CONTEMPORARY RESOURCE USE PATTERNS IN HUSLIA, ALASKA, 1983

by

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ABSTRACT

This report describes patterns of wild resource harvest and use by Huslia residents during 1981-83. A 1984 survey of 56 of 57 community households provides the basis for the report. Harvest seasonality, harvest levels, participation rates, and land use maps are presented. Variation in harvest levels among households is examined in largely demographic terms. A community per capita subsistence output of 1,082.1 lbs is among the highest recorded in the state. Research was conducted in cooperation with the Koyukuk National Wildlife Refuge.

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ACKNOWLEDGEMENTS

The author would like to thank several individuals for their assistance through the project. Albert Vent, who served as research assistant during the survey and mapping, provided an extra measure of helpfulness and good company. Neighbors Mable Vent and Bobby Vent willingly loaned out equipment to maintain a supply of cord wood during my stay in Huslia. Bruce and Marrily Klaven also helped make fieldwork in Huslia comfortable.

Cheryl Scott sorted through the thousands of survey figures to provide useful statistical summaries. Terry Haynes and Bob Wolfe offered suggestions throughout various stages of the project and in review of the report draft. Elizabeth Andrews facilitated the completion of the final report and contributed useful suggestions. Bob Walker and Cheryl Scott reviewed statistical summaries and numerical references. Gary Nichols and Betsy Sturm drafted the maps and figures, Jean Harrison typed the report draft, and Sherrill Peterson typed the final.

Finally, the residents of Huslia are thanked for their cooperation and assistance throughout the project and for readily sharing their experience.

CHAPTER 1

INTRODUCTION

Events surrounding passage of the Alaska Native Claims Settlement Act (ANCSA) in 1971 and subsequent legislation concerning Alaskan lands and natural resources have set into motion many changes in the status of land surrounding rural communities in Alaska. Residents of the Koyukuk River region continue to rely on local fish and wildlife resources as an integral component of their mixed, subsistence-based economy. Documentation of that dependence has become critical for guiding resource management and land use planning efforts in the Koyukuk River area at the local, state, and federal levels. This project was designed to provide quantitative documentation of land use and resource harvest activities by residents of Huslia during the period 1981 to 1983. Huslia is one of the contemporary communities along the Koyukuk River. Additionally, this study describes the use of resources by the people of Huslia, how the products play a role in the local economy, and the cultural importance of harvest activities.

The project was a cooperative effort between the Division of Subsistence, Alaska Department of Fish and Game (ADF&G), and the Koyukuk National Wildlife Refuge, U.S. Fish and Wildlife Service (USFWS). The study was a continuation of a previous cooperative research effort conducted in Bettles/Evansville, Allakaket/Alatna, and Hughes in 1983 (Marcotte and Haynes 1985) and addressed similar research objectives. The Huslia Village Council and the Koyukuk River

Fish and Game Advisory Committee endorsed the research project, and Huslia residents actively supported the researchers during data collection.

RESEARCH OBJECTIVES

The purpose of this study was to examine the nature and extent of wild resource use by Huslia residents during 1983, and to document geographic areas used for the period 1981-83. Land and resource use documentation in this study was designed to focus largely on quantitative data and includes descriptions of geographic areas used, seasonal harvest cycles, and harvest levels. The five primary study objectives were as follows:

1) Identification of the fish, wildlife, and plant species used by Huslia residents in 1983, seasonality of harvest activities, harvest levels, methods and means of procurement, processing and preservation methods, and sharing and distribution patterns;

2) documentation on United States Geological Survey (USGS) maps of areas used by community residents for hunting, fishing, trapping, and plant gathering during the years 1981, 1982, and 1983;

3) examination of the relationships between the cash and subsistence sectors of the local economy;

4) examination of the relationship between kinship and subsistence activities; and

5) assessment of research topics warranting further attention for providing a comprehensive portrayal of Huslia resource use patterns.

CHAPTER 2

METHODOLOGY

GENERAL RESEARCH DESIGN

Since the primary goal of this project was to document contemporary resource use patterns in Huslia, a descriptive community-based research methodology was employed. The project was initiated after Upper Koyukuk residents expressed concern that state agencies planning regional highway development take into account local dependence on fish and wildlife resources (Berger 1981). In 1982, the Alaska Department of Fish and Game, Division of Subsistence, and the National Park Service (NPS) conducted a demographic study of communities in the Gates of the Arctic National Park and Preserve resident zone (Norton 1982). Interagency cooperation expanded when the U.S. Fish and Wildlife Service expressed the need for resource use data on the Kanuti National Wildlife Refuge, located between Bettles and Allakaket. In an effort to avoid duplicate research efforts in local communities, the three agencies (NPS, USFWS, and ADF&G) entered into a cooperative agreement for this resource use study. The Koyukuk River Fish and Game Advisory Committee endorsed the project in April 1983 and requested inclusion of Huslia in the study. In June 1983, representatives from the Koyukuk National Wildlife Refuge, the Alaska Department of Fish and Game, and Tanana Chiefs Conference discussed

the proposed study at a village council meeting in Huslia and received approval for conducting the research project.

The Alaska Department of Fish and Game, Division of Subsistence, coordinated project activities. James Marcotte, a Subsistence Resource Specialist with the Division, served as the principal investigator for the study. Albert Vent of Huslia was employed by the Koyukuk National Wildlife Refuge as a research assistant and worked with the principal investigator throughout the data collection period. Fieldwork was conducted in Huslia during the period February through April, 1984.

SAMPLE

Systematic interviews involving both a survey questionnaire and a mapping procedure were conducted with community households. Households were used as the survey unit, as opposed to individuals or harvest groups, since households were relatively stable and easily identifiable entities during the time period studied. Attempts were made to survey all occupied households in Huslia. Of the 57 households identified, 56 (98 percent) participated in this project. This constitutes an exceptionally high participation rate for survey studies and reflects the excellent cooperation given the project by local residents. The one household that did not participate, a single man in his twenties, was unable to take part due to being busy with trapping and woodcutting. Due to the high percentage of households sampled, standard statistical tests were invalid, therefore randomization tests (Edgington 1986) were used when appropriate.

INSTRUMENTATION

Survey

Data collection relied heavily on formal interview sessions utilizing a survey questionnaire. The survey form (Appendix 1), derived from the survey form used in Bettles/Evansville, Allakaket/Alatna, and Hughes, (Marcotte and Haynes 1985) is similar to those used in Division of Subsistence baseline studies elsewhere in the state. A typical interview averaged about 1-1/2 hours in length, with the investigator or the assistant asking the survey questions while the other documented household use areas on topographic maps.

Mapping

The mapping procedure used was consistent with the Division of Subsistence mapping methodology (Wolfe 1982) derived from Freeman (1976). The time period mapped included resource harvest areas utilized in calendar years 1981 through 1983. Mapping of resource use areas was done in conjunction with the survey interview. Survey questions were interspersed with drawing use areas on maps for particular species or resource categories. Individual household maps were developed during this procedure and represent the activities of household members. Community resource use area maps were then prepared by aggregating the household maps. Thus, the final maps

presented in this report are a composite of all individual household maps.

Since the collection of map data represents a "survey," it is important to note that the map survey sample coincided directly with that of the survey questionnaire. Maps were compiled for all Huslia households surveyed. One remote household 30 miles northwest of Huslia which was not surveyed was not included. Nor was the Hog River trapping area of a former Huslia resident now living in Galena. Thus, the maps represent the overall pattern for the 56 households in Huslia that were surveyed.

Resource use areas recorded for each household were entered on USGS 1:250,000 scale topographic maps. Use areas of a single household generally fit on two adjacent map sheets. Each map sheet was identified with a code number corresponding to the household survey form and facilitated the return of the map sheets to the households upon completion of the project. By mutual agreement, the household map information belonged to the respondent and was being "borrowed" for the purposes expressed in the research design and approved by the village council. Thus, individual household maps were returned to the household.

The general geographic areas mapped were those used by members of that household for a particular activity during the specified time period. Lines were drawn by the respondent, the interviewer, or both, around the area used for the specific activity, such as moose hunting. Specific kill sites of moose or black bear also were recorded when possible. Trapping activity was depicted by drawing a line around trapping areas rather than by drawing actual traplines. Labeling and

completeness of mapped information were checked by the researchers after each interview session.

A total of 34 resource categories were included in the mapping procedure. These were combined into 11 activity categories for presentation on composite maps (Table 1). Harvest activities often occurred incidental to other pursuits. Thus, the areas depicted for secondary activities should not be interpreted as the only areas in which those activities occurred.

Composite maps were derived from the individual household maps using acetate overlays. A third map showing the outer boundaries of the geographic areas used provided a basis for community review and drafting of the final maps. Both these second and third generation maps are on file with the Division of Subsistence, ADF&G.

PROCEDURE

The principal investigator initially contacted the Koyukuk River Fish and Game Advisory Committee in January 1982. During the next 24 months, additional meetings served to acquaint local residents with the project and data needs. The proposed project was discussed during a Huslia Village Council meeting in June, 1983. A formal presentation was made and questions, concerns, and recommendations were discussed.

At the outset of fieldwork, a list of occupied households was developed by the principal investigator and research assistant. Appointments with households for interviews generally were made a day

TABLE 1. RESOURCE CATEGORIES USED IN RESOURCE USE MAPS

Category on Community Map	Major Resources Included
Moose hunting	Moose
Caribou hunting	Caribou
Black bear hunting	Black bear
Trapping	Marten, fox, wolf, otter, lynx, beaver, wolverine
Salmon	King salmon, summer chum, fall chum salmon
Non-salmon fish	Sheefish, whitefish, grayling, burbot, pike
Firewood gathering	Spruce, birch
Berry picking	Blueberries, low bush cranberries, high bush cranberries, blackberries, rose hips, roots
Waterfowl	Geese, ducks, cranes
Small game hunting	Grouse, ptarmigan, hare, porcupine

in advance. This commonly allowed respondents time to begin thinking about the study and to consult with neighbors or the research assistant if there were questions about its purpose.

Surveys usually were conducted at the respondents' homes. A single respondent within each household was identified either by the research assistant or the household members themselves, and typically was an adult male or household head. As the survey progressed,

however, respondents frequently solicited assistance from other household members for specific information. For example, a son might be called upon to provide trapping harvest data, or a wife consulted for fish or berry harvest figures. This practice likely increased the accuracy of harvest data reporting and illustrates the fact that resource harvesting is a group activity in the community.

The research assistant contributed significantly to the success of this project. He facilitated community involvement in the project and often was better able to field questions and convey project goals than a person from outside the community. Knowledge of local residents' work and travel schedules enabled him to arrange most interviews. Once interviews began, the assistant was helpful in identifying on the map places referred to by local name or by local description. Explanatory comments on local practices or patterns often were added during the interviews. Clarification about social and kin relationships within the community was also made.

LIMITATIONS

A limitation of this study was the short time allocated to data collection. A household survey was conducted during a two-month period in the community. The short fieldwork limited the opportunity to participate in and observe the full range of harvest activities.

Secondly, the study focused on a one-year time period for harvest data and only a slightly longer period for the land use mapping. Although there is value in quantifying harvest levels for a single year, difficulties arise in ascertaining whether the single year

represents a "typical" pattern. Annual variations in subsistence patterns can be significant, such as in the strength of salmon runs, the abundance of furbearer species, the availability of game animals, and the harvest effort expended. Additionally, opportunities for employment may vary considerably from year to year, although the types of jobs available in communities like Huslia tend to remain relatively constant over the short-term. The potential distortion from resource harvest and use activities for a single year can be examined when the single-year depiction is considered in the context of a several-year pattern. Whenever possible, this report will examine multiple-year data from the literature for several of the major resource harvesting activities.

A final limitation arises from emphasizing a survey format for collecting data. Although the six-page survey form facilitated collection of comparable and quantifiable data from a large number of households, it can not examine in depth the relationship between Huslia residents and the land and resources on which they depend. However, previous studies in the Koyukuk River area have relied heavily on key informant interviews and have depicted in depth many of the qualitative aspects of resource use of the Koyukuk people (e.g., Nelson 1983; Nelson, Mautner, and Bane 1982). The quantitative survey is intended to complement these qualitative studies.

CHAPTER 3

COMMUNITY BACKGROUND

LOCATION

Huslia is located on the east bank of the Koyukuk River, 220 miles from its confluence with the Yukon River in west central Alaska (Fig. 1). The location is 70 air miles north of Galena, 260 miles west-northwest of Fairbanks, and approximately 190 feet above sea level. The surrounding area is a broad lowland, dotted with lakes and supporting an open spruce vegetation type. Several sloughs and rivers drain this lowland area, including the Dakli River to the north, Dulbi Slough to the east, Dulbi River to the south, and the Huslia River to the west. The Purcell Mountains and Zane Hills lie 30 miles to the north and contain peaks to 4,000 foot elevations. A pass between these two ranges crosses the Continental Divide and provides access to the Selawik River and Kobuk River drainages. The Isahultila Mountains and Takhakhoona Hills lie to the east between Huslia and Hughes. To the south are rugged hills and lake-covered flats; to the west are the Nulato Hills.

HISTORY

During pre-contact times, the Koyukuk River area was inhabited by Koyukon Athabaskan Indians. These people moved seasonally and worked together in varying size social units in order to effectively procure

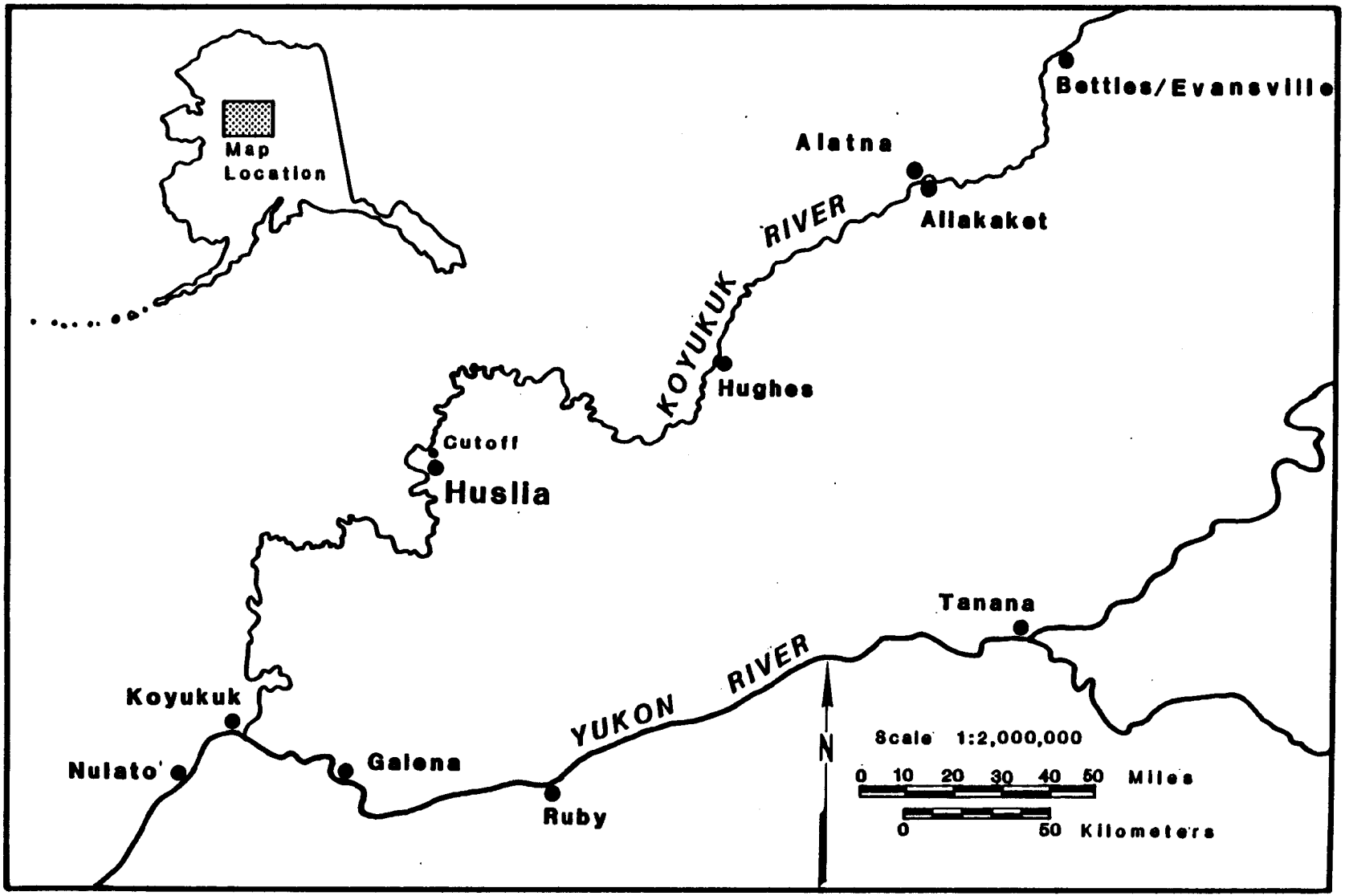

Fig. 1. Map of Huslia Area.

and utilize resources. Kinship was traced through exogamous matriclans and matrilateral cross-cousin marriages were preferred. Within the Koyukuk River division of the Koyukon, four regional bands were recognized: the Yukon-Kateel, the Huslia-Dulbi-Hogatza, the Todatonten-Kanuti, and the South Fork bands. Several matrilineal families formed the core of these bands and while these bands had a collective identity, there was no centralized political power. Large game and waterfowl hunting areas were used by all; while beaver houses, fishing sites, and bear dens were considered as family-held property (Clark 1981:582-590).

In addition to the trading partnerships established with neighboring Athabaskan and Eskimo people, contacts with non-native people began in 1838 with the establishment of a Russian trading post at Nulato by Malakhov. By 1843, Zagoskin had travelled as far up the Koyukuk River as the mouth of the Kateel. Lt. Henry T. Allen led a U.S. military exploration party to the area in 1885, and gold prospectors arrived by 1898. The founding of an Episcopal mission in Allakaket in 1906 marked the beginning of a period of an increased focus on sedentary villages along the Koyukuk River. Small settlements were formed around trading posts, mining camps, or schools and were inhabited between travels to fish camps, hunting camps, trapping camps, and spring muskrat camps. By the late 1940s some of these small settlements had been abandoned as an increasing number of Koyukon were settling in Allakaket, Hughes, Cutoff, and Koyukuk. In 1951, people moved from Cutoff to a new location four miles south after spring breakup floods damaged homes (Simon 1981:112). The community in its new location was renamed Huslia after a nearby river.

LAND STATUS

Present day land status in the Huslia area tends to be a complex pattern of ownership by Native Corporations, state and federal governments, and private individuals (Fig. 2). The local village corporation, Koyitl'ots'ina Corporation, owns land in the immediate vicinity of Huslia while the regional corporation, Doyon Ltd., owns lands slightly further out in a checkerboard pattern. The State of Alaska selected townships north and south of Huslia. The 4.5 million acre Koyukuk River National Wildlife Refuge surrounds Huslia and includes most of the lower Koyukuk River floodplain. A portion of the refuge, west of Huslia, is designated as Wilderness. Native Allotments owned by individuals residing in Huslia are located throughout the general area (Fig. 2).

POPULATION

The population of Huslia has remained primarily Koyukon Athabaskan over the years. In 1980, 95 percent of the 188 residents were of Alaska Native ancestry. Table 2 presents total population figures from U.S. census sources for the period 1950-80.

The survey sample used in this study included 189 of the estimated 190 Huslia residents present in Huslia in February 1984. Not included in this study's population count were individuals or households temporarily living outside Huslia for either education or employment purposes. The male:female ratio of the sample was 54:46.

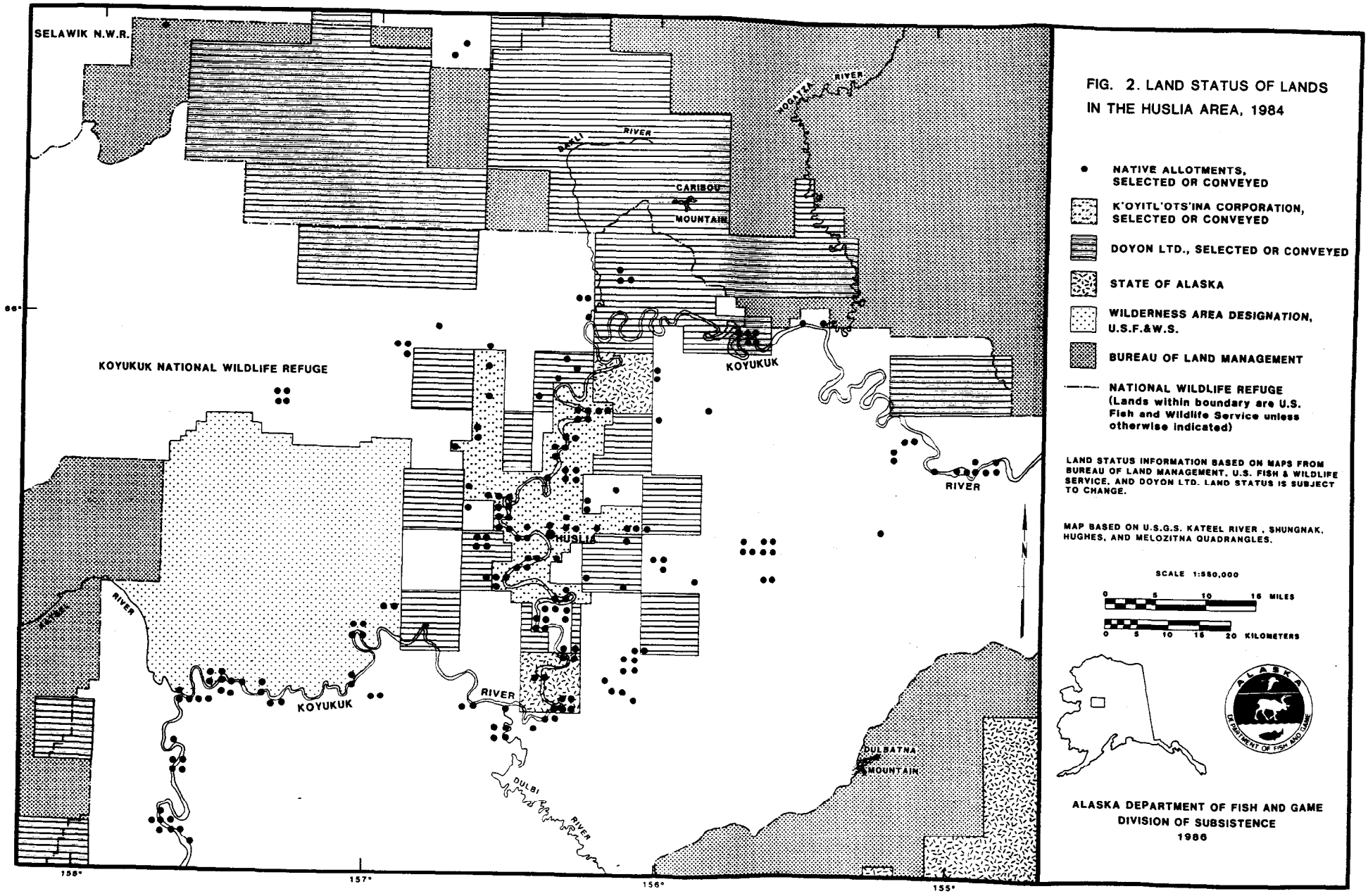

FIG. 2. LAND STATUS OF LANDS IN THE HUSLIA AREA, 1984

- NATIVE ALLOTMENTS, SELECTED OR CONVEYED
- K'OYITL'OTS'INA CORPORATION, SELECTED OR CONVEYED
- DOYON LTD., SELECTED OR CONVEYED
- STATE OF ALASKA
- WILDERNESS AREA DESIGNATION, U.S.F.&W.S.
- BUREAU OF LAND MANAGEMENT
- NATIONAL WILDLIFE REFUGE (Lands within boundary are U.S. Fish and Wildlife Service unless otherwise indicated)

LAND STATUS INFORMATION BASED ON MAPS FROM BUREAU OF LAND MANAGEMENT, U.S. FISH & WILDLIFE SERVICE, AND DOYON LTD. LAND STATUS IS SUBJECT TO CHANGE.

MAP BASED ON U.S.G.S. KATEEL RIVER , SHUNGNAK, HUGHES, AND MELOZITNA QUADRANGLES.

SCALE 1:550,000

0 5 10 15 MILES

0 5 10 15 20 KILOMETERS

ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF SUBSISTENCE
1986

TABLE 2. HUSLIA POPULATION FIGURES 1950-85.

Year	Population
1950	65
1960	168
1970	159
1980	188
1981	230
1982	241
1983	248
1984	283
1985	283

Source: Alaska Department of Labor, 1985

Figure 3 shows the number of people in specific age groups. The low percentage of individuals in the 20-29 age group may be explained by the absence of young adults who were obtaining work experience or furthering their education outside the community during the study period.

HOUSEHOLD CHARACTERISTICS

Significant diversity was found among the 56 households in the sample. Household size ranged from one to a maximum of eight persons with a mean household size of 3.4 persons. Only males were present in 14 households (25.0 percent), while 3 households (5.4 percent) were occupied only by females. In 22 households (39.3 percent), there was only 1 adult household member (18 or older); 25 households (44.6 percent) contained 2 adults; and 9 households (16.1 percent) had 3 or more adults. There were no dependents less than 18 years of age in 23 households (41.1 percent). Household composition is summarized

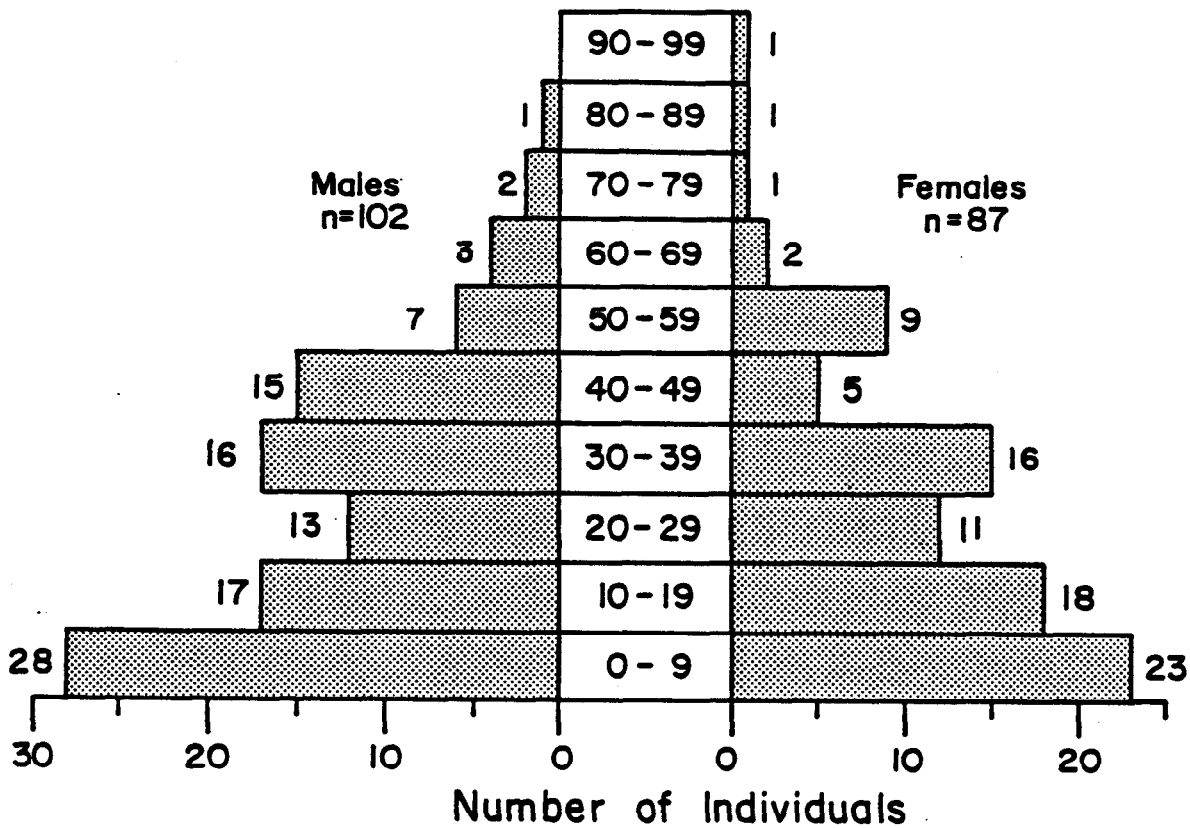

Fig. 3. Age Groups in Huslia, February 1984.

in Table 3. Since household composition as measured by age, gender, and household size is a good predictor of resource harvest and consumption patterns, an understanding of household composition is useful in studying harvest and use patterns, as discussed later in the report.

Birthplaces of Huslia residents are summarized in Table 4. Nearly 60 percent (112 persons) were originally from Huslia and an additional 13.8 percent (26 persons) were raised in the former settlement of Cutoff (18 river miles north of Huslia) before Huslia was established at its present location. Close ties with other Koyukuk areas are demonstrated by the 16.9 percent (32 persons) that are from other locations along the Koyukuk River. These include the established communities of Koyukuk, Hughes, and Allakaket, as well as other family settlements or village locations. In fact, 10 of the 106 adults living in Huslia originally were from these small and now abandoned settlements. Yukon River communities accounted for 3.7 percent (7 persons) and other places in Alaska, states other than Alaska, and Canada accounted for the remaining 6.3 percent (12 persons) residing in Huslia in 1983.

EMPLOYMENT

Wage employment opportunities in Huslia in 1983 are best described as being seasonal and limited. Altogether, community residents reported working in 116 wage jobs in 1983. More than one-half of the 116 jobs held by community residents in 1983 were in the highly seasonal areas of construction, firefighting, and logging.

TABLE 3. HUSLIA HOUSEHOLD COMPOSITION (N=56).

Household Type	Household Headed By		
	Single Male	Single Female	Married Couple
No dependents	14	0	6
Dependents, all less than 18 years of age	0	8	15
Dependents, some over 18 years of age	0	4	9

TABLE 4. BIRTHPLACE OF HUSLIA RESIDENTS AS DOCUMENTED IN 1984 HOUSEHOLD SURVEYS.

Birthplace	Number	Percent
Allakaket	8	4.2
Between Allakaket and Hughes	2	1.1
Hughes	9	4.8
Between Hughes and Cutoff	2	1.1
Cutoff	26	13.8
Between Cutoff and Huslia	1	.5
Huslia	112	59.2
Between Huslia and Koyukuk	6	3.2
Koyukuk	4	2.1
Nulato	5	2.6
Galena	2	1.1
Other Alaska	3	1.6
States Other Than Alaska	8	4.2
Canada	1	.5
Total	189	100.0

Overall, wage jobs averaged 4.5 months per year in duration. The number of jobs per capita (based on all residents) was .61 for the year.

In six households (10.7 percent) there were no members employed in 1983. In 27 households (48.2 percent), one household member was employed; in 19 households (33.9 percent), two members were employed; and in four households (7.2 percent), more than two members were employed. In total, 79 residents in 50 households held 116 jobs in 1983.

Of these 116 jobs, 32 (27.6 percent) offered less than 40 hours per week, while 29 (25 percent) were for over 40 hours work per week. The remainder were described as 40 hours per week. The positions rarely provided year-round employment, with only 18 (15.5 percent) lasting 12 months. More than one-half lasted for only one or two months. Employment opportunities were generally more available during the summer months due to an increase in construction and firefighting activities.

The types of positions held are listed in Table 5 by general employment category and by title or employer. Half the positions held during 1983 were in only two seasonal categories: construction and firefighting. Construction employment consisted primarily of work on various local building projects and community improvements with an additional six positions held outside the community. A local saw mill, operated by the city, employed loggers and mill operators on a seasonal basis. The school was the largest single source of permanent employment. A majority of the remaining jobs were in the service sector, with very few in the private sector. Most of the positions

TABLE 5. EMPLOYMENT SOURCES IN HUSLIA IN 1983.

Employment Category	Number of Positions	Types of Positions
Construction	37	Housing project, weatherization, recreation center, freezer facility, U.S. Public Health Service plumbing
Firefighting	21	U.S. Bureau of Land Management fire crew, crew leaders
Education	12	Teacher, teacher aide, Headstart instructors, principal teacher
Logging	11	Logging, saw mill operator
Maintenance	12	Power plant, water plant, airport, clinic, school, trash haul, recreation center, Headstart cook
Local Government	3	City manager, clerk, Village Public Safety Officer (VPSO)
State Government	2	Public Assistance Fee Agent, election official
Federal Government	2	Postmaster, National Guard
Social Programs	4	Homemaker program, agriculture extension agent, Outreach worker
Medical	2	Community health aide
Retail	5	Store manager, clerk
Transportation	2	Air service agent
Other	3	Boat construction, author

Note: These 116 specific positions were held by 79 individuals. The positions averaged 39 hours per week and 4.5 months of the year duration. The number of positions represents a total throughout the year and not at any one time.

held were local: 88 jobs (75.9 percent) were located in Huslia. Firefighting for BLM, based out of Galena, and construction accounted for the 28 non-local positions. Average taxable income of Huslia taxpayers are shown in Table 6. In 1982, the average Huslia income was about one-third of that in Anchorage or Galena, a low figure

especially when one takes into account the significantly higher costs of goods in rural Alaska. The income figure was typical for other small communities in the region.

TABLE 6. AVERAGE TAXABLE INCOME PER RETURN

Year	Huslia	Number of Returns	Anchorage
1978	$10,221	43	$18,255
1981	6,199	72	23,043
1982	7,356	83	23,590

Source: Alaska Department of Revenue, 1985.

CHAPTER 4

FISHING

Fishing is an important subsistence activity among Huslia residents, both in terms of the time and effort expended and in the volume of wild food produced. As shown by survey results below, in 1983 fish were taken in significant quantities throughout the summer and fall, and were distributed among harvest group members and related households. Fish were taken primarily along the Koyukuk River, between Cutoff Slough and the mouth of the Dulbi River. Salmon fishing activities generally were based out of family fish camps, while much of the fishing activity for other species was based out of Huslia.

A generalized depiction of seasonal fishing activities during 1983 is presented in Figure 4. Huslia residents displayed a pattern similar to that of residents in other Koyukuk River communities (cf. Marcotte and Haynes 1985). Fish nets were set for sheefish and whitefish as soon as the ice went out in early May. The first king and chum salmon were caught in set nets in late June, signaling the beginning of a busy salmon fishing season. Summer and fall chum salmon were harvested throughout July and August, and into September. Burbot were caught prior to freeze-up, while grayling, sucker, and pike were caught throughout the summer. Blackfish were caught in area lakes after freeze-up.

Fish resources have played an especially important role through the years because of their stability and reliability as a food source,

Fisheries Resource	Months Harvested							
	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Sheefish	x x	x x	x x	x x	x x	x x		
Whitefish	x x	x x	x x	x x	x x	x x		
Sucker	x	x x	x x	x x	x x			
Pike		x x	x x	x x	x x	x x		
Grayling		x x	x x	x x	x x	x x		
King salmon		x	x x					
Summer chum		x	x x	x x				
Fall chum			x x	x x	x x			
Burbot (Lush)					x x	x x		
Blackfish							x x	x x

Fig. 4. Seasonal Round of Fishing Activities, Huslia 1983.

particularly so when compared with terrestrial animals. Several residents noted that, in recent years, since greater restrictions were placed on Lower Yukon Commercial fishermen, salmon runs on the Koyukuk River have improved considerably.

Participation levels by households in harvesting fish are summarized in Figure 5. The figure depicts the percentage of surveyed households actually harvesting the various fish species listed in 1983. Households which assisted another household with fishing and processing but did not report harvests separately for their own household were not counted as a harvesting household. This minimizes the potential double-counting of fish but underrepresents actual household participation levels in fishing, especially for salmonid species.

As shown in Figure 5, salmon, whitefish, sheefish, and pike were harvested by one-third to one-half of the households in 1983. Burbot

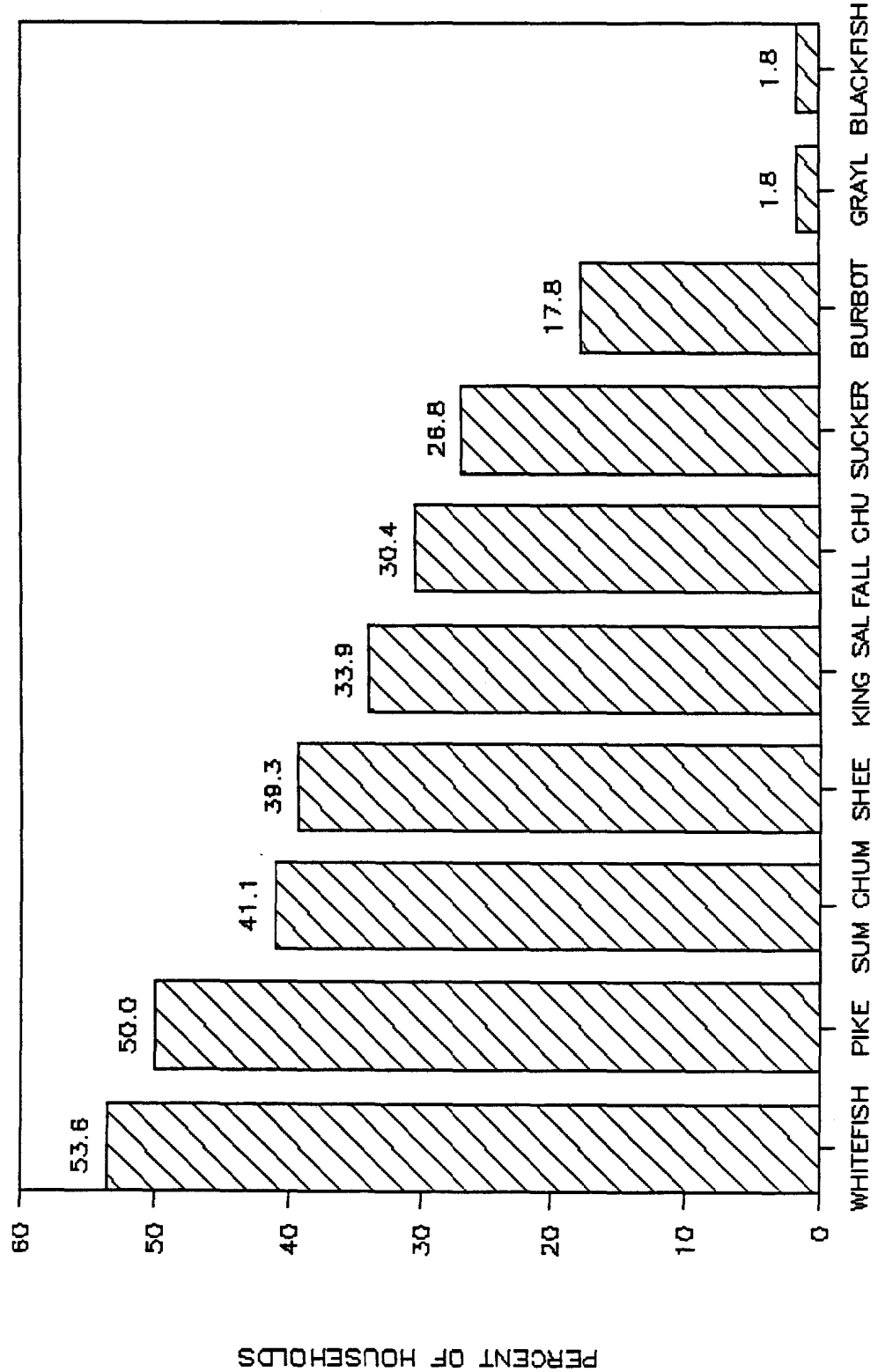

Fig. 5. Household Participation in Fishing, 1983.

and sucker were harvested by a more restricted number of households. Only one household reported harvesting grayling or blackfish.

Many additional households also received fish from the harvesting households included in Figure 5. For example, 22 Huslia households (39.3 percent) indicated receiving a total of 73 king salmon from other households in 1983. Only 3 of these 22 households (4.5 percent) harvested king salmon. These 73 fish are equivalent to one-fourth of the total community king salmon harvest. Twenty-six households (46.4 percent) received 699 whitefish, the equivalent of 15 percent of the total community harvest.

The number of fish harvested during 1983 is shown in Table 7. The table includes for each species the number of harvesting households, the range of household harvests, and average household harvest, and the total reported community harvest.

During the household surveys, an effort was made to count all fish harvested in the community, but not to count the same fish twice, a task often made difficult since harvesting groups often included two or more households. The community harvest figures are believed to be accurate, and do not include double counting.

In terms of the number of fish harvested, summer chum, whitefish, pike, fall chum, and sheefish lead the list (see Chapter 8 for contribution of fish species by weight). Harvests varied considerably among households, as shown by the range of catches in Table 7.

It is unwise to infer too much from single-year harvest figures, although Huslia residents did not consider 1983 as a particularly

TABLE 7. FISH HARVEST IN HUSLIA, 1983.

Resource Harvest	Number of Households Harvesting	Range of Household Harvest	Mean Harvest for Harvesting Households	Total Community Harvest
Sheefish	22	3 - 300	39.7	873
Whitefish	30	5 - 1,000	155.0	4,650
Pike	28	4 - 400	69.5	1,947
Grayling	1	17	17.0	17
Sucker	15	2 - 50	18.8	282
Burbot	10	1 - 100	20.5	205
Blackfish[a]	1	600 lbs	600.0 lbs	600 lbs
King salmon	19	1 - 110	15.4	292
Summer chum	23	50 - 4,000	895.0	20,585
Fall chum	17	5 - 300	94.2	1,602

[a]Amount of blackfish harvested is recorded in pounds rather than in total number taken.

unusual fishing season for any species. This is because fishing harvests can vary considerably from year to year for a number of factors. Resource availability, run strength, travel conditions, water level, fish-drying conditions, and fishing effort all can influence harvest levels in any single year. As an example of how fish harvests can vary, Figure 6 shows the Huslia estimated summer chum harvest for the eight-year period 1977-84. The data are derived from annual fish harvest surveys conducted by the Division of Commercial Fisheries using a different methodology than used in this study (Annual Management Report). From 2,949 to 19,805 summer chum were harvested each year during this period, which is a substantial harvest range between years. It should be noted that household survey of this report estimated the 1983 summer chum catch at 20,585 fish,

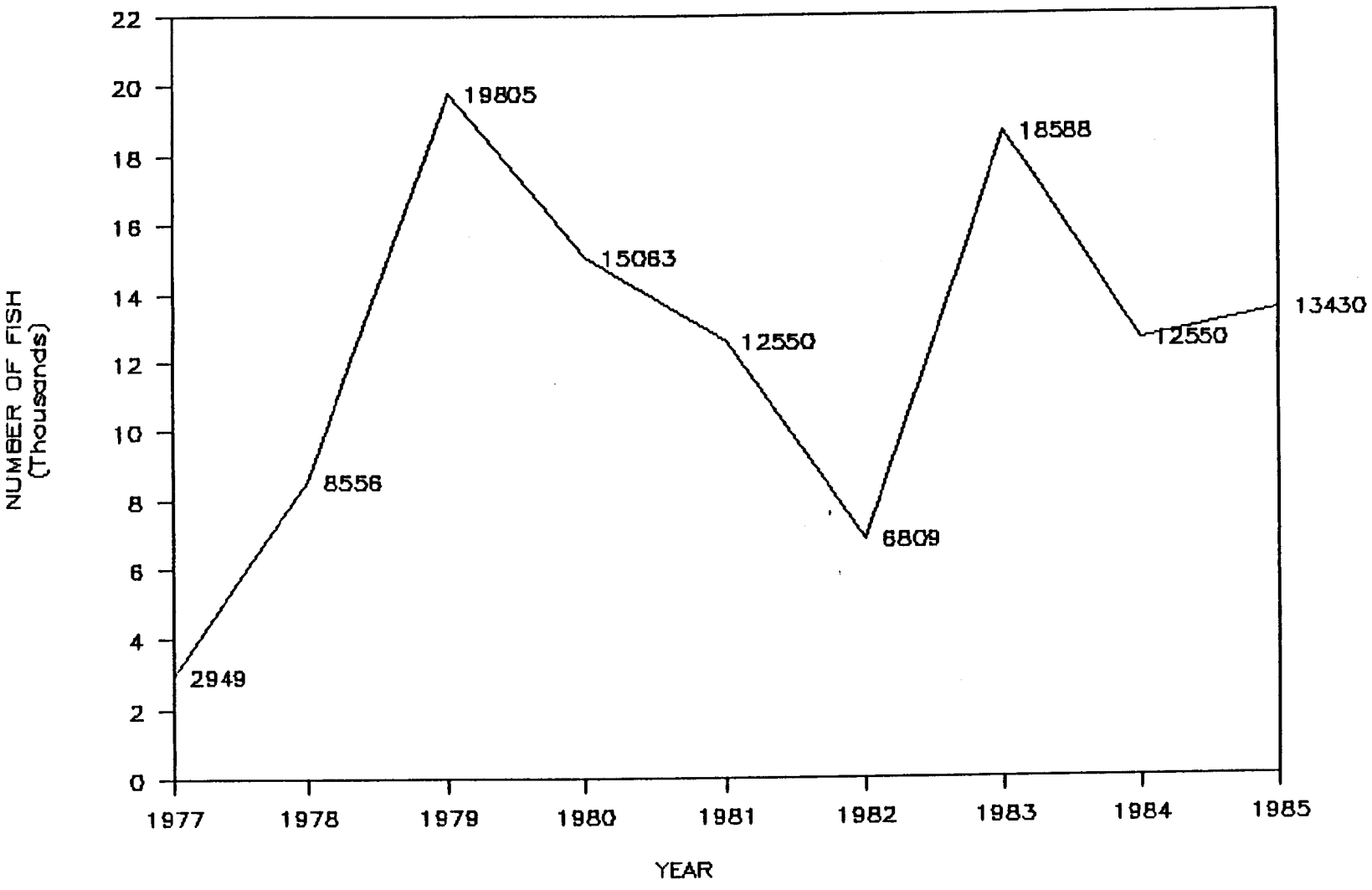

Fig. 6. Summer Chum Salmon Harvest, 1977-85, Huslia.
(Source: Alaska Department of Fish and Game, Division of Commercial Fisheries, 1977-85

while the Division of Commercial Fisheries estimate was 18,588 fish, a difference of about 1,900 fish. This difference cautions that some observed variations between years may also be due to methodological factors in collecting harvest data.

Most of the harvested fish were processed and consumed within the harvesting households. Salmon were either smoked and dried, frozen in the community freezer facility, canned, or eaten fresh. Other fish were preserved by smoking or freezing. The blackfish and a portion of the summer chum salmon harvested in 1983 were used as dog food. Dried summer chum salmon represent the major food for Huslia's 202 dogs, although some households also use commercial feed.

Travel to fishing sites involved using 16- to 24-foot river boats constructed of aluminum or plywood. Outboard motors generally ranged between 25 and 80 horsepower. In 1983, 52 boats were owned in Huslia, almost one for each of the 56 households. Distance traveled to fishing sites varied from right in front of town to 40 miles along the river. The median distance recorded for travel to whitefish, king salmon, summer chum, and fall chum fishing sites was eight miles, while the median distance traveled for sheefish was 11 miles. In addition to this pattern, three Huslia households participated in salmon fishing along the Yukon River. Two of these households helped in fish camps near Nulato and Galena fishing primarily for commercial purposes, while the other fished strictly for subsistence at a camp near Bishop Mountain. Participation in Yukon River fishing by some Huslia residents typically occurs most years.

Considerable use was made of the 12 fish camps near Huslia during the salmon fishing season. The family-based work groups spent several weeks at fish camp harvesting and processing salmon. This pattern contrasts with that found in the upper Koyukuk River communities, where use of summer fish camps was limited during 1982 (Marcotte and Haynes 1985).

In many cases, family-based work groups included several households. Figure 7 is an example of one such salmon fishing group that included three separate households. The 57-year-old female in household C was in charge. She was the primary person cutting fish used for eating, she set and picked fish from the net, tended the smoking fire, and occasionally operated the boat. Four younger sons in the household (ages 17-26) also aided in running the boat, tending the fire, and cutting fish used for the dogs. This household had the boat, motor, one net, smokehouse, and stored the fish in a cache located between their house and that of household A. The married 38-year-old son in household A performed the same tasks as his younger brothers, and as an active dog musher with 30 dogs, received fish for the dogs as well as a supply for human consumption. He also had a net that was used. The 36-year-old woman in household B and her two teenage sons also participated in working the net and cutting fish, although the sons cut fish only for dogs. In total this work group harvested approximately 30 king salmon, 6,000 summer chum, and 300 fall chum salmon. Household A also received 40 fall chum from the female spouse's father.

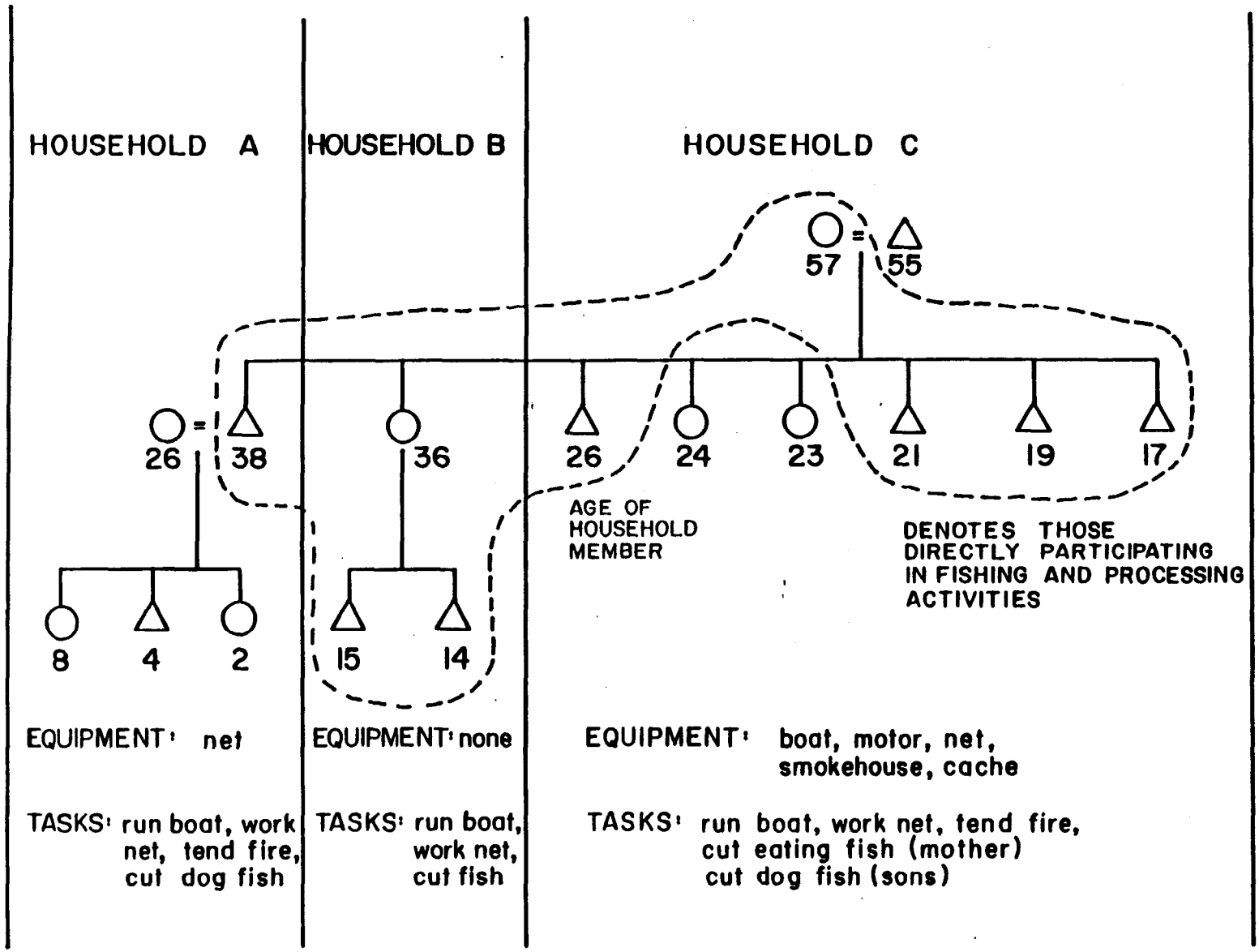

Fig. 7. An Example of a Huslia Salmon Fishing Group.

Fishing areas used by Huslia residents in 1981 to 1983 are shown in Figure 8. Twelve family fish camps along the Koyukuk River were the focus of summer salmon fishing activity. Additionally, a few families fished directly out of Huslia. Fish camps were located from the Dulbi River, 40 miles downriver, to the mouth of Cutoff Slough, 15 miles upriver. Set net locations were generally within one or two miles of the camps. Fishing for pike, whitefish, sheefish, and suckers also took place at other sites, including the mouth of Dulbi Slough, the Huslia River, at the old Cutoff site, and in Huntington Slough. Although specific net sites may vary, from year to year depending upon water conditions, the fish camps were used year after year by the same family groups. In most cases, fish camp locations had been selected as Native allotments (see Fig. 1, map of land status).

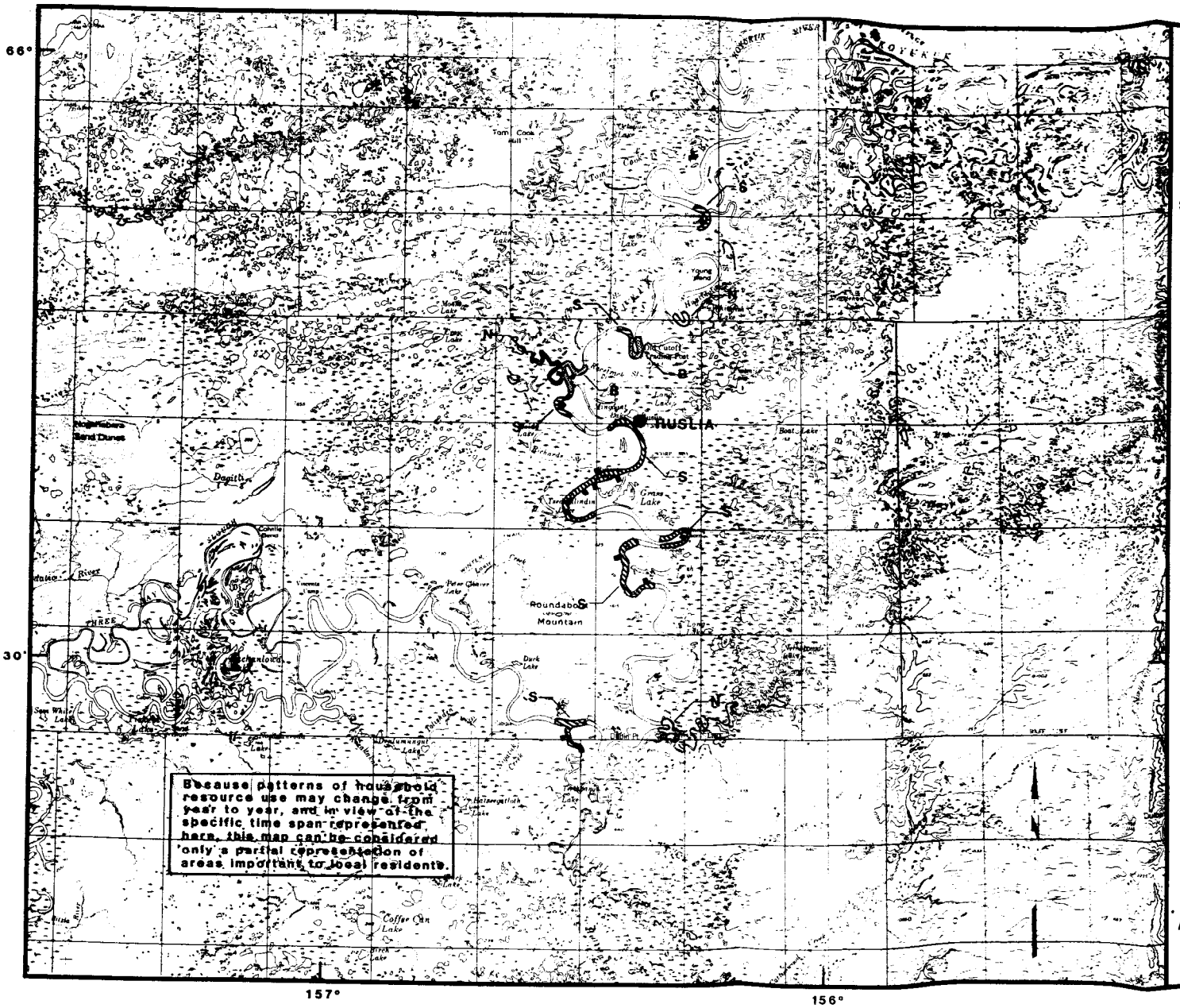

FIG. 8 . HUSLIA FISHING AREAS: 1981-1983

S — SALMON FISHING AREAS

N — AREAS USED FOR FISHING NON-SALMON SPECIES

B — AREAS USED FOR FISHING BOTH SALMON AND NON-SALMON SPECIES

■ FISH CAMP LOCATIONS

INFORMATION COLLECTED FOR 56 HUSLIA HOUSEHOLDS BY JAMES MARCOTTE AND ALBERT VENT, SPRING 1984.

SEE "NATURAL RESOURCE USE PATTERNS-HUSLIA, 1983" BY JAMES MARCOTTE, DIVISION OF SUBSISTENCE TECHNICAL PAPER NO. 133, FOR FURTHER INFORMATION.

MAP BASED ON U.S.G.S. KATEEL RIVER, SHUNGNAK , HUGHES, AND MELOZITNA QUADRANGLES.

SCALE 1:350,000

0 5 10 MILES

0 5 10 15 KM

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1986

CHAPTER 5

HUNTING

Hunting is of major importance to Huslia residents. A variety of animals are harvested throughout the year for food as well as for use in crafts. All households in Huslia either harvest or use wildlife resources. Considerable quantities of game meat were obtained, with an average per capita production of 397.4 pounds of edible meat in 1983. The household average was 1,341 pounds.

A generalized depiction of seasonal hunting activities during 1983 is presented in Figure 9. Black bear, porcupine, and hare were taken throughout the year, while the harvest of other species was restricted by state or federal regulation to particular months. For this reason, the pattern observed in 1983 does not necessarily represent the customary and traditional seasons of harvest. Legal season openings are subject to change from year to year. Within those limits, Figure 9 demonstrates that residents harvest particular species during certain times of the year based upon such factors as need, availability, condition of the resource, access, and hunting regulations. The most serious discrepancy between the traditional harvest periods and current legal hunting seasons is noted with waterfowl hunting, where spring and summer hunting is a well-established custom but was not recognized by regulation in 1983.

Household participation rates in the harvest of game resources are shown in Figure 10. This graph indicates the percentage of households actually harvesting various species, based on responses from the household survey.

Game Resource	Months Harvested																							
	Jan		Feb		Mar		Apr		May		June		July		Aug		Sep		Oct		Nov		Dec	
Moose					X												X	X						
Caribou			X	X	X	X	X	X							X	X								
Black bear					X	X	X	X	X	X			X	X	X	X	X	X	X	X	X	X		
Grouse	X	X	X	X	X	X									X	X	X	X	X	X	X	X	X	X
Ptarmigan	X	X	X	X	X	X																	X	X
Crane							X	X	X	X					X	X								
Geese							X	X	X	X			X	X										
Ducks													X	X	X	X								
Porcupine									X	X	X	X	X	X	X	X	X	X						
Muskrat							X	X	X	X														
Hare	X	X	X	X	X	X	X	X	X	X							X	X	X	X	X	X	X	X

Fig. 9. Seasonal Round of Hunting Activity, Huslia, 1983.

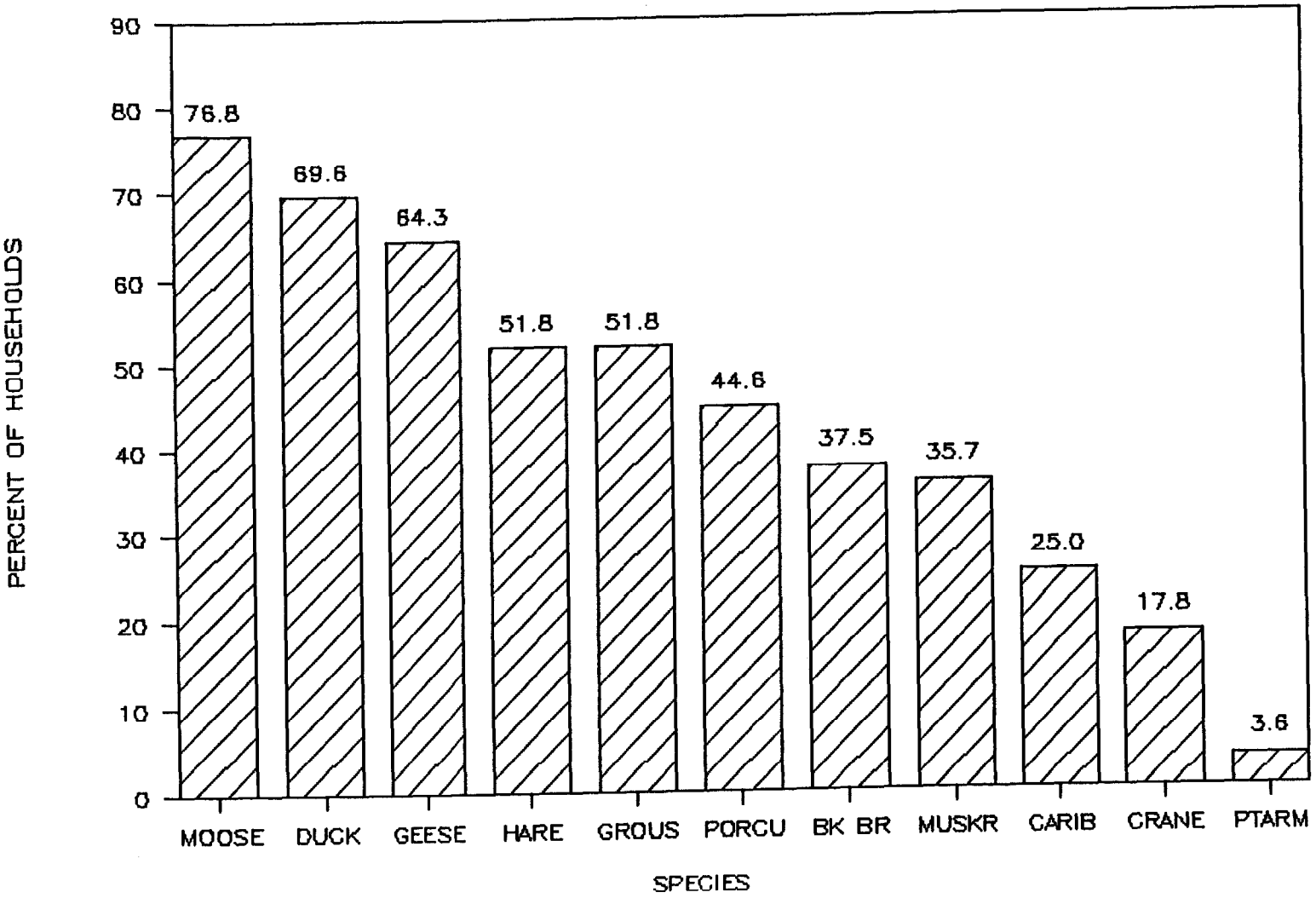

Fig. 10. Household Participation in Hunting, 1983.

The highest participation rates were for moose hunting, where 76.8 percent of the households recorded a harvest. Ducks and geese were harvested by 69.6 and 64.3 percent, respectively, followed by grouse and hare. The lowest rate was found for ptarmigan hunting, which may in part reflect the infrequent sightings of this species in recent years. The 25 percent rate for caribou hunting is similarly affected by the fact that migrations of Western Arctic Caribou Herd had not, during this period, brought these animals any closer to Huslia than the Dakli River. Prior to the early 1970s and again in the winter of 1985-86, caribou migrations found large numbers of the animals in the Koyukuk River drainage and near Huslia.

Harvest levels for the 1983 season are shown in Table 8, which lists for each species the number of households harvesting the species, the range and average harvest calculated for participating households, and all community households, and the total community harvest. During the survey, an effort was made to avoid either omitting or double counting harvest, a task often complicated by multi-household participation in some harvest groups. For example, when two brothers living in separate households hunted for moose together and harvested one moose, the harvest of one moose was recorded only for one household. Community harvest totals are believed to be reasonably accurate, especially for the major species.

The 1983 harvest of 84 moose in Huslia represents an average of 1.5 moose per household. This is slightly lower than the 1.7 moose per household recorded for Hughes in 1982, but higher than the 1.0 recorded for Allakaket and Alatna households (Marcotte and Haynes

TABLE 8. GAME HARVEST IN HUSLIA, 1983.

Resource Harvested	Number of Households Harvesting	Range of Households Harvest	Mean Household Harvest for Households Harvesting	Total Hommunity Harvest
Moose	43	1-6	2.0	84
Caribou	14	1-13	3.7	52
Black bear	21	1-5	1.9	40
Grouse	29	1-50	11.4	331
Ptarmigan	2	1-5	3.0	6
Cranes	10	1-3	1.8	18
Geese	36	2-50	15.4	555
Ducks	39	3-100	26.5	1,032
Porcupine	25	1-8	2.2	56
Muskrat	20	2-61	13.6	271
Hare	29	1-60	11.3	328

1985). It should be emphasized that single-year harvest figures do not adequately reflect year-to-year variations in harvest effort, fluctuations in the moose population, weather patterns, and other factors. Still, no one commented that the 1983 harvest was unusual.

Huslia residents often traveled considerable distances for harvest activities. Respondents reported one-way distances traveled for moose hunting of between 2 and 100 miles. Almost half of all respondents traveled more than 20 miles. These distances are typical of hunting during September, when travel is restricted to the rivers and sloughs. Although the survey did not ask specifically about distances traveled during the short winter moose hunting season, the distances traveled in March 1984 were less than the average fall hunt. Travel required for black bear hunting was comparable to moose hunting. Caribou hunters traveled one-way distances of 60-100 miles

in 1983. In this case travel was overland, using snowmachines to reach hunting areas up the Dakli River to the Selawik River. Grouse were taken between 3 and 65 miles from town, and ptarmigan were taken between 10 and 20 miles distant. Half the households hunting waterfowl said they typically went 20 miles or more to hunting areas, while some traveled up to 65 miles for geese and ducks.

Areas used for hunting moose, black bear, and caribou from 1981-83 are shown in Figure 11. Specific kill sites, as indicated by a portion of the respondents, in 1983, are also included. September moose hunting occurs as far up the Koyukuk River as the mouth of the Hogatza River, up the Huslia River past Billy Hawk Creek, up the Dulbi Slough to Boat Lake, up the Dulbi River past Holtnakatna Creek, and down the Koyukuk River almost to Three Day Slough. Several smaller interconnected sloughs are included in this area. Although several residents mentioned places they try first each year, no areas were reported as being used exclusively by certain households.

Black bear hunting areas were virtually identical to those indicated for moose hunting, exceptions being a greater portion of the Dakli Flats and areas further up the Dulbi River. Caribou hunting effort centered on the pass over the Continental Divide between the Dakli and Selawik Rivers. Bounded by the Purcell Mountains to the southwest and the Zane Hills to the northeast, this broad valley is used year after year for caribou hunting. In addition to that area, one hunter in 1983 harvested caribou on the Huslia River, although harvest this close to the Koyukuk River has been infrequent during recent caribou migrations.

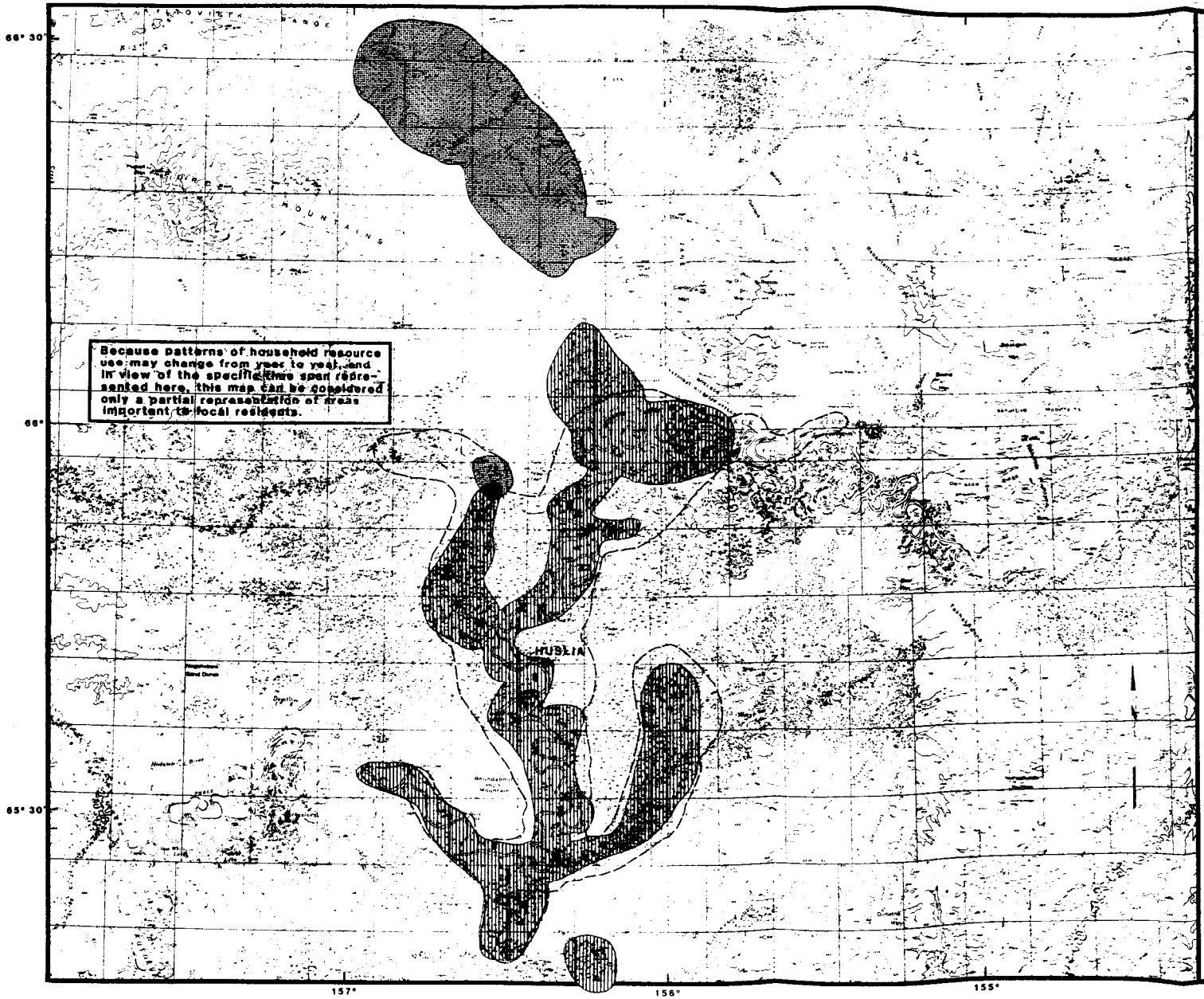

FIG. 11. HUSLIA MOOSE, BLACK BEAR, AND CARIBOU HUNTING AREAS, 1981-1983

MOOSE HUNTING AREAS

BLACK BEAR HUNTING AREAS

CARIBOU HUNTING AREAS

× MOOSE KILL SITES (1983)

INFORMATION COLLECTED FOR 56 HUSLIA HOUSEHOLDS BY JAMES MARCOTTE AND ALBERT VENT, SPRING 1984.

SEE "NATURAL RESOURCE USE PATTERNS IN HUSLIA, 1983" BY JAMES MARCOTTE, DIVISION OF SUBSISTENCE TECHNICAL PAPER NO. 133, FOR FURTHER INFORMATION.

MAP BASED ON U.S.G.S. KATEEL RIVER, SHUNGNAK, HUGHES, AND MELOZITNA QUADRANGLES.

SCALE 1:550,000

0 5 10 15 MILES

0 5 10 15 20 KILOMETERS

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Small game and waterfowl hunting areas are depicted in Figure 12. Waterfowl were taken in the same general area recorded for moose and bear harvests; however, with waterfowl harvests, specific locations, such as a lake or slough, were often used. A number of households hunted for waterfowl near Cutoff Slough and Huntington Slough north of Huslia. Hunting for ptarmigan, grouse, porcupine and hare occurred near Huslia and along Dulbi Slough, as well as to areas for the harvest of other resources.

CHAPTER 6

TRAPPING

Trapping is an important part of the annual harvest cycle for most households in Huslia. Sixty-four percent of Huslia's 56 households were actively involved in trapping during 1983. Trapping provides a source of cash to help sustain households through the winter months, a supply of furs for sewing clothing, and a source of food from beaver. Additionally, the cultural value associated with the use of the land and trapping areas is immeasurable.

Seasonality of trapping activity is depicted in Figure 13. Trapping began in early November as soon as freezing of the lakes and rivers permitted safe travel to trapping areas. Early season emphasis was on marten, lynx, and fox, while beaver were trapped most heavily through February and March. Otter were caught with beaver while wolf and wolverine were taken whenever available through the winter. Trapping continued through the season as long as furs were in good condition.

Participation in the household harvest of different furbearer species is shown in Figure 14. The greatest numbers of households successfully trapped marten and fox, while the fewest trapped wolf and wolverine. The variation in habitat between different trapping areas the relative size of species populations, and differences in trapping effort among trappers may account for much of this variation.

Harvest levels of furbearer species in 1983 are shown in Table 9. Included are the number of households that harvested the species, the

Resource Harvested	Months Harvested					
	Nov	Dec	Jan	Feb	Mar	Apr
Marten	x x	x x	x x	x x		
Beaver	x x	x x	x x	x x	x x	x
Fox	x x	x x	x x	x x		
Lynx	x x	x x	x x	x x	x	
Otter	x x	x x	x x	x x	x x	x
Wolf	x x	x x	x x	x x	x x	
Wolverine	x x	x x	x x	x x	x x	

Fig. 13. Seasonal Round of Trapping Activities, Huslia 1983 (N=56 households).

TABLE 9. FURBEARER HARVEST IN HUSLIA, 1983.

Resource Harvested	Number of Households Harvesting	Range of Households Harvest	Mean Household Harvest for Harvesting Households	Total Community Harvest
Marten	29	1-80	21.8	633
Beaver	20	1-48	13.5	270
Fox	28	1-23	7.8	218
Lynx	22	1-33	6.4	140
Otter	13	1-4	1.8	24
Wolf	8	1-3	1.9	15
Wolverine	5	1-2	1.4	7

range of harvests reported for those households, the average harvest of successful households and all households, and the total community harvest. Local trappers generally regarded 1983 as an average year and nearly half indicated trapping at the same level as in recent years. Marten were taken in greatest number, followed by beaver, fox, and lynx. Although only 15 wolves were harvested in 1983, this number

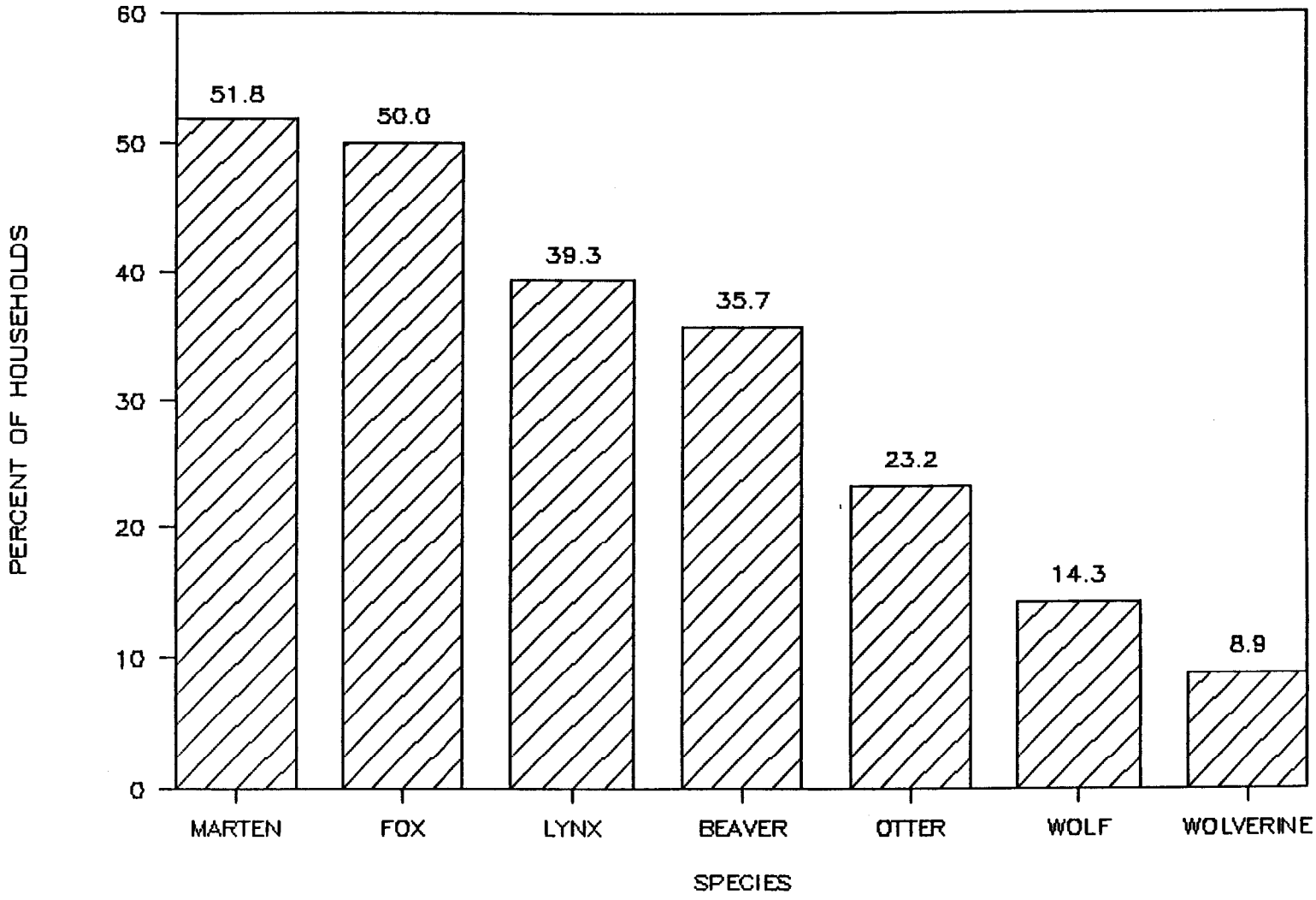

Fig. 14. Household Participation in Trapping, 1983.

is considerably greater than the number of wolves taken by Bettles, Allakaket, and Hughes residents in 1982 (Marcotte and Haynes 1985). Trapping success among trappers varied considerably for most species, as shown by the range of household harvests.

Most pelts harvested were sold to traveling fur buyers from outside the area, although some were retained locally for use in sewing. Beaver were harvested as much for their value as a meat source for household use as for the value of their fur. Local trappers indicated beaver prices had been low in recent years.

Snowmachines were the most common transportation method for Huslia trappers in 1983 and were used by all trappers. Two respondents said they also walked a portion of their trapline, and one also used a dog team. None used aircraft for trapping. A total of 73 snowmachines were listed for the 56 Huslia households.

Time spent checking traps on a line varied from trapper to trapper, but generally a day or more was required to make a complete round. Seven trappers had small trapping areas near town or by their wood yards that could be checked in less than half a day. Ten trappers required a full day to check their lines, while 14 trappers typically spent two days away from home to run their lines. Three additional trappers required more than two days. Trappers stayed overnight in trapping cabins or tent camps along the way. Most trappers indicated checking their traps every three or four days. Weather and travel conditions typically affected travel frequency and duration. The median round trip distance traveled to check a trapline was 60 miles, although this distance ranged from 10 to 200 miles.

Of the 35 households directly participating in trapping, 22 used trapping cabins and 20 used tent camps. Only five trapping households used neither tent camps nor cabins. These households trapped limited areas close to town. Of the 29 households using cabins or tent camps, 79 percent (23 households) indicated that other individuals residing in different households also used these cabins or tents for trapping. Table 10 lists the different relationships between trappers who shared cabins or tents.

TABLE 10. RELATIONSHIP BETWEEN HUSLIA TRAPPERS AND OTHERS USING CABIN OR TENT CAMP, 1983.

Relationship to Trapper	Number of Cases
Brother	11
Son	3
Father	2
Father's brother	2
Father's brother's son	2
Wife's brother	1
No Relationship specified	1
Several	1
Total	22

Cooperation between trappers varied in purpose and duration. Typically, members of a household trapped together, such as a trapper and his young sons. Short-term cooperation was found when a person accompanied another trapper checking his line. The term "partner" was generally applied after trappers worked together for several years.

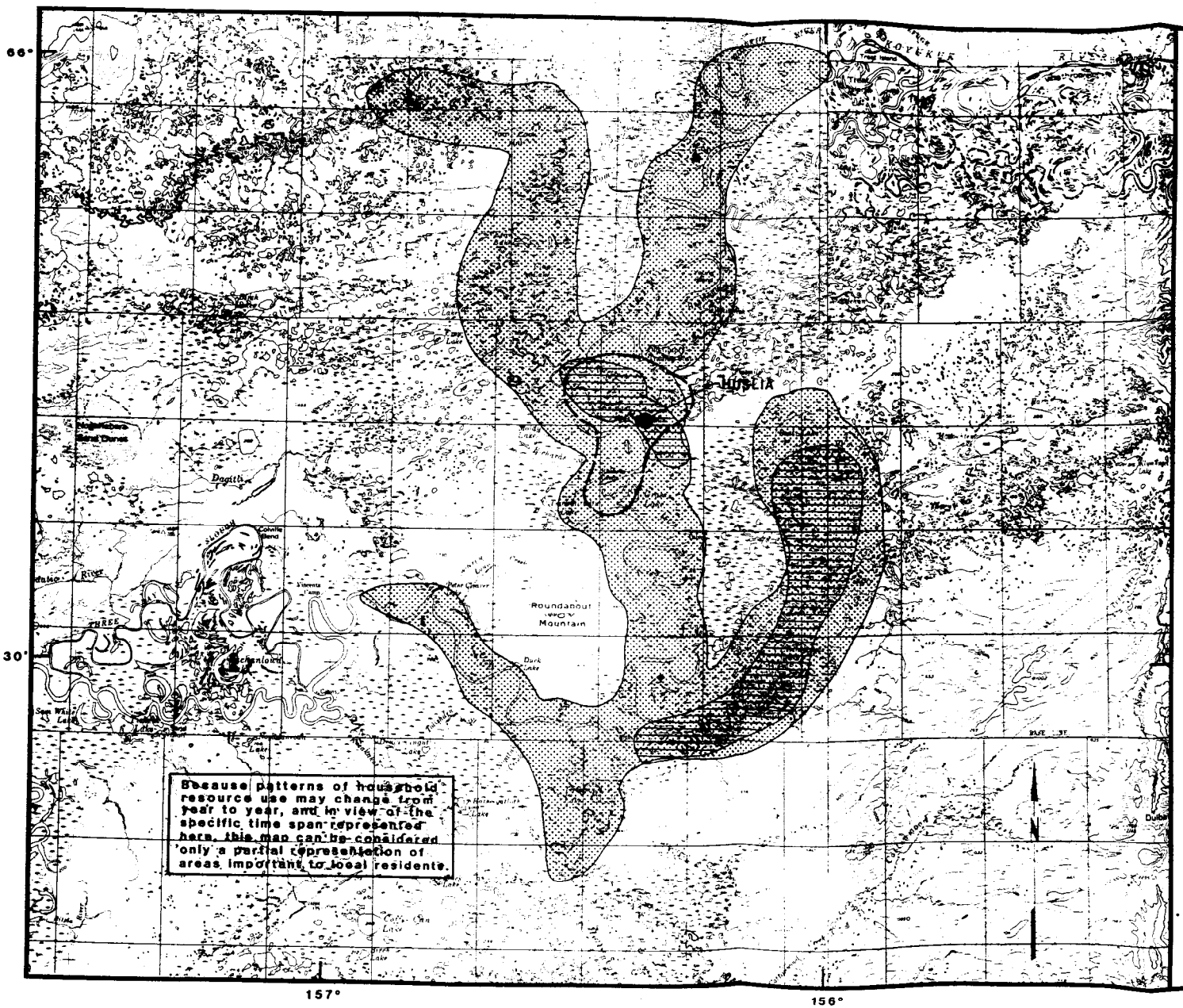

FIG.12. HUSLIA WATERFOWL AND SMALL GAME HUNTING AND FIREWOOD GATHERING AREAS, 1981-1983

WATERFOWL HUNTING AREAS

SMALL GAME HUNTING AREAS (PTARMIGAN, GROUSE, PORCUPINE, HARE)

FIREWOOD CUTTING AREAS

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MAP BASED ON U.S.G.S. KATEEL RIVER, SHUNGNAK, [redacted], AND MELOZITNA QUADRANGLES.

SCALE 1:350,000

0 5 10 MILES

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Of the 35 trapping households, 12 (34.3 percent) indicated trapping with a partner. The number of years trapped with that particular partner ranged from 1 to 20 years (median, 3.5 years).

Trapping areas used by Huslia residents from 1981 to 1983 are depicted in Figure 15. Shown here are areas used in trapping and not the traplines themselves. Specific trail and trap locations vary within a general area from year to year. It is apparent that these households use areas not mutually exclusive, since members of different households frequently trap together or trap common areas.

The trapping areas depicted for Huslia trappers in 1981-83 (Fig. 15) represent a pattern embodying land use rights primarily organized by kinship. These direct family ties to specific trapping areas are important today and can be linked to the smaller family settlements common before the 1940s and the larger family band areas found prior to 1900. In all but the limited "woodyard" trapping found within a few miles of the community, Huslia trappers were able to trace their trapping area to a close family relative. In many cases several successive generations of use were described. Table 11 lists the relationship between the 29 most active trappers and those who had previously trapped their particular areas. Although over one-half identified their father as previous trapper, nearly one-third indicated the relationship was traced through their mother. Even where a previous trapper was a father, the next previous trapline use was not the father's father but the mother's father in most cases. It is important to distinguish here between a right to use a trapline from the right to pass it to the next generation. It is clear that

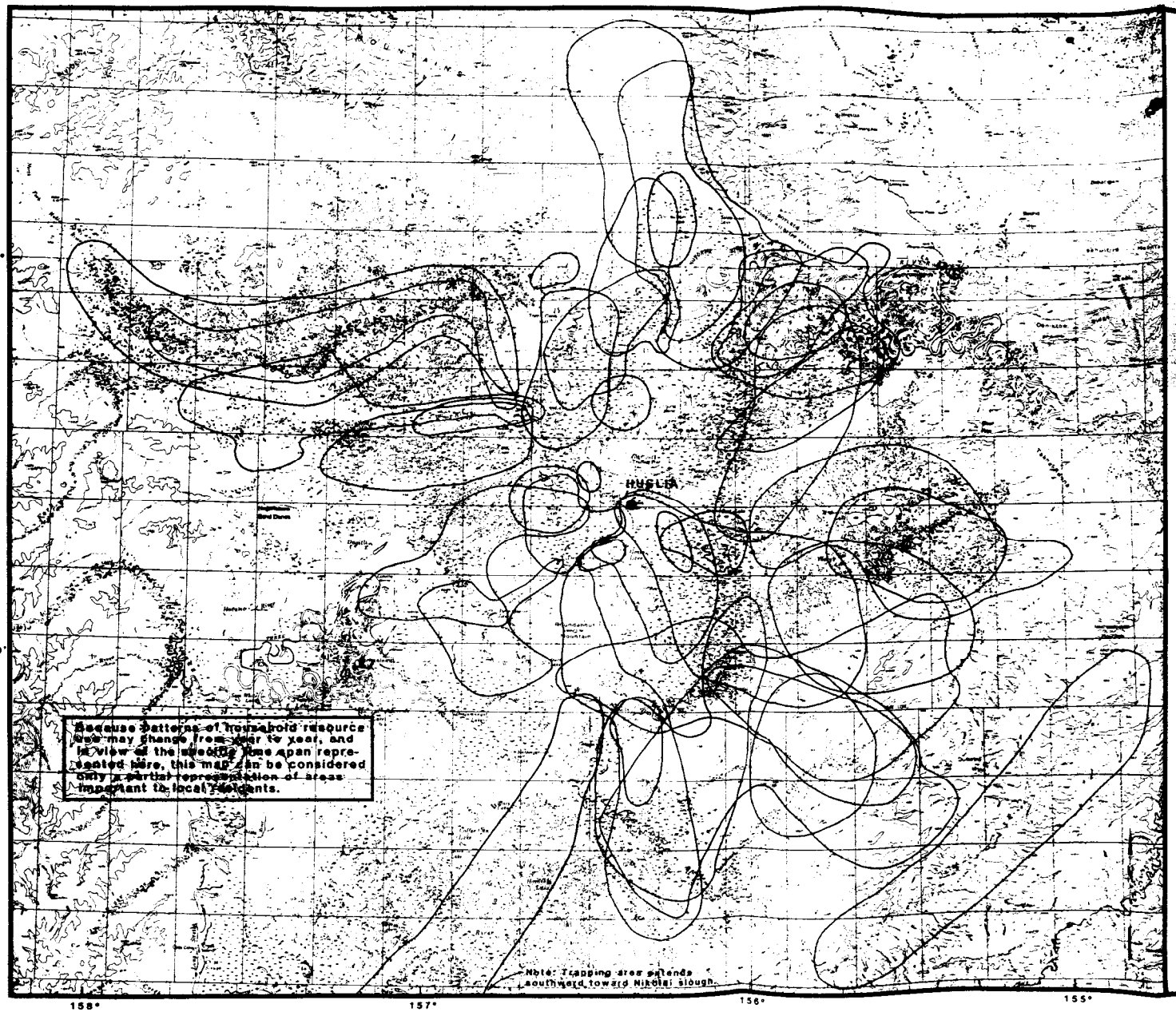

FIG. 15. HUSLIA TRAPPING AREAS, 1981–1983

TRAPPING AREAS USED BY INDIVIDUAL HOUSEHOLDS (TRAPLINES ARE LOCATED WITHIN THESE AREAS)

INFORMATION COLLECTED FOR 56 HUSLIA HOUSEHOLDS BY JAMES MARCOTTE AND ALBERT VENT, SPRING 1984.

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SCALE 1:550,000

0 5 10 15 MILES

0 5 10 15 20 KILOMETERS

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TABLE 11. RELATIONSHIP OF PREVIOUS TRAPPER TO CURRENT TRAPPER

Relationship to Current Trapper	Frequency	Percent
Father	17	58.6
Mother	1	3.4
Father and mother	2	6.9
Mother's father	2	6.9
Mother's brother	1	3.4
Father's brother	1	3.4
Father's brother's son	1	3.4
Wife's father	2	6.9
Wife's ex-husband	1	3.4
Relationship not specified	1	3.4
Total	29	100.0

matrilineal kinship ties still play an important role in trapline use in Huslia today.

Trapping activity extended outward in all directions from Huslia. To the north, the Dakli River area was trapped almost to the Continental Divide. The Cutoff Slough area to the mouth of the Hogatza River, the Nayuka River basin, and the upper Dulbi River area to the east also were used. Trapping areas to the south included the Holitnakakatina Creek and the Natlaratlen River areas. Westward trapping areas extended to Three Day Slough and along the North Fork of the Huslia River to the Nulato Hills.

Beyond the area described here, some of the lands were trapped by residents from outside Huslia. To the east was the general community area depicted for Hughes trapping use (Marcotte and Haynes 1985), and

to the southwest, that of Koyukuk. A large trapping area along the Hogatza River is used by a former Huslia resident now living in Galena. Additionally, a substantial trapping area occurs between the North Fork of the Huslia River and the crest of the Purcell Mountains northwest of Huslia that is used by a family living along Billy Hawk Creek.

CHAPTER 7

PLANT GATHERING

Huslia residents use wood and edible plant products for a variety of material and food needs. Homes and municipal buildings in Huslia are typically constructed of logs, as are smokehouses, food caches, and camp structures. Spruce poles are commonly used for general purposes, such as for building wall tents and fish drying racks. Basket sleds, toboggan sleds, and snowshoes are constructed of locally-cut birch. Birch is also used for bait sticks in beaver trapping. Dry balsam popular and willows are used in smoking fish, and spruce and birch are used for firewood.

Throughout July, August, and early September of 1983, considerable quantities of berries were picked to be eaten fresh, frozen, cooked, used in making Indian ice cream, or to be served at potlatches. Seventy-five percent of all Huslia households indicated using edible plants in 1983.

Harvest levels for 1983 are summarized in Table 12. For each resource category, the number of harvesting households and the total community harvest are shown. The 315 cords of spruce and 14 cords of birch (an average of 6 cords per household per year) may somewhat underrepresent the actual harvest. Although much of the firewood was used within the household for heating purposes, some individuals cut wood for subsequent use in trade, barter, or sale. The 77 house logs included here were ones used by individuals as well as logs obtained for the local saw mill operation.

TABLE 12. WOOD AND EDIBLE PLANT HARVEST IN HUSLIA, 1983.

Resource Harvested	Number of Households Gathering	Mean Harvest for Gathering Households	Total Community Harvest
Spruce (firewood)	46	6.8 cords	315.0 cords
Balsam poplar	19	1.0	18.2 cords
Birch (firewood)	14	1.6	23.0 cords
Willow	4	.6	2.5 cords
Houselogs	4	19.3 logs	77.0 logs
Lowbush cranberry	34	4.9 gallons	167.0 gallons
Highbush cranberry	21	2.7	57.5 gallons
Blueberry	15	2.0	29.8 gallons
Raspberry	9	1.5	13.2 gallons
Blackberry	7	1.4	10.0 gallons
Cloudberry	7	1.7	12.2 gallons
Rosehip	7	1.9	13.5 gallons

Areas used for firewood gathering are included in Figure 12. Residents identified a general area within approximately eight miles of Huslia, where most firewood cutting took place in 1983. Wood was also cut near camp and cabin locations. Since much of the woodcutting occurred during winter months, access was typically by snowmachine. Smokehouse wood was obtained near fish camp locations as well as near Huslia. Berries were picked near Huslia, in areas where local trails provided access, and in areas accessible by the river. Most households obtain their own firewood with the exception of those occupied only by elderly individuals. Many of these households receive aid from an energy assistance program and purchase wood locally, which has resulted in a commodity value of firewood.

Berry picking was predominantly a female activity with 63.6 percent of the participants being female. Since this figure includes children and adults it is expected that the adult participation tends to be more female oriented. Wood gathering, on the other hand, tends to be a predominantly male activity with 86.7 percent of the wood cutting participants being male.

CHAPTER 8

DISCUSSION

As has been documented in this report, Huslia residents harvest and use a wide variety of resources throughout the year. Resources were harvested in 1983 to meet a wide range of needs that included food, shelter, fuel, clothing, tools, transportation, and customary trade.

Of the 43 distinct resource types identified in the survey, 29 were used for food. On average, Huslia households harvested 10 of these 29 edible resources (range, 0-23). For all resource types, edible and non-edible, the range fell between 1 and 31 resources. The number of animal resources harvested by households ranged from 0 to 22 (mean, 10) while the number of plant resources harvested ranged from 0 to 11 (mean, 3.5). As stated earlier, household surveys measured direct harvest of a resource and not participation in a harvesting activity. Actual participation levels of households are higher than these estimates. For example, individuals from other households commonly helped another household cut salmon or process moose hides. Those activities were not recorded in these harvest estimates.

Resources can be grouped into five general categories: fish, game, furbearers, berries, and wood. Twenty-three of the 56 households (41 percent) harvested resources in each of these six general categories. Forty-one of the 56 household (73 percent) harvested resources from at least four of these groups.

SOCIAL DIMENSIONS

Family relationships play an extremely important role in most resource harvest activities as well as in the distribution and consumption of those resources. It should be emphasized that the household, the survey unit for this study, represented only a portion of the extended family group which formed the basis of many harvest activities. These larger family groups did not seem to operate as mutually exclusive production groups for the entire range of resource harvest activities throughout the year.

Harvest activities are frequently social roles appropriate for male or for female family members. Participation rates of males and females in five harvest activities in 1983 are shown in Table 13. For some activities marked differences in participation based on gender were observed. The activity with the greatest female participation was berry picking (63.6 percent), while the lowest female participation was in trapping (4.4 percent). In these estimates, both adults and children of sampled households are included.

TABLE 13. MALE AND FEMALE PARTICIPATION IN FIVE CATEGORIES OF HARVEST ACTIVITIES IN HUSLIA, 1983

Harvest Activity	Participation	
	Male Percent	Female Percent
Berry picking	36.4	63.6
Fishing	60.0	40.0
Moose hunting	64.4	35.6
Wood gathering	86.7	13.3
Trapping	95.6	4.4

Differences in household harvest diversity are correlated with household demographic characteristics. Factors such as household size, number of males, number of females, number of adults, and number of children were correlated with household harvest diversity as measured by the number of different resources harvested. Significant correlations were found with each of these factors. Table 14 lists these household demographic characteristics and includes a measure of statistical association between these characteristics and harvest diversity.

The strongest correlation was found between a household's overall harvest diversity and the number of males in the household (r=.66). The number of animal resources harvested was most strongly correlated with the number of males in a household (r=.62) while the number of different plant resources harvested was most strongly correlated with the total size of the household (r=.58). The weakest significant correlation (r=.30) was found between the number of animal resources harvested and the number of females in the household. Harvest diversity was also correlated with head of household age, head of household birthplace, and head of household length of residence in Huslia, but none of these factors seemed to significantly account for the observed differences in harvest diversity.

Another series of tests was based on measurement of a household's subsistence output in edible pounds of resources produced or harvested during a one-year period. The use of a single measurement of subsistence output can be useful for comparative purposes. This conversion into pounds, however, does not suggest that different resources are equivalent or interchangeable.

TABLE 14. CORRELATION OF HOUSEHOLD DEMOGRAPHIC CHARACTERISTICS WITH HARVEST DIVERSITY

Strength of Correlation (r)	Measure of diversity: Number of Fish and Game Resources Harvested	Measure of diversity: Number of Plant Resources Harvested	Measure of diversity: Number of Plant, Fish, and Game Resources Harvested
Strongest (.66)			Number of males (.66, p<.001)
	Number of males (.62, p<.001)		Total size (.62, p<.001)
		Total size (.57, p<.001)	
	Total size (.55, p<.001)		Number of adults (.54, p<.001)
	Number of adults (.53, p<.001)	Number of males (.53, p<.001)	
		Number of children (.50, p<.001)	
			Number of children (.45, p<.004)
		Number of females (.41, p<.010)	
		Number of adults (.38, p<.008)	
	Number of children (.37, p<.010)		Number of females (.37, p<.010)
Weakest (.30)	Number of females (.30, p<.010)		

Note: p values were computed using randomization tests (Edgington 1986)

Using the household subsistence outputs, correlations were made with household size, the number of adults in household, and head of household age. Household size and the number of adults in the household both were highly correlated with subsistence output (r=.69, p<.001 and r=.73, p<.001 respectively). The age of the household head

was not related in a linear relationship to the size of a household's harvest, but displayed a "life cycle" pattern (Table 15). The five highest producing households were headed by someone between 38 and 55 years of age. Households having very young or very old household heads displayed lower outputs.

The number of females in a household proved highly significant in correlations with pounds of berries harvested and edible pounds of fish harvested. Not surprisingly, these activities were described as major activities of women by several of the respondents.

Household harvest patterns were examined on the basis of six household types. These household types were distinguished by household head (single male, single female, husband-wife couple) and dependents (none, all less than 18 years, some over 18 years). Table 16 shows the average total subsistence output for each of the six household types (of the nine possible household types, three were not represented in the 56 households). Two types -- households headed by couples with dependents younger than 18 only and couples with dependents over 18 present -- both displayed above average output. Couples with no dependents and female-headed households with dependents younger than 18 only, displayed output well below average. These six household types also ranked in the same order on the basis of their overall harvest diversity.

COMMUNITY SUMMARY

Subsistence outputs were also tabulated by resource type in order to show the relative use of different resources. Table 17 lists the

TABLE 15. AVERAGE HOUSEHOLD SUBSISTENCE OUTPUT BY AGE OF HOUSEHOLD HEAD.

Age Group	Number of Cases	Average House-hold Size	Average House-hold Output in Pounds	Percent of Total
20-29	4	3.2	2,987	5.8
30-39	19	3.1	2,228	20.7
40-49	16	4.1	4,836	37.8
50-59	8	3.7	7,300	28.6
60-69	4	2.2	1,922	3.8
70-79	2	2.5	1,866	1.8
80+	3	2.7	1,006	1.5
All Households	56	3.4	3,652	100.0

TABLE 16. AVERAGE HOUSEHOLD SUBSISTENCE OUTPUT FOR SIX HOUSEHOLD TYPES.

Household Type	Number of Cases	Average Household Size	Average Household Output in Pounds
Female Headed, Dependents <18 only	8	3.0	392
Couple, no dependents	6	2.0	579
Male headed, no Dependent	14	1.0	1,077
Female Headed, Dependents >18 present	4	2.8	2,331
Couple, Dependent <18 only	15	5.0	5,153
Couple, Dependent >18 present	9	5.9	10,689
All Households	56	3.4	3,652

TABLE 17. 1983 HUSLIA SUBSISTENCE OUTPUT: MEAN HOUSEHOLD, PER CAPITA, AND COMMUNITY TOTAL

Resource	(Edible Weight in lbs[a])	Output in Pounds: Mean Household (N=56)	Per Capita (N=189)	Community Total	Percent of Total
Sheefish	(7.0)	109.1	32.3	6,111	3.0
Whitefish	(.9)	74.7	22.1	4,185	2.0
Pike	(2.8)	97.4	28.8	5,452	2.7
Grayling	(.7)	.2	.1	12	b
Sucker	(1.0)	5.3	1.6	296	0.1
Burbot	(2.4)	8.8	2.6	492	0.2
Blackfish	c	10.7	3.2	600	0.3
King salmon	(13.7)	71.4	21.2	4,000	2.0
Summer chum	(4.5)	1,654.2	490.1	92,633	45.3
Fall chum	(5.1)	145.9	43.2	8,170	4.0
Moose	(700.0)	1,050.0	311.1	58,800	28.8
Caribou	(130.0)	120.7	35.8	6,760	3.3
Black bear	(150.0)	107.1	31.7	6,000	2.9
Grouse	(.5)	3.0	.9	166	.1
Ptarmigan	(.7)	.1	<.1	4	b
Porcupine	(5.0)	5.0	1.5	280	.1
Muskrat	(1.5)	7.3	2.2	407	.2
Hare	(1.5)	8.8	2.6	492	.2
Beaver	(8.8)	42.2	12.5	2,363	1.2
Cranes	(5.0)	1.6	.5	90	b
Geese	(8.0)	79.3	23.5	4,440	2.2
Ducks	(1.5)	27.6	8.2	1,548	.8
Berries	(4 lbs/gal)	21.7	6.4	1,213	.6
All edible resources		3,652.0	1,082.1	204,512	100.0

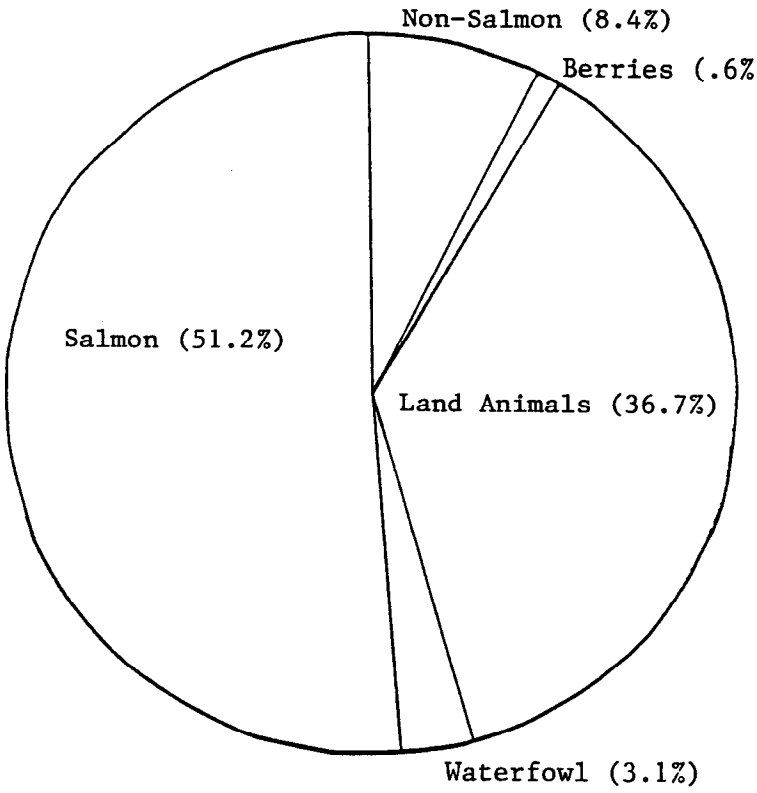
[a]Source: Researcher estimates
[b]Less than .1 percent.
[c]Amount harvested was collected in pounds

household mean, per capita output, and community total for each resource harvested. The table also includes the conversion factors used to calculate edible weight. The expected larger amounts of salmon and moose are evident, but also evident are the considerable amounts of other species. It should be emphasized again that harvest levels from a single year can not fully depict the dynamic range of harvests over time, since species populations and availability are known to vary considerably from year to year.

The percent of total community production represented by each of five general resource categories is shown in Figure 16. Here the substantial salmon harvest is evident with salmon accounting for 51.2 percent of the total subsistence harvest of Huslia. The substantial use of salmon in Huslia is similar to patterns found in other Koyukuk River communities. In Allakaket, salmon accounted for 61.5 percent, and in Hughes, 77.8 percent of the total subsistence output in 1982 (Marcotte and Haynes 1985).

Land mammals also contributed substantially to the community's total subsistence harvest, (36.7 percent by weight). Most of that was moose, which alone contributed 28.8 percent of the year's harvest by weight (Table 17).

The total per capita output was 1,082.1 lbs in 1983. This is only slightly higher than a regional average of 957 lbs (Wolfe and Walker 1985). Hughes, the next community north on the Koyukuk River, displayed a somewhat larger per capita output of 1,500 lbs, resulting from a substantial fish harvest for working dogs. Also in 1982, an output of 908 lbs per person was recorded for Allakaket (Marcotte and Haynes 1985). Huslia's output approaches that predicted by Wolfe and



Total community output:	204,512
Mean household output:	3,652
Total per capita output:	1,082
Estimated output for human consumption:	677-711

Fig. 16. Huslia Subsistence Output in 1983 by Five Resource Categories.

Walker (1985), based on Huslia's ethnic composition, relative isolation, and its community income levels.

A portion of the 1983 community total of 204,512.4 lbs went to feed the 202 dogs in the community. Estimates of consumption by dogs are made in two ways in order to obtain a more accurate account of per capita human consumption. Based on assumptions presented by Burch (1985:111-112), that a working sled dog consumes an amount equal to a person and that the rates for non-working sled dogs and pet dogs or

pups are one-half and one-quarter respectively, the 202 dogs would consume an amount roughly equal to 113 people bringing the adjusted per capita human consumption to 677.2 lbs annually.

A second approach is to factor out blackfish and summer chum salmon which account for .3 percent and 45.3 percent of the total community harvest. Even with all blackfish and all summer chum salmon production factored out, per capita production is comparatively high at 588.8 lbs. However it is more accurate to assume that about 25 percent of the summer chum production is for human consumption, which results in a per capita human consumption of 711.3 lbs annually.

CURRENT ISSUES

Several resource and land use issues currently face Huslia residents and that have the potential to significantly alter the resource harvesting activities described in this report. Issues stem primarily from proposed future development of local mineral resources, increased demands placed on renewable resources, and the expanding regulations which govern harvest and land use activities.

Environmental impact issues currently center around the increased stream sediment load from mining activity and a concern for future oil and gas development. Where placer mining occurs on the Hogatza River and several upper Koyukuk River tributaries, an increased sediment load in the streams has disturbed the gravel beds used by spawning salmon (Andersen, pers. comm., 1984). The longterm implications of these alterations remain unclear, although it is known that spawning in many of these tributary streams does contribute to the overall

strength of Koyukuk River salmon runs. Areas surrounding Huslia have been estimated to hold low potential for oil and gas development. However, initial subsurface testing has not been conducted. Local residents are concerned that potential oil and gas development or other area mineral development may adversely impact fish and wildlife resources.

An increasing demand on the renewable resource base has, in some instances, resulted in increased user conflicts. The best example of this is competition for trapping areas. Trapline conflicts are not uncommon in the Huslia area. Several residents explained that there are not enough trapping areas available for all of Huslia's young men to run traplines when they reach an age for trapping. Trapping near Huslia by residents of other area communities has also sparked local debate. Interest has increased in establishing a locally organized trapline registration system to help address these conflicts.

User group conflicts with moose hunting have been substantially reduced with the establishment of the Koyukuk Controlled Use Area that prohibits the use of aircraft in conjunction with moose hunting. The controlled use area was established by the state Board of Game to eliminate a high rate of aircraft use by moose hunters from outside the local area. It was widely perceived that the same-day-airborne restriction was routinely abused and local hunters observed significant amounts of hunting pressure from non-local hunters. If the aircraft restrictions were to be lifted, a sharp increase in conflicts is anticipated.

Several regulatory issues persist despite the active role of the Koyukuk River Fish and Game Advisory Committee in advising the State

Board of Game on hunting and trapping matters. Confusion arises from the complexity of the regulations that cover licensing and permits, methods and means allowed, sealing requirements, seasons and bag limits, and area boundaries. Commonly, local residents report that it is difficult to interpret the game regulation booklet. License vendors, advisory committee members, and agency representatives are often called upon to decipher the booklet. However, many regulations are poorly understood. Another issue results from the emphasis placed on the individual in establishing bag limits and permit requirements. Frequently one individual hunts for other members of his extended family outside his own household, such as grandparents, parents, or siblings. In addition, he provides for his own household's needs. In this situation bag limits set on an individual basis are often a constraint.

Waterfowl hunting seasons, where the current seasons are incongruent with traditional spring hunting practices, is another regulatory issue. Since no waterfowl regulations are enforced in the Huslia area at this time, actual citations are not presently a problem with residents. At some time should regulations be enforced, problems can be expected. Unlike with large game and trapping regulations, the local Fish and Game Advisory Committee has little input on the waterfowl seasons established through an international treaty process.

Problems often develop as a result of the simultaneous operation of two separate regulatory schemes -- an agency regulatory process and a traditional process. With many activities a traditional conservation ethic appears to guide the actual harvest practices more

directly than do agency regulations. An improved understanding of how these two systems operate jointly will be useful in future management.

The 1980 establishment of the Koyukuk National Wildlife Refuge surrounding Huslia has resulted in a variety of local concerns. The opportunity for continued subsistence use by local residents is one of the stated purposes for which the U. S. Congress established the refuge. However, those uses are largely controlled by laws, regulations, and policies that are in some instances at odds with traditional practices. For example the U. S. Fish and Wildlife Service cabin policy allows cabins on refuge lands only under a five-year non-transferable special use permit. Cabin use and permit renewal is authorized for immediate family members only. In traditional practice, cabins are used by extended family members and the succession of their use has been guided by locally recognized trapping rights. How local residents will participate in or relate to the planning, management, and daily operation of the refuge is an emerging question.

In summary, the central resource use issue facing Huslia residents is the protection of their customary and traditional hunting, fishing, and trapping opportunities. The direct dependence that they have had on local resources has existed for generations. Challenges now are being made to that unique relationship from outside interests, competing cultural values, and evolving land ownership systems. The land has supported these subsistence harvests on a sustained yield basis for many generations. The land management systems of the future should provide for the continued use of these renewable resources.

REFERENCES

Alaska Department of Fish and Game
1977-85 Annual Management Report, Yukon Area, Division of Commercial Fisheries, Fairbanks.

Alaska Department of Labor
1985 Alaska Population Overview

Alaska Department of Revenue
1985 Federal Income Taxpayer Profile 1978, 1981, 1982 by Alaskan Community and Income Level Filing Status

Andersen, Frederick
1984 Personal Communication

Berger, Louis, and Associates
1981 Western and Arctic Alaska Transportation Study Summary Report. State of Alaska, Department of Transportation and Public Facilities.

Burch, Ernest S. Jr.
1985 Subsistence Production in Kivalina, Alaska: A Twenty-year Perspective. Alaska Department of Fish and Game, Division of Subsistence, Technical Report No. 128.

Clark, Annette McFadzen
1981 Koyukon. In Handbook of North American Indians, Volume 6: Subarctic. June Helm, ed. pp. 582-601. Washington, D.C.: Smithsonian Institution.

Edgington, Eugene S.
1986 Randomization Tests. Second Ed. Marcel Dekker, Inc., N. Y.

Freeman, M. M. R.
1976 Inuit Land Use and Occupancy Study. Three Volumes. Department of Indian Affairs and Northern Development, Ottawa.

Marcotte, James R. and Terry L. Haynes
1985 Contemporary Resource Use Patterns in the Upper Koyukuk Region, Alaska. Alaska Department of Fish and Game, Division of Subsistence, Technical Paper No. 93.

Nelson, Richard K.
1983 Make Prayers to the Raven. Chicago: University of Chicago Press.

Nelson, Richard K., Kathleen H. Mautner, and G. Ray Bane
1982 (orig. 1978) Tracks in the Wildland: A Portrayal of Koyukon and Nunamint Subsistence. Anthropology and Historic Preservation, Cooperative Park Studies Unit. University of Alaska, Fairbanks. Marceline, Missouri: Walsworth Publishing Co.

Norton, Helen H.
1982 A Review of Some Data for Six Rural Communities Surrounding the Gates of the Arctic National Park. Unpublished draft manuscript prepared for Gates of the Arctic National Park and Preserve. Fairbanks, Alaska.

Simon, Edwin
1981 Edwin Simon, A Biography: Huslia. Yukon-Koyukuk School District of Alaska. Vancouver: Hancock House Publishers Ltd.

Wolfe, Robert J.
1982 Mapping Subsistence Use Areas: Methodologies and Issues. Division of Subsistence. Research Notebook Series No.1. Juneau: Alaska Department of Fish and Game.

Wolfe, Robert J. and Robert J. Walker
1985 Subsistence Economies in Alaska: Productivity, Geography, and Development Impacts. Paper presented at the 1985 American Anthropological Association meeting.

STATE OF ALASKA

BILL SHEFFIELD, GOVERNOR

DEPARTMENT OF FISH AND GAME

DIVISION OF SUBSISTENCE

Dear Huslia Resident:

We would like to ask for your help in answering some questions about your family's use of fish, game, and plants in the Koyukuk region, and to help us to locate on a map areas where you harvest these resources. We are trying to learn more about the importance of hunting and fishing to families in your community.

We have already talked to families in Bettles, Evansville, Alatna, Allakaket and Hughes. Our work in Huslia is a cooperative effort between the Alaska Department of Fish and Game, Division of Subsistence and the Koyukuk National Wildlife Refuge. We want to learn more about the types of resources your family uses and how important they are to your family.

The questions we ask are an important part of this study. The information we record will help State and federal agencies understand better the importance of these resources in Huslia, and help the community in local resource planning. We hope that this will lead to more (better) informed decisions about land and resources in your area.

We are asking for your cooperation in answering these questions and helping us prepare a map of areas important to you. This should take about an hour of your time.

Your assistance will be most valuable if you answer all questions as completely as possible. Your participation is voluntary; you are free to answer as many questions as you wish and your name will not be recorded on this form. If you have any questions, be sure to ask them.

Thank you for your interest in this study.

Sincerely,

Jim Marcotte
Principal Investigator

Albert Vent
Research Assistant

Winter 1985

Household # HSL _____

Interviewer(s) _____ Date _____

Number of Maps _____ Huslia

First I would like to ask about the number of people who live in this household and about jobs they have held in the past year. This information is often used to help show the importance of fishing and hunting in rural Alaska.

How many people lived in this household in 1983 ? _____

* indicate respondent

Relationship to household head (be specific)	Birthdate (year)	Village living in when born	Length of residence here	Employment in 1983 (type)	hrs/ week	No. months worked	Location of job
1. Head							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							

Which members of the household were active in fishing in 1983 ? _____
(household member number)

	Number harvested in 1983	Number rec'd from other HH	Method of harvest	Use (check) eaten in HH	shared/ other HH	other	Average distance to net	Season of harvest 1983 J F M A M J J A S O N D
Shee								J F M A M J J A S O N D
White								J F M A M J J A S O N D

Number harvested in 1983 Pike _____ Grayling _____ Sucker _____ Burbot _____ Blackfish _____

SALMON FISHING WORK GROUP COMPOSITION IN 1983

Household member number or relationship and age (for non household member)	Household Number (for new household members)	Own boat	Own motor	Own net	Own smokehouse	Drive boat	Set net	Pick net	Cut fish	Tend fire	Other processing

Where are the fish stored ? _____

	Number harvested in 1983	Number rec'd from other HH	Method of harvest	Use (check) eaten in HH	shared/ other HH	other	Average distance to net	Season of harvest 1983
King salmon								M J J A
Summer chum								J J A S
Fall chum								J A S O

MOOSE HUNTING WORK GROUP
COMPOSITION IN 1983

Household member number or relationship and age (for non household member)	Household member for new household	Own boat	Own rifle	Went on hunt	Actual harvest	Processing	Other foods harvested during trip

Where is the moose meat stored ? _____

What did you do with the moose hide ? _____

	Number harvested in 1983	Number rec'd from other HH	Use (check) eaten in HH	Use (check) shared/ other HH	Use (check) other	Average distance traveled for harvest	Season of harvest 1983
Moose							J F M A M J J A S O N D
Caribou							J F M A M J J A S O N D
Black bear							J F M A M J J A S O N D
Grouse							J F M A M J J A S O N D
Ptarmigan							J F M A M J J A S O N D
Cranes							J F M A M J J A S O N D
Geese							What months do people hunt geese and ducks ?
Ducks							

Number harvested in 1983 Brown bear _____ Porcupine _____ Muskrat _____ Hare _____

Household # HSL _____

Which members of the household were active in trapping last winter? _____

	Number harvested in 1982-3 season	Number rec'd from other HH	Number sold	Number shared/ other HH	Number used in HH	Method of harvest	Number of traps, sets	Season of harvest 1982 O	N	D	1983 J	F	M	A	M
Marten															
Otter															
Lynx															
Wolverine															
Wolf															
Fox															
Beaver skin															
Beaver meat															

What transportation do you use when trapping? (dogsled, sno-go, both, or walk)

How often do you usually check your traps? _____

How long does it usually take to check your trapline? _____

How many miles (roundtrip) do you travel to check your trapline? _____

If you trap with a partner, who are they? (specific relationship, age) _____

How many years have you trapped together? _____

How many years have you trapped that area? _____

Who trapped there before you? (specific relationship, age) _____

How many trapping cabins or tent camps are used by members of your household?

cabins _____ tent camps _____

Who else uses these cabins, tents? (specific relationship, age) _____

During the last two years did you trap more ____, less ____, or the same ____ as three or more years ago?

What is the reason for the change?

Household # HSL_____

Did your household use berries or other edible plants last year? yes __ no __

Which members of the household were active in berrypicking? _____

	Quantity harvested in 1983 (gallons)	Amount rec'd from other HH	Use (check)				
			fresh	frozen	cooked	jam	other
Blueberries							
Low bush cranberries							
High bush cranberries							
Raspberries							

(Blackberries/Crowberries, Cloudberries, Rosehips, Roots)

Which members of the household were active in wood cutting? _____

	Quantity (in cords)	Use (check)				
		heating	smoking	sleds	construction	other
Spruce firewood						
Birch firewood						
Cottonwood						
Willow						
Sled birch						
House logs						

Did your household have a garden last summer? yes _____ no _____

How many of the following are owned by your household? (indicate number of each)

boats _____	dogs _____
sno-gos _____	freezers _____
3-wheelers _____	airplanes _____

During the past year what products did you or members of your household make from local resources?

basket sleds	parkas
Yukon sleds	mittens
snowshoes	skin boots
baskets	other:
hats	

What was done with these items? (used in household, sold, traded, given away)

Comments? (importance of subsistence, problems with Fish & Game regulations, Koyukuk National Wildlife Refuge, etc.)