

MOOSE HUNTING IN THE MINTO FLATS  
MANAGEMENT AREA BY  
MINTO PERMIT HOLDERS, 1984-85

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## INTRODUCTION

This report describes moose hunting during the 1984-85 season by permit holders in the Minto Flats Management Area. The Minto Flats Management Area was created by the Alaska Board of Game in 1979 for the purpose of reversing declining moose populations in the area by restricting harvests. A proposal was submitted by the Tanana Fish and Game Advisory Committee which requested the establishment of a controlled use area restricting the use of aircraft because of increased competition for moose in an area of low moose populations (Tanana Advisory Committee 1979). The Board of Game addressed the problem by establishing the Minto Flats Management Area and directed the Department of Fish and Game to implement a registration permit hunt (Alaska Board of Game 1979). Aircraft could still be used in the area. In 1984-85, 30 permits were available for the fall moose hunt which extended for 5 days during mid-September; 50 permits were available for the winter hunt which extended for 45 days from January through February (Alaska Board of Game 1984). All these permits were issued in Minto. An additional 10 permits were issued in Fairbanks and 10 issued in Nenana for the fall hunt. A harvest quota was established for seven bull moose for the fall hunt and eight for the winter hunt, the season subject to closure by emergency order if the quota was reached (Alaska Board of Game 1984).

The Minto Flats Management Area is located west of Fairbanks and encompasses much of Minto Flats and some of the surrounding low-lying hills in the north (Fig. 1). The community of Minto is situated within the Minto Flats Management Area, 60 air miles northwest of Fairbanks. It is located along the Tolovana River and is connected with the

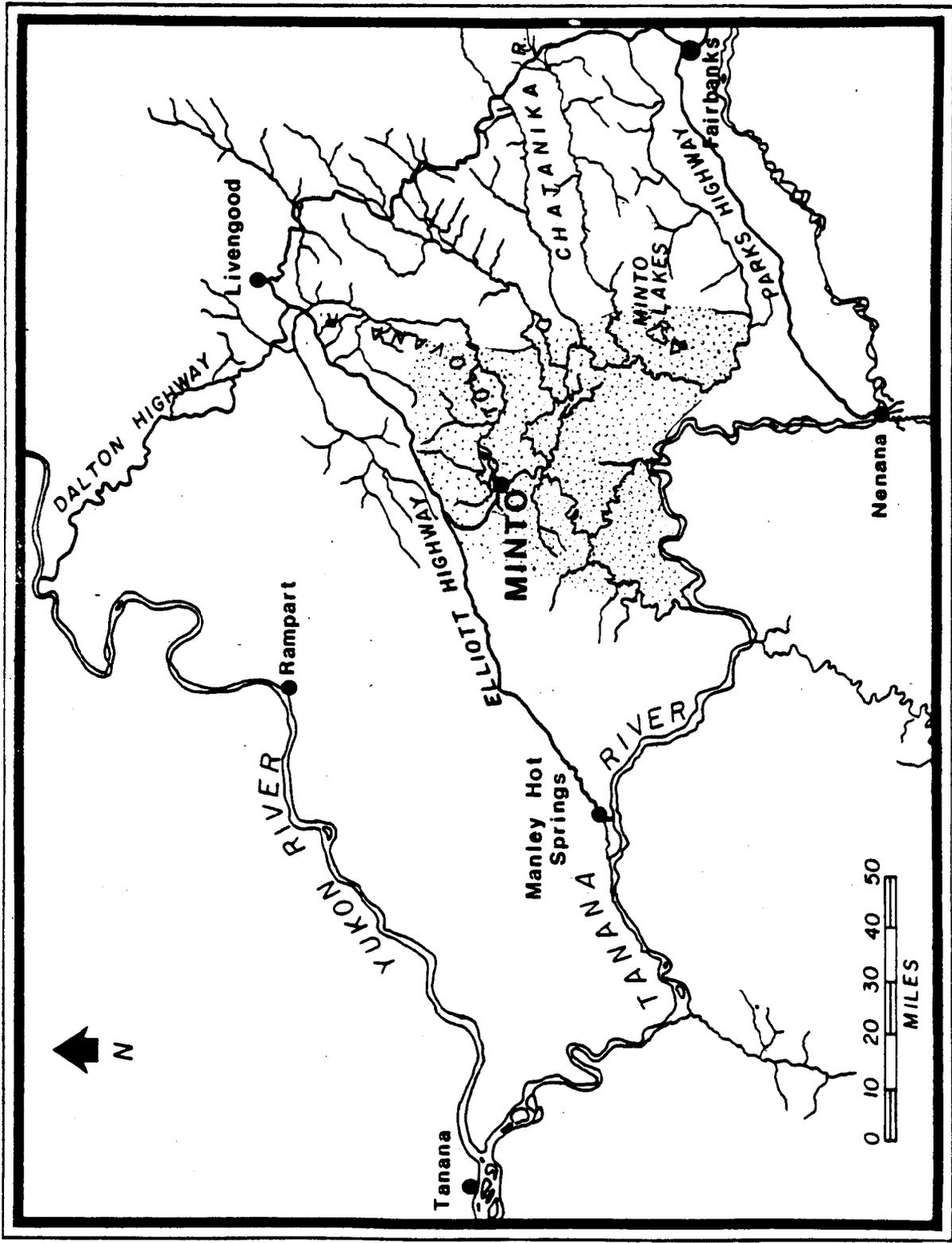


Fig. 1. Location of study community and general area showing Minto Flats Management Area (shaded).

Elliott Highway by a dirt road (Fig. 1). In July 1984, the community consisted of 178 people in 48 households (Andrews 1984a). Most residents (99 percent) are of Athabaskan descent.

#### PURPOSE

This report describes moose hunting activities by residents of Minto who participated in the Minto Flats Management Area permit moose hunt during the 1984-85 season. Information is presented on historic and contemporary moose hunting, geographic areas used, hunting methods, harvest levels, hunting party composition, characteristics of permit holders, costs of hunting, and distribution and use of moose. The report presents information for both the fall 1984 and winter 1985 hunts.

#### METHODOLOGY

In summer 1984 the Division of Subsistence initiated a research project in Minto to gather baseline data on the use of fish and wildlife resources by Minto residents (Andrews 1984b). Field research and interviews with each household were conducted by Division of Subsistence staff -- a Subsistence Resource Specialist and a College Intern -- from the Fairbanks office. During the course of this baseline study, additional interviews were conducted with all Minto residents who were issued a permit for the fall (1984) and winter (1985) moose hunts and who hunted. Twenty-two permittees hunted in the fall season and four in the winter season.

Research on the moose hunting activities of these individuals included systematic interviews following each hunting season as well as direct observation during the fall hunt. Information was collected on methods and means, geographic areas used, campsites, composition of hunting parties, estimated cost of fuel and supplies, number of days afield, harvests, distribution of harvests, and use of moose. Data on historic use and areas used was derived from key respondents during the course of the baseline study, previous land use research by the author (Andrews 1977), and historic and ethnographic literature (Drane 1916; Olson 1968).

#### MOOSE HUNTING BY MINTO RESIDENTS

Throughout the twentieth century, inhabitants of the Minto Flats have hunted moose during their seasonal round of subsistence activities. In the past, as today, moose were intentionally pursued following late summer and early fall fishing activities. The occupants of seasonal settlements at the major fishing locales dispersed themselves throughout the Minto Flats and the lower reaches of such tributaries as the Chatanika, Tatalina, and Tolovana rivers (Fig. 2). Moose hunting also was a major activity in February and March when temporary base camps were established in the same areas and moose were pursued by groups of men on snowshoes and driven to waiting hunters (Drane 1916). At other times of the winter, moose were harvested in family trapping areas where families maintained their traplines. Linear fences constructed from spruce timbers had rawhide snares hung intermittently at openings in the fence. Thus, moose attempting to cross through the openings were intercepted and

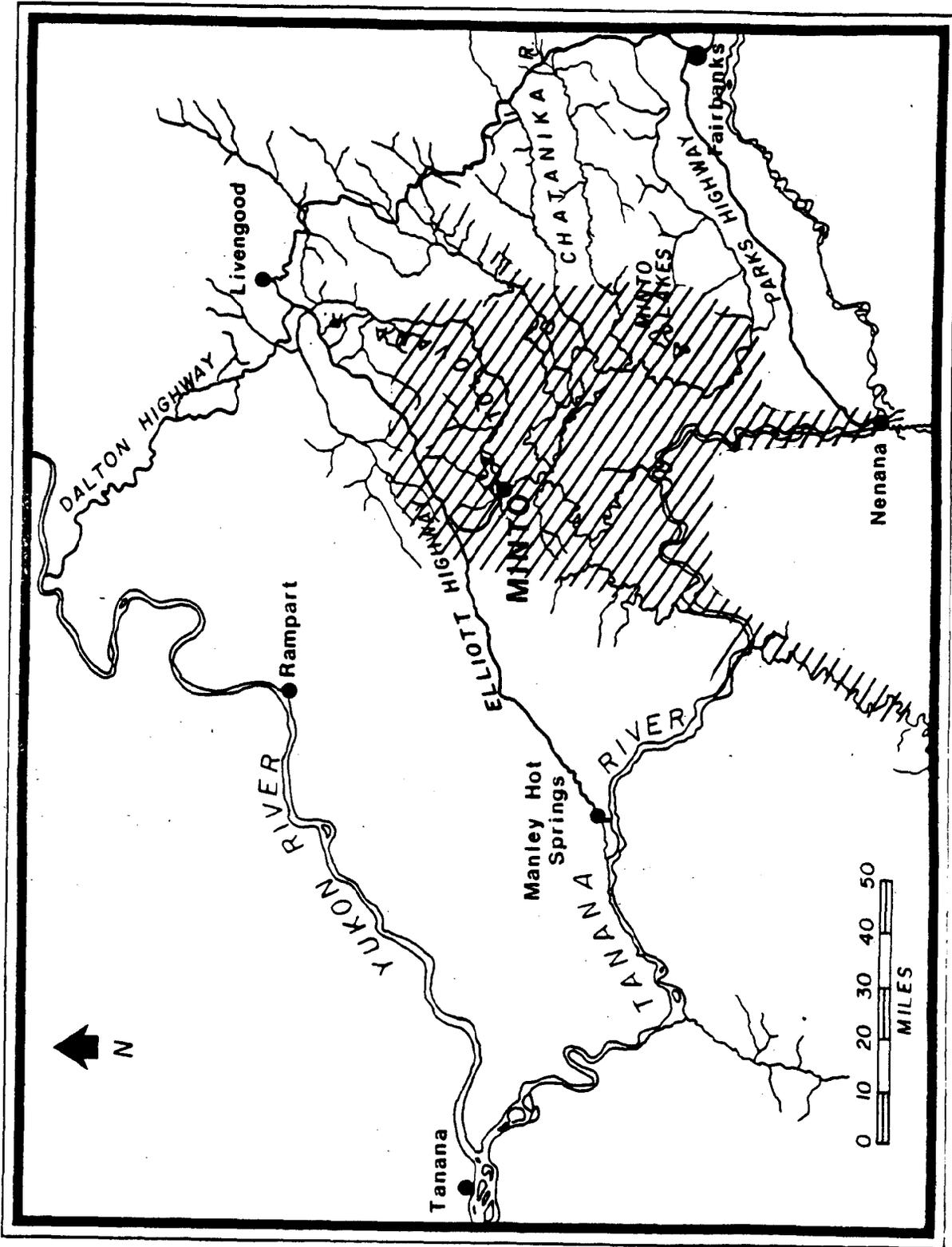


Fig. 2. Moose hunting areas (cross-hatched) used by Minto residents, 1960-1985

dispatched. One such fence was located near the present-day settlement of Minto (Andrews 1977). These same areas continue to be used by Minto residents for hunting moose in the fall and winter (Fig. 2). Today, some residents continue to hunt moose in winter based from their trapping camps and along the trail network associated with their trapping areas. Areas where fall moose hunting is concentrated tends to coincide with the hunter's trapping area. Moose hunting occurs throughout Minto Flats and in the hills to the north of the settlement. Access to hunting areas is primarily by means of riverboat and on foot during the fall and by snowmachine and on snowshoes during the winter. In the past, moose were sometimes killed from canoes as the moose crossed a lake or river. Use of vehicles along the Elliott Highway provides initial access to areas to the north followed by hunting on foot into off-road areas. This activity is coincidental with other highway travel to and from Minto or occurs secondarily when hunters have been unsuccessful in the flats.

#### MOOSE HUNTING REGULATIONS

Moose hunting today by residents of Minto primarily occurs within the Minto Flats Management Area which was established by the Alaska Board of Game in 1979 as described earlier. From 1965 through 1981 this area was included within portions of Game Management Units 20(B) and 20(C), although it was situated mostly within GMU 20(B). Hunting regulations between 1965 and 1975 generally allowed 70 to 79 hunting days between late August and late November with a bag limit of 1 bull in GMU 20(B) or one moose in GMU 20(C) (Table 1). In 1975, season length was considerably restricted with a 1 bull bag limit and by 1978 the season was further

TABLE 1. MOOSE HUNTING SEASONS, BAG LIMITS, AND SEASON LENGTH FOR THE AREA NOW DESIGNATED AS MINTO FLATS MANAGEMENT AREA, 1965-1985\*

Regulatory Year	Month							Bag Limit <sup>1</sup>	Days
	AUG	SEP	OCT	NOV	DEC	JAN	FEB		
1965-66		XXXXXX		XXXX				1 bull	72
**		XXXXXXX		XXXX				1 moose	74
1966-67		XXXXXX		XXXX				1 bull	72
**		XXXXXXX		XXXX				1 moose	75
1967-68		XXXXXX		XXXX				1 bull	72
**		XXXXXXX		XXXX				1 moose	76
1968-69		XXXXXX		XXXX				1 bull	72
**		XXXXXXX		XXXX				1 moose	76
1969-70		XXXXXX		XXXX				1 bull	72
**		XXXXXXX		XXXX				1 moose	76
1970-71		XXXXXX		XXXX				1 bull	72
**		XXXXXXX		XXXX				1 moose	76
1971-72		XXXXXX		XXXX				1 bull <sup>2</sup>	72
**		XXXXXXX		XXXX				1 moose <sup>2</sup>	79
1972-73		XXXXXX		XXXX				1 moose <sup>3</sup>	72
**		XXXXXXX		XXXX				1 moose <sup>2</sup>	79
1973-74		XXXXXXX		XXXX				1 moose <sup>2</sup>	79
**		XXXXXXX		XXXX				1 moose <sup>2</sup>	79
1974-75		XXXXXXX		XXXX				1 moose <sup>2</sup>	79
**		XXXXXXX		XXXX				1 moose <sup>2</sup>	79

\* This information is derived from Alaska hunting regulation booklets for each regulatory year.

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

<sup>1</sup> As defined in 5 AAC 90.020.

<sup>2</sup> Bull moose only from Aug. 20-Sept. 30 and Nov. 1-30; antlerless moose only Oct. 1-7

<sup>3</sup> 100 antlerless moose may be taken by permit only

Table 1 cont.

Regulatory Year	Month							Bag Limit	Days
	AUG	SEP	OCT	NOV	DEC	JAN	FEB		
1975-76		XXXX						1 bull	20
**		XXXX	X					1 bull	30
1976-77		X						1 bull	11
**		XX						1 bull	20
1977-78		XX						1 bull	20
**		XX						1 bull	20
1978-79		X						1 bull	11
**		X						1 bull	11
1979-80 <sup>4</sup>		X						1 bull <sup>5</sup>	11
1980-81		X			X			1 bull <sup>5,6</sup>	12
1981-82		X		X				1 bull <sup>5,6</sup>	12
1982-83		X						1 bull <sup>5,6,7</sup>	16
1983-84			X	X <sup>8</sup>				1 bull <sup>5,6,7</sup>	17
1984-85		X				XXXXX		1 bull <sup>5,6,7</sup>	50

<sup>4</sup> First year of Minto Flats Management Area; regulations noted here apply only to those portions of 20(B) and 20(C) designated as the Minto Flats Management Area

<sup>5</sup> Registration permit hunt

<sup>6</sup> 15 bulls may be taken

<sup>7</sup> Season subject to closure by Emergency Order

<sup>8</sup> In 1983 the November season was cancelled since the quota was taken in September

reduced to 11 hunting days (Table 1). When the Minto Flats Management Area was established for the 1979 hunting season, additional parameters placed on the hunt included a registration permit requirement with an unlimited number of permits issued in three locations -- Fairbanks, Nenana, and Minto. Later, in 1980, the number of permits that could be issued was limited to 100 and a quota established that specified 15 bull moose could be taken (Table 2). Permits were allocated by issuing location -- 25 each to Fairbanks and Nenana, and 50 to Minto. The season would be closed by Emergency Order when the quota was reached. At the same time, the Department commenced annual sex and age composition surveys in Minto Flats. In 1984 a moose population and movement study was undertaken. A wolf population study in the area also was initiated by the Division of Game. These studies continue to date (D. Haggstrom, pers. comm. 1984).

In 1984, the Board of Game modified aspects of the permit hunt following a request from the Tanana Fish and Game Advisory Committee for a winter hunt (L. Jennings, pers. comm. 1985). The overall number of permits and the quota remained the same. However, more permits were made available for issuance in Minto, a winter hunt in January and February was established, and the November hunt deleted (Tables 1 and 2). Reported harvests generally have remained the same for Fairbanks permittees and have increased for Minto and Nenana permittees during the 6-year period since the management area and permit hunt went into effect (Table 2). An exception to this occurred in 1983 when Fairbanks permittees harvested eight moose, about twice their average take.

TABLE 2. MINTO FLATS MANAGEMENT AREA, PERMIT AND HARVEST SUMMARY, 1979-1985.<sup>1</sup>

Regulatory Year	Number Permits Allocated		Number Issued		Harvest				
	Fbks.	Minto Nenana	Fbks.	Minto Nenana	Fbks.	Minto	Nenana	Non-Res.	Unknown
1979-80	--	--	113	65 <sup>2</sup>	10	4	2	0	
1980-81	25	50	25	28	25	2	0	0	3
1981-82	25	50	25	34	25	5	2	0	
1982-83	25	50	25	41	25	4	2	0	1
1983-84	25	50	25	50	25	8	7	1	
1984-85 fall	10	30	10	29	10	4	6	1	
winter		50	10	30	10		1		

<sup>1</sup> This information is derived from the Big Game Data Index Files, Alaska Department of Fish and Game, 1979-1985.

<sup>2</sup> 48 listed Minto as their residence.

## 1984-85 SEASONS AND HARVEST

### Fall (September) Season

Permits were issued in Minto by the Village Public Safety Officer (VPSO) in early September for the fall season which extended from Monday, September 17 through Friday, September 21. Twenty-nine permits were issued for this five-day hunt. Most (27) were issued to year-round residents of the community while the remainder (2) were issued to individuals who have close social ties to residents of the community and who occasionally reside in the village. Individuals issued a permit in Minto ranged in age from 18 to 74 years of age with a median of 39 years.

Of the 29 permits issued for the fall season, 22 (76 percent) permittees hunted and 7 (24 percent) did not. The characteristics of permit holders and hunting activities described below pertain solely to those permittees who actually went hunting for moose. The age structure of permit holders who hunted parallels that of the permit holders as a group; that is, nearly one-half (46 percent) were less than 39 years of age and 54 percent were between 40 and 74 years of age with a range of 18 to 74 years of age. The permittees who hunted were primarily heads of households (73 percent) whose households averaged 4.6 persons in size. All permit hunters hunted in the Minto Flats Management Area; however, some individuals also hunted in areas adjacent to the Tanana River to the south.

All hunters departed from the village to hunting areas where temporary campsites were established as base camps. Almost all (91 percent) operated from a temporary camp and some individuals hunted from as many

as three base camps during the 5-day season. As noted earlier, hunters generally place themselves into areas where they are familiar with the terrain and existing animal and human trails; where they have been successful in hunting in the past; and where during the summer they have observed or heard of moose or signs of moose. Most Minto hunters are familiar with the network of major trails, lookout sites, and lookout trees in key areas of the flats which have been used for moose hunting throughout much of this century. Hunting groups distribute themselves to these various key localities during the hunting season, but do not necessarily confine themselves to one particular area. Information is frequently exchanged between hunting groups as they travel from one area to another and encounter each other along the waterways and at base camps. Hunting parties often camp together at customarily-used campsites which are located in the northeast, southeast, and southwestern areas of Minto Flats.

In fall 1984, all access by permittees into the flats was by means of riverboat and on foot. Fifteen of the 22 hunters used a boat belonging to a member of their household and 5 did not (2 cases unknown). Permittees as a group hunted in 17 boats (2 cases unknown). Aluminum flatbottom riverboats 16 feet and 18 feet in length accounted for most boats used although they ranged in length from 14 to 24 feet in length. All were outfitted with prop-equipped outboard motors mostly 20 and 25 horsepower but ranging from 20 to 50 horsepower.

During the September season permit hunters spent an average of 2.8 days afield, with a range of 1 to 5 days. Nearly 20 percent were in the field 4 or 5 days. Weather during the month of September was unseasonably warm. During the 5-day hunt, temperatures ranged from the upper 20s

(degrees Fahrenheit) to the upper 50s. Winds were calm, and one day early in the season was marked by light rain throughout the day. Some hunters attributed the lack of movement by bull moose during the season to the unseasonably warm weather. Immediate cash outlay by permit holders for the purchase of oil and gasoline used during hunting averaged \$120 but ranged between \$35 and \$321. These figures are somewhat lower than total cash outlays because most permit holders (62 percent) hunted with non-permittees who also contributed to the costs of the hunt. In addition, the composition of people in the boats generally (68 percent) included members of more than one household. In only two cases in which a hunter hunted with another permit holder was that other permit holder also a member of the same household. Furthermore, these cost estimates also do not include costs of ammunition, any hunting and camping gear, or tools and parts necessary for making mechanical repairs.

While most permit holders hunted with members of other households, as noted earlier, most (45 percent) hunted with close consanguineal relatives (mother, father, brother, son, and/or daughter) and a substantial number (21 percent) hunted with their wife, either alone or in the company of other relatives. Others included more distant relatives (24 percent) such as first and second cousins; no relation or an in-law (8 percent); and one hunter hunted alone (3 percent). Numbers of individuals in a boat ranged from 1 to 5. Permittees generally traveled to hunting areas with one other person in the boat (10 cases). In other cases people traveled with two others (four cases), three others (one case), or four others (four cases). One woman obtained a permit; however, she did not hunt. Women accompanied male permit holders in 50 percent (11) of the cases.

The 22 permit holders who hunted were successful in harvesting 6 bull moose (27 percent success rate of those hunting). This represents two-thirds of the total fall harvest reported by permittees hunting in the Minto Flats Management Area. In all cases, moose meat from these harvests was distributed to members of other households in the community. For permit holders who were not successful (73 percent) in obtaining a moose, 75 percent of them received moose meat from successful hunters. It is customary for successful hunters to share moose meat with all hunting groups ("boats") camped at the campsite where the successful hunter and his party were based. Furthermore, hunting parties group together to watch for, track, pursue, and coax a moose toward the main hunter. Thus, the meat of the moose which has been shot is shared with the other individuals who contributed to the successful harvest. Moose meat is also shared with any nearby hunting parties who may not have been directly involved in the hunt customary with a belief that the act of sharing will contribute to the hunter's future success in hunting moose.

Moose meat is often redistributed later to other households and individuals, particularly to elder members of the community and also during ceremonial occasions, both religious and non-religious. The brisket, head, ribs, and backbone (sometimes referred to as "potlatch meat") and stomach (tripe) generally are reserved for use during these occasions when the entire community comes together. Marrow and rendering fat obtained from leg bones are used in preparing foods for religious ceremonies such as funeral and memorial potlatches. Fat which is used in making various types of "Indian ice-cream" is prepared by pounding and rendering. The hooves are boiled to loosen the toe bones which are

then removed and eaten. The hoof proper is sometimes used in manufacturing handicrafts. Inner organs such as liver, heart, and kidney, are consumed also; however, the liver, kidney, and stomach of bull moose in rut are considered inedible. Intestines are sometimes cut and cleaned and added to soup. In the past, during stringent times, moose brains were boiled and eaten or cut into small pieces, roasted, and added to soup. They were used also in the process of tanning moose hides. Rarely today, parts of the lungs are boiled and eaten, or roasted in a campfire and the inner part eaten. Usually, the lungs are used for dog food.

#### Winter (January-February) Season

Fifty permits were available at Minto for the winter hunt (January 10 through February 28). Thirty were issued. All permittees were residents with one exception (two cases unknown). Sixty-three percent (17 of 27) permittees are heads of households. The age of permittees ranged from 21 to 74 with an average age of 43 years of age, slightly greater than that for permittees for the fall season.

Of the 27 permits issued for the winter season and known to represent Minto residents, 4 (15 percent) permittees hunted and 23 (85 percent) did not. The four individuals hunted in two separate parties, each party consisting of two individuals. One party represented two households while the other represented a single household. The hunting groups included a 62-year-old man and his 30-year-old second cousin (or "nephew"), each a head of a household, and another consisting of a 74-year-old man and his 34-year-old son who resided in the same household.

Both hunting parties used their residence in the village as a base of hunting operations, unlike the fall hunt in which temporary campsites were commonly used as base camps. At the end of each hunting day the hunters returned to the village for the night.

Both parties reported hunting in the vicinity of Swanneck Slough (locally referred to as "Tanana Slough"), approximately 13 miles south of Minto by trail. During the season one party hunted in the manner described above three to four times during one week then waited about a week before going out again. During this second period they were successful in harvesting one bull moose. The second party made four trips within the season. On one trip the elder individual was accompanied by his son. They were unsuccessful in harvesting a moose although they spotted a cow moose. Hunting occurred during late January and early February when weather conditions were generally cloudy and relatively warm (+10° to +25° Fahrenheit). The successful party noted it was also windy during the day they shot the moose.

Access to the hunting areas by both parties was by use of snowmobiles and on snowshoes. Both members of one party each had a snowmobile and a sled, upon which they loaded their hunting equipment. When the older member of the second party hunted alone he made less use of snowshoes because of his age, however, he utilized them in areas where brush and trees made use of a snowmobile impossible.

Both parties used a moose hunting strategy commonly described in the historic literature and during interviews with key respondents. When a pair of hunters encounter moose tracks, they first determine the direction of the wind and the direction of travel the moose might take. Then they proceed on snowshoes downwind from the tracks to avoid the

possibility of their scent being picked up by the moose. Characteristically the moose eventually circles back downwind from its route before it will bed down. At the point where the moose has reversed its course, the hunters wait in the estimated path of the moose and once it appears it can be shot. This same technique has been described in greater detail for other interior Alaskan Athabaskan groups (Paul 1957; Nelson 1973; Stokes 1983).

The harvested moose was distributed to numerous households in the village with the man who shot the moose keeping one hindquarter. The ribs, brisket, head, backbone, and tripe were reserved for a future potlatch. The remainder was cut into small pieces and was distributed to village households, the choicest parts given to the elderly. The distributed moose meat was either eaten immediately or stored in freezers for future potlatches.

During this season respondents reported that many of the individuals who usually went out moose hunting were occupied with winter wage employment (predominantly in construction) and could not leave without risk of losing their jobs.

#### SUMMARY

The 1984-85 permit moose hunt in the Minto Flats Management Area resulted in harvests which were relatively consistent with the reported harvest of the previous year. This resulted even though overall season length had increased with the addition of the longer winter season. Participation was high during the fall season. Hunting opportunity was limited because of the short five-day open season. Typically, close family

members of several households join together during the hunt providing a range of skills, labor, and equipment required in moose hunting. The short season does not always afford adequate flexibility in scheduling other activities which also take place at this time, such as fall fishing for salmon and wood cutting. Relatively low participation characterized the winter hunt. An unexpected extension in the construction season which employed most able-bodied men may account for this. Hunting strategies and areas used for hunting in both the fall and winter hunts are notably similar to those used throughout most of this century. This entails a knowledge of the terrain, trail networks, lookouts, travel routes, and moose behavior at various times of the year. Most hunting occurs within the Minto Flats within 50 river miles of the community. Access primarily is by means of riverboats 16 and 18 feet in length with 20 or 25 hp outboards. Moose harvests only occur along the highway in the fall only when coincident with other travel or secondarily when hunting has proved unsuccessful in the flats. Permittees tend to be heads of households; however, permittees typically hunted with individuals who were members of their own household as well as others. More so in the winter hunt than in the fall hunt, permittees hunted with other individuals who also had a permit. While some individuals commented on the relatively short fall hunting season, the permit hunt as a management tool appears favorably received as a means for improving the moose population in the area.

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