SUBSISTENCE USE OF THE SOUTHERN ALASKA PENINSULA CARIBOU HERD

by

James A. Fall, Robert J. Walker, and Ronald T. Stanek

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ABSTRACT

The report describes subsistence uses of the Southern Alaska Peninsula Caribou Herd (SAPCH). It was prepared for the Alaska Board of Game. The data derive from questionnaires and harvest surveys conducted by the Division of Subsistence of the Alaska Department of Fish and Game. Since the early 1980s, this herd has declined in size, probably due to harvests, predation, and low calf production linked to poor range conditions. This decline is continuing and the Board of Game considered and passed a proposal to reduce subsistence and general season bag limits during its March 1990 deliberations.

Five communities hunt the SAPCH for subsistence. These are Cold Bay, False Pass, King Cove, Nelson Lagoon, and Sand Point. The report concludes that caribou hunting is a common, consistent activity in these five communities and supplies a notable portion of the subsistence harvests. These communities do not hunt other caribou herds. This subsistence hunting is a fairly specialized activity, with skilled hunters from a minority of the households supplying meat to a much larger segment of the communities. According to questionnaire results, the average harvest per subsistence hunter declined from about two caribou in 1985-86 to about one in 1986-87, with slightly higher averages in the smaller communities of False Pass and Nelson Lagoon.

Harvest ticket returns are not an accurate indicator of local harvests, but primarily report the harvest of non-local residents. Questionnaire results suggest a total subsistence harvest of 537 caribou in 1985-86 and 289 caribou in 1986-87. These are close to management biologists' estimates for the same years of 500-700 and 300-500 respectively. Thus questionnaire results suggest that subsistence harvests declined between the two study years, probably as a result of lower caribou numbers and subsequent season changes. This decline has also been documented by harvest ticket returns for non-local hunters.

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INTRODUCTION[1]

Background Issues

This report summarizes the available information on subsistence uses of caribou in Game Management Unit (GMU) 9D and on Unimak Island in GMU 10, the range of the Southern Alaska Peninsula Caribou Herd (SAPCH). During its March 1990 meeting, the Alaska Board of Game considered and passed a proposal (No. 83) from the Alaska Department of Fish and Game to reduce the seasonal limit for subsistence hunters in GMU 9D from two caribou to one bull and for other hunters from one caribou to one bull. The proposal was submitted for conservation reasons (Appendix A and below). As part of its evaluation of the proposal, the Board of Game discussed the possible effects of this regulatory change on subsistence uses of the herd. The purpose of this report was to provide background information for this discussion.

On August 26, 1987, the Alaska Department of Fish and Game issued an emergency order which closed all caribou hunting seasons in GMU 9D and on Unimak Island. The immediate cause of the closure was the apparent continued decline of the herd from about 10,200 caribou in late 1983 to about 4,100 animals in 1987, as revealed by a post calving photocensus. This latter figure was substantially below the department's population objective for the herd of 5,000 - 6,000 caribou. Reasons for this decline included hunter harvests, predation, and low calf production possibly linked to poor range conditions. (Appendix B, a letter from the department and the U.S. Fish and Wildlife Service, gives more information on the reasons for the closure.)

In October 1987, a subsequent caribou survey by the U.S. Fish and Wildlife Service counted 6,400 animals in the Southern Alaska Peninsula Herd. Although still indicating a large reduction since 1983, this revised count was slightly above the population goal for the herd. Therefore, the department issued a

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second emergency order opening subsistence caribou hunting in GMU 9D and Unimak Island from November 17, 1987 through January 17, 1988, with a two caribou bag limit. Management of this herd was further discussed during the meeting of the Alaska Board of Game in March 1988. The board adopted regulations for 1988-89 allowing a subsistence hunting season from September 1 through March 31 with a two caribou bag limit, and resident and nonresident seasons from September 1 through October 31 with a one caribou bag limit. These same regulations pertained to the 1989 - 90 hunting year. Despite these regulatory changes, the SAPCH has continued to decline. The most recent survey by the department, in July 1989, counted 3,386 caribou. Current estimates place the herd's size at about 4,000 animals (ADF&G 1989). The causes of the herd's decline since 1983 are now being investigated.

Complicating management of this herd has been a lack of reliable harvest estimates, especially for local communities. Therefore, in 1987 the department gathered additional information on caribou harvests by residents of the communities of GMU 9D and Unimak Island for the 1985-86 and 1986-87 hunting seasons with a mailout questionnaire. Also, in 1987 and 1988, harvest surveys took place in Nelson Lagoon and False Pass. This report summarizes the results of the data collection efforts in 1987 and 1988, and compares these results with other information about uses of the SAPCH.

Setting

In April 1987, the Board of Game determined that residents of five communities have customary and traditional use of caribou in GMU 9D. Residents of these communities qualify to participate in subsistence hunting for caribou in that unit. These communities are Cold Bay (population in 1985 of 157), False Pass (77), King Cove (547), Nelson Lagoon (67 in 1987), and Sand Point (671) (Table 1). False Pass is located on Unimak Island in GMU 10; Cold Bay, King Cove, and Nelson Lagoon are on the Alaska Peninsula in GMU 9D; and Sand Point is on Popof Island, also in GMU 9D (Fig. 1). False Pass has customary and traditional use of caribou in GMU 10 (Unimak Island) also. Commercial fishing, fish processing, and subsistence hunting and fishing are major components of the economies of most of these communities.

An exception is Cold Bay, which is primarily a transportation center for the Aleutian Islands and surrounding areas (Wright et al. 1985:82).

Evidence suggests that there is a long tradition of caribou hunting in this area. For example, caribou bones, along with fox bones, were the most common remains of terrestrial mammals found at the Hot Springs Village archaeological site on Port Moller. This site was occupied during three time periods, 1500-1000 B.C., A.D. 500-600, and A.D. 1300-1500 (Kotani 1980; McCartney 1984:125, 134).

Information on contemporary subsistence uses of the Southern Alaska Peninsula Caribou Herd is limited. In 1982 and 1983, the Division of Subsistence, ADF&G, collected information on areas used for caribou hunting by residents of Cold Bay, False Pass, King Cove, and Nelson Lagoon from about 1963 to 1983 (Figs. 2, 3, 4, 5). There are no maps available for Sand Point. Information on harvest levels is incomplete. Table 2 summarizes reported harvests of the SAPCH from the 1977-78 season through the 1988-89 season based on returned harvest tickets by all categories of hunters: local subsistence hunters, non-local Alaskans, and non-Alaska residents. The highest reported harvest was 432 in 1981-82. In 1986-87, when an emergency order closed the season early, the reported take of 56 caribou was the lowest reported harvest to date. Data for the 1988-89 season show a further decline in the reported harvest to 48 caribou.

Very few of the caribou taken by local residents are included in these reported harvests, although this local take has been described as substantial (e.g. Langdon 1982; Braund et al. 1985). Table 2 presents estimated unreported harvests based on management biologists' estimates. A goal of research conducted by the Division of Subsistence in 1987 was to achieve an estimate of local caribou harvests, derived from local hunters' reports, which occurred during the 1985-6 and 1986-7 hunting seasons. Also, the division has conducted comprehensive household harvest surveys in two lower Alaska Peninsula communities, Nelson Lagoon and False Pass, as part of its program to collect baseline data on all resource harvests in rural Alaska communities. Both of these projects collected data on caribou harvest and use (see below).

Hunting Regulations

Regulations governing the hunting of caribou in GMU 9D and Unimak Island from 1979-80 to 1989-90 are summarized in Table 3. The subsistence season has remained stable during this period, but the seasonal limit declined from four caribou (1979 - 1987) to two caribou (1987 to present).

DATA COLLECTION METHODS

Mail-out Questionnaires

Because of the relatively large size of several of the communities, and a shortage of staff time and funds to conduct personal interviews in all five villages in late 1987, a mail-out questionnaire was selected as the primary means of data collection in Cold Bay, False Pass, King Cove, and Sand Point. The two page questionnaire (Appendix C) and return envelope were accompanied by a copy of the letter explaining the reasons for the emergency closure (Appendix B). The questionnaire contained questions about household size, length of residency, and caribou hunting activities in two previous hunting years, August 1985 - March 1986 and August 1986 - March 1987. Among the kinds of data collected were number of household members hunting caribou, number of caribou killed within each game management unit, months in which hunting took place, and types of transportation methods used.

A total of 642 questionnaires were mailed to all box holders in Cold Bay (150), False Pass (25), King Cove (149), and Sand Point (308) on October 7, 1987. Nelson Lagoon residents receive their mail at boxes in Cold Bay. In total, 86 households returned questionnaires, including 25 from Cold Bay with 57 residents (about 36.8 percent of the estimated number of households and 36.3 percent of the population), 3 from False Pass with 10 residents (13 percent of the households and population), 14 households from King Cove with 52 people (10.3 percent of households, 9.4 percent of population), and 35 households from Sand Point with 109 people (17.5 percent of households, 16.2 percent of the population) (Table 4). Four Nelson Lagoon households also returned the questionnaires by mail, and five more completed them during

household interviews (see below), for a total of nine questionnaires with 32 people (50 percent of the households, 47.8 percent of the population). Reminder letters were not sent to non-respondents.

Household Interviews

With the support of the U.S. Fish and Wildlife Service at Izembek National Wildlife Refuge, a subsistence resource specialist from the Division of Subsistence conducted research in Nelson Lagoon in October 1987. In addition to assisting five community residents in filling out the questionnaire, he administered a comprehensive household survey which collected information on all resource harvest activities for a 12 month study period of October 1986 - September 1987. Harvest area mapping also took place (Stanek 1988). Twelve interviews were completed in Nelson Lagoon. Additionally, a Nelson Lagoon household head was interviewed in Anchorage in December 1987. In total, 13 of the 18 full-time Nelson Lagoon households (72.2 percent) were interviewed, and nine households (50.0 percent) completed the caribou questionnaire. Data pertaining to caribou hunting are summarized in this report. A technical paper which describes the overall subsistence use patterns of Nelson Lagoon in presently in preparation (Stanek 1990).

In November 1988, two Division of Subsistence researchers interviewed 20 of the 22 year-round households in False Pass (90.9 percent) using a standard division questionnaire. Results of this survey pertaining to caribou are reported below. A full report on these findings is presently being prepared as well (Fall and Stanek 1990).

RESULTS

Overview

Table 5 presents reported and expanded caribou harvests the SAPCH by local communities in the 1985-86 and 1986-87 hunting seasons based upon the returned questionnaires. The expanded total

harvest of caribou by the five local communities was 537 in the 1985-1986 season, and 289 in 1986-1987. These compare to management biologists' estimates of 500-700 and 300-500 respectively (Table 2).

As shown in Table 6 and 7, the questionnaire results suggest that about 332 local residents hunted caribou in GMU 9D in 1985-86, and about 311 hunted the following year. The average number of caribou taken per hunter declined between 1985-86 and 1986-87 in every community except False Pass (where data for only two hunters are available) (Table 5). Subsistence hunters represented by the questionnaires averaged a take of about 1.8 caribou in 1985-86 and about one the following year. The decline from 1985-86 to 1986-87 may be a consequence of reduced caribou numbers. The following section describes the questionnaire results for each community.

Cold Bay

Twenty five households (36.8 percent) in Cold Bay returned the questionnaires (Table 4). These households had a total population of 57 and an average household size of 2.3 persons.

Fifteen (60.0 percent) sampled Cold Bay households hunted caribou in the August 1985 to March 1986 season (Table 8). All of this effort occurred in GMU 9D, with November and December the most popular hunting months and road vehicles the most common form of transportation (Tables 10, 12). There were 23 caribou hunters in these households (1.5 per hunting household). Fourteen households (56.0 percent of all households, 93.3 percent of the hunting households) took at least one caribou in the 1985-86 hunting season. The total reported kill was 44 caribou, about 3.1 per successful household and 1.9 per hunter (Table 5). Expanded to the entire Cold Bay population, the estimated total harvest was 120 caribou in the 1985-86 season.

During the August 1986 to March 1987 hunting season, 13 of the sampled Cold Bay households (52.0 percent) hunted caribou, with all of this effort again occurring in GMU 9D (Table 9). There were 20 caribou hunters in these households, 1.5 hunters per hunting household. November and December were again the months with the most hunting activity, and road vehicles were the most common form of

transportation used (Tables 11, 13). Nine households (36.0 percent of the total sample, 69.2 percent of the hunting households) took a total of 14 caribou, 1.6 caribou per successful household and 0.7 per hunter (Table 5). The estimated total harvest of caribou by Cold Bay hunters for the 1986-87 hunting season was 38 animals, a substantial decline from the year before.

False Pass

Only three False Pass households with a total of 10 people returned the mailout questionnaire (13 percent of all households and the total population). These limited results provided a beginning in the documentation of the community's caribou hunting patterns, which was supplemented by the household interviews in 1988.

During the 1985-86 hunting season, two of the three False Pass households (66.7 percent) hunted caribou. There were two hunters in these households and all their hunting efforts occurred in GMU 9D (Table 8). Each hunter was successful, with five caribou taken in total (2.5 per household and per hunter). Hunting occurred in August, September, and November, and the means of transportation used were commercial fishing vessel, skiff, and off road vehicle (Table 10, 12). Expanded to the entire community, the 1985 - 86 harvest of caribou was 38 animals (Table 5).

These three False Pass households reported an almost identical pattern for the 1986 - 87 hunting season. Again, two households hunted, each hunted exclusively in GMU 9D, each was successful, and the total harvest was five caribou (2.5 per hunter), for an expanded community total of 38 (Tables 9, 10, 11, 12, 13).

As noted above, in November 1988 the division interviewed 20 False Pass households about their subsistence hunting and fishing activities for November 1987 through October 1988. The results pertaining to caribou are reported in Table 14. Almost every interviewed household (90 percent) used caribou in the study year. Half the households hunted caribou, and 35 percent were successful harvesters. This suggests that caribou hunting is a specialized activity in the village, with a minority of the households

supplying most of the caribou for the community. The total reported take was 31 animals, which expands to about 34 caribou for the entire community, or about .49 caribou per person. This is very similar to the mailout questionnaire estimates. On average, hunters harvested 2.38 caribou each, again matching the mailout questionnaire results. Caribou hunters reported that most of their hunting now occurs in GMU 9D, although GMU 10, Unimak Island, is still hunted as well (cf. Fig. 3).

King Cove

Fourteen King Cove households (10.3 percent of the estimated number of households in the community) returned the 1987 mailout questionnaire. These households had a total population of 52 people (9.5 percent of the 1985 population) (Table 4).

In the 1985-86 hunting year, seven of the sampled King Cove households hunted caribou (50.0 percent). There were nine hunters in these households (1.3 per household) and all of their caribou hunting took place in GMU 9D (Table 8). Six of these households harvested caribou (42.9 percent of all households, 85.7 percent of hunting households). The total harvest was 16 caribou, 2.7 per successful household and 1.8 per hunter. The expanded harvest for the entire community was 155 caribou (Table 5).

During the 1986-87 hunting season, nine of the sampled King Cove households (64.3 percent) hunted caribou. These households contained 11 caribou hunters (1.2 per hunting household), all of whom again hunted exclusively in GMU 9D (Table 9). The dominant means of access to caribou hunting areas was commercial fishing vessel, used by seven of the nine hunting households (Table 13). Six of the King Cove households (42.9 percent of all sampled households, 66.7 percent of hunting households) harvested caribou during this hunting season. The total take was eight caribou, 1.3 per successful household and 0.7 per hunter. The expanded harvest for the entire community was 78 caribou, one half of the year before (Table 5).

Nelson Lagoon

Data from nine returned caribou questionnaires and 13 household interviews are available for Nelson Lagoon. Interviewed Nelson Lagoon residents reported that they take caribou during two times of the year, first in the fall during August and September, and again in the winter between January and March. This matches the results of the mail-out questionnaire for the 1985-86 and 1986-87 seasons, which show most hunting effort occurring in August, and again in January, February, and March (Tables 10, 11). In the fall, Nelson Lagoon caribou hunters typically travel up the David River by skiffs or, in recent years, drive pickup trucks and ATVs along the ocean beach south to the Black Hills or the drill pad. In the latter areas, ATVs are often used to travel on to the tundra in order to approach the animals more closely and to transport caribou meat back to the pickup trucks (cf. Tables 12, 13). Winter hunting usually occurs near the drill pad and the Black Hills. The David River often freezes in the winter, precluding hunting by skiff.

Village hunters estimated that the "typical" annual harvest of caribou was 70 animals in the early and mid 1980s, but past harvests were estimated to have been as high as 150 caribou for the village. These hunters reported that, typically, they take two caribou in the fall and two more in the winter. The nine households that returned questionnaires reported a take of 29 caribou in 1985-86 (3.2 per hunter), for an expanded community total of 58 animals. For the August 1986 to March 1987 season, the these households took 19 caribou (1.9 per hunter) for an expanded total of 38 (Table 5).

The expanded total for the interviewed households for the study year of October 1986 through September 1987 is 53 caribou (Table 14). Eight of the 13 interviewed households (61.5 percent) took caribou in 1986-87, with an average take of 4.75 animals per successful household. On average, each hunter took 3.17 caribou. Interviewed households noted that caribou meat is distributed widely in the community, especially to nonhunting households, with 76.9 percent of the households receiving gifts of caribou during the study year.

Caribou is an especially important resource to residents of Nelson Lagoon because of the community's remote location. Most imported food and other supplies arrive by barge at Port Moller. There

are usually two barge shipments a year, and orders are placed months in advance. Shipments are normally limited to dry goods, vegetables, nonperishable foods, and fuel. Ordering meat through the barge service is expensive and there is the risk of spoilage. Thus, meat orders usually consist of small quantities of chicken, pork, and beef, used to add variety to the annual diet. Another option is air freight on the weekly mail plane, but this is expensive and space is limited. Consequently, the major source of red meat in Nelson Lagoon is caribou, supplemented by some waterfowl and ptarmigan (Stanek 1990).

Sand Point

There were 35 returned questionnaires from Sand Point (17.5 percent of all households). These households had a total population of 109 people (16.2 percent of the 1985 population) (Table 4).

Nineteen of the sampled Sand Point households (54.3 percent) hunted caribou in the 1985-86 hunting season. There were 26 hunters in these households (1.4 hunting per household) (Table 8). As with the other communities, hunting occurred exclusively in GMU 9D. Commercial fishing vessel was the most common means of access (Table 12). Seventeen of the 19 hunting households (89.5 percent) harvested caribou, for a total take of 29 animals, 1.7 per successful household and 1.1 per hunter. The expanded community total harvest was 166 caribou in the 1985-86 hunting season (Table 5).

During the 1986-87 hunting season, 13 of these 35 households (37.1 percent) hunted caribou, with all the effort again occurring in GMU 9D. There were 20 caribou hunters in these households (1.5 per hunting household) (Table 9). Again, commercial fishing boats were the primary means of access to hunting areas, used by 10 of the 13 hunting households (Table 13). Ten of the 13 hunting households (76.9 percent) harvested caribou in 1986-87. The total take by these households was 17 animals, 1.7 per successful household and 0.9 per hunter. The expanded community harvest was 97 caribou in 1986-87, substantially less than the year before (Table 5).

Summary

In summary, while the return rate of the questionnaires was low, the results give some indication of patterns of use of the Southern Alaska Peninsula Herd by local residents in the 1985-86 and 1986-87 hunting seasons. Most households for which returned the questionnaire hunted during at least one of these years. The results show that residents of the study communities do not travel to other areas to hunt caribou, confining their efforts to GMU 9D and Unimak Island. Boats are the most common means of transportation for all the communities except Cold Bay, whose residents hunt with road vehicles on the local road system. Subsistence caribou harvests in GMU 9D declined from about 537 in 1985-86 to about 289 in 1986-87. These harvest estimates are close to those of ADF&G biologists who are responsible for managing the herd.

DISCUSSION

Comparisons with Other Harvest Estimates

As noted earlier, department data on harvests of southern Alaska Peninsula caribou by local residents are very incomplete. Although the mail-out questionnaire was the department's first attempt to obtain an overview of harvests by means other than harvest tickets, a few other sources report estimates of local caribou harvests which can be compared with the results of the questionnaire and the household surveys.

Very little additional information is available for Sand Point, the largest of the communities. Interviews conducted with a small sample of households in 1981 suggested that caribou was "the most important subsistence resource" in the community, with fish of various types being second (Langdon 1982:106). These interviews found that groups of male "friends" hunted caribou along the indented coastline of the Alaska Peninsula. Although this hunting occurred through the fall and winter, September was the most important month for hunting caribou. In terms of harvest levels:

> While there is variation from one family to the next in the number of caribou taken and consumed, it was suggested that virtually all families had some caribou during the year and that more subsistence-oriented families consume as many as four animals during the year (Langdon 1982:106).

This report does not estimate the number of "more subsistence-oriented families" or an annual caribou harvest by Sand Point. Questionnaire results suggest an average harvest of about 0.8 caribou per household in 1985-86 and a decline to about 0.5 caribou per household the following year. Langdon's data suggest that caribou hunting is a specialized activity at Sand Point (as at False Pass).

More information is available for King Cove. Based on interviews conducted in 1981, Langdon (1982:173) reported that:

> Four caribou was the median response of eight King Cove fishermen whom were asked how many caribou they needed to get through the winter. In total pounds, caribou is probably the major subsistence item in the diet.

Braund et al. (1986) conducted interviews with 33 King Cove households (25.6 percent) regarding caribou harvests for 1984-85 hunting year. The average take of these households was four caribou (the seasonal limit at the time). It is also stated (Braund et al. 1986:7-38) that "four caribou per household is the average yearly harvest for King Cove residents." If expanded to the entire community (e.g. Braund et al. 1986: 7-19, Table 7-4) this is 516 caribou, which greatly exceeds the estimates for the following year (168) based upon the questionnaire returns, which found a caribou harvest of about one per household and 3.7 for households <u>who hunted</u>. Braund's sample of interviewed households was not randomly selected, and the interviewing on subsistence activities evidently targeted on active hunting and fishing households (cf.

Braund et al 1986:2-10). Therefore, it is highly likely that the expansion using these data for 1984-85 substantially overestimates the total community harvest. Again, caribou hunting appears to be a fairly specialized activity.

For False Pass, the only other source of information is the results of six interviews conducted in 1981 and reported in Langdon (1982). Regarding the size of caribou harvest by community residents, this report states that:

> Among the six heads of household interviewed on subsistence the range of caribou taken annually varies from two in a household in which 80% of the protein comes from outside [the local community; i.e. purchased]. . . to 15 by the head of a household who provided for a household headed by his father in addition to his own family. The remaining households fell in the six to ten caribou per year range (Langdon 1982:222).

This suggests a known harvest of about 49 caribou in the early 1980s. Given that the interviewed households probably represented the majority of the most active hunters in the village and that they supplied caribou to non-hunting households, it is unlikely that the total take during this period exceeded 50 to 60 animals, or about one caribou per person. As noted above, results of the mailout questionnaire and the more thorough set of household interviews indicted a community harvest of around 35 caribou in 1986-7 and 1987-88, or about .5 caribou per person and 2.5 per hunter.

In addition to False Pass, at present the most complete and reliable data on local harvests of the SAPCH pertain to the community of Nelson Lagoon. Research conducted in 1981 found that "estimates of local take [of caribou] range fairly evenly from two to four depending on the size of the household" (Langdon 1982:259). This expands to a harvest range of about 36 to 72 caribou, which is consistent with the findings of the caribou questionnaires and household interviews conducted by the division in 1987. About 70 caribou (about 1.0 per person) is considered by Nelson Lagoon residents themselves to be a

"typical" annual harvest. The expanded take for the 1985-86 season was 58, and for 1986-87 was 38. The 13 interviewed households took 38 caribou in a 12 month period in 1986-1987 (which does not match exactly with the hunting year covered by the questionnaire), about .8 per person, which expands to 53 animals for the entire community. Thus, it is likely that caribou harvests at Nelson Lagoon have ranged from about 0.5 per person to about one per person depending upon the availability of the animals. Hunters have taken on average between two and four animals annually.

Comparisons with Other Herds

One method to assess the reliability of estimates of caribou harvests by residents of GMU 9D and Unimak Island is to compare these estimates with those of communities using the northern Alaska Peninsula herd in GMUs 9E and 9C. Like four of the five communities under discussion in this report, most the communities of GMUs 9E and 9C have mixed subsistence/cash economies including commercial fishing, substantial quantities of local wild resources for subsistence use, and similar mixes of wild foods with caribou and salmon predominating (Wright et al 1985; Walker et al 1988).

Table 15 summarizes recent harvest survey data about caribou harvests by local communities using the southern and northern Alaska Peninsula herds. The highest per capita caribou harvests, at about one to 1.5 animals per person, have been recorded for the Bristol Bay drainage communities of Port Heiden, Pilot Point, Ugashik, Egegik, and South Naknek that use the northern herd. In these villages, caribou account for up to 60 percent of the annual subsistence take (Fall and Morris 1987). This is a higher harvest level than recorded for the GMU 9D and GMU 10 villages. Villages on the Pacific drainage side of the Alaska Peninsula such as Chignik Lake, Perryville, and Ivanof Bay, reported a harvest of about .25 to .5 caribou per person for 1984. This is similar, or slightly higher than, the 1985-86 harvest rates for False Pass, King Cove, and Sand Point, but notably higher than the SAPCH subsistence harvests for the 1986-87 hunting year.

In summary, these comparisons suggest that in the early and mid 1980s, villages using the SAPCH for subsistence harvested caribou at a similar or slightly lower per capita level compared to Pacific drainage villages that use the NAPCH. Bristol Bay drainage villages using the northern herd harvest caribou at a higher per capita level. The questionnaire data for the 1986-87 hunting year suggest, however, that the GMU 9D villages harvested caribou at a much lower rate than the Alaska Peninsula communities directly to the north and east.

Conclusions

This report has summarized recent information about subsistence uses of the Southern Alaska Peninsula Caribou Herd. Some of the major findings include the following:

1. Caribou hunting is a common, consistent activity in the five communities of Cold Bay, False Pass, King Cove, Nelson Lagoon, and Sand Point, supplying a notable portion of the subsistence harvests.
2. Hunting caribou is a fairly specialized activity, with skilled hunters in a portion of the households supplying meat to a much larger segment of the community. This is clearly the case at False Pass and Nelson Lagoon, and is probably the pattern at King Cove and Sand Point as well.
3. In the early 1980s, active households in Sand Point and King Cove reported harvesting about four caribou per year. In False Pass and Nelson Lagoon, at least, some hunters who supplied several families with meat, took more than four caribou annually. According to the questionnaire results, the average harvest per hunter declined from about two caribou per year in 1985-86 to about one in 1986-87. But average harvests per hunter in the smaller

communities remained higher: about 2.4 caribou for False Pass hunters in 1987-88 and about 3.2 per hunter at Nelson Lagoon in 1986-87.

4. Virtually all caribou hunting by these communities in the 1980s occurred in GMU 9D and GMU 10 and targeted the Southern Alaska Peninsula Caribou Herd.

5. Harvest ticket returns are not an accurate indicator of local harvests, but primarily report the harvest of non-local residents. Local harvests were about 537 in 1985-86 and 289 in 1986-87, based upon questionnaire returns. Management biologists estimated unreported harvests of 500-700 and 300-500 for those same two years respectively. In comparison, reported, mostly non-local harvests were 345 in 1985-86 and 56 in 1986-87.

6. The questionnaire results suggest that harvests (total and per hunter) fell between 1985-86 and 1986-87, probably as a result of lower caribou numbers and subsequent season changes. This decline has also been documented by harvest ticket returns for non-local hunters.

In conclusion, this summary has shown that use of caribou is a major part of the pattern of wild resource harvests of the five communities of Cold Bay, False Pass, King Cove, Nelson Lagoon, and Sand Point. The future of these traditional uses depends on the health of the herd. This will require, in part, data on local harvest levels for future management of the herd and collaboration between subsistence hunters and the Department of Fish and Game.

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TABLE 1. COMMUNITIES OF GAME MANAGEMENT UNITS 9D AND 10 (UNIMAK ISLAND) WITH SUBSISTENCE USES OF THE SOUTHERN ALASKA PENINSULA CARIBOU HERD

Name	1980 Population	1985 Population	Estimated No. of Households[a]
Cold Bay	228	157	68
False Pass	70	77	23
King Cove	460	547	136
Nelson Lagoon	59	67[b]	18
Sand Point	625	671	200
TOTAL	1,442	1,519	445

[a] Except for Nelson Lagoon, calulated by dividing the 1985 population by the average household size as reported by the 1980 US Census. For Nelson Lagoon, based on research by Division of Subsistence, October 1987.

[b] For 1987, based on Division of Subsistence research.

Sources: US Bureau of the Census 1980; Alaska Department of Labor 1987; Stanek 1990.

TABLE 2 . REPORTED HARVESTS OF THE SOUTHERN ALASKA PENINSULA CARIBOU HERD

Year	Reported Harvest[a]	Estimated Unreported Harvest[b]	Estimated Total Harvest	Number of Successful Hunters (Non-Alaska residents)[a]
1977-78	122			
1978-79	103			
1979-80	169			
1980-81	251			
1981-82	432			216 (40)
1982-83	410			185 (19)
1983-84	254	500-700	750- 950	126 (23)
1984-85	388	500-700	900-1,100	174
1985-86	345	500-700	850-1,050	151
1986-87	56	300-500	350- 550	54 (11)
1987-88	81	50-100	130- 200	
1988-89	48	50-100	100- 150	

[a] Based on returned harvest tickets only.

[b] Area management biologists' estimates based upon general knowledge of the area and informal discussions and observations.

Source: ADF&G 1989

TABLE 3. CARIBOU HUNTING REGULATIONS, GAME MANAGEMENT UNIT 9D, 1979 - 1990

Year	Season	Bag Limit
1979-80	August 10 - March 31	Four antlered caribou; not more than one may be taken from Aug. 10 - Oct. 31.
1980-81	Same as 1979-80	Same as 1979-80
1981-82	Same as 1979-80	Four caribou; not more than one may be taken from Aug. 10 - Oct. 31
1982-83	Same as 1979-80	Same as 1981-82
1983-84	Same as 1979-80	Same as 1981-82
1984-85	Same as 1979-80	Four caribou; not more than one may be taken from Sept. 1 - Oct. 31
1985-86		
Subsistence	Aug. 10 - March 31	Four caribou; not more than two may be taken Aug. 10 - Aug 31;not more than one may be taken from Spt. 1 - Oct. 31.
Resident	Aug. 10 - Oct. 31	Four caribou; not more than two may be taken Aug. 10 - Aug 31;not more than one may be taken from Spt. 1 - Oct. 31.
Non-resident	Aug. 10 - Oct. 31	Two caribou; not more than one may be taken from Sept. 1 - Oct. 31.
1986-87		
Subsistence	Same as 1985-86	Same as 1985-86
Resident	Aug. 10 - March 31	Same as 1985-86
Non-resident	Aug. 10 - March 31	Same as 1985-86
1987-88[a]		
Subsistence	Same as 1985-86	Two caribou
Resident	Aug. 10 - Oct. 31	One caribou
Non-resident	Sept. 1 - Oct. 31	One caribou

(continued)

TABLE 3. (continued) CARIBOU HUNTING REGULATIONS, GAME MANAGEMENT UNIT 9D, 1979 - 1990

Year	Season	Bag Limit
1988-89		
Subsistence	Sept. 1 - March 31	Two caribou
Resident	Sept. 1 - Oct. 31	One caribou
Non-resident	Sept. 1 - Oct. 31	One caribou
1989-90	Same as 1988-89	Same as 1988-89

[a] By an emergency order dated 8/26/87, all caribou hunting seasons in GMU 9D and Unimak Island in GMU 10 were closed, effective 11:59 p.m. on August 31, 1987. A subsistence season was opened from Nov. 17 through January 17 by an emergency order dated 11/17/87. The bag limit was set at two caribou. The resident and non-resident seasons remained closed.

TABLE 4. SOUTHERN ALASKA PENINSULA CARIBOU HERD QUESTIONNAIRE RETURNS

Community	Number Sent	Number Returned	Percent Returned	1985 Population	Population of Sample	Percent of Population	Est. No. of Households	Percent of Households
Cold Bay	160	25	15.6%	157	57	36.3%	68	36.8%
False Pass	25	3	12.0%	77	10	13.0%	23	13.0%
King Cove	149	14	9.4%	547	52	9.5%	136	10.3%
Nelson Lagoon	a	9	--	67[b]	32	47.8%	18	50.0%
Sand Point	308	35	11.4%	671	109	16.2%	200	17.5%
TOTAL	642	86	13.4%	1,519	260	17.1%	445	19.3%

[a] Included in Cold Bay mail-out.
[b] 1987 estimate based on Division of Subsistence household survey.

TABLE 5. ESTIMATED SUBSISTENCE HARVESTS OF CARIBOU IN GMU 9D

Community	1985-86 Reported Harvest	1985-86 No. Per Hunter	1985-86 No. Per Household	1985-86 Expanded Harvest[a]	1986-87 Reported Harvest	1986-87 No. Per Hunter	1986-87 No. Per Household	1986-87 Expanded Harvest[a]
Cold Bay	44	1.9	1.8	120 +/-50	14	0.7	0.6	38 +/-18
False Pass[b]	5	2.5	1.7	38 +/-81	5	2.5	1.7	38 +/-81
King Cove	16	1.8	1.1	155 +/-116	8	0.7	0.6	78 +/-56
Nelson Lagoon[c]	29	3.2	3.2	58 +/-32	19	1.9	2.1	38 +/-13
Sand Point	29	1.1	0.8	166 +/-65	17	0.9	0.5	97 +/-55
TOTAL	123	1.8		537	63	1.0		289

[a] Expanded harvest with 95% confidence interval. Finite population collection factor is applied and exact "t" statistic is used. No adjustment is made for estimated number of households in the community.

[b] Based on interviews with 20 False Pass households, the estimated caribou harvest for the period November 1987 - October 1988 was 34 +/- 10 (Fall and Stanek 1990).

[c] Based on interviews with 13 Nelson Lagoon households, the estimated caribou harvest for October 1986 - September 1987 was 53 +/- 31 (Stanek 1990).

TABLE 6. ESTIMATED PARTICIPATION IN SUBSISTENCE CARIBOU HUNTING, SOUTHERN ALASKA PENINSULA HERD BY LOCAL COMMUNITIES, 1985-1986

	Cold Bay	False Pass	King Cove	Nelson Lagoon	Sand Point	Total
# Households Hunting Caribou	41	15	68	14	109	247
# Households Harvesting Caribou	38	15	58	14	97	223
# Persons Hunting Caribou	63	15	87	18	149	332

Source: ADF&G Questionnaire, October 1987

TABLE 7. ESTIMATED PARTICIPATION IN SUBSISTENCE CARIBOU HUNTING, SOUTHERN ALASKA PENINSULA HERD BY LOCAL COMMUNITIES, 1986-1987

	Cold Bay	False Pass	King Cove	Nelson Lagoon	Sand Point	Total
# Households Hunting Caribou	35	15	87	16	74	228
# Households Harvesting Caribou	24	15	58	16	57	171
# Persons Hunting Caribou	54	15	107	20	114	311

Source: ADF&G Questionnaire, October 1987

TABLE 8. REPORTED PARTICIPATION IN SUBSISTENCE CARIBOU HUNTING, SOUTHERN ALASKA PENINSULA HERD BY LOCAL COMMUNITIES, 1985-1986

	Cold Bay # (%)[a]	False Pass # (%)[a]	King Cove # (%)[a]	Nelson Lagoon # (%)[a]	Sand Point # (%)[a]
Households Hunting Caribou	15 (60.0)	2 (66.7)	7 (50.0)	7 (77.8)	19 (54.3)
Households Harvesting Caribou	14 (56.0)	2 (66.7)	6 (42.9)	7 (77.8)	17 (48.6)
Persons Hunting Caribou	23 (40.4)	2 (20.0)	9 (17.3)	9 (28.1)	26 (23.9)

[a] N = Cold Bay: 25 HH, 57 people; False Pass: 3 HH, 10 people; King Cove: 14 HH, 52 people; Nelson Lagoon: 9 HH, 32 people; Sand Point: 35 HH, 109 people.

TABLE 9. REPORTED PARTICIPATION IN SUBSISTENCE CARIBOU HUNTING, SOUTHERN ALASKA PENINSULA HERD BY LOCAL COMMUNITIES, 1986-1987

	Cold Bay # (%)[a]	False Pass # (%)[a]	King Cove # (%)[a]	Nelson Lagoon # (%)[a]	Sand Point # (%)[a]
Households Hunting Caribou	13 (52.0)	2 (66.7)	9 (64.3)	8 (88.9)	13 (37.1)
Households Harvesting Caribou	9 (36.0)	2 (66.7)	6 (42.9)	8 (88.9)	10 (28.6)
Persons Hunting Caribou	20 (35.1)	2 (20.0)	11 (21.2)	10 (31.3)	20 (18.3)

[a] N = Cold Bay: 25 HH, 57 people; False Pass: 3 HH, 10 people; King Cove: 14 HH, 52 people; Nelson Lagoon: 9 HH, 32 people; Sand Point: 35 HH, 109 people.

TABLE 10. NUMBER AND PERCENTAGE OF QUESTIONNAIRE RESPONDENT HOUSEHOLDS HUNTING THE SOUTHERN ALASKA PENINSULA CARIBOU HERD BY MONTH, 1985-86

	Cold Bay (n=25)		False Pass (n=3)		King Cove (n=14)		Nelson Lagoon (n=9)		Sand Point (n=35)		Total (n=86)	
	#	%	#	%	#	%	#	%	#	%	#	%
July	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
August	0	0.0%	1	33.3%	0	0.0%	4	44.4%	1	2.9%	6	7.0%
September	2	8.0%	1	33.3%	3	21.4%	2	22.2%	5	14.3%	13	15.1%
October	2	8.0%	0	0.0%	3	21.4%	1	11.1%	1	2.9%	7	8.1%
November	10	40.0%	1	33.3%	2	14.3%	1	11.1%	7	20.0%	21	24.4%
December	12	48.0%	0	0.0%	2	14.3%	2	22.2%	2	5.7%	18	20.9%
January	8	32.0%	0	0.0%	1	7.1%	5	55.6%	3	8.6%	17	19.8%
February	4	16.0%	0	0.0%	1	7.1%	4	44.4%	0	0.0%	9	10.5%
March	2	8.0%	0	0.0%	1	7.1%	5	55.6%	0	0.0%	8	9.3%
April	0	0.0%	0	0.0%	0	0.0%	1	11.1%	1	2.9%	2	2.3%
May	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
June	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%

Source: ADF&G Questionnarie, October 1987.

TABLE 11. NUMBER AND PERCENTAGE OF QUESTIONNAIRE RESPONDENT HOUSEHOLDS HUNTING THE SOUTHERN ALASKA PENINSULA CARIBOU HERD BY MONTH, 1986-7

	Cold Bay (n=25)		False Pass (n=3)		King Cove (n=14)		Nelson Lagoon (n=9)		Sand Point (n=35)		Total (n=86)	
	#	%	#	%	#	%	#	%	#	%	#	%
July	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
August	0	0.0%	1	33.3%	0	0.0%	4	44.4%	0	0.0%	5	5.8%
September	3	12.0%	1	33.3%	3	21.4%	0	0.0%	6	17.1%	13	15.1%
October	1	4.0%	1	33.3%	2	14.3%	1	11.1%	2	5.7%	7	8.1%
November	7	28.0%	0	0.0%	1	7.1%	1	11.1%	1	2.9%	10	11.6%
December	7	28.0%	0	0.0%	2	14.3%	1	11.1%	2	5.7%	12	14.0%
January	2	8.0%	1	33.3%	1	7.1%	5	55.6%	1	2.9%	10	11.6%
February	3	12.0%	0	0.0%	2	14.3%	3	33.3%	1	2.9%	9	10.5%
March	1	4.0%	1	33.3%	1	7.1%	4	44.4%	1	2.9%	8	9.3%
April	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
May	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
June	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%

Source: ADF&G Questionnaire, October 1987.

TABLE 12. METHODS OF TRANSPORTATION USED TO HUNT SOUTHERN ALASKA PENINSULA CARIBOU HERD, QUESTIONNAIRE RESPONDENT HUNTING HOUSEHOLDS, 1985-86

	Cold Bay (n=15)		False Pass (n=2)		King Cove (n=7)		Nelson Lagoon (n=7)		Sand Point (n=19)		Total (n=50)	
	#	%	#	%	#	%	#	%	#	%	#	%
Commercial Fishing Boat	0	0.0%	1	50.0%	6	85.7%	0	0.0%	13	68.4%	20	40.0%
Skiff	1	6.7%	1	50.0%	1	14.3%	4	57.1%	4	21.1%	11	22.0%
Airplane	1	6.7%	0	0.0%	1	14.3%	0	0.0%	5	26.3%	7	14.0%
Road Vehicle	11	73.3%	0	0.0%	0	0.0%	5	71.4%	1	5.3%	17	34.0%
Off Road Vehicle	9	60.0%	1	50.0%	0	0.0%	1	14.3%	0	0.0%	11	22.0%
Snowmachine	0	0.0%	0	0.0%	0	0.0%	3	42.9%	0	0.0%	3	6.0%
On Foot Only	0	0.0%	0	0.0%	0	0.0%	1	14.3%	0	0.0%	1	2.0%

Source: ADF&G Questionnaire, October 1987

TABLE 13. METHODS OF TRANSPORTATION USED TO HUNT SOUTHERN ALASKA PENINSULA CARIBOU HERD, QUESTIONNAIRE RESPONDENT HUNTING HOUSEHOLDS, 1986-87

	Cold Bay (n=13)		False Pass (n=2)		King Cove (n=9)		Nelson Lagoon (n=8)		Sand Point (n=13)		Total (n=45)	
	#	%	#	%	#	%	#	%	#	%	#	%
Commercial Fishing Boat	0	0.0%	1	50.0%	7	77.8%	0	0.0%	10	76.9%	18	40.0%
Skiff	0	0.0%	1	50.0%	1	11.1%	5	62.5%	3	23.1%	10	22.2%
Airplane	1	7.7%	0	0.0%	1	11.1%	0	0.0%	2	15.4%	4	8.9%
Road Vehicle	12	92.3%	0	0.0%	0	0.0%	4	50.0%	0	0.0%	16	35.6%
Off Road Vehicle	7	53.8%	1	50.0%	1	11.1%	1	12.5%	0	0.0%	10	22.2%
Snowmachine	0	0.0%	0	0.0%	0	0.0%	3	37.5%	0	0.0%	3	6.7%
On Foot Only	0	0.0%	0	0.0%	0	0.0%	1	12.5%	0	0.0%	1	2.2%

Source: ADF&G Questionnaire, October 1987

TABLE 14. SUBSISTENCE HARVEST AND USE OF CARIBOU, FALSE PASS, 1987-88 AND NELSON LAGOON 1986-1987

	False Pass[a]	Nelson Lagoon[b]
Study year	11/1987-10/88	10/1986-9/87
Number of HHs interviewed (Percent of total HHs)	20 (90.9%)	13 (72.2%)
Percent of HHs using caribou	90%	92.3%
Percent of HHs hunting caribou	50%	69.2%
Percent of HHs harvesting caribou	35%	61.5%
Percent of HHs receiving caribou	85%	76.9%
Percent of HHs giving away caribou	35%	38.5%
Total hrvst of caribou by sampled HHs, numbers	31	38
Expanded community harvest	34	53
Average harvest per HH, numbers	1.55	2.92
Average harvest per hunting HH, numbers	3.10	4.22
Average harvest per harvesting HH, numbers	4.43	4.75
Average harvest per person, numbers	0.49	0.78
Average harvest per hunter, numbers	2.38	3.17
Total harvest of caribou, pounds	4,650.0 lbs.	5,700.0 lbs.
Average harvest per HH, pounds	232.5 lbs.	438.5 lbs.
Average harvest per person, pounds	73.8 lbs.	116.3 lbs.
Percent of total harvest	15.8%	46.1%

[a] Population of surveyed HHs = 63; number of caribou hunters = 13.
[b] Population of surveyed HHs = 49; number of caribou hunters = 12.

Source: Files, Division of Subsistence, ADF&G, Anchorage.

TABLE 15. PER CAPITA CARIBOU HARVESTS, ALASKA PENINSULA COMMUNITIES.

Community	1982	1983	1984	1985	1986	1987	1988	1989
Southern Alaska Peninsula Caribou Herd								
Cold Bay				0.76	0.28			
False Pass				0.49	0.49	0.49		
King Cove				0.28	0.14			
Nelson Lagoon[a]				0.87	0.57	0.79		
Sand Point				0.25	0.14			
Northern Alaska Peninsula Caribou Herd								
Chignik			0.05					
Chignik Lagoon			0.07					
Chignik Lake			0.53					
Egegik			1.56					
Ivanof Bay			0.56					
King Salmon	0.49							
Naknek	0.37							
Perryville			0.26					
Pilot Point					1.53			
Port Heiden					1.63			
South Naknek	0.99							
Ugashik					2.00			

[a] Nelson Lagoon estimate for a "normal year" (early 1980s) was 70 caribou, or about 1.04 per person.

Sources: ADF&G Questionnaire for Cold Bay, False Pass, King Cove, Nelson Lagoon, and Sand Point for 1985 and 1986; Stanek (1990) for Nelson Lagoon 1987; Fall and Stanek (1990) for False Pass 1987; Morris (1987) for Chignik, Chignik Lagoon, Chignik Lake, Egegik, Ivanof Bay, and Perryville; Morris (1985) for King Salmon, Naknek, and South Naknek; Fall and Morris (1987) for Pilot Point, Port Heiden, and Ugashik.

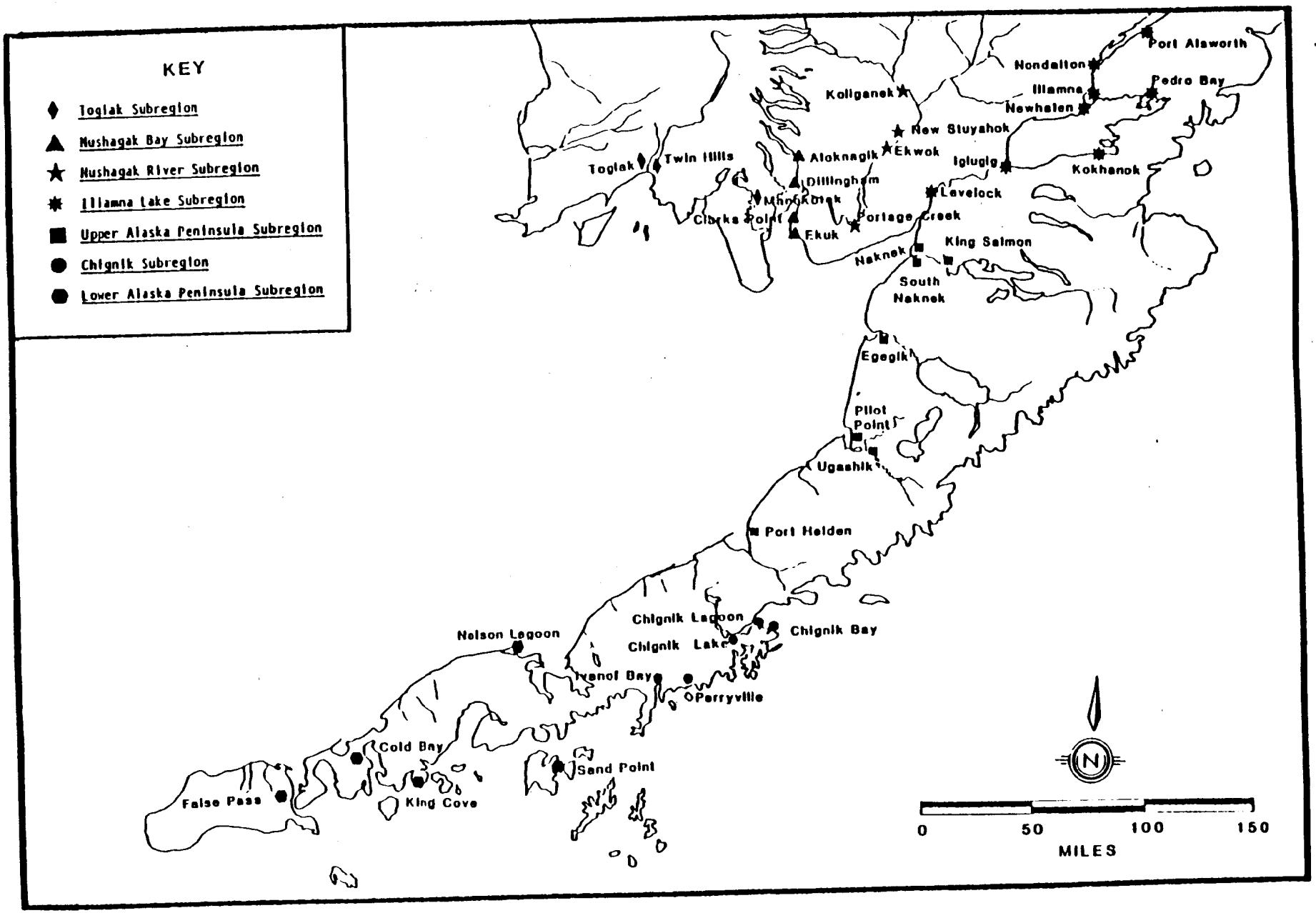

Figure 1. Communities of the Bristol Bay and Alaska Peninsula Regions

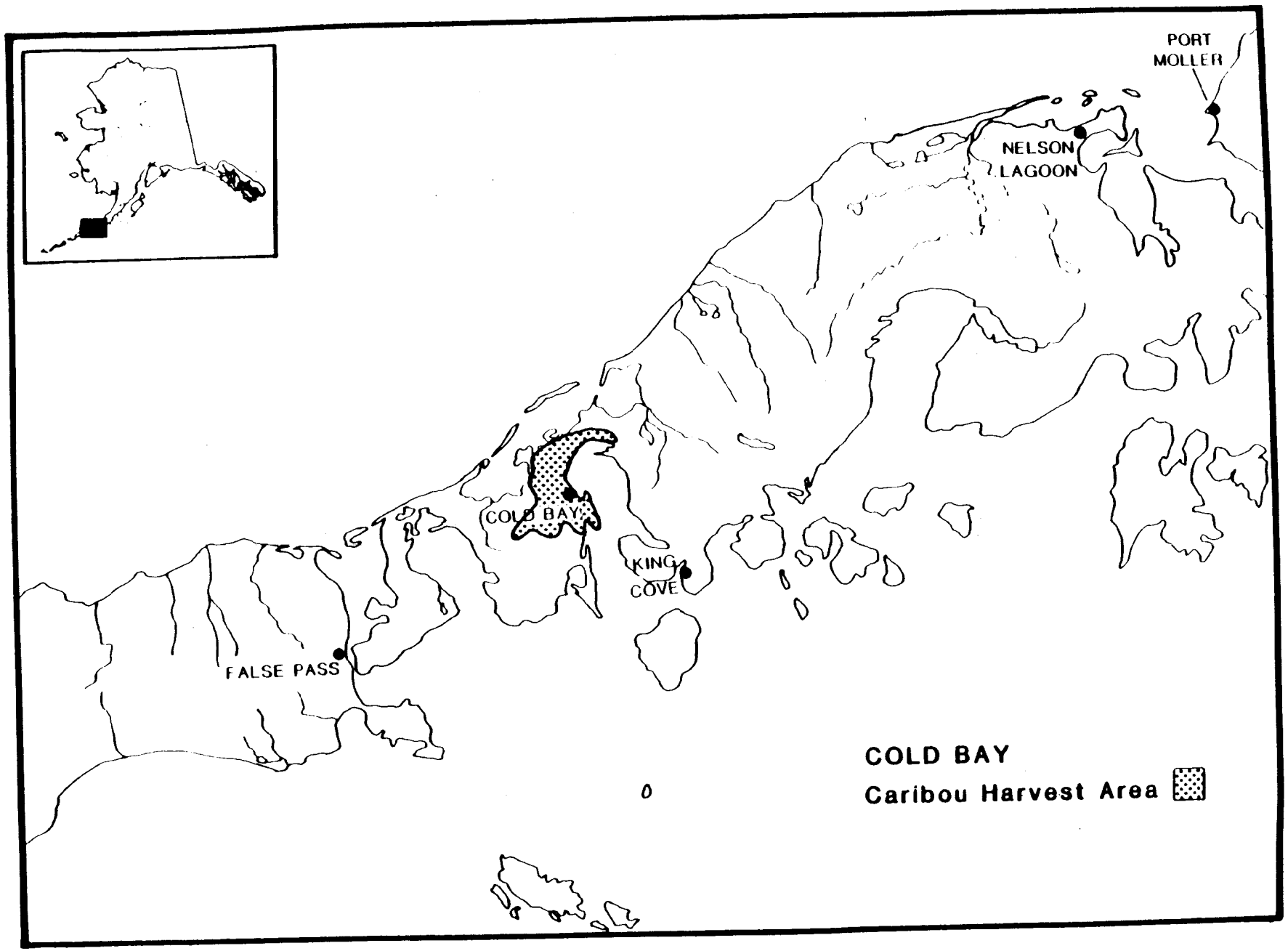

FIGURE 2. CARIBOU HARVEST AREAS, COLD BAY.

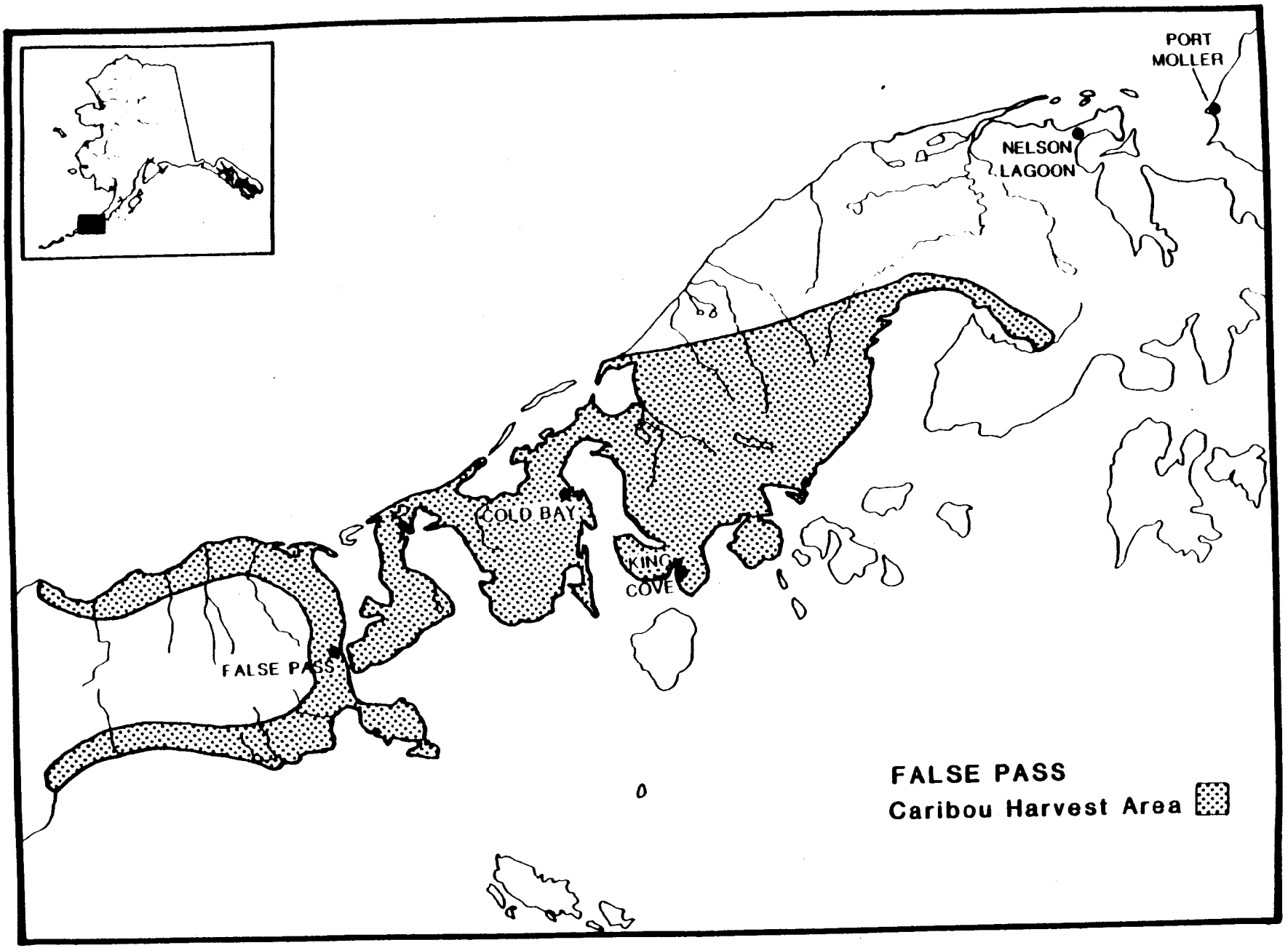

FIGURE 3. CARIBOU HARVEST AREAS, FALSE PASS.

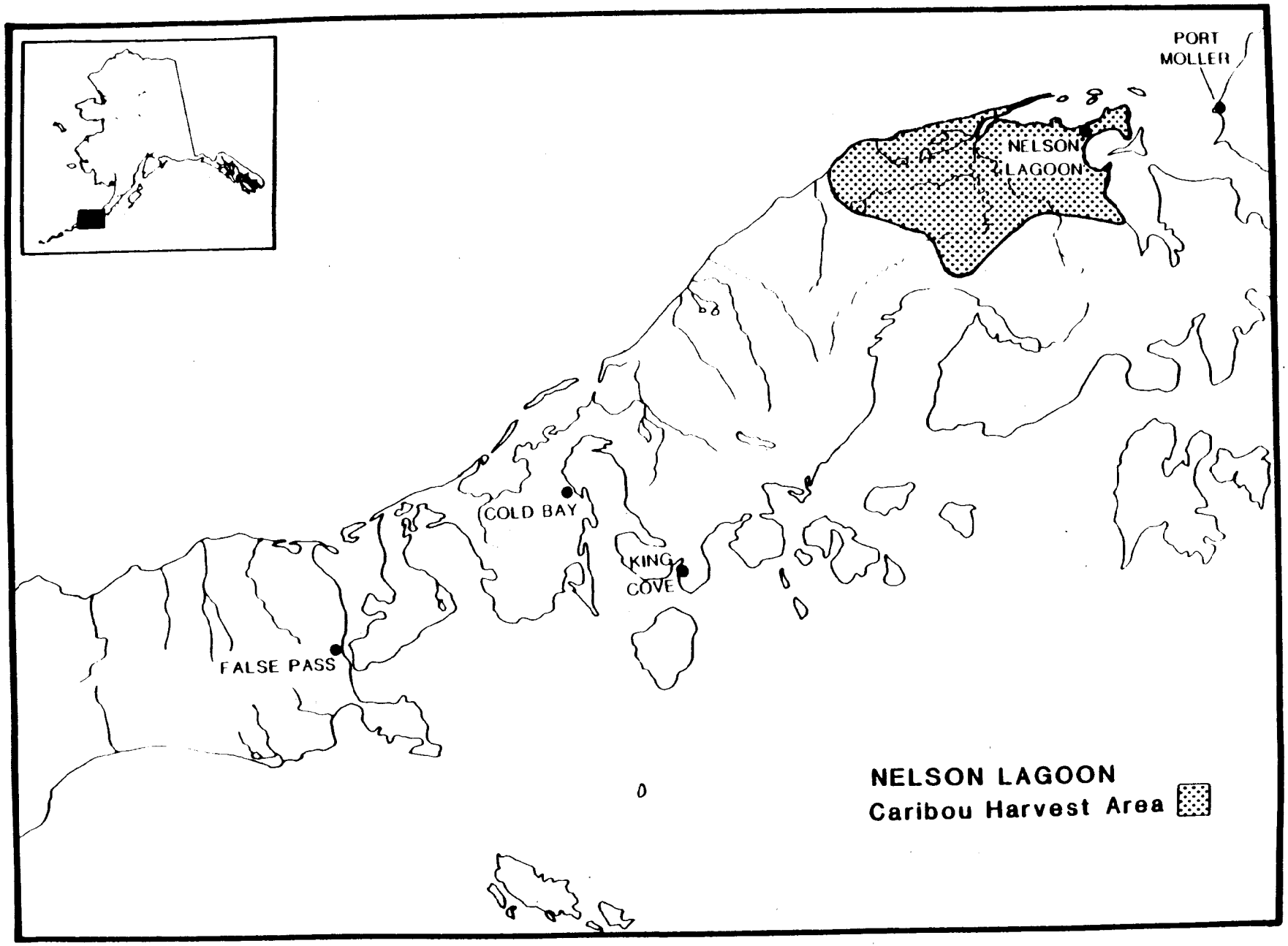

FIGURE 4. CARIBOU HARVEST AREAS, NELSON LAGOON.

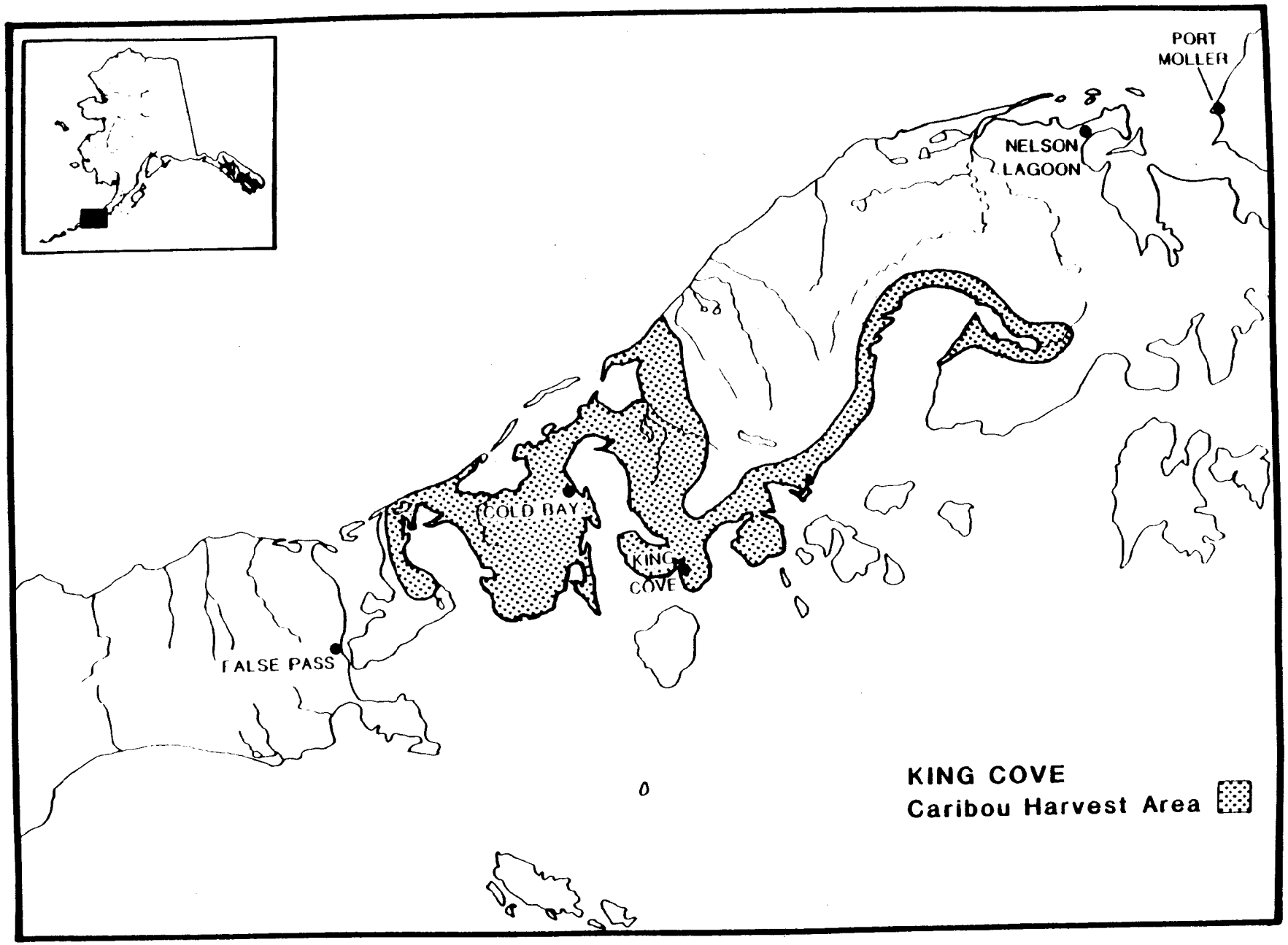

FIGURE 5. CARIBOU HARVEST AREAS, KING COVE.

PROPOSAL #83 5 AAC 85.025(4). HUNTING SEASONS AND BAG LIMITS FOR CARIBOU. Reduce the bag limit for the Southern Alaska Peninsula (SAP) caribou herd from 2 caribou for subsistence hunters and 1 caribou for resident and nonresident hunters to 1 bull for all hunters.

UNITS AND BAG LIMITS	SUBSISTENCE OPEN SEASON	RESIDENT AND NON-RESIDENT OPEN SEASON
Unit 9(D) and Unit 10, Unimak Island only		
SUBSISTENCE HUNTERS: [2 CARIBOU] 1 bull	Sept. 1-Mar. 31	
RESIDENT AND NONRESIDENT HUNTERS: [1 CARIBOU] 1 bull		Sept. 1-Oct. 31

PROBLEM: The SAP herd continues to decline due to very high natural mortality of calves and adult females. In 1989, fall composition of the herd was 3% calves and adult female natural mortality was about 35%. The population is now estimated at slightly over 4,000 caribou, well below the objective of 5,000 caribou. The current either sex bag limits (2 for subsistence hunters, 1 for all others) allows for the taking of cows, the segment of the herd which needs protection at this time if the rate of decline is to be slowed.

WHAT WILL HAPPEN IF NOTHING IS DONE? The herd will continue to decline at a rate faster than it would if females were protected.

WHO IS LIKELY TO BENEFIT? If the change in bag limit does slow the decline of the SAP herd, and eventually leads to a faster recovery, then all users of these caribou would eventually benefit.

WHO IS LIKELY TO SUFFER? Subsistence hunters will have a smaller bag limit than at present.

OTHER SOLUTIONS CONSIDERED: A total closure for the SAP herd was strongly considered, but this herd is being affected more by natural factors (poor range condition and a high rate of natural mortality) than by harvest. The reported harvests for 1986-88 were 56, 81, and 48, respectively, with an average of 61% bulls. The actual total harvest is believed to be several times greater than reported. Based upon recently obtained data, even with no harvest, the herd will continue to decline. The bull:cow ratio has increased from 32 bulls:100 cows to 41 bulls:100 cows in recent years. By harvesting some bulls, grazing pressure on the range will be reduced slightly without impacting the reproductive potential of the herd.

A shortening of the subsistence season to end of December 31 was considered as a means of reducing late winter disturbance to caribou using the Cold Bay area. The impact of a shortened season on subsistence hunters is not fully known at this time. Research on the causes of high natural mortality will be continued in 1990. If the mainland herd declines to 2500 caribou, we will stop all hunting.

If the 1989 calf and adult female high mortality rates continue in 1990, the season will be closed in 1991 whether or not there is a legal hunting season in 1990.

The population objective of 5000 caribou for SAP is probably too high and will be recalculated as soon as new range/condition information becomes available.

PROPOSED BY: Alaska Department of Fish and Game (SE-710)

****

STEVE COWPER, GOVERNOR

DEPARTMENT OF FISH AND GAME

333 RASPBERRY ROAD
ANCHORAGE, ALASKA 99518-1599

September 9, 1987

Dear Resident of the Southern Alaska Peninsula:

This letter is to provide you an update on the status of the Southern Alaska Peninsula Caribou herd, consisting of the caribou that range between Port Moller and Unimak Island, and to explain why it was necessary to close the hunting season by emergency order. Over the past year, the Alaska Department of Fish and Game and the Izembek National Wildlife Refuge have cooperatively completed several surveys which show that the herd has declined to about 4,100 caribou. At this time any harvest will simply contribute to a further decline. The quicker we stop all harvest, the quicker the herd can begin its recovery.

By way of background, from historic records it appears caribou on the lower Peninsula numbered about 2,000 in 1925 plus another 7,000 on Unimak. Severe winters in the 1930s reduced the herds drastically. In 1949, the U. S. Fish and Wildlife Service estimated less than 500 caribou on the Southern Peninsula and fewer on Unimak. The Unimak segment grew during the next two decades and peaked at about 5,000 in 1975. This seems to be a turning point as the segment on Unimak declined to its present level of 200-300 while the mainland group increased to about 6,000-7,000 from 1978-81. We were somewhat surprised when over 10,200 caribou were counted on the mainland in late 1983. At that point, we were concerned that continued growth of this herd would cause long-term damage to the range and thus our intention was to encourage harvests until the herd was brought back within the long-term population objective of 5,000-6,000 caribou. In fact, even by 1983, there were indications of range problems. The herd has produced few calves and the animals are somewhat smaller than caribou in the Northern Alaska Peninsula herd.

Since 1983 there have been some indications that the herd was declining, but there was doubt about the reliability of the census data. Last fall the refuge conducted a thorough survey and counted only 4,543 caribou. Quite frankly, we did not expect that the herd could have dropped from over 10,200 to less than 5,000 in just three years, especially since the reported harvest did not increase. Our harvest information comes from harvest reports attached to harvest tickets which caribou hunters are required to have. During the period 1977-82 when the herd was growing, the reported harvest increased substantially and peaked at 432 caribou in 1981-82. Because very few caribou were reported taken by village residents, we suspected that

the reported harvest was considerably below what was actually being killed. Although the reported harvest remained approximately the same for the next two seasons, 10,200 animals were counted. There seemed to be plenty of caribou for everybody. Intensive monitoring of the herd and the harvest was not considered as necessary as in other caribou herds and the department's limited funds were directed to other areas. Unfortunately the herd size changed very quickly and the department was not prepared to monitor the herd and the harvest at the intensity required by the circumstances.

Many caribou herds in Alaska which are intensively managed are monitored with the aid of radio collars which allow managers to follow herd movements and locate major caribou concentrations shortly after calving, when the most reliable counts are possible. Department and refuge staff placed radios on Southern Peninsula caribou in April 1986, but most of these radios turned out to be defective. Twenty good radios were put on caribou this past April, and these radios have been used to relocate and census the herd. By maintaining radios on the herd, we will be better able to census the herd each year.

In recent times declines of caribou herds in other areas have usually been related to overharvest by humans and/or severe predation. We are now trying to find out how many caribou are taken by hunters and wolves or bears. Some people have suggested that large numbers of caribou have moved north of Port Moller and were missed during the counts, but no large numbers have been found in this area and the Northern Peninsula herd has also declined to some extent. Unimak Island still has only a couple hundred caribou present, so movements of caribou are not thought to be the reason for the decline.

So what happened from 1983 to 1986? We do know that calf production has been low, but it was also low during the early 1980s when the herd was growing. We know there was no mass movement out of the normal range of this herd. Reported harvests did not increase, but we don't know if more people were killing caribou and not reporting their harvest. This summer some adult caribou that were radio tagged in April died, but more study is needed to determine the extent and causes of this natural mortality.

In summary, we think hunter harvest combined with predation and low calf production are responsible for the decline. While we look for more of the answers, our immediate goal is to allow the herd to increase to the 5,000-6,000 level. With a productive herd this growth would come quickly, but we expect a slow recovery because few calves are being added to the herd each summer. At this time, we don't know if the production of calves can be improved, but we must reduce the number of caribou that die. Last year the bag limit was reduced to one caribou by emergency regulation. This step reduced the reported harvest to only 56 caribou, yet the herd continued to decline, from 4,500 to 4,100 animals. Preliminary analysis of hunter bag checks and harvest reports suggest that only about half of the harvest near Cold Bay was reported to us. A much smaller fraction of the harvest from other areas was reported.

With the herd now below desired levels, it is essential that we monitor all human harvest. A limited harvest may be allowed if the herd starts to increase. Next spring, the Board of Game will review biological information about this herd and determine if a harvest can occur during the 1988-89 season. The board will also require information about human uses of these caribou so that when hunting resumes, regulations can be adopted that provide for customary and traditional (subsistence) uses and, if additional caribou can be taken, recreational uses as well. Examples of the kinds of information that will be needed include the number of local hunters, the size of past caribou harvests by each community in or near GMU 9D, and methods and means of hunting the herd. The department's Game and Subsistence Divisions intend to begin collecting this information soon. Among the data collection methods we are considering is sending a mail-out questionnaire to households living in communities near the herd's range, including Nelson Lagoon, Cold Bay, Sand Point, King Cove, and False Pass. Department and refuge staff also plan to visit these communities this winter to talk with caribou hunters and others who are concerned about the herd. During these community visits, we will be interested in learning more about local patterns of use of the herd, and will also discuss ideas about future hunting regulations and effective ways to collect harvest data. We will work with local fish and game advisory committees in scheduling community meetings during these visits. We hope that everyone who has an interest in the Southern Alaska Peninsula Caribou herd will cooperate with our data collection efforts and also plan to attend these meetings.

We look forward to working with you to turn this decline around, and to providing a sustainable harvest as soon as possible.

Sincerely,

Richard Sellers

Richard Sellers
Area Game Biologist
Game Division
King Salmon

Jim Fall

Jim Fall
Subsistence Resource Specialist III
Subsistence Division
Anchorage

Paul Schmidt (for)

John Sarvis
Refuge Manager
Izembek National Wildlife Refuge
Cold Bay

APPENDIX C

SOUTHERN ALASKA PENINSULA CARIBOU HERD QUESTIONNAIRE

The Department of Fish and Game would like your assistance in collecting some information on human use of the Southern Alaska Peninsula Caribou Herd. In early September the attached letter explaining the reasons for the closure of the Southern Alaska Peninsula caribou hunting season was sent to postal box holders in the affected local communities.

PLEASE HELP US by answering the following questions and returning the form in the enclosed envelope. All of your responses will be kept confidential -- no names will be used. The person in your household who knows the most about your hunting activities should fill out the form. PLEASE FILL OUT AND RETURN THE FORM THAT ARRIVES IN YOUR HOUSE'S BOX EVEN IF NO ONE IN YOUR HOUSEHOLD HUNTS CARIBOU. Thank you.

1. IN WHICH COMMUNITY (VILLAGE) DOES YOUR HOUSEHOLD LIVE? _____

   Have household members lived here since August 1985? Yes_____ No_____

   If no, in what month and year did you move here? _____ _____

2. HOW MANY PEOPLE LIVE IN THIS HOUSEHOLD?_____

3. DURING THE AUGUST 1986 - MARCH 1987 HUNTING SEASON (last year):

   a. How many people in your household hunted caribou:

      In Game Management Unit 9D? _____

      On Unimak Island (GMU 10)? _____

      Some other place? _____ Where? _____

   See the enclosed map for Game Management Unit boundaries.

   b. How many caribou were killed by your household:

      In Game Management Unit 9D? _____

      On Unimak Island? _____

      Some other place? _____ Where? _____

   Make your best estimate. Count any caribou you killed and then gave away. Do not count caribou that other people gave your family. Put "0" if you hunted but killed no caribou.

   c. Please circle the months when people in your household hunted caribou in the 1986 - 1987 hunting year.

      Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun

   d. Please check (x) how hunters in your household travelled to caribou hunting areas:

      Commercial fishing boat _____
      Skiff _____
      Airplane _____
      Road vehicle _____
      Off-road vehicle (3 or 4 wheeler) _____
      Other (name) _____ _____

4. DURING THE AUGUST 1985 - MARCH 1986 HUNTING SEASON (two years ago):

a. How many people in your household hunted caribou:

In Game Management Unit 9D? _____

On Unimak Island (GMU 10)? _____

Some other place? _____ Where? _____

See the enclosed map for Game Management Unit boundaries.

b. How many caribou were killed by your household:

In Game Management Unit 9D? _____

On Unimak Island? _____

Some other place? _____ Where? _____

Make your best estimate. Count any caribou you killed and then gave away. Do not count caribou that other people gave your family. Put "0" if you hunted but killed no caribou.

c. Please circle the months when people in your household hunted caribou in the 1985 - 1986 hunting year.

Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun

d. Please check (x) how hunters in your household travelled to caribou hunting areas:

Commercial fishing boat	_____
Skiff	_____
Airplane	_____
Road vehicle	_____
Off-road vehicle (3 or 4 wheeler)	_____
Other _____ (please name)	_____

5. IN YOUR VIEW, SINCE 1985 HAS THE NUMBER OF CARIBOU IN GMU 9D:

Declined?	_____
Remained about the same?	_____
Increased?	_____
Don't know (no opinion)	_____

6. PLEASE ADD ANY COMMENTS YOU HAVE ABOUT CARIBOU IN THIS AREA (continue on the back).

_____

_____

_____

_____

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