

WILD RESOURCE USE
IN NORTHWAY, ALASKA

by

Martha F. Case

Technical Paper No. 132

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

June 1986

TABLE OF CONTENTS

	<u>Page</u>
TABLE OF CONTENTS	ii
LIST OF FIGURES	iii
LIST OF TABLES	iv
ACKNOWLEDGEMENTS	v
CHAPTER 1: INTRODUCTION	1
CHAPTER 2: METHODOLOGY AND SAMPLE	4
CHAPTER 3: NATURAL SETTING	9
Topography	9
Flora and Fauna	11
CHAPTER 4: COMMUNITY HISTORY	14
CHAPTER 5: HISTORY OF RESOURCE USE	18
The Bands	19
Chisana and Upper Nabesna Bands	21
Scottie Creek Band	24
Old Nabesna Band	24
Seasonal Round and Settlement: 1920-1960	25
CHAPTER 6: THE CONTEMPORARY COMMUNITY	31
CHAPTER 7: CURRENT RESOURCE USE	36
Seasonal Round of Activities	36
Participation	40
Consumption and Distribution	48
Whitefish Harvest	49
Pike, Grayling, Burbot and Sucker Harvest	53
Salmon Harvest	54
Moose Hunting	56
Caribou Hunting	60
Sheep Hunting	64
Bear Harvest	64
Furbearer Trapping	65
Small Game Hunting and Snaring	67
Waterfowl Hunting	68
Plant and Wood Collecting	68
Summary	69
CHAPTER 8: CONCLUSIONS	72
REFERENCES CITED	75

LIST OF FIGURES

		<u>Page</u>
Figure 1.	Location of Northway	10
Figure 2.	Tetlin National Wildlife Refuge and Game Management Unit Boundaries, Northway Area	13
Figure 3.	Approximate location of former band territories of Northway residents	22
Figure 4.	Seasonal round of resource harvesting activities for selected species reported by a sample of Northway residents	37
Figure 5.	Percent of Northway sample households undertaking resource harvesting, 1983-84	41
Figure 6.	Percent of Northway sample households participating in six major categories of harvest activities, 1983-84	44
Figure 7.	Map of Northway sample household fishing areas, 1974-84	51
Figure 8.	Map of Northway sample household moose hunting and vegetation gathering areas, 1974-84	57
Figure 9.	Map of Northway sample household caribou, sheep, and waterfowl hunting areas, 1974-84	62
Figure 10.	Map of Northway sample household trapping areas, 1974-84	66

LIST OF TABLES

		<u>Page</u>
Table 1.	Northway Study Sample	5
Table 2.	Northway Population and Households by Residence, 1984	33
Table 3.	Northway Households by Ethnicity and Area, 1984	35
Table 4.	Participation in Harvest Activities by Northway Sample Households, 1983-84	42
Table 5.	Subsistence Harvest Levels for a Sample of Northway Residents, 1984-85	45
Table 6.	Breadth of Harvest Activities and Socioeconomic Characteristics by Age of Northway Household Study Sample, 1983-84	47

ACKNOWLEDGEMENTS

The author wishes to thank the residents of Northway for their cooperation and assistance during this study. Appreciation is extended to members of the Northway Traditional Council who endorsed the research and who helped in the initial stages of data collection. Many people provided data on various aspects of the research and review of the report draft, as well as hospitality and friendship throughout. Special thanks go to Cora Demit for translating during several interviews. Jim Jordan of Tanana Graphics expertly drafted the final maps used in this report. Terry Haynes provided the research design, as well as valuable editorial comments on the report drafts. Bob Wolfe reviewed the final draft and his comments and insights are greatly appreciated. Finally, Jean Harrison is to be thanked for processing the final copy of the report.

CHAPTER 1

INTRODUCTION

This report describes contemporary and recent historic use of fish and wildlife resources by residents of Northway, Alaska. Northway today consists primarily of an Athabaskan population which formerly lived and subsisted in the surrounding area, as well as some Alaska Natives from elsewhere in the state, and non-Natives who have moved to the community since the early 1940s. The discussion of resource use activities centers on land areas used, settlement patterns, and seasonality of activities. A brief history of the community and an overview of current residence patterns are also included.

The research objectives were designed to address four specific land use planning and resource management issues in the Northway area. The first objective was the documentation of uses of Copper River salmon by residents of the Upper Tanana valley. This information was requested by the Board of Fisheries to assess subsistence uses of Copper River salmon occurring in Upper Tanana communities. Previous research conducted in Dot Lake by the Division of Subsistence (Martin 1983), as well as public testimony, has indicated the significance of Copper River salmon in certain Upper Tanana communities. As discussed below, the Northway research further documents long-standing social ties among Upper Tanana and Copper River residents, in which the trade and distribution of salmon is manifested in ongoing relationships. A report summarizing the uses of Copper River salmon in four Upper Tanana communities was presented to the Board of Fisheries in November 1984 (Haynes, Case, Fall, Halpin, and Robert 1984).

A second objective was the documentation of caribou use patterns by Upper Tanana residents. The Board of Game requested such information to aid in their deliberations of hunting regulations for the Fortymile, Mentasta, and Nelchina caribou herds. Requests since 1982-83 by Northway and other Upper Tanana communities for permits or other authorization to hunt animals from the Nelchina herd recently migrating near their communities initiated the Board's need for information. The data on caribou hunting patterns presented in this paper pertain to description of hunting areas for caribou and seasonality of harvests.

A third objective was the documentation of subsistence uses of wild resources in the Tetlin National Wildlife Refuge. Northway is situated within the refuge, for which a comprehensive management plan is currently being developed. As mandated by Title VIII of the Alaska National Interest Lands Conservation Act (ANILCA), opportunities for continued subsistence uses are to be ensured on the refuge. A record of land use areas and resources utilized there helps to establish a baseline for this priority. Seasonal harvest data from a survey undertaken in 1983 in Northway by local residents and Tanana Chiefs Conference, with assistance from the Division of Subsistence, provided preliminary information for refuge planners as well as a starting point for the present study. The Tetlin National Wildlife Refuge plan includes mapped resource use area data from this research.

A fourth objective was the documentation of baseline community resource use data for inclusion in the Alaska Department of Fish and Game Regional Habitat Management Guide for Interior and Western Alaska. The description of seasonal resource use activities and maps depicting contemporary land use areas presented in this report provides information for inclusion in the guide.

Following chapters on research methodology and the natural environment of the Northway area, two chapters briefly discuss the history of the community. The first traces initial historic contact with local Athabaskan bands, and describes the development of local infrastructure and settlement. The second briefly examines the recent (1920-1960) history of resource use, describing geographic areas used and seasonal patterns of harvest. These chapters provide a context within which current resource use may be examined. Chapter 6 describes the contemporary population, residence patterns, local community services, and employment opportunities. Chapter 7 discusses contemporary resource use patterns, specifically seasonal and geographic patterns. Household participation in resource harvesting is treated briefly. Social patterns that are activated in resource distribution in the community, and in the organization of task groups, are also given brief analysis. The final chapter discusses one issue of significance to local resource users identified during the course of field work, that of competition for local resources with non-local harvesters.

CHAPTER 2

METHODOLOGY

Field research was conducted during June 1984, with brief follow-up field trips in October 1984 and in August 1985, by one Division of Subsistence researcher assisted by a bilingual translator from Northway. The study plan was presented to and approved by the Northway Village Council in early June. Field research began immediately. The Council secretary provided background information on the community and assisted in identifying key active resource harvesting households. The translator also accompanied the researcher to local households to introduce the researcher and help explain the project objectives. A local census (Alaska Department of Community and Regional Affairs 1984) was provided by the president of Northway Natives, Inc., who, along with the Council president and several other local residents, assisted the researcher in various ways throughout the study period.

The primary data collection technique employed was systematic interviewing, using both household survey forms and key respondent interviews. Unstructured conversations also yielded important information. Observations were made of whitefish dip netting, basket and canoe-making, and hide tanning. Participant observation at a Copper River salmon fishing expedition with Northway residents, a funeral and potlatch, a black bear butchering, and several non-resource related occasions added further qualitative data. However, due to the brevity of the fieldwork and the broad scope of the research objectives, data collection relied heavily upon formal interviews.

Surveys were conducted and maps drawn with 15 households identified as being among the most active in resource harvesting and utilization. The sample on which current use area and harvest activity data presented in the report is based comprises 17 percent of all households (15 of 88 occupied households). It was designed to proportionately represent both non-Native and Alaska Native households, and all four residence clusters (Table 1). In 10 of the 15 sample households the household head was Alaska Native, while in the remaining five the household head was non-Native. Two of these latter five households, however, included Alaska Native members. The household head was defined as female in the absence of a male, but otherwise was considered to be male. Two household heads in the sample were female. All of the households had resided locally for at least six years.

TABLE 1. NORTHWAY STUDY SAMPLE

	ALASKA HIGHWAY	NORTHWAY ROAD	FAA AREA	NORTHWAY VILLAGE	TOTAL
Number in Sample	4	3	2	6	15
Percent Total Sample	26	20	14	40	100
Percent Total Households	21	14	17	17	17
Number Alaska Native Households in Sample, and Percent Total Sample	2(13%)	3(20%)	1(7%)	6(40%)	12(80%)
Number Non- Native Households in Sample, and Percent Total Sample	2(13%)	0	1(7%)	0	3(20%)

Eleven households consisted of nuclear families, that is, a couple and their children or two adult siblings. Three households were extended, containing three generations (grandchildren) and one household contained a single individual. The mean household size was five persons, as was the average size of the nuclear family households.

By focusing on the most active resource harvesting households, the study attempted to illustrate general resource use patterns in the community. However, not all active resource users were contacted. Consequently, this report may not include all important aspects of resource use in Northway. The geographic resource use areas, particularly furbearer trapping areas, should not be considered a complete depiction of areas used by the community. Interviews were also conducted with twelve key respondents. These interviews provided a range of data used in this report to describe historical resource use and community settlement patterns, as well as data on the current seasonal round and social relationships as discussed above. Numerous casual conversations with other community residents contributed significant pieces of data on the above topics as well.

Respondents were interviewed individually at home, with other household members often present and contributing some hunting, trapping, fishing, and gathering areas on USGS topographic maps (1:250,000 scale). In most cases, the maps present the respondent's household use area as a whole, while in a few cases the mapped data may be limited to the respondent. One respondent, in addition to an individual household map, drew a map of the general community's use area, which was used for comparison with final composite maps.

The time frame mapped covers the ten-year period 1974-1984 and was selected to depict a contemporary period of land use. It is possible that a larger

use area may have been documented with a longer time perspective. The respondent's individual map biographies were combined into composites for such major resource categories as moose, caribou, sheep, waterfowl, furbearers, fish, and plants and wood. As is stated on each map in the report, the area depicted is partial and of a limited time period. A dynamic system of land use prevails here, in which individual use areas expand and contract over time. The mapped areas in themselves do not represent a judgment of "importance" of particular areas.

A survey questionnaire was administered during the mapping sessions. One respondent usually answered the questions. Other household members were often present and at times contributed information. The format of the questions, however, allowed one individual to answer for the household. Emphasis in the survey was placed on the most current years' harvesting activities, seasonal round, participation rates, and harvest levels (June 1983-May 1984). Information on social aspects of resource use activities (work group composition, distribution, and consumption patterns) was requested for some of the major resources (moose, trapping, salmon, and whitefish). Basic household employment and economic status information was obtained on most surveys. Several residents not contacted as survey or mapping respondents provided background information outside the context of household surveys on topics concerning the local history of resource use and settlement, traditional intra- and inter-community social ties, and genealogy. These respondents also provided additional detail on current resource use activities and patterns.

Names were not used on the survey forms in order to increase confidentiality. However, social relationship and age were requested to provide information on household composition, work group composition, and distribution of major resources. Anonymous data are of limited value for analyzing social

aspects of resource use, since it is impossible to cross-reference unnamed respondents. Ambiguity or duplication is possible without positive identification of individuals. Additional interviews, particularly those done during the subsequent field trips in October 1984 and August 1985, yielded genealogical data which helped to clarify social patterns.

The relatively short duration of data collection in the field and reliance upon structured household interviews contribute to the brevity of this report. The reader is reminded that the report is neither comprehensive in scope nor in detail. Further research is required to amplify relevant topics, such as resource distribution and exchange patterns and annual harvest levels. However, the report has been reviewed by Northway residents, and approved as a document that generally reflects local fish and wildlife use patterns.

CHAPTER 3 NATURAL SETTING

TOPOGRAPHY

Northway's hunting and fishing areas lie in the subarctic boreal forest of east-central Alaska (Fig. 1). Northway's areas fall within a high broad valley (1800 ft. elev.) of the headwaters of the Tanana River, and encompasses the hills and mountains bordering the valley, including the Nutzotin Mountains on the south and the Tanana Hills to the north. The valley is bounded on the east by hills between the Nutzotin foothills and the Tanana Hills, and on the west by the Mentasta Mountains, which constrict the valley by their northward extensions.

The Nabesna and Chisana rivers, flowing north and northwestward across the valley from glaciers in the Nutzotin Mountains join to form the Tanana River, which flows northwest out of the study area. Numerous clear streams enter the rivers from mountain drainages or flow across the valley. Lick Creek, flowing near Pickeral Lake, and the Cheslina River flow into the Nabesna River. Mirror, Scottie, Desper, Gardiner, Stuver, Moose, and Mark creeks are important tributaries of the Chisana River. The Ladue River drains a southern portion of the Tanana Hills within the study area. There are numerous lakes and ponds in the valley basin. A series of hills (the Black Hills) interrupts the sloping grade of the valley for several miles (Fig. 1).

Several classified ecosystems (Vierick and Little 1972) occur throughout the area, supporting a variety of faunal and floral species. Closed spruce-hardwood forests cover lower elevations of the hills and occur interspersed

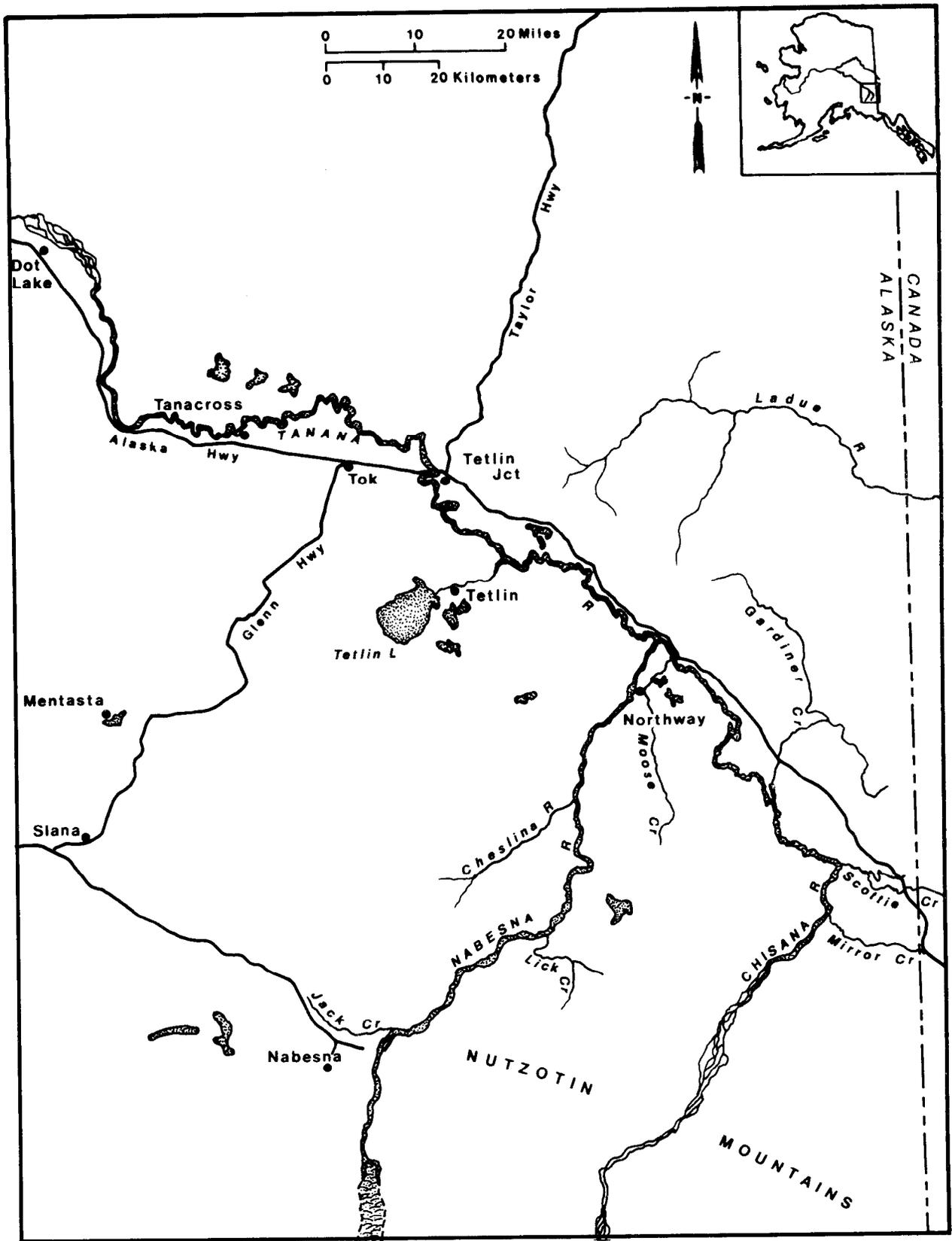


Fig. 1. Location of Northway

throughout the valley with lowland spruce forests and open bog. Birch, aspen, white spruce and black spruce comprise these forests. Lowland spruce forests (predominately black spruce) share the valley basin with treeless bogs and many lakes, ponds, and streams. Thickets of alder and willow crowd the shores of ponds and streams where drainage allows. Tundra covers the upper elevations of the Tanana Hills and the Nutzotin Mountains around the headwaters of the rivers, with low heath, shrubs, and dwarf herbs, or sedges and tussocks.

The climate is notably continental, with very cold winters and warm summers. It is one of the coldest areas in the state, with recorded temperatures ranging between 91 degrees and -72 degrees Fahrenheit. Precipitation is slightly in excess of 10 inches per year, with snowfall averaging 30 inches per year (Alaska Department of Fish and Game 1978, Darbyshire and Associates 1980).

FLORA AND FAUNA

Large mammals in the area include moose, Dall sheep, bear, and barren-ground caribou, the latter primarily of the Fortymile Herd. Small numbers of the Fortymile herd winter in the vicinity of the upper Tanana and lower Chisana rivers, and larger numbers winter in the Ladue River drainages. The Fortymile herd was more prevalent in the valley prior to the 1930s when the herd was reported to be especially large (Davis, Shideler, and LeResche 1978). The Nelchina herd from the upper Susitna drainage to the southwest has been wintering in varying numbers in the study area since the winter of 1982-83. Part of the Mentasta herd to the southwest of the study area has wintered in the study area since 1983-84 (United State Department of the Interior 1985). The small Chisana herd remains among the headwaters of the White and Chisana rivers in

the Nutzotin Mountains. Dall sheep occur in the Nutzotin Mountains and were traditionally hunted there. Black bear are relatively numerous in the forests; grizzly bear are seen in the open spruce and alpine areas. Moose are found throughout the study area. Waterfowl inhabit the lakes and streams in the spring and fall. These include many duck species, Canada, snow, and white-fronted geese, trumpeter and whistling swans, sandhill cranes, and Arctic and common loons. Grouse (primarily spruce and ruffed) and willow ptarmigan occur ubiquitously. Snowshoe hare and porcupine also inhabit the study area. Two species of whitefish (round and humpback), burbot, northern pike, Arctic grayling, and suckers are the predominant fish of the area. Chum salmon have been known to occur in the Chisana River and Scottie Creek, but are relatively rare. Local furbearers include muskrat, beaver, marten, mink, otter, wolverine, red fox, coyote, wolf, and lynx. Beaver are found throughout the local region, although historically have occurred in relatively small numbers (Murray 1961). Muskrat, on the other hand, are abundant. Many species of herbaceous plants occur in the area, several of which are picked for their greens, stalks, or roots. Mushrooms and a lily root "cached" by muskrat are also collected. Numerous berries occur in the area and are harvested annually. The Northway community and a large portion of the Northway village corporation land selected under the Alaska Native Claims Settlement Act lie within the Tetlin National Wildlife Refuge. Figure 2 depicts the refuge area as well as local game management units administered by the Alaska Department of Fish and Game.

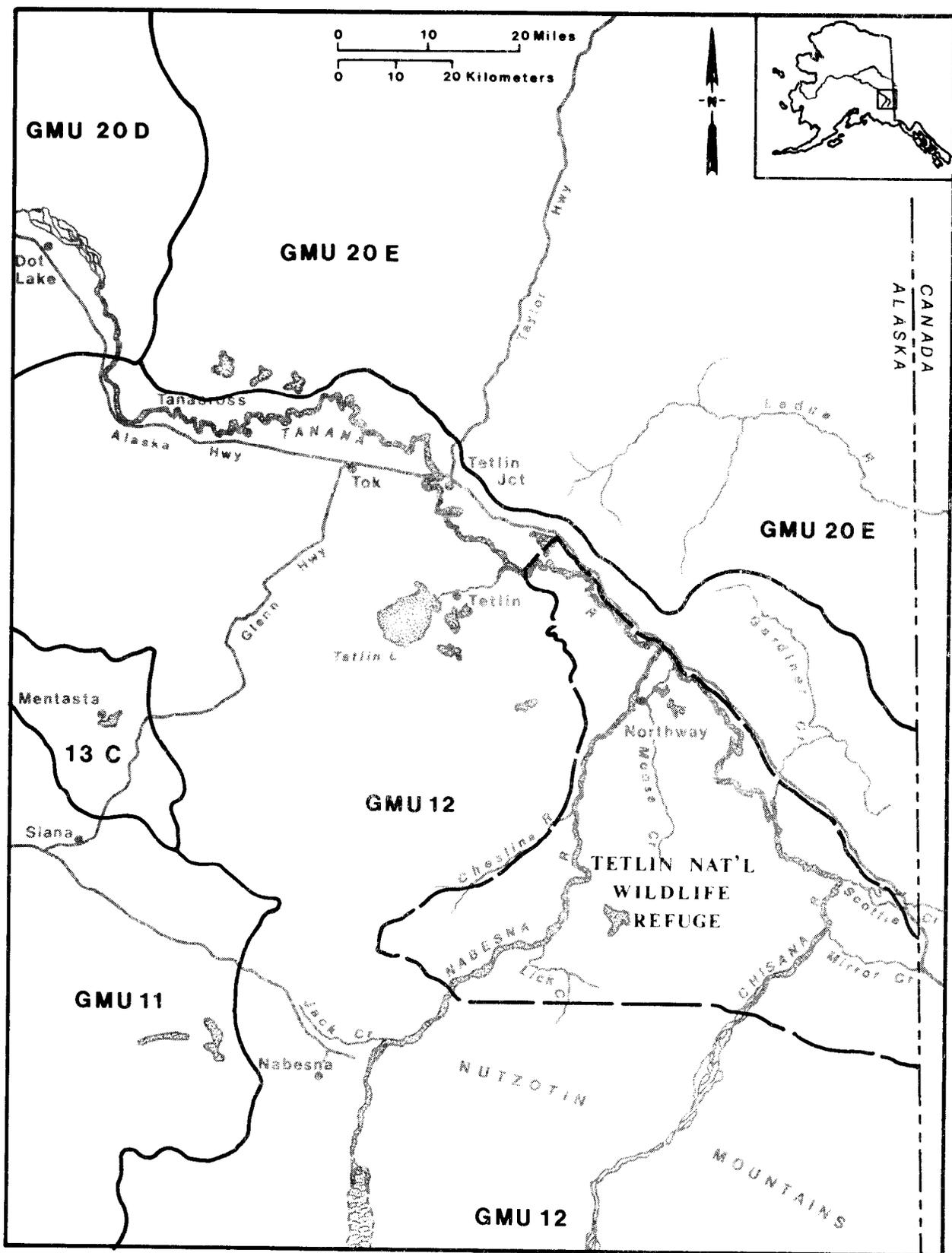


Fig.2. Tetlin National Wildlife Refuge and Game Management Unit Boundaries, Northway area

CHAPTER 4

COMMUNITY HISTORY

This section summarizes the contact history of the uppermost Tanana River area near what is now Northway, and is derived principally from McKennan (1959) and Cole (1979). Secondary sources of information include local key informants, Andrews (1975), Guedon (1974), Haynes et al. (1984), Pitts (1972), and Shinkwin, Aigner, and Andrews (1980).

Historic sources confirm the presence of Upper Tanana Athabaskan peoples residing on the Chisana and Nabesna drainages at the time of direct white contact in the 1880s. They occupied areas around the upper and lower Nabesna, and upper and lower Chisana, (including Scottie Creek) rivers. Elements of western technology and material culture diffused into the area prior to the mid-1800s, although almost no permanent settlement by non-Natives occurred until early in the 20th century. Even then, only a few non-Natives spent any length of time in the area until the early 1940s, when Alaska's military buildup during World War II attracted thousands of newcomers to the state.

The presence of non-Native trappers, traders, explorers, and prospectors on the Chisana or Nabesna rivers had not been documented until the very end of the 19th century. Prior to that time, during the last half of the 19th century, some local Athabaskans maintained contact with trading posts on the Yukon, Fortymile, and Stewart rivers, and there are records of some travel within the general Upper Yukon-Tanana region by traders or exploratory parties. For example, there is a record of an 1870s crossing of the Tanana Hills by two

traders, Harper and Bates, from Eagle on the Yukon River to a point some miles below Tanacross on the Tanana River. They continued downriver from there.

Older Northway respondents recall using a trail to Dawson in the early 20th century to trade, prior to the establishment of local trading posts in the upper Tanana drainage. The Fortymile River to the north and the Nizina River in the Copper River basin attracted a number of prospectors in the late 1800s. The Nabesna and Chisana rivers apparently did not, although McKennan (1959) surmises that some prospectors probably passed through the area. Cole (1979) notes that prospectors had penetrated the upper drainages of the Nabesna River in the late 1800s.

Lt. Allen's 1885 exploration of the Copper and Tanana rivers (cf. Allen 1887) brought him to the west of the study area, through Suslota Pass in the Mentasta Mountains, and down the Tetlin River to the Tanana. He remained at Last Tetlin and Tetlin for four days before heading down the Tanana River to Lake Mansfield (McKennan 1959, Cole 1979). Apparently, there are no further records of explorations into Upper Tanana country until 1898 and 1899 when Brooks and Peters made two trips into the upper Chisana and Nabesna drainages via the White River in Canada, once continuing down the Chisana River to the Tanana, and once heading southwest into the Copper River drainage. Brooks' report constitutes the first known written account of the uppermost Tanana River (Cole 1979).

Quartz gold was discovered on the upper Nabesna drainage in 1899, and copper deposits were found there in 1902. Prospectors continued to work in the Upper Nabesna area during the Fairbanks gold strikes of 1903-04, and until the Chisana gold stampede of 1913. The short-lived gold rush brought in prospectors by the hundreds, many crossing overland from the Tetlin River to the Chisana

River, others ascending either the Nabesna or Chisana rivers from the Tanana. The first freight boat came up the Nabesna River in 1905 approximately 15 miles and off-loaded 40 tons of supplies to be carried upriver to the gold mines on the upper Nabesna (Cole 1979).

Several trading posts were managed in the area, beginning in 1909 and 1910 with excursions by a Captain Northway from Fairbanks to the lower Nabesna River. Throughout the Chisana stampede of 1913-14 various supply and steamboat off-loading stations were active on the upper Tanana, Nabesna, and Chisana rivers, and after 1914 the local fur market was apparently well established (cf. Cole 1979). For almost 40 years trading posts or stores existed intermittently at the Chisana mine on Bonanza Creek, the head of Scottie Creek (Canada), and near the mouths of Gardiner, Mirror, and Moose creeks. Four posts were located over the years near a camp site of the lower Nabesna River people near the present community of Northway. The last of the trading stations in the area (Moose Creek) was disbanded after the death of the owner in 1953. Sometime prior to 1933 a large airstrip was constructed at an upper Nabesna mine in the Nutzotin Mountains, and in 1933 a road was built into the mine area from the Glenn Highway.

Two camps of the lower Nabesna River people, near which the four trading posts noted above were located, became construction sites for schools and churches. In the early 1930s a Tetlin school teacher held classes in a tent at a fish camp (K'ehthiign, or "Fish Camp") during the summer. In 1939-40 a Bureau of Indian Affairs school was built at a camp on the west bank of the Nabesna River ("Old Nabesna"). An Episcopal church was established at Old Nabesna, and later replaced by a Pentecostal Holiness church and a Roman Catholic church.

Major visible changes occurred suddenly in the early 1940s. The Old Nabesna settlement moved to its present location along the east bank of the Nabesna River to avoid river erosion. The Alaska Highway along the northern edge of the valley was completed in 1942, and an airstrip was constructed approximately seven miles south of the highway and two miles from the Nabesna village. A graded road connected the airstrip and village to the highway. A post office was established in 1941, the village name was changed to Northway, and a state school, replacing the BIA school, was built near the new Federal Aviation Administration and airport station. Settlement of the other Nabesna and Chisana groups at the new Northway Village occurred during this period, and is discussed further in the next section. After the establishment of state school districts, the community census encompassed the school district boundaries, including the village, the Airport area, residences along the seven-mile section of the Northway Road, and a 14-mile section along the Alaska Highway. The population has grown from roughly 100 residents in the early 1940s to over 300 by 1980. The highway provides access to several neighboring communities and to Fairbanks, 250 miles away.

CHAPTER 5

HISTORY OF RESOURCE USE

This section discusses the resource use areas, seasonal scheduling of harvest activities, and certain aspects of settlement patterns of the local Athabaskan bands immediately prior to the establishment of Northway as a permanent, year-round community. Many contemporary residents are descendants of these bands. As noted in the previous chapter, the recent history of the area includes an integration of in-migrants into the traditionally Athabaskan area. The following discussion of the Athabaskan land use patterns is intended as a vehicle for broadening the understanding of local resource use patterns today in the context of a variety of users.

The time period reported here includes the years between about 1920 and 1960, when groups derived from former Athabaskan bands continued to live seasonally in semi-permanent camps throughout the area, yet increasingly gathered year-round near what would become present-day Northway Village. Most had settled at Northway and other Upper Tanana communities by 1960. It is also a time remembered clearly by many residents today, some of whom experienced the period first-hand, and others who can relate stories learned from elders. Some older respondents provided information on activities extending back to the late 1800s. Although this constitutes a minimal part of the field data and is not examined here, it could serve as a comparison of these previous years to more recent history. Discussions of early Upper Tanana culture can be read in Guedon (1974), McKennan (1959, 1969a, 1969b, 1981), Pitts (1972), Rainey (1939), and Vitt (1971).

McKenna (1981:566) considers the years from 1920 to 1960 as constituting a major transition period in terms of settlement and land use patterns for the Upper Tanana area. Field data from Northway generally bear this out. In the 1920s, the Old Nabesna camp on the east bank of the Nabesna River had reportedly been in use for two generations by members of the Old Nabesna band. During the 1920s and 1930s this site was increasingly used almost year-round by families who built log cabins in which elders and children stayed during hunting and trapping periods, and to which the families returned after fishing at sites near Old Nabesna, including Fish Camp. The trading posts established near this camp also encouraged settlement and drew members of other contiguous bands to trade. The Old Nabesna camp became a semi-permanent village (cf. McKenna 1969b:336). After 1940 employment opportunities in construction jobs as well as the opportunity to attend the local school attracted families to the settlement. By 1950 a few non-Native and Native in-migrants began entering the community. Native settlement at the Northway Village increased as people moved in from the upper Nabesna and mid- to upper Chisana rivers, and a few from Ketchumstuk and Tetlin areas. The remaining members of the last outlying band moved to Northway permanently in about 1960.

THE BANDS

A central Alaskan Athabaskan hunting and fishing band of the hundred or so years prior to modern times (pre-1940) is defined as a small (population 20-75), egalitarian, cooperative, and interrelated group inhabiting seasonal settlements within a common territory (cf. Damas 1969, Leacock 1982, VanStone 1974). Occupied territory was used collectively by band members, although

degrees of individual ownership of particular sites or structures, such as caribou fences, may have existed in the Upper Tanana region (McKenna 1969b:101). McKenna (1969b:100-101,104) suggests that whitefish weirs also necessitated collective band efforts in their operation and maintenance, although several weirs closely situated might each be operated by groups of one to three families. Marriage and kinship ties bonded members of a local band to one another as well as to contiguous bands within a region. The above general definition of a "band" as a socioterritorial grouping applies to a post-contact historic period identified as the Contact-Traditional period between roughly 1850 and 1940 in the North American subarctic (Helm, Alliband, Birk, Lawson, Reisner, Sturtevant, and Witkowski 1975).

Local oral history indicates the presence of four local bands of Upper Tanana-speaking Athabaskans in the Nabesna and Chisana river drainages prior to 1960. The bands comprised individuals related by continuous consanguineal or affinal ties camping together or near each other while fishing for whitefish in the summer, then dispersing to hunt and trap in large but defined areas surrounding the fish camps during the fall, winter, and spring. Hunting or trapping camps consisted of one or more families and in some cases were located at fishing camps. Each band had a "chief," a respected man selected by elders for hunting ability and generosity. Trails within a band's territory were the property of a chief. Permission had to be granted for cross-territorial use by local bands. The bands in the Northway region are referred to by Northway residents today as the Scottie Creek, Chisana, Old Nabesna, and Upper Nabesna villages. In this report they are referred to as bands, to differentiate them from the contemporary village. The Tetlin and Last Tetlin bands, documented by McKenna in 1930 and whose members today reside primarily in Tetlin, as well as members of bands

now living in Tanacross, used "slightly different country" to the west of the Northway bands. They are not discussed here, although they occasionally shared resource harvesting areas with the Nabesna and Chisana river bands.

Geographically, the area used by the four bands prior to settlement in Northway encompassed the entire lengths of the Chisana and Nabesna rivers, as well as the head of the White River, Snag Creek (Canada), parts of the Ladue River and its tributaries, and the expanses of land between the rivers including tributary streams and lakes. Individual band territories represented usual or normal areas of use. Figure 3 depicts approximate band territories as described below.

Chisana and Upper Nabesna Bands

The Upper Nabesna and Chisana bands occupied the headwaters of the Nabesna and Chisana rivers and their tributaries. On the Nabesna River, the local people travelled from the vicinity of the Nabesna Glacier downstream to Pickeral Lake and its feeder streams at the foot of the Nutzotin Mountains, and down the Nabesna River to approximately Lick Creek. They ranged west along Jack Creek and the head of the Cheslina River, including the mountain valleys, streams, and lakes there, and west to Slana and Batzulnetas. This is an area of approximately 40 miles along the Nabesna River and 20-30 miles west of the river. Streams and trails through the mountains east to the head of the Chisana River were traversed. The Chisana River was occupied approximately from its head at the Chisana Glacier to somewhat below the foot of the Nutzotin Mountains, approximately 30-40 miles. The head of Snag Creek and the White River to the southeast of the Chisana were apparently included in the use area.

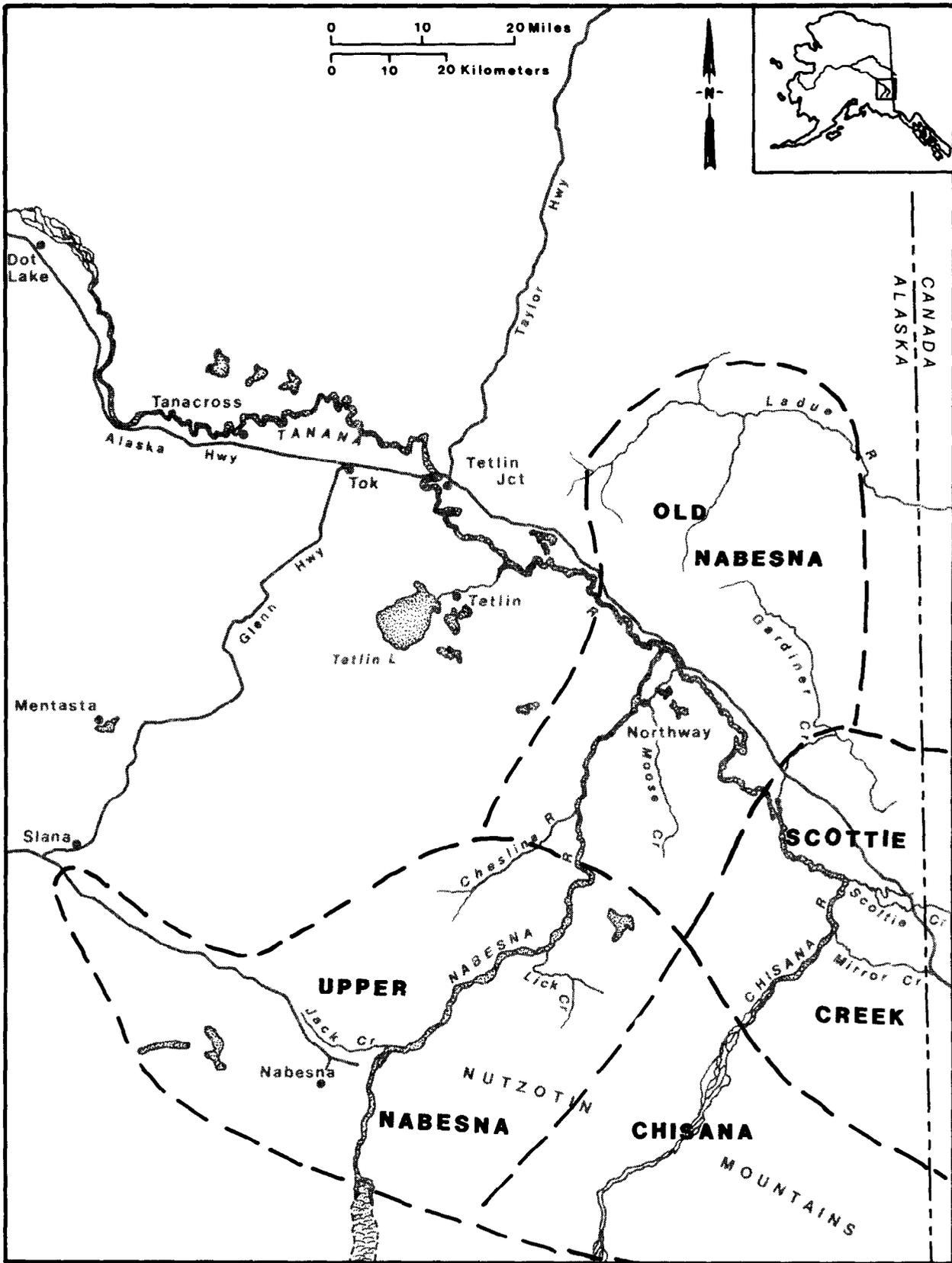


Fig. 3. Approximate location of former band territories of Northway residents

Documentation for the use area of these bands derives from interviews by James Kari in Nabesna (pers. comm., 1985), Johnson (1964), McKennan (1959), Reckord (1983b), and field data from Northway.

Whether or not this entire area was inhabited by one or two bands remains questionable. McKennan (1959) has documented the presence of only one band for this area, which he terms the Upper Nabesna-Chisana band. He postulates that the 1913-14 Chisana gold stampede, in which thousands of miners inundated the resource use area of the former Chisana band, depleted the resource base enough to necessitate combining the Chisana and Upper Nabesna use areas. Such merging of bands for periods of years in response to ecological changes may be considered an example of a common social adaptation displayed by subarctic bands (McKennan 1969b:104, 1981:566).

However, local residents today refer to the Chisana people of the mid-20th century as a group which was identified with a village on the upper Chisana River, had a "chief", and used a trapping area that extended in part down the Chisana River to a point adjacent to that of the Scottie Creek band to the north. At this time many band members worked as loggers and hunters for miners in the upper Chisana drainage. As an indication of band identities prior to the 1913 stampede, Cole's reference (1979) to a statement by Moffit and Knopf (1910) indicates the presence of a distinct group on the upper Chisana River:

The Batzulnetas and Nabesna natives rely on the white man for a considerable portion of their food, but the Chisana natives are more independent. Their more isolated position has brought them less in contact with white men, and they have maintained their own manner of living to a greater extent. They depend almost entirely on game for food and lay up a good supply each fall for the winter's needs (Moffit and Knopf 1910:14).

During the mid-20th century, movement of the Chisana people seasonally to Scottie Creek as well as to Upper Nabesna is remembered, and apparently was

very common. Reciprocal movements were also made by the other bands. These visits were made for social purposes as well as for obtaining resources, and such a pattern is evident among all bands in the study area.

Scottie Creek Band

The Scottie Creek band occupied the mid-Chisana River, from approximately the base of the Nutzotin Mountains to Gardiner Creek, and included Mirror Creek, Scottie and Desper creeks, lower Stuver Creek, and the Island Lake area, as well some area to the east in Yukon Territory. This use area extends approximately 30-40 miles north-south, and at least 20 miles east-west. The band maintained camps on lower Scottie Creek and Desper Creek ("High Cache") during the mid-20th century.

Old Nabesna Band

The Old Nabesna band inhabited the lower Chisana River from Gardiner Creek to its mouth, and the lower Nabesna River from approximately the Cheslina River to the mouth, and the confluence of the two rivers and the beginning of the Tanana River. Members of this band travelled northward to the upper Ladue drainage, and utilized the lakes and streams south to the Black Hills east of the Nabesna River. This constitutes an area approximately 50 miles north-south and 25-30 miles east-west. Two camps on the Nabesna River, called Nabesna village or Old Nabesna, and Dry Creek, as well as several fish camps in the lower Nabesna and Chisana river area were occupied by this band in the mid-

20th century. Data for the Scottie Creek and Nabesna band areas are derived from local field interviews.

SEASONAL ROUND AND SETTLEMENT: 1920-1960

The seasonal pattern of resource harvest activities for the study area generally resembles that of other interior Alaskan Athabaskans (Andrews 1975; McKennan 1959; Clark 1981; Nelson 1974; Reckord 1983a; Shinkwin and Case 1984, VanStone 1974). Fishing occurred primarily in the summer, large and small game was hunted heavily in the fall, trapping was done in the winter, and spring was a time for trapping aquatic furbearers, hunting waterfowl, and preparation of fishing gear. Scheduling was based, in part, on the availability and seasonal quality of game, plants, and fish. A broad spectrum of resources had to be exploited in order to maintain a constant food supply, although some items were obtained from local trading posts or stores during these years and incorporated into the diet. Harvesting was efficient and productive. In general, there were preferred seasons in which to harvest resources, but food was sought at any time if it was needed. Seasonal band mobility within an area was necessary in order to locate often widely dispersed game resources.

In striking contrast to most Athabaskan groups outside the Upper Tanana region, local people had no direct access to salmon. The closest runs occurred on the upper Copper and upper Yukon rivers. Local fishing targeted whitefish instead. Salmon was obtained by travelling overland to, or trading with people from, the Copper River.

Data on the 1920-1960 seasonal round pattern were elicited from former members of three of the local bands. They each recounted similar patterns of

seasonal resource use, but their descriptions reflect differences in the resource base and seasonality of harvest between the band use areas. The following account is a composite of the three-band descriptions, except where particular band patterns are noted.

Large quantities of whitefish were harvested in late June, and again in August and through October. Fishing was done with dip nets or conical traps in small clearwater streams, and occasionally with set gill nets in lakes. Field data on the initial use of set gill nets indicates their use by the 1920s. Respondents report learning to weave gill nets of twine from local traders, and occasionally bought them.

One respondent notes the use of commercial set nets by 1950. McKennan (1959), however, states that Nabesna people did not make and were not using set gill nets when he was in the area in 1929-30. Weirs were built for dip nets across streams in order to channel fish as they swam from lake to river, and included platforms on which fishermen stood while dipping the net or trap. Weir locations were used repeatedly for many years. One respondent describes a first visible wave of whitefish migrating downstream that marked the beginning of the fishing season. Hundreds of fish were netted in a few hours during a heavy run when several men operated two or three nets in rotation, emptying a full net while dipping another. Fish were cut and hung to smoke and dry at once, children carrying loads of fresh fish to women at family cutting tables until everyone had enough. People smoked and dried their fish at the camps. A portion of the processed fish was carried to a winter camp location. The rest was cached for later retrieval in the fall and winter, for use at camps which served as a winter base of activity, such as Scottie Creek and Fish Camp.

Large camps located at fishing sites accommodated several families, or the entire band. Each band maintained at least one fishing site. If there was only one site, it was used cooperatively by everyone. Some bands at times maintained three or more sites (as was the case with the Nabesna band) used by groups of households. There was constant movement of individuals between sites, allowing for visiting, as well as exploiting larger fish runs and enjoying the variety of subtle flavor differences between fish from different locations.

Members of the Old Nabesna band maintained at least six dip netting sites during these years, all but one (Tenmile camp on the lower Chisana River) within a radius of 5 miles of each other, and three of which were used in 1983-84. Today they are referred to by geographic place names: Fish Camp (K'ehthiign), Moose Creek (two sites), Mark Creek, Charlieskin, and Tenmile camp. Recognition is given at most sites to particular men who are said to have either "founded" the site, or lived there with their families more often than at others. However, a traditional system of private ownership of fishing sites, such as that reported by Clark (1981:585) for the Koyukon Athabaskans, or by McKennan (1969b:101) for caribou fences is not assumed to be operative here for fish weirs. Respondents report a communal use pattern for each site despite the association of family names. Further investigation would clarify local ownership patterns.

Plants such as wild rhubarb, labrador tea, birch bark and spruce roots for baskets, and various green leaves were gathered during the summer. Hare, porcupine, marmot, ground squirrel, moose, and bear were also harvested occasionally during the summer months.

Activities occurring in August after some fish had been dried and stored included hunting for moose, duck, geese, and porcupine, snaring of hare and grouse, muskrat trapping, berry picking and the digging of "edible roots". Groups

of one or two households would "move out in the woods" with pack dogs to hunt moose, setting up temporary camps as a base for hunting, butchering, and drying the meat. Moose traditionally was dried in August before cool damp September weather inhibited drying. Chisana band members often travelled to Scottie Creek to hunt moose and ducks, and to fish. A late whitefish run occurred in the Scottie Creek area through October which drew members of the other bands. Some members of the Old Nabesna band moved to the Tenmile Lake fish camp to continue fishing while hunting moose. During the period between 1920 and 1960 an increasing number of people, usually elders and children, stayed in a main camp, either the fish camp or another "winter camp," while others hunted. Meat was packed back to the camp with the aid of other band members and dogs. It was shared among those who helped pack, as well as given by the hunter to non-harvesting households. Data on social relationships of people involved in the task groups are minimal, but in one example, primary kin constituted a cooperating work group.

Hunting for sheep or caribou followed the fall moose hunt. In September before deep snowfall in the mountains, the Chisana and Upper Nabesna bands moved back into the high Nutzotin drainages and passes from which they hunted sheep. Some members of the lower river bands went also, harvesting and caching moose on the way.

From September until later in the fall (November) when the Fortymile caribou herd passed through the lower Chisana drainage heading southeast into Canada, concerted caribou hunting took place, and again members of the Chisana band came down to Scottie Creek to hunt. Members of the Old Nabesna band moved north into the Ladue River hills to camp and hunt caribou. Caribou was a dietary mainstay, contributing, according to one respondent, the same amount to

the diet as moose. McKennan (1959:32, 47) observed that caribou constituted a greater proportion of the diet than moose in 1929-30.

Trapping occurred throughout the winter along with continued moose and caribou hunting. Trapping areas were well defined and apparently conformed with band territories. Hunting and trapping generally were accomplished within band territories by band members, but there existed a large measure of mobility between bands by individuals and families. To paraphrase one respondent: "We (Northway people) are all the same people, but have different fish camps. Everyone walks." The settlement pattern was slightly less dispersed than it was in the fall. Families remained at winter base camps while men or women and children trapped or hunted. Camps were occupied by single families, or two or more families at once. After 1940 more families of the Old Nabesna band began to stay at Northway village or Fish Camp during the winter so children could attend school.

The spring months (April through early June) included occasional harvests of moose, some late fishing through the ice, and hunting of waterfowl and egg collecting. In addition, caribou were hunted as they migrated northeast in April or May. Muskrats were trapped in March and then hunted after breakup until early June. Bark was collected as the sun warmed the trees in May. Spring black bear were sometimes harvested, and whitefish dip nets were placed and operated at weirs beginning about mid-June. Game tended to be difficult to locate in the spring, and harvest levels were often small. A diversity of species was hunted then, as one respondent notes: they sought "everything that comes to life" in the spring.

According to Pitts (1972), the changing pattern of caribou migrations which left the study area depleted of caribou required adjustments by families

after the 1940s. The local population had to focus more attention on fur trapping than on hunting, and on trading furs at local posts for supplies. Field data indicate an increased effort on moose hunting after this time. During this period in general, local men were often hired to hunt for mining camps or to work in logging operations in the upper Chisana drainage. After the 1940s, men were hired to work seasonally on local highway construction projects, which generally took them away from summer fishing, but allowed time to pursue winter harvest activities.

After 1940, with the establishment of schools, families tended to stay longer in the Northway vicinity, attempting to incorporate school schedules into their seasonal patterns. One family, for example, sent a child to school while both parents trapped and hunted and an elder daughter took charge of other younger siblings. Another respondent who was of school age in the 1950s remembers leaving the village and school in April to go to Fish Camp with her family. Automobiles and snowmachines were not common until more recently (post-1960). Their advent and general use resulted in greater mobility to and from resource use sites, especially fishing sites, such that fish camps near Old Nabesna were no longer used as seasonal residences. However, until the 1950s, foot travel with pack dogs remained prevalent and more time was spent in resource pursuits away from the main village than is currently.

CHAPTER 6

THE CONTEMPORARY COMMUNITY

The Northway population today is diverse and dispersed, with residences situated adjacent to a 14-mile stretch of the Alaska Highway, along a 7-mile state-maintained graded road, in Northway village on the Nabesna River, and near the airstrip and Federal Aviation Administration (FAA) station. A 1984 local census indicated a population of 334 residents (Alaska Department of Community and Regional Affairs 1984). This is approximately a 43 percent increase over both the 1970 and 1960 U. S. Census counts of 234 and 237, respectively. In 1950 the U. S. Census recorded 196 residents. Between 1940 and 1950 the population almost doubled, from 108 in 1940 to 196 in 1950 (Darbyshire and Associates 1980, Haynes 1984). This probably reflects the effects of local airport and highway development in the early 1940s.

The FAA station area includes an international airstrip and customs office, a lodge and restaurant, a store, bar, gas pump, post office, and fire station. The school, a modern (1977) building housing grades K-12, is a mile from the FAA area. Catholic and Pentecostal Holiness churches serve the community from Northway Village. The village has a community center containing a clinic, meeting room, and a counselor's office. The Alaska Highway area includes two gas stations, garages, and lodges, as well as a store, car wash, laundromat, and craft store. The Native corporation (Northway Natives, Inc. or Naabia Niign, Ltd.) and Alaska State Troopers have headquarters along the highway. Northway Natives Inc. operates four rental apartments at the Northway Road junction, as well as the aforementioned laundromat and craft store. The community supports

a uniformed softball team and a volunteer fire and emergency medical services department.

At the time of the study, employment opportunities in Northway included seasonal jobs in construction and firefighting, as well as some part- or full-time, seasonal or year-round jobs in social service, administration, clerical work, maintenance, and services (that is, lodge, restaurant, stores, service stations, post office). A small number of jobs were available seasonally to teenagers, such as gas station and store attendants, and jobs offered through the Neighborhood Youth Corp (NYC) program. In addition, the Northway school enlisted approximately 23 persons in full- or part-time employment. Five privately- or corporately-owned businesses employed some local residents as store clerks, gas station attendants, clerical staff, and construction and maintenance workers. State or federal monies supported other positions, mainly those in the social services field. A few positions were filled by seasonal residents, such as a Tetlin National Wildlife Refuge biologist who supervised two local NYC employees.

As an indicator of employment types, all sample households providing employment or income data (n=14) had at least one member who earned cash either through wage employment (11) or from craft and fur sales (3) during the study period. One respondent was a full-time teacher. Five additional households had members employed at the school. Five households had members employed in seasonal construction or maintenance positions. Five households included members who worked in social service positions (that is, health aides, senior citizens aides, counselor). One respondent was employed in a clerical position.

Five of twelve responding households listed income as less than \$10,000 per year, and four others reported incomes between \$10,000 and \$20,000 per year.

The three non-Native households in the sample had incomes greater than \$30,000 per year, and included several employed members. The Federal Income Taxpayer Profile reports the 1982 average taxable income as \$13,304 for the Northway community (Alaska Department of Revenue 1985).

The resident population of Northway at the time of the field study in June 1984 was 312, slightly less than the number accounted for in the 1984 census. Eighty-eight households were occupied in June 1984. As is shown in Table 2, the community comprised four spatially discrete residential groupings: the village (36 households, or 41 percent), the FAA area (12 households, or 14 percent), the Northway Road group (21 households, or 24 percent), and the Alaska Highway (19 households, or 22 percent). All but one of the 36 households in the village included Alaska Natives, most of whom were originally from the Northway area. However, this represents only 53 percent of the total Alaska

TABLE 2. NORTHWAY POPULATION AND HOUSEHOLDS BY RESIDENCE, 1984*

	ALASKA HIGHWAY	NORTHWAY ROAD	FAA AREA	NORTHWAY VILLAGE	TOTAL
Number of Households*	19	21	12	36	88
Percent Total Households	22	24	14	41	100
Population*	78	79	29	126	312
Percent Total Population	25	25	9	40	100

* In residence June 1984.

Native households in the community. The Northway Road area was also predominately Alaska Native (19 of 21 households), with 29 percent of the Native households located here, and 9 percent of the non-Native households. The FAA area was predominantly non-Native (10 of 12 households), containing 3 percent of the Native households of the community. The Alaska Highway contained nine Alaska Native households (out of 19), representing 15 percent of the total Alaska Native households and 41 percent of the non-Native households (Table 3). At least four of the Native households contained members from other communities in the state.

Overall, 75 percent of the households in the community included Alaska Natives, and 25 percent had only non-Native members. While both Natives and non-Natives lived in each of the four clusters, most of the Alaska Native households were located in the village and along the Northway Road (82 percent), with the highway section and the FAA area containing considerably fewer. Most of the non-Native households were located along the Alaska Highway and at the FAA station area (87 percent), with a few along the Northway Road and one in the village (Table 3).

TABLE 3. NORTHWAY HOUSEHOLDS BY ETHNICITY AND AREA, 1984

	ALASKA HIGHWAY	NORTHWAY ROAD	FAA AREA	NORTHWAY VILLAGE	TOTAL
Alaska Native Households	10(53%)	19(91%)	2(17%)	35(97%)	66
Percent Total Alaska Native Households	15	29	3	53	100
Non-Native Households	9(47%)	2(9%)	10(83%)	1(3%)	22
Percent Total Non-Native Households	41	9	46	5	100
Total	19	21	12	36	88

* An Alaska Native household is defined as a household including more than 50% Alaska Native members.

CHAPTER 7

CURRENT RESOURCE USE

This chapter provides information on seasonality of harvest, level of participation, work groups, distribution and exchange, and geographic use areas. The data pertain to the most current year's activities (1983-84), except for mapped information which covers a recent 10-year period (1974-1984) (see Methodology). Brief historical comparisons are made throughout the chapter.

SEASONAL ROUND OF ACTIVITIES

Most seasonal harvest information in this section pertains to the 1983-84 study year. In addition, general contemporary seasonal patterns derived from key respondent interviews are incorporated into the description. As shown in Figure 4, Northway households in 1983-84 harvested nearly the same variety of fish, game, and plant resources as described for the 1920-1960 period, pursuing most of those resources now from the community base and using a variety of modern transportation methods. During the 1983-84 study year, all of the major resources were harvested by the sampled households except marmot, ground squirrel, and Dall sheep. The latter recently has not been a yearly pursuit (three of the sampled households hunted sheep a total of five times in the last 15 years). Current seasonal scheduling of resource harvest activities resembles earlier patterns, but also reflects current hunting, fishing, and trapping regulations, as well as technological changes and factors such as employment and school schedules, as discussed below.

RESOURCE	MONTHS OF HARVEST*											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
MOOSE									xxx			
CARIBOU	xxx	xxx										xxx
BEAR	---	---	---	---	---	xxx	---	xxx	---	---	---	---
SHEEP								---	---			
HARE	xxx	xxx	xxx	---	---	---	---	---	xxx	xxx	xxx	xxx
PORCUPINE	---	---	---	xxx	---	---	---	---	---	---	---	---
MUSKRAT	xxx	xxx	xxx	xxx	xxx	xxx			xxx	xxx	xxx	xxx
BEAVER	xxx	xxx	xxx	xxx							xxx	xxx
MARTEN	xxx	xxx									xxx	xxx
MINK	xxx	xxx									xxx	xxx
OTTER	xxx	xxx	xxx	xxx							xxx	xxx
WOLVERINE	xxx	xxx	xxx								xxx	xxx
LYNX	xxx	xxx	xxx								xxx	xxx
FOX	xxx	xxx									xxx	xxx
WOLF	xxx	xxx	xxx								xxx	xxx
COYOTE	xxx											xxx
GEESE									xxx	xxx		
DUCKS									xxx	xxx		
CRANES									xxx			
PTARMIGAN, GROUSE	xxx	xxx	xxx					---	xxx	xxx	xxx	xxx
WHITEFISH						xxx	xxx	xxx	xxx			
PIKE					xxx							
GRAYLING					xxx							
BURBOT	xxx	xxx	xxx	xxx	xxx			---	---	xxx	xxx	xxx
SUCKER					---	xxx	xxx	xxx	xxx			
TROUT	xxx											
SALMON						xxx	xxx	---				
BERRIES						---	xxx	xxx	xxx			
OTHER PLANTS				---	xxx	xxx	xxx	xxx	xxx			
FIREWOOD	xxx	xxx	xxx	xxx	---	---	---	---	xxx	xxx	xxx	xxx

xxx Primary harvest period, 1983-84

--- Other contemporary harvest periods.

* Some traditional harvest periods outside of current legal seasons may not be depicted in this figure.

Fig. 4. Seasonal round of resource harvesting activities for selected species reported by a sample of Northway residents.

Fishing constituted the major summer resource use activity in 1983-84 (Fig. 4). After breakup in May or June rod and reel fishing began for grayling, pike, and burbot, and continued throughout the summer. In June and July fishing for whitefish began, and some Northway residents travelled to the Copper River to fish for sockeye and king salmon, usually spending two or three days and returning home to process the fish. In addition, plants are generally gathered at this time. Spruce roots (white or black) are dug, soaked and peeled, bark is cut, and basket-making commences, continuing through the summer, fall, and winter. Some plants are harvested in June and July, particularly wild rhubarb, mushrooms, some greens, and raspberries.

Wood is cut by some residents during the summer, although most wood cutting begins in September. Most berries are picked and edible roots dug in August and September. Occasional travel to the Yukon River at Eagle for salmon fishing occurs in August if the Copper River harvest has been small. Black bear are occasionally shot during the summer. Hare are sometimes snared for their fresh meat, and hides from moose harvested in previous seasons also may be tanned and smoked at this time. By August and September whitefish fishing generally becomes more productive, according to some respondents. They suggest that the fish continue running in the large rivers and deeper lakes later (August, September) than in the small streams, and are fattest later in the season. According to one respondent, a hurry-up-and-get-busy attitude prevails for fishing during August.

Hunting of moose and waterfowl occurred in the early fall. Local moose and waterfowl hunting seasons opened in September and most respondents concentrated on these two activities at this time. September also included some fishing for grayling, pike, and whitefish, as well as some early jigging (longline

fishing) for burbot from the Nabesna River banks before freeze-up, trapping small pike ("pickles") at the edges of streams, and small game snaring or hunting. Some households engaged in fall muskrat trapping, although not to the extent that was commonplace in the recent past. The trapping regulations were revised for the 1983-84 season by moving back the opening date for muskrat trapping from November 1 to September 20, primarily to allow a fall harvest.

Some waterfowl and grouse hunting and muskrat trapping continued into October. By the end of the month when the rivers were thinly covered with ice, jigging for small pike, burbot, and grayling began and continued until late November. Fishing for burbot continued through the winter months.

Winter (November through March) harvest activities included trapping, hunting or snaring of hare, grouse, and ptarmigan, fishing through the ice, and caribou hunting. Trapping efforts focused primarily on red and cross fox, marten, mink, otter, wolverine, lynx, and wolf, beginning in November and continuing through February or early March. Beaver were taken from November through April, and muskrats were harvested until late May or early June. Some jigging for burbot continued through the winter until February or March. Hare, grouse and ptarmigan were snared or hunted all winter along traplines or around the community. Porcupine were sometimes hunted at their dens during the winter. Hunting for Fortymile caribou took place in December, January, and February in the Tanana Hills. In March 1985, ten permits were issued to Northway residents for hunting Nelchina caribou which were wintering in the area. Wood cutting was a constant activity during the fall and winter months.

Spring (March to May) activities included muskrat trapping and hunting, and some pike, grayling, and burbot fishing after breakup. Bark was collected in April or May. Porcupine were harvested by clubbing or shooting; the meat was

skinned and roasted and the quills used in jewelry and crafts. Migration routes of the Fortymile caribou have changed and the herd no longer moves en masse through the "valley" as it did in the 1920s and 1930s. Current hunting regulations do not authorize the taking of waterfowl, moose, and caribou during the spring. Possible continuation of traditional spring waterfowl hunts was not investigated in this study.

The timing of yearly resource harvest activities in 1983-84 appears similar to that for the 1920-1960 period: fishing and plant gathering dominated the summer months, large and small game was pursued heavily in the fall, trapping constituted a major activity in the winter, and muskrat trapping was the primary activity documented for the spring season. In contrast with former years, the scheduling of waterfowl, moose, and caribou hunting has altered significantly. Waterfowl were traditionally hunted in the spring as well as the fall, and eggs were collected. Moose were hunted earlier in the fall, in late August, when the meat could be efficiently dried. Caribou were hunted during the fall migrations, between September and December, usually in November, and again in the spring (May). Both moose and caribou were also hunted as necessary the year round.

PARTICIPATION

Participation in different harvesting activities varied between sample households during the study year (Fig. 5, Table 4). More than 70 percent of the households harvested or attempted to harvest berries and plants, whitefish, moose, wood, waterfowl, muskrat, and pike and grayling. Relatively fewer harvested or attempted to harvest bear (15 percent), porcupine (23 percent), and caribou (29

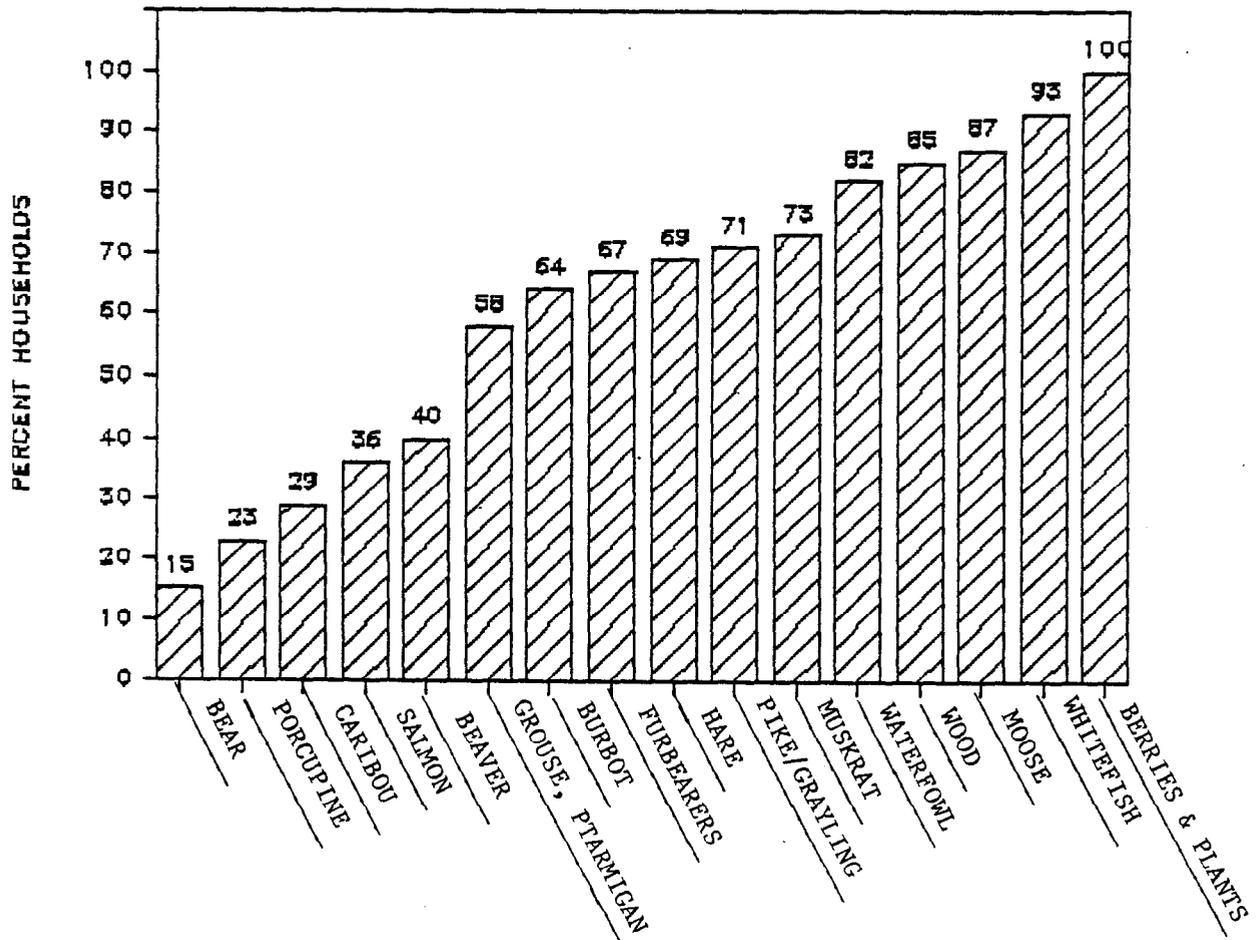


Fig. 5. Percent of Northway sample households undertaking resource harvesting, 1983-84 (n=15).

TABLE 4. NORTHWAY SAMPLE HOUSEHOLD PARTICIPATION IN HARVEST ACTIVITIES, 1983-84

	Sample Responding To Question	Number Households With Successful Harvest	Percent Households With Successful Harvest	Number Additional Households Unsuccessful Attempt	Percent Total Households Participation
Moose	15	8	62	5	87
Caribou	14	3	21	1	29
Bear	13	2	14	0	14
Sheep	14	0	0	0	0
Hare	13	9	69	0	69
Porcupine	13	3	23	0	23
Muskrat	15	11	73	0	73
Beaver	15	3	20	3	40
Other					
Furbearers	15	10	67	0	67
Waterfowl	11	9	82	0	82
Ptarmigan,					
Grouse	12	7	58	0	58
Whitefish	14	13	93	0	93
Pike,					
Grayling	14	10	71	0	71
Burbot	14	9	64	0	64
Sucker	14	8	57	0	57
Trout	14	1	7	0	7
Salmon	14	5	36	0	36
Berries,					
Plants	13	13	100	0	100
Wood	13	11	85	0	85

percent). None of the households sought to harvest all 16 resource use categories (Fig. 5) in 1983-84. The sample pursued an average of about nine resources. Table 4 indicates that three resource use categories (moose, caribou, and beaver) included unsuccessful harvest attempts by some sample households. The success rate of households actually harvesting each of the three resources (moose, 62 percent; caribou, 21 percent; and beaver, 20 percent) was lower than that percent given in Figure 5 for percent of households undertaking resource harvesting, which includes unsuccessful harvest attempts. Figure 6 combines the 16 categories into six major resource groups (large game, small game and birds, waterfowl, fish, furbearers, and plants). It shows that each category was pursued by more than 70 percent of the sampled households, reflecting relatively high participation in a range of harvesting activities. It should be remembered that the sample households were selected to represent relatively active households in subsistence activities in the community.

Total 1983-84 sample household harvest quantities, and average household and per capita outputs are listed in Table 5. Land mammals, including large and small game and two furbearer species, constituted the major portion by weight of household harvests (48 percent of total output). Moose constituted over two-thirds (72 percent) of the edible weight of harvested land mammals. Fish comprised 43 percent of household harvests. Over three-quarters of the edible weight of fish harvested was salmon and whitefish. Average household quantities of harvested birds and berries totaled nine percent of harvested resources by weight.

The reader is reminded that Northway comprised Athabaskan settlements oriented to the local riverine environment prior to the construction of the Alaska Highway and concomitant development of the community. Harvest of resources for subsistence purposes has been a traditional element of the local economy for

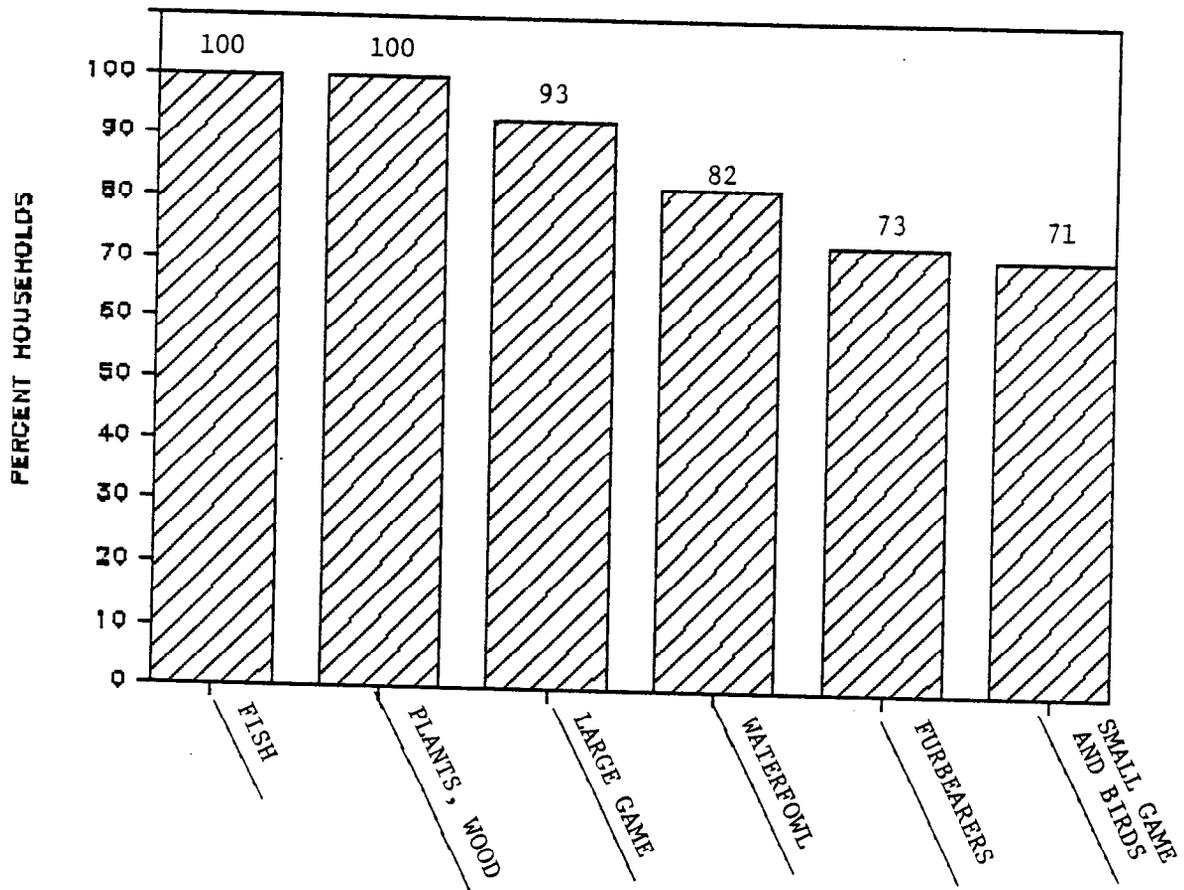


Fig. 6. Percent of sample households participating in six major categories of harvest activities, 1983-84 (n=15).

TABLE 5. SUBSISTENCE HARVEST LEVELS FOR A SAMPLE OF NORTHWAY RESIDENTS, 1984-85.[†]

RESOURCE	HARVEST	CONVERSION*	SAMPLE SIZE**	MEAN HOUSEHOLD HARVEST (lbs.)	PER CAPITA HARVEST (lbs.)
Salmon	309	5.4	14	119	23.8
Whitefish	2005	2.0	14	286	57.2
Whitefish	14 sacks				
	dried	85.0	14	85	17.0
Burbot	116	3.0	14	25	5.0
Suckers	60	.75	14	3	.6
Pike	104	7.0	14	52	10.4
Grayling	255	1.0	14	18	3.6
TOTAL FISH				<u>588</u>	<u>118.0</u>
Moose	11	650.5	15	477	95.4
Caribou	5	150.0	14	54	10.8
Bear	2	120.0	14	17	3.4
Beaver	37	15.0	15	37	7.4
Muskrat	863	1.0	15	58	11.6
Hare	92	2.0	13	14	2.8
Porcupine	4	10.0	13	3	.6
TOTAL MAMMALS				<u>660</u>	<u>132.0</u>
Geese	15	5.0	11	7	1.4
Ducks	310	2.5	11	70	14.0
Grouse,					
Ptarmigan	138	1.0	12	12	2.4
Berries	122 gal.	4.0	13	38	7.6
TOTAL BIRDS, BERRIES				<u>127</u>	<u>25.0</u>
TOTAL RESOURCES				<u>1375</u>	<u>275.0</u>

[†] Sample represents only households identified as active harvesters. Mean sample household size = 5.0

* Estimated pounds edible weight. Edible weights for each resource were developed with the assistance of local respondents.

** Excluding no response. Sample may include non-harvesting households.

many years. The current (1983-84) harvest levels depicted in Table 5 include harvests of recent in-migrants represented in the sample as well as long-term residents. Harvest data present in Table 5 reflect the importance of resource harvests for newer as well as long-term residents of the sample.

Table 6 suggests that the number of major harvest categories in which households were involved decreased as the age of the head of household increased, from about 5.3 resource categories harvested by households with 30-39 year old heads, to 3.0 resource categories harvested by households with 60-69 year old heads. However, the small sample size means that these trends are only suggestive of relationships. By comparison, in another Tanana River community, households with older heads show a higher range of resources harvested than in the present study (Shinkwin and Case 1984). No other trends are suggested in household size or employment status in relation to age of household head in Table 6.

Four brief case descriptions of households with varying employment status, ages, ethnic background and harvest activity follow. They are presented to illustrate the diversity among the sample respondents.

Household A consisted of an extended family of a husband and wife in their 40s, and six dependents ranging in age from one to 19 years. No household members were employed for wages in 1983-84. Income was primarily from fur and craft sales. All are Alaska Native except the head, who is non-Native. They undertook harvest of almost all resource categories (13 of 16) in the study year.

Household B had two adult members in their 30s who were employed full-time and part-time locally, and two dependent children in their teens. This household harvested 13 of 16 resource categories. They were non-Native and unrelated to anyone in the community.

TABLE 6. BREADTH OF HARVEST ACTIVITIES AND SOCIOECONOMIC CHARACTERISTICS BY AGE OF HOUSEHOLD OF STUDY SAMPLE, 1983-84.

Age of Household Head	Average Number of Activities (n=6)	Average Household Size	Average Number Employed Months/Year Per Household	Average Number Persons Employed Per Household	Number Alaska Native Households	Number Non-Native Households
30-39 (n=3)	5.3	3.0	14.0	1.3	2	1
40-49 (n=7)	5.0	6.1	5.9	1.6	5	2
50-59 (n=4)	4.5	4.5	19.8	3.0	3	1
60-69 (n=1)	3.0	5.0	6.0	1.0	0	1

Household C was Alaska Native and consisted of two adults in their 50s and three young adults in their early 20s. Both older adults worked for wages full or part time for nine months of the year. The household harvested 8 of 16 resources during the study year.

Household D had five members, two adults in their 50s and 60s and three sons in their late teens and early twenties. One member was employed part-time during the study year, and the household pursued 7 of 16 resources. The household head was non-Native, while the others were Alaska Native.

CONSUMPTION AND DISTRIBUTION

According to key respondent interviews and the survey data, wild resources are commonly distributed in Northway between households. Most consumption and distribution of fish and large game, and sharing of labor and equipment, takes place within groups of related households. For example, a daughter and step-daughter cut fish for their mother (three households), receiving fish later in the winter "when they need it." This probably is a very common practice. Salmon from the Copper River may be obtained by Northway residents in exchange for help with processing. It is also simply given, as part of a continuous exchange of resources between Copper River and Northway households. Within Northway, fresh salmon is given to non-fishing households by those who obtain it from Copper River residents. In general, resources are distributed to households who did not harvest a given resource, or who are close relatives (within two generations lineally or one step collaterally). In particular, elders are often receivers of wild resources. Sharing occurs among non-related households of the same generation, but less often. Distribution between "friends" occurs among households who are

not related to others in the community. Large game may be divided between hunting partners, or fish from one net divided between several households. Labor is often volunteered in return for fish or meat. Resources are sometimes traded, such as garden produce for a moose hide. Extensive sharing is accomplished through visiting, with visitors partaking of meals or receiving packages of meat or fish.

WHITEFISH HARVEST

Whitefish run in clear streams from the shallow lakes to cooler rivers when the lake water warms in June or July. There are usually two runs per summer, one in June or July, and one in August. Between the runs there is a general movement of the fish up and down streams and in rivers and lakes that does not constitute a major run but that allows for a continual harvest of some fish. Northway residents harvest whitefish by two principal methods, each requiring specific natural conditions and gear. Dip nets are set in weirs constructed in small streams in the same manner as in earlier years (cf. Martin 1983 for detail), and set gill nets are used in eddies of the larger rivers or in lakes, especially where stream currents are flowing. Nets are left in place varying lengths of time, depending on run strength, the frequency with which individuals wish to check the net, number of households using the net, extenuating activities, as well as other factors. One fishwheel was used locally for catching whitefish and incidental species, including four or five salmon, for a few years until about 1981. It was not operating during the study year.

Figure 7 depicts fishing locations for whitefish for the 1974-84 mapped period. Four active dip net sites were located during those years within

approximately five miles of Northway village on streams used earlier in the 20th century. A fifth dip net was used at a fish camp at Tenmile Creek, approximately 15 miles up the Chisana River, that was also active during the pre-1960 period. Three former dip net sites have not been used for dip netting in over ten years (Charlieskin, High Cache at Scottie Creek, and a site on Mark Creek), although two were used with set gill nets. Use of dip net sites may be periodic, as in the case of one site on Moose Creek destroyed by airstrip construction in the early 1940s, rebuilt in the late 1970s, and used currently. In 1984 a new weir was under construction about 50 meters downstream from another current site. All but one of the dip net sites used currently were accessed on foot or by roadway. One was accessible only by river.

Set gill nets were placed in eddies of the Nabesna River within two miles of Northway village and on the Chisana River just above the mouth of the Nabesna. They were also placed in the vicinity of dip net sites in shallow lakes or larger streams. Set gill nets located within five miles of Northway were accessible by water or roadway and were commonly used during single day trips. Water access to the nets was gained by canoe or motorized river boat. Sites along the Chisana River at Tenmile, Stuver, Mark, and Scottie creeks were approached only by river and some included full camps at which processing took place. Two of these camps were maintained by one extended family, but were also used by other unrelated households. Two Scottie Creek camps, located near the High Cache camp of the former Scottie Creek band, and on the Chisana River at the mouth of Scottie Creek, were used for gill net fishing by several families, including newer, unrelated (non-Native) households.

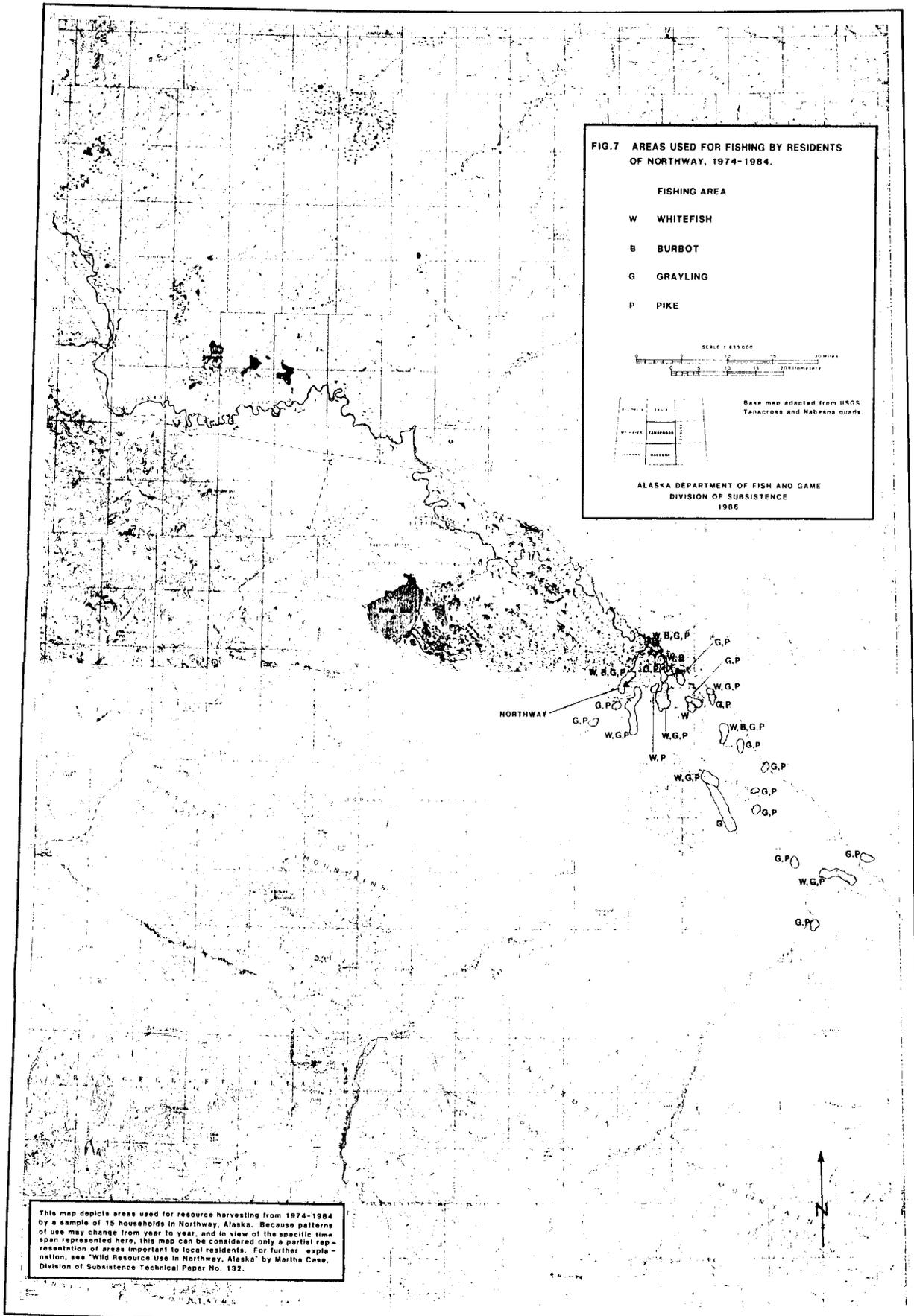


FIG. 7 AREAS USED FOR FISHING BY RESIDENTS OF NORTHWAY, 1974-1984.

FISHING AREA

W WHITEFISH

B BURBOT

G GRAYLING

P PIKE

SCALE: 1:850,000

Base map adapted from USGS Tanacsross and Nabesna quads.

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF SUBSISTENCE
1986

This map depicts areas used for resource harvesting from 1974-1984 by a sample of 15 households in Northway, Alaska. Because patterns of use may change from year to year, and in view of the specific time span represented here, this map can be considered only a partial representation of areas important to local residents. For further explanation, see "Wild Resource Use in Northway, Alaska" by Martha Case, Division of Subsistence Technical Paper No. 132.

Eleven of 14 responding sample households reported generally using dip nets for catching whitefish, although seven of them used dip nets during the study year. Ten of these households as well as two non-dip netting households reported also using set gill nets in 1983. The three non-dip netting households were the non-Native households of the sample, who were unrelated to dip netting households. Two of them used set gill nets for catching whitefish, while one reported no fishing activity. Although set gill nets are a relatively recent development in local fishing patterns, their use by dip netting households was reported to have increased since about 1980. Reasons for this increase may reflect changing social patterns in whitefish netting, as discussed below.

Maintenance of dip net weirs during the study year was undertaken by individual households, two of whom were reported to have inherited the sites from their father, who had been particularly associated with those sites during the 1920-1960 period. Most of the dip net sites were used primarily by related households, usually by invitation or with permission. However, such permission was reported to be rarely denied, and given without regard to relationship. Many households used multiple sites during the year to take advantage of relatively more productive harvests at one site over another. One site, Fish Camp, was used by 10 of the 11 households who used dip nets, while the other dip net sites were each used by fewer sample households. Fish Camp was reported to be a highly productive site open for use by "anyone" in the tribal group, although the site was maintained primarily by two related households.

Some patterns of dip net use evident during the earlier 20th century persist into the 1980s, such as use of one net by all users at each site, multiple site use by households following whitefish runs in the various streams, and general availability of all sites to all households. Multiple site use during the

study year included the use and sharing of set gill nets by most households. Other patterns may represent variations on those of the earlier part of the century. Setting gill nets in the Nabesna River close to Northway Village may constitute a replacement for travelling to more distant Chisana River sites for fall whitefish, allowing for harvest of this important seasonal run close to home. It may also alleviate a need for cooperation in maintaining fishing sites, due to the simpler gear arrangement of set nets. One respondent suggested that the establishment of Native allotments, some of which include dip net sites, seems to encourage a sense of private property at the sites which deters interest in their maintenance by some households, and an increase in the use of set nets. Research to further investigate social patterns related to access to local whitefish harvest sites is needed.

Tasks included in processing whitefish, such as scaling, cutting, maintaining a smoking fire, and hanging the fish to smoke and dry, were accomplished by members of a household, or related members of two to three households, according to survey results. Some respondents stated that women normally cut the fish, while men usually check the net and take care of smoking tasks. However, exceptions to this rule appeared on the survey forms, such that both men and women reported doing both kinds of tasks.

PIKE, GRAYLING, BURBOT, AND SUCKER HARVEST

Northern pike, Arctic grayling, and burbot (lingcod) were the other major fish species taken by Northway residents (Fig. 7). Suckers were harvested in smaller amounts. Suckers were harvested with rod and reel by one household in the study year and used for dog food.

During the study year, burbot were fished by set longline just before freeze-up (from river banks) or soon after freeze-up. Jigging continued through November by most respondents, and through April by some, after which burbot were taken with rod and reel (in May). Fishing through the ice was done mostly on the Nabesna and Chisana rivers, and also in Moose and Tenmile creeks.

Pike and grayling were harvested with set longline through the ice in October and November, and by rod and reel from May through September in clear creeks and small lakes near the airport and village (Moose Creek and several lakes), as well as in more distant creeks, including Mirror, Scottie, and Gardiner creeks, and Island Lake. Small pike ("pickles") run at the edges of streams in the fall, and were hooked or trapped in funnel-style mesh traps just after freeze-up.

SALMON HARVEST

Salmon fishing sites of Northway residents on the Copper and Yukon rivers were not systematically mapped for the 1974-84 period. During 1983 salmon were harvested by Northway residents along the Copper River near the communities of Slana, Chistochina, Gulkana, and Copper Center. A small amount of salmon fishing was done at Eagle, accessible from the Taylor Highway. The fish were transported back to Northway processed and whole.

Five of the 14 sampled households fished for salmon during the study year (Table 4). Eight households that did not fish that year reported it to be an unusual year for a variety of reasons, and stated that they have fished on the Copper River during the last ten years. Nine sampled households reported receiving salmon during the study year from other Northway residents who obtained it on the Copper River.

The following is a brief description of one fishing trip made to the Copper River during the field work period. Two non-Native Northway households (each a couple, one with a young son) and a visitor, travelled together to fish at Slana during July 1984. None of the party was related to Copper River community residents. The fishing group used two wheels, located roughly two miles apart. One wheel was jointly owned by a Northway resident and a Tok resident; the other by a friend of one of the other owners. The trip took three days, during which 66 sockeye and one king were caught. The group camped at one of the wheel sites, canning most of the fish immediately. Fish caught the last morning were transported whole back to Northway for processing, then divided equally among the two local households and the visitor.

According to respondents, salmon is often donated by Copper River residents to potlatch meals in Northway. There are longstanding sib associations between Upper Tanana and Copper River Ahtna Athabaskans which today define roles for participants in funeral or memorial potlatches. Visiting, and consequent sharing of resources, also occurs between relatives, non-relatives, sib mates, and non-sib mates of Northway and the Copper River communities. The sample of Northway households indicated they had begun travelling to the Copper River for salmon from three to more than 20 years ago. Several of the older respondents described travelling to the Copper River as children, and recalled hearing stories of their parents' and grandparents' travels to the area. Residents from the Copper River area also travel to Northway to visit and obtain waterfowl, whitefish, berries, garden produce, or beadwork. They also may be given muskrat or offered access to local areas to harvest muskrat. For further detail on use of Copper River salmon by Upper Tanana residents, see Haynes et al. (1984).

MOOSE HUNTING

Mapped data for the 1974-84 period indicate that moose were hunted primarily from rivers, lakes, and creeks using flat-bottomed riverboats and canoes for transportation and by hiking cross-country from the waterways (Fig. 8). Use of all-terrain vehicles (3-wheelers, argos) was limited; only two respondents indicated accessing hunting areas via off-road vehicles. Air access was also limited. Two respondents have hunted moose at Carden and Takomahto lakes by chartering airplanes; another has flown the area to scan for moose locations. Three highways in the vicinity were regularly used for moose hunting: the Alaska Highway from the U.S.-Canadian border to Dot Lake, the Glenn Highway from Tok to and including the Nabesna Road, and the Taylor Highway. Hunters scan as they drive and hike up to one or two miles from the roads in search of moose. Moose were also sought while travelling to distant locations for other purposes, such as to the Copper River area to visit. Several areas north of the Alaska Highway were also hunted, including the Beaver Creek drainage and lakes west of Gardiner Creek and north of Paradise Hill, as well as Island Lake and Desper Creek. Some of these areas were accessible by truck or all-terrain vehicles, while others were accessed by foot.

Hunting along rivers was extensive. It generally included cross-country hiking and tracking up to two miles from a water body, spotting from particular trees, hills, and high banks, and camping. Camps were widely used. Some family trapping camps doubled as hunting camps and were maintained and occupied in the fall and winter by members of extended local families. In general, hunters leave from Northway and either move camp continuously or hunt from a base camp. Hunters often make day trips from Northway as well.

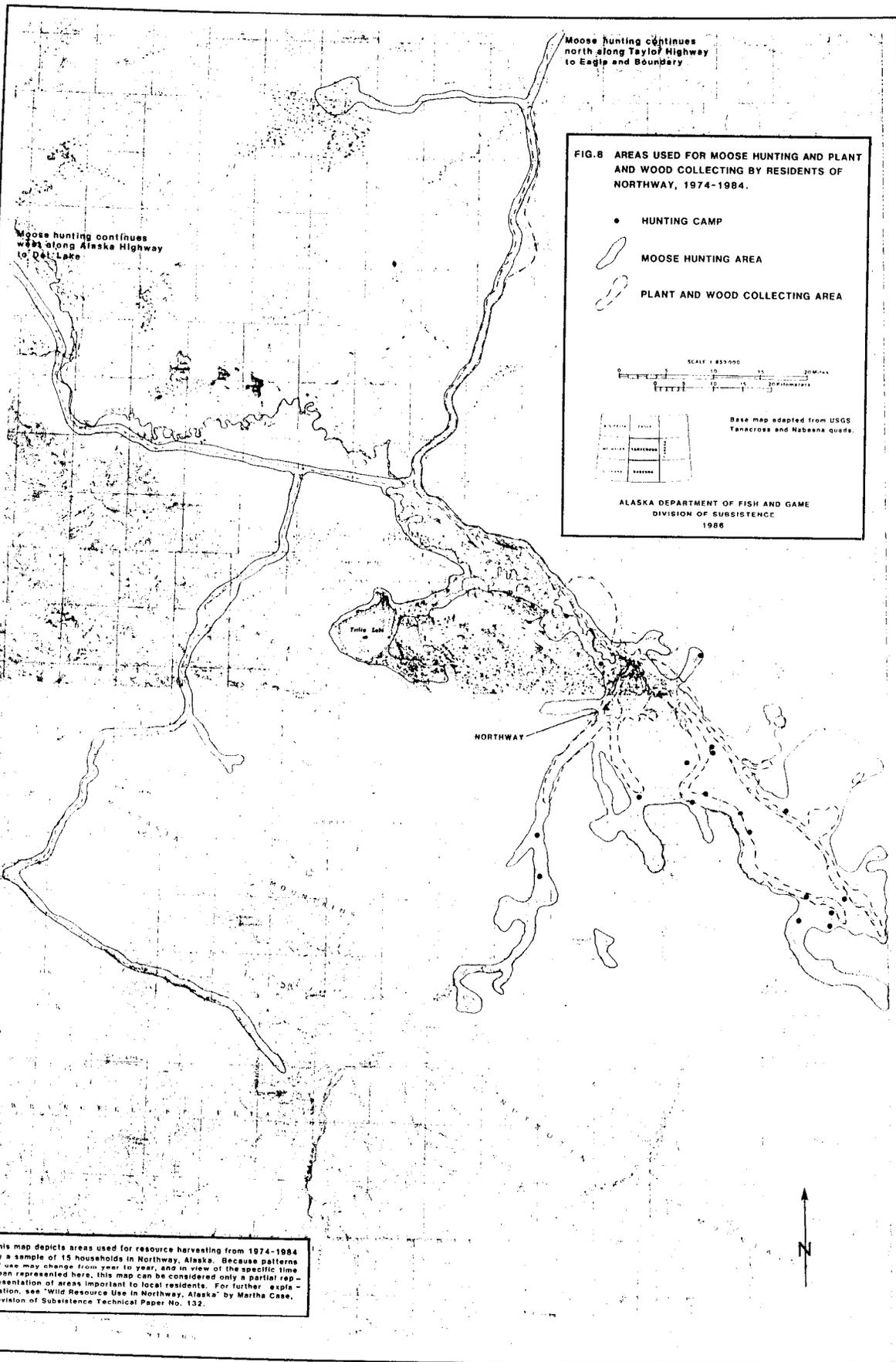


FIG. 8 AREAS USED FOR MOOSE HUNTING AND PLANT AND WOOD COLLECTING BY RESIDENTS OF NORTHWAY, 1974-1984.

- HUNTING CAMP
- MOOSE HUNTING AREA
- PLANT AND WOOD COLLECTING AREA

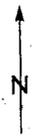
SCALE 1:853,000
 0 10 20 Miles
 0 10 20 Kilometers

1:250,000	1:500,000	1:1,000,000
1:250,000	1:500,000	1:1,000,000
1:250,000	1:500,000	1:1,000,000

Base map adapted from USGS
 Tanacross and Nabesna quadr.

ALASKA DEPARTMENT OF FISH AND GAME
 DIVISION OF SUBSISTENCE
 1986

This map depicts areas used for resource harvesting from 1974-1984 by a sample of 15 households in Northway, Alaska. Because patterns of use may change from year to year, and in view of the specific time span represented here, this map can be considered only a partial representation of areas important to local residents. For further explanation, see "Wild Resource Use in Northway, Alaska" by Martha Case, Division of Subsistence Technical Paper No. 132.



The predominant area hunted via waterways encompassed roughly the lower 12 miles of the Nabesna River, the lower 35 miles of the Chisana River (to Gardiner Creek), the Tanana River from the confluence of the Nabesna and Chisana rivers to the east end of Midway Lake, and virtually all lakes and streams south of the Chisana River, east of the Nabesna River, and north of the Black Hills, including Moose, Stuver, and lower Gardiner creeks.

Two extensions of this core area were hunted by the same families who inhabited them in the earlier 20th century, and who are in part descended from former bands which utilized the areas prior to the 20th century. One sample household with members from the former Scottie Creek band hunted moose at Scottie and Mirror creeks, but not on the Nabesna River. In addition, nine other households hunted in the Scottie Creek area. Two of them were non-Native with no historical ties to the area, while the connections of the other seven stemmed primarily from one family that moved into the Scottie Creek and then the lower Nabesna areas late in the 19th and early 20th centuries. At that time, this family used primarily the lower Nabesna and Ladue area but also the Scottie Creek area to some extent.

On the Nabesna River, seven sample households with descendants of the former Nabesna band hunted moose along that river to the mouth of the Cheslina River (a tributary of which is Dry Creek, where a former camp was located). One of these households did not hunt on the Chisana River at all. Another did not hunt on Scottie Creek but has gone up the Chisana River past Scottie Creek. Another household that hunted in this extended part of the Nabesna River moved to the state and to Northway within the last ten years. The six households that did not use this part of the river all had male heads who were not originally from this area. One (now deceased) was from Tetlin, and the others were either

from elsewhere in the state or from outside of Alaska. Three of these household heads, however, were married to women who lived in the Lower Nabesna area in the mid-20th century. One other was married to a woman from Scottie Creek and the remaining two were from out-of-state. These data show that moose hunting areas were not exclusive to former band members, but the farther reaches of the hunting areas tended to be used by those hunters from families which have had long-term experience hunting in them. They also suggest that some households avoided hunting in areas where they have no family history of use. One respondent also indicated a preference to avoid certain areas with unfamiliar rivers or terrain. It is evident that contemporary hunting areas fall within former band territories, the descendants of which comprise a large portion of the current local hunting population.

In addition, until quite recently some residents continued to hunt on foot with pack dogs using Northway Village as a starting point. For example, as late as 1969, one household (a couple) hunted moose by hiking out from Northway onto former Lower Nabesna band area trails with seven pack dogs, eating small game harvested along the way, and harvesting, smoking, and drying moose. They spent roughly a month, returning to the village to enlist the aid of young men to help carry the meat.

During the study year moose meat was dried, frozen, or canned. In addition to the meat, major organs (liver, heart, kidney) were used, as well as the stomach, intestines, lungs, and bones. Some parts, such as the lungs, were used for dog food. Moose hide was tanned by some residents, who either tanned their own or those of other residents. One man, for example, occasionally tans hides for his sister-in-law, who asks him to do it in part because he is "good at it." Untanned hides may be obtained by trading such items as garden produce.

Examination of survey and interview data on the range of people with whom a hunter hunted indicates that respondents more often hunted in inter-household groups than solely with members of their own households. In addition, groups of relatives as hunting partners were more common than groups of friends. This statement, however, must be qualified, for it is possible that distantly related individuals do not consider themselves "relatives" and choose to characterize their hunting partners as "friends." Such cognitive definitions of relationship were not investigated. Nevertheless, data indicate a preponderance of hunting groups comprised of close relatives, such as sons, brothers, spouses, and wife's brothers.

Some respondents also commented that owners of motorized boats take a variety of people on hunting trips, "like giving someone a lift to the store." In general, cooperative use and sharing of equipment, and criteria for composing work groups other than individual relationship, were not exhaustively investigated in the study.

CARIBOU HUNTING

Fortymile caribou are present in the Tanana Hills during the late fall and winter months. They cluster in timbered areas such as the Ladue drainage several miles north of the Chisana River (Davis et al. 1978). According to local description, caribou generally have not migrated in large numbers near Scottie Creek or Northway possibly since the mid-1940s, although isolated groups were seen occasionally until the early 1960s. More recently (1983-84), caribou have been observed on Midway Lake and lower Gardiner Creek in the spring. One respondent reported having seen very few caribou near the Taylor Highway in

the last ten years (since approximately 1973). Caribou of the Nelchina and Mentasta herds appeared to the southwest of Northway during the winter of 1982-83, and again in 1983-84 and 1984-85. Prior to that time, local residents had sighted no caribou migrating from the south onto the "flats" since the late 1920s. In addition, a small resident herd has occupied the area around the headwaters of the Chisana and White rivers since at least the 1920s (Skoog 1968). It is rarely hunted by Northway residents.

Four modes of access were reported for hunting caribou during the study year. Driving to points on the Taylor Highway in August and September or in December and January (if snow conditions permit) was the most common method of transportation used for hunting Fortymile caribou. Less commonly, cat trails around Mt. Fairplay on the Taylor Highway as well as at other points (for instance, around Mile 40) were used for off-highway access, principally on foot. Snowmachine travel on traplines has allowed harvest of caribou by one trapper; another noted seeing caribou tracks while on his trapline but has not harvested them. Two respondents have flown to the Wrangell Mountains to combine caribou hunting with gold prospecting (Fig. 9).

Only four respondents reported hunting caribou (the Fortymile herd) during the 1983-84 study year. In general, difficulties for respondents in pursuing these caribou arose from two principle sources. First, some respondents disliked hunting close to a highway in the company of many other hunters from outside the area during the open hunting season. Second, access to the Ladue River drainage is difficult. In former years families spent weeks or months camping, harvesting, and drying meat of both moose and caribou in the Ladue River drainage. Currently, hiking or sledding into this area is considered too

Central Health Unit
Northway Taylor Highway
to Craig and Healy

FIG. 9 AREAS USED FOR CARIBOU, SHEEP, AND WATERFOWL HUNTING BY RESIDENTS OF NORTHWAY, 1974-1984.

-  SHEEP HUNTING AREA
-  CARIBOU HUNTING AREA
-  WATERFOWL HUNTING AREA

SCALE 1:600,000

0 10 20 30 Miles
0 10 20 Kilometers

500 METERS	1000
100 METERS	100
50 METERS	50
25 METERS	25

Base map adapted from USGS
Tanacross and Healy quadr.

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF SUBSISTENCE
1988

This map depicts areas used for resource harvesting from 1974-1984 by a sample of 18 households in Northway, Alaska. Because patterns of use may change from year to year, and in view of the specific time seen represented here, this map can be considered only a partial representation of areas important to local residents. For further explanation, see "Wild Resource Use in Northway, Alaska" by Martha Case, Division of Subsistence Technical Paper No. 132.

time consuming for families with responsibilities in the community. One respondent pointed out that the rough, heavily forested terrain in that area prohibits efficient snowmachine travel.

Hunters in the Northway sample tended not to hunt the Chisana, Mentasta, or Nelchina herds to the south of Northway in the Nutzotin or Mentasta mountains. Unless extensive time afield by snowmachine or foot is invested, efficient access requires expensive air travel, which most households could not afford. In the past, more time was spent walking to these areas to hunt.

During the 1974-84 period there were notably fewer caribou in the vicinity of Northway than earlier in the century. Elder local hunters recall observing huge caribou populations migrating through the Scottie Creek and lower Nabesna River areas from about 1910 to the 1930s or 1940s, drawing members of the Upper Chisana band downriver to Scottie Creek in the fall to hunt. One respondent also noted the presence of caribou on "the flats" around lower Nabesna River area that appeared from the south in the 1920s, and were last seen in 1928, after which residents tended to "look north" for caribou. These caribou from the south may have constituted either Nelchina herd animals or overflow members of the large Fortymile herd. It was reported that small groups of caribou in the Lower Nabesna flats area were hunted until roughly the mid-1940s or mid-1950s, after which they were rarely sighted. These caribou had moved to the flats area from the Tanana Hills for the winter season. According to one respondent, the number of caribou in the Ladue River drainage declined around the 1930s-1950s, causing local hunters to stop using the area.

These local accounts parallel documented historic data on the Fortymile caribou population and distribution for the area. Davis et al. (1978) summarize records of the herd's demography, and report a large population and wide

distribution in the 1920s and early 1930s. The population declined until the mid-1940s, then increased until about 1960, after which it declined dramatically until the mid-1970s, and since then it has been gradually increasing.

SHEEP HUNTING

Dall sheep were hunted in the eastern extent of the Mentasta Mountains and the very northern edge of the Wrangell Mountains (Fig. 9). Sheep hunting during the 1974-84 period was done only occasionally by a few Northway residents, as access to the mountains south of Northway is difficult and current regulations involving careful scrutiny of horn curl seemed restrictive. One household hunted sheep by ascending the Nabesna River by boat approximately 55 miles from Northway and then hiking into the mountains. Two others drove the Glenn Highway or Nabesna Road, again hiking into the mountains for several miles.

BEAR HARVEST

Bear hunting areas were not mapped. All respondents maintained that bear generally are harvested only under fortuitous circumstances or when a hunt is organized to shoot a nuisance animal in a populated area. One respondent reported once hunting black bear along a highway. Currently the local community area reportedly contains a healthy black bear population. The animals might be shot if they become bothersome around homes. The meat is offered to residents known to consume it. Limited data indicate that traditional and current consumption of black bear by local Athabaskans is relatively low.

FURBEARER TRAPPING

Local trappers pursued muskrat, marten, red fox, and lynx, and to a lesser extent, beaver, mink, otter, wolverine, wolf, and coyote during the study year. Trapping areas of 14 sampled households were mapped for the 1974-84 period by circumscribing respondents' trap lines, fallow areas, and in one case, a long-fallow area that had been surveyed for trapping during the coming year. The area covered was extensive and included stretches of roadside (approximately 50-100 feet from the roadways) as well as lowland lake and stream areas and forested hills. The most intensively used areas were the lower Nabesna and Chisana rivers from the Black Hills to their confluence, and the hills north of the Alaska Highway towards the south fork of the Ladue River and Gardiner Creek (Fig. 10). Camps containing tents or cabins were distributed over the entire area. Respondents have trapped in the area for an average of 25 years (n=14, range 5-41 years). Snowmachines were the most common form of transportation, although dog teams were also used by two households.

Use rights for trapping areas, which are considered private (and may be shared), are acquired by inheritance, usually through the trapper's or spouse's father or grandfather. They also can be acquired by observing lack of trapping activity, and subsequent inquiry. Rules concerning trapping use rights were not investigated in this study. For a more detailed discussion of customary use rights in trapping on the middle Yukon River, see Robert (1984). Location of trapping areas for most respondents clearly reflects former band associations. In addition, two non-Native men who married locally trap or have trapped in areas inherited from their wives' fathers. Other previously non-local trappers began in areas that

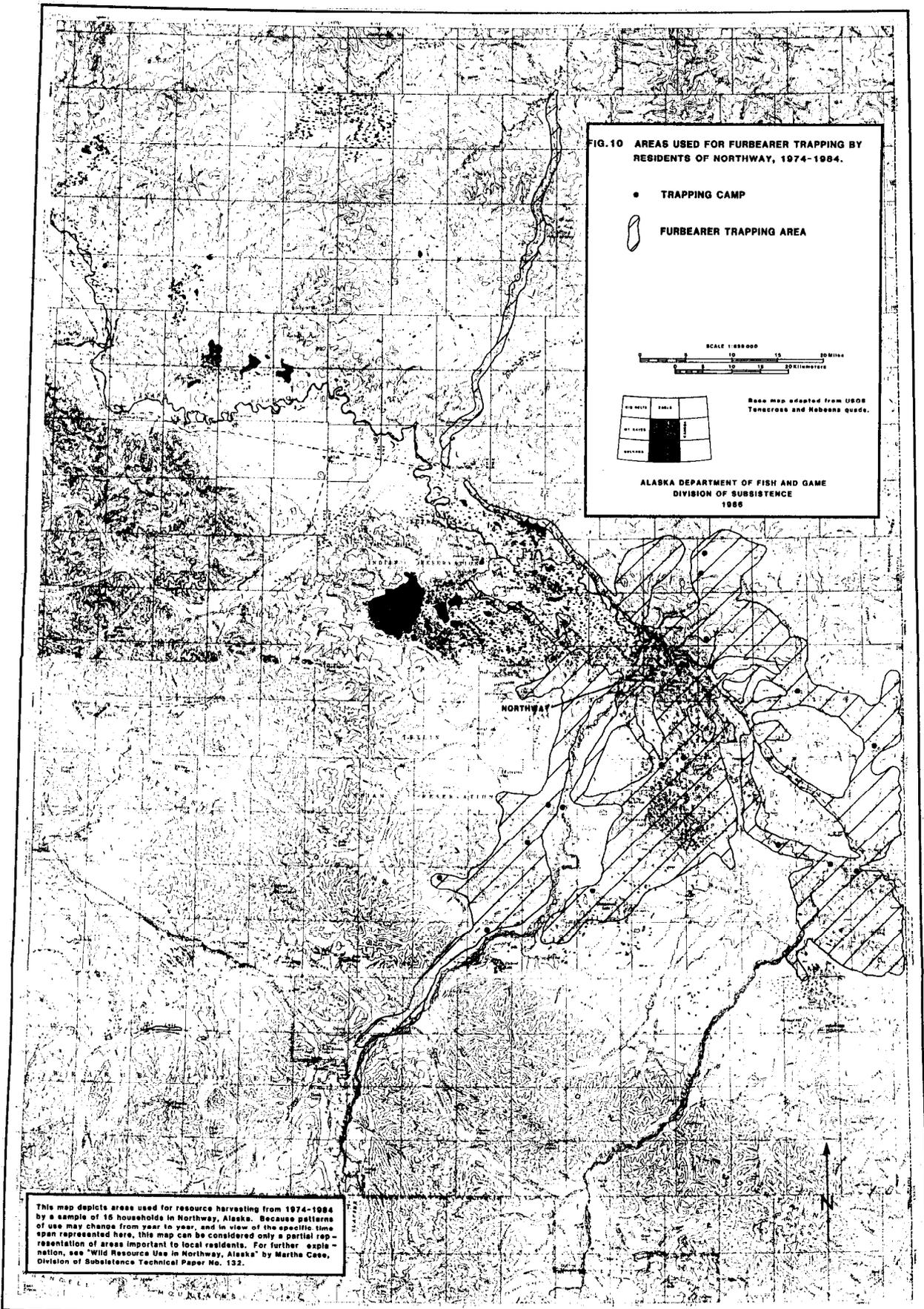


FIG. 10 AREAS USED FOR FURBEARER TRAPPING BY RESIDENTS OF NORTHWAY, 1974-1984.

- TRAPPING CAMP
- ▨ FURBEARER TRAPPING AREA

SCALE 1:250,000
 0 5 10 15 20 STATUTE
 0 5 10 15 20 KILOMETERS



Base map adapted from USGS
 Tenacross and Hebens quadr.

ALASKA DEPARTMENT OF FISH AND GAME
 DIVISION OF SUBSISTENCE
 1985

This map depicts areas used for resource harvesting from 1974-1984 by a sample of 15 households in Northway, Alaska. Because patterns of use may change from year to year, and in view of the specific time span represented here, this map can be considered only a partial representation of areas important to local residents. For further explanation, see "Wild Resource Use in Northway, Alaska" by Martha Case, Division of Subsistence Technical Paper No. 132.

appeared to be unused after a couple of years or that were given over by someone moving away. Some trapped smaller, non-contiguous areas to harvest particular species in each. For example, four local households not derived from the Scottie Creek area reported trapping for beaver in the Scottie and Desper creek drainages, as well as in other areas for different species. The study area as a whole is considered to be very crowded for trappers and disputes occasionally arise over the status of particular sections.

One respondent noted that muskrat-inhabited lakes, while numerous, fluctuate in productivity over periods of a few years. Ideally trappers rotate the areas used in order to avoid over-harvesting.

SMALL GAME HUNTING AND SNARING

The hunting or snaring areas for snowshoe hare, porcupine, grouse, and ptarmigan were not mapped. They tended to be contiguous with trapping areas or occurred in numerous places of similar habitat. Grouse (primarily spruce and ruffed) were sought in gravelly areas near roadways or rivers in the fall or winter. Grouse and ptarmigan were also hunted around Mt. Fairplay off the Taylor Highway, and were taken while hunting or trapping. Porcupine were harvested when seen along river banks, or snared by their dens in winter. The latter were occasionally found by trappers. Hare were snared along traplines, or around homes or camps. They may be shot in the fall as well.

WATERFOWL HUNTING

The study area provides prime habitat for several species of migratory ducks, many of which were harvested by local residents during the study year (bufflehead, mallard, spoonbill, pintail, bluebill, green- and blue-winged teal, black duck, canvasback, and widgeon). The area also supports populations of four species of geese (lesser Canada, cackling Canada, greater white-fronted, and snow geese). Canada geese were the species most commonly harvested. Mapped areas indicate that most waterfowl hunting was concentrated within a five mile radius of Northway Village and the airport, including many lakes, Moose Creek, and the lower Nabesna and Chisana rivers (Fig. 9). Waterfowl were also hunted at Tenmile and Deadman lakes and the Scottie Creek drainage, as well as from the Chisana River itself. They were also taken from the Tanana River down to and including the Tetlin River, and on Tetlin Lake.

PLANT AND WOOD COLLECTING

Berries (including blueberry, highbush and lowbush cranberry, crowberry, red and black currents, raspberry, rosehips, salmonberry, dewberry, and wild strawberry), and other edible plants (several varieties of mushrooms, wild rhubarb, an edible root, labrador tea, greens such as fireweed, pigweed, and lamb's quarters) were collected around the lakes, streams, roadways, and hills within approximately ten miles of Northway. They were also picked at spots along the Chisana River, Scottie Creek, and hills and flats north of the Alaska Highway, including Paradise Hill, and the Taylor Highway, particularly the Mt. Fairplay area. Wood (including white and black spruce, birch, aspen, alder, and

willow) was cut along the major rivers as well as along the Alaska Highway and Paradise Hill (Fig. 8).

Birch bark and spruce roots were used for making baskets, many of which were sold through the local gift shop owned by Northway Natives, Inc. Birch, willow, and spruce were used for making furniture, canoes and paddles, snowshoes, and dip nets. Wood used for smoking whitefish or salmon may be alder, aspen, birch, spruce, or willow.

SUMMARY

Northway residents contacted for this study utilized many of the same wild resources and harvested them during the same times of the year as was the case during the 1920-1960 period. Resources commanding the highest participation levels during the study year included berries, wood, whitefish, moose, waterfowl, muskrat, and hare. Other resources of particular importance were caribou, salmon, and furbearers. Dall sheep, marmot, and ground squirrel were used less frequently. Available data suggest that the number of harvest activities in which households were involved decreased as head of household age increased, although caution must be exercised given the small sample size.

Distribution of resources between households was widespread. Initial data analysis suggests that much distribution occurred within family (close relative) groups. In addition, foods were shared in ritual contexts such as funeral and memorial potlatches.

The resource use area maps and foregoing descriptions indicate that hunting for moose, waterfowl, small game, and birds was oriented to the corridors of rivers and/or roadways, including adjacent ponds and streams. Trapping,

including snaring of hare, covered extensive land areas between the major rivers, as well as strips of land along the Alaska Highway. Fishing was concentrated on streams, lakes, and rivers within approximately ten miles of Northway Village. Fishing sites also occurred along the Chisana drainage downriver from Scottie Creek. Wood was cut where access was relatively easy, primarily in off-roadway areas. Berries were collected around homes and within walking distance of the community and roadways, as well as at particular spots along rivers.

While little information was collected on the social dynamics of use of hunting or trapping camps, the use of camps was prevalent among local residents. Some camps have been maintained for years. Camps were often used for single as well as several resource activities (fishing, hunting, and trapping). Further information on the settlement pattern and use of local camps would increase an understanding of land use dynamics of the Northway area.

Of particular interest in drawing historical comparisons are harvest patterns of whitefish and moose. While there appeared to be no local social restrictions on locality of moose harvest, there nevertheless appeared to be a tendency for hunters who are descendants or former members of local bands to hunt in their former band areas. Former traditional band areas remain familiar to many Northway residents today, and settlement at Northway or efficient transportation methods has not precluded use of these lands. The extent of land area traversed on foot and seasonally occupied has decreased since the mid-20th century period, yet efficient transportation methods today allow for continued use of a major part of the bands' former areas.

Use of whitefish dip net sites during the study period also showed continuous use of historic sites. Fishing sites were numerous between 1920 and 1960, as they are today. They previously were associated to some extent with

family groups, while being utilized by all members of the local band as well as members of visiting bands. Sharing of sites was also common during that study year. Caution must be exercised in drawing conclusions regarding current traditional ownership patterns and access rights to fishing sites.

Some Northway respondents reported an increasing use of the local area for resource harvesting by non-local hunters in recent years. They reported seeing greater numbers of vehicles parked along the Northway Road for hunting moose and waterfowl. Trappers reported encroachment onto their established trapping areas by non-local trappers. Also reported, although not in the context of competition per se, was a low moose population in the general area, in contrast to an apparently flourishing habitat.

Some respondents perceived the inception of the Tetlin National Wildlife Refuge (Fig. 2) under the Alaska National Interest Lands Conservation Act (ANILCA) in 1980 to have increased the number of non-local resource users in the area. One trapper, for example, reported discontinuing his trapping around the Takomahto Lake region because of the establishment in 1980 of a guiding camp there. The increasing Fairbanks population with direct highway access to the Northway area may also account for possible increased hunting in the area. Further research in Northway and other Upper Tanana communities could be directed toward identifying current harvest levels and further examining other aspects of resource harvest and utilization. Data analysis then, could in turn be directed toward a closer study of community access to resources and competition for resources between local and non-local users.

CHAPTER 8

CONCLUSIONS

Northway is a road-connected community in east-central Alaska with a 1984 population of approximately 334. About 75 percent of the residents are Athabaskan descendants or former members of four bands who inhabited areas to the north, south, and east of the present community. Most of the remainder of the population arrived after the early 1940s.

Until approximately 1940, the four bands occupied adjacent territories surrounding the two major rivers, the Nabesna and the Chisana, which meet to form the Tanana. Each band maintained separate summer fish camps and followed similar seasonal resource harvesting patterns. Major impetus for settlement at Northway initially derived from the presence of trading posts and schools.

Today, local resource harvesting activities are a continuation of historic patterns, with slight differences in the seasonal scheduling of moose and caribou hunting, and decreases in harvesting sheep, marmots, and ground squirrels found in the more remote mountainous habitats of former band areas. Moose and whitefish during the study period constituted dietary staples of the community. In the past, caribou was also a dietary staple, until herds decreased after the 1940s (McKenna 1959). Reestablishment of local caribou populations likely would coincide with greater use once again.

Resource harvest areas today lie within former band areas, although they are not as extensive as the former areas. The uppermost Chisana and Nabesna rivers and the Ladue River drainage are not used as intensively today as they

were when the bands followed a more dispersed settlement pattern. Band members still maintain ties to these areas, and their use in the future is possible. Most other areas formerly used by the bands are used today.

The use of fishing sites and hunting and trapping areas clearly reflect former use patterns. Whitefish, for example, are fished from a community dip net site as well as from family sites as they were earlier in the century. Trapping areas are in part inherited from fathers, indicating that many residents today are trapping in areas associated with former band use rights. Hunting areas now encompass parts of three of the former band areas, and use of these areas is open to all hunters. However, analysis of several respondents' hunting areas indicates that former band members tend to use their former band-associated areas more than other areas.

Two issues that concern resource use were discussed by respondents. The first involves a general concern that an increasing use of the local area for resource harvesting by non-local hunters and trappers has negatively impacted local hunting and trapping activities and will continue to harm local opportunities for resource harvesting in the future. Some respondents associate this increase with the inception of the Tetlin National Wildlife Refuge, which encompasses much of the current Northway resource use area. A major source of potential non-local resource users in the Northway area may derive from the Fairbanks area, accessible by highway from Northway. One fear is that transportation methods, specifically off-road vehicles, might be restricted on the refuge in the future due to over-use of such vehicles by non-local resource users. Protection of wildlife and of subsistence rights for local users was viewed as a benefit of the refuge designation.

The other issue concerns the difficulty of harvesting large game, specifically moose, within the fall open season. Several respondents maintained that regulatory restrictions on the seasonality of moose hunting were difficult to comply with if the harvester intended to "put meat on the table." Resource harvesting in general was pointed out by one respondent as "very hard work" that takes much time and effort to be successful.

This report has presented general baseline data on resource harvesting activities of the Northway community, derived from an active sample population of local resource users. Future research might focus on social organization of resource use, harvest levels, mobility and settlement patterns of resource harvest efforts, distribution and exchange of resources, and economic factors, all or some of which might elucidate the issues of harvest difficulty and competition from non-local users.

REFERENCES CITED

- Alaska Department of Community and Regional Affairs
1984 Population Census Report: Northway Community. Division of Local Government Assistance, Juneau.
- Alaska Department of Fish and Game
1978 Alaska's Wildlife and Habitat. Vol. II:40.
- Alaska Department of Revenue
1985 Federal Income Taxpayer Profile 1978, 1981, 1982 by Alaska Community and Income Level and Filing Status.
- Allen, Henry T.
1887 Report of an Expedition to the Copper, Tanana, and Koyukuk Rivers, in the Territory of Alaska, in the Year 1885. Washington D.C.: U. S. Government Printing Office.
- Andrews, Elizabeth
1975 Salcha: An Athapaskan Band of the Tanana River and its Culture. M.A. thesis. Anthropology Department, University of Alaska, Fairbanks.
- Clark, A.M.
1981 Koyukon. In Handbook of North American Indians: Subarctic. June Helm, ed. Vol.6: 582-601 Washington: Smithsonian Institution.
- Cole, Terrance
1979 General Comments on a Bureau of Land Management Report on "Navigable and Non-navigable Water Bodies in the Northway Area." Division of Forest, Land, and Water Management, Department of Natural Resources. Memorandum.
- Damas, David
1969 Contributions to Anthropology: Band Societies. Proceedings of the Conference on Band Organization. D. Damas, ed. National Museums of Canada, Bulletin 228. Ottawa.
- Darbyshire and Associates
1980 Socioeconomic Community Profiles: A Background for Planning (Northway). Prepared for Northwest Alaska Pipeline Company, Fairbanks, Alaska.
- Davis, James L., Richard Shideler, and Robert E. LeResche
1978 Fortymile Caribou Herd Studies. Division of Game, Alaska Department of Fish and Game, Juneau.
- Guedon, Marie-Francoise
1974 People of Tetlin, Why Are You Singing? Ethnology Division, National Museums of Canada, Mercury Series, Paper No. 9.

- Haynes, Terry L.
1984 Rural Aging and the Use of Social Supports in the Upper Tanana Region, Alaska. Ph.D. dissertation. Anthropology Department, University of California, San Francisco and Berkeley.
- Haynes, Terry L., Martha Case, James A. Fall, Libby Halpin, and Michelle Robert
1984 The Use of Copper River Salmon and other Wild Resources by Upper Tanana Communities 1983-84. Division of Subsistence, Alaska Department of Fish and Game, Technical Paper No. 115.
- Helm, June, and T. Alliband, T. Birk, V. Lawson, S. Reisner, C. Sturtevant, S. Witokowski
1975 The Contact History of the Subarctic Athabaskans: An Overview. In Proceedings of the Northern Athabaskan Conference, 1971. A.M. Clark, ed. Vol.1: 302-336. Ottawa: Canadian Ethnology Service Paper No. 27.
- Johnson, George
1966 Chisana. Alaska Sportsman 5:31-33.
- Leacock, Eleanor
1982 Relations of Production in Band Society. In Politics and History in Band Societies. E. Leacock and R. Lee, eds. Cambridge: Cambridge University Press.
- Martin, Gayle
1983 Use of Natural Resources by the Residents of Dot Lake, Alaska. Division of Subsistence, Alaska Department of Fish and Game, Technical Paper No. 19.
- McKenna, Robert A.
1981 Tanana. In Handbook of North American Indians: Subarctic. June Helm, ed. Vol. 6: 562-576, Washington: Smithsonian Institution.
- 1969a Athapaskan Groups of Central Alaska at the Time of White Contact. Ethnohistory 16: 335-344.
- 1969b Athapaskan Groupings and Social Organization in Central Alaska. In Contributions to Band Societies. D. Damas, ed. National Museums of Canada, Bulletin 228: 93-114.
- 1959 The Upper Tanana Indians. Yale University Publications in Anthropology No. 55.
- Moffit, F.H., and Adolph Knopf
1910 Mineral Resources of the Nabesna-White River District, Alaska. United States Geological Survey, Bulletin 417. Washington D.C.: Government Printing Office.

Murray, D.F.

1961 Some Factors Affecting the Production and Harvest of Beaver in the Upper Tanana River Valley, Alaska. M.S. thesis, Biology Department, University of Alaska, Fairbanks.

Nelson, Richard K.

1974 Hunters of the Northern Forest. Chicago: University of Chicago Press.

Pitts, Roger S.

1972 The Changing Settlement Patterns and Housing Types of the Upper Tanana Indians. M.A. thesis, Anthropology Department. University of Alaska, Fairbanks.

Reckord, Holly

1983a That's the Way We Live: Subsistence in the Wrangell-St. Elias National Park and Preserve. Anthropology and Historic Preservation, Cooperative Park Studies Unit, Fairbanks, Alaska. Occasional Paper No. 34.

1983b Where Raven Stood: Cultural Resources of the Ahtna Region. Anthropology and Historic Preservation, Cooperative Park Studies Unit, Fairbanks, Alaska. Occasional Paper No. 35.

Robert, Michelle

1984 Trapping Patterns in the Vicinity of the Kaiyuh Flats, West Central Alaska. Division of Subsistence, Alaska Department of Fish and Game, Technical Paper No. 84.

Shinkwin, Anne, Jean Aigner, and Elizabeth Andrews

1980 Land Use Patterns in the Upper Tanana Valley, Alaska. Anthropological Papers of the University of Alaska, Vol. 19(2):43-53.

Shinkwin, Anne, and Martha Case

1984 Modern Foragers: Wild Resource Use in Nenana Village, Alaska. Division of Subsistence, Alaska Department of Fish and Game, Technical Paper No.91.

Skoog, Ronald O.

1968 Ecology of the Caribou in Alaska. Ph.D. dissertation. Zoology Department, University of California, Berkeley. Ann Arbor: University Microfilms International.

United States Department of the Interior

1985 Tetlin National Wildlife Refuge Draft: Comprehensive Conservation Plan/Environmental Impact Statement/Wilderness Review. United States Fish and Wildlife Service, Anchorage.

VanStone, James W.

1974 Athapaskan Adaptations: Hunters and Fishermen of the Subarctic Forests. Illinois: AHM Publishing Corporation.

Vierick, Leslie, and Elbert L. Little, Jr.
1972 Alaska Trees and Shrubs. United States Department of Agriculture,
Forest Service, Agriculture Handbook No. 410.

Vitt, Ramon B.
1971 Hunting Practices of the Upper Tanana Athapaskans. M.A. thesis,
Anthropology Department, University of Alaska.