13 during 1998–99. There were 2 otters and zero beaver sealed from Unit 11 during the 1998–99 season. Trappers sealed 73 marten taken from Unit 13E.

Harvest information is generally unavailable for those furbearers for which sealing is not required. In Units 13 and 11, the 2 most important species in this category are red fox and marten. Some indication of the catch per trapper comes from the trapper questionnaire. Starting in 1994–95, the trapper questionnaire asked trappers to report their catch by species. This does not provide a unit harvest estimate but represents a minimum estimated harvest and catch per trapper. In both units during 1998–99, 33 trappers reported taking 295 red fox (8.9/trapper) and 240 marten (7.3/trapper). These reports are similar to previous years.

The 1998 harvest of 31 wolverines in Unit 13 is lower than the 1997 take of 34, and similar to the 10-year (1985–96) average take of 32 wolverine per year. The 1998 wolverine harvest of 9 in Unit 11 is much lower than the 1997 reported harvest of 24, but equal to the long-term average of 9 animals per year since 1985. Historically, success rates for trappers taking wolverine have been low, but it is evident that if trappers with lines in good wolverine habitat target wolverine, they can be successful.

The 1998–99 harvest of 266 lynx in Unit 13 was lower than last year's record harvest of 379 lynx. The 1996 harvest was 200, while the previous harvest record was 290 in 1982. Kittens in the harvest composed 35% in 1998–99, compared to 40% for 1997–98. The percentage of kittens has been high for the last 5 years. The decreased harvest from the record level of 1997–98 may result from a depressed fur market rather than lower numbers of lynx. In Unit 11 the lynx harvest increased dramatically, with 133 lynx taken in 1998–99, compared to 48 in 1997–98. Kittens accounted for 41% of the take. Hare numbers were up in portions of Units 11 and 13 and are considered more abundant than 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 to 2 years during the early 1990s. It is apparent the hare cycle is not following predictions for either the timing or magnitude of peak hare populations. Based on highs in the 60s and 70s, the peak should have been in 1992; 1997 should have been near a low.

Otter harvests in Unit 13 the last 10 years have averaged 30 (range = 5–61) animals per year. Harvest fluctuations are not caused by changes in the otter population but relate instead to trapping effort. Harvests have been declining since 1994 when 61 otters were taken. The 1998–99 take from Unit 13 was 19 otters. 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 declined to zero in 1997, rising to only 2 in 1998.

The 1998–99 Unit 13 beaver harvest of 203 was slightly higher than the 1997–98 harvest of 191. Beavers are abundant in Unit 13, so fluctuations in harvests are thought to reflect trapping effort. There were no beaver reported taken in Unit 11 in 1997 or 1998. 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 harvest chronology indicates most animals are taken either early in the trapping season or late spring.

Progress Meeting Project Objectives: Lynx are managed under a tracking harvest strategy where harvests are reduced or eliminated during cyclic declines and lows. The theory behind this is 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 they can take more lynx during the high portions of the population cycle 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. The recommendation for the 1999–2000 season is to maintain the current length and dates.

Prices paid for most of the important furbearers taken in Units 11 and 13 declined during the 1997–98 and 1998–99 seasons. 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. Unless the price of fur increases next year, it is questionable if many local trappers can meet expenses. During the 3-year decline in fur prices, trapper response has been either to quit trapping or increase their effort and catch to offset price declines.

During the March 1997 meeting, the Board of Game dropped the wolverine bag limit of 2 per season in Units 11 and 13. Low harvests comprising 60% males were not considered to be limiting wolverine numbers in Units 11 or 13. Before the board's action, the low average catch per trapper indicated that only those trappers in good habitats such as the Chugach Mountains in Unit 13D and Talkeetnas in 13A would be able to take more than 2 wolverines during the season after the bag limit is dropped. Harvest data in 1997–98 show that 2 individual trappers in Unit 11 did concentrate on wolverine and had a much higher harvest than did other trappers. No trappers did exceptionally well on wolverines in 1998–99.

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

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 1998–99 trapping season 142 beavers, 21 otters, 4 lynx, 6 wolverines and 28 martens were sealed from Unit 14. Two 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 annual trapper questionnaire. Trappers took at least 17 coyotes, 64 mink, 45 muskrats, 45 red foxes, and 26 weasels in Unit 14.

Unit 16

During the 1998–99 trapping season 71 beavers, 12 otters, 1 lynx, 15 wolverines, and 441 martens were sealed from Unit 16. Four 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, 16 red squirrels, and 49 weasels in Unit 16.

Units 14 and 16

During November and December trappers working between Willow and Talkeetna caught both coyotes and wolves infested with dog-biting lice (*Trichodectes canis*). This was the first known infestation outside of the Kenai Peninsula. After determining the general extent of the infestation in wolves (3 of 13 packs), we attempted to treat coyotes (within the general area of the 3 wolf packs) with meat baits medicated with the drug ivermectin. To help determine the extent of the problem, we also contracted with Wildlife Services (USDA) to trap coyotes in the affected area. Approximately 1200 baits were distributed by trappers, department staff, and the Wildlife Services trapper. Unfortunately, the contract trapper did not catch any coyotes but did catch 4 free-ranging dogs. Through examination of 36 coyotes, from 14 trappers, we confirmed lice on 4 coyotes.

Thirty-four trappers responded to the department's trapper questionnaire, and 20 trapped during 1998–99. Most trappers characterized trapping conditions as fair to good. Snowfall was slightly below average for most of the season. Lack of time and adequate fresh snow prevented data collection along 5 established track count trend lines.

Progress Meeting Project Objectives: During March 1999 the Board of Game approved a proposal to move the start of beaver season in Unit 16 ahead to October 10. The original proposal, from a lodge owner in Unit 16, expressed concern regarding the effects of (introduced) northern pike on salmon and sought a more liberal beaver season because beavers modify streams in a manner benefiting pike. The Division of Wildlife Conservation supported an amended version of the proposal because beaver populations appear healthy. We recommended, and the board concurred, that beaver trapping from October 10 to November 9 be done with underwater sets only, a restriction already in place in Unit 13.

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, and in Unit 16 only the marten harvest objective was achieved. Trapping effort was negatively affected by fur prices; harvests fluctuate in response to trapping conditions, prey densities, and market conditions.

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 recreation, 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 1998–99 trapping season indicates a harvest of 445 beaver (17A—34, 17B—110, and 17C—301). This was slightly higher than the 1997–98 harvest (382), but still less than the previous 5-year average of 691. This is the third lowest reported harvest since sealing records began in 1956. Depressed fur prices likely contributed to decreased effort by local trappers.

Coyote

No objective data were collected on coyote populations in the unit. Incidental observations indicate that coyotes were becoming more common and extending farther west.

Fox

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

Land Otter

Preliminary fur sealing data for the 1998–99 trapping season indicate a harvest of 54 otters (52% male) during this period (17A—16, 17B—14, 17C—24). This was less than the previous year's harvest (82) and less that the 5-year average of 115. Trappers reported otter were abundant throughout the unit.

Lynx

Preliminary fur sealing data for the 1998–99 trapping season indicate a harvest of 9 lynx (43% male, and 89% adult; 17A–0, 17B–2, 17C–7), which is less than the 1997–98 harvest and the average of the previous 5 years. Lynx numbers seemed to have stabilized throughout the unit at a relatively low level.

Marten

We collected no data on the number of marten taken from the unit 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 this reporting 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 1998–99 trapping season indicate a harvest of 23 wolverines. This was less than one half the number of wolverines taken during 1997–98 and less than the previous 5-year average harvest of 44. Trappers reported that wolverine populations remained stable throughout the unit.

Progress Meeting Project Objectives: We sealed pelts and informally interviewed trappers during sealing. We gave trapper questionnaires to local trappers during Beaver Roundup. Several questionnaires were completed and are being analyzed.

No surveys were conducted this reporting period.

Segment Period Project Costs:

	Personnel	Operating	Total
Planned	90.6	5.7	96.3
Actual	90.6	5.7	96.3
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. Review and revise population management objectives
2. Conduct trapper questionnaires and interviews as a basis for determining the status of various furbearer populations
3. Seal furs of selected species as they are harvested and presented for sealing to monitor harvest and trends (objective 1)
4. Purchase lynx carcasses to assess age and reproductive condition of harvested lynx to monitor effects of lynx tracking harvest strategy

Activities Accomplished:

1. Reviewed population management objectives using results from trapper questionnaires, trapper interviews, sealing documents, and track surveys; and found no changes were necessary (Objective 2)
2. Purchased lynx carcasses from area trappers and necropsied the carcasses to determine the sex and age of the harvested population and to estimate population reproductive performance (Objective 2)
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 on unit furbearer abundance and trends and trapper effort (Objective 1)

Project Location: Unit 19 (36,486 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 per 3.2 km of suitable waterway, or 0.2 active colonies per square kilometer 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. Review and revise population management objectives

2. Conduct trapper questionnaires and interviews as a basis for determining the status of various furbearer populations (objectives 2, 5 and 7)

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

Activities Accomplished:

1. Conducted trapper questionnaires and interviews during and after the trapping season (objectives 2, 5 and 7)

2. Sealed furs of selected species to monitor harvest and trends (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 the harvest for that unit exceeds 50 beaver

Lynx

3. Manage lynx with a tracking harvest strategy whereby seasons are most liberal when lynx are abundant and seasons are 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. During winter 1997–1998, 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. Review and revise population management objectives

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

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

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

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

6. Minimize beaver–human conflicts in the Fairbanks area (objective 1)

Activities Accomplished:

1. Reviewed population objectives

2. Conducted trapper questionnaires (objectives 3 and 4)

3. Sealed fur of selected species to monitor harvest (objectives 2, 3, and 4)

4. Purchased lynx carcasses to monitor effects of lynx tracking harvest strategy (objective 3)

5. Conducted beaver cache surveys along the Chena River (objective 1)

6. Issued permits to trap beaver in the lower Chena River and responded to numerous public complaints about beavers (objective 1)

Project Location: Unit 20D (5637 mi^2)
Central Tanana Valley near Delta Junction

Objectives:

1. Monitor annual harvests and trends of furbearer populations 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

   - 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

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

Activities Planned:

1. Review and revise population management objectives
2. Conduct trapper questionnaires and interviews to determine the status of various furbearer populations (objective 1b)
3. Seal furs of selected species as they are harvested and presented for sealing to monitor harvest and trends (objective 1a)
4. Purchase lynx carcasses to assess age and reproductive condition of harvested lynx to monitor effects of lynx tracking harvest strategy (objective 3)

Activities Accomplished:

1. Did not review population management objectives because the timing of the regulatory process did not include Unit 20D furbearers
2. Mailed questionnaires to area trappers and summarized responses (objective 1b)
3. Sealed furs (objective 1a). Preliminary harvest was 12 beavers, 69 lynx, 2 otters, and 2 wolverines.)
4. Purchased and necropsied lynx carcasses to determine age and reproductive status (objective 3)
5. Conducted snowshoe hare survey to monitor population trend (objective 2a)

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. Review and revise population management objectives
2. Conduct trapper questionnaires and interviews to determine the status of various furbearer populations

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

Activities Accomplished:

1. Sealed hides of furbearers throughout the management unit
2. Sent out trapper questionnaires but conducted no formal interviews
3. Revised population management objectives

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. Review and revise population management objectives
2. Conduct trapper questionnaires and interviews to determine the status of various furbearer populations
3. Seal furs of selected species as they are harvested and presented for sealing to monitor harvest and trends

Activities Accomplished:

1. Sealed hides of furbearers throughout the management unit
2. Sent out trapper questionnaires but conducted no formal interviews
3. Revised population management objectives

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. Review and revise population management objectives
2. Conduct trapper questionnaires and interviews to determine the status of various furbearer populations (objective 1b)
3. Seal furs of selected species as they are harvested and presented for sealing to monitor harvest and trends (objective 1a)

Activities Accomplished:

1. Sealed furbearers and monitored harvest (objective 1a)
2. Distributed trapper questionnaires, compiled responses, and conducted personal discussions with individual trappers (objective 1b)
3. Reviewed but did not revise population objectives (objective 1)

Segment Period Project Costs:

	Personnel	Operating	Total
Planned	96.4	9.7	106.1
Actual	35.2	12.3	47.5
Difference	61.2	-2.6	58.6

Explanation: **Operating:** Additional funds were needed to purchase lynx carcasses, conduct necropsies on the carcasses, and commercially process various biological specimens. **Personnel:** There were no major changes to planned work activities. The underexpenditure of planned personnel funds reflects a more accurate personnel expenditure projection for future federal aid work plans.

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 population 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: We provided information to members of the public (including city offices, trappers, and others), informing hunters and trappers that all harvests of beaver, lynx, otter, wolf, and wolverine need to be sealed. Also, a radio show was continued where essays were aired, including information explaining the importance of reporting all furbearer harvests. All fur sealers were contacted about proper procedures for sealing pelts and filling out fur acquisition reports. Individual trappers were mailed information regarding proper sealing procedures. There were fur sealers active in most Unit 18 villages.

During March 1999 we mailed trapper questionnaires and received 14 responses, compared to last year's 41 responses. Trappers put less effort into trapping than in previous years because of poor pelt prices.

Pelts from Unit 18 were sealed at the office in Bethel and in the villages on an opportunistic basis. 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.

We interviewed one particularly active fur buyer who has been instrumental in providing valuable information regarding fur harvests and trapping activity.

Progress Meeting Project Objectives: Abundance of all species of furbearers remained high, especially beaver, fox, marten, and otter. The preliminary harvest of furbearers in Unit 18 during the 1998–1999 regulatory year included 440 beavers, 40 lynx, 2 wolverines, and 145 otters. Foxes, marten, mink, and muskrats are also caught, and when they are sold, they are recorded on fur acquisition reports. These records indicate there is declining interest in the sale of most pelts. Observations by trappers and staff indicate that all furbearer species are abundant throughout the Yukon–Kuskokwim Delta. Of all the resources available in Unit 18, fur is the most severely underutilized.

The department responded to complaints of nuisance beavers and issued permits to trap them. With decreasing trapping pressure and increasing beaver numbers, complaints from villagers regarding blocked boating routes and fish migrations have increased. However, trapping beavers during the open season is still usually the best solution.

Compliance with fur sealing requirements has stayed the same or slowly increased, presumably because of the education efforts by department staff.

This year we amended objective 1 to read "healthy levels" instead of "existing levels" to reflect the fact that, particularly for beavers and foxes, the existing populations are higher than desired.

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 distributing regulations, preparing public information releases, participating in the Trapper Questionnaire program, interviewing hunter/trappers, conducting big game harvest surveys in Koyuk and Shaktoolik, and supporting license vendors and fur sealing agents. We collected the following harvest data through the furbearer sealing program:

Beaver

Seven Unit 22 residents harvested 25 beaver (14 from Unit 22A, and 11 from Unit 22C). All 14 beavers from Unit 22A were trapped or snared and transported with the aid of a snowmachine. In Unit 22C, 6 beavers were shot and 5 were trapped. One was taken with the aid of a snow machine; highway vehicles were used to access the others. The lengthened beaver season that went into effect during this reporting period in Units 22C, 22D, and 22E did not increase harvest.

Lynx

Three individuals, all using snowmachines, harvested 7 lynx, (3 males, 4 females). Six were trapped in Unit 22A and 1 was shot in Unit 22E.

River Otter

Six hunter/trappers harvested 11 otters. One male and 1 female were trapped in Unit 22A. Three males, 3 females, and 2 otters of unknown sex were harvested in Unit 22B, and 1 male otter was shot in Unit 22C.

Wolverine

We sealed 23 wolverines (15 males, 5 females, and 3 unknown), taken by 12 hunter/trappers in Unit 22. Eight wolverines were from Unit 22A, 10 were from Unit 22B, 1 was from Unit 22C, and 4 from Unit 22E. All were taken with the aid of a snowmachine. Sixteen wolverines were trapped and 7 were shot. Big game harvest surveys in 2 Norton Sound villages showed that Koyuk residents took an additional 5 wolverines and Shaktoolik residents harvested an additional 3.

We conducted interviews with 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 common or abundant and stable. We have no information about otters in Unit 22E. Red fox in Unit 22A were reported to be common or abundant and increasing. Elsewhere in the unit, red fox were reported to be scarce and numbers stable or decreasing. Wolverines were reported scarce to common throughout the unit and numbers were probably stable. In Unit 22A lynx were reported to be scarce but increasing. One trapper in Unit 22B also reported lynx to be scarce and increasing, but other respondents in Unit 22B and respondents from the remainder of the unit said lynx were not present in their hunting/trapping areas. Hares were reported to be scarce to common with numbers increasing unitwide. Ptarmigan numbers were abundant and increasing throughout the unit.

Progress Meeting Project Objectives: The fur-sealing data provide only minimum estimates of harvest. Although fur-sealing agents are available in all Unit 22 villages, a significant portion of the harvest is never sealed. Many furs are kept, bartered, or sold locally for clothing or handicrafts. Increased contact with hunter/trappers throughout the unit is desirable to encourage harvest reporting and to gain information about furbearer abundance. This was accomplished in part by a new big game harvest assessment project, developed by the department and Kawerak, Inc., which enabled us to collect wolverine and wolf harvest data by household surveys in Koyuk and Shaktoolik.

For the first time, Unit 22 participated in the statewide trapper survey program and a shorter, simple survey form was developed for this unit. Respondents were helpful, particularly in assessing abundance of furbearers in different parts of the unit.

Complaints about beaver continue, particularly in the Nome area. Recreational boaters complain about the blockage of waterways, there are increased reports of 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 problems. Sentiment against beavers could perhaps be eased if the public were better educated about beaver and informed of the benefits that they provide, such as creating prime silver salmon rearing habitat in beaver ponds.

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

The number of individuals purchasing licenses has increased in some communities from our efforts to inform the public of the importance of wildlife conservation and the need for regulations. We need additional contact with local residents, primarily in the villages, for better compliance with 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 1985–1995 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. In the spring of 1999 we cosponsored a beaver trapping clinic.

Beaver

New lodges have been observed north and west of Noatak village as beavers continue to extend their range throughout Unit 23. Only a small percentage of lodges observed in the Noatak drainage are suitable habitat for overwinter survival; however, a few viable lodges do exist in the area. Kobuk River residents report beaver populations at "medium" levels and either stable or increasing in abundance. The Selawik beaver population remains high, fully occupying prime habitat. Three beavers were sealed in Unit 23 this year. Unit residents use beaver in the spring for their meat rather than fur.

Lynx

Numbers remained low throughout Unit 23. Lynx continue to be seen in the Selawik and Lower Kobuk drainages, but population recovery is still slow. Snowshoe hares continue to increase in

the Selawik drainage where the highest number of lynx sightings has occurred. Tracks have been observed in the upper Noatak drainage. No lynx were sealed this year.

Mink and Marten

Trappers in the Kobuk report locally abundant populations of marten. As in past years most marten trapping is in the upper Kobuk drainage. Similar to marten, mink numbers are highly variable throughout the unit. Those familiar with local populations report them to be stable.

Red Fox

Foxes were common throughout Unit 23. Overall numbers were lower than in the previous year. Closure of the Kotzebue dump reduced the number of foxes around the largest human population center in Unit 23. We received few observations of possible rabid animals from the public. Only 1 sample was sent for rabies testing from the region. It was a fox from Sheshalik and tested positive. There were no incidents of human exposure. Several domestic dogs had to be destroyed in Deering due to possible fox bites and poor vaccination histories.

River Otter

Based on observations during other wildlife surveys, river otters are abundant in the Noatak and Kobuk drainages. Trappers described otters as common or abundant and populations as stable in areas they were familiar with. Three trappers sealed 6 river otters (all males) from the Kobuk and lower Noatak drainage in 1998–1999.

Wolverine

Based on opportunistic sightings by staff and resident trappers, wolverine populations were highly variable throughout Unit 23. Numbers remained high in portions of the upper Kobuk and Noatak. According to some trappers, high trapping pressure in the lower portions of these drainages has significantly reduced numbers. During the 1998–1999 regulatory year, 6 hunters sealed 12 wolverines. Due to noncompliance with sealing requirements, actual harvests are undoubtedly much higher. The U.S. Fish and Wildlife and National Park Service completed the fifth year of a wolverine carcass collection program and initiated a wolverine research study in the upper Noatak. No progress or annual report is available to the State at this time.

Progress Meeting Project Objectives: The department continued to maintain open communication with area trappers to assess trapper effort and distribution of furbearers. We encouraged interested residents to become fur sealers. The region re-instituted an annual trapper questionnaire to supplement sealing data and staff observations. Current furbearer populations seem capable of sustaining target harvest levels, with the exception of lynx.

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 lowered trapper effort, and relatively few foxes were 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 are found in 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 5 wolverines during 24 hours of moose count flights in Unit 26A during 1999.

Nineteen wolverines from Unit 26A were sealed during 1998–1999. Four were females, and 15 were males. All 19 were ground shot. Trappers used snowmachines for transportation for all of them. Two were taken during December, 1 during January, 5 during February, 3 during March, and 8 during April. Local residents harvested all 19 wolverines. The 19 wolverines that were sealed during 1998–1999 is the largest number of wolverines we have sealed during a year and was probably a combination of a plentiful number of wolverines and aggressive trappers.

Progress Meeting Project Objectives: Because of limited population and harvest information, it is difficult to determine whether current harvest is within sustained yield limits. Additional efforts are needed to assess the status of furbearer populations. Inventory of furbearer populations, other than wolves, remains a low 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.

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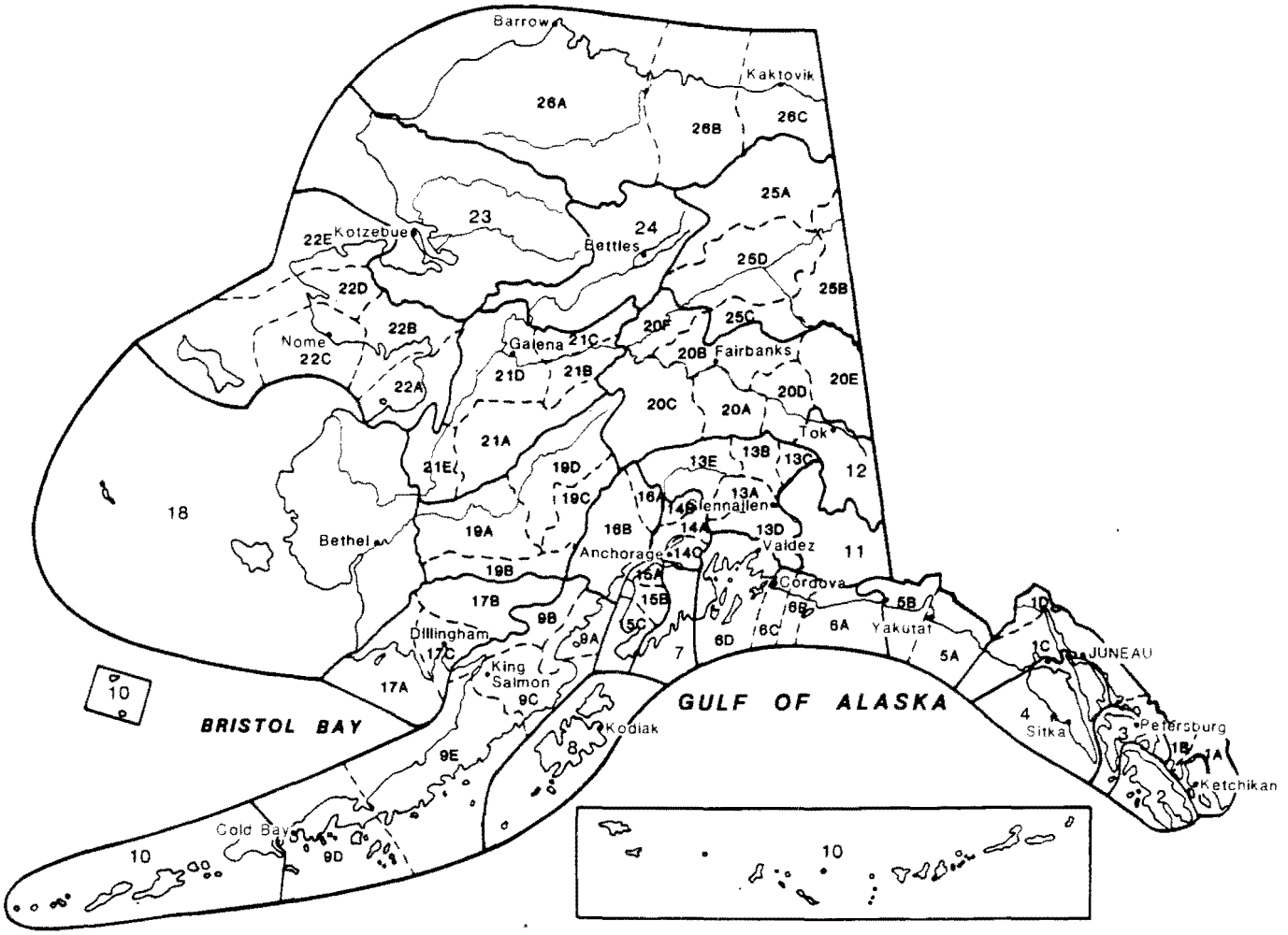
Segment Period Project Costs:

	Personnel	Operating	Total
Planned	32.8	3	35.8
Actual	32.8	2.7	35.5
Difference	0	0.3	0.3

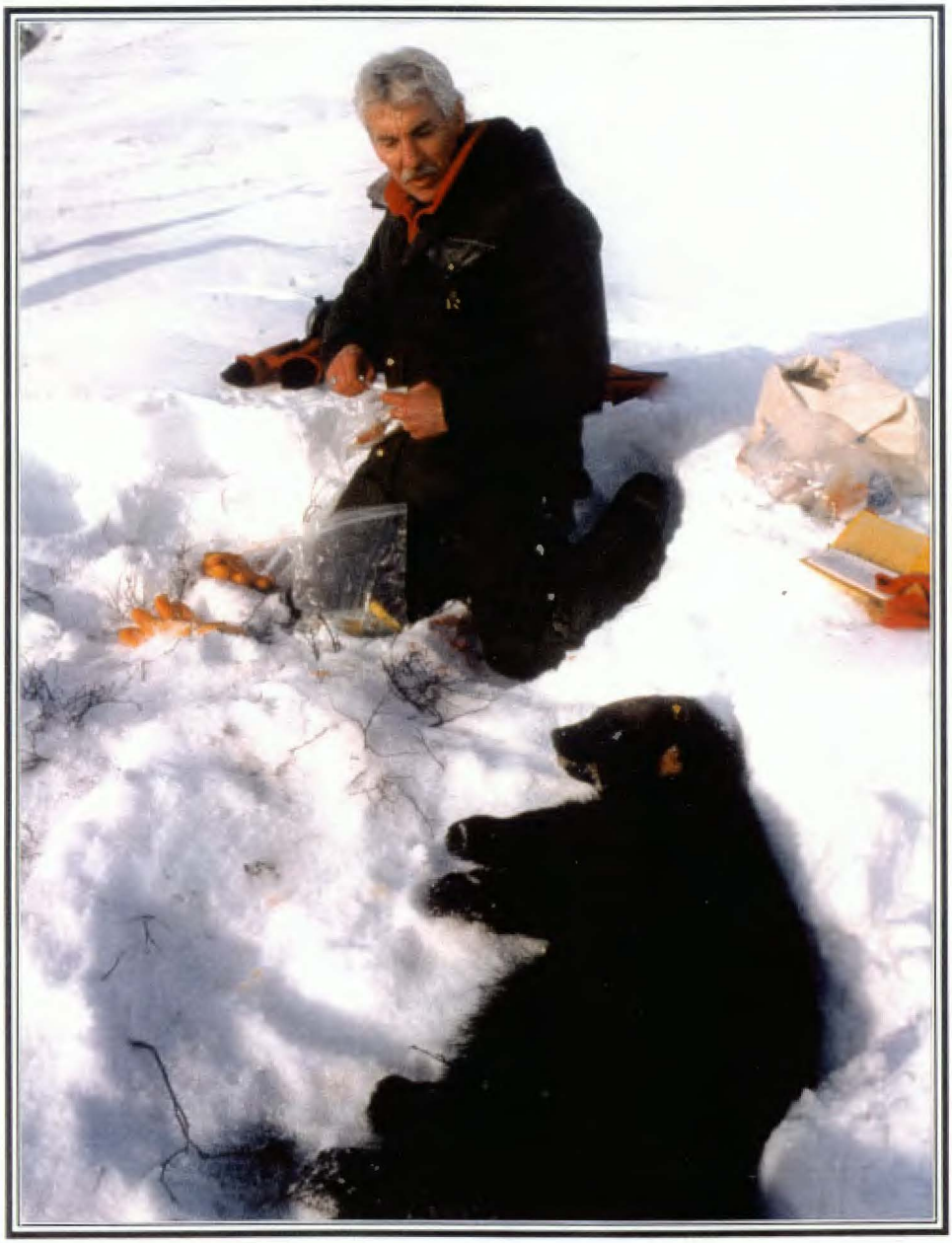
Submitted by:

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.



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