

KOYUKON ĀTHABASKAN OCCUPANCY AND LAND USE ON THE UPPER KOBUK
AND KOYUKUK RIVERS

Submitted as M.A. Paper

by

Michael Engelhard

Department of Anthropology

University of Alaska Fairbanks

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INTRODUCTION TO THE RESEARCH AREA

The Koyukon are the northwesternmost Athabaskan people of Alaska, representing the largest Athabaskan group in the state. They are generally divided into three major divisions, Upper Yukon, Lower Yukon, and Koyukuk River, all of which occupy a major portion of Alaska's interior (Clark 1981:583). The population of the Koyukuk River, speakers of either the upper Koyukon (South Fork) or Central Koyukon (lower Koyukuk River) dialects, is presently concentrated in the villages of Koyukuk, Huslia, Hughes, and Allakaket (see Figure 1, p.2). The Koyukon consist of a number of bands or territorial village groups and recognize no "tribal" unity (Clark 1981:583). Contact with Euroamericans was relatively late in the area, occurring when Lt. Zagoskin ascended part of the lower Koyukuk River in 1842 (Zagoskin 1967).

The Kuuvangmiut are speakers of a sub-dialect of Malemiut who live in the Kotzebue Sound region of northwest Alaska. More specifically, they inhabit the Kobuk River drainage including the villages of Noorvik, Kiana, Ambler, Shungnak, Kobuk, and Alatna (Burch 1984:318; see Figure 1, p.2). The first Euroamerican contact documented in English occurred in 1816 during von Kotzebue's expedition to Cape Krusenstern and into Kotzebue Sound (von Kotzebue 1967 [1821]). The term Malemiut is used by Norton Sound Inupiat for inhabitants of the Kotzebue Sound region in general and specifically to designate emigrants from this area,

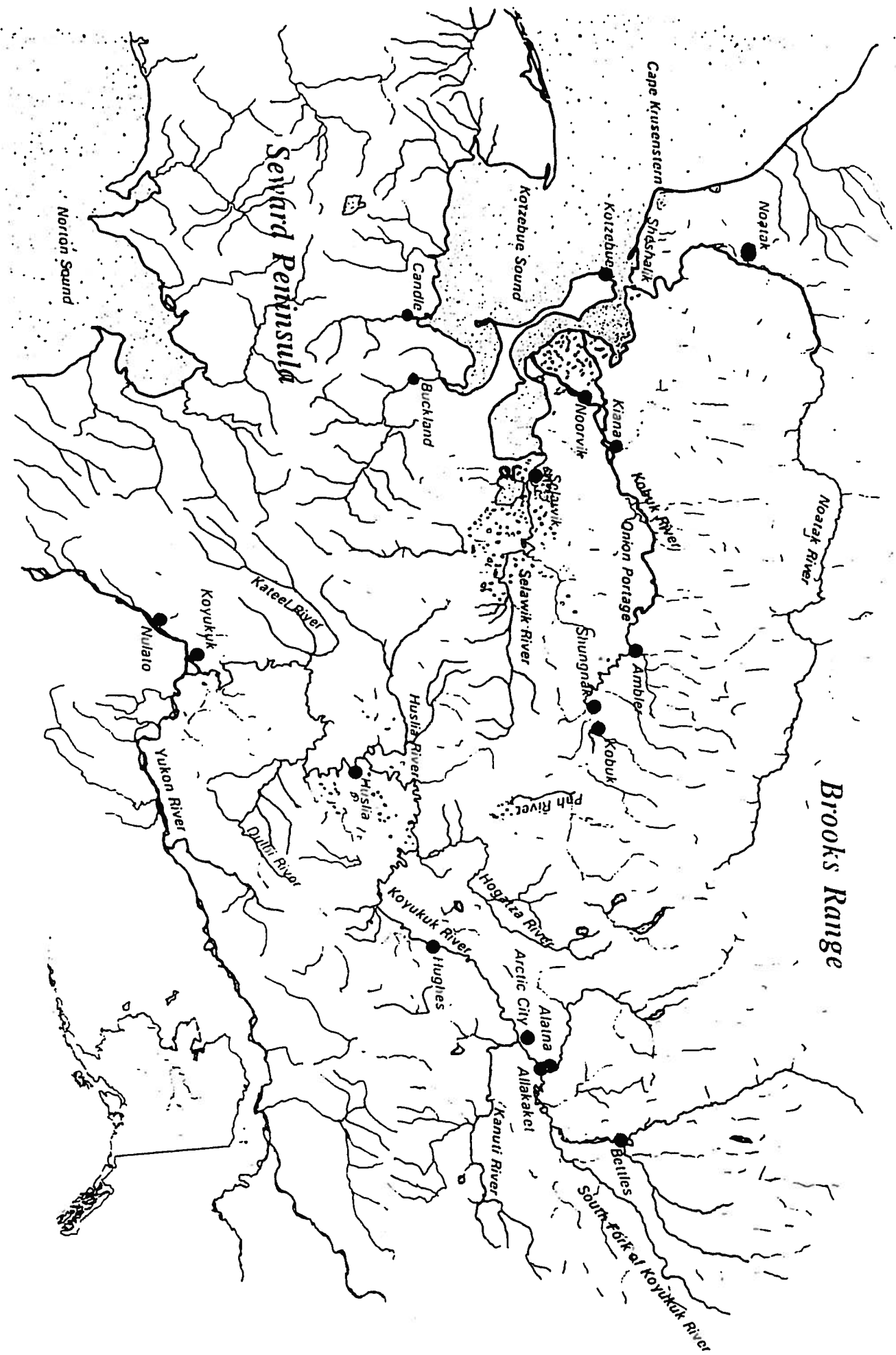


Figure 1 Map of Northwest Alaska (Sherrod 1992).

Figure 1. Map of Northwest Alaska

who have specialized in long distance trading (Burch 1984:318). Although the ethnonym is used to describe the groups of people mentioned above, the anthropological application of the term to a distinct Inupiaq socioterritorial group is questionable. From a linguistic point of view, Kuuvangmiut and Siilvingmiut are sub-dialects of Malemiut, which is considered a dialect of Inupiaq spoken in coastal and interior northwest Alaska (Larry Kaplan personal communication 1992).

Siilvingmiut are Inupiaq speakers of the Selawik River drainage including Selawik village, who are a distinct socioterritorial group but interacted with Kuuvangmiut, Malemiut, and Koyukuk Koyukon. Finally, Nunamiut is the ethnonym given to different groups of interior northern Inupiat occupying the central Brooks Range of northern Alaska. They are thus distinguished from the Tagiugmiut, or coastal groups of the Alaskan North Slope, a distinction largely reflecting ecological differentiation (Hall 1984:345). The neighboring villages of Alatna and Allakaket were chosen as the main locations for this research, because they represent an interesting and exceptional interface of Kuuvangmiut Inupiaq and Koyukuk Koyukon Athabaskan culture and the locus of various forms of interethnic interaction. Although the center of Siilvingmiut-Koyukon interaction was in the Dulbi-Kateel-Hogatza area on the middle section of the Koyukuk River, individuals from the Selawik River also lived at Alatna and traded on the upper Koyukuk River.

THE PROBLEM

The U.S. National Park Service, Alaska Region, Division of Cultural Resources funded the "Northwest Areas (NWA) Ethnographic Project" in an attempt to document indigenous land and resource use patterns and associated socioterritorial groupings and related sociocultural phenomena within the Noatak and Kobuk river drainages of northwest Alaska. During the research conducted for this project, data were revealed which furthered an anthropological understanding of northwest Alaskan Inupiaq cultural, social, economic, and political heterogeneity (Burch 1975:13ff).

Questions of greatest interest concerned the "boundedness" of the research unit -- that is its socioterritorial boundaries in the context of intersocietal and interethnic contact. The analysis of field data clearly indicated that historically and more recently at least two neighboring groups of Athabaskans -- Koyukon and Gwich'in -- as well as North Slope Inupiat groups have made extensive use of land and resources on the upper to middle Noatak and Kobuk rivers.

On the other hand, Inupiat of what is now the North Alaskan Native Association (NANA) Region at times have utilized areas presently encompassed by Gates of the Arctic National Park and Doyon Ltd., the regional corporation of Athabaskans of interior Alaska.

Specific evidence for joint or consecutive use of lands and natural resources by Inupiat and Athabaskans was found in the form of coexisting Inupiaq, Gwich'in, and Koyukon place names on the upper Kobuk, Noatak, Koyukuk, and Alatna rivers. Historical

narratives, travel accounts, and archaeological research also provided evidence of population fluctuations, especially along the fringes of the research area (Burch 1979). Oral historical data suggested considerable diachronic variations in resource and land use throughout the area, although evidence also strongly indicated that major patterns and strategies have persisted relatively intact. Noticeable shifts seem to correlate directly with changes in the location and relative abundance of major natural resources (e.g., caribou and salmon), which also affected mobility patterns and interethnic interaction.

Additional research on which this paper is based was funded by the U.S. National Park Service in order to investigate in more detail questions concerning the nature of past and present interaction between Koyukon Athabaskans and Kuuvangmiut in this area. Special emphasis was given to the dynamics of land and resource use patterns and related forms of socioterritorial behavior of both groups.

RESEARCH METHODOLOGY

In addition to the extensive review of ethnohistoric sources and relevant anthropological literature discussed below, the following techniques were used to collect and analyze data in the field. Lifetime map biographies with individuals of both sexes between the ages of 38 and 78 were recorded in Allakaket, Alatna, Bettles, and Fairbanks. A random sample of 15 individuals (11 from Allakaket,

and 4 from Alatna) was interviewed for this purpose, so that land use data exist for most large extended families of both communities. In addition, interviews focussed on land use and ethnohistoric data were conducted, which included life histories, forms of interethnic contact, toponyms, and genealogical relationships. The majority of interviews was conducted in English. The essential information from interviews conducted in Koyukon was translated by Eliza Jones, who acted as a bilingual consultant and research associate. Jones also provided transcriptions of Koyukon place names. Jones and I conducted supplementary interviews in Huslia, and Ernest S. Burch, Jr. and Jones conducted others in Fairbanks.

For the purpose of data analysis, a composite seasonal round for Alatna and Allakaket covering the period of 1920-1991, as well as composite seasonal land use maps for the region, were compiled. Diachronic and individual variation of land use are addressed in the narrative description of the seasonal round. Additional genealogical data for the period from 1906 to the 1960s were extracted from the records of Allakaket's Episcopalian mission St. John-in-the-Wilderness in order to analyze land and resource use in the context of social organization.

Any quantification of data for purposes of a representative sample will require further research. However, this exploratory project proved sufficient to suggest general patterns of land use and occupancy, to question, correct and supplement previous

findings, and to formulate specific problems and questions for further research.

LITERATURE REVIEW

The literature reviewed for this study fell into three basic categories. The first included early ethnographic accounts relevant to the topic, including those of the early explorers of the area like von Kotzebue (1967 [1821]), Zagoskin (1967), and Stoney (1974 [1899]). These accounts often yielded only patchy information on subsistence, population movements, and residence patterns. A major problem with these sources, besides their familiarity with only limited areas of the study region, was their use of vague ethnonyms, which occasionally prevented the unequivocal identification of groups. The second category consisted of more recent anthropological works, particularly those dealing with socioterritorial organization and interethnic interaction. Most of these studies date from the 1970s and reflected an increased anthropological interest in cultural ecology and the question of ethnic units operating within wider systems. Clark (1974, 1975, 1976) looked at these questions for the Koyukon, while Burch (1979), Künz (1977), and Hall (1975) considered these issues as they pertained to Inupiat. Problems with these authors' perceptions of land and resource use in the study area are

addressed in the discussion below. A third group of references was the series of biographies of Koyukon and Inupiat elders of the Koyukuk and Alatna rivers published by the Yukon-Koyukuk school district. These works (Henzie 1979; Beatus 1980; Beetus 1980; Nictune 1980; Tobuk 1980) provided a wealth of historical information as well as evidence of individual variation of subsistence activities.

For the discussion of socioterritorial organization I adopted the concepts of Inupiat "societies" and northern Athabaskan "bands" as formulated by Burch (1975) and Helm (1965) respectively. According to Burch (1975:10ff), Inupiat societies are generally associated with a particular territory conceived of as home range, which is utilized by members of the group as they follow a distinctive annual cycle. Societies tend to be endogamous units, a tendency which has become less marked since the time of contact (Burch 1979). Finally, a common dialect of Inupiaq distinguishes a particular society from others, although a perception of linguistic and cultural similarity with members of other Inupiaq societies exists.

Helm (1965:370) describes Athabaskan bands as socioterritorial groups which are basically structured as intermarrying localized sets of siblings. These units usually exist over several generations, and, like Inupiat societies, display a tendency towards endogamy, speak the same sub-dialect and are associated with a particular territory. However, within this exploitative territory the "regional band" is dispersed throughout most of the

year, coresiding in smaller groups called "local bands. " These local bands usually only endure a few years and are exogamous, since they tend to be structured around a dominant sibling group or "nodal kindred" (Helm 1965:380).

According to the anthropological literature, the ethnohistory of northwest Alaska is characterized by a process of increasing amalgamation at the intrasocietal, intersocietal and interethnic level, at least for the period of Euroamerican contact beginning in 1816 with von Kotzebue's expedition to Cape Krusenstern and Kotzebue Sound (Kotzebue 1967). The prehistory of the study area is extremely patchy, and only a tentative sequence of cultural traditions for the Koyukuk drainage has been developed (Clark 1976:205).

There is only speculative evidence of ethnic affiliation of Inupiat and Athabaskans associated with the Proto-Eskimoan Arctic Small Tool tradition (AST). The association of classic Denbigh flint complex (4000-3000 B.P.) artifacts with Proto-Inupiat is questionable (Anderson 1988:100f; Dumond 1977:80ff). The stratigraphy at Onion Portage indicates that ". . . up to about 2,200 B.C. on the middle Kobuk River and possibly into a later period farther east and on the Koyukuk River, the lineages of Eskimo and Indian prehistory were sharply separated" (Clark 1976:210). This statement, however, has to be considered in light of the fact that the unequivocal identification of ethnic affiliation solely based on the stratigraphic record represented at Onion Portage is almost impossible. No archaeological record

exists for the last 1,000 years B.P., which could prove Athabaskan occupation of the upper Kobuk River. This scarcity of archaeological evidence is related to the decomposition of organic materials, such as bone and antler, which replaced lithic materials and were supposedly used in a "reconstructed" Proto-Athabaskan tradition.

According to Clark (1976:218), in a comparison of the reconstructed Koyukuk complex with Gidding's Kobuk Arctic Woodland culture (Giddings 1952), both traditions "show many traits in common, even though they are easily distinguished largely on the basis of certain distinctive Eskimo attributes" found in the Kobuk Arctic Woodland Culture. Protohistoric and early historic houses on the Alatna and Koyukuk rivers dating to 1840-1880 revealed material evidence of Euroamerican trade and displayed similarities between Koyukon Athabaskan winter houses and archaeological Kobuk River houses (Clark 1976:219). For the northern fringe of the study area, archaeological evidence indicates considerable Gwich'in, Koyukon, and Nunamiut interaction in the central Brooks Range between 400 and 100 B.P. but little if any prior or after that until the early 1900s (Kunz 1977:144). Nevertheless, no broad generalizations about prehistoric Inupiaq-Athabaskan interaction and occupancy, or even the ethnic identity of prehistoric populations in northwest Alaska, can be made.

Burch (1979) subdivides the ethnohistory of northwest Alaska into four major periods. I follow this framework in my review of the development of interethnic forms of contact. The "early

historic period" from 1816 to 1838 (see Figure 2, p.11) was followed by the "fragmentation period" from 1838 to 1897 (Figure 3, p.12) and the "colonial period" from 1889 to 1960 (Figure 4, p.14). This sequence is concluded by the "Native claims period" lasting from 1960 to the present.

Evidence of population distribution and movement is much richer from the beginning of the "early historic period" as compared to the prehistoric period. However, there is a general understanding (Burch 1979, Clark 1974, Hall 1975) that interethnic relations considerably antedate the Euroamerican fur trade in northwest Alaska. The fur trade may merely have led to an intensification of pre-existing ties (Clark 1974:230ff). Multiple cultural correspondences beyond the domain of material culture and technology, like the widespread Messenger Feast, testify to continued amicable contact and cultural borrowing between neighboring ethnic groups.

Burch (1979:124f) maintains that prior to 1837 small-scale societies with very homogenous populations existed in most areas of northwest Alaska representing "territorially discrete autonomous social systems." Each society consisted of a set of extended families linked through complex kin ties. Societies (or regional bands in the Athabaskan case) were the most inclusive social units during this period (see Figures 2 and 3). Intra-ethnic warfare was at least as frequent and fierce as interethnic warfare, coexisting with partnerships and kin ties linking members of adjacent societies on an individual level (Burch 1979:128).

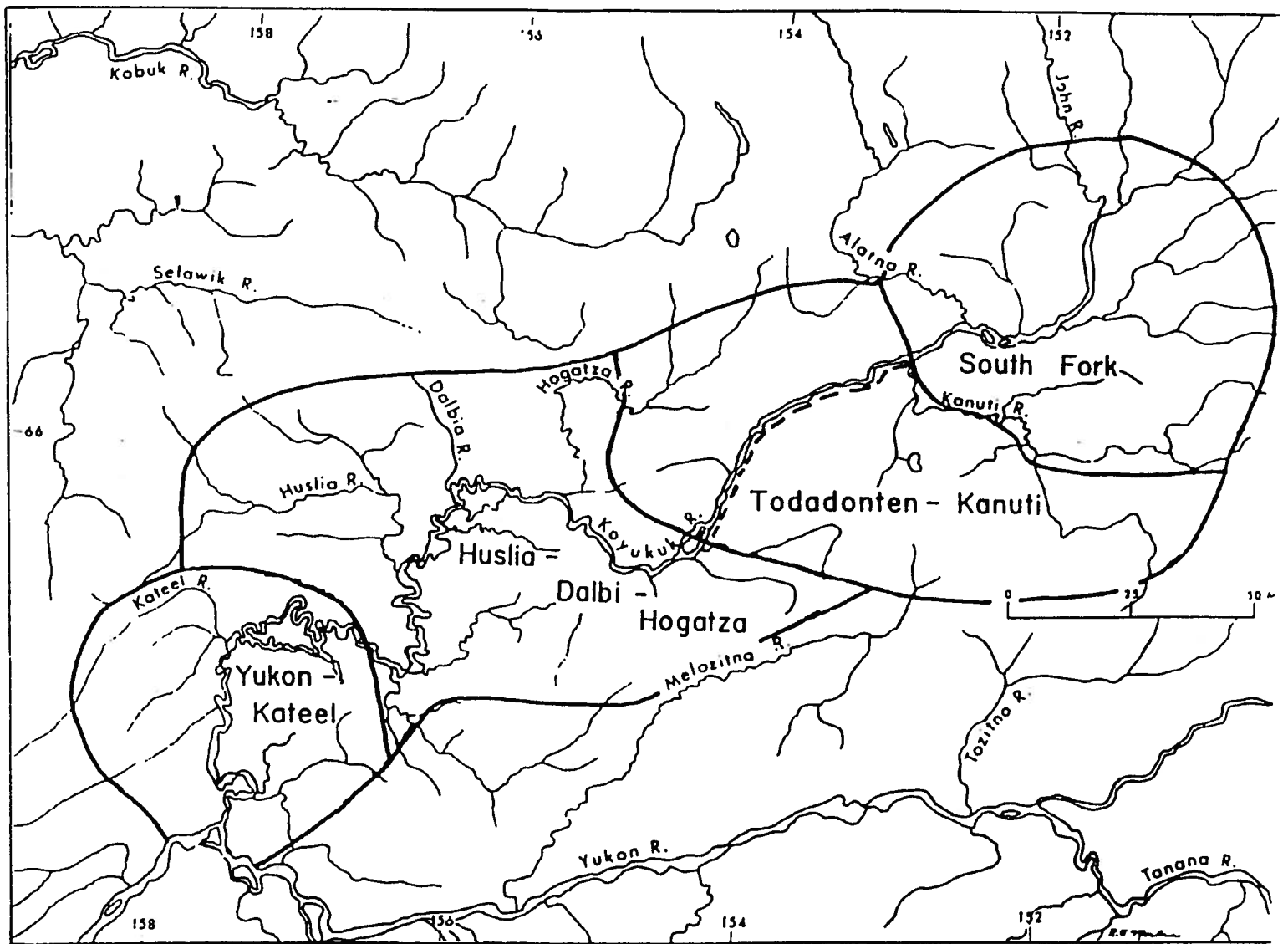


Figure 2 Koyukon Bands of the Koyukuk River (Clark 1975:153).

Figure 2. Koyukon Bands of the Koyukuk River.

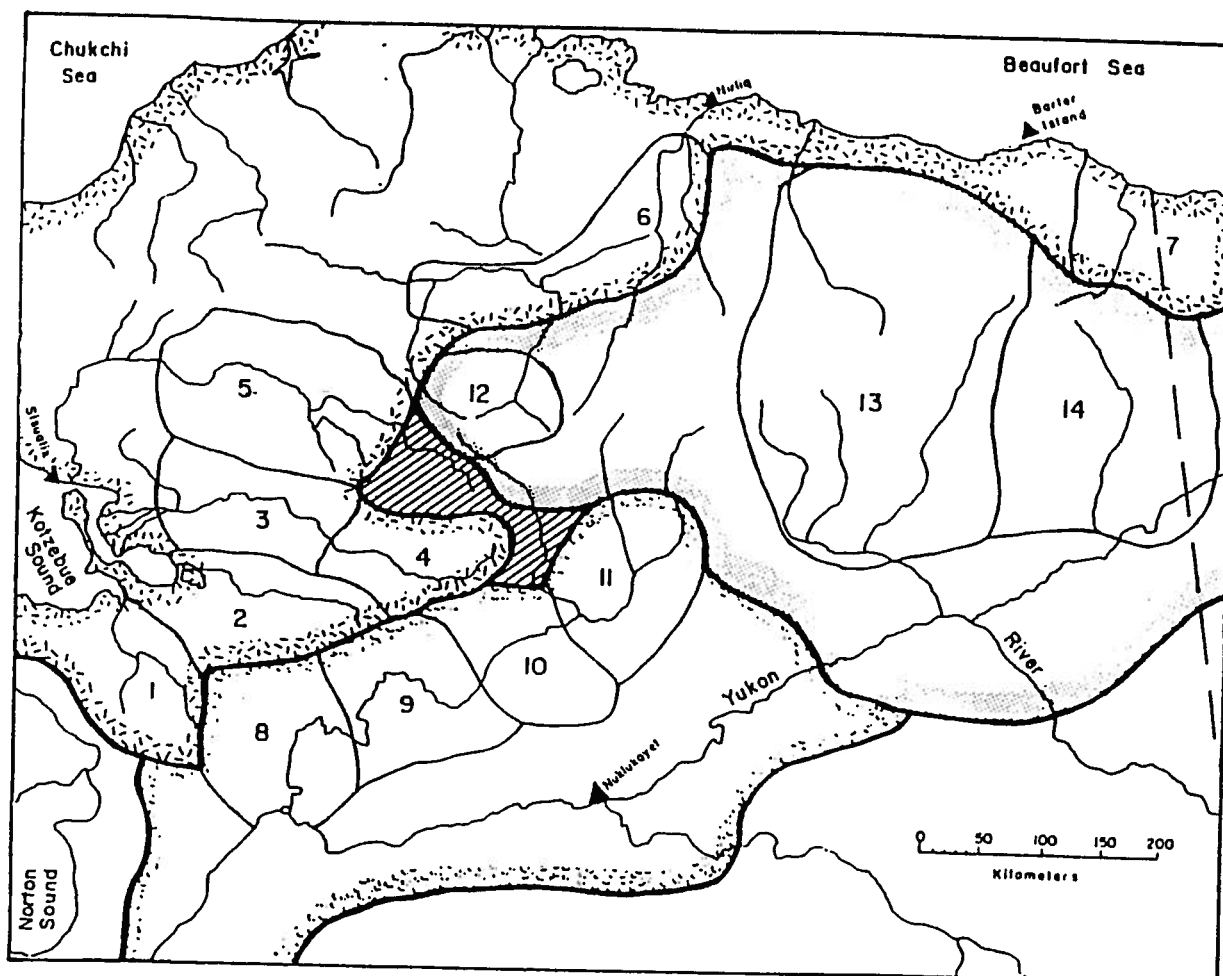


Figure 3 Distribution of Koyukon Bands and Inupiaq Societies, ca. 1837 (adapted from Burch 1979:127).

Inupiaq societies 1-7; Koyukon bands 8-11; Gwich'in bands 12-14. Triangles show locations of major Native trading centers. Hatched area is unclaimed region visited by both Inupiat and Athabaskans.

Inupiaq societies	1	South Kotzebue Sound
	2	Selawik
	3	Middle Kobuk
	4	Upper Kobuk
	5	Upper Noatak
	6	Colville River
	7	Herschel Island
Koyukon bands	8	Yukon-Kateel
	9	Huslia-Dalbi-Hogatza
	10	Todadonten-Kanuti
	11	South Fork
Gwich'in bands	12	Dihai
	13	Netsi
	14	Vante

Figure 3. Distribution of Athabaskan Bands and Inupiaq Societies
ca.1837

During the "fragmentation period," societies gradually disintegrated and populations became widely dispersed (see Figure 4, p.14). European-introduced epidemics and resource scarcity contributed to these demographic shifts. A smallpox epidemic in 1860 and the decline of caribou on the upper Kobuk River led to famines in Inupiat areas and migrations to the Alatna River, where fish, rabbits, bears and sheep were abundant (Nictune 1980:15). The late 19th century population of the Kobuk River can be assigned to two groups. People above the confluence of the Pah and Kobuk rivers spoke Inupiaq and Athabaskan. Stoney (1899:828) noted that their parents spoke "Indian" only. Those below the Pah spoke only "Eskimo." According to Hall (1975:249), the distribution of place names along the upper Kobuk River reflects this division, but available evidence does not preclude earlier Gwich'in residence in the area.

Along the Koyukuk River, caribou populations also declined during the second half of the 19th century. However, fish stocks remained good and the moose population actually increased (Burch 1979:132). Locally restricted population movements and concentration along the Koyukuk River occurred in 1851, when several families of the Kateel band moved north in fear of retaliations for the Nulato massacre, also drawn by the increasing Kuuvangmiut-Koyukon trade (Clark 1975:155, see Figure 6, p.24). This only accentuated a simultaneous northward expansion of Gwich'in and increased raiding between South Fork Koyukon and

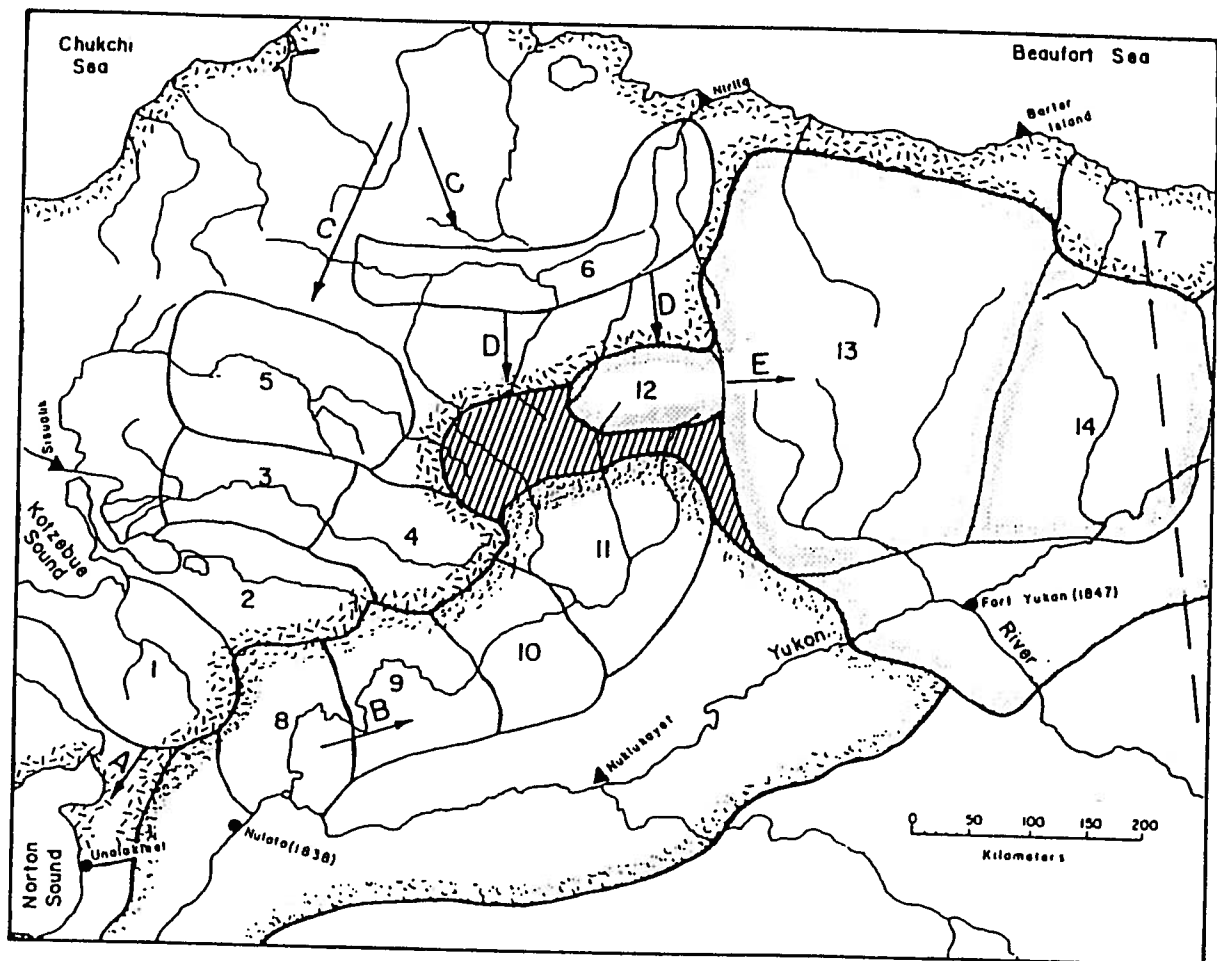


Figure 4 Distribution of Koyukon Bands and Inupiaq Societies, ca. 1854 (Burch 1979:131).

Inupiaq societies 1-7; Koyukon bands 8-11; Gwich'in bands 12-14. Triangles show locations of major Native trading centers, circles indicate European trading posts. Hatched area is unclaimed territory visited by both Inupiat and Athabaskans. Arrows show directions of major population movements.

- | | | | |
|---|--|-----------|--|
| A | South Kotzebue Sd. Eskimos to shores of Norton Sd. | 1840s-50s | Depopulation of Norton Sd. coast due to smallpox epidemic plus desire to be closer to Russian posts there. |
| B | Yukon-Kateel Koyukon moved upriver, away from the Nulato Post | 1850s | Fear of reprisal for Nulato massacre of 1851 |
| C | Meade River Eskimos to Upper Noatak and Colville River districts | 1840s (?) | Severe famine |
| D | Expansion of Colville River Eskimos into Endicott Mts. | 1850s-60s | Undetermined |

Figure 4. Distribution of Athabaskan Bands and Inupiaq Societies
ca. 1854

Chandalar Gwich'in after 1851 (Hall 1975:252). A second move of several Huslia-Dalbi-Hogatza families joining the Kanuti-Todadonten band because of a caribou decline on the middle Koyukuk in 1860-1875 intensified the process of Koyukon amalgamation, which culminated in 1906 with the founding of Allakaket (Clark 1975:155). Four regional bands existed on the Koyukuk River at the time of contact in 1885 (see Figure 2, p.11), consisting of matrilineal cores of extended families and a few distantly or non-related families which utilized a specific territory. Each regional band interacted only infrequently as a local group and dispersed in paired families or local bands through most of the year (Clark 1975:152).

The "colonial period" was marked by considerable migration into Athabaskan territory of Inupiat in search of employment before the first decade of the 20th century and by relative stability after the second gold rush in 1916 (see Figure 5, p.16). A gradual blurring of Athabaskan-Inupiat differences along the middle and upper Koyukuk River during this period is seen as the result of schools and missions, which influenced coresidence and intermarriage of formerly distinct groups and suppressed distinct cultural forms of language and religion (Burch 1979:137).

Since subsistence activities and forms of interethnic interaction are the focus of this paper, the post-contact historical development of each should be reviewed in some detail. Trading partnerships represented the primary form of interregional alliance during the early historic period (Burch 1979:128). They

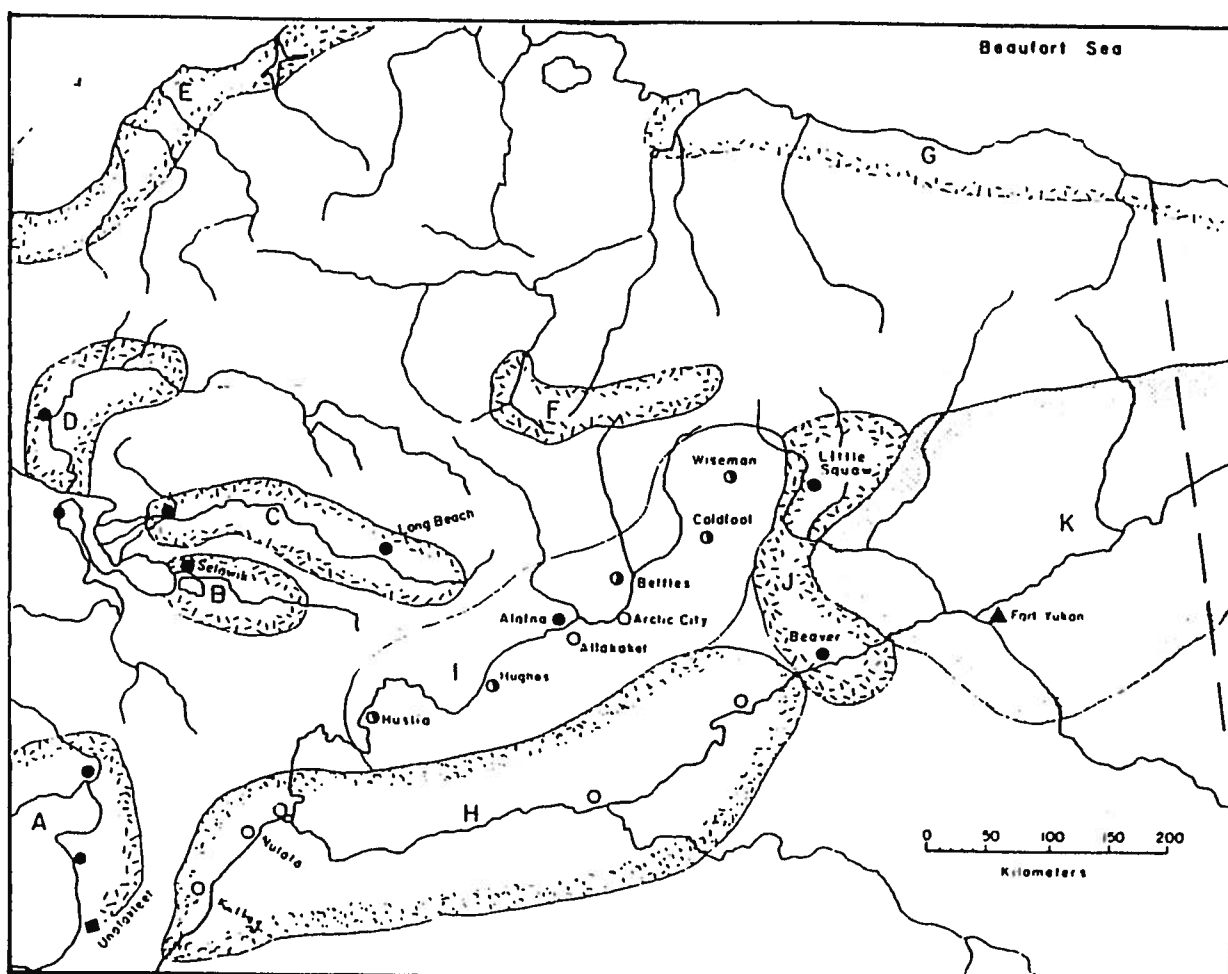


Figure 5 Distribution of Native Linguistic Groups, ca. 1901-11
(adapted from Burch 1979:136).

- | | |
|--|--|
| <p>A Mixed Eskimo populations mostly descended from former Malemiut (South Kotzebue Sound) and Kauverak (Seward Peninsula) peoples. Also some Yupik speakers, especially in Unalakleet.</p> <p>B Continuing population of Eskimos primarily of local Selawik ancestry.</p> <p>C Mixed Kobuk River Eskimos, with a few transient Koyukon individuals and families.</p> <p>D Mixed Noatak River Eskimos, with some people of Kivalina and Kotzebue ancestry.</p> <p>E Mixed Eskimo populations from several areas.</p> <p>F Eskimo populations descended from migrants from Colville, Kobuk, Meade River, Noatak, and Utukok River areas.</p> <p>G Mixed Eskimo populations from all parts of Northwest Alaska.</p> <p>H Traditional Koyukon area with substantial population of Koyukon ancestry.</p> | <p>J Traditional Kutchin area with small intrusive Eskimo population from the Arctic coast.</p> <p>K Traditional Kutchin area with substantial population of Kutchin ancestry.</p> |
|--|--|
-
- | | |
|---|--------------------------|
| ● | Inupiaq villages |
| ○ | Koyukon villages |
| ⊙ | Inupiaq-Koyukon villages |
| ▲ | Gwich'in village |

Figure 5. Distribution of Native Linguistic Groups.

ca. 901-11

had economic, recreational, political, and educational functions and existed within Koyukon and Gwich'in culture, between Koyukon and Inupiat, and between Gwich'in and Nunamiut. Both sexes formed partnerships, which were pivotal for other forms of interethnic interaction and often were perpetuated over several generations, sometimes through marriage (Clark 1976:196f). Trade between individuals was conducted either at intermediate points or in each other's village. According to one source, a sign language and *lingua franca* were used before individuals became bilingual (Clark 1976:198). Russian posts established at Nulato (1838) and St. Michael (1833) triggered an economic specialization of interethnic partnerships through the growth of the fur trade. This trade also led to the specialization of certain Inupiat (including many Malemiut) as traders working a "circuit" including the upper Kobuk, Koyukuk and Yukon rivers and Norton Sound (Burch 1979:132; Stoney 1974 [1899]:810). Jacobsen (1977:123ff) describes in detail the powerful position which Malemiut middlemen held in their own society.

Only a limited Koyukon-Nunamiut trade was reported after 1842, because Nunamiut obtained most of their "Indian" trade goods through Kuuvangmiut (Kunz 1977:137). An increasing number of interethnic partnerships and messenger feasts between Siilvingmiut, Kuuvangmiut, and Koyukuk Koyukon marked the period between first Euroamerican contact on the Koyukuk River and the second world war (Burch 1979:137; Clark 1974:238). Traditional trading partnerships from the early 20th century persisted well into the 1960s, but

newer ones closely resembling Euroamerican friendships were "weaker in structure" (Burch 1979:140).

Societal warfare existed concomitantly with trade between partners belonging to different groups involved in such hostilities. In the early period in which there were distinct societies, warfare served as a mechanism of boundary maintenance, in addition to societal and band endogamy. Warfare declined during the fragmentation period as a result of Euroamerican influence but primarily because of population declines caused by diseases (Burch 1979:133). Relatively peaceful relationships prevailed within ethnic groups and led to the gradual substitution of society-based ethnicity by linguistically-determined ethnicity (that is, broad categories like "Indian" or "Eskimo" were recognized) until after the turn of the century, when overt hostility became practically nonexistent (Burch 1979:133). Inupiat were much more involved in the Euroamerican economic system than Koyukon Athabaskans, partly because of negative ethnic stereotypes held by Euroamericans who preferred to employ Inupiat rather than Koyukon. The greater involvement of Inupiat reflected the relatively late contact of Koyukuk Koyukon with Euroamerican economies. In addition, both groups, although occupying the same territory, engaged in physically separate subsistence activities by utilizing different sectors or resources, thus avoiding direct competition (Burch 1979:137).

Evidence of interethnic adoption is scant, but it seems to have developed from partnerships. Clark (1976:201) assumes that

"lines of interregional adoption seem to follow those in practice between Indian hunting partners or relatives among the Koyukuk."

Intermarriage, on the other hand, is fairly well documented after the second half of the 19th century. It was not common between different linguistic groups prior to the 1840s, although a few cases of nonresidential co-marriage occurred between Koyukon and Inupiat only. The subsequent increase in trading relationships was accompanied by an increase in interethnic marriages, especially co-marriages, peaking in the study area during the 1880s and 1890s (Burch 1979:133). Due to missionary condemnation of any type of "polygamy," the number of co-marriages on the Koyukuk River diminished during the 1930s and 1940s (Clark 1976:202). At the same time, increased sedentism in multi-ethnic villages like Allakaket and Arctic City, both places of residence for Inupiat migrating east during the gold rush, resulted in more residential marriages and lesser physical segregation of ethnic groups.

Ceremonial exchange between Kuuvangmiut and Koyukuk Koyukon occurred during the early period of Inupiat residence on the Koyukuk River, particularly around the turn of the century. Services of shamans and medical practitioners were also exchanged between the Koyukuk and Kobuk regions, with either the patient or the ritual specialist travelling (Clark 1976:202). The mutual attendance at memorial potlatches probably originated around the same time and persisted into the 1990s.

Major changes in the seasonal round of the Koyukuk River Koyukon during the last 100 years mirrored similar developments

among other northern Athabaskan groups. A tendency towards increasing "individualization" of subsistence activities was related to the introduction of Euroamerican technology. Thus, long caribou fences with snares, constructed communally in late October, were gradually replaced by individual hunting with firearms, which perhaps also contributed to the local decline of caribou populations (Burch 1979:132). Fishing with seines made from commercial twine similarly resulted in a proliferation of smaller fish camps, whereas larger fall, spring and summer aggregates at communal fishing sites, where weirs and traps were used, ceased to exist. Increased male involvement in summer wage labor during the gold rush contributed to the shift from communal fishing techniques, including weirs and traps built by men, to net fishing mostly conducted by women (Clark 1975:157).

The fur trade may have played an important role in changing concepts of territoriality. Clark (1975:167) remarks that:

muskrat, beaver and marten trapping areas and fishing locations were privately held and exploited, as also certain big game territories which usually were coincident with trapping areas, berrying grounds adjacent to fish camps, bird hunting areas and more recently wood lots.

Usufruct rights were generally recognized and personal permission was required for use of the types of land listed above. Settlement and mobility patterns also changed. The regional band formerly dispersed into local units for the winter, each living in two or three semisubterranean houses near their fall fishing sites away from the main river at a lake outlet or an outlet stream. After 1900, members of several regional bands began to reside in

permanent villages of log cabins located near the Koyukuk or other main rivers (Clark 1975:158). Present day "factions" recognized by Clark (1975:151) in Allakaket represent survivals of former regional bands utilizing distinct territories.

THE SEASONAL ROUND

The present community of Allakaket (*aalaakkaakk'at*, "mouth of Alatna River") on the east bank of the Koyukuk River was established in 1906-1907, when Hudson Stuck founded the Episcopal mission St. John's-in-the-Wilderness (Stuck 1914:70). The associated day school and medical station of the mission, as well as a store which subsequently opened, helped to draw Koyukon Athabaskans from Arctic City, the South Fork Village, and from camps near Fish Creek and the Kanuti River to the mouth of the Alatna.

Around 1897, Kuuvangmiut, who had utilized the Koyukuk Valley seasonally, occupied the Alatna River Valley year-round and formed the Inupiaq village of Alatna (*aalaatna* from *alasuq*, "there are other people [Athabaskans] on this river also") on the west bank of the Koyukuk River across from Allakaket (Arundale and Jones 1988:151). A few Inupiat from the Selawik River and the Candle and Buckland areas were also drawn to the Alatna River with expectations of finding employment in the wake of the gold rush and having access to more abundant natural resources. According to scholars involved in research in the Koyukuk River drainage,

settlement and subsistence patterns underwent slow and gradual changes in response to wage labor, missionization, increasing technological innovation. There was a corresponding shift from a semi-nomadic through a semi-sedentary to a more sedentary way of life. These changes were probably completed some time around 1956 (Arundale and Jones 1988:151). It has to be noted here that the theory of increasing sedentism through Euroamerican contact is problematic, since parameters of mobility are manifold and difficult to define. This point is further addressed in the concluding discussion.

The following narrative is derived from land use mapping with 12 men and 3 women from Allakaket and Alatna. The age of the informants ranged from 75 to 38. Of the 15 individuals mapped, 11 were residents of Allakaket and 4 lived in Alatna. Although an attempt was made to interview at least one member of most major family groups, a few extended families were not represented in this sample. Since resource and land use patterns of both communities were similar in many ways, a composite summary was considered fairly representative. Yet differences in use areas were evident from the composite maps. This variation will be addressed in the narrative which reflects resource and land use between 1925 and 1991.

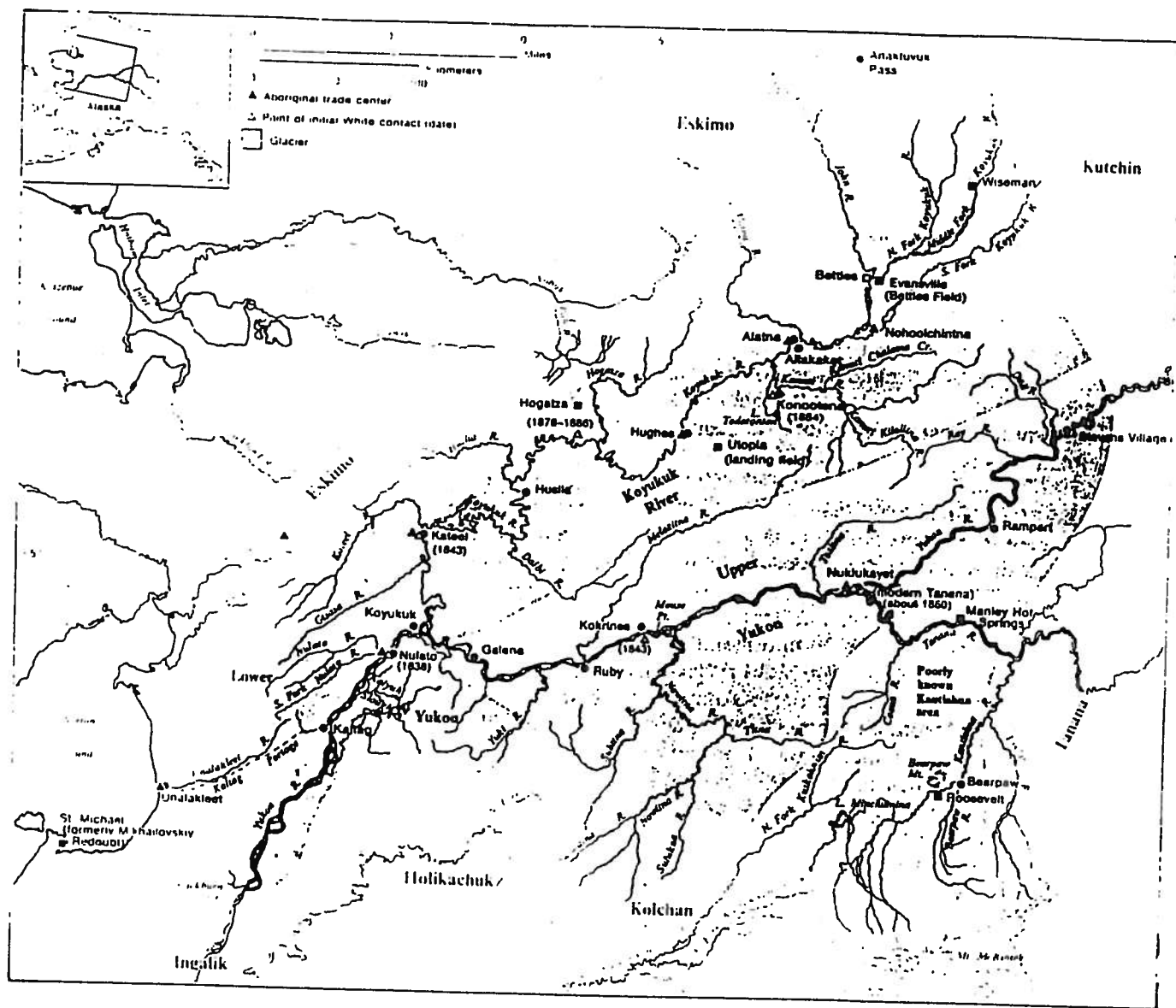


Figure 6 Map of Interior Northwest Alaska (Clark 1981:583).

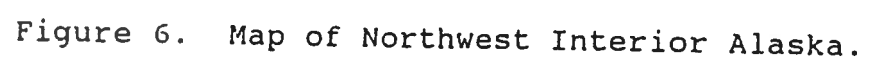
The map area is mostly blank, suggesting the map content was not rendered or is obscured by a large white space. Only a few small, dark specks are visible near the bottom center of the page.

Figure 6. Map of Northwest Interior Alaska.

Seasonal round of subsistence activities. Alatna/Allakaket, Alaska.

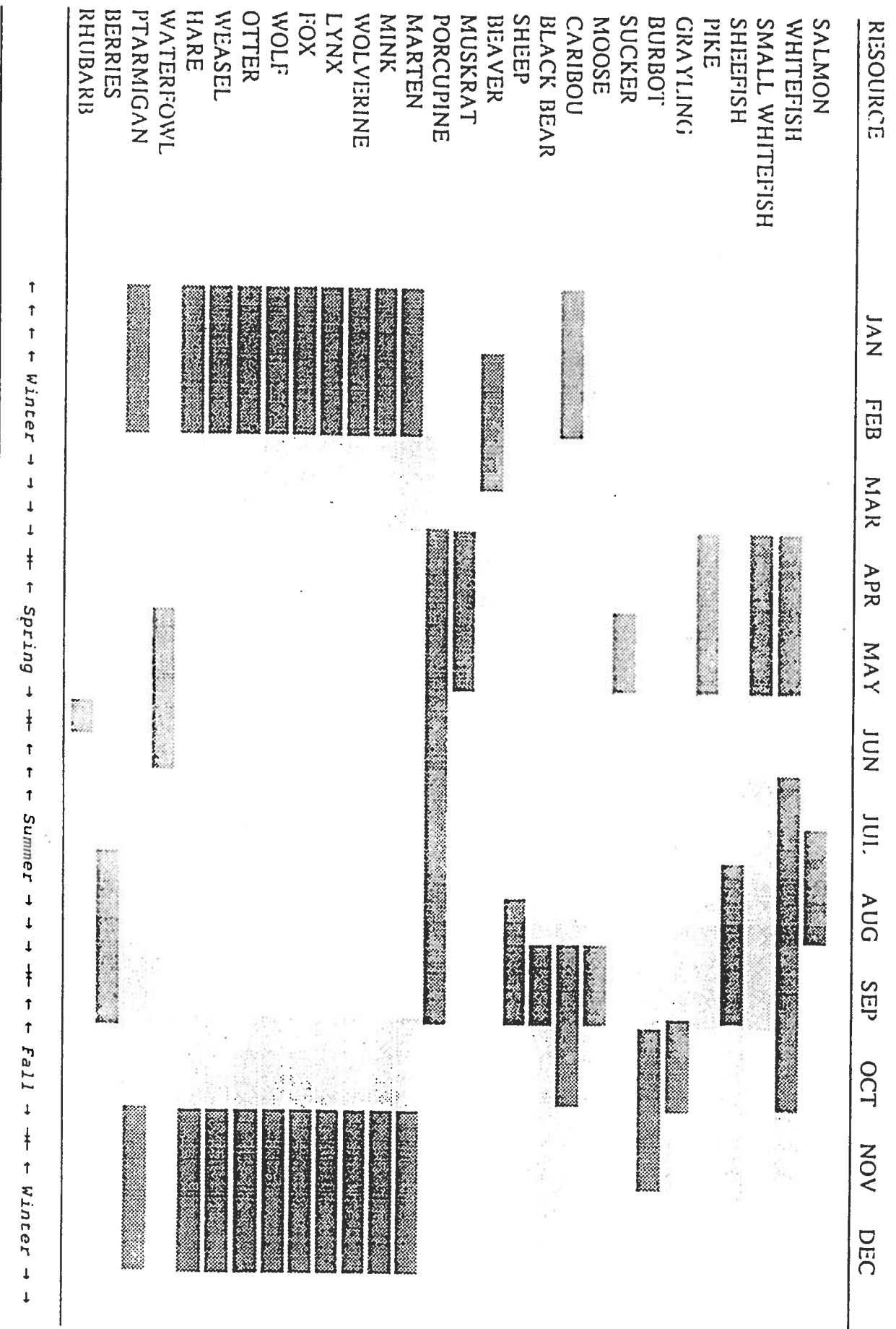


Figure 7

Figure 7. Seasonal Round of Subsistence Activities.

Seasonal population movement.

SPRING	SUMMER	FALL	WINTER
● Up Koyukuk River: — South Fork — Fish Creek Lake ● Kanuti/Chalaina Creek ● Kanuti and Taiholman Lakes ● Up Alaina River: — Black Jack ● Lake Norulak ● To upper Kobuk River	● Up Koyukuk River: — South Fork — Fish Creek Lake ● Kanuti Canyon ● Up Alaina River: — Black Jack — Sinyalak — Chebanika — Takahula — Pinguluk — Unakserak	● Kanuti Canyon ● Kaldoyett Lake ● Fish Creek Lake ● Up Alaina River: — Rocky Bottom — Takhula — Nahluk — Unakserak ● Up John River: — Hunt Fork	● Bettles ● Bonanza Creek ● Kanuti River - Kiliotina River ● Up Alaina River — Henshaw — I niakuk Lake — Malemute Fork of John River ● Hogaiza Hills ● Red Mountain ● Chebanika ● Lake Norulak ● Help me Jack ● To Upper Kobuk River

Note: The USGS spellings were used for easier identification.

Figure 8

Figure 8. Seasonal Population Movement.

SPRING (APRIL AND MAY)

The trapping season on the upper Koyukuk River usually ended in March (see Figure 8, p.26), and people returned to their winter settlements to prepare for their move to spring camp. Prior to the advent of outboard motors in the 1940s, people hauled their boats to camp on dog sleds before breakup and floated back to the village in June. In subsequent years, many families waited until after breakup, which occurs generally between the last week of April and the first week of May, before leaving for spring camp by boat. More contemporary spring camping trips were of shorter duration and involved occasional return trips to the village, especially to celebrate Easter. Since the early 1960s, early trips to spring camp were also undertaken by snowmachines, which gradually replaced dog teams as the principle means of winter transportation. This replacement of an older form of transportation led to a diminished need of salmon as dog food. Time saved at fish camps thus was invested in wage labor, which provided the means to obtain and maintain the costly new technology. Routes of travel to and from camps have changed according to the new technology, and generally less time is required for travelling. Fluctuations of prices for furs have influenced decisions about which species are targeted, how much time is spent trapping muskrat and beaver, and how much time is allocated to the harvest of subsistence foods.

Harvest activities at spring camps prior to breakup included beaver and muskrat trapping; ice-fishing for whitefish, small

whitefish, and sucker with gillnets; and some duck and goose hunting. After breakup, muskrats were shot by men and women with .22 rifles. Women also participated in fishing for grayling, whitefish, and pike, all of which were caught with gill nets, fish traps, and, in the case of small whitefish, dip nets. Women gathered wild rhubarb, which is in prime edible condition during the first week of June. Ducks and geese shot by men were essential to getting through the traditional "hungry time" of spring. Before 1900, long distance trading trips in the spring helped to alleviate scarcity. Later, carbohydrates and vegetables became available at local stores and wild plant foods were less intensively gathered. Prior to 1906, trips were made to the store at Bettles at the end of spring camping to trade muskrat skins for western goods or cash.

A particularly revealing example of the interplay between restrictions imposed by a Euroamerican juridico-political system and introduced technological innovation on one hand, and Koyukon patterns of land use on the other, is described by Arundale and Jones (1988:156):

Until the early 1930s, beaver were often taken by cutting open the beaver house and shooting or trapping the beaver. About 1934, however, these practices became illegal. The beaver trapping techniques used subsequently were not particularly successful, and few people took many beaver in any given season although beaver provided valuable skins for trade. Finally, in 1947 a white trader introduced the use of beaver snares. . . . Thereafter, many of the families were able to take the husband's limit and, in some cases, the wife's limit as well.

Late winter and early spring was also the time when men went out with dog teams and snowshoes to hunt moose or solitary caribou, the most important fresh foods in the winter diet. Caribou from the Western Arctic Herd came into the Alatna River drainage every November, usually staying for only a month but occasionally for the entire winter. In times of scarcity of moose or caribou -- as reported for the latter half of the 19th century, the 1920s, and 1950s -- hunters went as far as the Bettles area for large game. Additionally, ptarmigan and snowshoe hares, snared by women until March or April, were important supplements to the diet.

For the period 1925-1991 spring camps were located near the mouth of the South Fork of the Koyukuk River, at Fish Creek Lake, and up the Alatna River between the village and Blackjack (see Figure 6, p.24). The heaviest concentration of spring camps could be found in the Kanuti Flats area between Ahagateyeit and Kaldolyeit lakes as well as between Kanuti and Taiholman lakes to the south. Spring was the season during which heaviest Inupiaq use of lands southeast of Alatna occurred, but Inupiat also utilized the area north of Bettles as far as the Chandalar River for "springing" (i.e., spring camping).

An interesting place called *hudokkaakk'at* ("river mouth"), located at the confluence of the Kanuti and Koyukuk rivers about 15 miles south of Allakaket, was described by one Koyukon informant. It was at this site that people congregated for several days during their float trips back to Allakaket and Alatna. Many social activities took place including gambling, in which muskrat skins

were used as "cash." Occasionally, people lost the fruits of a whole spring's hard work in gambling. In this context, gambling distributed wealth "randomly" as opposed to "patterned" distribution during potlatches and trading. A similar congregation of families, was described by Arundale and Jones for the year 1932 (1988:153). *Too kkaan'* ("water lodge") was a place

about 11 miles from Allakaket, where several families would meet and visit along the main winter trail after 2 or 3 months of isolation in winter camp. There they would share tea and some of the bone grease prepared and saved especially for this occasion, then camp for a night or two before making the last leg of their journey into Allakaket.

Another form of land use during late winter and early spring was trading trips from the Alatna River to the upper Kobuk, as described above. People often started at Norutak Lake, where some Inupiat from Alatna had spring camps. People who were travelling to the Kobuk tried to return before breakup, when conditions for travel by dog team or snowmachine became too unfavorable. Alternatively, they stayed on the Kobuk until fall or winter.

SUMMER (JUNE THROUGH AUGUST)

In the period prior to 1945, many families moved directly from spring camps to their summer fish camps. In later years, people returned briefly to the village to prepare for fish camp. More contemporary subsistence activities requiring extended periods of camping away from the settlement were frequently organized around younger children's school schedules. In earlier years, moves to

summer fish camp were normally made during the first half of June, whereas more recently they occurred any time in July. Transport to fish camps was by boat. Since the 1940s when outboard motors became popular, occasional trips were made between fish camps and the villages for supplies, the celebration of 4th of July, and other purposes.

Major activities at summer fish camps were seining and gillnetting whitefish, pike, and sucker and, from mid-July on, fishing for grayling, sheefish, and salmon (mainly dog salmon but also a few kings and silvers). Blueberries, lowbush cranberries, and rose hips were picked by women near the fish camps and constituted an important part of the diet, although otherwise relatively few wild plant foods were available. Geese and ducks were again harvested in August and September at a major nesting area near Allakaket. Porcupine were abundant and taken year-round. Between April and August, they were at their fattest. Most commonly women harvested them by clubbing. Due to their sudden decrease in the 1930s, only a few have been taken annually since that time.

With the increasing importance of summer wage employment, primarily of men in firefighting, guiding, mining, and construction work, women were often responsible for the maintenance and operation of fish camps. This division of labor demonstrates some continuity with a traditional pattern, since men in the 1920s often left summer camps in late August for extended hunting trips. The use of multiple summer camps by particular families has been widely

replaced by single fish camps often with log cabins. Caribou and black bear were taken around Sithylemenkat and Tokusatatquaten lakes, up the John River, and on the North Fork of the Koyukuk. Dall sheep were harvested on or near the upper Alatna and John rivers. Major tasks of women who remained at the fish camps were cutting, drying and smoking fish, and tanning caribou and moose hides. The hunters dried the meat at the butchering sites and floated back to camp in birchbark canoes, improvised bull boats (made from willows and "green" moose or caribou hides), or on log rafts.

In more recent years, caribou were hunted approximately five miles downriver from Allakaket where they cross the Koyukuk River on their fall and spring migrations. The animals are particularly desired in September and March when they are well nourished and fat. A recent slight decrease in numbers is attributed by residents to disturbance of the Western Arctic Herd by the oil pipeline to Prudhoe Bay and has led to more frequent trips up the Alatna River to hunt moose and sheep. Moose have become abundant in the area since the 1940s and are hunted in late summer in the vicinity of fish camps, especially in river valleys and lacustrine wetlands. Although traditionally moose were harvested throughout the summer, the official hunting season in the 1990s began only in September when bulls are no longer in prime condition. This represents an exemplary case where state and federal resource management conflicted with Koyukon-Inupiaq interests and land use patterns. Koyukon families seemed to be more strongly affected by

these regulations, since they expressed a preference of moose over caribou, unlike Inupiat who prefer the latter.

Because salmon were scarce during several periods in the 1930s and 1940s, people did not establish "permanent" fishcamps. Instead, they fished opportunistically at various sites, mostly downriver from Allakaket around the mouth of Old Man Creek (Kanuti River). Fish wheels were never used in the area, because the water of the Alatna and Koyukuk rivers is too clear. However, seining became very popular before 1945, especially on the Alatna River. Fishing with rod and reel also became popular in more recent years for short evening fishing trips from the villages, especially among the younger generation. Since 1955, the number of salmon increased again, in part as a result of a diminished need for dog food in the wake of the "snowmobile revolution." A return to an emphasis on big game hunting could be a consequence (McKenna 1969:98). Individual variation in the amounts of salmon harvested in many cases can be explained through the maintenance of large dogteams, mainly for "recreational" purposes.

During summer the most intensive form of land use occurred, with relatively permanent fish camps concentrated along the major rivers and their tributaries. Koyukon fish camps were found south of Allakaket between Kanuti Canyon and the village and to the east between the mouth of Henshaw Creek and Fish Creek Lake or the South Fork. Most Inupiat had camps up the Alatna River between Alatna, Blackjack, and the mouth of Sinyalak Creek, which were thus clearly separated from their Koyukon counterparts.

FALL (SEPTEMBER AND OCTOBER)

Most men employed away from the villages tried to return in time for the fall caribou migration in September when animals were intercepted south of Allakaket. When caribou were still rare in the vicinity of the villages between the 1930s and 1960s, fall hunting was marked by extended hunting trips north into the Endicott Mountains of the Brooks Range. In addition to week-long trips by both Koyukon and Kuuvangmiut to the Alatna River as described above, caribou, moose, black bear, and particularly Dall sheep -- which were snared until the early 1900s -- were also taken before freezeup. These excursions by boat followed major tributaries upriver to the Hunt and Malemute forks of the John River, the mouth of the Allen River north of Bettles, and the upper South Fork of the Koyukuk River near Grayling Lake. Black bears were at their fattest when they began to hibernate in late fall and were hunted in their dens throughout the winter. Summer camps were frequently used for fall hunting activities as well. Rabbit drive hunts at fall camps were reported as occurring around the turn of the century.

Fishing was yet another major fall activity. Before freezeup, which usually occurs between the end of September and the first part of October, sheefish were seined during their upriver migration, especially on the Alatna River at the mouths of Sinyalak, Siruk, and Chebanika creeks where weirs also were built. Frozen fish cached in fall were hauled to the village in winter by

dog sled. Before outboard motors became common, dogs were used to pull the boats upriver. These boats then were drifted back to camp with their seine nets attached. Grayling and whitefish were usually plentiful in October. They were caught with set nets under the ice or with hook and line. Fish traps for burbot were also set at this time. The trapping of furbearers started around the end of October. Joint Inupiaq and Koyukon land and resource use in the fall occurred mostly on the upper Alatna River. Fall was also the season of northernmost extension of subsistence activities of both groups.

WINTER (NOVEMBER THROUGH MARCH)

Trapping, which increased in importance until the early 1950s, was a dominant winter activity. Between November and March, a number of furbearing species -- including wolf, wolverine, marten, mink, lynx, otter, and fox -- were trapped. Preference was given to trapping species that brought high prices on the international fur market and was thus subject to external influences. High prices paid for fine furs in the early 1950s, in conjunction with a temporal abundance of furbearers, in many cases provided capital for the purchase of snowmachines in the 1960s. For many families, the returns from trapping constituted the major cash income which was, in part, (re-)invested in subsistence technology and supplies. Furbearers were also particularly plentiful in the late 1970s, but fur prices had already fallen drastically. In the period prior to

1950, whole families often travelled by dog team to various winter camps and returned to the villages only to celebrate Christmas and New Year's holidays. With increased individual mobility following the acquisition of snowmachines, most men ran their traplines using winter cabins as single base camps, actually spending less time in the "bush." Many women stayed at the village where they snared weasel, mink, ptarmigan and rabbits and ice-fished for burbot.

By the end of November when the river ice was thick enough and the burbot runs started, fish weirs were built through the cooperation of related families, either at winter camp sites or on the Koyukuk River two to three miles south of Allakaket. Rows of spruce poles set at strategic points directed the shoals towards willow wicker basket traps from which fish were scooped with dip nets. The construction of a weir took about one week, and they were built at least as late as the 1960s.

Big game hunting was another winter harvest activity, often combined with trapping. Targeted species were moose and caribou. During winter hunting trips, ice-fishing for grayling and whitefish with hook and line provided both dogs and men with fresh food. The processing and caching of winter meat at the camp or butchering site diminished with modern transportation. In 1991, most of the meat was hauled back to the villages by snowmachines.

Comparative summary of seasonal land use.

	SPRING	SUMMER	FALL	WINTER
Spatial focus of land use Inupiat	N and SE of Alaina	NW of Alaina	NW and N of Alaina	W of Alaina
Spatial focus of land use Koyukon	E and SE of Allakaket	S and W of Allakaket	NE, S and NW of Allakaket	NE, E, SE and SW of Allakaket
Scope of use	Intermediate	Intensive	Intermediate	Extensive
Major activities	Trapping Fishing/Fowling Ceremonies/Trading	Fishing Wage Labor Hunting	Hunting Fishing Fowling	Trapping Hunting Ceremonies/Trading
Group mobility	Medium (Low during breakup.)	Low	Medium (Low during freezeup.)	High (For part of the Population.)
Base of operation	Village/Spring camp	Fish camp	Fish camp	Village/Winter Settlement
Major means of transportation	→ Dogteam/Snowmachine ← Boat	→ Boat ← Boat	→ Boat/Pack dogs ← Boat/Raft	→ Dogteam/Snowmachine ← Dogteam/Snowmachine
Environmental focuses	Lacustrine	Riverine	Mountain	Boreal
Overlapping use	Yes	No	Yes	No

Figure 9

Figure 9. Comparative Summary of Seasonal Land Use.

A rather clear separation of Inupiat and Koyukon trapping territories can be seen with the exceptional cases of land use involving intermarried families described above. Inupiaq trapping and winter hunting occurred mostly west of Alatna between Rockybottom Creek, Norutak Lake, and Lake Mingkoket. Most surprising is the fact that the overall size of Koyukon trapping territory is much larger than the comparative area of Inupiaq trapping activities, even when the relatively small number of Inupiaq families living in Alatna is taken into consideration.

Koyukon from Allakaket hunted and trapped in an extended area southeast, east, and northeast of Allakaket, including the area northeast of Indian Mountains, Lake Todatonten, and Old Dummy Lake; the entire Kanuti Flats; Bonanza Creek west of the Dalton Highway; the South Fork; and Henshaw Creek. Northwest of the Koyukuk River, Athabaskans utilize Siruk Creek, Lake Mingkoket, and the area east of Norutak Lake, the latter also being used by both groups for their winter journeys to the upper Kobuk River.

In contrast to fall, winter land use shows the greatest annual extension of use areas to the south and east (see Figure 9, p.37). Other factors with implications for the interpretation of data are described in the discussion below.

TRADE AND TRAVEL

The following sections present data elicited during the fieldwork. Unless otherwise indicated, the information was obtained from individual informants during interviews or mapping sessions.

Intergroup trade and travel is the mode of interethnic interaction which was most frequently recorded during fieldwork for this project. It clearly antedated Euroamerican contact in the area and often coexisted with more hostile relations. Interethnic trade was conducted within a network of social and biological kinship and in conjunction with other structured activities, such as joint potlatching or hunting.

Whereas certain Kuuvangmiut seem to have become "specialized" traders, perhaps through their lucrative position as middlemen in Bering Strait trade, many Koyukon families on the Koyukuk River engaged in intergroup trading. Well known Inupiaq traders like Jim Raleigh and Ulaugtun from Kobuk or "Selawik Sam" traded with Koyukon at the mouth of the Kanuti ("lake people"), on the Hog River, at Allakaket and Dulbi, as well as at Kotzebue Sound (see Figure 6, p.24). Prior to 1906, Koyukon had to go to trading posts at Hughes, on the upper Kobuk River, or down to Tanana on the Yukon to obtain Euroamerican merchandise directly, because no stores existed at that time on the upper Koyukuk River. Around 1898 in the wake of the gold rush, steamboats came up the Koyukuk River to Arctic City, where desired trade goods like ammunition, guns, tobacco, tea, and iron implements could be obtained in exchange for

furs. Arctic City, located on the west bank of the Koyukuk River opposite the mouth of the Kanuti River, was one of the largest Koyukon villages on the river. It was named "Moses Village" (for the Koyukon "Chief Moses") in 1897 by prospectors and "Arctic City" around the turn of the century, when a store was established (Orth 1967:85).

Much Koyukon trade, however, was conducted through Inupiaq trading partners (*neeighok'elaayhkkaa*, the reciprocal Koyukon form of the Inupiaq term *niuviriik*). An account by a Huslia resident demonstrates the extent of these trade networks and the role trading partners played in the transactions. At the time when "White man's goods" first came into the Koyukuk River region, Chief Moses from Dakli (near present day Huslia) wanted to give a potlatch for his father. He trapped and hunted for two years in order to accumulate the necessary goods. He then took the furs up to his friends in the Kobuk area "to go shopping." With his friend, and his friend's wife, he went downriver to the trade fair at Kotzebue Sound (Sheshalik, at Cape Espenberg) by dog sled. He traded firearms and white calico for his furs on board the steamboat *Bear*. That was the first time that calico had ever been seen on the Koyukuk River. "Siberians" (probably Siberian Yupik Eskimos) and coastal Inupiat (*nobaagha hut'aana* or "people from the coast") were encountered at the fair. These people had travelled there by skinboat. The following year, Chief Moses hauled the goods back to the village on the Dakli River where the potlatch was

held. This is supposedly how the Koyukon name for Kotzebue (*ggebekkdeghezukk dinh*) originated.

This particular route followed the Dakli River east of the Purcell Mountains, then the Pick River to its mouth in the vicinity of Shungnak. In addition to being trapping country, the Purcell Mountains were also frequented by both Koyukon and Kuuvangmiut for access to their hot sulphur springs. Other trails to the Kobuk River followed the Kobuk Portage (Totzitigi Portage), starting from Cutoff north of present day Huslia, Dulbi River, or the Hogatza River, converging with the Pah River near the flats and following its course to the mouth 30 miles upriver from Kobuk Village.

Ts'eeteetl'ol, the exact location of which is not known, was situated at the head of the Pah River and was a mixed Inupiaq-Koyukon community. Its residents were bilingual and may have profited from their proximity to the Kobuk Portage. Kobuk Portage was used for Koyukon trade with Kuuvangmiut before Shungnak was founded. The trip was made in late winter or early spring, and people tried to return before breakup, a trip which could be completed in 10 days. The first guns supposedly came to the upper Koyukuk Koyukon via the Kobuk Portage, some time around 1860.

To the west, a trail following the North Fork of the Huslia River to its headwaters connected Koyukuk Koyukon with Siilvingmiut on the Selawik River, although their relationship was somewhat ambiguous. Siilvingmiut (*nozaatna hut'aana*) occasionally came down the North Fork in the summer to raid Koyukon families at Dulbi or to "deplete" their beaver populations. Even between supposedly

"friendly" groups like the Kuuvangmiut (*hulghaatna hut'aana*) and Koyukon from the Huslia-Dulbi-Hogatza area, tensions and mistrust were latent. Often only links established through partnerships protected trading Koyukon families.

In the Allakaket area, the main route to the upper Kobuk River started on the Alatna River near the mouth of Chebanika Creek, crossed Norutak Lake, and converged with the Kobuk near Lower Kobuk Canyon north of the Norutak Hills. In 1991, this trail was still used by Alatna people who visited relatives or hunted caribou on the Kobuk in winter on snowmachines. Caribou meat was also taken back to Alatna. However, the trip was more often made by plane.

The trade between Kuuvangmiut and Koyukuk Koyukon was characterized by an exchange of coastal for interior products. Tanned moose skins; bear hides; furs of wolverine, wolf, beaver, and otter; and beaded moccasins, mittens and gloves were traded to the Kobuk River for seal oil pokes; ugruk or walrus skins (for waterproof boots and snowshoe webbing); reindeer hides; fur pants and parkas; and Euroamerican commodities. In the early 1990s, trade of these items seemed to have declined somewhat, perhaps as a result of a better supply of merchandise to communities by river barges and bush planes. However, quantitative data are needed to support this assumption. Exchange and trade of Native products occurred mostly during potlatches attended by individuals from Kobuk River communities. Formal relationships like trading partnerships, even between members of the ancestral generation, were still recognized widely on this occasion in the 1990s.

WARFARE

Interneicine warfare, which was small-scale and usually did not exceed the blood feud, generally ceased after the establishment of the mission St. John-in-the-Wilderness at Allakaket in 1906. It is likely that already during the gold rush of the 1890s, with the influx of increasing numbers of Inupiat into the Koyukuk River drainage, open hostilities ceased although mistrust persisted. Prior to this time, intragroup raiding had existed among Koyukon, as exemplified by the infamous Nulato massacre in 1851. However, the blood feud was the most common and most intensive form of open group hostility.

On an interethnic level, Koyukon relations with Kuuvangmiut were generally described as "friendly" and relations with Siilvingmiut and Gwich'in (*gheltlone*) as "hostile." As a consequence of the lack of central political organization and the dispersal of Koyukon groups, a more ambiguous picture evolves. Thus, we have accounts of Koyukon living at "Old Man Creek" (that is along the Kanuti River) preparing to "make war on Kobuk people." There are also reminiscences of Dulbi Creek Koyukon encountering Gwich'in (*nots'ee hut'aana*, probably from the Chandalar band) before 1898 at the Jim River near the South Fork of the Koyukuk River, where both groups camped together peacefully.

General patterns of interethnic relations as outlined above held true, and memories of raiding Gwich'in or Siilvingmiut

antedating the introduction of firearms persisted among Koyukon Athabaskans in 1991. One story tells about Gwich'in attacking a village of the *too loghe hut'aanekkaa* (headwater people) living at the head of the Kanuti River (at Olson Lake, east of Caribou Mountain), which caused them to move to the mouth of the South Fork of the Koyukuk to a village called *neeltugh tene*. This happened some time before 1870. Probably around 1900, Inupiat living in Allakaket went hunting up the John River and the North Fork of the Koyukuk to Wiseman. But they avoided the South Fork, because they feared a "big medicine man named Alexander," who was probably a Gwich'in shaman.

Contact with Nunamiut (*sahna hut'aana*) seems to have been sporadic and of a more friendly nature. This resulted in part from the fact that Koyukon did not live very far up the Alatna River, a statement which seems to be supported by the existence of relatively few Athabaskan toponyms in this area. The emic explanation that Koyukon felt "uncomfortable" in the treeless tundra and mountains of the upper Alatna River could be a hint at Koyukon-Nunamiut hostility or may simply indicate specialization of the two groups on resources of distinct habitats. This also may partly explain marked Nunamiut-Gwich'in conflict as resulting from resource competition. However, in times of scarcity of caribou before 1900, people from the Alatna River went as far north as the mouth of the Hunt Fork of the John River, where an Inupiaq (probably Nunamiut) winter settlement called *nokktaal kkokk'e* ("on the gravel bed") was located.

JOINT LAND AND RESOURCE USE

The question of joint land and resource use is of particular interest in an interethnic context. Studies of historic and contemporary hunting and gathering societies have increasingly emphasized the flexibility of socioterritorial boundaries (Ingold 1987:130ff). In my current research, a spatio-temporal manifestation of this dynamic could be seen in the seasonal variation of the extent of the home range. Whereas land use during the summer months was the least extensive, with summer fish camps concentrated along major rivers in the vicinity of the villages (e.g., South Fork of the Koyukuk, Koyukuk River south of Allakaket, and Alatna River north of Alatna), its spatial scope expanded considerably during winter trapping and hunting. As argued by Dyson-Hudson and Smith (1978), this pattern is directly influenced by the relative abundance and predictability of major resources like salmon or furbearers and caribou, respectively.

On an interethnic level, many accounts of joint land use suggest an indigenous concept of "territoriality" in which at least peripheral territories are considered as "spheres of interest," claimed through continual use. "Old Man Mountain" in the Lockwood Hills north of the Pah River Flats, for example, is a good area for marten trapping and was used by both Kuuvangmiut and Koyukon. The Pah River Flats, the Hog River, and Beaver Creek areas were trapped jointly as late as 1937. One February around 1900, a Kuuvangmiut party with five sleds came south to the Hog River for ice-fishing.

They caught more than five sledloads of pike, which were taken back to the Kobuk River. An Inupiaq trader from Kobuk used to spend the summer with his family at the Koyukuk River near Red Mountain above Hughes, where he built fish traps and a weir to catch salmon. Siilvingmiut with pack dogs used to cross over to the Koyukuk in August to trap beaver and returned only during freezeup.

As noted earlier, these foraging expeditions did not always meet with the approval of Koyukon utilizing the area. Interestingly, spring is the season during which Inupiat from Alatna most intensely utilized areas which could be considered Koyukon territory, especially the Kanuti Flats southeast of Allakaket. One possible explanation for this phenomenon is the absence of a lacustrine environment which beaver require in the area northwest of Alatna. On the other hand, some Athabaskan men from Allakaket ran traplines northwest of Allakaket, where most Alatna Inupiat trap. Conspicuously, these Athabaskan men were all married to Inupiaq women from Alatna. The wider implications of interethnic marriage for socioterritorial behavior are discussed below.

Another form of joint land use, which persisted from around the turn of the century to the 1990s, is late summer and early fall hunting excursions of Alatna and Allakaket residents up the Alatna River as far as the Kutuk and Unakserak rivers. Boats, poled and pulled by dogs in earlier times and driven by outboard motors since the 1940s were usually left at Takahula Lake where the river becomes too shallow. Takahula was often used as a base camp, where

the meat was processed, dried, and cached. The adjacent mountains were explored on foot, Dall sheep were hunted, and the meat was packed back to the boats, formerly with the help of pack dogs. Sometimes rafts were built to float the meat back to base camp or the village. These hunting trips took from several days to a week. Although occasionally moose or black bear were taken on the river, the main purpose of these trips was to obtain sheep meat, an important potlatch food, and golden eagles, whose feathers were needed for dance paraphernalia.

With the involvement of Inupiat in the gold rush and their increased influx to Alatna, Arctic City, Bettles and Wiseman around the turn of the century, their land use, including prospecting and subsistence activities, seems to have shifted eastward as well (Burch 1979:134). Long before this period, many Inupiat moved to the Alatna River, allegedly to cope with resource scarcity on the upper Kobuk River. The oldest living Inupiaq resident of Alatna remembered having heard stories from his grandparents, who came to Alatna before 1900, about Kiana people (probably living in a village on the Squirrel River) who left the area when fish were depleted, moving upriver to Kobuk, then Mauneluk, Ivishak, and the headwaters of the Alatna River where game was abundant. He also remembered having heard about "Indians" living at Kalla on the Kobuk until they were defeated by "Eskimos" and consequently left the area. This statement about the occupation of parts of the upper Kobuk River by a group of Athabaskans (either Gwich'in or Koyukon), which occasionally also surfaces in early ethnographic

accounts, should be considered in light of the fact that the informant had worked extensively with archaeologists at Onion Portage and was familiar with some of the anthropological literature.

ADOPTION

Intragroup and intergroup adoption between Kuuvangmiut and Koyukon Athabaskans is well documented in the mission records of Allakaket as early as 1906. But for the period preceding the establishment of the mission, ample oral evidence of the practice also exists. This research revealed instances of both Kuuvangmiut children from Shungnak being raised by Koyukuk Koyukon in Arctic City and Koyukon children from the South Fork and the Hog River being raised on the Kobuk River. In many cases, the adopted children became bilingual, were given new names by the foster families, and, as adults, decided to return to live with the group of their natural parents. However, even in this case, adoptees frequently maintained strong links with their foster parents' group.

It is not clear whether intergroup adoption was employed to strengthen already existing ties between trading partners or whether they were a starting point from which other forms of interaction evolved. Since adopted children were fully integrated into the kinship network of their adoptive families, kin ties were also extended to their biological parents.

All recorded accounts of adoption involved male children. In the case mentioned above, the two Koyukon children raised on the Kobuk River were explicitly regarded as "replacements" for two male infants who died in accidents. This fact is interesting in so far as it demonstrates that adoption not only functioned as a means to expand kinship ties but also, in a demographic context, to maintain a certain labor force necessary for group survival. This is of special importance in societies characterized by a strong sexual division of labor. In this respect, it would be helpful to analyze adoption patterns of the two groups in relation to phenomena like polygyny and polyandry, sex ratios, and mortality rates.

Another form of adoption, which may be called "temporary adoption," should be distinguished, since it seems to represent only an intragroup phenomenon. In this case, older children often made the decision to live temporarily with a related family of the same ethnic, though not necessarily residential, group. This type of adoption was exemplified by the case of a young girl from an Alatna family "springing" (i.e., staying at spring camp) at Norutak Lake, who returned with her visiting uncle to live with his family on the upper Kobuk for about a year.

INTERMARRIAGE

Prior to 1906, a marriage pattern seems to have existed between Kuvvangmiut and Koyukuk River Koyukon which could be described as "unidirectional." In all but one case of interethnic "marriage,"

Koyukon Athabaskan men had Inupiaq "girlfriends" on the upper Kobuk River. One case of a Koyukon man from around Huslia, who married an "Eskimo" woman and moved to the Kobuk to live with her family, was reported for the 1920s. Children resulting from these relationships were usually raised with the mother's group. This explains the relatively large number of individuals of mixed Inupiaq and Athabaskan ancestry, who were documented on the upper Kobuk during the family history censuses conducted for the "NWA Ethnographic Project" in the summer of 1990.

On the other hand, only one case of a Kuuvangmiut man fathering children with a woman from the Koyukuk River before 1900 was documented. One likely explanation is that forms of nonresidential comarriage were known among Inupiat as a means of establishing extended kinship networks. In a context where Kuuvangmiut as middlemen in the trade in Euroamerican goods were in a dominant position, many Athabaskans may have seen marriage of Inupiaq women as a way of creating intergroup kinship ties, which could be activated for multiple forms of interaction. However, to test this hypothesis, more data about possible correlations between affinal kin and trading partners are needed. With closer inspection, the assumption of a unidirectional pattern of interethnic marriage might be untenable.

As described in the section on joint resource and land use above, a similar pattern of interethnic marriage, though of the residential type, was observed in Alatna and Allakaket in 1991, where Athabaskan men married Inupiaq women from Alatna and followed

"a pattern common to both, Alatna and Allakaket. . . [and] frequently travel[ed] and hunt[ed] with members of their wives' family during the years immediately after their marriage" (Arundale and Jones 1988:153). These Athabaskan men were the only Allakaket residents running traplines northwest of Allakaket, which indicates another "function" of interethnic marriage -- that is, the expansion of land use through affinal kin. Joint hunting and fishing in this case may actually have derived from the traditional institution of bride service, after which time postmarital residence was generally flexible. No case of postmarital residence of Inupiaq males from Alatna with their Athabaskan wife's residential group were documented for the early 1990s, but Inupiaq women lived with their Athabaskan husbands in Allakaket. Additionally, in 1991, no Athabaskan males lived in Alatna. During the early 1900s, a number of Inupiat males were residing in Allakaket.

CEREMONIAL EXCHANGE

The type of interethnic interaction least extensively documented during my fieldwork was ceremonial exchange. Before Euroamerican contact in 1884, ceremonial exchange between the two groups took the form of mutual potlatching. Messengers called *kivak* (an Inupiaq loanword from *kivgaq*) carried invitations from Huslia to the Kobuk River. Again, it is not clear whether invitations were principally exchanged between trading partners or at the community

level. Dyadic relationships between individuals of both groups existed in the context of the potlatch, but the Koyukon term for these "special friends" (*hebeghok'elaayh*) differs somewhat from the term for trading partners. Yet, trading occurred during potlatches. Evidence for the existence of specific "trade potlatches" on the lower Koyukuk can be found in Jette (1908-1909), who translated an archaic Koyukon term for the month of November or December as "month of the start for the seacoast." He explained that:

The Natives of Nulato, Kaltag, and the Lower Koyukuk hold at this time trading-feasts, or fairs, for the exchange of products with the Eskimo of the seacoast and the Selawik and Kobuk rivers. The fairs are held alternately in the Tena villages one year, in the Eskimo villages the next, and the start for these trading "socials" is made during the latter part half of November or first half of December.

A memorial potlatch at Huslia in the summer of 1991 was attended by considerable numbers of Kuuvangmiut from Ambler, Kobuk, and Shungnak, who stayed with Koyukon host families with whom previous links existed. The exchange of gifts, seal oil and *muqtuk* (belukha or bowhead whale skin) for moose meat and dried fish between guests and hosts was part of the general exchange which took place during the potlatch.

It should be made clear that specific forms of interethnic interaction rarely occurred in isolation from other types. Thus, trade, for example, could be connected with subsistence activities, ceremonial exchange, or temporary adoption. These relationships should be considered as one complex system affording multiple

avenues for the individual or family to increase influence, wealth, and status. The division into different categories was only undertaken in this context for descriptive and analytical purposes.

DISCUSSION

The decisive influence of the techno-environmental complex, especially modes of transportation and communication, upon subsistence activities and economic arrangements in general, has long been recognized in ecological anthropology (Steward 1972 [1955]:40). In a less deterministic and materialistic manner, four major interactive forces can be identified, which have affected resource and land use on the upper Koyukuk and Kobuk River drainages. Each of these forces -- historical, technological, ecological, and sociocultural -- contains multiple operative factors. The relationship between them is one of complex interdependence, not simple unidirectional causation. Different types of interethnic interaction, which almost by definition are closely bound to land use, are also shaped by these forces.

Historical factors are often differentiated from the biophysical environment as "social environment" (Jochim 1981; Peltó 1987 [1973]:179). In our research, major impacts upon indigenous forms of land tenure and subsistence resulted from this social environment, especially from Euroamerican contact. Direct contact with Euroamericans occurred relatively late in 1885 on the upper

Koyukuk River (Allen 1887), which may explain the relatively long persistence of precontact cultural institutions like warfare and trade feasts. The seasonal round, as well, only changed considerably with greater sedentism between the 1940s and 1950s. The introduction of a Euroamerican economic system intensified trapping activities as well as wage employment. These activities had consequences for Native mobility and concepts of territoriality and contributed to major population movements with corresponding shifts of use areas during the gold rush, the fur trapping boom, and the construction of the oil pipeline. Since the 1940s, the level of male subsistence activities during the summer months has slightly decreased, a fact reflecting the growing importance of wage labor. Population movements leading to new social aggregates in the villages were also heavily influenced by European-introduced epidemics and the establishment of a mission, school, and store at Allakaket. The devastating impact of European epidemics upon Alaskan Athabaskan populations has been aptly described by Wolfe (1982).

Most importantly, juridico-political structures of the dominant encompassing nation-state, especially regarding subsistence and land rights, manifested themselves in natural resource management policies. In many cases such policies restricted traditional resource use. The spring waterfowl hunt near Allakaket, which was banned by international decree through the Migratory Bird Treaty Act of 1918 but was essential to survive until the salmon runs started, is just one example (Case 1984:279).

In order to avoid the false notion of "people without history," precontact historical factors also must be addressed. Indigenous trade between Siberia, Kotzebue Sound, the Kobuk and Koyukuk rivers contributed to typical forms of land use, like trading trips and joint hunting and trapping activities described for Kuuvangmiut and Koyukuk Koyukon. It also accounts for hostility between groups competing in the trade.

It can be demonstrated that technological innovation, especially in the case of means of transportation closely related to subsistence activities, contributed to changes in social organization and land use patterns of arctic peoples (Pelto 1987 [1973]). In the case of Inupiat and Koyukon of the Koyukuk River, the introduction of large dog teams in the 1890s, outboard motors for boats in the 1940s, and snowmachines in the 1960s had great impact on mobility, land, and resource use patterns. The introduction of dog teams in combination with trading posts supplied by river steamboats is assumed to have resulted in a shift from a big game (i.e., caribou) to a fishing (i.e., salmon) subsistence emphasis accompanied by moves to semi-permanent settlements near the Koyukon, Yukon, and Tanana rivers (Hosley 1980:13; McKennan 1969:98).

Jochim (1981:160) and others (e.g., Nelson 1973:157) assume that "corridors of exploitation" are a typical spatial manifestation of land use which follows routes most suitable for the available means of travel. Waterways traveled in the summer by boat and winter snowmachine or dog team trails exemplify such

routes in the research area. They are, indeed, important corridors of resource extraction. But hunter-gatherer appropriative behavior in general seems to follow linear patterns, especially in a patchy boreal environment, regardless of means of transportation (Ingold 1987:151).

Jochim's (1981:169) notion that "easier transport devices may paradoxically decrease the area of exploitation, although allowing greater distances to be travelled," consequently leading to greater sedentism, must be regarded with care for the upper Koyukuk River region. Although with the advent of snowmachines only parts of the population tend to go on extended trapping trips, there are no indications that the overall size of hunting and trapping territories diminished. Rather, less time is required for the same harvesting activities. Modern technology yields time surpluses, which seem to be spent in social activities or the pursuit of wage employment. In any case, variations in the extent of use areas, as seen in seasonal variation throughout the year, have to be interpreted in relation to the abundance and location of major prey species. For example, a local scarcity of caribou, as experienced periodically by Alatna and Allakaket residents, would most likely result in readjustments of subsistence strategies and territories, such as the resumption of extended hunting trips into the Brooks Range common in the 1920s.

The biophysical environment is a third component with implications for resource and land use patterns. A shifting spatial and resource emphasis of Kuuvangmiut and Koyukon throughout

the year (as depicted in Figure 9, p.37) is the result of the existence of distinct micro-habitats favoring different species. Fluctuations in abundance and predictability of harvested species, in combination with changing cultural preferences and demands of a market economy, led to changes in the seasonal round. Smaller species like marmot, spruce hens, rabbits and porcupine were no longer harvested in significant numbers when big game like moose and caribou became plentiful. From an ecosystemic perspective, the exchange of coastal for interior products between Kuuvangmiut and Koyukon, as well as certain cases of adoption and migration, can be regarded as effective mechanisms to cope with local scarcity, since it is unlikely that both biotopes experience scarcity simultaneously (Rappaport 1990:57ff).

Sociocultural factors influencing extractive activities and land use include indigenous concepts of the natural environment. The culturally-mediated perception of and interaction with the environment have been aptly described by Nelson (1983) for the Koyukuk Koyukon. Although glimpses of this ideology were frequently caught during the research, collection of data on emic perspectives was not a focus of this project. However, for an in-depth understanding of land and resource use on the upper Koyukuk and Kobuk rivers, a contextual analysis of the cultural significance of Koyukon and Inupiaq toponyms, for example, is of crucial importance. Beyond the documentation of place names, a number of questions have to be asked. Do toponyms serve as societal markers? In cases of coexistence of different sets of

names, which represent the "older" stratum? Do they document occupation and utilization of or merely familiarity with topographic features? To what degree do names encapsule information and actually influence socioterritorial behavior? Koyukon place names quite frequently document historical events while appearing to be simply descriptive (Pat Kwachka personal communication 1992). Inupiat are sometimes named after topographic features (Nictune 1980:51). Since sets of personal names are distinct for different Inupiaq societies, by inference toponyms could serve as territorial markers.

Another crucial topic requiring additional research is the social organization of subsistence activities. Although general patterns like the extension of individual use areas through marriage, adoption and partnerships were outlined, a monolithic pattern can not be assumed for both communities. As Asch (1989:35f) and Ellanna and Balluta (1992) have shown for Athabaskan groups in Canada and Alaska, greater sedentism often led to the aggregation of formerly distinct regional bands in one location. In addition to social implications like factionalism (Clark 1975:151), land and resource use patterns seem to have been influenced by this process. During the research, it became evident that certain residents of Allakaket still utilized areas within the range of what could be called regional bands that existed before population concentration in the villages (see Figure 3, p.12). The Huslia-Dalbi-Hogatza people were called *dolbaakk'aakk'e h̥t'aane*, Yukon-Kateel families were *kodeelkk'aakk'e h̥t'aane*, and South Fork

band members too loghe hut'aanekkaa. Clark's Todadonten-Kanuti band (1975:153) was not a relevant category or social group to Native informants. Although the significance of these formations as separate territorial units has been denied by informants, it is certainly worthwhile to analyze marriage patterns and land use within this framework, especially since the knowledge of individual clan membership, which may have formerly influenced land use patterns has been lost among residents of the upper Koyukuk River.

CONCLUSIONS

The research failed to shed light on the question of early Athabaskan occupancy of the upper Kobuk River, primarily because of its relatively shallow time depth. No conclusive data for the period before 1890 could be obtained. However, it did demonstrate a close cultural similarity between Koyukuk Koyukon and Kuuvangmiut, a similarity partly resulting from complex continuous interaction between both groups throughout the 20th century, a shared natural environment, and a similar contact history. Viable forms of interethnic interaction were shown to have persisted and, although modified, remained functional within the changing encompassing socioeconomic structures. The establishment of

extended networks of social relations and obligations with implications for economic success in general and resource and land use in particular is still one important aspect of interethnic interaction. In this respect, interethnic marriage deserves special attention because it represents the most prominent avenue chosen by contemporary residents of Allakaket and Ambler to establish and maintain these social networks. The transformation of this institution from a form of non-residential polygyny into residential monogamy clearly demonstrates the impact of historical forces upon traditional institutions while simultaneously highlighting their persistence.

Burch's (1979:137) view of Inupiat-Koyukon subsistence activities of the "colonial period" as physically separated has to be questioned in light of these data, especially for fall and spring activities. Joint hunting by individuals from the two groups has been practiced on the Alatna, upper Kobuk, and Koyukuk rivers at least since 1905 and often included mutual teaching about hunting techniques and geographical features.

Only minimal data about the cultural context of toponyms were gathered, especially in regard to socioterritorial behavior and the encoding of knowledge related to land and resource use. These questions deserve further research, because they could yield valuable information about intrasocietal variation at the individual, familial, or local band level.

Diachronic shifts and ethnic variations in resource and land use -- particularly changes in mobility, harvesting techniques,

species harvested, and territories utilized -- appear not only to have been influenced by the location and abundance of important species but to a considerable degree by historical factors. Despite these shifts, basic subsistence patterns and strategies have persisted relatively intact in the study area and, in some cases, have even been reactivated, further proof of Athabaskan-Inupiat "flexibility" if any more is needed.

Despite an appearance of equality, structural divisions have been noted for hunter and gatherer societies (Wilmsen 1989:247ff) and arctic pastoralists (Pelto 1973:177ff) in the form of socioeconomic stratification through sociotechnological diversification. In order to place Koyukon-Inupiaq subsistence and land use into its wider context -- that is, in the Euroamerican market economy and political system -- and to avoid misleading images of homogenous, autonomous societies, an analysis of the role of contemporary social divisions influencing their access to productive capacity (i.e., land, technology, and resources) is necessary.

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