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FURBEARERS

Susan M. Abbott, Editor

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Project Title: Southeast Furbearer Population Management

Overview: Principal furbearer species in Southeast Alaska include marten, otters, beavers, and mink. Wolverines are found in low densities and lynx occur cyclically. Because the furbearer harvest levels are generally a function of market prices rather than species availability, harvest levels do not reliably indicate population status. Information from trappers, observations from the field, and harvest data suggest that regional furbearer populations are stable.

Project Location: Subunit 1A and Unit 2 (8,900 mi^2)

Subunit 1A - Ketchikan area including mainland areas draining into Behm and Portland Canals

Unit 2 - Prince of Wales Island and adjacent islands south of Sumner Strait and west of Kashevarof Passage and Clarence Strait

Project Objectives and Activities:

1) Maintain furbearer populations capable of sustaining harvests at the 1984-85 level as follows:

Species	Subunit 1A	Unit 2
Beaver	39	224
Marten	203	1,039
Otter	65	192
Wolverine & Lynx	Occasional	Not present

2) Seal beaver, marten, otter, lynx, and wolverine as they are harvested and presented for sealing.

3) Contact reliable observers through an annual trapper survey to obtain general information about the status and trends of furbearer populations.

Work Accomplished During the Project Segment Period: The following number of furbearers were harvested and sealed from Subunit 1A and Unit 2 between July 1, 1992 and June 30, 1993:

Species	Subunit 1A	Unit 2
Beaver	13	63
Marten	122	576
Otter	59	67
Wolverine	2	--

We obtained information about furbearers through an annual mail-out trapper survey during 1992-93. We also obtained anecdotal information from personal observations and contacts with hunters and trappers.

Progress Towards Meeting Project Objectives: Furbearer harvests in Subunit 1A and Unit 2 were below our stated objectives. This may be because of reduced trapper effort rather than reduced populations. Based on responses to the trapper survey, beaver in Subunit 1A are considered scarce, marten are at an intermediate level, otters are abundant, and wolverines are at an intermediate level. In Unit 2, beaver are at an intermediate level of abundance, and marten and otters are believed to be abundant. We completed all management activities during this report period.

Project Location: Subunit 1B and Unit 3 (6,000 mi^2) - Southeast Mainland from Cape Fanshaw to Lemesurier Point and adjacent islands

Project Objectives:

• Maintain furbearer populations capable of sustaining harvest at the 1984-85 levels as follows:

Species	Subunit 1B	Unit 3
Beaver	4	52
Marten	185	250
Otter	15	141
Wolverine	4	3

Work Accomplished During the Project Segment Period: During the sealing process, we questioned trappers about their impressions of populations and regulations. Most trappers felt that populations were in good condition, except for some small areas around communities where trapping effort, especially for marten, may have been excessive. No desire for more restrictive regulations were expressed. We surveyed all trappers that were active in 1991-92 by mail and will compile the data when the questionnaires are returned. A permit to remove problem beaver was issued to the Department of Transportation after beaver excluders were tried and failed.

Progress Towards Meeting Project Objectives: The harvest of furs in any one year more often indicates the prevailing market prices rather than furbearer abundance. Population trends can only be determined over long periods of time, if at all, in this region where trapping is usually a secondary source of income or pursued only as a hobby. As the following table shows, the reported harvest was mixed, compared with the objectives. There were no indications that any populations were being reduced by trapping. Fewer trappers were active than in previous years.

Species	Subunit 1B	Unit 3
Beaver	0	26
Marten	49	65
Otter	17	11
Wolverine	7	1

Project Location: Subunit 1C (7,600 mi^2) - The Southeast Alaska mainland and islands of Lynn Canal and Stephens Passage lying between Cape Fanshaw and the latitude of Eldred Rock, including Sullivan Island and the drainages of Berners Bay

Project Objectives and Activities:

1) Maintain furbearer populations capable of sustaining harvest at the 1984-85 level as follows:

Species	Number
Beaver	36
Lynx	1
Marten	245
Otter	34
Wolverine	9

2) Seal beaver, marten, otter, lynx, and wolverine as they are harvested and presented for sealing.

3) Contact reliable observers to obtain general information on the trapping season.

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

Progress Towards Meeting Project Objectives: Trappers took 35 beaver, 42 marten, 12 otter, and 2 wolverine. One lynx was taken in this area. Subunit 1C furbearer populations appear to be stable, with the possible exception of marten. Harvest levels were below management goals for beaver, marten, otter, and wolverine. Marten harvest declined 78% from the previous year, reflecting a regionwide trend. Through the use of trapper questionnaires we will continue to try to understand fluctuations in fur harvest in future years.

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

Project Objectives and Activities:

1) Maintain furbearer populations capable of sustaining harvest at the 1984-85 level as follows:

Species	Number
Marten	100
Otter	6
Wolverine	9

2) Seal beaver, marten, otter, lynx, and wolverine as they are harvested and presented for sealing.

3) Contact reliable observers to obtain general information on the trapping season.

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

Progress Towards Meeting Project Objectives: Furbearer populations within Subunit 1D appear stable, although marten were harvested in low numbers and lynx were taken in unprecedented high numbers. Established harvest objectives were not met. Two marten, 2 otter, 30 lynx, and 5 wolverine were harvested. The high harvest of lynx suggests an influx of animals from interior habitats of Canada, where snowshoe hare populations have declined. Beaver have returned to the Chilkat River drainage in low numbers. Trapper questionnaires received from Subunit 1D trappers suggest changes in the perceived level of the lynx population. Deep snows may have discouraged trapping effort.

Project Location: Unit 4 (5,800 mi^2) - Admiralty, Baranof, Chichagof, and adjacent islands

Project Objectives:

- Maintain furbearer populations capable of sustaining harvest at the 1984-85 level as follows:

Species	Number
Beaver	14

Marten	1,355
Otter	167

Work Accomplished During the Project Segment Period: Marten, otters, and beavers were sealed within 30 days of harvest. Staff examined furs at sealing and determined sex and took measurements. We contacted trappers on northeastern Chichagof Island for opinions about declining marten harvests.

Progress Towards Meeting Project Objectives: It is not possible to determine if the objective of maintaining a population adequate to provide a harvest of 12 beavers and 1,355 marten was met. The harvest may not reflect populations. A total of 2,104 marten, 11 beavers, and 131 otters were harvested and sealed. There is no indication that trapping has depressed furbearer populations except on northeastern Chichagof Island where a system of logging roads provides access to most of the habitat.

Project Location: Unit 5 (6,200 mi^2) - Cape Fairweather to Icy Bay, eastern Gulf of Alaska coast

Project Objectives and Activities:

1) Maintain furbearer populations capable of sustaining harvest at the 1984-85 level as follows:

Species	Number
Beaver	3
Lynx	1
Marten	44
Otter	2
Wolverine	2

2) Seal beaver, marten, otter, lynx, and wolverine and as they are harvested and presented for sealing.

3) Contact reliable observers to obtain general information on the trapping season.

Work Accomplished During the Project Segment Period: Staff sealed furs in Yakutat. We analyzed harvest from furbearer sealing certificates. No planning meetings were held, nor did we do any surveys during the report period.

Progress Towards Meeting Project Objectives: Commercial Fisheries Division staff in Yakutat sealed furbearers as presented at that ADF&G office. Yakutat residents as well as nonlocal outdoorsmen contributed anecdotal information about furbearer sightings. Five beaver, 6 otter, 26 marten, and 2 wolverine were sealed during the trapping year. For the

fourth year in a row, no lynx were taken. Management objectives for beaver, otter, and wolverine were met, while those for lynx and marten were not met. All furbearers killed were taken by local residents.

Segment Period Project Costs:

	Personnel	Operating	Total
Planned	$25.2	$2.5	$27.7
Actual	$25.2	$5.5	$30.7
Difference	0	3.0	3.0

Explanation: We spent an additional 3.0 collecting and preparing marten samples from Baranof Island in Unit 4.

Submitted by:

Bruce Dinneford
Regional Management Coordinator

Project Title: **Southcentral Alaska Furbearer Management**

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

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

Work Accomplished During the Project Segment Period: Appointed sealers and ADF&G staff sealed 106 pelts (22 beavers, 61 otters, and 19 wolverines). Thirteen otters were live-trapped in the Cordova area for relocation to Utah. Over the past 4 years, 88 otters have been captured for this relocation effort.

We sent 35 mail questionnaires to trappers requesting information on trapping activity and furbearer abundance and 19 trappers responded. Results will be available in fall 1993.

Progress Towards 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 (8,400 mi^2)
Kenai Peninsula

Project Objective: Develop measurable objectives for all furbearer species by 1995.

Work Accomplished During the Project Segment Period: A total of 227 pelts (32 marten, 133 beavers, 43 land otters, and 16 wolverines) was sealed during the reporting period. Lynx hunting and trapping seasons were closed during 1991-92 because of low numbers of animals. Two lynx were trapped as non-target species and 1 was killed by a highway vehicle. Mink, weasel, muskrat, red fox, and coyote are also harvested on the Kenai, however, sealing is not required for these species. Catch reports from trapper questionnaires suggest harvest of these species was comparable to the previous year.

Progress Towards Meeting Objective: Population objectives have not been established for furbearer species. Lynx and beaver censuses have been conducted in small study areas and will possibly be expanded to estimate densities on a subunit level in the future.

The monitoring of harvests from sealing and reports from trappers suggested all furbearers except lynx were found in harvestable numbers and populations were stable. The lynx population declined during the late 1980s and has not started to increase over a sufficiently large area to open the season. We recommend no changes in seasons or bag limits.

Project Location: Unit 8 (8,750 mi^2)
Kodiak Archipelago

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

Work Accomplished During the Project Segment Period: Nineteen trappers submitted pelts for sealing. Seventeen trappers harvested otters, and 8 trappers harvested beavers. A total of 91 otters (38 males, 36 females, 17 unknown sex) and 65 beavers was sealed. Highest individual catches were 30 beavers and 15 otters. The average catch was 5.3 otters per trapper and 8.1 beavers per trapper. Trapper questionnaires were mailed to 34 individual who had a recent history of trapping in Unit 8. Seventeen (50%) questionnaires were returned.

Progress Towards Meeting Objectives: Trapping effort and harvests decreased from that documented 1991-92. The number of trappers who sealed furs decreased from 28 in 1991-92 to 19. The number of otters sealed decreased from 138 to 91, and the beaver harvest decreased from 79 to 65.

Furbearer populations appear to be high, but objective means of assessing trends have not been applied in Unit 8. At the present intensity, trapping is not a significant mortality factor in any furbearer species. Red foxes and beavers are particularly abundant. River otters are potentially susceptible to overharvest and should be given the highest priority in developing population trend techniques.

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: Surveys were not conducted during this report period. An indirect survey for estimating furbearer population trends and relative abundance was done by questionnaires sent to a select group of trappers.

Twenty-four questionnaires were returned. Trappers reported most species populations were relatively stable. Snow and weather conditions, especially in Subunit 9E, were not conducive to productive trapping.

We derived furbearer harvest information from furbearer sealing certificates. The preliminary harvest for Unit 9 from sealing certificates was as follows: beavers - 258, otters - 100, lynx - 51, and wolverines - 46. No furbearers were sealed from Unit 10. The Unit 9 furbearer harvest has increased from 1990-91 season.

Progress Towards Meeting Objectives: The lack of efficient methods to estimate and directly monitor populations, compounded by unreliable snow conditions, has hampered progress towards 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 that efforts will be expanded on the Alaska Peninsula. Currently 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

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

Work Accomplished During the Project Segment Period: We have used trapper questionnaires for 6 years to determine trapping pressure, harvests, and furbearer abundance. This year we sent questionnaires to 127 Unit 11 and 13 trappers and preliminary results indicate 62 (49%) responded. Of those responding, 18 (29%) did not trap during the 1992-93 season. The main reason given for not trapping this year was low fur prices. Questionnaire respondents reported an average of 16 years experience in Alaska. Most trappers averaged between 25 and 100 sets along trap lines that averaged 24 miles long and used either highway vehicles or snowmachines as transportation. Unit 11 and 13 trappers reported red fox numbers were about the same as last year. Lynx numbers were reported to be slightly higher than in the previous year while numbers of marten and other furbearers were similar to last year.

All but 5 of the 29 aerial transects (22 in Unit 13 and 7 in Unit 11) established since 1988 to monitor lynx abundance and population trends were flown during March 1993. In Unit 13, 15 (68%) of the transects had lynx tracks present. Five of the Unit 11 transects (71%) had lynx sign present. The 1993 survey suggests a slight increase in lynx abundance compared to 1992 estimates.

During 1992-93, 32 wolverines (20 males, 9 females and 3 unknown) were sealed in Unit 13 by 22 different trappers. In Unit 11, 4 trappers sealed 5 wolverine (3 males, 2 females). Fifty trappers sealed 128 lynx pelts from Unit 13 while 13 trappers sealed 51 lynx taken in Unit 11. This is the third year lynx trapping occurred in these units after a 3-year closed season. Ten trappers sealed 20 otter (10 males, 7 females and 3 sex unknown) in Unit 13 during 1992-93. Only 1 otter (male) was sealed from Unit 11. In Unit 13, 34 trappers sealed 239 beaver, while in Unit 11, 3 trappers sealed just 5 beaver.

Sealing data for wolverine from both units indicates the number of wolverine trapped has declined appreciably in recent years. In Unit 13 between 1971 and 1982 the average

annual take was 81 wolverines compared to 35 between 1983 and 1991. In Unit 11 the average annual wolverine take before 1985 was 27 animals, but has averaged only 10 since. Overall success rates for wolverine trappers remains low. All wolverine taken in Unit 11 were trapped or snared, while in Unit 13, 8 (25%) were ground shot with the rest trapped or snared.

The numbers of transects with lynx tracks increased in 1992-93; however, the percent of kittens in the harvest decreased to 12%, suggesting the cycle has peaked and is decreasing. The increased number of tracks in the transects may indicate fewer lynx traveling greater distances in search of hares. In fact, 2 radio-collared adult lynx from a study in Yukon Territory were trapped in this area; one near the Chickaloon River in Subunit 13A and another along the Nabesna Road in Unit 11. Many trappers reported substantial lynx movement throughout the trapping season. Trappers also reported that many lynx trapped were in very good condition, with substantial fat deposits. This condition has often been reported during decreasing or low lynx numbers.

Though the previous peak of the 10-year lynx cycle occurred in 1982, the 1992 harvest in Unit 13 was somewhat higher than expected, considering the lower price for pelts and decreasing trapping effort. The lynx harvest in Unit 11 was half of last year's take. The continued lack of snowshoe hares almost certainly limits the lynx cycle.

Otter harvests in Unit 13 have fluctuated between a high of 68 in 1983 and a low of 5 in 1990. These fluctuations in the take are probably not caused by changes in the otter population but relate more to trapper interest and price. Otter harvests in Unit 11 have been low and changed little over the past 10 years compared to Unit 13. Virtually all otter trappers in both units take their animals by trapping. No trend in chronology of the harvest was apparent.

The Unit 13 beaver harvest increased 34% in 1992-93 from the prior year's take of 178. Since 1983, the beaver harvest has averaged 189. Record beaver harvests occurred in 1986 and 1987 when 333 and 300 beaver were sealed. In Unit 11 beaver harvests have fluctuated in recent years between a high of 59 in 1985 and a low of 4 in 1991. In both units the catch per trapper has been fairly constant but the number of beaver trappers fluctuated between years. Harvest chronology indicates most animals are taken either early in the trapping season or late in spring.

Progress Towards Meeting Project Objectives: I recommend maintaining the current lynx trapping season in both Units 11 and 13 for the 1993-94 season. Lynx were more abundant during the past several years and the Department told trappers that under the current management scenario, we would cut back during the low part of the cycle and increase the season during the high years. Recent information from research in Canada indicates lynx harvest for one or two years after the peak takes mainly surplus animals and will not significantly affect recovery from the low. Because of the relatively low price of lynx pelts, trapping effort is not expected to increase. Careful monitoring of the lynx

cycle will be necessary over the next 2 years. If lynx numbers start to decline too rapidly, a reduction in season length may be necessary. In Unit 13, the current lynx and hare cycles appear much weaker than anticipated and lynx numbers and harvests may not reach the level observed during the early 1980s. Based on the prior cycle and information from the past season, the coming season should show a decreased harvest.

More information is needed on the Unit 13 wolverine population. Harvests have declined since the 1970s and early 1980s. Management decisions have contributed to this reduced harvest; land-and-shoot trapping for wolverine was eliminated and last year the season was shortened by 25 days. However, the drop in harvest is probably more related to decreased population size. Annual harvest rates during the past few years may have exceeded 10% of the fall population estimate. I recommend more effort and funds be allocated to estimate wolverine population size and to determine the effects of current harvests on the population.

Low fur prices tended to reduce trapping pressure for the third year in a row. Some species like red fox and mink received very little pressure compared to the early 1980s. Projected fur prices for the upcoming season suggest little improvement. Trapping pressure for marten, fox and lynx is not expected to increase appreciably.

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 1992-1993 trapping season 207 beavers, 15 otters, 11 lynx, 6 wolverines, and 6 marten were sealed from Unit 14. In addition, 48 beavers were 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. Responses indicated at least 42 coyotes, 112 mink, 69 muskrats, 42 red foxes, 10 red squirrels and 23 weasels were taken in Unit 14.

Unit 16

During the 1992-1993 trapping season 99 beavers, 13 otters, 11 wolverines, 3 lynx and 122 marten were sealed from Unit 16. Minimum harvest data for fur species other than those which must be sealed were collected with a voluntary reporting form included with

the trapper questionnaire. Responses indicated at least 22 coyotes, 33 mink, 35 muskrats, 25 red foxes and 19 weasels were taken in Unit 16.

Units 14 and 16

Forty-nine trappers (67%) responded to the department's trapper questionnaire. Of these, 32 trapped during 1992-1993; 29 of these trappers returned the voluntary response form detailing their total fur harvest for the season.

Units 14 and 16

Muskrat pushup count areas on Palmer Hay Flats State Game Refuge were ground-surveyed during 16-30 March 1993. The number of pushups increased 24% over the base year of 1991, and 10% over 1992. However, the number of pushups in the 4 count areas nearest the Glenn Highway construction was still below that of 1991.

We surveyed 5 of 6 established furbearer track count trend lines via snowmachine in Subunits 14A, 14B and 16A. Additional sites are being considered for trend lines.

Harvest objectives, based on long-term average harvests, were established in 1992 for the fur species for which sealing is required (except marten). None of these harvest objectives were met, probably because of the poor fur market and poor trapping conditions.

Progress Towards Meeting Project Objectives: 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. It will be important to continue track transects, and also to obtain data on track accumulation rates. However, because most tappers in this area trap for recreation, the investment necessary to obtain 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: We sealed pelts and interviewed trappers informally during the sealing. We sent trapper questionnaires to 70 local trappers. Thirty-two questionnaires were returned and they are being analyzed. No population surveys were conducted.

Progress Towards Meeting Project Objectives: Preliminary beaver harvest data suggested a harvest of 450 beaver. This was the lowest reported harvest since 1956-57 (367 beaver), and well below the 5-year average of 1,507. Trappers again reported that beaver were abundant throughout the unit. Low prices and poor weather conditions were cited for the low harvest. Prices paid by local furbuyers ranged from $4 for smalls to $27 for super blankets. Average price paid was $15.

Red fox continued to increase in number throughout the unit. Prices paid for foxes were comparable to last year, but continued to be low ($17-27).

Preliminary data indicated a harvest of 83 otter (53% male) for this period, the lowest harvest since records began being collected in 1977-78. Trappers reported otter were abundant throughout the unit, but few trappers were afield because of low prices and poor weather conditions. Prices for otter pelts ranged from $20-50, an increase over last year.

Trappers harvested 15 lynx (5 male, 4 female, 6 unknown) during this report period. Lynx numbers continued to increase throughout the unit, but the population was still relatively low. Prices for lynx pelts were very low, ranging from $35-60.

We collected no data on the number of marten taken from the unit during this period. Trappers reported stable marten numbers along the Nushagak, Mulchatna and Wood river drainages. Prices for marten ranged from $16-35.

Preliminary data indicated a harvest of 12 wolverine during the 1992-93 season, the lowest harvest since records began being compiled in 1973-74. This is considerably lower than the 5-year average (42.2). Trappers reported that wolverine populations remained relatively high in the unit. Prices were lower this year, ranging from $75-175 per pelt.

Progress Towards Meeting Objectives: We sealed pelts and informally interviewed trappers during sealing. Trapper questionnaires were sent to 60 local trappers. Ten questionnaires were returned and they are currently being analyzed.

We conducted beaver cache surveys on the Kokwok and Iowithla rivers in October 1992. We found 43 active lodges on the Kokwok (1.08/mi^2) and 52 active lodges on the Iowithla (1.30/mi^2).

Segment Period Project Costs:

	Personnel	Operating	Total
Planned	64.6	15.5	80.1
Actual	64.6	12.8	77.4
Difference	0.0	+2.7	+2.7

Explanation: Unusual weather conditions were inadequate for staff to conduct full surveys.

Submitted by:

Jeff Hughes
Wildlife Biologist

Project Title: Region III Furbearer Population and Habitat Management

Project Location: Units 12, 19, 20, 21, 24, 25, 26B, and 26C

Units 12 and 20E

Project Objectives and Activities:

Unit 12:

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

    1a. Seal furs as they are harvested and presented for sealing and analyze harvest patterns.

    1b. Conduct trapper questionnaire and interviews as a basis for determining the status of various furbearer populations.

2. Develop more specific population objectives for furbearers by 1995.

Subunit 20E:

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

    1a. Seal furs as they are harvested and presented for sealing and analyze harvest patterns.

    1b. Conduct trapper questionnaire and interviews as a basis for determining the status of various furbearer populations.

2. Develop more specific population objectives for furbearers by 1995.

Work Accomplished During the Project Segment Period:

Unit 12:

1a. Based upon sealing certificates received through 23 June 1993, the FY93 Unit 12 furbearer harvest included: 5 land otters, 34 beavers, 13 wolverines, and 226 lynx. The FY93 lynx harvest increased by 28% from FY92. The wolverine harvest declined by 50%. Harvest totals for land otter and beaver remained comparable to the 1991-92 season. Kitten lynx composed 2.2% of the harvest compared to 5%

last year. In response to the low kitten total, the lynx season will be shortened and run between 1 December and 31 January during 1993-94.

1b. Discussions with local trappers indicated that lynx, fox, beaver, mink, and ermine were common in Unit 12 during FY93 but snowshoe hares declined substantially. In response, the lynx population was highly transitory and more susceptible to trapping. Marten numbers continued to decrease, probably because of the high numbers of predators and a declining microtine population. Wolverines are uncommon and stable except in the mountainous country in southern Unit 12. In that area, wolverines are more common and appear to be increasing. Otters are uncommon and stable. Low market prices continue to negatively effect trapper effort for most furbearer species.

Subunit 20E:

1a. The following furbearers were sealed during FY93: 0 land otter, 6 beavers, 4 wolverines, and 99 lynx. Harvest was lower during FY93 compared to last year for these species. The percent of kittens in the harvest was 4.5, down from 15% during 1991-92. The lynx population was abundant but highly mobile because of the clumped distribution of snowshoe hares. The lynx population is expected to decline substantially during FY94. In response, the lynx trapping season will be shortened next year and run between 1 December and 31 January.

1b. Based on discussions with local trappers and on incidental observations by ADF&G personnel, the marten population apparently declined during FY93, the wolverine population was low and stable, foxes were common, coyotes were low but increasing and otters were uncommon in Subunit 20E.

Progress Toward Meeting Project Objectives: Accurate annual harvest records were kept for species sealed. Data from lynx carcass collections, trapper questionnaires and from incidental observations by ADF&G personnel provided adequate information about furbearer population trend and status.

Although data on other furbearer species were reviewed, no additional species-specific management objectives were established. The new target date for establishing these objectives will be FY94.

Unit 19

Project Objectives and Activities:

1. Annually determine current status and population trends for each furbearer species and their primary prey species, assess trapper effort and distribution, and obtain estimates of harvest for all furbearer species.

1a. Seal furs as they are harvested and presented for sealing and analyze harvest patterns.

1b. Conduct trapper questionnaire and interviews as a basis for determining the status of various furbearer populations.

Beaver: Manage the various subpopulations to maintain a mean pelt size >50 inches and <25% kits in the annual harvest.

Manage the population to maintain a mean density of not less than 1 active colony per 3.2 km of suitable waterway, as determined through periodic fall cache surveys.

Marten: Obtain accurate estimates of annual harvests through comparisons of Fur Acquisition Reports, Fur Export Reports, and trapper questionnaires.

Manage the population to maintain >50% males in the annual harvest and a ratio of young:adult females of not less than 2:1 in the annual harvest.

Lynx, River Otter, and Wolverine: Maintain accurate annual harvest records based on sealing documents.

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

Work Accomplished During the Project Segment Period:

1a. Because all sealing documents for the 1992-93 season have not yet been processed, the following data are based on the 1991-92 trapping season. For Unit 19, 384 beaver, 17 red fox, 32 lynx, 910 marten, 18 mink, 13 muskrat, 39 river otter, and 54 wolverines were harvested. From the Unit 19 and 21A and 21E trapper questionnaire, coyotes were stable but still scarce, lynx were stable but scarce, red fox increased to abundant, marten very common to abundant and stable, muskrats were stable but scarce, mink were stable at moderate populations, beaver were very common to abundant and stable, wolverines increased but were still scarce, and river otter were common at stable population levels.

1b. A questionnaire was sent to 102 trappers in Unit 19 to evaluate status and trends in populations, as well as numbers harvested. Results have not yet been tabulated for the 1991-92 season. During mid-November, 9 areas were subjected to beaver cache counts. Marten carcass collections were repeated. We sealed pelts throughout the trapping seasons. We analyzed the harvest of beaver, river otter, lynx, and wolverine by evaluating sealing documents.

Furbearer harvests were very low compared to previous years, largely as a result of low fur prices. Fifteen of the 39 respondents to the trapper survey indicated that they did not trap. The primary reason given for not trapping was low fur prices and the chance to "let the line rest."

During the 1992-93 trapping season, 111 marten carcasses were collected and sex and age ratios were evaluated. The male:female ratio in the harvest was 1.52:1 and the young:adult female ratio was 5.91:1. These data were not derived from very many carcasses because fewer trappers participated. Still, both these indices indicate a healthy and probably expanding marten population and with few participants there is no threat of overharvest.

Progress Toward Meeting Project Objectives: All harvest objectives for furbearers were met during FY93. Sealing of furbearer pelts was done through the use of several village sealing agents, travelling furbuyers, or efforts of ADF&G personnel. Analyses of harvest and population trends will be completed for the 1992-93 season when all sealing certificates, acquisition, export, and trapper questionnaires are submitted.

Population assessment objectives were not met. Weather did not permit track count flights and beaver cache counts were not conducted. However, other sources of information (e.g., trapper questionnaires, flights for other reasons) suggest healthy populations.

Subunits 20A, 20B, 20C, 20F, and 25C

Project Objectives and Activities:

1. Maintain accurate records of furbearer harvest, pelt export, pelt acquisition, and population trends.

   1a. Compile and summarize data on sealing certificates, fur export reports, fur acquisition reports, and trapper questionnaires.

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

2a. 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.

2b. Issue nuisance beaver permits to remove problem animals.

2c. Coordinate with Department of Transportation and Public Facilities (DOT&PF) to minimize dammed culverts and flooded roads.

3. Manage beaver in Subunits 20A, 20C, 20F, 25C and the remainder of 20B for an annual subunit harvest that includes <20% kits when the harvest for that subunit exceeds 50 beaver.

3a. Determine the proportion of harvested beaver that had pelts ≤52 inches (kits).

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

4a. Estimate the annual sex and age of harvested lynx by examining carcasses from Subunits 20A and 20B.

4b. Determine whether or not lynx pelt measurements can be used to index the number of kittens in the harvest.

5. Maintain furbearer trapping seasons during periods of peak pelt primeness.

6. Summarize data on the status of wolverines in the Fairbanks Area.

Work Accomplished During the Project Segment Period:

1. Sealing certificates indicate that trappers harvested 448 beavers, 254 lynx, 23 otters, and 44 wolverines from this area in 1992-93. The harvest included 72 beavers, 75 lynx, 6 otters, and 8 wolverines from Subunit 20A; 288 beavers, 93 lynx, 14 otters, and 5 wolverines from Subunit 20B; 72 beavers, 53 lynx, 3 otters, and 2 wolverines from Subunit 20C; 10 beavers, 25 lynx, no otters, and 3 wolverines in Subunit 20F; and 6 beavers, 8 lynx, no otters, and 2 wolverines from Subunit 25C. We assigned Uniform Coding Units to sealing data to monitor distribution of harvest.

In 1991-92, trappers either exported or sold to furbuyers 6,608 furs from Unit 20, which was an increase from 5,438 in 1990-91. In both years, 68% of these furs were marten.

We summarized trapper questionnaire responses from the 1991-92 season and reviewed the mailing list for 1992-93. In April 1993, we sent a questionnaire to 108 trappers. Responses to this questionnaire will be evaluated during the next report period.

2. Because of an earlier freeze up from unseasonably cold weather, we did not conduct our annual beaver cache survey along the lower Chena River in fall 1992. We administered a registration trapping season for this area, though, and 15 beavers were killed by 10 permittees during the 1 December - 31 January season.

   We issued 20 nuisance beaver permits in 1992, which resulted in the taking of 30 beaver. Distinct problem areas seem to be Noyes Slough and the sloughs that flow through and around North Pole.

3. Three subunits (Subunits 20A, 20B, and 20C) had beaver harvests exceeding 50 beaver in 1992-93. Harvest data entry has not been completed at this time, consequently, the percentage of kits in the harvest has not been calculated.

4. In 1992-93, we collected lynx carcasses from Subunits 20A (9), 20B (28), and 20F (3). This represented 38% (97/254) of the harvest from these 3 subunits, and 22% (37/168) of the harvest from Subunits 20A and 20B combined.

   We necropsied 97 lynx carcasses collected from trappers in 1992-93 in Unit 20. Preliminary data analysis indicates that the percentage of kittens in the samples from Subunits 20A or 20B declined from 30% (13/43), to 20% (18/91), to 16% (8/51), to 11% (13/119), and 11% (4/37) from 1988-89 through 1992-93, respectively. Most lynx were in excellent condition with abundant fat. We collected tissue samples to test for trichinosis and to assist a consulting firm's study of lynx genetics. The ages of the 1992-93 collection will be analyzed for the next report period.

   As in the previous 4 years, we collected more male (50) than female (47) lynx carcasses.

Progress Toward Meeting Project Objectives: We are meeting our objective to maintain accurate records of fur harvest, export, and acquisition.

Where beaver densities are causing human-beaver conflicts, the registration trapping season and the nuisance permits have adequately controlled problems. Along with educating the public on how to safeguard against beaver damage to property, we have also been coordinating with the DOTPF to combat problem areas where beaver activity endangers the integrity of the road.

The lynx harvest tracking strategy seems to be working well to adjust the lynx harvest in relationship to abundance coinciding with the population cycles. During the last 5 years, we have collected lynx carcasses from trappers to supplement our data on lynx population trends. We have recommended changes in trapping seasons in accordance with the tracking harvest strategy. During the next report period, we will complete a final report from this collection and will make recommendations on whether or not to continue the carcass collection. We will also continue to discuss the effectiveness of this management strategy.

We met our objective to maintain furbearer trapping seasons during periods of peak pelt primeness, but we did not summarize data on the status of wolverines in the Fairbanks Area.

Subunit 20D

Project Objectives and Activities:

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

    1a. Seal furs as they are harvested and presented for sealing and analyze harvest patterns.

    1b. Conduct trapper questionnaire and interview as a basis for determining the status of various furbearer populations.

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

    2a. Conduct snowshoe hare track surveys and small mammal trap line surveys to monitor prey abundance.

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

    3a. Purchase lynx carcasses from trappers and examine for reproductive status.

Work Accomplished During the Project Segment Period:

1a. Pelts were sealed for beaver, lynx, otter, and wolverine trapped in Subunit 20(D) during the 1992-93 trapping season. Preliminary trapper harvest totaled 6 beavers, 95 lynx, 0 otters, and 6 wolverine.

1b. We mailed trapper questionnaires to trappers in Subunit 20D. Usable questionnaires were received from 21 trappers, and responses were tabulated to quantity trapper responses to furbearer abundance and population trends.

2a. No small mammal abundance data were collected in fall 1992 because of unseasonably early snowfall in Subunit 20D.

3a. Thirty-seven lynx carcasses were purchased from trappers for $10 per carcass. We necropsied carcasses, took measurements, and removed the uterus from females for examination. Data was pooled with all of Unit 20 and resulted in 11% kittens.

Progress Towards Meeting Project Objectives: Management objectives were accomplished during this report period by sealing furs of beaver, lynx, otters, and wolverine and analyzing harvest patterns. We mailed trapper questionnaires to trappers and analyzed results. No trends in prey abundance were monitored. We purchased lynx carcasses and examined them for reproductive status of females and we collected other data.

Subunits 21B, 21C, and 21D

Project Objectives and Activities:

1. Manage furbearer populations which will sustain furbearers at levels high enough to provide for maximum consumptive and non-consumptive use.

   1a. Seal furs as they are harvested and presented for sealing and analyze harvest patterns.

   1b. Conduct trapper questionnaire and interviews as a basis of determining the status of various furbearer populations.

Work Accomplished During the Project Segment Period:

1a. Based on sealing certificates received in Galena through 25 June 1993, harvest of furbearers from Subunits 21B, 21C, and 21D were 72 beavers, 13 lynx, 7 otters, and 5 wolverines. Harvest of beaver was greatly reduced reflecting reduced trapping effort; lynx numbers were also down. Lynx tracks after the trapping season indicated that lynx were abundant so effort was also down since we are still in the 10-year population peak.

1b. Most unit trappers set for lynx, otter, and wolverine incidentally to marten trapping. Low martin prices and poor snow conditions during the whole season directly influenced trapping effort. Beaver and otter continue to be abundant.

Progress Toward Meeting Project Objectives: A variety of circumstances influence trapper effort and catch within the unit. Fur prices, social activities, cultural backgrounds, and weather conditions all contribute to the amount of effort trappers expend. These factors kept harvests low enough to meet management objectives during this report period.

Unit 24

Project Objectives and Activities:

1. Manage a furbearer population which will sustain furbearers at levels high enough to provide for maximum consumptive and non-consumptive use.

   1a. Seal furs as they are harvested and presented for sealing and analyze harvest patterns.

   1b. Conduct trapper questionnaire and interviews as a basis of determining the status of various furbearer populations.

Work Accomplished During the Project Segment Period:

1a. During the report period, sealing certificates in Galena indicate a harvest of 6 otters, 6 wolverines, 88 lynx and 93 beavers. Lynx numbers were down indicating that we are past the 10-year population peak.

1b. Most unit trappers set for lynx, otter and wolverine incidentally to marten trapping. Low marten prices and poor snow conditions during the entire season directly influenced trapping effort. Beaver and otter continue to be abundant in the southern portion of the unit.

Progress Toward Meeting Project Objectives: A variety of circumstances influence trapper effort and catch within the unit. Fur prices, social activities, cultural backgrounds, and weather conditions contribute to the amount of effort trappers expend. These factors kept harvests low enough to meet management objectives during this report period.

Subunits 25A, 25B, 25D, 26B, and 26C

Project Objectives and Activities:

Objectives

1. Determine the relative annual abundance of lynx, marten, snowshoe hares, and beavers by 1991.

2. Determine annual age and sex ratios of harvested lynx and marten by 1991.

3. Develop accurate estimates of annual furbearer harvest by 1991.

4. Identify trapper use patterns by 1991.

5. Determine marten habitat use and dispersal by 1992.

6. Determine lynx habitat use, movements, and density in relation to successional vegetation stages following wildfire (1991 through the lynx population peak).

Activities

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

2. Conduct trapper questionnaires and interviews as a basis for determining the status of various furbearer populations.

Work Accomplished During the Project Segment Period: Harvest data for sealed species including lynx, wolverine, beaver, and otter are being compiled and analyzed based on sealing forms. Final harvest figures are not available, but as in previous years the harvest of sealed species was greatest in Unit 25. Fur prices have declined significantly in the last 2-3 years, and trapping effort has declined accordingly. The remaining trapping effort is focused primarily on marten and lynx. Snowshoe hares are nearing their cyclic low and lynx harvests are declining. An extended flood in May 1992 on the flats around Fort Yukon decimated small mammal and furbearer populations over a large area and contributed to a reduced harvest of most species.

Progress Toward Meeting Project Objectives: Harvests of all furbearer species sealed by ADF&G personnel were within population management objectives. Specific objectives to determine relative abundance of lynx, marten, and snowshoe hares, and beaver and marten habitat use and dispersal were not met because funding was limited.

Because of declining trapping effort and reduced funding, the we recommend the following revised objectives.

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

    1a. Seal furs as they are harvested and presented for sealing and analyze harvest patterns.

1b. Conduct trapper questionnaire and interviews as a basis for determining the status of various furbearer populations.

2. Develop more specific population objectives for furbearers by 1995.

Segment Period Project Costs:

	Personnel	Operating	Total
Planned	64.8	4.0	68.8
Actual	124.0	3.0	127.0
Difference	-60.0	1.0	- 59.0

Explanation: More staff time was spent on fur management than was anticipated when budget was prepared.

Submitted by:

Kenton P. Taylor
Regional Management Coordinator

Project Title: **Western and Arctic Alaska Furbearer Survey and Inventory**

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

Project Objectives and Activities:

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

   1a. Estimate abundance and use of selected furbearers in Unit 18.

   1b. Provide support to the furbearer sealing program in Unit 18.

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 sent out public notices to all village post offices and furbearer sealing agents for the fifth year informing hunters and trappers that all wolves, wolverines, beaver, otter, and lynx harvested need to be sealed. Also, we sent public notices explaining the use of fur export permits and the importance of reporting all fur harvests. We contacted all furbearer sealing agents about proper methods for sealing pelts and filling out fur acquisition reports. Twenty-nine sealing agents were sealing furs in Unit 18 for the 1992-93 season, of which a few were also licensed furbuyers.

Beaver damage complaints were received by the City of Bethel, as well as other villages in the Yukon-Kuskokwim Delta. Several villages asked about removing the beaver dams with the use of dynamite and were referred to the Habitat Division staff in Anchorage.

Pelts were sealed in the Fish and Game office in Bethel and in the villages when opportunity presented itself, usually incidental to public meetings and license vending. Also, pelts from other Units were often sealed as well. Fur sealing certificates were coded and filled out appropriately so that harvests for different drainages could be evaluated.

Progress Towards Meeting Project Objectives: A trapper questionnaire will be sent out during August 1993. After responses from trappers are received, furbearer trends and furbearer abundance will be evaluated for each furbearer species.

The preliminary reported harvest of furbearers in Unit 18 during the 1992-93 regulatory year were 539 beaver, 200 foxes (red and white combined), 3382 mink, 311 otters, 18 lynx, 2 wolverine, 300 muskrats, and 150 marten. These harvest records indicate that

there is very little interest in the sale of pelts except mink. Fur prices have been very depressed since the 1989-90 trapping season. Mink prices and interest in buying Kuskokwim mink was the only exception during the 1992-93 season. The lynx harvest was the largest since the 1984-85 season, however, no information is available at this time to explain this higher harvest. The harvest decrease observed for all furbearers, except lynx and mink, was a result of low fur prices rather than abundance. Observations by trappers and biologists indicate that all furbearer species are abundant and continued to increase in density throughout the Yukon-Kuskokwim Delta.

Nine beavers were removed by Department staff from upper Brown Slough in Bethel to eliminate flooding problems caused by beavers damming the main road's culvert pipes. Habitat Division responded to several villages explaining that destroying beaver dams by use of dynamite was illegal because these dams were located on anadramous fish streams.

Compliance with furbearer sealing requirements increased, especially with the public notices posted in all villages and personal contacts made by Department staff.

Project Location: Unit 22 (25,230 mi^2)
Seward Peninsula and that portion of the Nulato Hills draining west into Norton Sound

Project Objectives and Activities:

1. Establish and maintain viable numbers of furbearers in Unit 22.

   1a. Assess harvest, interview hunter/trappers, and seal all furs presented for sealing.

   1b. Establish and maintain license vendors and sealers in all Unit 22 villages.

   1c. Improve compliance with current sealing requirements through public communication and education.

   1d. Conduct aerial beaver cache counts in selected areas of the Unit to develop an index of relative abundance.

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: Data obtained from furbearer sealing records disclose the following harvests:

Beaver - Four Unit 22 residents and 1 non-local Alaska resident harvested 10 beaver. Six were from Subunit 22A, 3 were from Subunit 22B and 1 was from Subunit 22C. Harvest chronology data are as follows: November, 3; April, 1; and May, 6. A breakdown by method of take was as follows: shooting 6, trapping, 2, and snaring, 2.

Lynx - One unit resident using a snowmachine for transportation trapped 4 lynx (sex unknown) in December from Subunit 22A.

River Otter - Three unit residents using snowmachines for transportation shot 3 otters (1 male and 2 female). Two were from Subunit 22C and one was from Subunit 22D. Harvest chronology is as follows: November, 2; and February, 1.

Wolverine - Twenty-four wolverines (14 male, 8 female, and 2 of unknown sex) were harvested by 15 hunter/trappers. Fourteen were unit residents, and 1 was a non-local resident. A breakdown of the harvest by Subunit was: 22A - 3; 22B - 10; 22C - 7; 22D - 3; and 22E - 1. Chronology of the harvest was: November - 3; December - 2; January - 5; February - 5; March - 5; and April 4. The reported method of take was as follows: ground shooting - 15; trapping - 6; and snaring - 2. Snowmachines were the method of transportation used by all 6 hunter/trappers.

The educational program developed several years ago explaining the importance of wildlife management concepts, rules, and regulations continues to be used throughout Unit 22 schools. Unit 22 staff made several trips to villages explaining the need for regulations and harvest reporting as well as assisting license vendors. Staff also spent a substantial amount of time answering questions, making phone calls, writing articles, sending out mailings of regulation material, and supporting local Unit 22 license vendors.

Progress Towards Meeting Project Objectives: We suspect the magnitude of the unreported harvest of some furbearer species in Unit 22 is considerable. Efforts to inform the public of the importance of wildlife conservation and the need for regulations are starting to show results in some communities because the number of individuals purchasing licenses has increased. We need additional contact with local residents, primarily within the villages, if more complete compliance with current regulations are to be realized. Because of inclement weather, we did not conduct beaver cache surveys.

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

Project Objectives:

1. Maintain populations at existing levels in Unit 23.

   1a. Maintain furbearers populations capable of sustaining harvests at the 1983-84 to 1988-89 levels, recognizing that populations will fluctuate in response to environmental factors.

   1b. Obtain sufficient data to develop 1 or more trend count areas for lynx by 1996.

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 regarding the population status of lynx, wolverine, river otter, and beaver were gathered from fur sealing certificates, conversations with residents of the unit, and opportunistic observations of furbearers and their tracks while conducting other wildlife surveys. Furbearer sealing and furbuyer reporting programs for monitoring harvest were maintained.

Wolverine - Based on opportunistic sightings by staff and local residents, wolverine populations are believed to be stable. During the 1992-93 regulatory year, 14 hunters sealed 42 wolverines, (29 males, 11 females, and 2 unreported sex). Twenty-one were shot and 21 trapped. Forty-five percent of the harvest occurred in the Noatak drainage, 35% in the Kobuk and the remaining 20% of the harvest was comprised of wolverines taken south of the Kobuk River. All hunters resided in Unit 23.

Beaver - Beaver activity in the lower Noatak River drainage continued to be reported through 1992. The number of sightings has not increased or distribution of sighting changed in this drainage since 1986. Most residents of the Kobuk drainage reported beaver populations at "medium" levels, and either stable or increasing in abundance. Beaver population levels in the Selawik River are still high based on observations of beavers in marginal habitat. No beavers were sealed in 1992-93.

Lynx - Lynx population levels remained extremely low during 1992-93. Single sets of tracks were observed in the Noatak and Kobuk drainages by agency personnel and residents. The snowshoe hare population is still low but reported sightings are increasing, especially in southern portions of the Unit. We anticipate a corresponding increase in lynx within the next few years. One lynx was sealed from the upper Kobuk River in 1992-93.

Mink and Marten - No information is available regarding mink populations or harvest. Presence of marten in the middle Kobuk and in the Igichuk Hills may represent the beginning of a northern range extension for the species.

Red Fox - The limited information available for red fox suggests that populations were stable or in some areas decreasing. No rabies cases were reported during the regulatory year.

River Otter - Based on observations during other wildlife surveys, river otters appear to be increasing in the Noatak and Kobuk drainages. In 1992-93, 2 river otters were sealed. Harvested otters were from the Kobuk drainage and Kobuk Lake. Otters were shot by hunters using snowmachines for transportation.

Progress Towards Meeting Project Objectives: The Department continued to maintain open communication with area trappers to assess trapper effort and distribution. The Department is currently developing a statewide trapper survey to collect local knowledge of furbearer population trends. Except for lynx, furbearer populations in Unit 23 appear capable of sustaining current harvest levels.

Lynx densities remained low. Observations of both hare and lynx tracks enabled staff to identify general areas which may be suitable for use as trend count areas when populations increase. Potential areas include the northern Seward Peninsula, Kobuk River, and the Selawik River drainage.

The inconsistency between seasons and bag limits for hunting and trapping was discussed at various advisory committee meetings. The variations in seasons dates are not based on biological considerations regarding management of furbearers in Unit 23, and increases the complexity of regulations for those who both hunt and trap. We recommend adoption of the same season dates for hunting and trapping furbearers in Unit 23. Efforts to simplify the furbearer hunting and trapping regulations and sealing requirements, and to explain to people the need for harvest information in wildlife management should remain a high priority in Unit 23.

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

1. Establish and maintain viable furbearer populations in Subunit 26A.

   1a. Monitor harvest through the statewide sealing program.

   1b. Conduct a review of information collected in the past to obtain population trend information.

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:

Arctic Fox - Arctic foxes were 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.

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

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

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

Wolverine - Magoun (1984) estimated a minimum population of 821 wolverines in Unit 26A. A more recent estimate of population size is not available. Wolverine sightings were logged during 14 hours of moose surveys conducted in the Colville River drainage from 21-23 April 1993. During that time, 5 wolverines were observed. Ten wolverines were sealed during 1992-93. All were ground shot. Snowmachines were used for transportation for 7, and aircraft for 3. Three were females, 6 were males, and 1 was unknown. Three were taken in September, 1 in November, 2 in January, and 4 in March. Many more wolverines were harvested and not reported. However, reliable data for the unreported harvest are not available. Ten wolverines being sealed is a significant increase over past years. This is probably because more people complied with sealing requirements, and is not an indication of an increase in harvest levels.

River Otter - Although river otters are found in Unit 26A, their densities are very low. No river otters were reported harvested during 1992-93.

Progress Toward Meeting Project Objectives: It is difficult to determine whether current harvest levels are within sustained yield limits because little population and harvest information are available. Additional efforts are needed to assess furbearer population status and monitor the harvest. At the present time, inventory of furbearer populations, other than wolves, remains lower in priority in Unit 26A than for other species. A village harvest monitor program is being developed in cooperation with the North Slope Borough. In order to obtain better furbearer population information, the Department would need to hire an assistant area biologist to work on this project.

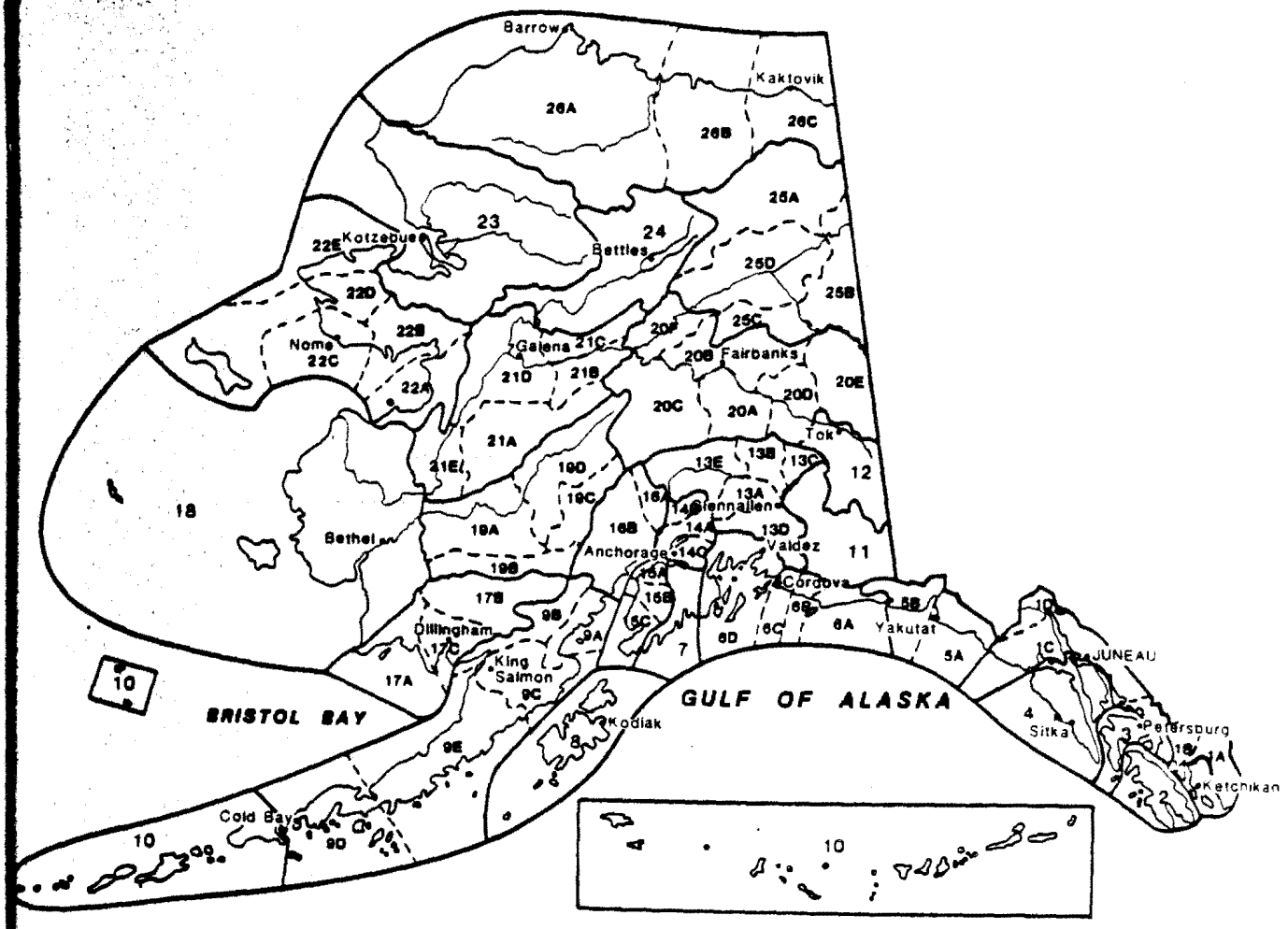
Segment Period Project Costs:

	Personnel	Operating	Total
Planned	44.0	16.0	60.0
Actual	44.0	16.0	60.0
Difference	0	0	0

Submitted by:

Steve Machida
Survey-Inventory Coordinator

Alaska's Game Management Units



Federal Aid in Wildlife Restoration

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 then allots the funds back to states through a formula based on each state's geographic area and the number of paid hunting license holders in the state. Alaska receives 5% of the revenues collected each year, the maximum allowed. The Alaska Department of Fish and Game uses the funds to help restore, conserve, manage, and enhance wild birds and mammals for the public benefit. These funds are also used to educate hunters to develop the skills, knowledge, and attitudes necessary to be reponsible hunters. Seventy-five percent of the funds for this project are from Federal Aid.