

MOOSE HUNTING BY RESIDENTS OF BEAVER,
BIRCH CREEK, FORT YUKON, AND STEVENS VILLAGE
IN THE WESTERN GMU 25(D) PERMIT MOOSE HUNT AREA,
1984-85

by
Valerie Sumida and Clarence Alexander

Technical Paper Number 121

Alaska Department of Fish and Game
Division of Subsistence
Juneau, Alaska

July 1985

TABLE OF CONTENTS

Introduction	1
Purpose	3
Methodology	3
Community Socioeconomic Characteristics	5
General Moose Hunting Patterns	5
Historic Hunting Patterns	5
Contemporary Fall Hunting Patterns	8
Contemporary Winter Hunting Patterns	12
Moose Hunting Regulations	14
1984-1985 Hunting Seasons and Harvests	18
Moose in the Local Economy: the Example of Stevens Village	22
Summary and Conclusions	26
References	28

LIST OF FIGURES

Fig. 1.	The study area showing Game Management Unit boundaries and the permit moose hunt area	2
Fig. 2.	Areas used for moose hunting during the lifetimes of surveyed Birch Creek and Fort Yukon residents, and during the period 1974 to 1984 for Stevens Village residents	10
Fig. 3.	Seasonal round of resource harvest activities for selected resources by Stevens Village residents, 1984	23
Fig. 4.	Areas used for trapping during the lifetimes of surveyed Birch Creek and Fort Yukon residents, and during the period 1974 to 1984 for Stevens Village residents	25

LIST OF TABLES

Table 1.	Population, households, and median household income data for Stevens Village, Beaver, Birch Creek, and Fort Yukon	6
Table 2.	Moose hunting seasons, bag limits, and season length for the area now designated as GMU 25(D) permit moose hunt area, 1957-1985	15
Table 3.	Harvest results of the GMU 25(D) permit hunt 1983-1985	20

INTRODUCTION

This report provides a description of moose hunting by residents of four communities in the Yukon Flats area. The information is useful for assessing recent regulatory changes in Game Management Unit 25(D). During the spring 1983 Alaska Board of Game meeting, a registration permit hunt was established for a portion of western GMU 25(D) in response to local, advisory committee, and Department of Fish and Game concerns about the low moose population in the area. The permit system would restrict the harvest in the area and provide more accurate harvest information, both relevant to management concerns of preventing further declines in the population. The Division of Game and the U.S. Fish and Wildlife Service began a management study at this time, to document seasonal habitat use, movement patterns, and distribution of moose in the permit area (McLean and Nowlin 1984). Sixty permits were available to residents of GMU 25(D) and were issued in the communities of Birch Creek, Beaver, and Stevens Village. Season dates were August 25 through October 5 and the bag limit was one bull moose. The use of aircraft for hunting moose was not allowed in the area as a condition of the permit.

The following year at the spring Board of Game meeting, proposals by the Yukon Flats Fish and Game Advisory Committee and Department of Fish and Game staff were submitted regarding adjustments in the boundaries of the permit hunt area (Fig. 1) and season dates to better accommodate customary moose hunting by area residents. The Board adopted both changes, providing one fall and two winter seasons although the overall length of the seasons remained the same.

In response to this and other land and resource use issues, the

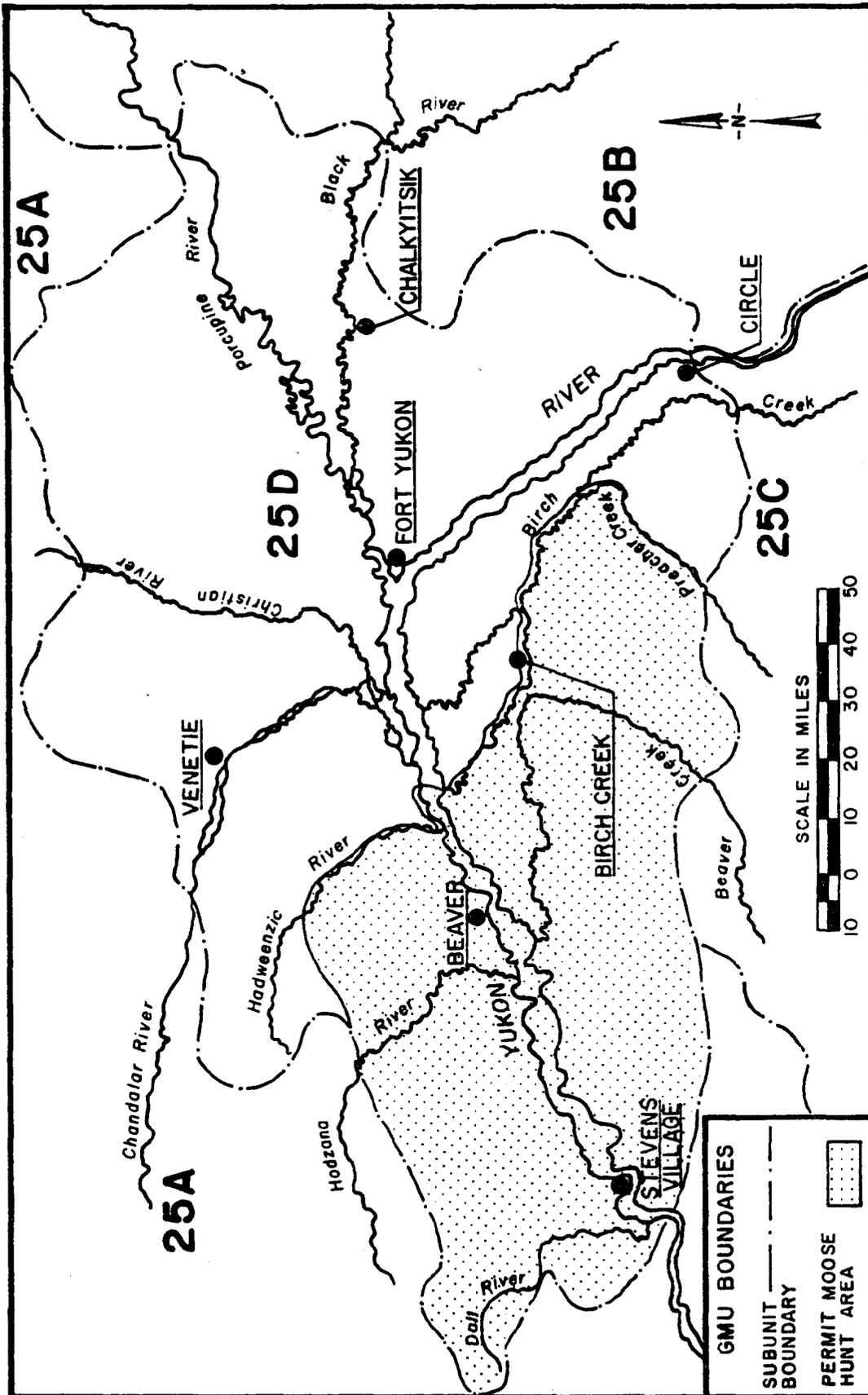


Fig. 1. The study area showing Game Management Unit boundaries and the permit area

Division of Subsistence has conducted research in the Upper Yukon and Yukon Flats area since 1980. Moose hunting and other subsistence uses by the communities of Birch Creek, Fort Yukon, Venetie, Chalkyitsik, and Arctic Village were described by Caulfield (1983). Currently, the Division is conducting a study of resource use in Stevens Village and will begin a similar study in the community of Beaver in July 1985.

PURPOSE

This report describes the general moose hunting patterns of residents of Beaver, Birch Creek, Fort Yukon, and Stevens Village, including traditional seasons, harvest methods, and geographic use areas. The hunting activities and harvest levels of the 1984-85 permit moose hunt in GMU 25(D) by residents of Beaver, Birch Creek, and Stevens Village are presented and compared with the 1983-84 season. The place of moose hunting in the seasonal cycle of subsistence activities for Yukon Flats communities is also discussed, using the example of Stevens Village.

METHODOLOGY

Field research was conducted in Stevens Village, Beaver, and Birch Creek by two Division of Subsistence staff, a Subsistence Resource Specialist from the Fairbanks office and a bilingual Fish and Game Technician from the Fort Yukon office. As part of an on-going baseline study in Stevens Village, structured interviews on resource harvest and use were conducted with all households during the fall of 1984. Mapping of areas used for resource harvesting from 1974 to 1984 was completed

with 67 percent of the households. Data collection also involved informal interviews on a variety of resource-related topics, participant observation of subsistence activities and review of relevant literature. In addition, a questionnaire on moose hunting activities was administered to permit holders in Stevens Village, Beaver, and Birch Creek following each of the three open seasons during the fall and winter of 1984-85. Information obtained from the questionnaires included hunting success, hunting group composition, number of days spent hunting, means of transport, estimates of the amount of fuel used, general hunting areas, and the sharing of harvested moose. Attempts were made to interview all permit holders after each season although this was not always possible and some were contacted during subsequent visits to the communities. All permittees were interviewed in Stevens Village (n=25) and Beaver (n=25), while 7 of 10 Birch Creek permit holders were interviewed.

An earlier study by the Division in Birch Creek and Fort Yukon (Caulfield 1983) was conducted between October 1980 and March 1982. A primary objective of that study was to depict geographical areas used for resource harvesting during the lifetime of community residents. In Birch Creek 83 percent of the household heads were interviewed and in Fort Yukon 6 percent. General and qualitative information about subsistence activities was elicited through formal and informal interviews, and participant observation. Use area information for Birch Creek and Fort Yukon presented in this report is derived from Caulfield (1983), supplemented with mapped information collected in Fort Yukon this winter.

COMMUNITY SOCIOECONOMIC CHARACTERISTICS

Beaver, Birch Creek, Fort Yukon, and Stevens Village are relatively small, non-road connected communities with predominately Alaska Native populations. The three communities within the boundaries of the permit area, Beaver, Birch Creek, and Stevens Village, each have populations of less than 100 people (Table 1). Birch Creek, the smallest, had 32 people in 13 households in 1980 (U.S. Bureau of the Census 1981). In 1984, Beaver had approximately 78 people in 32 households and Stevens Village, 90 people in 33 households. Fort Yukon, the largest community in the Yukon Flats, had 619 people in 187 households in 1980 (U.S. Bureau of the Census 1981). Median household incomes for the permit area communities ranged from \$3,000 to \$6,563 in 1979 while Fort Yukon's median household income was higher at \$11,406 (U.S. Bureau of the Census 1982).

GENERAL MOOSE HUNTING PATTERNS

Historic Hunting Patterns

Customarily moose were hunted throughout the year by residents of the Yukon Flats region. Seasonal changes in the quality of moose meat were associated with preferences for harvesting moose during particular seasons over others. Bull moose are considered to be good prior to the rut when they are still fat and have not acquired the strong taste and odor that later develops. During winter, bull moose have little fat and only certain parts of the moose are considered edible. Although in general moose are not considered as good in the spring as during other times of the year,

TABLE 1

POPULATION, HOUSEHOLDS, AND MEDIAN HOUSEHOLD INCOME DATA
FOR STEVENS VILLAGE, BEAVER, BIRCH CREEK, AND FORT YUKON

Community	Population	Households	Median Household Income - 1979§
Stevens Village	90*	33*	\$4,821
Beaver	78*	32*	\$6,563
Birch Creek	32†	13†	\$3,000
Fort Yukon	619†	187†	\$11,406

§ U.S. Bureau of the Census (1982)

* Figures for 1984, Division of Subsistence (1984)

† Figures for 1980, U.S. Bureau of the Census (1981)

bulls are again considered edible by about February until the following October. Cow moose are considered good year-round, even throughout the fall and beyond the rut. Barren cows are especially favored as these cows retain their fat through the winter.

The seasonal movement patterns of moose historically have been important factors in the hunting activities undertaken by Yukon Flats residents. Local residents report the following patterns of the seasonal movements of moose. After the October rut most moose generally move out of the river flats into the surrounding foothills, returning to areas with good cover and good feed. Here they stay during late October and November. From as early as December through February moose begin to move down from the foothills, especially if there has been heavy snowfall in the uplands, creating difficult travel and browse conditions for the animals. At this time moose may be found throughout the flats, along the river corridors, or on islands. After break-up in May they feed around lakes, meadows, and along creeks and rivers, remaining dispersed in these areas through the summer until the onset of the fall rut in late-September. Prior to and during the rut, moose frequently move to the main river corridors and islands and are often seen along the river banks feeding and watering in the early morning and at dusk. These patterns may vary depending on environmental and climatic conditions encountered during a particular year. Results of recent studies on seasonal movement patterns and distribution of moose based on radio-telemetry data show a pattern similar to that reported by local residents, although findings indicate that both resident and migratory populations of moose exist in the permit area (Roy Nowlin pers. comm., 1985).

In the recent past when trapping was a more profitable enterprise,

fall moose hunting commonly occurred close to an individual's trapline and the trapping campsite served as the base of fall moose hunting operations (Schneider 1976:93). Hunting and trapping continued throughout the winter and into spring until after break-up. Spring hunting camps focused on the harvest of waterfowl and muskrat although moose were harvested opportunistically or if other resources were unavailable. During summer months, hunting activities continued, often in the vicinity of fish camps (Clark 1981:588).

Contemporary Fall Hunting Patterns

Currently, moose hunting by residents of the four communities occurs primarily in September, prior to and during the rut. As stated previously, during this time moose are often found along the main river and sloughs that serve as the transportation corridors for the hunters. Moose also frequent certain lake areas accessible from the river by short portages. The animals are active at this time and bull moose can be "called." Moose are still in good condition and temperatures are usually cool enough to keep meat without a freezer. Weather conditions are not as significant a factor in moose hunting in September as during other times of the year.

For Stevens Village residents September is also a critical time for securing a winter wood supply. Wood cutting is often done upriver where suitable stands of timber are found along the banks of the main river. Wood is rafted down to the village before slush ice forms in October. Moose hunting is often conducted in conjunction with wood cutting activities, for an efficient use of travel time and fuel. Temporary campsites

at wood cutting areas, and trapping camps and cabins along the river are sometimes used during this season as a base for moose hunting activities.

Hunting trips are typically two to three days in length with a range from one day to about two weeks. Some hunters return to the village each evening and, if unsuccessful, may hunt for several consecutive days in this manner. The length of time away from the village may depend on other activities pursued during this time, such as the wood cutting mentioned above, or other village-based responsibilities.

Hunting areas for residents of three of the communities are shown in Fig. 2. Hunters from Stevens Village sometimes travel up to 90 miles upriver to the village of Beaver in search of moose. Efforts are often focused along sloughs and islands upriver from the village to Purgatory and Marten Island, approximately 50 miles away. Some residents travel downriver from the village to Dall River or the upper reaches of "the canyon," hunting in the vicinity of their winter trapping areas. According to residents, hunting activities around the Ray River have been curtailed since the building of the pipeline and adjacent Dalton Highway. Hunting with firearms is prohibited by statute north of the Yukon in the areas within five miles on either side of the highway (A.S. 16.05.789).

Areas used by residents of Beaver for moose hunting activities include Beaver Creek and the Hodzana River, the Yukon River downriver to Marten and Moose islands, and the upriver areas around the Hadweenzic River, White Eye, and the lower mouth of Birch Creek.

Birch Creek residents hunt for moose along Birch Creek upriver from the village to Preacher and Beaver creeks and as far upriver as the Steese Highway bridge, downriver to the upper and lower mouths of Birch Creek on the Yukon River, and along the Yukon River between White Eye

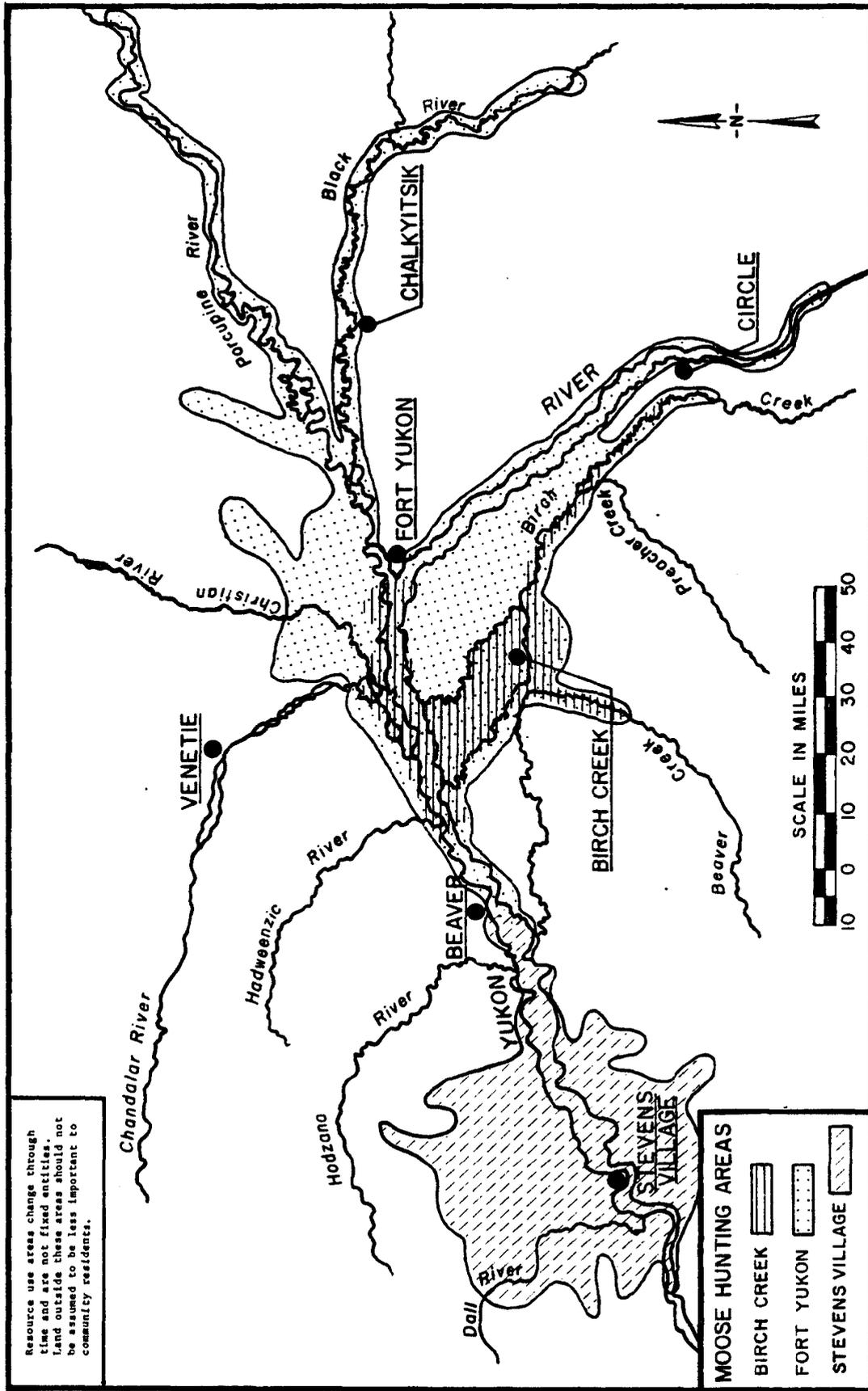


Fig. 2. Areas used for moose hunting during the lifetimes of surveyed Birch Creek and Fort Yukon residents, and Stevens Village residents during the period 1974 to 1984 for Stevens Village residents.

and Fort Yukon (Caulfield 1983:120-121).

Hunting parties are commonly composed of two to three individuals related through kinship ties, such as father and son, brothers, or spouses. For example, 54 percent of the hunting parties from Stevens Village consisted of father-son or sibling combinations, 31 percent included spouses. Groups also are composed of cousins, uncles and nephews, and friends. A few individuals typically hunt alone.

Hunters usually travel in aluminum or wooden riverboats. Boats used by Stevens Village hunters range in length from 12 to 20 feet, the most common being 16 and 20-foot boats powered by outboard motors of 18 to 75 hp. Canoes are sometimes brought along on hunting trips as they allow hunters to scout areas such as large lakes or areas of shallow water that are not accessible with a larger, motorized boat or on foot. Falling water levels in September limit the number of waterways which can be negotiated using boats with outboards. A canoe may facilitate the successful harvest of a moose spotted across a lake or swampy area and the subsequent hauling of meat back to the main river. A few hunters travel on foot a short distance from the community to hunt.

Typically, two to three hunters travel together in one boat looking for moose tracks along the river bank or other signs such as broken willow branches or scraped bark that may indicate a nearby moose. As hunters travel along the river they may stop periodically to check specific islands, meadows, lakes, trails, or stands of willow where moose have been found in the past or which appear to be areas where they are likely to be found. If moose sign is found, hunters search the area more intensively. Occasionally a group of hunters participate in a moose drive. During the fall rut, moose are sometimes spotted as they are

standing on the river bank and are readily harvested. Moose are generally killed within one mile of the river. Hunters do not want to pack large quantities of meat further than this (Caulfield 1983:55; Schneider 1976:93).

A moose scapula from a previous kill is sometimes dried and carved to create a "moose call." The scapula is drawn lightly against trees or brush to create a sound similar to that of a bull moose raking its antlers against willows. Bull moose hearing the "call" interpret this as a challenge from a rival moose and will appear in the area where the sound is made. Other loud noises, such as those made at a wood cutting camp, may also draw moose to the area. Some hunters make vocalizations imitative of a cow moose which attracts nearby bulls. Moose are reputed to have acute hearing and an ability to travel through the brush almost soundlessly. These characteristics are important in the "calling" of moose, when a hunter must remain especially alert.

Contemporary Winter Hunting Patterns

Moose hunting during winter involves very different conditions than the fall hunt and requires different hunting strategies and tracking techniques. Hunters interviewed in the permit area communities expressed that hunting for moose seldom takes place in December when daylight is short and temperatures extremely cold. Later, as daylight increases and moose move down to the flats and rivers, hunting is more likely to be done.

Winter hunting is undertaken by individual hunters and groups of hunters. Windy or even stormy weather conditions are preferred during winter hunts as they function to mask the sounds hunters make while stalk-

ing moose. Snowmachines or dog teams are used for travel to winter hunting areas, and tracking and stalking moose are generally done on snowshoes or on foot.

Hunters search for tracks in areas where moose are likely to be found, such as stands of willow where they may be feeding. If tracks are spotted, the age of the tracks and the direction of travel are determined. Hunters attempt to travel parallel to the tracks, being careful to remain downwind of the animal, which can readily detect human scent. When a moose is ready to bed down, it may double back downwind from its direction of travel, a maneuver allowing it to pick up the scent of any predators that may have been following it. This knowledge enables the careful hunter to avoid detection during the stalking of the animal. When the hunter is within shooting range he may make a noise alerting the moose of his presence and causing the animal to rise up and look about, allowing the hunter a clearer shot.

A moose drive is another strategy used during winter hunting. This involves a group of hunters who make a general reconnaissance by snow-machine around certain areas such as islands or stands of willow where moose are likely to be found. If tracks or sign are found, hunters carefully assess the surrounding terrain to determine directions of trail systems and possible "escape" routes. This process is often facilitated by older hunters who are familiar with the area. Individuals are then placed at strategic points along the perimeter of the area, where the moose might emerge. One or two of the hunters follow the moose tracks on foot to flush the moose out towards his companions who are ready to shoot the escaping moose.

As stated previously, it was typical for area residents to combine

hunting and trapping activities from the late fall through early spring when trapping effort was high. Some residents of the area still combine these activities, hunting for moose if tracks or other moose sign are seen while checking traplines. Others will make specific trips in search of moose.

MOOSE HUNTING REGULATIONS

Table 2 summarizes the moose hunting regulations from 1957 to the present in the area now designated as the GMU 25(D) permit moose hunt area. From 1963 until 1981 this area included a portion of what was then GMU 20(C). As shown in Table 2, from the mid-1960s through the mid-1970s the open season extended from late August through December. During eight years of this period a two moose bag limit (only one moose could be antlerless) was in effect. During this time, there were no restrictions in regards to residency or transportation. Non-local hunters from outside GMU 25(D) took advantage of the long seasons and liberal bag limits, flying into the area or using riverboats transported by road to the Yukon crossing on the Dalton Highway, the Steese Highway bridge at Birch Creek, and the community of Circle. By the 1976-77 season, the open season had been shortened slightly and the bag limit reduced to the taking of one bull moose. The following year the season was reduced considerably with the bag limit remaining one bull moose. By this time, the traditional winter moose hunting pattern in conjunction with trapping activities was no longer allowed by regulation. Season dates were modified in 1980 to allow both a mid-September and early-November opening, although the season length and bag limit remained the

TABLE 2

MOOSE HUNTING SEASONS, BAG LIMITS, AND SEASON LENGTH
FOR THE AREA NOW DESIGNATED AS GMU 25(D) PERMIT MOOSE HUNT AREA,
1957-1985*

REGULATORY YEAR	MONTH							BAG LIMIT ¹	DAYS
	AUG	SEP	OCT	NOV	DEC	JAN	FEB		
1957-58	X	XXX		X				1 BULL	53
1958-59	X	XXX		X				1 BULL	53
1960	X	XXX		XXX				1 BULL	72
1961-62	X	XXX		XX	X			1 BULL	73
1962-63	X	XXX		XXX				1 BULL	72
1963-64	XXX	XXX		XXX				1 BULL	91
**	X	XXX		XXX				1 MOOSE ²	72
1964-65	X	XXX	XXX	XXX				1 MOOSE ³	103
**	X	XXX	X	XXX				1 MOOSE ⁴	79
1965-66	X	XXX	XXX	XXX				1 MOOSE ³	103
**	X	XXX	X	XXX				1 MOOSE ⁵	74
1966-67	X	XXX	XXX	XXX	XXX			2 MOOSE ⁶	134
**	X	XXX	X	XXX				1 MOOSE ⁷	75

* This information is derived from Alaska Game Regulation booklets for each regulatory year.

** Regulations for the portion of Subunit 20(C) that is now included in the permit area.

¹ As defined by 5 AAC 90.020.

² Antlerless moose could be taken only on Sep. 30.

³ Antlerless moose could be taken from Nov. 20-30.

⁴ Antlerless moose could be taken from Oct. 1-7.

⁵ Antlerless moose could be taken from Oct. 1-2.
One moose of either sex constituted the bag limit for Unit 20(C).

⁶ Only one moose could be antlerless.

⁷ Antlerless moose could be taken from Sep. 29 - Oct. 3.
One moose of either sex constituted the bag limit for Unit 20(C).

TABLE 2 * (Cont.)

REGULATORY YEAR	MONTH							BAG LIMIT ¹	DAYS
	AUG	SEP	OCT	NOV	DEC	JAN	FEB		
1967-68	X	XXX	XXX	XXX	XXX			2 MOOSE ⁶	134
**	X	XXX	X	XXX				1 MOOSE ⁸	76
1968-69	X	XXX	XXX	XXX	XXX			2 MOOSE ⁶	134
**	X	XXX	X	XXX				1 MOOSE ⁸	76
1969-70	X	XXX	XXX	XXX	XXX			2 MOOSE ⁶	134
**	X	XXX	X	XXX				1 MOOSE ⁸	76
1970-71	X	XXX	XXX	XXX	XXX			2 MOOSE ⁶	134
**	X	XXX	X	XXX				1 MOOSE ⁸	76
1971-72	X	XXX	XXX	XXX	XXX			2 MOOSE ⁶	134
**	X	XXX	X	XXX				1 MOOSE ⁹	79
1972-73	X	XXX	XXX	XXX	XXX			2 MOOSE ⁶	134
**	X	XXX	X	XXX				1 MOOSE ⁹	79
1973-74	X	XXX	XXX	XXX	XXX			2 MOOSE ⁶	134
**	X	XXX	X	XXX				1 MOOSE ⁹	79
1974-75	X	XXX	XXX	XXX	XXX			1 MOOSE	134
**	X	XXX	X	XXX				1 MOOSE ⁹	79
1975-76		XXX	XXX	XXX	XXX			1 MOOSE ¹⁰	122
**		XX		X				1 BULL	30

* This information is derived from Alaska Game Regulation booklets for each regulatory year.

** Regulations for the portion of Subunit 20(C) that is now included in the permit area.

¹ As defined by 5 AAC 90.020.

⁶ Only one moose could be antlerless.

⁸ One antlerless moose could be taken from Sep. 28 - Oct. 4.
One moose regardless of sex shall constitute the bag limit for Unit 20(C).

⁹ Bull moose only could be taken from Aug. 20 - Sep. 30 and from Nov. 1 - 30, only antlerless moose could be taken from Oct. 1 - 7.

¹⁰ Antlerless moose could not be taken prior to Oct. 1.

TABLE 2 * (Cont.)

REGULATORY YEAR	MONTH							BAG LIMIT ¹	DAYS
	AUG	SEP	OCT	NOV	DEC	JAN	FEB		
1976-77		XXX	XXX	XXX	XXX			1 BULL	122
**		XX						1 BULL	20
1977-78		XX						1 BULL	21
**		XX						1 BULL	20
1978-79		XX						1 BULL	21
**		XX						1 BULL	11
1979-80		XX						1 BULL	21
**		XX						1 BULL	11
1980-81		X		X				1 BULL	21
**		XX						1 BULL	11
1981-82		X		X				1 BULL	21
1982-83		X		X				1 BULL	21
1983-84 ¹¹	X	XXX	X					1 BULL	42
1984-85 ¹¹		XX			X		X	1 BULL	42

* This information is derived from Alaska Game Regulation booklets for each regulatory year.

** Regulations for the portion of Subunit 20(C) that is now included in the permit area.

¹ As defined by 5 AAC 90.020.

¹¹ Registration permit hunt for residents of GMU 25(D), no aircraft allowed.

same. Additional changes were made in 1983 with the establishment of the registration permit hunt.

For 1984-85, the season dates in the registration permit hunt area were September 10 to 30, December 1 to 10, and February 18 to 28. Sixty permits were available to residents of Subunit 25(D) on a registration basis in the communities of Stevens Village (25 permits), Beaver (25 permits), and Birch Creek (10 permits), from local license vendors. The permits were valid for all three seasons although the bag limit was one bull moose per permit. No aircraft were permitted for hunting moose in the area.

1984-1985 HUNTING SEASONS AND HARVESTS

This section describes the results of the 1984-85 moose hunting seasons by residents of GMU 25(D), based on post-season interviews (see Methodology). The 1984-85 harvests are compared with the 1983-84 harvests derived from returned permits.

All 60 permits were issued for the 1984-85 hunting seasons. During the September 1984 season 22 of the 25 permit holders in Stevens Village hunted and 23 of 25 Beaver permit holders hunted. Seven of the ten Birch Creek permit holders were contacted for interviews, and five of these individuals reported hunting during this season.

During the fall hunting season, hunting parties typically consisted of two to three people. Two individuals hunted alone and at least one party consisted of four people. Hunting parties often consisted of individuals related through kinship, common combinations being father-son, brothers, and uncle-nephew. In Stevens Village at least four women

were included in hunting groups, one of these being a permit holder. Of two women that held permits in Beaver, only one hunted in September. Ages of permit holders in Stevens Village who hunted during September ranged from 20 to 71 years with a median age of 39.

Two hunters reported hunting on foot from their respective communities. Other hunting parties used riverboats equipped with outboard motors. Stevens Village hunters focused their efforts upriver along Windy Bend, Long Point, Moose Island, Kings Slough, Marten Island, Purgatory, Hodzana, Beaver Slough, and the Yukon River to the community of Beaver. Beaver permit holders hunted along the Yukon upriver to the Hadweenzic River and White Eye, one party going as far as the lower mouth of Birch Creek. Other Beaver permittees hunted around Beaver Creek and the Hodzana area. Hunting areas of Birch Creek permit holders were not ascertained.

Stevens Village hunters reported spending from 1 to 21 days hunting with a mean of 7 days; hunters from Beaver reported hunting from 1 to 14 days, averaging 5 days; and two Birch Creek hunters reported hunting 1 and 7 days, respectively. The amount of gasoline used during hunting ranged from 15 to 165 gallons for Stevens Village hunters, averaging 51 gallons. Hunters from Beaver used 10 to 60 gallons, with a mean of 25 gallons; and 30 and 100 gallons were used by two Birch Creek hunters.

The total reported harvest for the September season was 19 moose by the 60 permittees from Birch Creek, Beaver, and Stevens Village: 3 were harvested by Birch Creek residents, 11 by Beaver residents, and 5 by Stevens Village hunters (Table 3). Harvested moose commonly were distributed to a number of households within each community and to people residing outside of the community. In Stevens Village, all permit hol-

TABLE 3

HARVEST RESULTS OF THE GMU 25(D) PERMIT HUNT
1983-1985

Community	Number of Permits 1983-85	Reported Harvest* 1983-84	Reported Harvest** 1984-85			Total Harvest 1984-85
			Sep.	Dec.	Feb.	
Birch Creek	10	2	3	0	0	3
Beaver	25	7	11	0	1	12
Stevens Village	25	4	5	2	3	10
Totals	60	13	19	2	4	25

* Based on returned permit reports only.

** Based on post-season interviews.

ders who harvested a moose gave some of the moose to other households. Thirteen permit holders in Stevens Village reported receiving moose meat after the September hunt. Additional non-permit holding households also received portions of harvested moose and further distributions probably occurred after the interviews took place.

No permit holders from Beaver or Birch Creek reported hunting during the December 1984 season. Despite extreme cold temperatures (-40 degrees Fahrenheit) during the December season, a number of permit holders in Stevens Village spent approximately four days in a group hunting effort for a funeral potlatch for a young woman from the village who died in late November. The one moose harvested was served at the potlatch which was attended by over 150 people. A second moose was harvested by a Stevens Village permit holder during the December season in a hunting effort unrelated to the funeral potlatch. Hunters in all three communities reported that December was not a preferred time for hunting moose

because of the lack of daylight and the cold temperatures. Hunters often expressed interest in hunting later in the winter, during the February season when conditions were expected to be better.

During the February 1985 season, permit holders from Beaver and Stevens Village hunted for moose. Four permit holders in Beaver spent approximately four days hunting together downriver from the village, harvesting one moose. Seven Stevens Village permit holders combined into four hunting parties ranging from one to three people. Their hunting activities took place around Dall River, along the winter trail north of the village, and upriver from the village. Three moose were harvested during this time by the Stevens Village hunters. None of the Birch Creek permit holders are known to have hunted during the February season.

The total reported harvest for the 1984-85 season was 25 moose. This compares with the 13 moose harvested during the 1983-84 season. One factor related to the increase in harvest is the addition of the December and February open seasons. Moose harvested during these two winter seasons accounts for 24 percent of the total harvest. Several other factors also may be associated with the increased reported take. The distribution of permits within each community may have increased harvest levels. Residents in Beaver have noted that permits were better distributed for the 1984-85 seasons in comparison with 1983-84, allowing more households and more active, experienced hunters to obtain permits. It is possible that different environmental conditions led to the presence of more moose in the Subunit during the 1984-85 open seasons which would, of course, have had a significant influence on hunting success. Additionally, reporting of moose may have improved between the two

years. A combination of any of these conditions may be related to the increase in reported harvest.

MOOSE IN THE LOCAL ECONOMY:
THE EXAMPLE OF STEVENS VILLAGE

Moose remains an important resource for the communities in the area. The importance of moose is reflected in the great effort made to harvest moose, the utilization of nearly the entire animal, and the social significance of sharing moose meat. The hunting, butchering, and processing of moose can involve substantial amounts of effort as well as cash. Its special cultural significance is evident in the importance placed upon having moose for funeral potlatches and other ceremonial occasions.

The harvest of moose is an important component of the seasonal pattern of hunting, fishing, trapping, and gathering activities of the communities in the Yukon Flats. For instance, Fig. 3 depicts the seasonal round of harvest of selected resources for Stevens Village residents. Moose hunting in Stevens Village is one subsistence activity in a seasonal cycle of activities including salmon fishing, whitefish fishing, bear hunting, furbearer trapping, small game hunting (such as ptarmigan and hare), and berry picking. Variations of this pattern occur for the communities of Birch Creek and Fort Yukon because of differences in local conditions and availability of resources (see Caulfield 1983:119, 154). However, the general reliance on the seasonal appearance of wild resources is similar to Stevens Village. The annual cycle of Beaver has not yet been documented.

Caribou were in closer proximity to Stevens Village, Beaver, and

Resource Harvested	Month											
	J	J	A	S	O	N	D	J	F	M	A	M
Salmon	XX	XXXX	XXXX	XXXX	XX--	----	----					
Non-Salmon Fish	XXXX	----	----	XXXX	XXXX	XXXX						XXXX
Moose	----	----	----	--XX	----	----	XX--	----	--XX			
Bear		----	----	----	----					----	----	----
Furbearers						XXXX	XXXX	XXXX	XXXX	XXXX	XX	
Small Game			----	----	----	XXXX	XXXX	XXXX	XXXX	XXXX	----	----
Waterfowl	----		--XX	XXXX							--XX	XXXX
Wood	XX--	----	--XX	XXXX								
Berries		--	XXXX	XXXX	XX							

XXXX usual harvest period

---- intermittent or incidental harvest period

Fig. 3. Seasonal round of resource harvest activities for selected resources by Stevens Village residents, 1984.

Birch Creek in the past (Schneider 1976:111; Caulfield 1983:64-65). Older residents of these communities remember harvesting migrating caribou before migration patterns changed in the 1940s and 1950s.

In Stevens Village, black bear are harvested occasionally during summer, fall, and spring months. "Nuisance bears" attracted by hanging fish during summer and early-fall months and those which disturb fish camps or pose danger to the village are often killed.

Small game such as snowshoe hare, porcupine, ptarmigan, and grouse are also available near Stevens Village, although they too exhibit population fluctuations. Currently, ptarmigan and porcupine are considered rare around Stevens Village.

Salmon fishing during summer and early fall supplies a seasonal

source of fresh food for Stevens Village. Dried salmon and some frozen fish are used throughout the year. Salmon also supplies an important food source for dogs. Non-salmon species such as whitefish, northern pike, sheefish, burbot, and suckers are used for both human consumption and dog food.

The only furbearers currently used for human consumption in Stevens Village are lynx, beaver, and muskrat. The availability of these animals is subject to extreme cyclical fluctuation and the animals cannot be relied on as sources of meat to trapping households on a regular basis. Currently beaver populations are reported to be relatively low in the area around Stevens Village, whereas muskrat are beginning to return to the area, and lynx are moderately available.

Trapping of furbearers is undertaken by residents of all the communities in the study area. The species harvested include marten, lynx, fox, muskrat, beaver, mink, otter, wolverine, and wolf. Trapping areas of three communities are depicted in Fig. 4. As reported previously, some residents continue to combine hunting and trapping activities during winter months.

During the winter of 1983-84, 22 of 33 Stevens Village households reported harvesting furbearers. A few additional households contain active trappers that did not participate in furbearer harvest that winter. No wolves were reported being harvested during the 1983-84 trapping season.

Trappers in both Stevens Village and Beaver report seeing few wolves during the course of their winter activities. Wolves are thought to range over their territories in a somewhat predictable pattern, usually covering specific areas at regular intervals. One trapper reported that

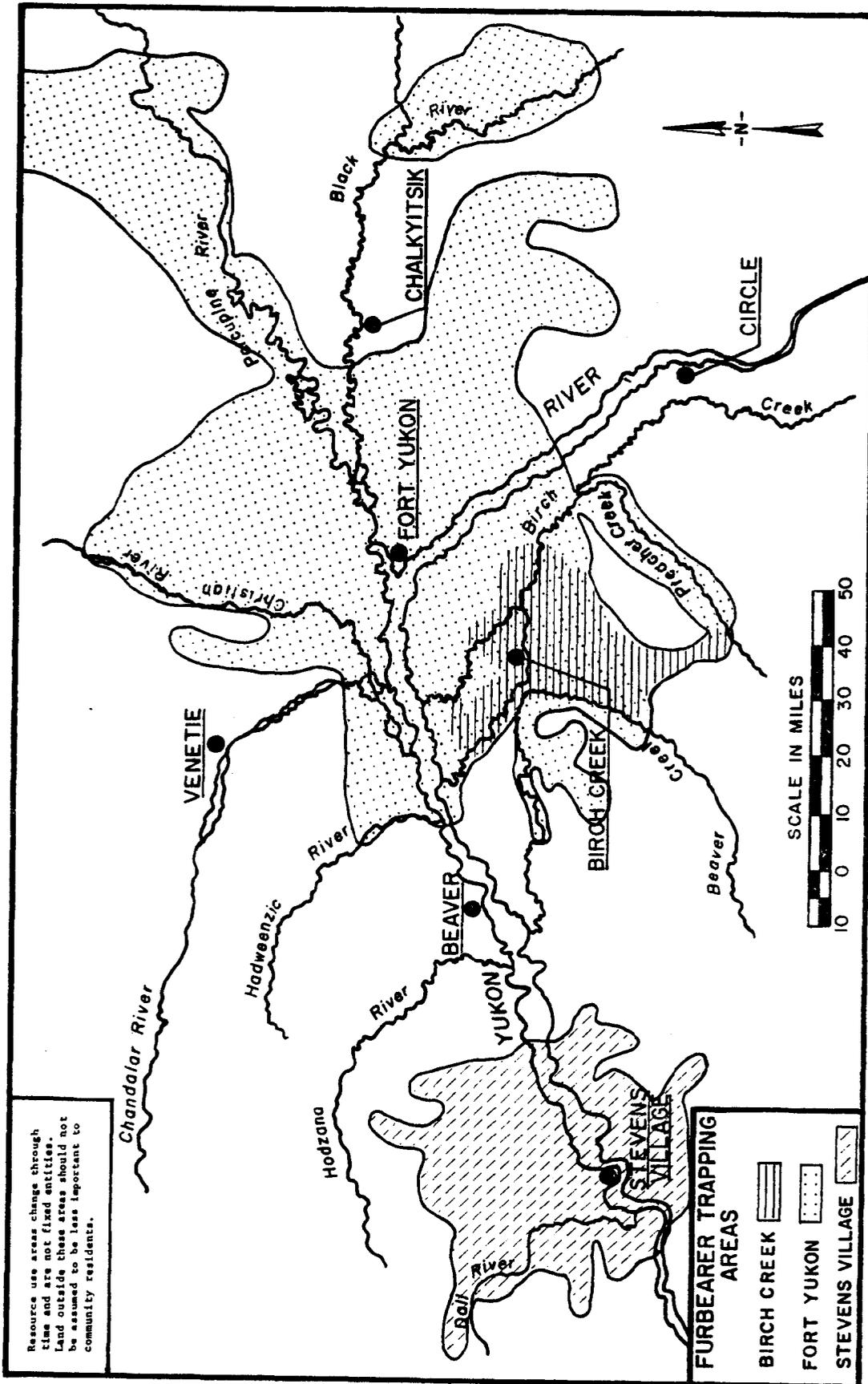


Fig. 4. Areas used for trapping during the lifetimes of surveyed Birch Creek and Fort Yukon residents, and during the period 1974 to 1984 for Stevens Village residents.

a wolf pack appears periodically in his trapping area. Some residents in the study area do not consider wolves to be a significant factor in the decline of the moose population but attribute the low moose population to other conditions such as non-local hunting prior to the permit hunt, bear predation, the absence of fires in the area, other habitat changes, or the movement of moose from the area. However, the Yukon Flats Fish and Game Advisory Committee, representing eight communities, has taken the position that efforts should be made to reduce the wolf population in the area in order to allow a possible increase in the moose population.

During November 1984, a few wolves were present around Stevens Village and two were subsequently snared. The presence of wolves in or near the village has occurred during the past few winters; some local residents think the scarcity of moose in the area has prompted the wolves to seek other food sources in proximity to the village.

SUMMARY AND CONCLUSIONS

Moose harvests during the 1984-85 season in the GMU 25(D) permit moose hunt area were determined by interviewing residents of Stevens Village as part of an on-going baseline study, as well as permit holders in Birch Creek and Beaver. During the 1984-85 hunting season in the registration permit hunt area, hunting was permitted September 10 to 30, December 1 to 10, and February 18 to 28. The total reported harvest during this time was 25 moose for the 60 permit holders in the three communities (a 42 percent success rate). Of the total harvest, 76 percent (19 moose) were taken during September, while 24 percent (6 moose) were taken during the two winter seasons. The change in season

dates made by the Alaska Board of Game during spring 1984 was designed to accommodate customary patterns of hunting moose during winter, and provided local residents a greater opportunity to legally harvest moose at these times.

The two winter seasons instituted during the 1984-85 regulatory year may partially account for the increase in reported harvest from 13 moose during the 1983-84 season to 25 moose during 1984-85. A different distribution of permits may have been related to the increased harvest, allowing more active, experienced hunters the opportunity to hunt. Other factors may be different environmental conditions, the availability of more moose during the 1984-85 open seasons, or improved reporting of harvests.

The hunting of moose is a significant component of the seasonal pattern of hunting, fishing, trapping, and gathering activities of the Yukon Flats communities. Moose is an important resource in the permit area communities, as reflected in the effort made to harvest moose, the use of nearly the entire animal, the social significance of sharing moose meat, and the cultural value placed on having moose at funeral potlatches and other ceremonial occasions.

REFERENCES

- Alaska Board of Game and Alaska Department of Fish and Game
1957 to 1984 Alaska Game Regulations. Juneau.
- Caulfield, Richard A.
1983 Subsistence Land Use in Upper Yukon-Porcupine Communities, Alaska.
Division of Subsistence, Alaska Department of Fish and Game, Juneau,
Technical Paper No. 16.
- Clark, A. McFadyen
1981 Koyukon. In Subarctic. June Helm, ed. pp. 582-601. Handbook of
North American Indians, Vol. 6. William Sturtevant, gen. ed. Wash-
ington D.C.: Smithsonian Institution.
- McLean, Scott and Roy Nowlin
1984 Moose Distribution, Movement Patterns, and Habitat Use in the
Yukon Flats National Wildlife Refuge, Progress Report #84-1. Alaska
Department of Fish and Game and Yukon Flats National Wildlife Refuge,
U.S. Fish and Wildlife Service, Fairbanks.
- Schneider, William
1976 Beaver, Alaska: The Story of a Multi-Ethnic Community. Ph.D.
dissertation. Anthropology Department, Bryn Mawr College.
- U.S. Bureau of the Census
1981 1980 Census of Population. Volume 1 Characteristics of Population.
Washington D.C.: U.S. Department of Commerce.
- 1982 Summary Tape File 3A, Table 69.