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Correspondence:

Manuscript and editorial correspondence should be sent to:

Alaska Journal of Anthropology

Attn: Editor

P.O. Box 241686

Anchorage, AK 99524

Telephone: (907) 336-0092

Fax: (907) 336-0093;

Email: geoarch@ptialaska.net or afokm@uaa.alaska.edu

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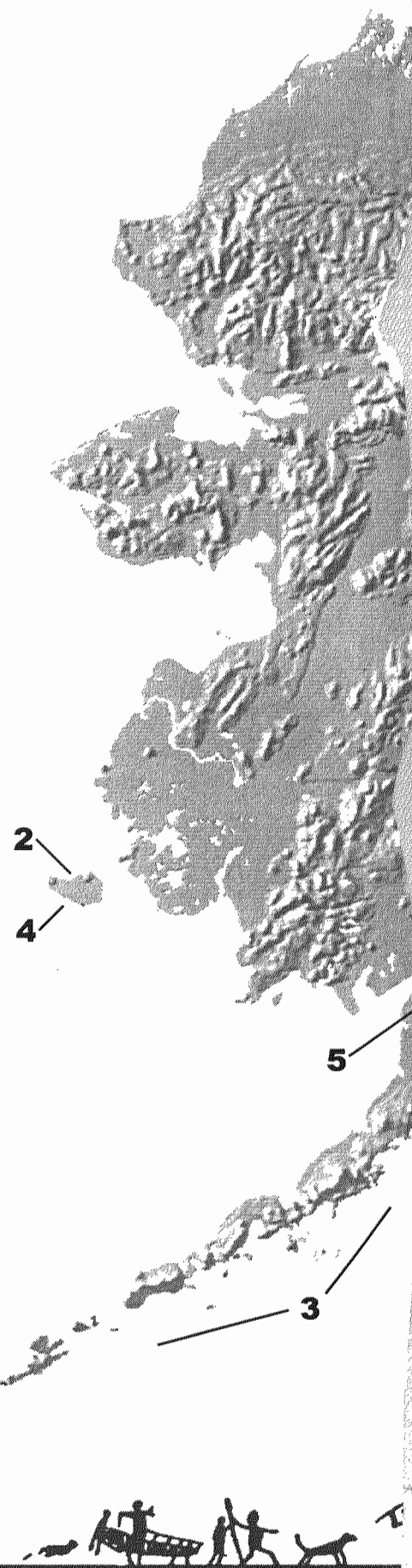
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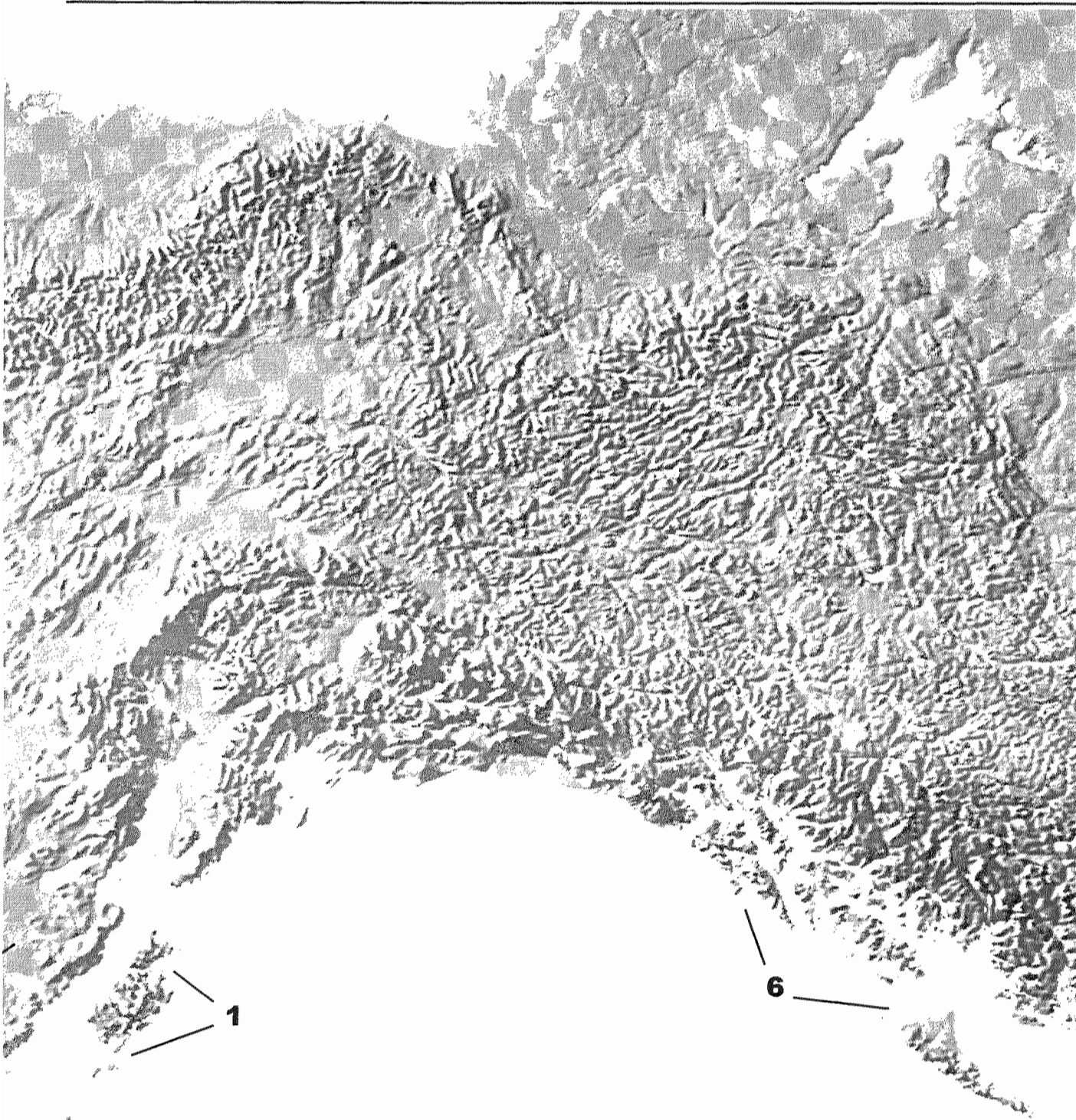
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EDITOR'S MESSAGE

The journey to the assembly of thoughts and images in your hands has involved the vision and dedication of many people. For many years, Alaska anthropologists have lamented and endured the "arctic small paper tradition," the haphazard survival and acquisition of the gray literature of conference presentations. The present volume has as its predecessor the aaa conference proceedings compiled by the Fairbanks office of the Bureau of Land Management in the late 1970s. In the mid-1990s, as the number of publishing outlets for northern research languished, Roger Harritt and Robert Shaw proposed the creation of a new venue for arctic researchers, sponsored by the only anthropological professional society in the American arctic, the Alaska Anthropological Association. In summer of 2000, at the behest of the Board of the aaa, I assumed the mantle, not without considerable trepidation, as the first editor of the *Alaska Journal of Anthropology*. I expected an outpouring of frustrated authors, clamoring for access into print! We did, eventually, obtain a fair number of submissions this first year, and I look forward to that steady rush of submissions as the skeptical among you subscribe to a journal that you now have a chance to see! For those of you who disagree with a point of view or wish to respond, please consider submitting a Comment, and expect the resulting dialog from the author.

Many people are owed thanks in the production of this first issue of the *Alaska Journal of Anthropology*. Wanetta Ayers shouldered the production responsibilities, as well as the editorial massage of the accepted articles; hers is the vision that produced its handsome layout and polished design. With heart felt thanks, I commend the nearly sixty optimistic souls that have sent subscriptions of one, two and even lifetime subscriptions! While

all of the editorial board members have answered my calls to action, Ken Pratt, has served as constant gadfly and consultant! Without the authors, nothing would have been possible, of course. I acknowledge the fifteen or so uncompensated reviewers who labored expeditiously to evaluate the submissions.

The Office of History and Archaeology has provided office space gratis and I wish to extend a hearty thank you to the State Historic Preservation Officer, Judy Bittner. Dave McMahan (OHA) has ably served as our webmaster, attaching the AJA materials to the aaa website (<http://www.alaska.net/~oha/aaa>)

The aims and goals of this journal are enjoined in the Style Guide; but I hasten to add that I hope to witness a trail-blazing theoretical ardor as well as the analysis and reporting of solid and substantive data from all four fields—Socio-cultural anthropology, Physical anthropology, Linguistics and Archaeology. The journal is the creation of its authors and those researchers who fail to lend us *their* ideas should not begrudge those who do.

The launching of a new print journal in the 21st century might seem quixotic to some; however, the permanence of the internet venue is far from established and paper still offers our best hope of survival. The association will pursue an internet outlet as the technology matures and as our sponsorship increases.

Owen K. Mason
Editor



REMEMBERING JAMES W. VAN STONE

(TEXT OF A SPEECH TO AAA, MARCH 2000, FAIRBANKS, ALASKA)

The impressive professional work of Jim Van Stone, who died on February 28, 2000, has been acknowledged over and over by the Alaska Anthropological Association. At the same time, the passing of somebody like Jim leaves a noticeable hole in the world that calls for at least a few words. I am honored to have been asked to say those words, although I'm sure I am less worthy than some others of us, who knew him longer, or knew him better. I suspect one reason it fell to me is that I promised not to break into tears while making a few assertions about the Jim I knew.

Like all the rest of us, Jim was not a perfect human being, but unlike some of us, he was decidedly a lovable one. Most engaging among his characteristics was his sense of humor, which notably included an ability — even a drive — to poke fun at himself.

I first met Jim in 1962. Although he was only a little more than three years older than me, he was nearly a decade ahead in his professional career. Over the next few years we met repeatedly in Anchorage at the end of our respective field seasons in southwestern Alaska. Together we participated in several symposia. My strongest memory is of one in Winnipeg, with Van Stone, Dave Damas, and me, sitting for what must have been hours, drinking Redeyes. We were bonding through a common admiration for the properties of alcohol. Later (and soberly) the three of us worked together on the *Arctic* volume of the *Handbook*.

Jim and his twin sister were orphaned and adopted at a very early age. When he was 9 or 10 Jim came down with polio and spent about a year in bed. At about this time, perhaps while this was going on, he decided to become an archaeologist. And he did, but an archaeologist in his own way, and with a difference. Because of the polio, he was supposed to wear a brace for his back, but he almost never wore it, and as he got older I think he rather paid for it.

He was sensitive to people, *all* people. For a couple of hours one day I watched him while he played, full of sympathy, with a little kid who was what we would have to call "intellectually disadvantaged." He was also consistently sympathetic to his Native contacts, addressing them as "Mr. So-and-So" or "Mrs. So-and-So" in a formal way that conveyed respect, and in response they respected him, and they became friends. The same interest led Jim to focus much of his ethnographic work not on "memory culture," but on Native problems in coping with the larger society. This is the major thrust of his Point Hope monograph, and represents the concluding sections in both his historic ethnography of the Nushagak region and his synthesizing *Athapaskan Adaptations*.

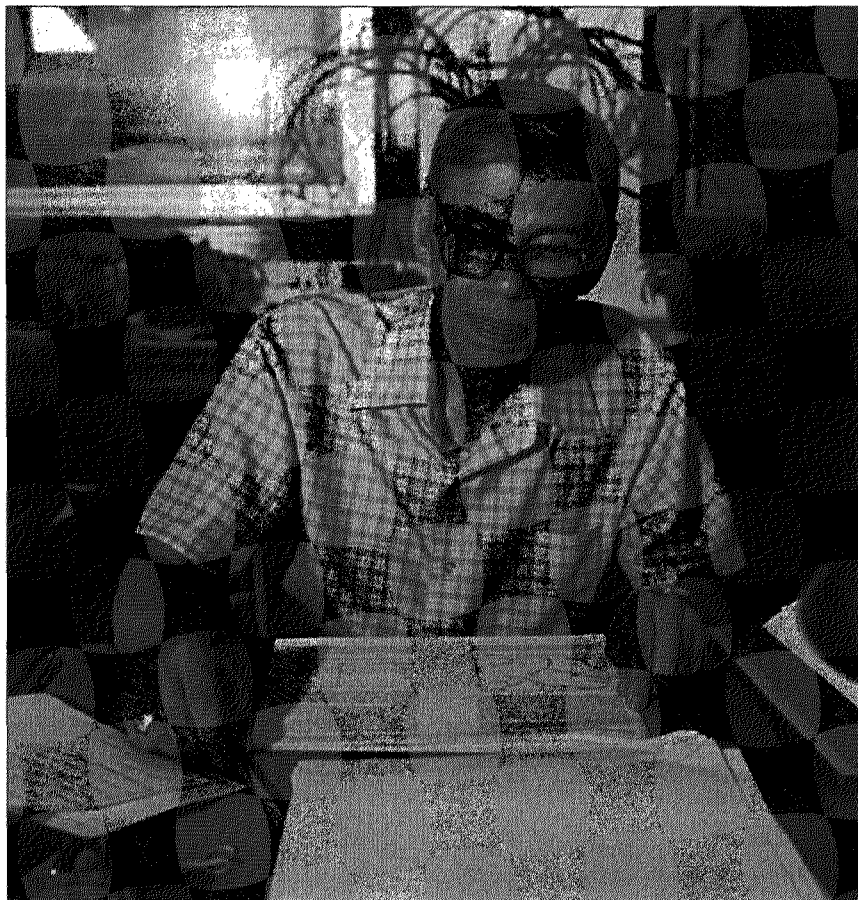
In his own career, he was decisive. In 1958, when he found the situation at UAF not to his liking, he resigned, although he had to spend a year without a job. In 1966 he and six other junior faculty members resigned from the University of Toronto, again when the local situation seemed intolerable, although this time he went to work immediately for the Field Museum. And when it became clear to him that he had developed a drinking problem, more than 15 years later, he quit cold turkey, joined Alcoholics Anonymous, and turned himself into an unwavering teetotaler.

Nevertheless, he was in many practical ways inept. With all of his living alone, he apparently never learned even the rudiments of cooking. He was unable to change a faucet washer in his house. Some of this rubbed off onto his field experiences: In 1965 he and two assistants went into the field for two months at the former Tikchik village in the upper Nushagak drainage. Two weeks before the time came for the airplane to take them back to Nushagak, they ran out of the food Jim had bought. For those two weeks they lived on nothing but pancake flour mixed with water and fried. I remember one aaa meeting in March, probably in the 1970s, when Jim showed up in Anchorage after having made an invited visit to a village somewhere to the north; I forget where. He was wearing a two-piece brown suit and his Chicago overcoat and carrying a briefcase — his entire traveling outfit. He said he had to ride several miles from the airport into the village in the back of a pickup and had been afraid he might freeze. "I forgot how cold it gets here," he said.

But he was also in many ways well organized and systematic. His Nushagak project is possibly the best example: begun with a synthesis of Contact-period history and more recent ethnography, then an annotated regional bibliography, three site monographs, and an overall settlement pattern study — a book and five museum monographs, all published between 1967 and 1972. These display his difference from many archaeologists: his attention to history, to interviews, to ethnographic synthesis. With these interests in combination, small wonder he turned especially to the nineteenth century.

Jim and I worked together in the field only for a single season in 1985, at the historic-period Pavgvik site at the mouth of the Naknek River. Turned out he was diffident about his excavation methods. "After all," he said, "I learned my field techniques from Louie Giddings!" And he told about going to Cape Denbigh with Giddings in 1950, and one day finding Giddings prone, with only his feet sticking out of a hole he had tunneled completely under a





Jim Van Stone. Photo courtesy of the Field Museum, Department of Anthropology.

midden to follow what he thought was the Denbigh Flint Complex deposit. Later, Jim worked with Wendell Oswalt, who had also dug with Giddings. When we offered Jim a trowel and a brush at Paugvik; he took the trowel, but balked for a while at the brush. Finally, "Don't ever let Oswalt know I used a brush! I'd never hear the end of it!" He and Oswalt, he said, had decided they would like to dig a whole site sometime with only shovels. But, Jim said, "You've got to be quick to catch the artifacts on the fly! There goes one!" We laughed, of course, while he laughed at himself.

In both ethnography and archaeology his real focus was on the concrete. He had to have collections, he said, or he wouldn't have anything to write about. And collections he described efficiently and often profoundly, although a social anthropologist who had worked with him warned me that "he is very, very fast, but you

have to watch him; he makes mistakes." And that was true. He moved so fast he sometimes needed a personal proofreader to follow him and keep him out of trouble. But in addition to his work in Alaska, the number of collections he wrote up for the Field Museum is truly prodigious.

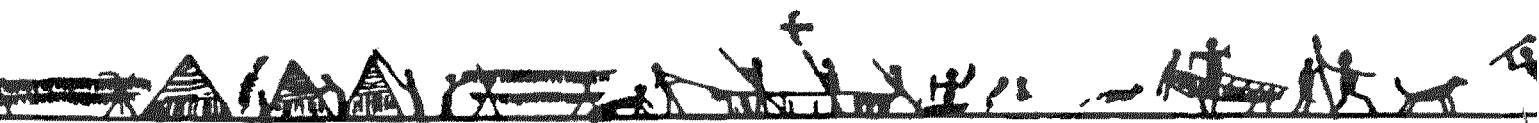
Was he only descriptive? Not at all. His various collection monographs are larded with related historical research, some of it in depth. In one of the earliest he was among the very first of any archaeologists to produce a documented argument that the Central Eskimo were descended from their Thule predecessors, rather than from some later migration. Collections were simply part of his focus on the concrete. His eye was on the ball, and because he was an avid fan of his favorite baseball team that image is absolutely appropriate.

In mid-March there was a memorial for Jim at the Field Museum, held in the huge Hall of Northwest Coast and Arctic Peoples that he had organized, and that remains as a really superb monument to him. Two hundred people were there.

When I was a kid I was taken by an epitaph in some boot hill cemetery that I read about. It said, "Bill Smith was a liar." I thought that was neat and succinct and probably said all there was to say about Bill Smith. Jim was cremated and his ashes were scattered, so there is not any obvious place to hang an epitaph for him. But if there is some great archaeologist's boot hill cemetery in the sky, I have the perfect epitaph:

"Jim Van Stone kept his eye on the ball."

Don E. Dumond
Department of Anthropology
1218 University of Oregon
Eugene, Oregon 97403-1218



MARKERS OF IDENTITY: LABRETS AND SOCIAL ORGANIZATION IN THE KODIAK ARCHIPELAGO

Amy F. Steffian and Patrick G. Saltonstall

Abstract: Labrets were a common item of personal adornment among the complexly organized hunting and gathering societies of the Gulf of Alaska. Based on ethnographic analogies, archaeologists commonly interpret their occurrence in prehistoric contexts as evidence of ranking. This paper presents a stylistic analysis of prehistoric labrets from the Kachemak and Koniag traditions of the Kodiak Archipelago, Alaska, and examines spatial patterning in the distribution of labret types. We argue that labrets carried information on the wearer's social identity, signaled affiliation with a corporate group - not just individual status, and relayed different social messages at different levels of organizational complexity.

Key Words: Labrets, Style, Status

INTRODUCTION

At historic contact coastal regions of the northeastern Pacific were inhabited by a diverse group of complex hunting and gathering societies. Aleut, Eskimo, and Indian peoples organized around the exploitation of marine resources, the accumulation of surplus, and hereditary ranking occupied coastal habitats from southern British Columbia to the Aleutian Islands. For archaeologists this diversity of hunting and gathering adaptations offers an excellent opportunity to study the emergence of ranking. Ethnographic data document the material correlates of status and well-preserved sites provide the means of identifying these indicators in the archaeological record. Evidence of personal adornment is one such indicator. Throughout the region, increases in population density, subsistence intensification, and inter-regional interaction are accompanied by a proliferation in the production of beads, bracelets, combs, earrings, nose pins, pendants, rings, and labrets (Ames 1985; Jordan and Knecht 1988; Moss 1998; McCartney 1984), items of personal adornment that reflect increasing social differentiation.

Recently, archaeologists have cited evidence of labret use in sites from the Northwest Coast as an indication of ranking (Cybulski 1992:67; Fladmark 1986:61; Keddie 1989:7; Matson 1989). Carlson (1994:346-347) writes, "the earliest hard evidence of both wealth and differential rank is the presence of the labret - an ornamental lip plug worn through a perforation in the lower lip or cheek - which serves to visually differentiate individuals." While labret use is clearly associated with displays of individual status in ethnographic literature (Emmons 1991; Gritton 1988; Jonaitis 1988; Niblack 1970:256), this association cannot be automatically extended to all prehistoric contexts. Throughout western Alaska labrets were worn by individuals in societies without ascribed status (Murdoch 1988; Nelson 1899) and labret use appears to predate social and economic changes that accompany the development of organizational complexity in at least several regions of the Alaskan

Gulf coast (Ames 1994:222). Even among ranked societies, labrets were worn by low rank individuals (Moss 1996). As such, the use of labrets requires a broader explanation.

This paper proposes a model for labret use based on the communication theory of style (Wiessner 1983; Wobst 1977), and explores this model with archaeological data from the Late Kachemak and Koniag traditions of the Kodiak Archipelago, Alaska. We argue that as highly visible items of personal adornment labrets carried a social message (cf. Ames 1994:222; Keddie 1989:3; Moss 1996:83). We believe this message was designed to identify affiliation with a corporate group, as well as personal identity, and that such messages changed as the structure of corporate groups was transformed by the development of organizational complexity. We argue that the use of labrets evolved as a means of identifying members of economically-competing social groups during a period of population growth and increasing social circumscription. We believe that early labret types will reflect horizontal social distinctions, family and regional affiliations, and perhaps some level of achieved status. In contrast, we believe that among later ranked societies, labret types will signal vertical social distinctions, hierarchical relationships, in addition to horizontal affiliations. In sum, we argue that the use of labrets is part of the continuum of behaviors associated with the increasing differentiation of group identity and social space that accompany the development of organizational complexity and not simply an indicator of hereditary ranking.

STYLE AS COMMUNICATION

Anthropologists have long been interested in the ways that material culture expresses relatedness. How do objects reflect the social affiliations of their makers? A central assumption of many stylistic analyses is that proximity breeds similarity. Archaeologists commonly argue that artifact styles will be shared among closely



interacting social groups. Under this paradigm, style is learned behavior that can provide a measure of acculturation, but has no express function of its own (cf. Conkey and Hastorf 1990:2; McCartney 1988:37; Wobst 1977:318). A growing number of studies on the spatial distribution of artifact styles suggest that this is not always true (Conkey and Hastorf 1990; Hantmann and Plog 1982; Hodder 1979; Sampson 1988; Sinopoli 1991; Wiessner 1983; Wobst 1977). Where social units recognize themselves as distinct within a larger network, style often functions to differentiate these individual units (Sinopoli 1991:63). Ethnicity, regional affiliation, family ties, gender, age grade, ownership, rank, and religious beliefs are some of the social categories that are stylistically symbolized (Hodder 1979:450; Wobst 1977:323). As such, variation in stylistic attributes can transmit information on group membership and individual identity (Wiessner 1983:256), and social proximity may result in distinctive stylistic differences between closely related human groups (Sinopoli 1991:73).

More specifically, this communication theory of style argues that decorative attributes can purposefully transmit information on social identity to a target population (Wiessner 1983:257). Under this paradigm, a shared style integrates cooperating members of a social group and differentiates them from other groups (Wobst 1977:327). This type of signaling occurs in situations where social distinctions are important. The spatial and temporal distribution of stylistic attributes tends to be homogeneous when population size and density are low and when regional movement is unhindered (Hantmann and Plog 1982:240). Conversely, discrete distributions of stylistic attributes tend to be associated with economically competing groups that have well-developed social networks (Hodder 1979:450; Wiessner 1983:258). Here, the greatest differences in style are across boundaries where the most economic competition occurs. Consequently, stylistic signals help to establish social or territorial boundaries, maintain group cohesion, and enhance the predictability of interaction. Following Wobst (1977:327), "stylistic messages of identification, ownership, and authorship link efficiently those members of a community who are not in constant verbal contact and who have little opportunity to observe each others' behavior."

This theory also predicts that changes in social order will be reflected in stylistic symbols (Hodder 1979:498). Style is seen as a dynamic phenomenon that supports other cultural processes (Wobst 1977:335). When social messages are stable changes in stylistic attributes are expected to be slow. However, culture change can lead to rapid transformation in the meaning of social messages and, therefore, the character of stylistic attributes (Hantmann and Plog 1982:239-240; Wiessner 1983:257). For example, as the size and complexity of human groups increase, expanded interaction between socially distinct groups requires more stylistic signaling (Wobst 1977:326). Moreover, stylistic symbols tend to reinforce class distinctions among ranked societies and regional economic units among more simply organized groups (Hodder 1979:448-449).

Clearly, information exchange cannot explain the distribution of all stylistic attributes (Hegmon 1992:521; Sackett 1985). There are many other derivations of style. Wiessner (1983), for example, distinguishes between group style (*Emblemic*) and individual style (*Assertive*), observing that personality, creativity, and self-image are all possible components of expression. Style is also learned behavior. Individuals in every culture are socialized with a mental image of how specific objects should look (Earle 1990:73). Despite many potential sources of style, however, anthropologists consistently find strong associations between material culture and culturally recognized social units among groups who maintain distinctive social identities (Hegmon 1992:527).

Any item of material culture has the potential for information exchange (Wobst 1977:322), although some items communicate more effectively than others. First, objects that display social affiliation must be broadly recognized - part of the shared symbolic repertoire of interacting groups (Sinopoli 1991:64). This is necessary for messages to be both recognized and decoded. Second, although the classes of artifacts that carry information vary with cultural and historic context, objects that are highly visible and durable are most likely to encode social affiliation. Objects used in high densities and in multiple contexts, particularly public settings, have more opportunities to broadcast a message. Similarly, objects with longer life-spans have a greater chance of conveying social information. Consequently, clothing, head dresses, and jewelry, and permanent manipulation of the human body like head flattening and tattooing, accommodate communicative style particularly well (Hegmon 1992:528; Wiessner 1983:260; Wobst 1977:323). We believe that the highly visible practice of wearing labrets also falls into this category.

LABRETS AS SOCIAL SIGNALS

Labrets are decorative plugs worn through purposefully pierced holes in the face. This conspicuous form of personal decoration requires permanent bodily modification and often causes substantial tooth wear (Cybulski 1992:69). Labret use was once widespread among the coastal societies of the North Pacific and Bering Sea (Keddie 1981, 1989). From Northern Japan to Puget Sound and from Bristol Bay to the McKenzie River Delta, ethnographically and archaeologically-known hunter-gatherers wore labrets of wood, bone, and stone. Throughout the region, plugs were inserted below the lower lip (medially) or at the corners of the mouth (laterally) at either birth or puberty. The initial incision was usually quite small and fit with a slender object to prevent closure (Lantis 1959:32; Murdoch 1988:144; Nelson 1899:48; Niblack 1970:256). Over an individual's life, however, labret holes were periodically stretched to accommodate larger ornaments. Across the North Pacific, the size, shape, material type, and decoration of labrets varied greatly with cultural context, as did social customs surrounding their use (e.g., occasions associated with labret enlargement, gender of the wearer, placement, number



worn; Keddie 1981). Historic accounts describe a wide variety of labret shapes and decorative motifs. Inlays, incised designs, and attachments were common additions to basic forms (Dall 1884; Emmons 1991; Gritton 1988).

This general description illustrates that labrets were well suited for stylistic signaling. Throughout coastal Alaskan societies many members of society commonly wore them. Labrets were both present in high densities and part of a widely recognized system of personal decoration. Moreover, they were worn in a highly visible fashion and capable of great stylistic variation. Labrets have another important quality. Many are made of durable materials that are preserved in archaeological sites. As many of the utilitarian artifacts recovered by archaeologists are not likely to carry information on social affiliation (Wobst 1977:337), the spatial distribution of labret types offers a good opportunity to study the structure of past social systems (Suttles 1990:13-14).

The variety of Alaskan labret-wearing practices is well summarized in the anthropological literature (Dall 1884; Fortune 1985; Gritton 1988; Keddie 1981, 1989). There is less information on the social significance of this conspicuous form of personal adornment (but see Jonaitis 1988; Moss 1996, 1999). In part, this situation reflects the rapid abandonment of labrets during the Historic period (Keddie 1981:59). Explorers, merchants, and missionaries were unanimously horrified by a practice they believed caused facial disfigurement (Dall 1884:82, 87; Davydov 1977:148; Emmons 1991:245-246; Holmberg 1985:38; de Laguna 1956:205). Under Western pressure, and in the face of rapidly changing social circumstances, the use of labrets disappeared within three generations of contact throughout Alaska (Gritton 1988:181). As such, few anthropologists had the opportunity to observe the practice in its fullest form.

The complete social context of labret use has also been overshadowed by an emphasis on the relationships between personal ornamentation and prestige. In Alaska, the most extensive ethnographic data on labret use come from descriptions of Tlingit culture, noted for its high degree of social stratification. Tlingit labret use, where conspicuous ornamentation is associated with displays of privileged status, has become the assumed pattern for other areas and times (Carlson 1994:346-347; Cybulski 1992:67; Fladmark 1986:61; Keddie 1989:7; Matson 1989). Although we fully recognize the role of personal ornamentation in the maintenance and perpetuation of elite classes (Donta 1994:124; Earle 1990:81; Hodder 1979:448-449), we believe such displays are part of a broader pattern of social identification and differentiation among the densely populated, highly mobile societies of coastal Alaska. Even among the Tlingit, labrets had a larger social context (cf. Jonaitis 1988; Kan 1989; Moss 1996; Suttles 1990:13). Ethnographic data illustrate some of the additional functions of personal adornment in Alaska and suggest that affiliation with a corporate group and personal identity were at least two classes of information symbolized by the stylistic attributes of labrets.

Stylistic symbolism is present in many items of Alaska Native material culture. According to Fitzhugh and Kaplan (1982:144-146), the Yup'ik Eskimo could identify an individual's regional affiliation through a broad array of stylistic details, including parka motifs, boat designs, and other variable forms of personal adornment. This observation is supported by Himmelheber's (1993) analysis of Yup'ik art. Among the Yup'ik, illustration and decoration are primarily a form of language and less an aesthetic act (1993:16). Pictures and motifs are always used to tell stories, particularly the well-known pursuits of ancestors. Commonly, a specific motif becomes the hallmark of an ancestor story, and thus associated with a particular extended family. "You must know that every picture has a meaning. . . we never paint something told to us by a stranger, but only what happened in our own family" (Yup'ik artist in Himmelheber 1993:23). Because ancestor stories are widely shared and story motifs are employed in parka, jewelry, labret, tattoo, and hair styles, a person's family of origin, and thus regional affiliation, can be easily deciphered from highly visible stylistic attributes of dress and decoration (Himmelheber 1993:13).

The ability of people in other villages and regions to decode such messages is illustrated by the fact that motifs were simplified and used as ownership marks on hunting gear. These marks were specifically designed to identify the rightful owner of a wounded animal that escaped capture and was discovered at another time and place (Himmelheber 1993:23-24). This association between style, personal ancestry, and resource use is particularly powerful. In essence, ownership marks, and the motifs they are derived from, symbolized a tie to traditionally used resources and foraging areas. Such ties were critical in a region where extreme environmental variation was the norm and settlement mobility was a principal strategy for managing economic shortfall (Fienup-Riordan 1984:68).

Among the Yup'ik, villages were united into regional confederations, social and political units that formed the basic exchange, marriage, and ceremonial universe (Fienup-Riordan 1984:71). Mobility within these confederations was frequent and served, among other things, to redistribute people in relationship to resources. Mobility between confederations, however, was risky. Although exchange and inter-marriage were important mechanisms for buffering environmental variation among economically distinct confederations, such practices were considered dangerous, and warfare between confederations was frequent (Fienup-Riordan 1984). This is exactly the type of context where Wiessner (1983:256) and Hodder (1979:446) predict stylistic signaling of social units will occur.

The cognitive significance of these regional social units is symbolized in Yup'ik naming practices. Census data from the 1800s illustrates that ". . . personal names were regularly shared on an inter-regional level, while rarely beyond it" (Fienup-Riordan 1984:71). Although it is not expressly stated in ethnographic descriptions, it appears that highly visible stylistic attributes of Yup'ik



material culture had a similar cognitive function. As motifs displayed in clothing, personal adornment, and items of technology tied families to both harvesting areas and regional confederations, they produced group cohesion and signaled regional social differentiation in the face of economic competition.

Similar connections between material culture and regional affiliation are apparent in descriptions of Aleut culture, although there is the added dimension of rank. At historic contact the Aleut were divided into a number of autonomous societies (Townsend 1983:121). Several interacting villages that formed a single regional polity inhabited each island, or island cluster. Population densities in these polities were high and opportunities to establish new settlements limited. As such, villages and families maintained rights to local resources that they protected against usurpation. Access to resources was also influenced by social rank. Aleut societies were divided into three distinct social classes: elite, commoner, and slave. Although elite positions were inherited, the privileged maintained their status by accumulating wealth. Trade, warfare, and slavery were the principal means of both acquiring goods and displaying position (Townsend 1983:122). The elite had exclusive access to certain raw materials, and were the only individuals who could own slaves or initiate a raid.

Highly visible items of Aleut material culture seem to have illustrated both affiliations with particular polities, as well as individual status. McCartney (1984:135) notes, "by inspecting collections from one island group to the next, one gets a distinct impression that each group has artifact styles not found elsewhere but also styles shared with adjacent groups." Among the western Aleut, tattoos, labrets, jewelry, and raw materials used in parka production were diagnostic of particular regions. Members of different societies could be distinguished by the combination of adornment techniques they employed (e.g., labrets and necklaces vs. tattoos and nose pins) and by the particular animal skins in their parkas (Black 1984:59-60). Although there is no established typology, labret shapes also varied distinctly by locality (Black 1982:106). Similar patterning was present in the stylistic attributes of bentwood hunting hats. Black (1991:12) notes that hat shapes, ornament types, and decorative motifs had recognizable regional provenience. The context of hat wear also suggests a signal of social affiliation. Hats were worn for traveling, visiting, entertaining, waging war, as well as hunting (Black 1991:21); public circumstances where individuals from other regions might be encountered. Like the Yup'ik, it appears that the Aleut were signaling affiliation with regional social units in the face of social circumscription and competition for control of economic goods.

Importantly, hat decoration, personal adornment, and parka materials also encoded information on social status. Highly decorated hats were “badges of prestige and rank” worn only by the wealthy (Black 1991:17), and parkas made of certain bird skins denoted status (Black 1984:59). Similarly, high rank individuals wore more elaborate items of personal adornment. Each of these

categories of material culture transmitted at least two distinct social messages simultaneously, the regional affiliation of the wearer and his or her social status.

Although the Yup'ik and Aleut examples illustrate a tie between material culture and displays of personal and regional social identity, how does the use of labret represent this tie? Suttles (1990:13-14) suggests that among the societies of the Northwest Coast, permanent modifications of the human body were used to signify participation in regional social networks. He argues that the widespread practices of head flattening, tattooing, and labret use helped to identify individuals who belonged to one of four broad regional groups and participated in a common system of inter-marriage. Kan (1989:60) aptly describes these modifications as "... transforming the 'natural' skin into a 'social' one."

Historical accounts of Tlingit labret use also illustrate this tie. When the French met Tlingit women in Lituya Bay in 1786, they implored the women to remove their labrets. The women, however, were reluctant, embarrassed to do so in the presence of strangers (La Pérouse in Dall 1884:88). Here again, labrets seem to be functioning as a symbol of social identity, one that facilitates interaction in circumstances where people do not know each other. Emmons' (1991:245) observation that the Tlingit never removed labrets in front of strangers and that slaves (people without social identity) were not allowed to wear labrets supports this interpretation.

Edward Nelson (1899:50), who lived with the Yup'ik in the 1870s wrote that when traveling "... labrets were removed and carried in a small bag until we approached a village at night, when they were taken out and replaced, that the wearer might present a proper appearance before the people." Again, this observation suggests a symbolic association between labrets, social identity, and inter-regional interaction. This association is also suggested by the adoption of labrets among Athapaskan individuals who traded with the Tlingit and the Yup'ik (Keddie 1989:17; Osgood 1940). Keddie argues that labret use linked Athapaskan individuals to particular coastal societies strengthening alliances. When the Sukine Tlingit encountered Tahltan women wearing labrets they knew they were related (Emmons in Keddie 1989:17).

There are many more examples of the connections between material culture and social affiliation in Alaska. This short summary illustrates that dress, body modification, adornment, and even technology can encode information on a person's family and regional affiliation, information that can be read by other people participating in the same social network. Moreover, although the choice of items that carry such information is culturally and historically bound, labrets repeatedly appear to carry social messages.

Individual identity is another category of social information encoded in labret use. Identity, however, is not limited to ascribed



rank. Ethnographic information on Native Alaskans suggests that personal ornamentation encoded information on individual achievement and passage through certain life events, as well as inherited social position. Historic accounts of labret use in the Gulf of Alaska commonly note a correlation between labret types and both age and ascribed rank (Dall 1884:87-89; Emmons 1991:245-246; Niblack 1970:256; Jacobsen 1977:11). The Tlingit, Haida, Tsimshian, and Bella Bella associated the use of labrets with a woman's passage into adulthood (Jacobsen 1977:11; Jonaitis 1988:191). Among the Tlingit the initial incision was usually made at menarche and a young woman fitted with a small plug or wire. After marriage a woman received a larger, oval, wooden plug. All middle-aged and low rank women wore these intermediate size labrets. The largest plugs, and those decorated with exotic raw materials, were reserved for older, highly ranked women (Emmons 1991:245). For the Tlingit, therefore, the stylistic attributes of labrets encoded at least three distinct features of a woman's social identity, her marriageability, age, and rank (Jonaitis 1988:193).

The association between puberty, adult status, and labret use was also common among the less complexly organized coastal societies of Alaska. Among the Iñupiat, labrets were worn exclusively by men. A young man received his labret holes at puberty, after killing his first large game. The piercing ritual signaled attainment of adult status and sexual maturity (Simpson in Keddie 1981:71). After the initial piercing, labret holes were gradually enlarged, although these episodes were not associated with specific life events (Murdoch 1988:144). The value of labrets to the Iñupiat is symbolized by the fact that Murdoch (1988:145) was unable to purchase any. The Iñupiat sold him rough replicas, but they would not part with their personal ornaments. This circumstance, and the fact that ancient labrets were often carried as amulets (Murdoch 1988:147), suggests strong ties between labrets and individual identity.

Ethnographic data from coastal Alaska suggests that dress and personal adornment were widely used to signal social identity. Messages were encoded in the stylistic attributes of a variety of highly visible objects, including labrets. These attributes simultaneously transmitted information on at least two dimensions of identity: (1) group affiliation - regional ties, family, ancestry; and (2) personal identity: gender, age, passage through life events, personal achievement, and rank. Items of adornment were not solely markers of ascribed rank as some archaeologists have assumed, but reflected the range of social relationships in specific cultural and historical contexts. Importantly, multiple items displayed these social messages. Following Wobst (1977), redundancy insures message transmission. Repeatedly broadcast messages are more likely to be received. As such, labrets were one part of a system of stylistic signaling. Customs surrounding labret use and the combination of labrets with other symbolically important items also indicated social identity. Alone, therefore, the distribution of labret types is an incomplete account of the social

messages transmitted by a population. For archaeologists, however, spatial patterning in labret types in combination with other evidence, patterns of subsistence or raw material use, can help to define the structure of past social systems (Earle and Ericson 1977:11).

LABRET USE AND SOCIAL EVOLUTION IN THE GULF OF ALASKA

The earliest evidence of labret use on the Pacific coast comes from Pender Canal, a coastal site in British Columbia more than 5000 years old (Cybulski 1992:70-71). Despite this early occurrence, more widespread use of labrets does not occur in other areas of the Alaskan Gulf until after about 1500 BC (Ames 1985:169, 1994:221; Clark 1984:139; Fladmark 1986:61; Keddie 1981; MacDonald and Inglis 1980:45; McCartney 1984:134; Moss 1998:101). Although the course of cultural development is imperfectly known along this vast arc of the North American continent, labret use accompanies a remarkably similar set of developments in all regions: increases in population density; subsistence intensification; and the elaboration of material culture.

Archaeologists note an increase in the number, density, and size of prehistoric sites, as well as greater accumulations of midden, large villages, and larger houses after 3500 BC. These changes are interpreted as evidence of substantial population growth (Ames 1985:167; Jordan and Knecht 1988:231; McCartney 1984:134; MacDonald and Inglis 1980). Several important technological innovations accompany this growth. Coastal foragers begin to use mass capture techniques and to widely manufacture ground stone tools. Stone tidal traps, wooden stake fish weirs, net sinkers, and drying racks indicate an increased reliance on seasonally abundant resources like salmon and herring. More importantly, they imply the use of storage and the careful organization of labor (Ames 1985:172; Moss 1998:103). Similarly, archaeologists interpret the variety of easily-resharpened ground stone cutting tools as evidence for processing large quantities of food (Ames 1985:172). Together, these developments point toward subsistence intensification - areawide efforts to increase food production.

A dramatic elaboration of material culture accompanies subsistence intensification. The number and diversity of artifact styles increases enormously, reflecting in part, more intensive use of new habitats and resources (Ames 1994:218; Erlandson et al. 1992:53). Additionally, artwork and items of personal adornment appear in greater quantities, and utilitarian items are embellished with decorative motifs (Ames 1985:169; Hausler 1992:22). Labrets are part of this elaboration.

We believe that each of these developments reflects a broad pattern of increasing resource competition. Throughout the region, population growth and subsistence intensification seem to have



promoted the emergence of logistical foraging strategies aimed at harvesting productive yet variable resources in the face of social circumscription (cf. Ames 1985). Earle (1990:74-75) notes that such circumstances often lead to the development of well-defined corporate groups that control access to resources. This control is justified through ceremonial identification with traditionally used foraging areas and resources (e.g., veneration of the dead) and illustrated by regional stylistic variation in display items (Earle 1990:81).

Within this context, we suggest that personal adornment flourished out of the need to signal group membership and illustrate social boundaries. We believe that the early distribution of labret types may reflect the distribution of regional economic units. In contrast, we expect that as more complex forms of social organization developed, labret types will encode the added dimension of rank. These patterns are explored further with archaeological data from the Kodiak Archipelago.

Labrets in the Kodiak Archipelago

The Kodiak Archipelago lies in the central Gulf of Alaska (Figure 1), the northern-most region of the Pacific Ocean. This rugged, mountainous cluster of islands is characterized by a cool, stormy, maritime climate and a diverse array of biological resources. Marine resources, including anadromous fish, sea mammals, shellfish, and birds, were the foundation of prehistoric subsistence and remain the driving force of the modern economy. The Archipelago is the traditional homeland of the Koniag, one of three regional groups of Alutiiq people (pl. Alutiit). Although the origins of the Alutiit continue to be debated (Clark 1992; Dumond 1998; Dumond and Scott 1991; Fitzhugh 1996; Jordan and Knecht 1988; Knecht 1995), maritime foragers have inhabited the archipelago for at least 7500 years (Fitzhugh 1995b).

The culture history of the Archipelago is divided into three traditions, Ocean Bay (5500 BC to 1800 BC), Kachemak (1800 BC to AD 1200), and Koniag (AD 1200 to historic contact). Although there is no evidence of labret use among the people of the Ocean Bay tradition (Hausler 1992), labrets are common in archaeological deposits from the subsequent Kachemak and Koniag traditions (Clark 1984:139; Knecht 1995; Steffian 1992a). Labrets first appear in the early Kachemak. Unfortunately, only a hand full of assemblages have been dated to the period of roughly 1800 BC to 200 BC and little is known about social and economic organization. In contrast, there are many assemblages from Late Kachemak, which document the cultural context of labret use.

Late Kachemak labrets

At roughly 200 BC coastal villages with dense accumulations of shell midden, clusters of single-roomed semi-subterranean houses, and a diverse array of artifacts appear in great numbers

(Clark 1997:3; Jordan and Knecht 1988:231). This evidence of population growth is accompanied by materials documenting subsistence intensification and resource competition. Archaeological data illustrate increases in diet breadth (Lobdell 1980; Yesner 1992), the use of mass capture technologies and storage (Jordan 1988:8; Steffian 1992b), more intensive use of a greater variety of habitats (Erlandson et al. 1992:53; Fitzhugh 1995a; Jordan and Knecht 1988:236; Reger 1977:48; Workman 1980:84), and possibly over-exploitation of particular resources and ecological areas (Lobdell 1980; Yesner 1992:177).

In turn, subsistence intensification is associated with increases in territorial behavior and inter-regional interaction. Kachemak winter settlements were centrally located in areas suited for both resource exploitation and control. Here, the dead were carefully buried around communities, some of them in repeatedly used crypts, suggesting multi-generational ties to particular settlements and harvesting areas (Simon and Steffian 1994:96-97; Workman 1992:20). And hunting lances were commonly decorated with makers' marks to tie individual hunters to their kills (Clark 1970:97). Additionally, increasing social violence seems to be represented in the purposeful dismemberment of human remains (Simon and Steffian 1994:96-97; but see Workman 1992:21-22 for a broader interpretation) and the development of refuge sites (Fitzhugh 1996: 332, 371). This increasing control of space is coupled with evidence of greater social interaction. Regional mobility and exchange are evident in the widespread distribution of non-local raw materials. On Kodiak, utilitarian tools, items of personal adornment, and artwork were commonly made from antler, ivory, high-grade coal, and other materials not available in the Archipelago. Clearly, ties to other regions and ecological areas, particularly the Alaskan mainland, were significant to Kodiak's Late Kachemak economies (Steffian 1992a).

We believe that these increases in territoriality and inter-regional exchange were accompanied by stylistic signals of social space. Specifically, we propose that labret types carried information on group affiliation (emblemic style, cf. Wiessner 1983:257). From Kachemak mortuary data we know that both men and women wore labrets, often in lateral pairs (de Laguna 1975:110; Simon and Steffian 1994:87). Moreover, there are many types of Kachemak labrets. In analyzing several small collections, Clark (1974b:131) found so much variation that he could not identify spatial and temporal patterns. Thus, labrets occurred in high densities and were capable of great stylistically variation, two prerequisites for carrying stylistic messages.

Although labret types could signal many potential social divisions, the economic importance of exchange in the face of social circumscription suggests that social networks were important in moving resources to people. This is exactly the circumstance where social signals would be useful - when frequent travel and social interaction resulted in encounters with poorly known people at a time of increasing territorial control.



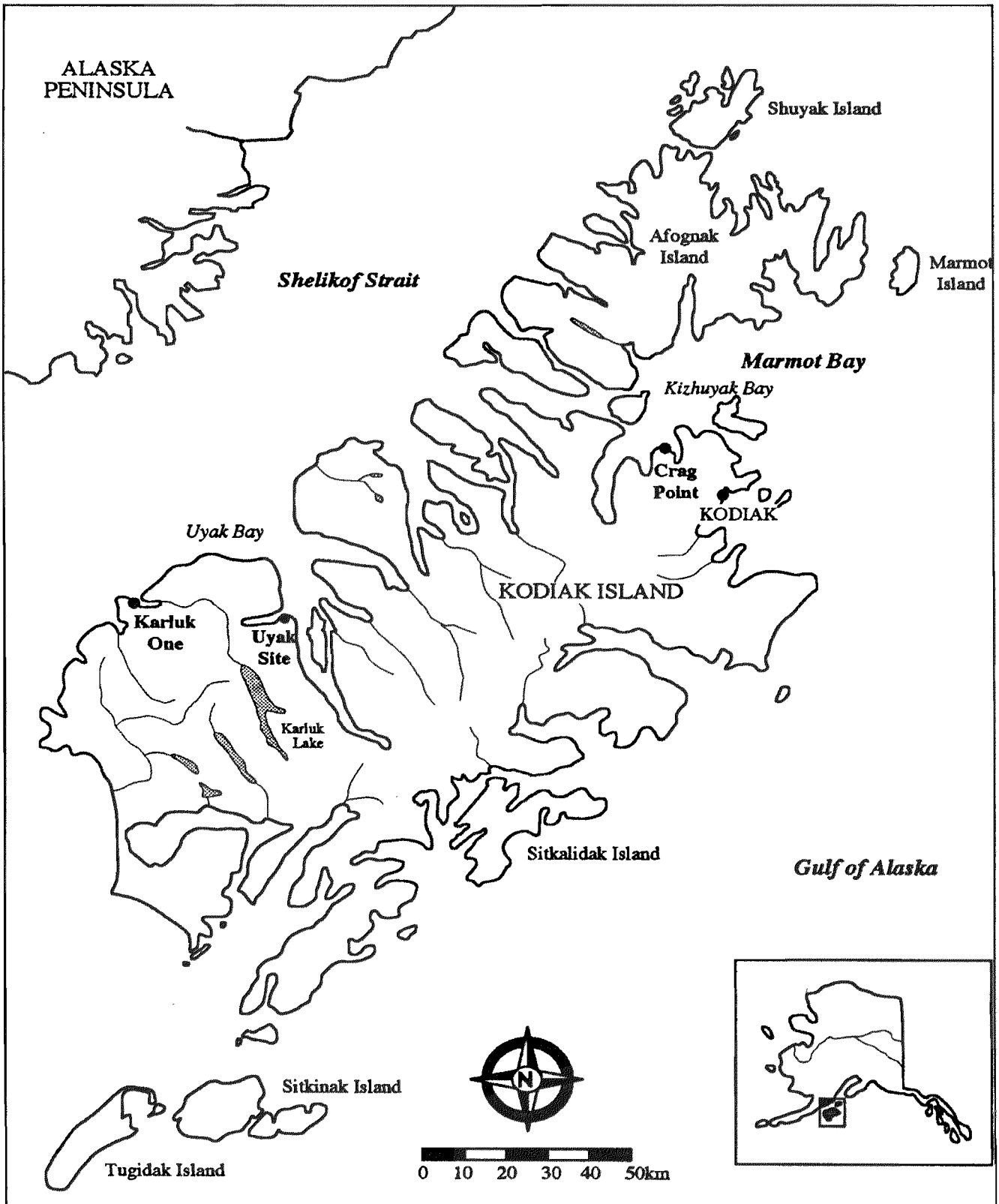


Figure 1: The Kodiak Archipelago with archaeological sites included in the study.



We predict that the spatial distribution of labret types will reflect membership in corporate groups that maintained control of particular harvesting areas and participated in long distance exchange networks. Haas and Creamer (1993:21-22) note that the formation of corporate groups among tribal societies is often marked by the presence of discrete sets of stylistic types in highly visible items of material culture (e.g., ceramics, ceremonial architecture). Each type represents a distinct social group, and thus, the total number of types reflects the number of groups. Following this prediction, we believe that sets of labret types should cluster within the Late Kachemak culture area, occurring repeatedly in within a social and economic region (cf. Haas and Creamer 1993:22). However, as Alaskan Gulf coast foragers were highly mobile and as social and economic ties beyond regional networks were probably important, it is likely that a small number of types will occur in adjacent regions. Thus, we do not expect type groups to be mutually exclusive, but simply to show significant spatial clustering.

Koniag labrets

After roughly AD 1200 ethnographically documented patterns of Alutiiq culture become archaeologically visible. The population of Kodiak continues to increase and there is a dramatic change in the structure and organization of villages. Clustered villages with single-roomed houses become larger linear villages with multi-roomed structures reflecting the consolidation of households into extended family groupings (Jordan and Knecht 1988). Variation in structure size and construction is enormous, and villages are often laid out with the largest structures in the center (Donta 1992:12). Changes in village organization are accompanied by regional economic specialization on resources including salmon (Knecht 1995:726) and whales (Fitzhugh 1996:378). Continued participation in far-ranging exchange networks, the adoption of gambling, and artistic and ceremonial elaboration are particularly evident (Knecht 1995; Saltonstall 1997:26). Together, these data are interpreted as evidence of increased organizational complexity, the development of ethnographically recorded ranked societies (cf. Birket Smith 1953:93; Davydov 1977:190; Desson 1995:76,158; Gideon 1989:40, 42; Holmberg 1985:36) in which positions of power were maintained through the accumulation of wealth and lavish ceremonial displays (Donta 1994:123; Fitzhugh 1996; Jordan 1994:15; Knecht 1995).

Unfortunately, the lack of multiple large assemblages of Koniag labrets makes it impossible to analyze the spatial distribution of labret types during this period. However, we predict that when other samples are collected, regional type groupings reflecting the presence of corporate groups will be present. Access to non-local materials must have remained important to Koniag foragers to meet economic needs and support status differentiation. Such inter-regional trade is well documented among the neighboring Aleut and Tlingit (Townsend 1980), as is regional variation in material

culture. On Kodiak, this regionalization is suggested by variation in clothing and personal adornment illustrated on incised pebbles from the early Koniag. Clothing styles common to the Monashka Bay site on northern Kodiak differ from those found at Karluk One (Donta 1993:345) on the southwestern end of the Island. Moreover, at Karluk One, the frequency of labrets covaries with the frequency of end blades (for war arrows) and exotic materials throughout the site's occupation. All of these artifacts are more frequent during the Little Ice Age, a period of environmental cooling and changing subsistence practices (Knecht 1995:733-734). This pattern suggests intense regional interaction and competition and a concomitant intensification of social signals.

Additionally, we predict that Koniag labret types will reflect social stratification. Hodder (1979:449) points out that among complexly organized societies the tension driving stylistic variations is vertical as economic competition occurs within communities. In these circumstances signals reinforce the corporateness of the ruling class. From ethnographic data we know that both Alutiiq men and women wore labrets, and that stylistic attributes encoded information on rank. Extremely large labrets were the fashion among elite men, elite women might wear as many as six plugs (Holmberg 1985:38), and both sexes decorated their labrets ornately (e.g., with strand of beads, Davydov 1977:148). Such displays were designed to illustrate power and wealth. This pattern is expected during the prehistoric Koniag tradition as well.

Although the labret data alone cannot confirm the presence of ranking, given the increases in ceremonial display characteristic on the Koniag tradition, we expect Koniag labrets to show a greater degree of individuality and ostentation (assertive style, cf. Wiessner 1983:256). Ultimately a combination of labret and mortuary data would allow us to explore social differentiation from a stronger, multi-dimensional perspective (cf. Moss 1996:82-83; Pebbles and Kus 1977). Unfortunately, data for this kind of analysis are not yet available. Consequently, we have chosen to compare variation in labret size, decoration, and material type between the Kachemak and Koniag traditions.

CASE STUDY: LABRETS IN THE KODIAK ARCHIPELAGO

The labret sample

Although archaeologists have long realized the potential for labrets types to display significant spatial and temporal patterning, labret samples from most sites have been small (Clark 1974b:131). Extensive excavations in the Kodiak Archipelago over the past fifteen years (Jordan and Knecht 1988; Knecht 1995; Saltonstall 1997; Steffian 1992b), however, have produced large labret assemblages appropriate for stylistic studies (Figure 2). Additionally, these assemblages include imagery of people wearing labrets (Donta



1993:245, 344-346; Knecht 1995:591-598), dolls carved with labrets (Jordan 1994:161,164-165; Knecht 1995:686), and labret hole stretchers (Knecht 1995:640-641); data which enrich the picture of prehistoric adornment practices.

The labrets included in this study come from three archaeological sites on Kodiak Island which date to the Late Kachemak and Koniag traditions; Crag Point (49-KOD-044), Karluk One (49-KAR-001), and Uyak (49-KOD-145) (Figure 1). Some of the specimens from Crag Point were collected by Donald Clark as part of the Aleut-Konyag project (Clark 1970). Those from Karluk One, Uyak, and an additional sample from Crag Point were collected by the KANA / Bryn Mawr College archaeological project over seven seasons of research (Jordan and Knecht 1988; Steffian 1992b). Information on the spatial and temporal distribution of labret types from other excavations was culled from published reports and the examination of labrets in the University of Alaska Museum, the Alutiiq Museum and Archaeological Repository, and the University of Wisconsin, Department of Anthropology.

Briefly, the samples from the Crag Point and Uyak sites date to the Late Kachemak tradition. Crag Point is a multi-component site located on north Kodiak Island. Here, Late Kachemak materials accrued over a period of as much as 1200 years through repeated occupation of a small settlement (Mills 1994:143; Steffian and Simon 1994:83). These deposits span the entire Late Kachemak period. In contrast, the Uyak assemblage reflects a shorter occupation of a larger village. Here cultural materials were deposited around the remains of more than sixteen structures inhabited for about 450 years (Mills 1994:143). The Uyak Site is

located on southwestern Kodiak Island (Steffian 1992b). Preservation at both sites was similar. There was little wood, but shell, bone, and antler were well represented. One major difference in the labret assemblages at the two sites is that the Uyak site contains extensive evidence of labret manufacture (Steffian 1992a; see also McMahan 1996:8-9), an industry not documented at Crag Point. Our sample includes 40 labrets from Crag Point and 86 from Uyak.¹

Karluk One is the only site with a substantial assemblage of prehistoric Koniag labrets (Knecht 1995:621). The sample of labrets from this site includes 241 specimens made largely of wood and bark, and an additional 41 labret hole stretchers expediently carved from soft woods (Knecht 1995:640).² The site assemblage also contained an assortment of wooden dolls (Jordan 1994:158; Knecht 1995:685), anthropomorphic carvings that illustrate patterns of labret use. The presence of this many wooden objects related to labret use reflects the site's remarkable organic preservation. These and other extraordinary artifacts accumulated over approximately 750 years, the remnants of a large permanent village at the mouth of the Karluk River (Jordan and Knecht 1988). Prehistoric deposits at the site date from roughly 1100 A.D. to historic contact and reflect the entire length of the Koniag tradition (Mills 1994). Tight chronological control of the assemblage makes it possible to study temporal trends in labret types during the Koniag tradition (Knecht 1995:634).

Determining labret types

A labret is divided into two parts, flange and body (Keddie 1981:61). The flange, or slightly curved proximal end of the ornament, forms a broad collar that rests against the flesh of the inner mouth and abuts the teeth. This collar anchors the ornament, preventing it from slipping through the hole. The body, or distal portion of the labret, extends through the cheek forming the visible, decorative end of the plug. In some types, the body of the labret is separated from the flange by an encircling groove. In these labrets, both the broader body and flange keep the ornament in place.

¹ During test excavations of the Uyak site in 1993, archaeologists from the Alaska Office of History and Archaeology uncovered four individual labrets and cache of 13 others (McMahan 1993:8-9, 11). As the site's stratigraphy is complicated, and as these labrets were not associated with dated strata, these 17 pieces were not included in our Uyak sample. Visual inspection of the labrets, however, illustrates that they are quite similar to others from the site. They are made of similar material [coal, ivory, and sea mammal bone] and replicate types in the larger assemblage. There are no new types represented in this additional collection. We also omit labrets from Hrdlicka's original excavation of the Uyak site. The collection from this excavation has very limited provenience data and Kachemak and Koniag labrets cannot be reliably segregated.

² The sample of labrets from Karluk One has increased substantially in recent years. In 1994, the site began to erode dramatically as the adjacent Karluk River cut a new course. Many wooden artifacts from the deposits were salvaged from the beach by local residents and added to the site collection stored at the Alutiiq Museum. This included more than 140 additional labrets - many without provenience data. These pieces were not added to our analysis, although careful visual inspection illustrated that they replicate the patterns observed in the original study. This study includes all labrets collected from Karluk One by the end of the 1994 field season.

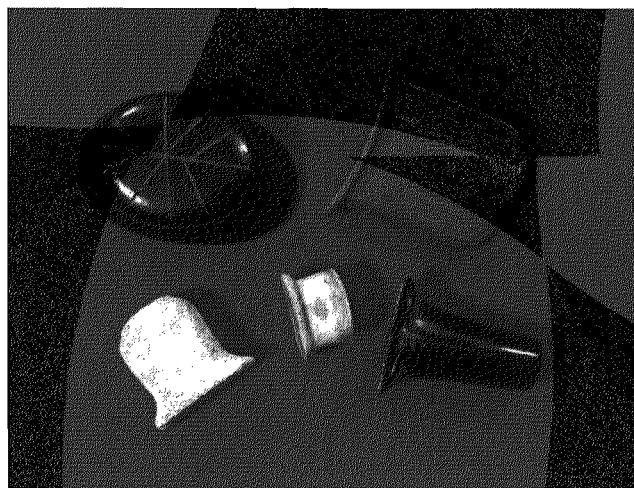


Figure 2: Labrets from the Kodiak Archipelago, illustrating variation in form, decoration, and raw material. Upper left, lower right: coal labrets from Late Kachemak tradition deposits, Uyak site, City of Larsen Bay Collection, Alutiiq Museum, (UA88-78-1144, UA88-78-2658). Upper right, lower left, center: wood, limestone, and ivory labrets from Koniag tradition deposits, Karluk One site, Koniag, Inc. Collection, Alutiiq Museum (AM193.87.9320, UA84.193.2868, UA85.193.6881). Photograph by Patrick Saltonstall.

Kodiak foragers employed these basic forms in a variety of labrets. To document the range of labret shapes and sizes in our sample, we recorded eight metric measurements on each specimen in the sample.³ The measurements included total height (TH), height of body (HtB), length of body (LB), width of body (WB), length of flange (LF), width of flange (WF), diameter at narrowest point (DN), and height to diameter at narrowest point (HtDN) (Figure 3). Measurements were made on whole and fragmentary labrets and on nearly finished preform pieces (those where the final form was clearly evident). Additionally, we coded four nominal variables; raw material, flange type (grooved, stepped, flared), decoration type, and a visual classification of overall shape. Any modification to the original labret form, an inlay, carving or incised design, was considered decoration.

Once gathered, measurements of continuous variables were subjected to cluster analysis. This analysis was aimed at testing our visual classification and identifying any previously unrecognized forms. In the second stage of analysis we cross-tabulated the resulting forms with information on flange type and decorative motifs to identify labret types. For the Kachemak samples, we then compared the numerical distribution of each type by site. This was not possible for the Koniag sample as it is from a single site. However, the Koniag sample was subdivided into three chronological periods, early (house floors seven and below), middle (house floors four through six), and late (house floor one through three) to investigate temporal patterning (adapted from Donta 1993; Knecht 1995).

It should be noted that our analysis was designed only to investigate broad spatial and temporal patterning in labrets. It is not intended as a comprehensive summary of labret types. Although our large sample appears to document a majority of the known types, there are clearly others present in other assemblages (e.g., whale tale and claw / beak forms from the Kiavak site, Clark 1974:271). As these labrets are from much smaller site samples, and as they were not readily available for measurement, we did not include them in the analysis.

Following our study of labret types, we conducted two supplemental investigations with artifacts from the Karluk One assemblage. First, we measured hole stretchers, temporary plugs of soft wood worn to stretch the skin in preparation for wearing a larger labret (Knecht 1995:641). Most of these stretchers were

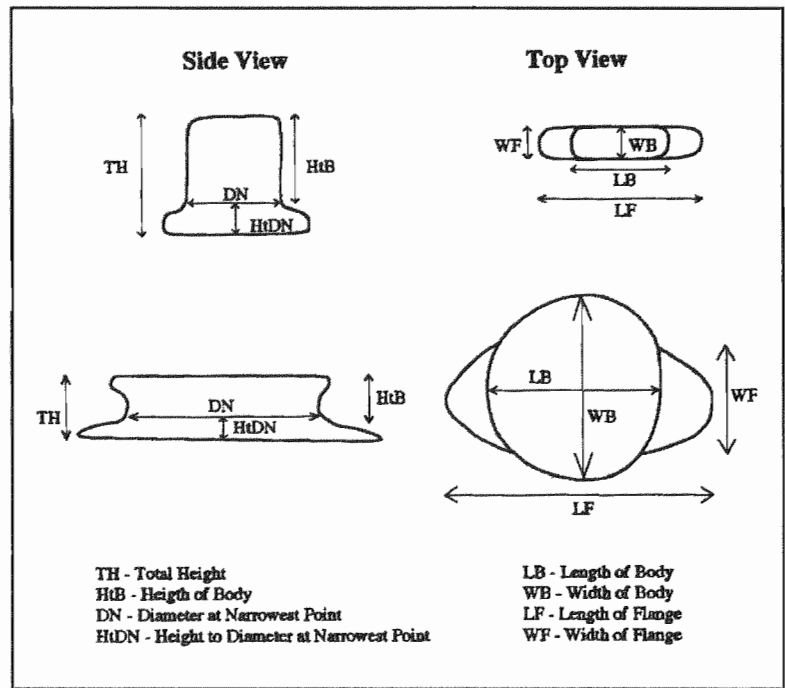


Figure 3: Labret dimensions measured

expediently carved from segments of slender alder branches, with a simple flange or groove at one or both ends. We measured the distance between the flanges, or grooves, to determine the length of the desired labret incision and to look for discrete size classes. Second, we surveyed the wooden dolls in the Karluk One assemblage for representations of labrets. We noted doll type (cf. Knecht 1995:685-690), doll gender, the presence or absence of labrets, and the number and placement of labrets. As labrets on these small carvings were typically represented as tiny rectangles, it was not possible to distinguish labret types worn by different dolls.

Kachemak labrets

Cluster analysis confirmed our visual classification of labret forms. The Kachemak specimens fall into eleven shape classes that remained distinct during statistical manipulation. These robust shapes suggest that labret forms were designed to be visually distinct. Figure 4 illustrates these forms and Table 1 shows their distribution in the sample. Each form was named to facilitate discussion (see Figure 4). Type descriptions can be found in the appendix to this paper. Some forms were made in two sizes. Orca and Three Mile Island forms, for example, occur in a large and a small size in the Uyak assemblage. Despite this variation, different sizes of the same form were classed as a single form.

Seven categories of decoration were recorded among the Kachemak labrets (Figure 5). Two decorative motifs, vertical side groove and raised bar, were unique, occurring only on single specimens. In general, however, decorative motifs tended to covary

³ We did not record labret weight. Although weight is certainly a consideration for the labret wearer, and would be instructive in comparing labrets of different sizes, chemical conservation of wood and bone labrets altered the weight of many of the pieces in our sample. As such, current weight was not a reliable indicator of original weight. Moreover, as our analysis showed, the Kachemak and Koniag labrets in our sample were largely made of different materials, making temporal comparisons of weight uninformative.



with labret forms and occur on all size labrets of a particular shape, supporting the identification of discrete labret types. Although pulleys displayed a variety of decorations, certain labret types were never decorated (nipple, orca, and top hat forms), others were always decorated (Three Mile Island), and some if decorated were decorated in a particular way (buttons with a peg hole, bars with incised lines) (Table 1). From these patterns of covariation we determined a minimum of thirteen labret types. The variety of decorative motifs on pulleys may reflect the presence of additional types, but as concentric circles and multiple carved holes were the only decorations that patterned exclusively with this form they were the only decorative motifs used to identify individual types.⁴

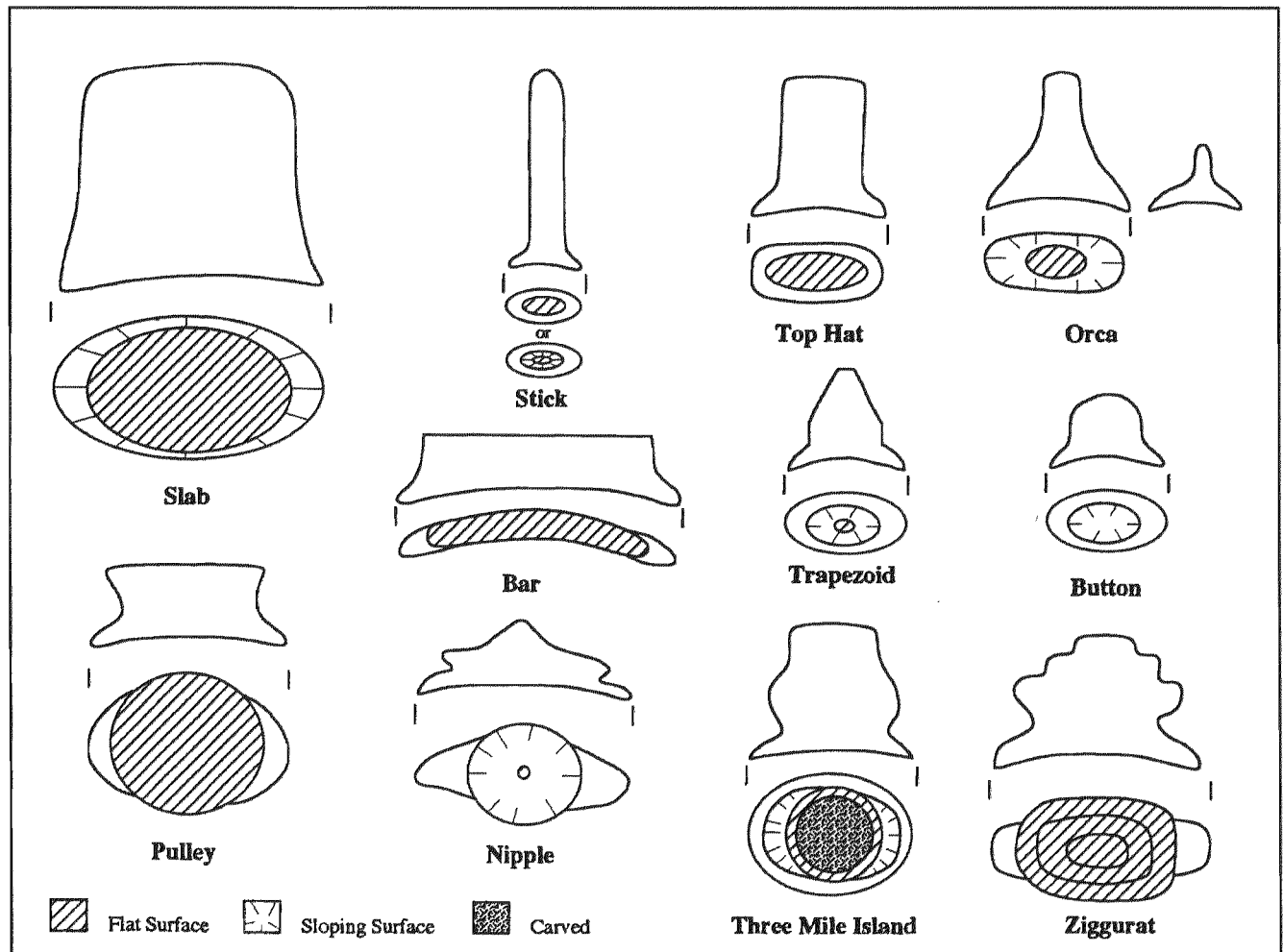
The distribution of these types differs by site (Figure 6). Four types are present in the Crag Point assemblage, three of which (top hats, bars, and sticks) accounted for 95% of the variation. These

same three types make up only 3% of the Uyak assemblage. At Uyak, a total of thirteen types were identified, five of which (buttons, orcas, nipples, three mile islands, and pulleys) accounted for nearly 90% of the specimens. None of these five types is present in the Crag Point assemblage. If one excludes types that account for less than 15% of variation, the Crag Point assemblage is characterized by two types (sticks 58%, bars 25%) and the Uyak assemblage by three (buttons 28%, pulleys 26%, orcas 25%).

Another intriguing result is that labrets were made of distinctly different materials at each site (Table 2). At Uyak 92% of the labrets were manufactured from cancell coal and slate and only 8% from other light colored materials. At Crag Point labrets were made out of a greater variety of materials, but bone, ivory, limestone and other light colored materials account for 80% of all labrets. The majority of Uyak labrets are black and the majority of Crag Point labrets an off-white color. Furthermore, this regional color distinction occurred within labret types. For instance, bulls-eye labrets in the Uyak assemblage are made of coal, while those in the Crag Point assemblage are manufactured from beige sandstone.

⁴ Red stains on labrets in the Old Karluk assemblage and in a variety of other Late Kachemak contexts (Clark, personal communication, 2001), suggest that carved depressions once held inlays of red ochre, particularly those made of coal.

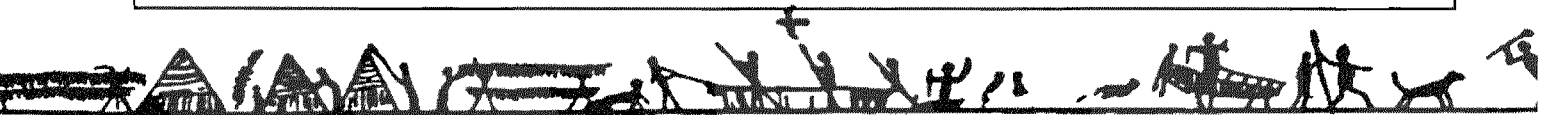
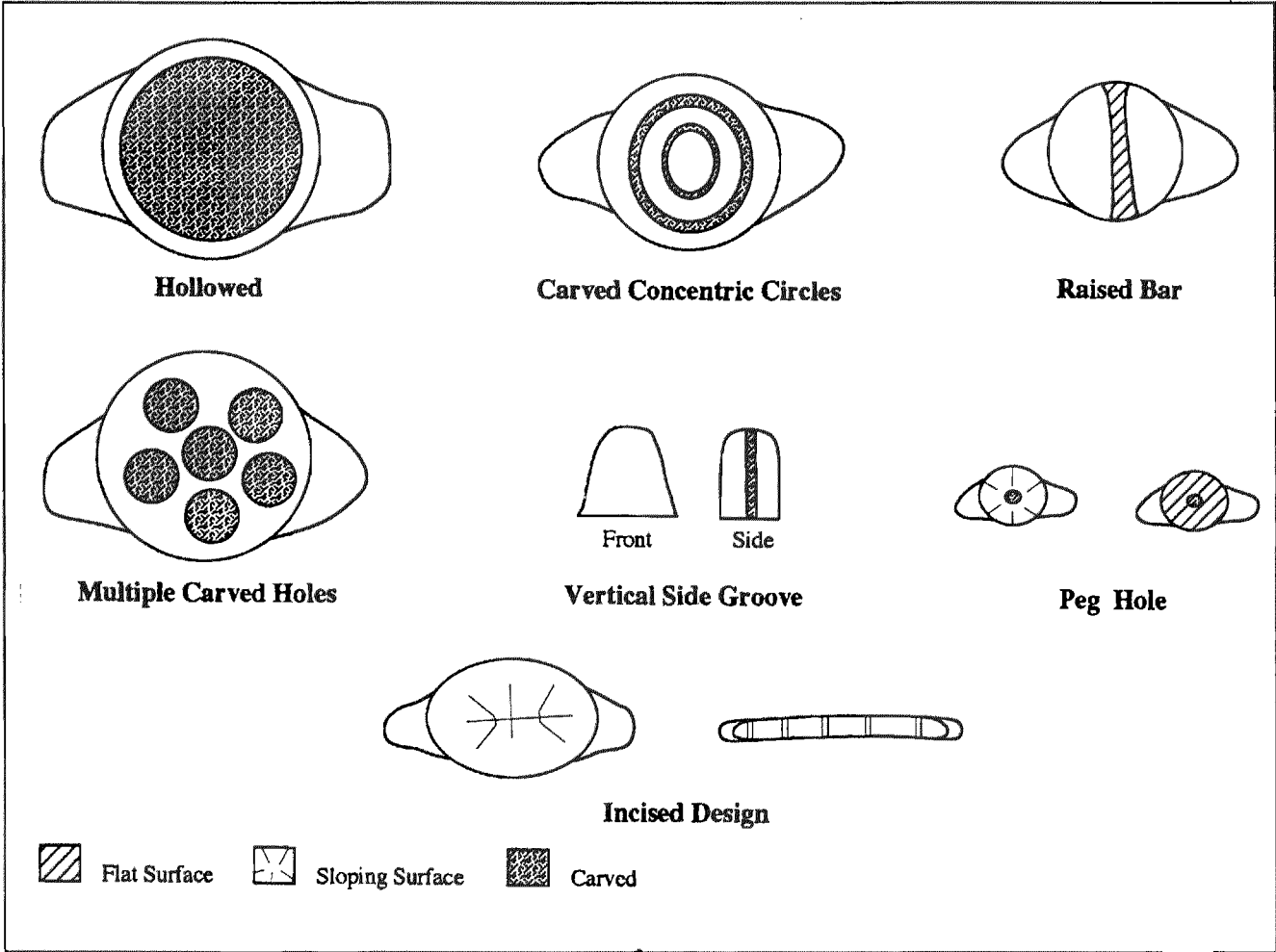
Figure 4: Kachemak labret forms



Decoration	Bar	Button	Nipple	Orca	Pulley	Slab	Stick	Top Hat	TMI	Trap.	Zig.	Other	Total	Total %
Circles					3								3	2.4
Hollowed					7		1		5	1		1	15	12.2
Incised Design	5				1								6	4.9
Multiple Holes					2								2	1.6
Peg Hole		11											11	8.9
Raised Bar					1								1	0.8
Side Groove						1							1	0.8
No Decoration	6	11	5	20	11	1	22	7			1		84	68.3
Total	11	22	5	20	25	2	23	7	5	1	1	1	123	
Total %	8.9	17.9	4.1	16.3	20.3	1.6	18.7	5.7	4.1	0.8	0.8	0.8		100.0

Table 1. Cross tabulation of Kachemak labret forms and decorative motifs

Figure 5: Decorative motifs on Kachemak labrets



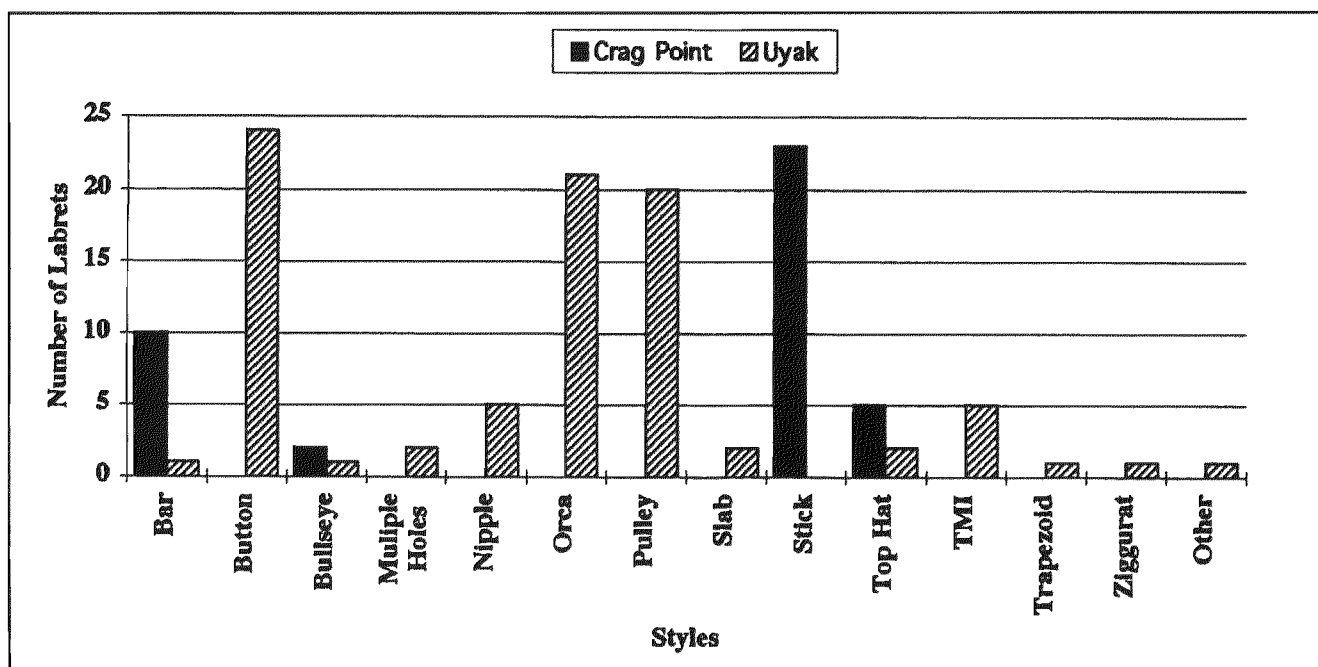


Figure 6. Distribution of Kachemak labret types by site

Koniag labrets

Like Kachemak labrets, Koniag labret shapes were easily categorized by visual inspection. We recognized a total of 13 shapes, confirmed by cluster analysis, which occurred in a variety of sizes. Figures 7 and 8 illustrate these shapes and Figure 9 shows their distribution in the Karluk One sample. Interestingly, within individual shapes there were more discrete size classes than in the Kachemak labret sample. All common Koniag labret types ($n = 4$) occur in three or four distinct size classes, as indicated by multimodal distributions in flange size (generated by multiplying flange length [FL] by flange width [FW]). This is an increase from the one or two size classes observed for individual types in the Kachemak sample.

Similarly, the hole stretchers from Karluk One fall into at least two discrete size classes. The distribution of stretcher lengths displays two clear modes (i.e. size classes) with several large outliers possibly representing a third mode. Importantly, this distribution closely overlaps the distribution of labret flange lengths in the sample, and both distributions have similar modes. Again, this suggests the presence of discrete size classes, although the exact range of these size classes is in part influenced by labret type. There are not highly standardized size classes into which all labrets can be divided. Each style occurs in its own set of sizes,

Table 2. Distribution of Kachemak labrets by color and raw material

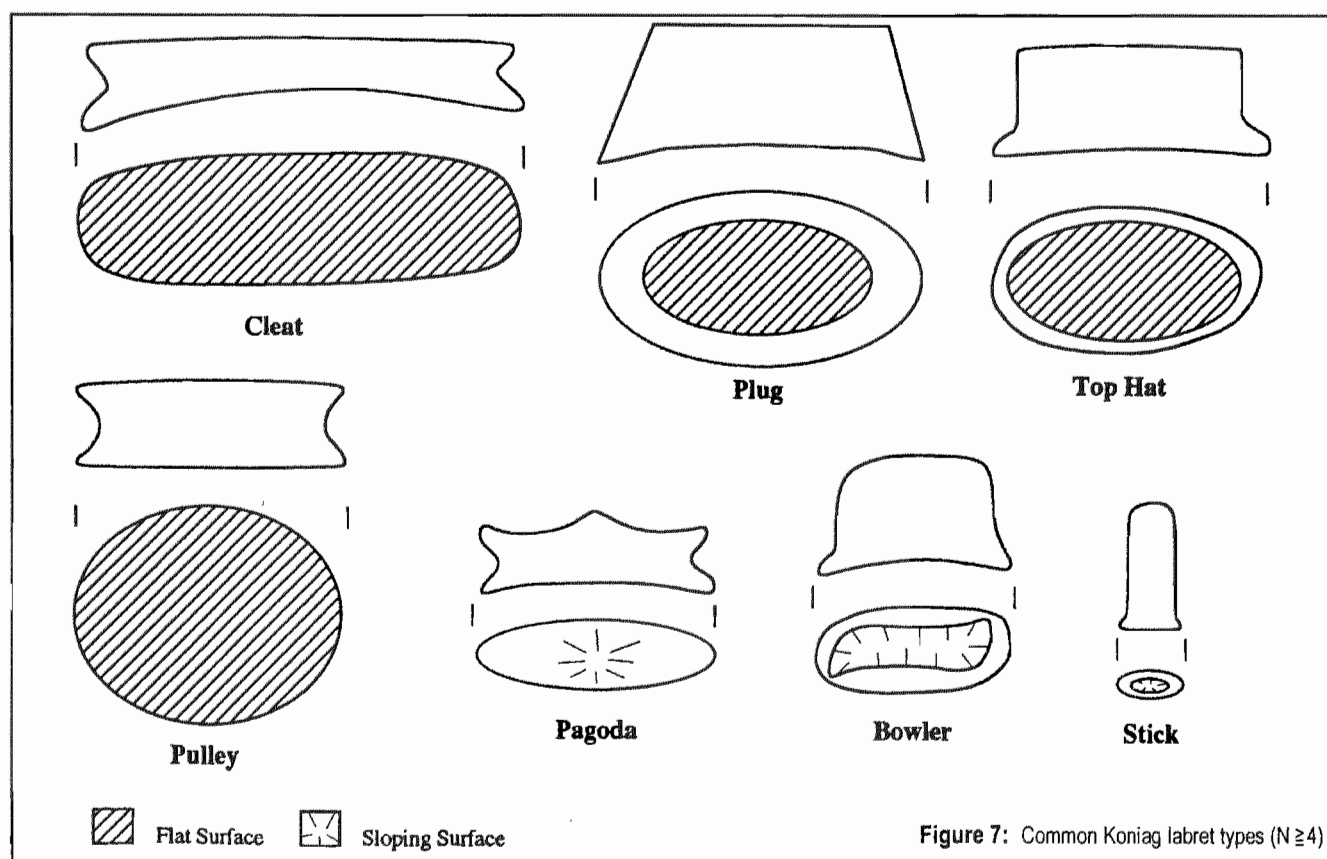
Site	Light Colored Materials					Dark Colored Materials		Total
	Bone	Ivory	Limestone	Marble	Sandstone	Coal	Slate	
Crag Point	19	8	1	3	1	4	4	40
Uyak	0	4	3	0	0	78	1	86
Total	19	10	4	3	1	82	5	126

although given the physical limits of labret-wearing, these size classes are not radically different.

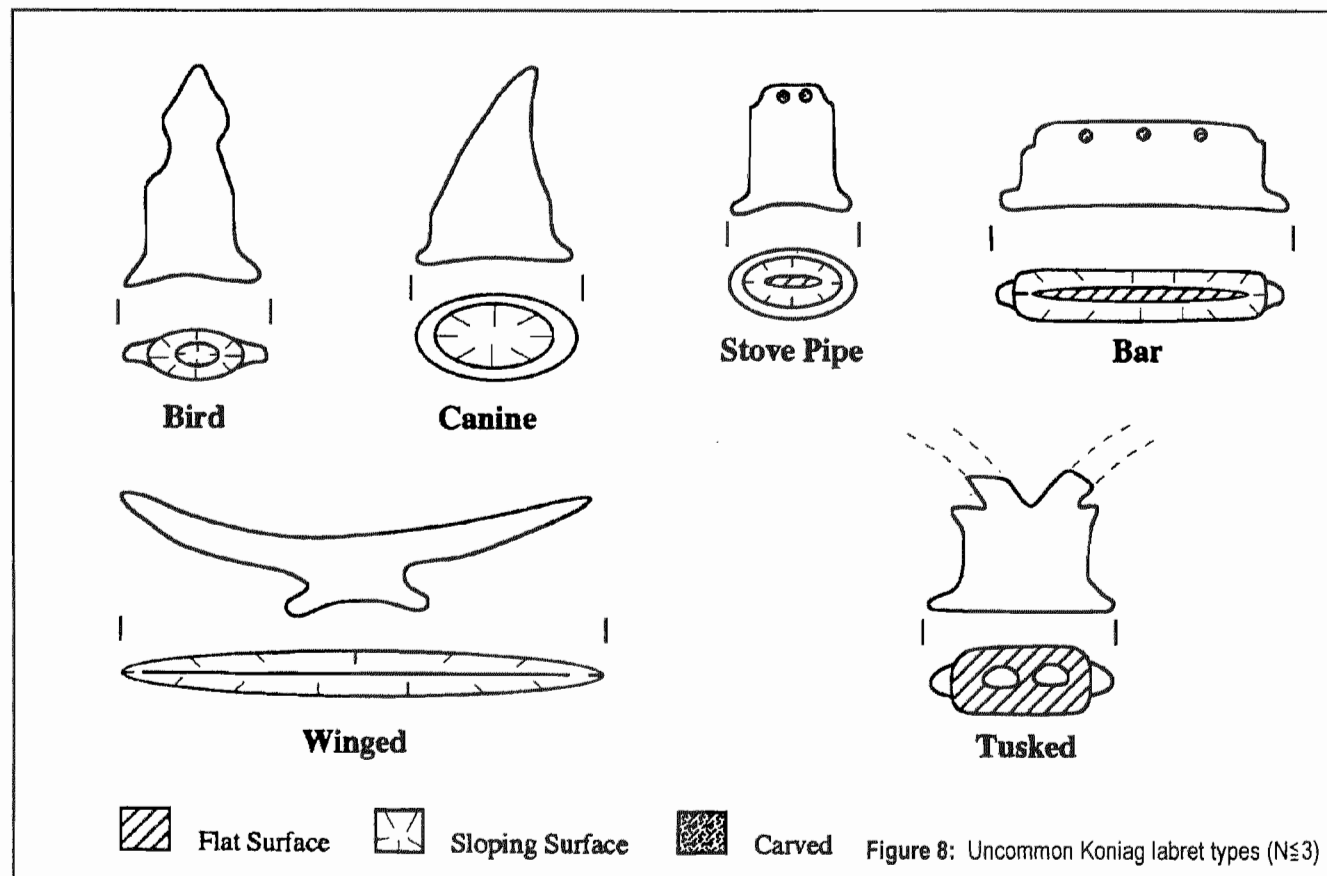
Decorative motifs were also more variable in the Koniag labret assemblage and fewer labrets were decorated. Only 15% of the Koniag assemblage was decorated as opposed to 53% of the Kachemak assemblage. This is surprising as the majority of Koniag labrets were made from wood, a more malleable and easily decorated material than the stone typically used for Kachemak labrets. Moreover, decorative motifs were not easily categorized. Koniag Labrets were embellished with a variety of inlays (fish teeth, an otter tooth), carved designs (a paw motif), and raised forms unique to individual specimens. This is especially true of the cleat type labrets. Consequently, no types were determined by the co-occurrence of decoration and form. Our 13 Koniag labret types are based solely on shape.

Four labret types dominate the Karluk One assemblage, bowlers (34%), top hats (24%), cleats (18%), and pulleys (11%). These types account for 88% of the stylistic variation in





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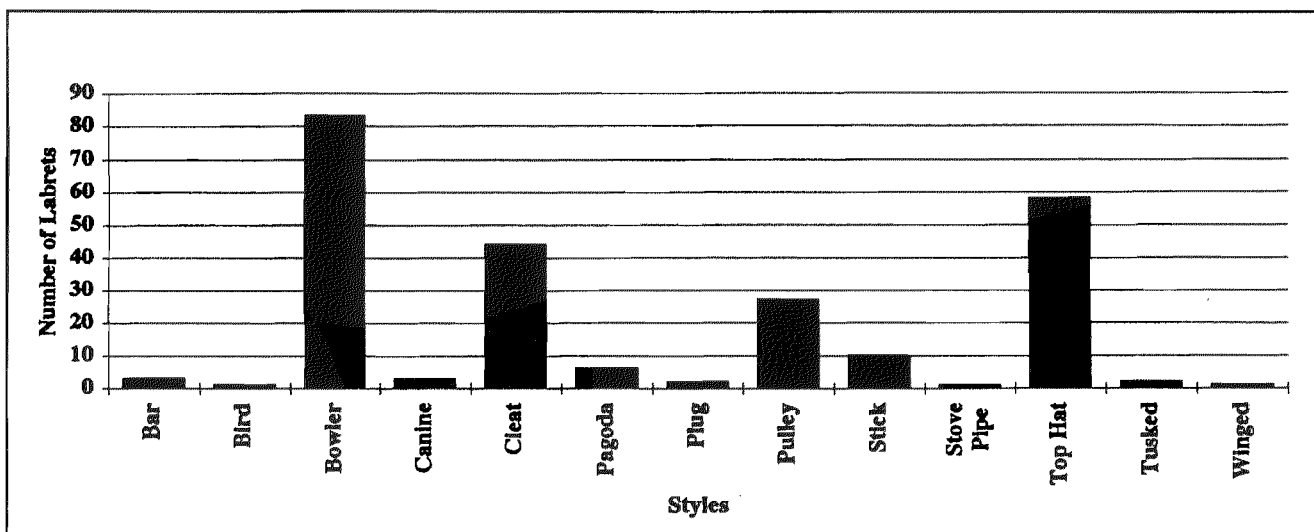


Figure 9: Frequency of Koniag labret types

the assemblage (Figure 9) and are well represented in all stratigraphic levels. Despite this apparent stylistic continuity, some of the less common forms display temporal patterning (Table 3). Pagoda, plug, and stove pipe labrets occur only in the lowest levels of the site, and canine, stick, tusked, and winged labrets are present only in the upper levels.

Wood and bark are the most common labret materials at Karluk One. If they had not been preserved, the remaining types would have provided an extremely biased view of Koniag labret use. Only 16 of 241 labrets (7%) were made of other materials, and nine of these are small, uncommon types ($n = 3$, e.g., canine, tusk, bar, and stove pipe types) (Table 4). Consequently, material type is remarkably uniform and closely correlated with shape, size, and decoration. Among the common wood labret types only the largest are decorated. In contrast, more than half of the small labrets of uncommon materials are decorated. These patterns are distinct from the Kachemak sample, where a specific type maybe made out of a variety of different materials, and decoration occurs on all sizes of labrets within types.

Dolls in the Karluk One assemblage provide a more general picture of Koniag labret use, highlighting the importance of labrets to a person's unique identity. There were 53 dolls in our sample and one doll's head. Based on ethnographic analogy, they can be divided into two general types. The first type are children's toys ($n=20$). These dolls are carved with generic faces, detailed torsos, legs, and male or female genitalia. Elders recall that such dolls were playthings, taken out of storage each spring to symbolize the rebirth of the year and the reincarnation of recently passed souls (Crowell and Leer 2001:195). This association with rebirth and reincarnation is consistent with the dolls' prominent genitalia, and may indicate that they also functioned as fertility charms for women who wished to have children (cf. Lisianski 1968:178). The second

type of dolls are shamanic pieces ($n=33$) (Figure 10). These artifacts lack detailed bodies. A carefully carved, unique face rests on top of a featureless, triangular steak, or in two cases, a wooden gnarl. According to oral histories, shaman carved these images in the likeness of people they wished to help or harm (Birket-Smith 1953:127; Knecht 1995:686).

Of these 53 dolls, 16 (30%) displayed labrets. Labrets were depicted three ways. The majority of labret-wearing dolls ($n = 13$) show a pair of lateral labrets. Of the remaining three, two wear a single medial labret and one has four holes below the mouth indicating a series of multiple medial labrets. This finding contrasts with patterns of labret use identified on incised pebbles from Karluk One, which overwhelmingly show individuals wearing single medial labrets (Donta 1993:345). This might be explained by differences in the individual's depicted in different artistic mediums. Donta believes that incised pebbles show members of wealthy, ruling families - perhaps even venerated ancestors (Donta 1992:17). If particular labret types, worn in specific places on the face, were associated with specific social groups (e.g., families, lineage, or clans), then incised pebbles showing members of these groups might depict one particular type of labret.

Interestingly, the generic faces of children's dolls rarely feature labrets. Out of the 20 children's dolls only two wear labrets, one male and one female, each with a pair of laterally placed ornaments. In contrast, the individualized faces of shamanic dolls, 14 out of 33, commonly displayed labrets (Figure 10). A chi square test indicates that this pattern is statistically significant at the .05 level (chi square statistic = 5.370, 1 df, P -value = .0205). We believe this association highlights the importance of labrets to individual identity. When a specific person was carved, his or her labrets were included in the depiction as an essential part of their visible persona.



LEVEL	Bar	Bird	Bowler	Canine	Cleat	Pagoda	Plug	Pulley	Stick	Stove Pipe	Top Hat	Tusked	Winged	TOTAL
Upper			32	2	4			2	7		12	1	1	61
Middle	2	1	24		14			9			12			62
Lower	1		12		11	5	1	3		1	9			43
TOTAL	3	1	68	2	29	5	1	14	8	1	33	1	1	166

Table 3: Stratigraphic distribution of Koniag labret types at Karluk One.

FORM	Wood/ Bark	All Other	TOTAL
Common (N≥4)	220	7	227
Uncommon (N<4)	3	9	12
TOTAL	223	16	239

Table 4: Koniag labret types by form and raw material.

Conversely, generic people were shown without labrets, as they had no social identity to convey.⁵

This apparent association between labrets and an individualized human identity corresponds with ethnographic descriptions of labret hole piercing in infants. In Alutiiq society laboring women and their new born babies were considered unclean, potentially polluting to men and their hunting gear. Babies were born in special huts, where mother and child were secluded for up to twenty days postpartum (Lisianski 1968:201). At the end of this seclusion, babies were washed and their labret holes pierced by a close relative (Davydov 1977:148; Holmberg 1985:38). Then, mother and child moved back into the family home. In essence, labret holes were pierced when an infant became a family member - when it acquired a social identity in its community.

Comparison of Kachemak and Koniag labrets

The major similarity in the Kachemak and Koniag labret samples is the distribution of types. Both traditions are characterized by a similar number of types and each assemblage is dominated by two to four types that account for most of the stylistic variation. Other types occur in extremely small numbers and are statistically swamped by more common forms, even when temporal trends are discernible.

⁵ Pairs of lateral labrets, and v-shaped mouths suggesting the facial deformation caused by lateral labret wear (Knecht 1995:676), are also depicted on a few palm-sized masks in the Karluk One collection (Jordan 1994:157; Steffian 2001:127). The function of these pieces is unknown (Desson 1995:300-301), but they may represent carvings of particular spirits (Birket-Smith 1953:127; Knecht 1995:676).

Despite this similarity, there are major differences between the Kachemak and Koniag labret assemblages (Table 6). First, although there is clear temporal variation in labret sizes at Karluk One (see also Knecht 1995:634), and individual types vary in size in both traditions, Koniag labrets are larger than Kachemak labrets (Table 5; Figure 11). The mean Koniag labret size, determined by multiplying flange length by flange width is 1298 mm² and the mean Kachemak size only 613 mm². The standard deviations of labret size measurements within each tradition, however, are similar. These results suggest an overall increase in the size of Koniag labrets and not simply the addition of a particular type of larger labrets.

This trend is also evident in the number of size classes in each tradition. Kachemak labret types generally occur in one or two sizes, whereas common Koniag labret types occur in three or four. These size classes, however, still fall within a similar overall size range.

Third, almost all Koniag labrets are made of wood and Kachemak labrets of more durable materials (Table 7). Clark notes that coal labrets are typical of the Kachemak tradition, but seldom found in Koniag sites (1974b:131). Moreover, Koniag sites without wood preservation typically produce few labrets. It appears that wood became the preferred labret material in late prehistoric times. Although this apparent preference for wood in the Koniag era awaits verification from a well preserved Late Kachemak assemblage, it appears to be more than just a preservational difference.

Fourth, labret decoration changes between the two traditions. During the Kachemak, decorative elements were chosen from a set of motifs which were used repeatedly and covaried with form. In contrast, Koniag decorative elements are more individualistic. Decoration does not covary with form and there is no fixed set of decorative elements. Decoration is less common and is as varied as the number of decorated specimens. Moreover, it is reserved for the largest labrets and small labrets of uncommon materials.

Fifth, there are more unusual labret types in the Koniag sample. In the Kachemak sample common and uncommon types are made of the same materials, and uncommon types conform to size, shape and decorative conventions shared by the rest of the assemblage. In short, the uncommon types are only uncommon in that they occur in small numbers. This is not true of many of the uncommon



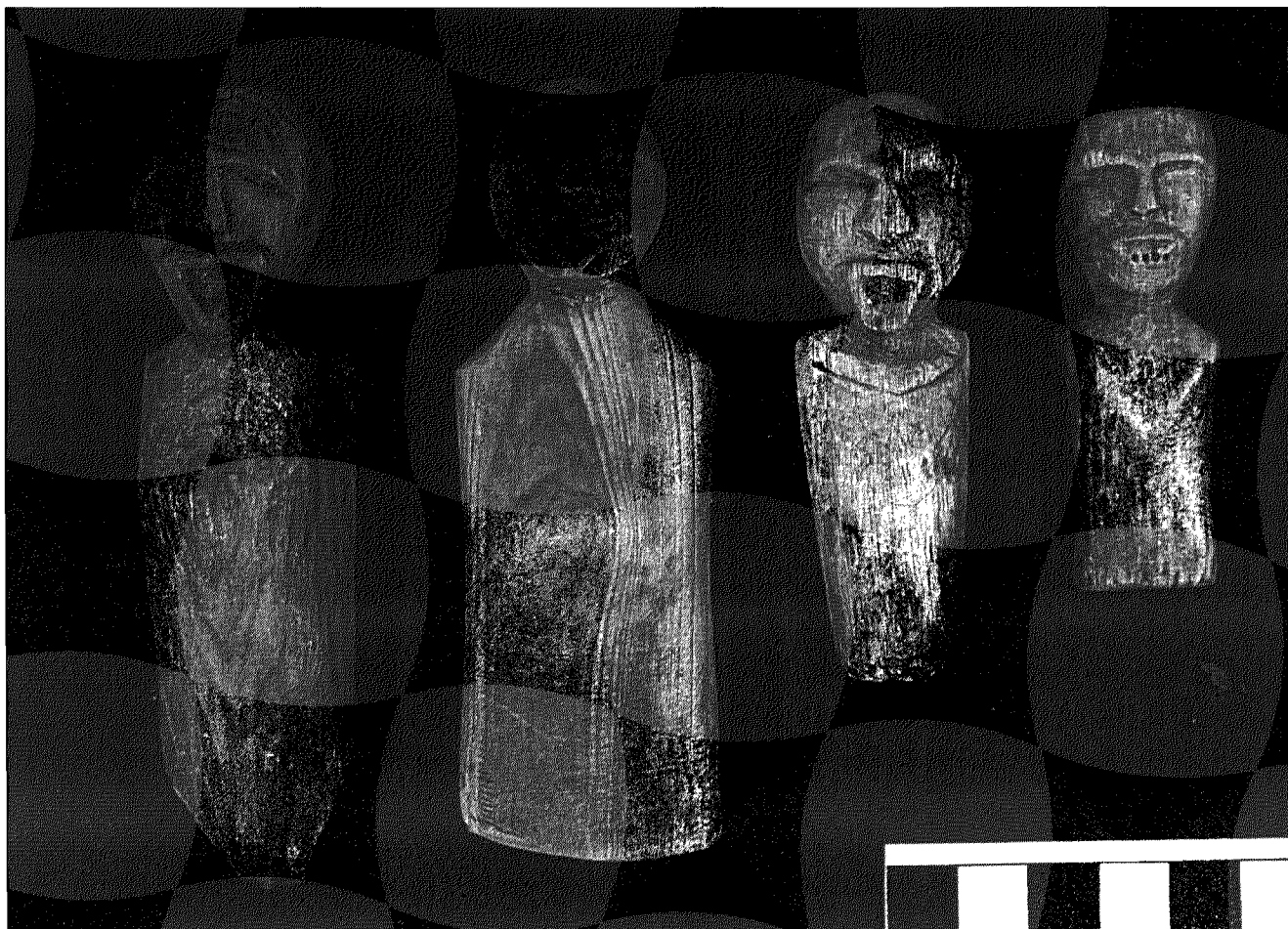


Figure 10: Labret-wearing shaman's dolls from Karluk One. Kodiak, Inc. Collection, Alutiq Museum. (Catalog numbers from left to right AM193.84.1985, AM193.95.1069, AM193.95.1520, AM193.95.861). Photograph by Patrick Saltonstall.

Koniag types (i.e. bars, bird, stovepipe, and winged). These labrets are truly unique. They tend to be smaller, made of uncommon materials, and look exotic. Limestone labrets from Karluk One, for example, are stylistically similar to common types from the Aleutians (Knecht 1995). This diversity of unique types is also characteristic of other Koniag labret assemblages not included in our analysis (Clark, personal communication, 2001).

DISCUSSION

The most significant result in the Kachemak labret analysis is the clustering of types by site. Although Uyak and Crag Point share a few types, those that typify each assemblage are different. There are several potential explanations for this pattern. It could reflect temporal changes in labret types, as the Crag Point assemblage accrued over a greater period of time. This does not seem to be the case. Both sites span the very Late Kachemak and if labret types varied chronologically there should be stylistic similarities between Uyak labrets and those from the uppermost levels of Crag Point.

There are no strong similarities. In fact, the dominant labret types at Crag Point remain similar throughout the Kachemak occupation, suggesting long term stylistic continuity. There are no significant correlations between the Crag Point labret types and stratigraphic provenience or depth below datum.

A chronological explanation is also rejected on the basis of area wide patterns in labret types. The clustering of types in the Uyak and Crag Point assemblages mirror the distribution of types throughout the Kachemak culture area during the entire span of the tradition. Bar and stick labrets characteristic of the Crag Point assemblage also typify assemblages from Kachemak Bay (de Laguna 1975:Plate 51; K. Workman 1977:Plate 5, 1994:212; Workman et al. 1980:392) and Prince William Sound (de Laguna 1956:206). In contrast, types characteristic of the Uyak assemblage (e.g., pulley, button, orca, Three Mile Island, and nipple) occur throughout southern Kodiak (Clark 1970:107; Crozier 1989:93; Jordan and Knecht 1988:251, 253) and on the Alaska Peninsula (G. Clark 1977:Plates 3, 5, 16; Dumond 1981; Henn 1978:183; Oswalt 1955:61). These regional distributions are imperfect and there is



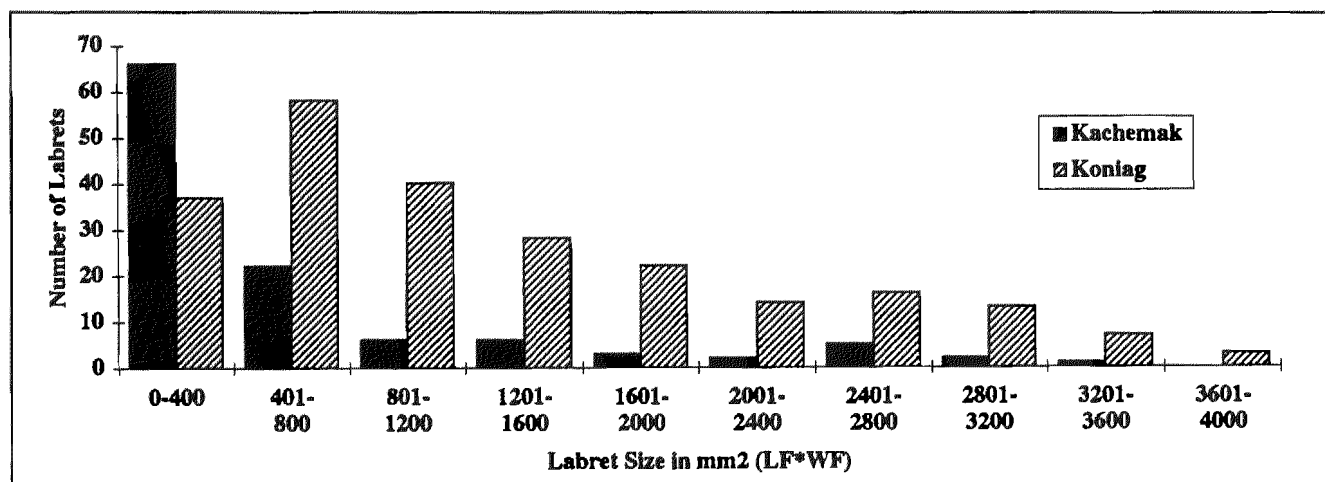


Figure 11: Comparison of Kachemak and Koniag labret sizes

OBSERVATIONS	All Kachemak	K-1 Lower	K-1 Middle	K-1 Upper	All Koniag
Number of Labrets	136	44	62	60	241
Mean size (LF * WF), mm ²	613	1090	1589	913	1298
Standard Deviation, mm ²	754	794	1015	821	943

Table 5: Temporal variation in Koniag labret size

overlap in the distribution of some types. Large coal pulleys, for example, occur in Kachemak Bay sites (Workman et al. 1980) and a bar labret and small numbers of stick labrets are present in Hrdlicka's assemblage from the Uyak site (Heizer 1956:193). The broad scale pattern, however, suggests stylistic regionalization; spatial clustering of sets of labret types within the Kachemak culture area that may reflect social networks, perhaps even tribal units, within Kachemak society.

In assessing the cultural relationships between Kodiak and Kachemak Bay, Workman (1988) sees similar regionalization. He suggests that Kachemak Bay societies traded and intermarried with northern Kodiak societies, based both on proximity and the presence of materials from the Kenai Peninsula in Kodiak sites. At Crag Point and Uyak, walrus ivory, caribou antler, rodent incisors, and non-local stone provide firm evidence of interaction with the mainland. Moreover, the source, distribution, and use of these materials illustrate patterns of exchange. The Kachemak era occupants of Crag Point produced beads out of red shale imported from the Kenai Peninsula (Clark 1970:85), and although a few finished coal artifacts appear in the assemblage there is no evidence of coal working. Conversely, the Kachemak era occupants of the Uyak site produced items out of coal from the Alaska Peninsula (Steffian 1992a), and although red shale beads are present there is no evidence of local manufacture.

These site specific patterns are also regionally visible (Steffian 1992a:119; Workman 1994:212). The distribution of these sourceable materials, and the production of objects from them, covaries with the regional distribution of labret types. We suggest that this pattern illustrates the presence of two broad social networks in the Late Kachemak culture area - networks that tied groups living in ecologically distinct regions (archipelago and mainland). Such far ranging social ties were probably critical in managing periodic economic shortfall and social conflict, particularly in light of the increases in population density and resource competition so evident in the archaeological record (Simon and Steffian 1994; Steffian and Simon 1994). Analysis of labrets from other Kachemak sites and patterning in the use and distribution of more raw material types would help to test this idea and delimit Kachemak exchange networks more precisely.

There are other interesting patterns in the Kachemak labret data, which may reflect additional social distinction, but all require further examination. Our model does not address the function of individual types, although we tentatively suggest that these reflect corporate groups, perhaps lineage or clan affiliations. Such relationships might explain the difference in the number of labret types at Uyak and Crag Point. If labret types reflect family level social divisions there could be a difference in the number of types present between large winter settlements and smaller task specific sites, particularly if specific sites were used exclusively by particular social units (e.g., family fish camps). The presence of size classes within individual types may also reflect social divisions, perhaps age and/or gender distinctions as suggested by the region's ethnographic literature.

Like Kachemak labrets, Koniag specimens cluster in a set of site distinctive types. Although there is no other large sample available for comparison, at least five of the Karluk One types are



Kachemak	Koniag
Size	
Smaller than Koniag labrets with an average flange length of 1298 mm ² .	Larger than Kachemak labrets with an average flange length of 613 mm ² .
Types are made in one or two size classes.	Types are made in three or four size classes.
Use of Raw Materials	
Labrets are made largely of durable materials - coal, bone and ivory.	Labrets are made largely of soft organic materials - wood and bark.
Decoration	
A small set of decorative motifs is used repeatedly.	Decoration motifs are numerous and highly variable.
Decoration covaries with form. Large wooden labrets and small labrets of exotic materials are most frequently decorated.	Decoration is independent of form.
Uncommon Types	
Uncommon types are made with the same materials and decorative conventions as common types. They are stylistically similar to common types.	Uncommon types are unique. They tend to be small and made of exotic materials. They are stylistically different from common types.

Table 6: Summary of labret characteristics by tradition

present in other Koniag assemblages throughout the archipelago. The labret assemblage from Settlement Point, an early Koniag site on southern Afognak Island (Saltonstall 1997), contains 16 labrets of three types - top hats, sticks, and canines. Similarly, top hats and bowlers were found at Rolling Bay, canine and stick types at Kiavak (Clark 1974b:271), a canine at Pineapple Cove (Clark 1974a:67) and a tusked type on Long Island (Clark 1974a:173). The set of labret types at Karluk One and the presence of these same types in other contemporary assemblages suggests that certain labret types were associated with social units that cross cut settlements (cf. Haas and Creamer 1993:21-22).

At a broader level, however, it is impossible to determine where regional type groupings occur from the current sample of Koniag labrets. Images of labret use preserved on incised on pebbles, however, suggest that such regionalization in types may be present. In the early centuries of the Koniag era, the Alutiiq drew pictures of people in ceremonial regalia on thousands of small beach pebbles and slate tablets (Clark 1964; Donta 1992; Heizer 1952). These images typically depict an individual from the chest up, and include sketches of clothing, headdresses, labrets, tattoos and ceremonial objects (Donta 1993:338-339).

In comparing incised images from Karluk One at the southern end of Kodiak Island with contemporary images from the Monashka Bay Site on northern Kodiak, Donta identified distinctive patterns in labret wear. The Karluk One images overwhelmingly show individuals with one large medial labret. In contrast, the Monashka Bay images depict individuals wearing multiple medial labrets decorated with hanging beads (Donta 1993:345). Again, this may suggest the presence of different social networks and/or tribal groups within Koniag society. On going studies of raw material use in the Koniag era will help to further illustrate patterns of social interaction (Saltonstall 1995).

Another poorly understood pattern is the difference between common labret types of wood and uncommon types of other materials. Some of the exotic looking specimens may reflect long distance trading or the practice of taking war captives (Jordan 1994:167; Knecht 1995), but they may also reflect rank, occupational specialization, or some other social or functional distinction. Donta (1994:130) notes that the Alutiiq wore special clothing for ceremonial events. Perhaps unusual labrets were reserved for special occasions. Labret samples from other Koniag sites would help in interpreting these unusual pieces.

The most significant differences between the Kachemak and Koniag labret samples are increases in size and decorative diversity. We believe that these changes reflect a heightened concern with social display and status. The overall enlargement of Koniag labrets is particularly notable. On average, Koniag labrets are twice as large as Kachemak labrets and would have required an enormous hole. The Koniag preference for wood labrets may reflect this size increase. Larger labrets made of dense materials like ivory and coal are heavy and may have been difficult to wear. Switching to lighter materials may have allowed people to make a greater visual impact more comfortably. Wood is also locally available in quantity and easy to decorate. This apparent preference for wood may also reflect a need to alter social messages more frequently. By using an easily carved, locally abundant material, people could continue to embellish labrets to reflect changes in their status or social affiliations. Whatever the answer, larger labrets are more visible, suggesting an increased emphasis on display.

This emphasis corresponds with ethnographically recorded patterns. Ostentation was the primary means of maintaining status among the historic Koniag, and labrets were part of the costume that supported the association between display and rank (Donta 1994:131). The dramatic increase in labret size at Karluk One coincides with an increased frequency of items associated with feasting, ritual, and ceremonial activity (Jordan 1994:154-155), archaeologically illustrating the development of ethnographically



recorded practices of elaborate personal ornamentation (Davydov 1977:148-150; Holmberg 1985:37-38)

Increased decorative diversity and the presence of more size classes suggest a new degree of social differentiation. This pattern is distinct from the limited decorative repertoire of the Kachemak tradition where decorations covary with particular labret types, and appear to support group affiliation. Koniag labret decoration is extremely variable, and is associated with large labrets, unusual types, and uncommon materials. Decoration seems to express individuality. It marks certain individuals within a group and further distinguishes individuals who wear uncommon types. From ethnographic data we know that the Koniag had occupational specialists, a variety of household, village, and regional leaders (Donta 1994:123; Jordan 1994:150), as well as three social classes. Decorative diversity seems to reflect the development of these new social roles.

CONCLUSIONS

A range of anthropological data illustrates that labrets encode different levels of social information. Multiple aspects of group affiliation and personal identity are symbolized in both form and decoration, often simultaneously. Our review of archaeologically recovered labrets from the central Gulf of Alaska points to at least three levels of social signaling. At the broadest level, sets of labret types cluster regionally, suggesting the presence of broadly maintained interaction spheres; avenues of social and economic interchange over long distances, and in this case, across ecological boundaries. At the community level, groups of common labret types in multiple sizes and states of decoration suggest membership in corporate groups - social and economic units that cross cut individual settlements. These regional and community levels of stylistic signaling correspond well with Wiessner's (1983:257) definition of emblematic style, as they "transmit a clear message to a defined target population (Wobst 1977) about conscious affiliation or identity." Finally, at the individual level, variations in decoration, material type, and labret

size express aspects of assertive style - a person's status, age, or perhaps specialized occupation.

Importantly, the expression of these different layers of stylistic signaling corresponds with particular cultural systems. Labret types mimic the social order, identifying social distinctions important to specific cultural and historical settings. This is most clearly represented in the differences in ostentation between the Kachemak and Koniag labret samples. With the development of hereditary ranking in the Koniag era, labrets took on added dimension of decorative display. These temporal changes in stylistic patterning illustrate that archaeologists must consider the social context of practices like labret use before assuming they reflect the ethnographic pattern. As cultures change, the information transmitted by such practices changes as well. In the Kodiak Archipelago, labrets were associated with status display in the historic period, but their origins are in the increasing definition of group identity and social space that accompanied long term population growth and economic competition.

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AMY E. STEFFIAN
amy@alutiiqmuseum.com

PATRICK G. SALTONSTALL
patrick@alutiiqmuseum.com

Alutiiq Museum and Archaeological Repository, 215 Mission Rd., Suite 101, Kodiak, AK, 99615

Table 7. Comparison of Kachemak and Koniag labret types by raw material

TRADITION	Antler	Bark	Bone	Coal	Limestone	Marble	Sandstone	Slate	Wood	TOTAL
Kachemak	0	0	19	82	4	3	1	5	0	126
Koniag	5	28	1	0	2	0	0	1	197	241



APPENDIX

Labret type descriptions

This appendix provides brief written description of the labret types identified in this study. Readers are referred to figures 4, 5, 7 and 8 for illustrations of the forms and decorative motifs used in determining these types. The list that follows is not intended as a comprehensive summary of all known labret styles in the Kodiak region. Other types are present in assemblages not considered in our quantitative analysis.

Koniag labret types - common forms

Bowler: The display surface this labret type is curved in a gentle s-shape. From the side, however, these labrets look like a derby hat. Their thin, rounded bodies terminate abruptly on a ledged flange that encircles the entire labret. Symmetrically curved flanges suggest they were worn medially. See Jordan and Knecht 1988:Figure 32 f, g, h, i; and Knecht 1995:Plate 133 m through gg for examples.

Cleat: This labret type has a flat, nearly rectangular display surface reminiscent of the cleats used in securing boat lines. These labrets have a grooved flange that does not always encircle the entire specimen, but is most pronounced on either end of the long axis of the labret. As the inner flange surface is often asymmetrically curved, suggesting that cleats worn laterally. See Knecht 1995:Plate 134 o through r for examples.

Pagoda: Similar to the cleat type, these labrets have a grooved flange and when viewed from above, they are rectangular in shape. This type is distinguished by a thin protruding body, distinctly shaped like the silhouette of a Chinese pagoda. Like cleats this type appears to have been worn laterally. See Jordan and Knecht 1988:Figure 21 i; and Knecht 1995:Figure 136 w for examples.

Plug: Plugs are typified by a flat, ovate display surface and straight, sloping sides. These symmetrically shaped labrets may have been worn laterally or medially. They do not have a true flange, but flare toward a curved base.

Pulley: With a nearly circular display surface, and a grooved flange that encircles the labret body, these labrets look like a pulley. They could have been worn laterally or medially.

Stick: Sticks have a long, thin, rounded body that resembles a nail. Their tips, however, are usually flat - not pointed. Sometimes the body is flattened like a narrow Popsicle stick. They have a ledged flange that encircles the body. This type appears to have been worn laterally. The same type is found in Kachemak collections. See Jordan 1994:Figure 9-11 for examples.

Top Hat: These labrets look like top hats in profile. Their display surface is flat, or very gently beveled around a central ridge, and

ranges from ovate to tear shaped. The body of the labret has straight sides that end abruptly on a ledged flange. The flange encircles the entire body. The asymmetrical, tear-shaped appearance of the display surface suggests lateral placement. See Jordan 1994:Figure 9-11 upper right; and Knecht 1995:Figure 135 a through v for examples. Note this type is distinct from the Top Hat type identified in Kachemak assemblages.

Koniag labret types - uncommon forms

Bar: Usually small, this type of labret is ovate when viewed head-on. It has a narrow, rectangular body with slightly concave sides that end abruptly on a ledged flange encircling the body. Some examples of this type have holes drilled into the display surface perpendicular to the long axis of the labret body. These holes were probably used for suspending ornaments (cf. Gideon 1989; Holmberg 1985:37). This type was probably worn medially. This type is similar, though not identical, to the bar labrets found in Kachemak assemblages.

Bird: Typically small and carved of limestone, this labret type is characterized by a long, narrow, distinctively shaped body reminiscent of a bird in profile. The flange is ledged but only extends beyond the long axis on the body.

Canine: A labret type styled after an animal canine. It has a gently curved, cone-shaped body, often carved from an actual canine. A stepped flange held these ornaments in place. This type was probably worn laterally. See Clark 1974a:Plate 21 h; Clark 1974b:Plate 50 j; and Heizer 1956:Plate 79 l for examples.

Stove Pipe: A small type of labret that is round when viewed head-on, and has a straight-sided, pipe-shaped body. The display surface can be flat, but often has small holes drilled perpendicular to the display surface for dangling ornaments (cf. Gideon 1989; Holmberg 1985:37). The body end abruptly on a thin, ledged flange that encircles the base. This type may have been worn laterally or medially. See Knecht 1995:Plate 136 h for an example.

Tusked: Generally small and made of limestone, this type looks like a small rectangle when viewed head-on. It has a ledged flange that encircles the base. However, the display surface is not flat, but has two tusk-like protuberances. This type was probably worn medially and often exhibits small holes drilled laterally across the short axis beneath the 'tusks'. These holes were probably used for suspending ornaments (cf. Gideon 1989; Holmberg 1985:37). See Clark 1974a:Plate 22 d; and Jordan and Knecht 1988:Figure 32 k for examples.

Winged: This small labret is characterized by a pair of long, distinctively shaped protuberances that look like wings in profile. These wings extend far beyond the base and narrow toward pointed tips. The labret has a ledged flange, but the ledge only extends outward from the long axis of the base. This type was probably



worn medially. See Jordan and Knecht 1988:Figure 32 j for an example.

Kachemak labrets

Bar: Bars have a long, narrow display surface with a narrow, straight sided body attached to a sloped, ledge flange that is emphasized on either side of the ornament's long axis. This type was probably worn medially, as the inside surface of the flange is symmetrically curved. See Clark 1970:Figure 9 z, aa; Heizer 1956:Plate79 g, h, i; Jordan and Knecht 1988:Figure 9 l for examples. This types is similar, though not identical, to the bar labrets found in Koniag assemblages.

Button: This type of labret has a rounded, spherical display surface that often contains an inset hole in the center. These labrets would have looked like small buttons when worn. The flange is stepped at either end. They could have been worn medially or laterally. See also Crozier 1989:Figure 14 c; Heizer 1956:Plate 50 g; and Steffian 1992b:Figure 12 k, l.

Bullseye: A pulley type labret (see below) decorated with carvings of concentric circles. See also Jordan and Knecht 1988:Figure 14 b, c; and Steffian 1992b:Figure 12 q for examples.

Nipple: Like a pulley labret (see below), this type has an ovate to round display surface and a groove flange that completely encircles the ornament. It is distinguished by a small, upraised, nipple-like projection in the center. See also Heizer 1956:Plate 79 f; and Steffian 1992b:Figure 12 a, b for examples.

Multiple Carvings: A pulley type labret (see below) decorated with multiple, carved, circular holes, possibly used to hold inlays of red ochre or other materials. See also Steffian 1992b:Figure 12 c.

Orca: This type has a flat to pointed display surface with a gently curving body that meets a ledged flange. The body shape resembles the dorsal fin of a killer whale. The flange extends out along the long axis of the ornament. There is a great deal of size variation in these labrets, and larger examples are characterized by a more rounded, flatter display surface. See also Clark 1970:Figure 9 x;

Heizer 1956:Plate 50 h, i, j; Jordan and Knecht 1988:Figure 11 d, Figure 14 a; and Steffian 1992b:Figure 12 d, e, f for examples.

Pulley: Pulley labrets are typified by a large, flat, ovate to round display surface, a thin body, and a grooved flange that encircles the entire labret. (See labret at upper left in Figure 2). See Heizer 1956:Figure 33 b, Plate 50 b, c for examples.

Slab: The display surface of these labrets is flat and round to ovate in shape. This type has sloped sides on either end of the long axis and straight sides on the short axis. Slab labrets lack a true flange. The base of the body is curved to fit against the teeth, but there is no groove or step to hold the plug in place. See Heizer 1979:Plate79 e for an example.

Stick: Sticks have a long, thin, rounded body that resembles a nail. Their tips, however, are often flat - not pointed. Sometimes the body is flattened like a narrow Popsicle stick. They have a ledged flange that encircles the body. This type appears to have been worn laterally. The same type is found in Koniag collections. See Clark 1970:Figure 9 r through t; Heizer 1956:Plate 79 w through a' for examples.

Three Mile Island: Labrets assigned to this type have a round, concave display surface with concave sides sloping to a grooved flange that encircles the base. In profile this type looks like the cooling tower of a nuclear reactor. These labrets were probably worn medially in pairs. A matched pair was found together at the Uyak site. See Heizer 1956:Plate 50 f; and Steffian 1992b:Figure 12 g, h for examples.

Top Hat: A labret type with a display surface that is rounded in profile and ovate to rectangular when viewed head-on. The sides are straight but flare slightly where they meet a ledged flange encircling the ornament. See Clark 970:Figure 9 v for a profile view.

Trapezoid: A labret with a distinctively shaped trapezoidal body with a fat base and small, inset display surface. There is a ledged flange at either side of the long axis of the ornament's body.

Ziggurat: A pulley type labret with a display surface that is carved with multiple, concentric tiers or steps, like a pyramid. See Steffian 1992b:Figure 12 o for an example.



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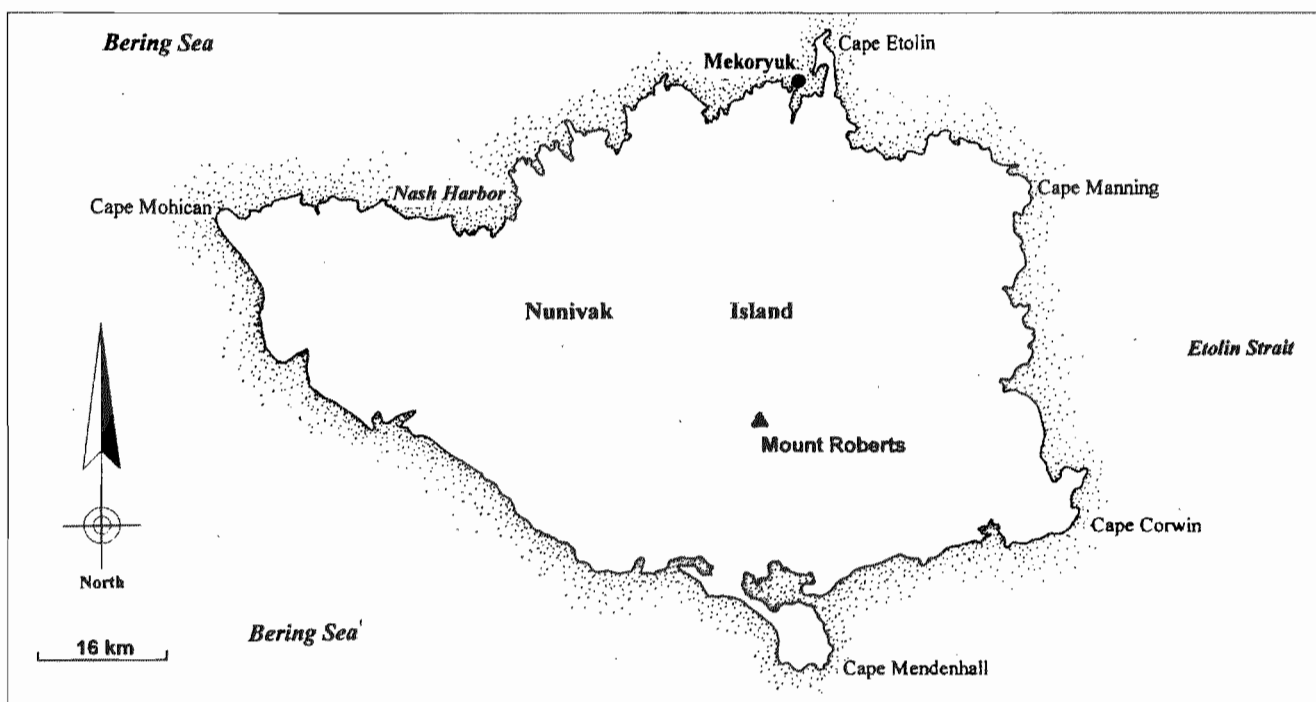


Figure 1: Nunivak Island

rugged and rocky coastline includes sheer cliffs up to 140-m high, as well as extensive estuaries and lagoons, broad sandy beaches, and dune formations up to 40-m high. The interior is dotted with hundreds of lakes and ponds, and scores of hills, cinder cones and butte/mesa-like landforms with elevations ranging from 230-m to a high of 511-m above sea level (at Mt. Roberts). Over 70 streams radiate from the interior to peripheral lowlands.

Numerous settlements were occupied throughout the island before 1900, but by 1940 just seven permanent, that is “winter,” villages remained (Lantis 1946:156, 162). Today, the only functioning village is Mekoryuk. *Nuniwarmiut* settlement and subsistence patterns along the island’s coastal margin have been well documented, but published accounts contain scant information about interior land use and the role of caribou in the traditional economy.

The most detailed historical account regarding caribou hunting (i.e. Curtis 1930:32-33; cf. Van Stone 1989:10-11) fills less than one page of text. As a whole, the literature suggests the island’s interior was not essential to its human inhabitants, whose existence was thought to be strictly rooted in the marine environment. This notion first appeared in print in 1930 when Edward Curtis (1930:5) claimed that, “Few Eskimo have penetrated the interior, which is given over to the recently introduced [domestic] reindeer and to foxes and other animals.”³ As much as 60 years later, anthropologists have reinforced this viewpoint by stating or clearly

implying that the *Nuniwarmiut* lacked an “inland orientation” in prehistoric as well as historic times (see Nowak 1982:87; Van Stone 1989:40). These assumptions derive from speculation by individuals who never visited or otherwise concerned themselves with the island’s interior: i.e. their negative evidence for an inland orientation is based on never having looked for one.

That the *Nuniwarmiut* used the interior at all is indicated only in passing references to caribou hunting and overland travel between villages (e.g., Curtis 1930:32-33; Lantis 1946:164-167, 195; cf. Pratt 1994:336, 354). The fallacy of this viewpoint was plainly revealed through fieldwork on Nunivak conducted between 1986 and 1991 by the Bureau of Indian Affairs (BIA) in compliance with Section 14(h)(1) of the Alaska Native Claims Settlement Act (ANCSA) of 1971 (see Pratt 1992). A central component of this work was oral history research, an effort that has documented an extensive cross-island trail system (Figure 2) and hundreds of interior place names. The derivations of numerous place names are related to caribou. Examples include *Qassarwig*⁴ (“place for raw [caribou] meat [eating]”), *Cirunret* (“antlers”), *Tunurnilngut* (“smelling/tasting like back fat”), and *Urasgarremiut* (“village/residents of *Urasqaarer* [white or gray clay which is mixed with caribou hair to make pottery]”) (Drozda 1994:26 [03.42], 41 [04.44], 80 [05.126A], 117 [09.47]; Robert Drozda, personal communication, 4/25/01).

³ Reindeer were introduced to Nunivak Island in 1920 (Stern et al. 1980:47), reportedly due in no small part to the efforts of Edward Nelson (US DOI 1949:43). These animals are wild, not domesticated.

⁴ Italicized Native names and terms are spelled in accordance with accepted orthographies. *Cup’ig* spellings follow those presented by Drozda (1994), Pratt (1990, 1997), or US BIA ANCSA (1995)—but ongoing work with the dialect is likely to result in orthographic changes.



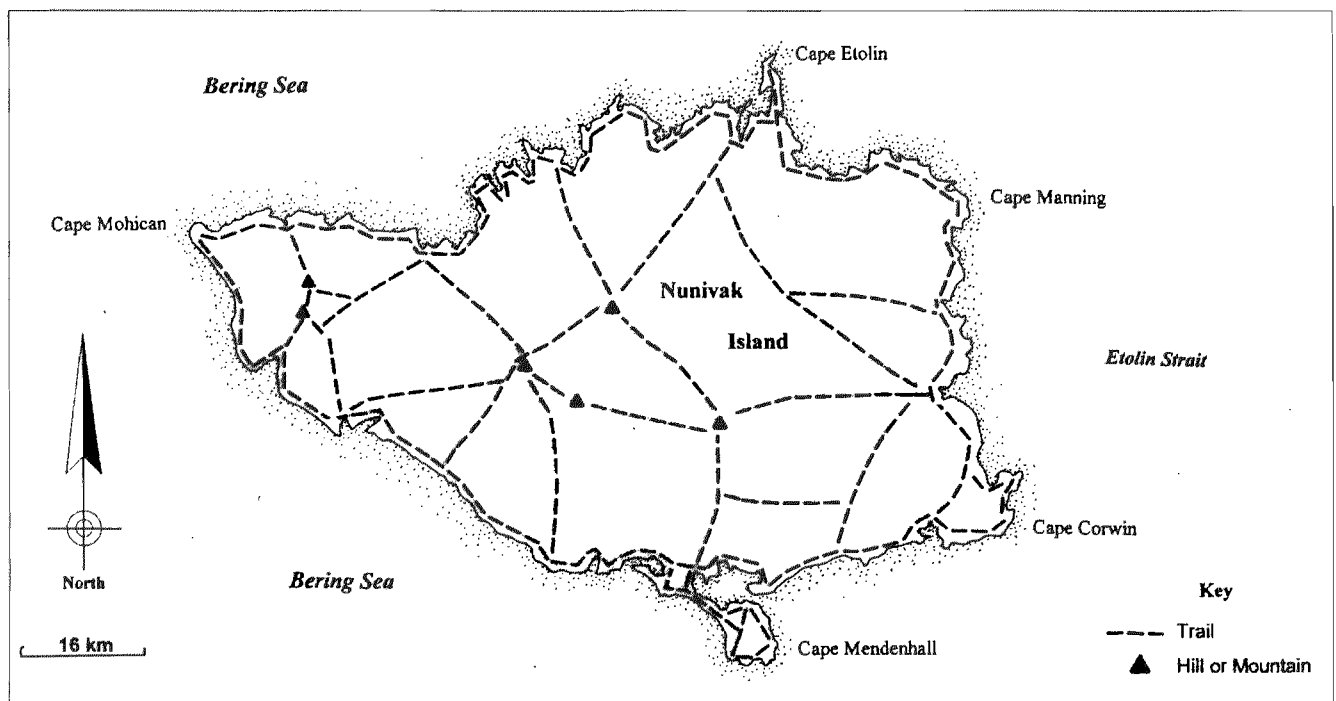


Figure 2: Cross-island trail system

Aerial survey coverage of the interior was not comprehensive and only a few areas were walked over. Nevertheless, this effort led to the discovery of 70 separate interior sites containing an estimated 500 stone shelters (e.g., Figure 3), in addition to other stone features such as caches and cairns (cf. Stewart et al. 2000).⁵ These results suggest the true number of interior sites and stone shelters on Nunivak is substantially higher. Nearly all of these shelters are heavily encrusted with lichens; others are almost completely overgrown with tundra (Figure 4). These features [singular: *qawartarwig*, "place to sleep over; place to spend the night" (Amos 1991a)] were referred to as "houses" by Nunivak elders, who associated them with caribou hunting and ascribed their existence to "the ancestors"—a clear indicator that the elders lacked firsthand knowledge about caribou hunting. However, they possessed valuable information about this subject via oral accounts passed down from their elders (e.g., see Griffin 1999:332-345).

Characteristics of caribou hunting sites

The large number and variety of shelters already documented suggests a biologically successful caribou herd subjected to long-term exploitation by the island's human population. Some hunters

reportedly used the same shelters over and over again (Noatak and Kolerok 1987a); and it is likely that abandoned or unoccupied shelters sometimes served as caches. But the abundance of stone on Nunivak indicates the construction of such features would have been comparatively quick and easy almost anywhere on the island, so many individual shelters may have seen only limited use. Of the 70 interior sites known to contain stone shelters just seven have been systematically surveyed and mapped. Disregarding the single-feature site, shelters constituted 65% or more of the total features recorded at five of the six remaining sites (Table 1); and the three largest of those sites contained 104, 78, and 59 stone shelters, respectively. Research at similar caribou hunting sites in the Canadian Arctic led Friesen and Stewart (1994:348) to infer that "all surface dwelling features at a given site were occupied contemporaneously" (cf. Stewart et al. 2000:268-269). In addition to being impossible to prove, that inference is difficult to accept because it assumes overly static patterns of human land use and settlement, and also implies unreasonably large and stable site populations.⁶ With regard to Nunivak Island, I reject the notion that all 'dwelling features' at caribou hunting sites were occupied contemporaneously and, therefore, also do not believe that

⁵ In 1991, shortly after hearing a summary of this physical evidence, one archaeologist familiar with the island dismissed the idea of interior land use prior to modern times by flatly stating that [traditionally] the *Nunivarmiut* had no reason to go into the interior—adding that, "After all, they didn't have Eskimo nautilus clubs" in those days. The meaning of this cryptic statement still eludes me, but I think the gist was that people would only have gone into the island's interior if they wanted a strenuous physical workout. This anecdote exemplifies how far some researchers will go to justify entrenched viewpoints, regardless of the evidence.

⁶ This same type of thinking is expressed in a recent analysis of prehistoric settlement patterns and population in the Shumagin Islands (Johnson 1992). In this case, the researcher uses barabara "floor-sizes" as determinants of individual household populations, then treats those populations as constants for the functional life of each barabara—throughout the entire prehistory of the Shumagin Islands. Obviously, this analysis also assumes prehistoric human residents of the Shumagins enjoyed a continuous "horn of plenty" with respect to subsistence resources.





Figure 3: Features 46-48, at Qiurtuli

individual site populations can be accurately calculated from the number of such features (cf. Krupnik 1993:247).

Stone shelters used by Nunivak caribou hunters normally had maximum wall heights of less than 1.0 m, but walls up to 2.7 m high were recorded. The hunters' gut-skin rain parkas, held in place by caribou antlers or walking sticks, were placed across the tops for roofs (e.g., Smith 1991). Some shelters were completely enclosed but many had distinct wall openings, or entrances (Figure 5), the majority of which faced downslope. Most such features were constructed of large upright slabs or stacked rock and sod blocks; but others were essentially built around huge boulders, natural rock overhangs, or natural crevices which had been modified with stacked rocks (Figure 6). The floors of some shelters had been excavated, and others were slab-lined. Shelters with interior diameters as large as about 3.5 m have been recorded and multiple shelters sometimes shared common walls, but most were only large enough to accommodate one hunter. Even still, oral accounts indicate these features were sometimes continuously occupied for weeks at a time (US BIA ANCSA 1995(1):53); and some hunters are said to have spent most of the summer in pursuit of caribou (Noatak and Kolerok 1987a). These accounts are supported by a striking observation made by Lantis: "Three generations ago [i.e. ca. 1880], hunting caribou with bow and arrow in summer almost approached the spring and autumn seal hunts in importance" (Lantis 1946:255; cf. Sonne 1988:101-103).

Lakes or narrow headwater tributaries of major streams are sometimes adjacent to locales at which these shelters occur; and the extremely rocky, boulder-strewn terrain characterizing most of these locales suggests the probability that naturally occurring crevices and depressions formed basins that may also have held water. Snowbanks and spring run-off no doubt provided additional water. Where drinking water was scarce hunters are said to have carried it to the sites in seal-gut parkas, mukluks or other waterproof containers (e.g., Williams 1991a; Peter Smith, Sr., personal communication, 9/9/91). Finally, the absence of trees on the island means that the only sources of fuel for fires were driftwood, dwarf birch, and willow. Together with the predominantly interior settings of most caribou hunting sites (atop landforms covered with vassicular basalt or alpine tundra) this was a major reason why Nunivak caribou hunters typically did not have fires. When fires were built, however, they reportedly were placed *outside* the hunters' shelters (Kolerok and Kolerok 1991a).

The overwhelming majority of stone shelters occur on volcanic hills—which probably also served as lookouts—amid jumbles of exposed bedrock; and they tend to cluster at slope breaks or terrace edges, affording protection from prevailing winds (Smith 1991). But other such structures are located on flat, open ground in isolated contexts. Similarly, although most are found in the interior, morphologically identical stone shelters have been documented atop sea cliffs and along major lagoon systems at historically





Figure 4: Feature 33, at Qiurtuli

Table 1: Stone features recorded at interior sites

Site Name	ANCSA & State Number	Feature Count	Shelters	Cairns	Pits or Caches	Rings, Walls or Lines	Other	Shelters as % of Total Features
-unknown-	AA-9265 XCM-072	23	15	6	0	0	2	65%
<i>Ingrirer</i>	AA-9296 XNI-089	15	3	12	0	0	0	20%
<i>Entuli</i>	AA-9323 XNI-102	73	59	13	1	0	0	81%
-unknown-	AA-9330 XNI-091	1	1	0	0	0	0	100%
<i>Qiurtuli</i>	AA-9331 XNI-103	127	104	6	12	5	0	82%
<i>Ingrilukat Nasqurat</i>	AA-10422 XNI-125	45	33	9	1	2	0	73%
<i>Siimaleg</i>	AA-10424 XNI-090	94	78	9	2	5	0	83%



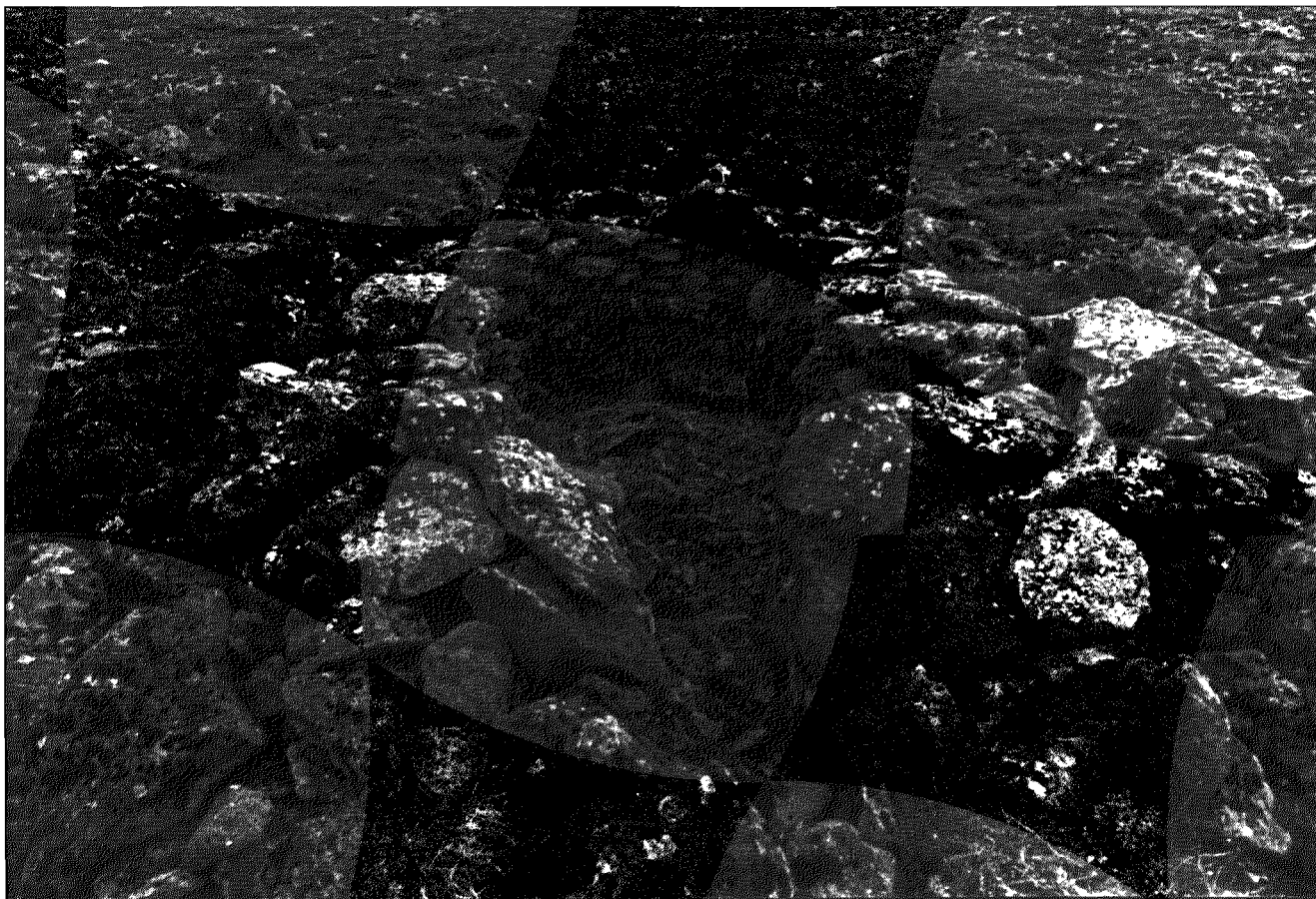


Figure 5: Feature 18, at *Iqangmiut* (on Duchikthluk Bay)

important coastal settlements. This underscores the fact that such structures were not used exclusively for caribou hunting. Oral accounts report that stone shelters at sites in Nunivak's coastal margin have been used as emergency shelters and/or in association with fishing, goose hunting, and the harvesting of greens, migratory seabirds and eggs (see Pratt 1990; US BIA ANCSA 1995 [Vols. 2 and 3]). At least one of these structures was also used, secondarily, as a grave. Also, between about 1940-1960, local reindeer herders occasionally used shelters located throughout the island (Amos 1991b; Smith 1991). By and large, however, the presence of stone shelters seems to be the result of caribou hunting activities.

Methods of caribou hunting

Caribou provided the *Nunivarmiut* with skins for clothing, boots and bedding, food, sinew for thread, and antler and bone from which a variety of tools were fashioned (Amos 1991b; Griffin 1999:344-345; Kolerok and Kolerok 1991b; cf. Burch 1972:362).⁷

⁷ Caribou also had an important role in *Nunivarmiut* ceremonial life: i.e. their bladders were saved for use in the annual Bladder Festival (Fienup-Riordan 2000:125; Lantis 1946:183-184 [notes #37 and #38], 195; Sonne 1988:78-79). These animals apparently had a similarly important role in Bladder Festivals on the adjacent mainland (e.g., see Nelson 1899:383). The importance of caribou among the *Nunivarmiut* is further evidenced by their representation in numerous traditional stories (e.g., Lantis 1946:265-286), and by restrictions imposed on young men after killing their first caribou (Lantis 1946:227).

Caribou hunting was most intensive in early summer (e.g., Amos 1991b; Lantis 1946:155, 173, 195; Nelson 1899:119, 234; Kolerok and Kolerok 1991b; Noatak and Kolerok 1987a; Olrun 1991; Smith, personal communication, 9/9/91; cf. Van Stone 1989:10). This was when the animals' skins were in prime condition (Nelson 1887:286; cf. Burch 1972:343, 362) and it was also the calving season; as elsewhere, on Nunivak the skins of caribou calves were especially prized for clothing (Smith 1989a; cf. Fienup-Riordan 1988:8; Griffin 1999:332; Nelson 1899:119, 234). But, caribou were also hunted in the winter (Kolerok and Kolerok 1991b; Lantis 1946:172; Olrun 1991; Van Stone 1989:10; cf. Ray 1975:117) and evidence from the adjacent mainland suggests they were probably hunted in the fall, as well (see Andrews 1989:255; Oka 1982:38; Oswalt 1952:73; US Census Office 1884:5; Wolfe 1979:40).

In fact, caribou hunting was possible on Nunivak at any time of the year because the herd's insular setting prevented migration (cf. Lantis 1946:173). The strong currents of the 40-km wide Etolin Strait typically prevent its waters from freezing solidly in winter; instead, unstable flow-ice and large patches of open water characterize the strait during that season. Water conditions of this sort are not conducive to caribou migrations (see Burch 1972:347; cf. Kelsall 1968:43). Similarly, although caribou are strong swimmers and have been observed crossing 8 km or more of water



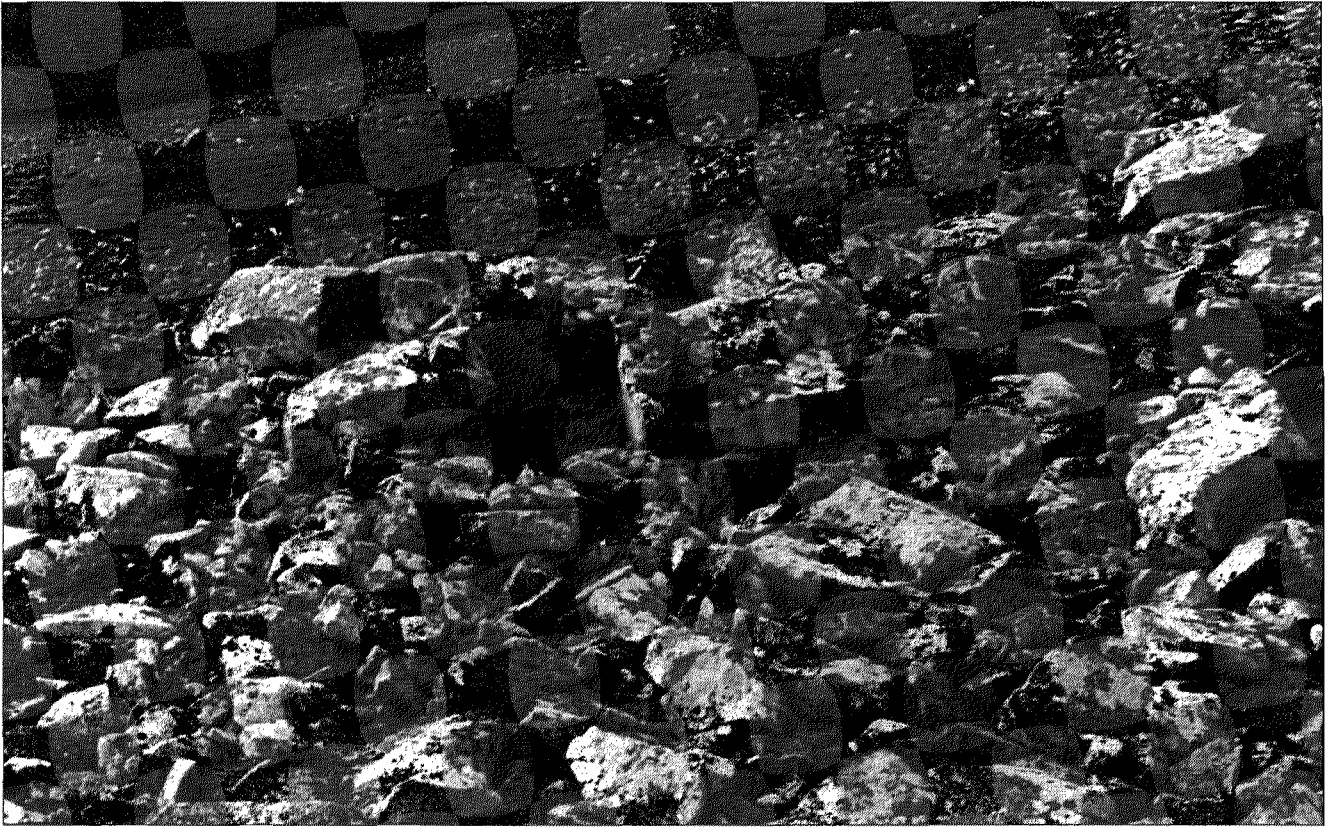


Figure 6: Stone shelter at unnamed site near *Ing'errlag*

“where large lakes lie close to the path of major migrations” (Skooq 1968:99-100), there is no evidence to suggest these animals are capable of swimming non-stop across 40 km of rough water. Even assuming the caribou could swim at an extremely high average speed of 8 km per hour (cf. Skooq 1968:99-100), such a crossing of Etolin Strait would entail a minimum of five hours of continuous swimming. If it is, in fact, physically possible for caribou to perform such a feat it still seems unlikely the animals would embark on such a journey without some very compelling motivation. So, how did these animals reach Nunivak Island in the first place? The probable answer is, “no doubt, via the ice-pack” (Skooq 1968:230). As suggested above, winter conditions allowing such a journey would be extremely rare occurrences, but a single event could potentially be sufficient to start a herd.

A variety of techniques were used to harvest caribou (see Griffin 1999:337-343), but they were usually stalked or ambushed by hunters armed with bows and arrows (Curtis 1930:32; Lantis 1946:255; Van Stone 1989:10). Based on their status as experts in the associated hunting techniques, Nunivak elder Andrew Noatak (Noatak and Kolerok 1987a) reported that some caribou hunters were referred to by the following terms:

Can'ircutullit: expert bowhunters who put themselves in the path of fleeing caribou and were highly successful at killing animals as they passed by. (A grandfather of the

late Kay Hendrickson was identified as a former expert at this style of caribou hunting.)

Lavniarculuteng: hunters who were experts at stalking [“sneaking up on”] caribou and were usually successful in securing their prey. During a stalk, whenever the caribou lifted its head to check its surroundings the hunter would stop and “pretend to be a tussock.” This specific part of the stalking technique was referred to as ***ek'uunguareqluteng***. (A grandfather of the late John [“Unclejohn”] Kusowyuk was identified as a former expert at this style of caribou hunting.)

Noatak also commented on a basic, but easy to overlook, difficulty associated with hunting caribou with bows and arrows:

When an arrow hit a caribou the one who shot it will keep [watching the animal] and soon it will separate from the herd . . . Some of the [caribou] they shot would not travel far . . . they would not go anywhere, just fall flat down. The ones they did not hit right, they would watch all the time, sleeping somewhere along the way, and hunt it down in the daytime. Sometimes [the animal] would take off while they were sleeping and they would lose it. They did not have an easy time of it (Noatak and Kolerok 1987a).



Table 2: Correlations of Cup'ig place names with English/common names

Cup'ig Name	English/Common Name
Mikuryarmiut	Mekoryuk
Qikertaaremiut	
Iqaqin Nunai	
Pengurpagmiut	
Qavlumiut	Kuvlomiut
Tapramiut	Daprakmiut
Englulramiut	
Ami'igtulirmiut	Kanikyakstalikmiut
Qaviayarmiut	
Ingrimiut	Ingrimiut
Nuuteqermiut	
Paamiut	
Nunarlugarmiut	Nunathloogagamiut
Tacimiut	Duchikmiut
Ciguralegmiut	Chigoorhaligamiut
Tevcarmiut Waqlit	
Tacirtag	Duchikthluk Bay
Iqangmiut	Ikongimiut
Cingiglag	Cape Mendenhall
Penacuarmiut	Binajoaksamiut
Carwarmiut	Chakwakamiut
Qayigyalegmiut	Kiyakyaliksamiut
Acakcum Nunii	
Talungmiut	Dahloongamiut
Tacirramiut	
Miqsarmiut	Mikisagimiut
Qimugluggpagmiut	Nash Harbor (west side)
Ellikarmiut	Nash harbor (east side)
Asweryag	Ahzwiryuk bluff
Negermiut	Nariksmiut
Kangiremiut	Kahnirukmiut
Ingrilukat Nasqurra	Ingrilukat-Naskorat Hill
Ing'eritag	Mt. Roberts
Elliumwig	
Entuli	Indooli Butte
Qiurtuli	Kikdooli Butte
Ingrirer	Ingriruk Hill
Siimaleg	Seemalik Butte
Qikertar	Triangle Island
Qassarwig	
Cirunret	
Tunumilngut	
Urasqarremiut	

Evidence presented by Griffin (1999:339-340) suggests *Nuniwarmiut* hunters sometimes donned caribou skins as camouflage to stalk their quarry (cf. Lantis 1946:172),⁸ and caribou were also snared (Curtis 1930:32-33). In the latter strategy, hunters set sealskin lines or ropes along trails with the intent of snaring the animals' antlers or heads when they passed by (Kolerok and Kolerok 1991b). Like wolves, caribou also were trapped in pit-falls: i.e. "holes-in-the-ground" topped by very weak roofs and covered with grass to hide them (Kolerok and Kolerok 1989). Additionally, shortly after birth, at the peak of vulnerability (see Kelsall 1968:184-185), caribou calves were chased down and killed by both men and women (e.g., Kolerok and Kolerok 1991b; Noatak and Kolerok 1987a; cf. Griffin 1999:342-343; Nelson 1899:119; Zagoskin 1967:112, 291 [note #36]). In partial contrast to these accounts, it has previously been asserted that: "Women never hunted caribou, but in spring, after the arrival of sandpipers, they went out to pick up fawns [of the previous year] that had died during the winter" (Van Stone 1989:10).

According to Smith (1987, 1989b), in winter, when north winds were blowing, large groups of caribou reportedly used to move into the Cape Mohican area at Nunivak's extreme western end. When those conditions existed, residents of *Miqsarmiut* (on the island's northwest coast) would travel to the narrowest part of the cape and erect a "fence" of grass mats, leaving one opening. Once the trap was set, one or more men would drive the caribou toward the fence where the animals were dispatched with bows and arrows as they sought to escape. Many caribou were harvested in this way. Edna Kolerok (Kolerok and Kolerok 1991c) confirmed and elaborated upon this information, noting that her data derived from an extremely old woman named *Mirasgan* who formerly lived at *Miqsarmiut*. Kolerok described the 'fence' used in these drives as follows, "... they made a human barricade putting their [woven grass] mats with driftwood in between the lines of people" (Kolerok and Kolerok 1991c).⁹ Mohican's coastal margins are sheer cliffs (see Pratt 1997:16-17) and its narrow, southernmost part contains two fair-sized lakes. Kolerok implied that the fence/human barricade would extend between the lakeshore(s) and the cliff edges, and noted that caribou were killed as they circled in search of an escape. Some animals typically fell over the cliffs to their deaths (Kolerok and Kolerok 1991c). The great difficulty involved in recovering these animals, however, suggests that caribou probably were not purposefully driven over the cliffs. Oral accounts about caribou drives by *Miqsarmiut* people are significant because they directly contradict Lantis' (1946:172) assertion that traditional

⁸ This possibility is based on an ivory artifact collected by Edward Nelson. As discussed later in this paper, however, outside hunters were harvesting caribou on Nunivak—and living on the island for that specific purpose—before and during the period of Nelson's work in the region (i.e. 1877-1881). The fact that a firearm is engraved on the artifact strongly suggests it was not made before about 1870 (see Foote 1964:161-167). For these reasons, it would be unwise to automatically attribute the artifact's creation to a member of the *Nuniwarmiut*.

⁹ The possibility that caribou antlers were also used as fence components is implied in a traditional story—"The Young Man"—recorded on Nunivak by Lantis (1946:278-280).



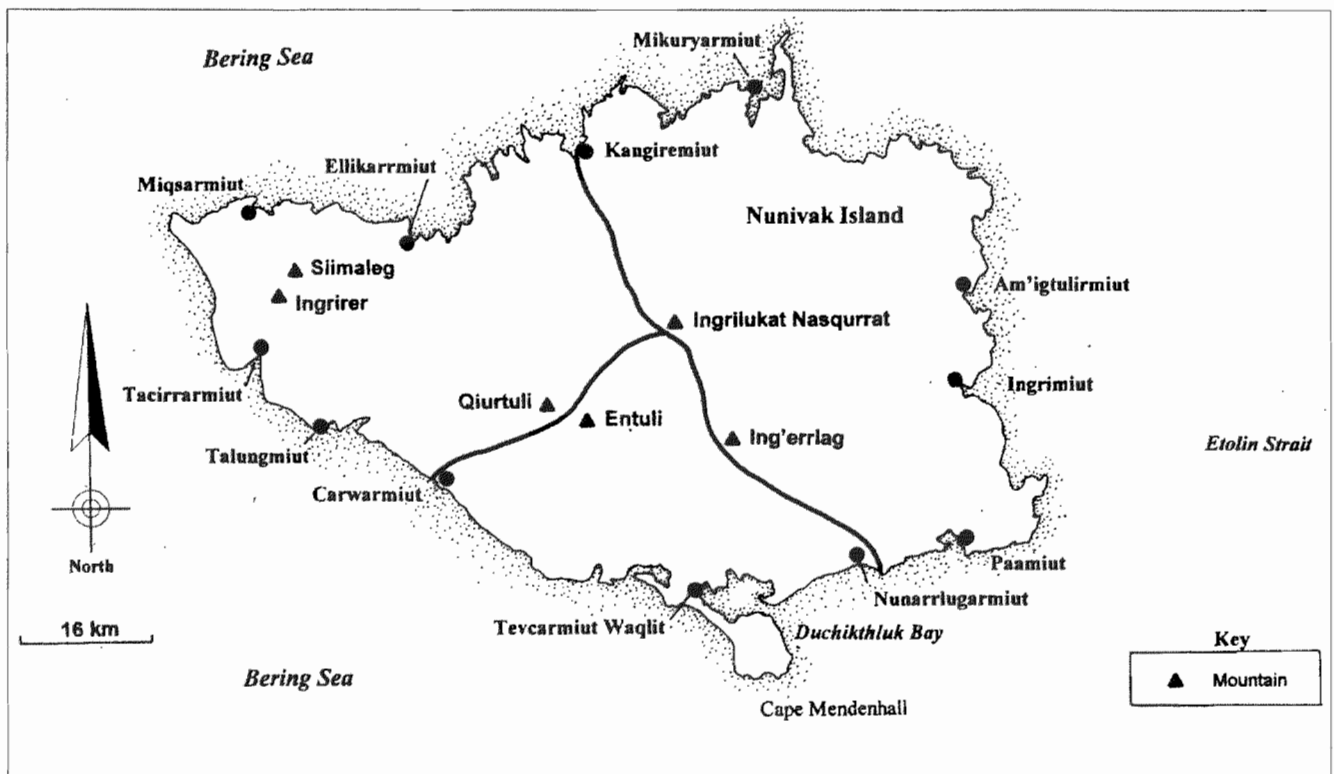


Figure 7: Nuniwarmiut caribou hunting territories

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Nuniwarmiut hunting methods did not include “formal drives of game” (cf. Curtis 1930:32-33; Van Stone 1989:10).

Hunters butchered caribou at the kill sites (Lantis 1946:195; cf. Griffin 1999:343-344). After the meat was boned most of it was cached underwater in lakes and ponds, or in stone structures, and retrieved at a later date (e.g., Kolerok and Kolerok 1991b; Orlun 1991; Smith 1991; cf. Burch 1998:298; Stewart et al. 2000:275).¹⁰ Meat that was transported back to coastal settlements was sometimes “cut into strips and sun-dried on drying racks” (Lantis 1946:179). Marrow was extracted from the bones at the kill sites; but hunters were warned not to eat the marrow while hunting because it would make them tired (Kolerok and Kolerok 1991d). Once extracted, marrow was usually stored in the caribou’s heart membrane until the hunter could return to camp (Griffin 1999:344). Alternatively, it might be placed in the caribou’s stomach lining then wrapped in the hide (together with meat), and hauled back to the hunter’s village (Kolerok and Kolerok 1991d).¹¹

The use of caribou hides as packs was more than a matter of convenience: i.e. during transport the inner layer of fat protected

¹⁰ The *Nuniwarmiut* also used stone structures as caches for seal/walrus meat and skins, berries, wild spinach, fish (eviscerated, but otherwise whole), fish eggs, and split salmon heads (US BIA ANCSA 1995 (1):52 and (3):79-81).

¹¹ Fat from the stomach lining was formed into balls and given to children as special treats when hunters returned home (Kolerok and Kolerok 1991d). These “fat balls” were referred to as *imanat*, a somewhat generic term that can also apply to guts/entrails, internal organs, etc. (Howard Amos, personal communication, 3/20/01).

meat wrapped inside the hide against bruising (Noatak and Kolerok 1987a). Caribou bones were usually thrown into nearby lakes or ponds (Lantis 1946:195 [note 77]), or “buried” in stone caches (US BIA ANCSA 1995 (3):299, 304-305 [Photographs 3:199 and 3:200]). Collectively, these practices imply that caribou bones documented in archaeological contexts on Nunivak—at least at coastal sites—would not accurately reflect the true extent of caribou use (cf. Griffin 1999:344; Spiess 1979:173-174).

Hunting territories

Nuniwarmiut oral history accounts about caribou hunting contain information documenting the existence of socio-territorial boundaries between indigenous local groups (see Pratt 1990; cf. Lantis 1946:168, 178, 242). Individual caribou hunters reportedly used the same camp every year (Noatak and Kolerok 1987a), much as a contemporary family uses the same fishcamp each summer. But some oral accounts connect the island’s most substantial caribou hunting sites to specific villages in ways that clearly denote discrete, recognized boundaries between the customary use areas of separate local groups on Nunivak. Thus, *Entuli* (Figure 3; Table 2) was used primarily by people from *Cingiglag* [Cape Mendenhall] and *Tacirrag* [Duchikthluk Bay], whereas *Qiurtuli* and *Siimaleg* were used by people from the west coast villages of *Tacirrarmiut*, *Talungmiut*, *Ellikarmiut*, and *Miqsarmiut* (Smith 1991). Similarly, Andrew Noatak (Noatak and Kolerok 1987a, 1987b) reported that *Entuli* was a hunting area for residents of



Carwarmiut (on the southwest coast); and Peter Smith (1991) said it was the western boundary of the caribou hunting area for people along the southern coast from *Nunarrlugarmiut* westward to at least *Tevcarmiut Waqlit*.

The *Entuli* and *Qiurtuli* areas are important calving grounds for the present-day Nunivak reindeer herd. The prominence of these sites with regard to traditional boundaries between the customary caribou hunting areas of local populations of the *Nunivarmiut*, the large number of stone features each site contains, and the known behavioral similarities of caribou and reindeer suggests the Nunivak caribou herd may also have used the *Entuli* and *Qiurtuli* areas as calving grounds.

The site of *Ingrilukat Nasqurrat* was possibly the southern, interior boundary of caribou hunting grounds commonly used by residents of north coast villages such as *Mikuryarmiut* [Mekoryuk] (Smith 1991; cf. Olrun 1991) and *Kangiremiut*. Caribou hunting areas used by residents of villages along Nunivak's east and southeast coasts (e.g., *Am'igtulirmiut*, *Ingrimiut*, *Paamiut*) were not specified; however, *Ingrilukat Nasqurrat* and sites from *Ing'erllag* [Mt. Roberts] eastward were probably all available to these people.

CARIBOU BESEIGED

Considerable effort was directed at obtaining local explanations for why and when caribou disappeared from Nunivak. Without exception, oral accounts attributed the disappearance of caribou to the actions of non-Nunivak hunters from as far away as the Seward Peninsula, a region essentially devoid of caribou by 1880 (Burch 1998:270, 283, 293-294; Dall 1870:147; Jacobsen 1977:151, 157; Nelson 1887:285; 1899:118; Skoog 1968:243; cf. Oswalt 1967:136-137). The fact that Iñupiaq and Yup'ik people traveled to Nunivak in the last quarter of the 19th century to hunt caribou is fairly well documented in the literature (e.g., Lantis 1946:173; Nelson 1887:285; 1899:229; Skoog 1968:330; Van Stone 1989:10).¹² In this context, it should be noted that a hill named *Elliuurruwig* (Drozda 1994:82 [no. 06.16]) in Nunivak's interior (on which the remains of at least five stone shelters are found) was informally identified by local elders as "Teller caribou hunters' camp." Also, for about five years, "Teller people" who were on the island specifically for hunting caribou reportedly lived at the east coast village of *Am'igtulirmiut* (Peter Smith, Sr., personal communication, 9/9/91), and at a small site just upstream from that village (Olrun 1991). Located on Seward Peninsula, the village of Teller did not exist when these events were taking place (see Orth 1967:955; Ray 1964:75-77), so the association of "Teller people" with the visiting hunters is probably a reference to residents

of the general area in which this village is located (i.e. the Port Clarence area).

Who were the "Qaviayarmiut"?

Overkill by Native hunters was ultimately responsible for the extermination of Nunivak's caribou, but it is noteworthy that hunters from other parts of Alaska did not have historical connections to the herd and, in fact, were not welcome on the island. Oral accounts express strong resentment toward them (cf. Fienup-Riordan 1984:74 [note #6]), particularly toward Iñupiaq hunters. This probably reflects their comparatively greater cultural and geographical "distance" from the *Nunivarmiut*, and their presumed lack of kinship ties or trading partnerships with island residents. Several accounts collectively identified the Iñupiaq hunters as "Qaviayarmiut"¹³ (e.g., Hendrickson and Williams 1991; Kolerok and Kolerok 1991b). Precisely which people this term designates is unclear (cf. Wells and Kelly 1890:9), but each of the following populations is a candidate: the "Malemut" of Kotzebue Sound (see Nelson 1899:229); the people of "Kaviak" village near the head of Imuruk Basin, east of Teller (e.g., Black 1984:494; Orth 1967:503; US Census Office 1884:11; Zagoskin 1967:126); residents of Port Clarence ["Kavyak Gulf" (Zagoskin 1967:124)], generally; the "people of Seward Peninsula"—formerly known as the "Kaviak Peninsula" (Nelson 1887:285; Zagoskin 1967:351); residents of the Kuzitrin River area (Burch 1998:54-55); or, members of Nelson's "Kaviagmut" tribal grouping, delimited as follows:

The people occupying the coast from Port Clarence and around to Cape Nome, Golofnin Bay, and Nubviukhchugaluk [*Neviarcaurlug* (near present-day Elim)], including the interior of the [Seward] peninsula back from the coast country as well as Sledge (Aziak) island, are Kaviagmut" (Nelson 1899:26).

In any case, the available data strongly contradict Ray's (1964:64) categorical assertions that: (i) the disappearance of caribou from the Bering Strait region "was not a cause for the caribou hunters' invasion of another tribe's territory" (cf. Burch 1998:119, 303); and (ii) "With the exception of the southward movement of the Malemiut, there is no historical evidence that Seward Peninsula groups moved to other tribal territory" (cf. Burch 1998:8-9).

Adding to the puzzle, some Nunivak elders explicitly associated these people with St. Lawrence Island¹⁴; others asserted they

¹² The following is a good example. "When, in 1873-74, the reindeer [sic] suddenly left the shores of Norton Sound, [the Malemute along Kotzebue Sound] pushed on in family parties from point to point until, in 1877-78, they had reached Kuskokwim river, Nunivak island, and Bristol bay" (Nelson 1899:229).

¹³ To reduce confusion, I do not italicize this term when it was used by Nunivak elders as a broad term of reference for all of the involved Iñupiaq hunters (as in this case), because it is also an acknowledged designation for a specific Iñupiaq social group—as well as a valid place name on Nunivak Island.

¹⁴ Although he suggested the St. Lawrence Islanders were a separate and distinct group, Nelson (1899:26) "failed to record any special designation" for these people.



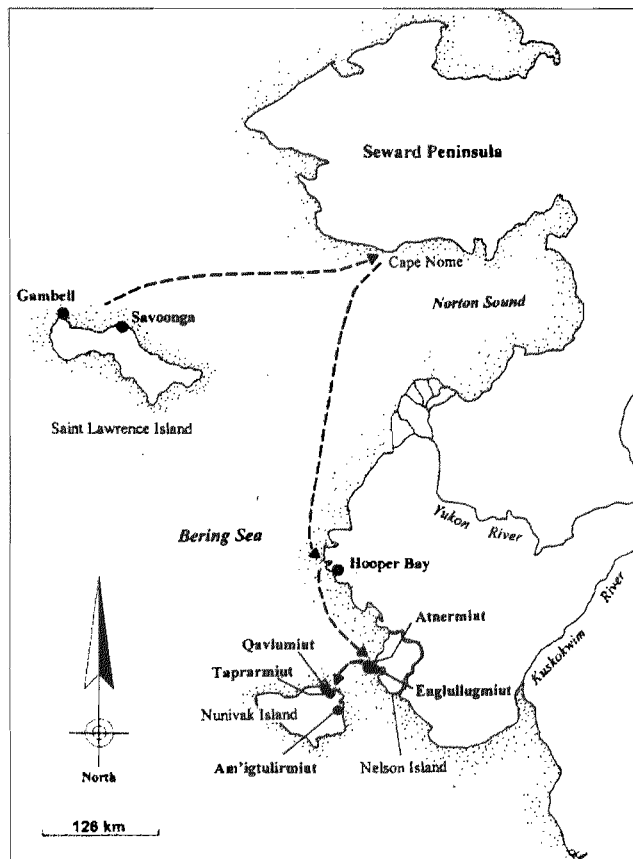


Figure 8: Reported route of St. Lawrence Islanders' migration to Nunivak Island

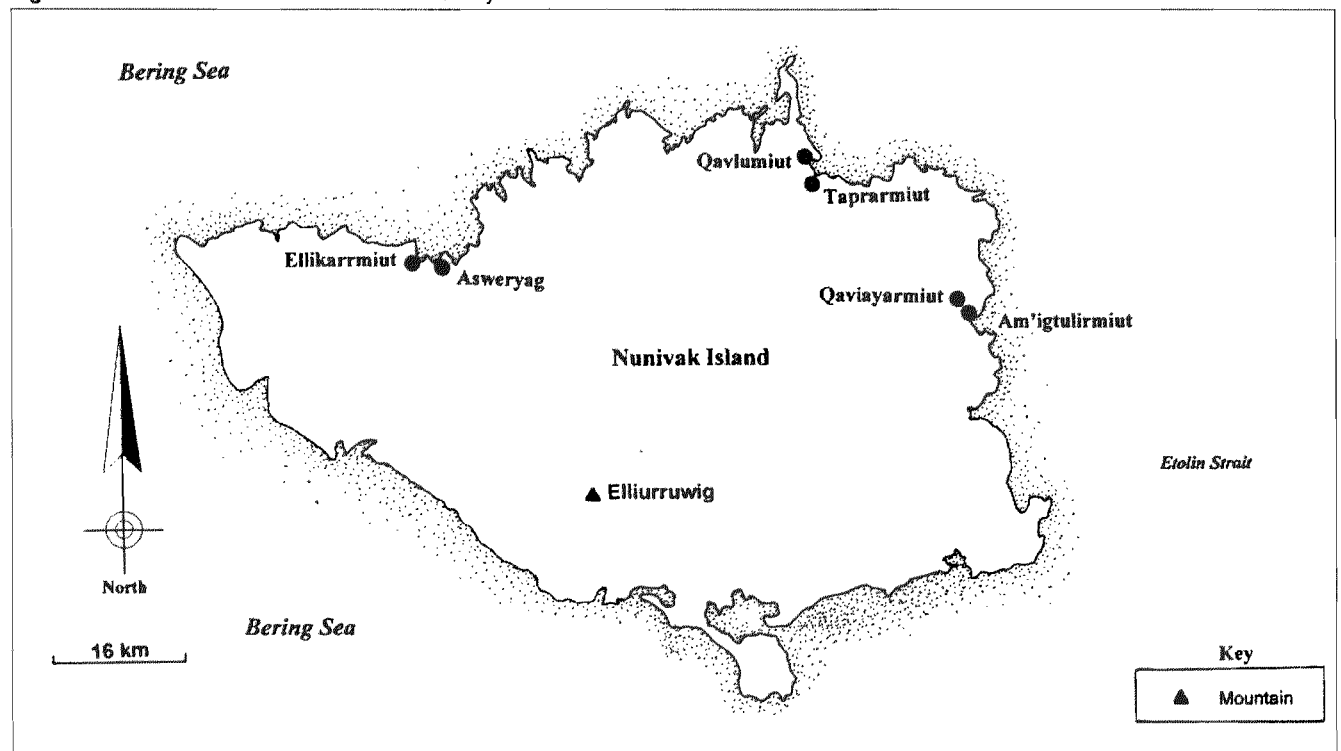
definitely did not come from that place, suggesting instead that they were probably from somewhere "behind Nome" (Kolerok and Kolerok 1991b). In my opinion, in *Nuniwarmiut* oral accounts the term "Qaviayarmiut" likely designates people from the Seward Peninsula in general; it may also indicate that the largest and/or first contingent of the invading hunters were Port Clarence area people (i.e. the *Qawiaragmiut*), or speakers of the *Qawiarag* dialect of Iñupiaq.¹⁵ I also see no cause to reject the suggestion that St. Lawrence Islanders may have been among those hunters. Regardless of the actual point(s) of origin of these particular outside hunters, however, a settlement along Nunivak's east coast is actually named *Qaviayarmiut* because of its association with this group.

Based on information attributed to an elder from the St. Lawrence Island village of Savoonga, Jack Williams, Sr. (1991b) traced these people to a settlement named "Qaviayag", reportedly located mid-way between Gambell and Savoonga.¹⁶ He related the following account of this group's migration to Nunivak Island (see Figures 8 and 9).

¹⁵ This dialect was spoken in the Kuzitrin River, Port Clarence, Nome, Fish River, and Golovin districts (Ernest S. Burch, Jr., personal communication, 4/25/01).

¹⁶ The author has not found any evidence of a settlement with this name on St. Lawrence Island. Consideration must be given to the possibility that the Savoonga elder's information about the location of "Qaviayag" was in error, or was misinterpreted by the Nunivak elder to whom he related the associated migration story.

Figure 9: Nunivak sites associated with the "Qaviayarmiut"



For reasons unknown, the Qaviarmiut reportedly left St. Lawrence Island and relocated to Cape Nome,¹⁷ where they remained for two years before being kicked out by local Natives for improper treatment of fish and game animals. They then moved to Hooper Bay where, two years later, they were again kicked out by the locals, this time for "fooling around with fish" and wasting subsistence foods. The Qaviarmiut next moved to Nelson Island (settling at either *Atnermiut* or *Englullugmiut*), but within one year the locals evicted them for "fooling around with rabbits" and wasting food. Finally they landed on Nunivak (at *Taprarmiut* and/or *Qavlumiut*), at which point they split up, half going to *Am'igtulirmiut* and the others to an unspecified location somewhere on the south coast. Soon after realizing that caribou occupied the island the Qaviarmiut made a "human fence" and trapped many of the animals. They took only the caribou's eyes, however, then released the animals. The Nunivak caribou herd reportedly disappeared as a direct result of these actions and was never again seen.

This event happened in the summer. The following fall or winter the *Nuniwarmiut* captured the Qaviarmiut and barricaded the entire group in a men's house at Nash Harbor (*Ellikarmiut*) until all had died of hypothermia. The bodies were reportedly taken to *Asweryag* and buried under a large pile of rocks (cf. Griffin 1999:164-165; US BIA ANCSA 1995 (3):95-120). A feature matching this description was recorded at the site; it measured 3.7 m x 3.4 m x 1.0 m high.

Local views on the caribou's disappearance

The foregoing account is significant not only for its relationship with caribou, but also because it is one of the few references to intergroup hostilities (on Nunivak proper) documented in roughly 200 oral history interviews conducted with local elders since 1986.¹⁸ Although unique in overall content, the account is entirely consistent with numerous others in explaining the caribou's disappearance as a sudden event, which culminated with the animals vanishing into the ground. That is, one day a large herd of caribou was seen going over the ridgeline of a hill; a man [the father of Andrew Noatak (Hendrickson and Williams 1991; Kolerok and Kolerok 1991d)] followed the caribou but when he reached the top of the hill and looked in the direction they had been traveling no trace of the animals could be seen. The caribou apparently vanished into the ground and were never again seen on the island (Kolerok and

Kolerok 1991d; Orlun 1991; Williams 1991b; cf. Griffin 1999:334-335).

Responses to the question of *when* caribou disappeared from Nunivak were also interesting. With one exception, all of the elders consulted about this matter agreed that caribou had disappeared sometime before their births. The eldest of these individuals (Andrew Noatak [born ca. 1901]) identified the hunter who killed the last caribou on the island; but that hunter's son (Walter Amos [born ca. 1920]) could not confirm this report. Surprisingly, another elder (Jack Williams, Sr. [born ca. 1911]) claimed to have eaten a piece of the last caribou. Far from being incongruent, these accounts raise the possibility that isolated pockets of caribou may have survived on the island into the second decade of the 20th century. Nunivak's size and ruggedness suggest this possibility should not be summarily discounted. Additionally, by the early-to-mid 1880s the local herd may have been so reduced in numbers that caribou hunting was no longer a viable pursuit, even if some animals remained (cf. Nelson 1880; 1887:285).

THEORETICAL CONSIDERATIONS

Much of the ensuing discussion evaluates the Nunivak data on caribou hunting against relevant findings presented in two key papers by Ernest S. Burch, Jr.: his seminal (1972) work on caribou as a human resource, and a more recent (1994) study on rationality and resource use among hunters. These data do not bear on every question Burch addressed but they require modification to or rejection of some of his main points, and provide support for several others.

Seasonality of caribou hunting

The Nunivak Island caribou herd differed in one critical way from the major herds considered by Burch (1972): the Nunivak herd **did not migrate**. At most, it may have followed some pattern of localized, seasonal movements across the island (cf. Spiess 1979:47). This constitutes an exception to a central tenet of Burch's study: i.e. "... all parts of the range of every tarandus [caribou/wild reindeer] herd are devoid of animals during some period of the year (except, possibly, during population peaks) ..." (Burch 1972:361). The flexibility of being able to hunt caribou at any time of the year set the *Nuniwarmiut* apart from most other caribou hunters (cf. Spiess 1979:20-21); for instance, caribou were undoubtedly a far more reliable annual resource to these people than they were to Native groups in most other areas (cf. Burch 1972:364-365; Krupnik 1993:236; Nelson 1887:285-286). Since the *Nuniwarmiut* did not have to focus on stockpiling meat before the caribou migrated they also did not have to worry about meat storage to any great extent (cf. Burch 1972:363). Thus, the *Nuniwarmiut* were not compelled to hunt caribou during the peak seasons in which these animals were typically hunted elsewhere. If

¹⁷ In the context of this oral account, it is of some interest that Nelson (1899:231-232) reported the St. Lawrence Islanders formerly (i.e. prior to 1880) undertook trading voyages "along the American coast as far as Cape Nome."

¹⁸ Another rare account of this sort concerns the theft by two "mainlanders" of caribou skins from local hunters' camps. The thefts were discovered in time to allow Nunivak hunters to track and catch up with the culprits at *Qikertar*, off Nunivak's northeast shore. The mainlanders were killed because: "They had committed a crime. It was the rule not to take things from other people. ... it was the strict rule of our ancestors" (Amos 1991a).



so inclined, they had the luxury of instead concentrating their efforts on fishing, sea mammal hunting, or the harvesting of migratory seabirds and waterfowl. Ironically, the absence of herd migration on Nunivak supports Burch's (1972:365) rejection of the paired assumptions that [caribou] "hunters characteristically follow their prey during the course of their annual migrations" and [caribou] "herds follow the same routes in their migrations."

Burch's influential study also contained the following assertion: "Late winter, spring, and early summer skins are worthless for almost any purpose, and only late summer skins are really adequate for clothing" (Burch 1972:362; cf. Kelsall 1968:211; Ray 1975:118). Recent findings indicate that statement is not necessarily an accurate description of reality across the whole spectrum of arctic/subarctic caribou hunters (e.g., see Nagy 1994:71), and it definitely does not apply to Nunivak Island. Even disregarding other uses to which caribou skins could be put, the absence of herd migrations and the rich diversity of other locally available resources, including birdskins for clothing (Pratt 1990; cf. Van Stone 1989:33-38), may have allowed the *Nuniwarmiut* to selectively target caribou *calves* for skins to be used in the production of clothing. This could explain why early summer has been consistently identified as the peak caribou-hunting season on Nunivak. Indirect support for the suggestion that calf skins were preferred for clothing in some areas is contained in the following quote regarding a village on the lower Yukon River:

Toward night [on 14 June 1867] we reached the village of Starry (old) Kwikhpak [*Kuigpalleg* (opposite present-day Pilot Station)]. . . . The village was full of fresh skins of the reindeer [sic] fawn. I counted a thousand and seventy two bunches hanging up to dry. Each bunch contained four skins, or enough to make a parka. This would give a total of nearly four thousand three hundred of these little creatures, which had been killed during the past two months (Dall 1870:230; cf. Nelson 1887:286).

The Nunivak herd's year-round residence in a cold and extremely windy, maritime climate (see US DOI 1949:43-44) may also have mitigated against warble fly infestations, which might have resulted in a comparatively high quality of summer skins (cf. Burch 1972:343).¹⁹ Even if calfskins were preferred, therefore, the *Nuniwarmiut* did not have to rely on the early summer hunt for skins because skins suitable for clothing could also be procured in late summer and fall.

Explaining the Nunivak herd's demise

Because "caribou populations experience long-term fluctuations independently of factors of human predation" (Burch

1972:356), determining the root causes for caribou declines or extirpations in Alaska, and elsewhere (e.g., Krupnik 1993:144-146), is often problematic (e.g., Burch 1994:172-174; Pratt 1984:33 [Note 2]; Ray 1967:174; Van Stone 1979:129-132). But there is no doubt that the primary factor behind the Nunivak herd's demise was the sheer number of hunters who became involved in pursuing an essentially "captive" caribou population (cf. Lantis 1946:173). For example, Charley Peterson, a fur trader based at Andreavsky on the lower Yukon River, reported that a contingent of hunters and traders represented by "20 or 30 bidarras [umiaks] and 150 to 200 bidarkies [kayaks]" took some 2,000 caribou skins from Nunivak Island in 1879 alone (Nelson 1879). The overwhelming majority of these vessels must have belonged to outsiders. Applying a conservative estimate of one hunter per kayak (x 150) and five hunters per umiak (x 20), Peterson's information suggests that an absolute minimum of 250 non-resident hunters converged on Nunivak's caribou in 1879. As if that year's harvest was not enough, the ensuing winter dealt another major blow to the island's herd. After a visit to Nunivak in August 1880, Peterson reported that "the deep snow last winter killed nearly all the deer so that the Malemuts [Iñupiaq (see Burch 1998:8-10)] and other outsiders living there are all going away this summer as they say if they do not they will starve during the coming winter" (Nelson 1880).

Despite the obviously high number of hunters involved, insufficient evidence exists to argue that the introduction and spread of firearms ultimately caused the demise of the Nunivak caribou herd (cf. Burch 1994:172-174; Nelson 1887:285; Skoog 1968:329-332; US Census Office 1893:114). Firearms brought about significant changes in hunting methods—sometimes increasing hunting efficiency—but it does not necessarily follow that hunters with firearms consistently killed more animals (cf. Krupnik 1993:234-235). More to the point, given that the island was the functional equivalent of a large "holding pen" for resident caribou, firearms were not necessary to bring about extermination of the Nunivak herd. Caribou drives would almost certainly have been the most effective means by which hunters could kill large numbers of caribou. And Nunivak's isolated setting, well outside the most heavily used routes of trade and commerce, suggests comparatively few firearms existed among the *Nuniwarmiut* as of ca. 1880 (cf. Foote 1965:161-167; Skoog 1968:330; Van Stone 1989:10)—and ammunition was probably rarer yet. Most firearms that had reached the island by that date were probably "excess" from other Native groups that had access to more technologically advanced models.²⁰ By extension, the only plausible way to correlate the spread of

¹⁹ Warble flies evidently do not cause damage to the skins of reindeer in the modern Nunivak herd (George Williams, Sr. and Howard Amos, personal communication, 3/20/01.)

²⁰ This conclusion is indirectly supported by local oral history accounts (e.g., Amos and Amos 1991a; Noatak and Kolerok 1987a) and by the recent work of Dennis Griffin (personal communication, 2/01), who generously shared the following findings with this author. "Rifle cartridges collected by [Henry] Collins from historic graves, and those found in recent Nash Harbor excavations [Griffin 1999] reveal a wide variety of firearms were in use on the island during the late nineteenth and early twentieth [centuries] but that no variety appears to have been plentiful. Recovered cartridges usually consist of one example from most models (e.g., 40-65 Winchester, 45-70 Government issue, 40-82 Winchester)."



firearms with this herd's depletion (in a cause and effect manner) would be to assume that the vast majority of the arms involved belonged to non-local Native hunters.

The intensity of the "market hunting" that obviously occurred on Nunivak underscores the importance of caribou skins—the insulating qualities of which are well known—in historic trade systems (e.g., see Nelson 1887:285; 1899:228-232; Zagoskin 1967:100-102). It also raises several questions relative to Native ecological/religious values. On the basis of Alaskan and Canadian data, Burch (1994) suggests that hunters who abandon their homeland due to a paucity of game and emigrate to a new area lured by an apparent abundance of resources often destroy the very resources that attracted them to the new locale in the first place. The Nunivak data mirror this scenario, as suggested in the following quote:

The decline in the Norton Sound caribou herd, at a time when the demand for skins and meat was increasing rapidly, caused the natives to exploit the caribou on Nunivak Island. By 1890, that herd had been destroyed, obviously a victim of excessive hunting. *These animals, however, had nowhere to retreat* (Skoog 1968:330 [emphasis added]; cf. Murie 1935:60).

Burch (1994:179-180) also suggested that "the removal of arational constraints on overhunting through religious conversion" was one major reason for the deterioration of Native American relationships to their environment after European contact. This cannot be demonstrated in the present case but, even without religious conversion, it is likely that religious beliefs had a role in the decimation of Nunivak's caribou herd. Specifically, the Iñupiaq and other outside hunters' lack of ancestral and spiritual relationships with the resident caribou (e.g., see Fienup-Riordan 1994:50-62; Loring 1997:185-186) probably eliminated a key constraint against overhunting that may well have obtained in their own homelands (cf. Sonne 1988:129-130). Nunivak oral history accounts about caribou hunting contain numerous remarks describing the disrespect shown to the animals by outside hunters, who were collectively condemned for such things as "throwing [the caribou] around" and cutting them up with axes (Kolerok and Kolerok 1991d), or taking only the skins and leaving the meat to rot (Van Stone 1989:10).

The Nunivak caribou herd's rapid and irreversible decline was triggered by overhunting (beginning in the mid-1870s) and further hastened by the heavy winterkill of 1879-1880. Other factors in this decline may have included disease, wolf predation, tundra wildfires, range depletion/overgrazing, and natural population cycles (e.g., see US DOI 1949:44-45).²¹ In fact, caribou population

"lows" were common throughout much of Alaska in the 1890s (e.g., Burch 1972:356-357; Skoog 1968:356-359) and this may have been true for Nunivak as well. In any event, the severely reduced population—if not the total loss—of this critical resource may have been a contributing factor, along with European epidemic diseases, in the massive reduction of the island's indigenous human population between ca. 1880-1900 (cf. Burch 1994:172). I have consistently argued (i.e. Pratt 1990:80; 1997:20-23; US BIA ANCSA 1995(I):22; cf. Griffin 1999:180-181) that none of the pre-1900 population estimates reported for Nunivak were based on a comprehensive census of the island and, as a result, all of those estimates under-reported the actual population. My work on this subject convinces me that the pre-1900 *Nuniwarmiut* population exceeded 1,000 people; in fact, I believe 1,200 is a reasonable estimate for that population. This comparatively large population was made possible by the island's diversified, predictable resource base (cf. Burch 1972:364-365)—the richness of which essentially accorded caribou, sea mammals, fish and birds equal importance in the pre-1900 *Nuniwarmiut* economy. Calculating a population of 1,200 against my estimate of the island's area (i.e. 6,150 km²) yields a human population density of 0.195 people per km². This figure exceeds that of any of the seven Eskimo groups considered by Burch (1972:350 [Table 2]). Because my estimate of the pre-1900 *Nuniwarmiut* population is predicated on a highly diversified and reliable resource base (of which caribou were just one part), the Nunivak data provide indirect support for Burch's (1972:366) rejection of the assumption that "an abundance of [caribou] makes possible a human population of relatively high density."

Nunivak Island and human population dynamics

Outsiders' journeys to Nunivak for caribou hunting also raise interesting questions about mid-to-late 19th century intergroup relations and population movements, particularly since there is no evidence that conflicts occurred between the hunters of different "outside" groups that converged on the island. This apparent lack of conflict could potentially be the result of alliances formed by outside groups to overwhelm the *Nuniwarmiut*. Such a strategy would not only have minimized conflicts between members of the different outside groups, but also would have discouraged the *Nuniwarmiut* from taking offensive actions against those people. Then again, perhaps caribou were so valuable a resource (for food, tools, clothing and/or trade) to the involved Iñupiaq and Yup'ik peoples²² that animosities which may have existed within or between these populations were set aside for the sake of successful hunting, even if success required co-utilization of the resource area. It is also possible that tolerance between groups sometimes increased when famine conditions or widespread resource shortages occurred, as suggested by the following account.

²¹ Although the figure is open to debate, the optimal carrying capacity of the island with respect to the modern reindeer herd is estimated to be about 3,500 animals (US DOI 1949:46).

²² By "Yup'ik peoples" I mean Yup'ik speakers from any or all of the following areas: Norton Sound, the Yukon-Kuskokwim mainland, and Bristol Bay.



About the middle of March, 1880, between Cape Nome and Sledge island, I found a village occupied by a mixture of people from King island in Bering strait, Sledge Island, and others from different parts of Kaviak peninsula. These people had united there and were living peaceably together in order to fish for crabs and tomcods and to hunt for seals, as the supply of food had become exhausted at their homes" (Nelson 1899:24-25 [emphasis added]).

Readers familiar with Bering Straits socio-territorial groupings may downplay the potential significance of the above passage, because people from all of the areas named are generally recognized as having been allied to one another. Those relationships were also known to Nelson (1899:26), so the fact that he considered the situation unusual enough to comment on suggests the unspecified "others" at the village were *not* traditional allies of the named peoples. While this interpretation is open to question, the possibility that such situations were not uncommon (particularly after ca. 1850) is suggested by Ray's (1964:64) assertion that, "At times of famine everywhere [around Bering Strait], the kinship and tribal boundaries expanded to allow greater latitude of interaction."

Returning to the Nunivak case, specifically, how did trade factor into the equation? There is no doubt that some Iñupiaq groups had pre-existing trade relationships with Yup'ik groups on the Yukon-Kuskokwim mainland (see Foote 1965:111-112; Griffin 1996:98-101; Ray 1964:63-64, 86-87; 1967:390; Zagoskin 1967:100-102, 125; cf. Ray 1964:86), and possibly even with the *Nunivarmiut* (cf. Griffin 1999:198-200). The most compelling information on this subject is contained in the journals of the Russian Orthodox priest Iakov Netsvetov, which reports Malemiut at or enroute to the lower Yukon village of Pastolik in July of 1845, 1847, 1849 and 1851 (Black 1984:2, 38, 152, 262; cf. Griffin 1996:99-101). The fact that the July 1849 Malemiut contingent consisted of 13 baidaras (Black 1984:152) clearly implies that trade was an objective of their trip to Pastolik. The existence of such trade relationships would have facilitated the movement of Iñupiaq hunters to Nunivak; they might also explain some very interesting facts culled from the 1900 census. To wit, birth records contained in that census indicate Iñupiaq *families* were living along the lower Yukon River and on Nunivak Island for relatively significant amounts of time in the second half of the 19th century. Between 1874-1881, at least four Iñupiat (whose group affiliations were listed as "Kavaigmiut" [i.e. *Qawiaragmiut*]) were reportedly born on Nunivak (cf. Griffin 1999:199), and another twelve members of this group are reported to have been born in lower Yukon villages between 1859-1899 (U.S. Census Office 1900). The census schedule for Pikmiktalik (just north of the Yukon River mouth) provides further evidence of an Iñupiaq migration to the lower Yukon area in the late 1800s: virtually the entire community was composed of *Qawiaragmiut* in 1900.

On yet another front, a recent study of human remains being prepared for repatriation to Nunivak Island yielded additional, intriguing information relative to this question: i.e. it suggested "some biological affinity between the protohistoric and historic inhabitants of Nunivak Island and people from the Norton Sound region" (Street 1996:49). Overall, the study results were described as making "... a strong case for the presence of complex population dynamics among historic groups in the Bering Sea region and [they] specifically illustrate some type of sustained interaction between Nunivak Islanders and groups as far away as Norton Sound" (Street 1996:49-54). Also of interest is the finding that some skeletal elements in the Nunivak sample may be the remains of St. Lawrence Islanders (Street 1996:6-7); but this does not prove those people were on Nunivak. Labeling or cataloguing errors—by the collectors or by museum personnel—could have caused the subject remains to be mistakenly included in the Nunivak sample (Steven Street, personal communication, 2/01).

Since many people on Seward Peninsula are thought to have been bilingual (i.e. they spoke both Iñupiaq and Yup'ik [see Ray 1964:85-86]), linguistic ties may also have facilitated the movement of caribou hunters from northwest Alaska to Nunivak Island. In the early 1800s, a continuous band of Central Yup'ik Eskimo speakers probably occupied the coastline from Bristol Bay northward to the Golovin Bay area of Seward Peninsula.²³ But the situation had changed significantly by 1850 due to the southward movement of Iñupiaq speakers into the Norton Sound area (e.g., Ray 1967:389-391; Woodbury 1984:52); consequently, the actual distribution of Yup'ik speakers between the Yukon River mouth and Golovin Bay at that juncture is poorly understood. Linguistic research has revealed evidence suggestive of past (sustained) contact between human populations of the Bering Strait area and Nunivak Island. According to Jacobson (1984:36), the Nunivak dialect is the most divergent of all Central Yup'ik dialects: it shares a major trait "with the nearly extinct Siberian Yup'ik Sirenik language and with Aleut"—and "has many words found nowhere else in Eskimo, and some words found also in Alutiiq but not elsewhere in Eskimo" (cf. Jacobson 1998:205). The highly unique character of the dialect suggests Nunivak Island may have been a crossroads for Native populations of the Bering Sea region, as a whole, long before the onset of the 1870s caribou rush (cf. Garber n.d.).

Uni-Directional oral history documentation

It is of considerable interest that the late 19th century movement of Bering Straits people to Nunivak Island for caribou hunting evidently has not been documented in oral history accounts

²³ Woodbury (1984:52) contends that: "... in prehistoric times, Yup'ik languages [of Alaska and Siberia] almost certainly were spoken all the way across Seward Peninsula. Since the Bering Strait is known to have been crossed regularly by Eskimos from both sides, this must have amounted to a continuous Yup'ik-speaking region from Siberia to the southern parts of Alaska."



from that region.²⁴ Assuming they were even aware this had occurred, researchers simply may not have asked Bering Straits people questions about this subject. Then again, maybe their ancestors' travels to Nunivak for caribou hunting are not part of the remembered history of Bering Straits Natives. If so, this situation would be comparable to that described by Schweitzer and Golovko (1997) concerning memories of warfare—reported to date to before ca. 1850—between Siberian and Alaskan natives. They discovered that peoples on opposite shores of the Bering Strait hold contradictory memories of this warfare: i.e. Siberian attacks on Alaska are well documented in Alaskan Iñupiaq communities but completely unknown to Natives on the other shore (Schweitzer and Golovko 1997:1-3). The solution these authors offered for this puzzle is built around the term “memoryscapes” (see Nuttall 1992:39) which, in this context, “means that important events, such as warfare activities, are not just remembered in the abstract but with spatial reference to the places of their occurrence” (Schweitzer and Golovko 1997:4). That is, attackers/invasers are more likely to forget details of the associated events than are the victims whose homelands were attacked/invased. In a recent paper on the subject of Siberian-Alaskan warfare, Sheppard (2001) takes this idea a

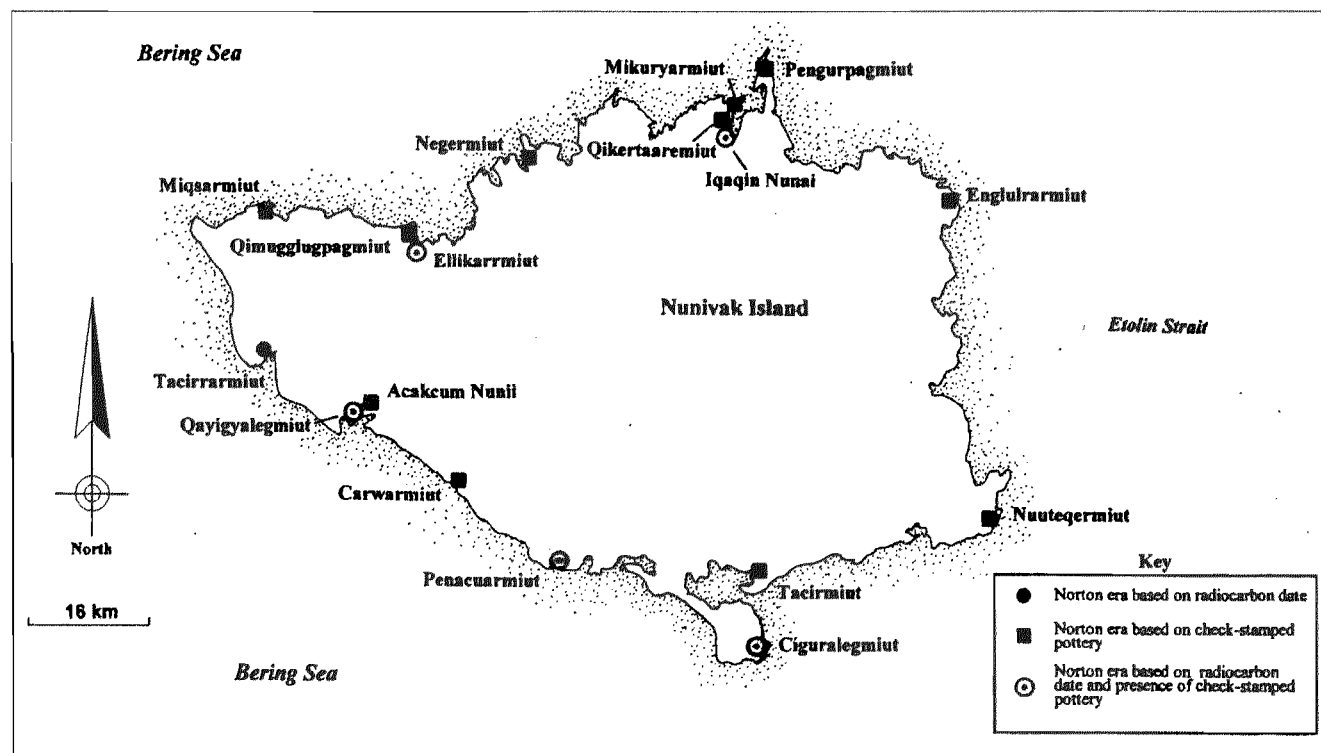
step further. He suggests that differences in memories of warfare across the Bering Straits are better explained by the fact that Siberian attackers were composed strictly of male warriors, whereas the Alaskan defenders were essentially entire communities (i.e. men, women and children). Therefore, over time, far more Alaskans than Siberians would have had memories of these events to pass down to future generations. This idea can also be applied to the Nunivak case. Together, these linked concepts may help explain the lack of information in the oral histories of Bering Straits peoples about their forebears' caribou hunting excursions to Nunivak Island during the second half of the 19th century.

IMPLICATIONS FOR NUNIVAK'S PREHISTORY

It is commonly accepted among Alaskan archaeologists that the earliest inhabitants of Nunivak belonged to the Norton tradition (e.g., Dumond 1987a:125-127; Griffin 1999:76-93; Nowak 1982:75; 1986a:165; Oswalt 1967:250; cf. Shaw 1982:61), meaning that human occupation of the island dates back no further than about 2,500 years before present. But our knowledge of Nunivak's prehistory (like that of the adjacent mainland [e.g., see Dumond 2000:16]) is so limited that few hard and fast statements concerning this subject can be supported with the available evidence. For example, Nowak's (1986a:166) speculation that more people lived on Nunivak in the late prehistoric period than during the Norton

²⁴ This includes the following: over 150 oral history interviews with Bering Straits people by ANCSA 14(h) (1) researchers; independent oral history research done in the region by Ernest S. Burch, Jr., Matt Ganley, Charles Lucier, and Bill Sheppard; and published works by Dorothy Jean Ray (1964, 1967, 1975) and Kathryn Koutsky (1981) which relied heavily on oral sources.

Figure 10: Norton-era sites on Nunivak Island. (Sources: Collins 1928; Griffin 1999; Nowak 1967, 1970, 1986b; US BIA ANCSA 1995)



period must be considered groundless, because it can be neither confirmed nor refuted (US BIA ANCSA 1995(1):22; cf. Shaw 1998:242).

BIA investigations on Nunivak produced evidence that Norton occupations of the island were more widespread than previously thought²⁵ (Figure 10; Table 3) and *circumstantial* evidence (e.g., the proximity of major inland sites to coastal sites with major Norton components) suggests those occupations included an inland orientation associated with caribou hunting (cf. Dumond 2000:5). This is significant because on the American coast of the Bering Sea “insular areas such as Nunivak” are claimed to have been initially occupied by Norton peoples (moving southward from the Bering Strait area) who strongly emphasized the harvesting of littoral resources (Dumond 1987a:126-127; cf. Nowak 1982:87 [Nos.1 and 4]). Consistent with this viewpoint, on the adjacent Yukon-Kuskokwim mainland the earliest stages of the Norton tradition have been almost exclusively correlated with coastal adaptations (e.g., Okada et al. 1982:26; Shaw 1983:358-359; cf. Fienup-Riordan 1988:472 [note #91]). This is curious in light of excavation results from *Kaumllillermiut* (the so-called “Manokinak Site” [MAR-007]), which is located about 35 km inland from the coast and reportedly contains a major Norton component in which caribou bones are abundant (Shaw 1983:356-364). Thus, the implication is that—in the Yukon-Kuskokwim region—caribou **were not** a major resource in Norton times. The lack of consideration given to caribou as a human resource in these discussions also implies these animals had little significance in the subsistence economies of later “Thule” peoples (Norton’s successors), who are thought to have been even more focused on littoral resources (e.g., Dumond 1987a:127; 1987b:46; Griffin 1999:80-83). Notwithstanding the paucity of archaeological data supporting it, this view of the regional prehistory has not previously been challenged.

²⁵ Counting the recent work by Griffin (1999), there are now 17 sites on Nunivak that have either been dated to the Norton era or are known to contain check-stamped pottery—a commonly recognized marker of the Norton Tradition (e.g., Dumond 2000:2-6; Shaw and Holmes 1982:5-6). Of those that have been dated, at present the two oldest sites are *Penacuarmiut* (2670±220 BP) and *Ellikarmiut* (2580±40 BP) [see Table 4 for calibrations of these dates].

Site Name	ANCSA Site Number	State Site Number	Other Designation
<i>Mikuryarmiut</i>		XNI-001	"Koot" (Collins 1928)
<i>Pengurpagmiut</i>		XNI-015	EN-1 (Nowak 1967)
<i>englurarmiut</i>	AA-11346	XNI-016 [XNI-059]	CM-1 (Nowak 1967)
<i>Nuuteqermiut</i>	AA-9250	XCM-014 [XCM-029]	CC-1 (Nowak 1967)
<i>Tacirmiut</i>	AA-9260	XCM-002 [XCM-060]	DT-1 (Nowak 1967)
<i>ciguralegmiut</i>	AA-9270/AA-9318	XCM-001	ML-1 (Nowak 1967)
<i>Penacuarmiut</i>	AA-9281	XCM-005	
<i>Carwarmiut</i>	AA-9285	XCM-004 [XCM-084]	
<i>Qayigyalegmiut</i>	AA-9288 et al.	XCM-012 [XCM-086]	
<i>Acakcum Nunii</i>	AA-9324	XNI-080	
<i>Tacirarmiut</i>	AA-9292 et al.	XNI-084 [XNI-085]	
<i>Miqsarmiut</i>	AA-9299 et al.	XNI-101	MT-2 (Nowak 1986b)
<i>Qimugglugpagmiut</i>	AA-9303 et al.	XNI-003 [XNI-097]	
<i>Ellikarmiut</i>	AA-9303 et al.	XNI-003 [XNI-096]	
<i>Negermiut</i>	AA-9310	XNI-007	NT-1 (Nowak 1967)
<i>Qikertaaremiut</i>		XNI-027	MK-4 (Nowak 1967)
<i>Iqaqin Nunai</i>		XNI-028	MK-2 (Nowak 1967)

Table 3: Designations of Norton-era sites on Nunivak Island

The Nunivak data on caribou hunting indicate serious revisions to this model are needed. Logic, and the opportunistic tendencies of Eskimo peoples, indicates that if caribou were present they were also being harvested, regardless of the “orientation” of the culture (cf. Taylor 1966:119; Zagoskin 1967:222); and the evidence shows that caribou were present on Nunivak in Norton (Griffin 1999:156; Nowak 1982:80 [Table 1]; 1986a:159, 166), “Thule” and historic times. Unfortunately, testing of stone features at several interior sites in 1986 and 1991 failed to produce diagnostic artifacts or organic materials suitable for dating, and a lack of necessary baseline data on lichen growth rates in the region precluded lichenometric dating of these features. But a test at an unnamed site in the island’s eastern interior produced caribou/reindeer bone, a trade bead, and a percussion cap. Another excavation at *Ingrilukat Nasqurrat*, virtually in the island’s center, yielded a percussion cap, a quantity of caribou/reindeer bone, two portions of tobacco tin lids, and a brass screw fitting (Diters 1986). These results reveal little about the antiquity of these sites, other than indicating both were evidently in use by the late 19th century. Also, unless their presence is arbitrarily attributed to non-local hunters, the discovery of percussion caps at these sites challenges the accuracy of the assertion that “Bows and arrows were the only



weapons used [by the *Nuniwarmiut*] in hunting caribou" (Van Stone 1989:10).

Still, the proximity of the most extensive caribou hunting sites (e.g., *Qiurtuli*, *Siimaleg*, *Entuli*) to major coastal settlements with early Norton components (e.g., *Ellikarrmiut*, *Penacuarmiut*) makes it inconceivable to me that Norton peoples did not use the island's interior; and there is no reason to assume this use (and the associated exploitation of caribou) was ephemeral or non-intensive (cf. Shaw 1983:359; 1998:241-242). Most of these coastal settlements are located at the mouths of substantial rivers, the drainages of which afford easy access to the interior. Thus, considered together with the fact that permanent village sites with early Norton components (e.g., *Ciguralegmiut* [dated at 2260 \pm -80 BP (see Table 4)]) also occupy highly exposed settings, the claim that "an expansion away from 'sheltered embayments'" did not occur on Nunivak until post-Norton times (Nowak 1986:166; cf. Shaw 1983:358-359; 1998:241) is not tenable.

In fact, systematic survey and testing of interior sites—and extensive testing of selected coastal sites—would very likely yield evidence of pre-Norton occupations of Nunivak (cf. Nowak 1982:87 [No. 5]; Van Stone 1989:2): that is, occupations associated with the Arctic Small Tool tradition (ASTt), in the restricted sense of the term. After all, ASTt assemblages (see Irving 1964; 1970) have been found from Greenland to the Alaska Peninsula (e.g., Dumond 1987a:79-93; 1998:62; Knuth 1954; Pilon 1994; Stanford 1971; cf. Maschner 1999:89-93), and possibly even to Unalaska (Knecht and Davis 2000). Furthermore, testing by BIA ANCSA archaeologists at the lower Yukon River site of *Ingrimiut* (an Eskimo village located about 32 km upstream from Russian Mission) produced charcoal that was radiocarbon dated at 3530 \pm -390 BP (see Table 4), squarely within the ASTt period. Given all of this, there is good reason to expect that evidence of ASTt occupations eventually will be found on Nunivak Island, as well as on the adjacent Yukon-Kuskokwim Delta.

COMPARATIVE CONSIDERATIONS

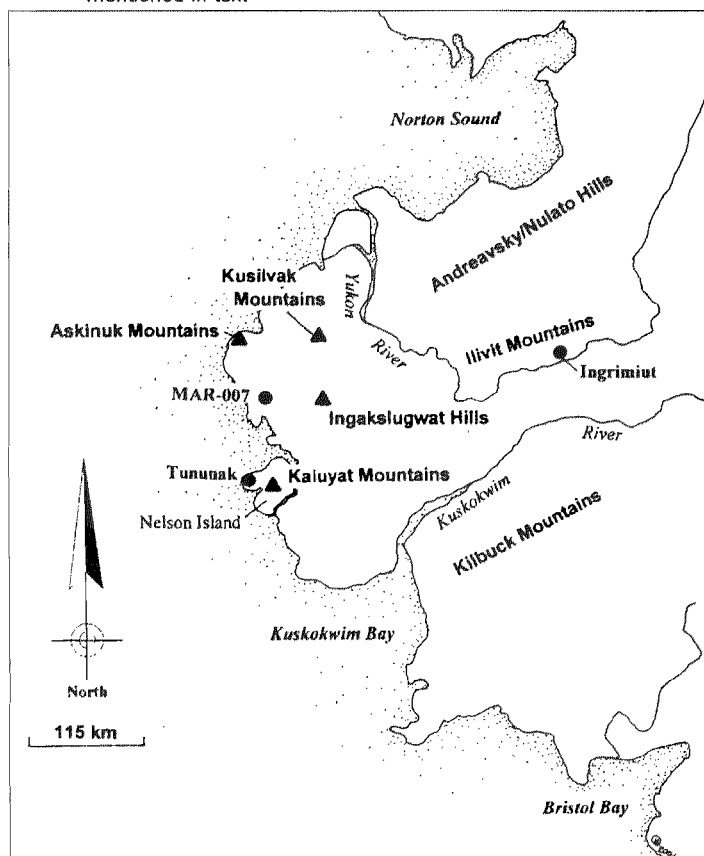
The Yukon-Kuskokwim Delta

There is no doubt that caribou were also important to indigenous populations in the Yukon-Kuskokwim Delta, proper. Research focused on this issue could take several paths, the most promising of which begins with perusal of the collection of roughly 1,000 oral history tapes recorded with elders of this region during implementation of the ANCSA 14(h)(1) program, from 1975 to the present. Although largely unprocessed, some of these tapes are known to contain references to caribou—including information about hunting tactics and utilization of the animals (e.g., Polty 1985; Post

1984a, 1984b), shelter locations (e.g., Post 1984a), and harvest sites (Kurtz 1983). Oral history research with contemporary elders might yield additional information on caribou exploitation (e.g., see McClenahan and Andrew 1998). And there is a high probability that physical remains associated with caribou hunting—including stone shelters analogous to those on Nunivak—would be discovered through archaeological surveys in each of the following areas: the Kaluyut Mountains on Nelson Island; the Ingakslugwat Hills (cf. Shaw 1983:361-362); the southern Andreafsky/Nulato Hills; and the Ilivit, Kusilvak, Askinuk (cf. Fienup-Riordan 1984:74 [Note #6]), and Kilbuck mountains (Figure 11). In fact, as late as ca. 1870, one caribou herd was known to follow a common migration route from Norton Sound to the Kilbuck Mountains, and back, that could have taken the animals through any or all of the areas named above (see Murie 1935:61; Skoog 1968:228).

We know caribou occupied the delta historically (e.g., Dall 1870:229-230; Fienup-Riordan 1988:8; Nelson 1887:285; Oswalt 1952:48; 1967:127; Van Stone 1973:60, 64; Zagorskin 1967:99, 112-113, 222, 240), although their numbers and range no doubt fluctuated on a regular basis (e.g., Skoog 1968:219-221, 226-233). Following Skoog (1968:219), it is also reasonable to postulate that the existence of a caribou herd on Nunivak Island indicates a large population of caribou on the adjacent mainland at some time in

Figure 11: Selected Yukon-Kuskokwim Region sites and places mentioned in text



Site Name	ANCSA Site No.	State Site No.	Lab ID	¹⁴ C Age B.P.	Material	Calibrated Age (2 sigma)
<i>Penacuarmiut</i>	AA-9281	XCM-005	BETA-18591	2670+/-220 charcoal	Charcoal	BC 1398-358
<i>Ellikarmiut</i>	AA-9303 et al.	XNI-003 [XNI-096]	BETA-10071	2580+/-40 wood	Wood	BC 827-755
<i>Ciguralegmiut</i>	AA-9270/AA-9318	XCM-001	BETA-18589	2260+/-80 charcoal	Charcoal	BC 515- 90
<i>Ingrimiut</i>	AA-12374	RUS-008	BETA-18572	3530+/-390 charcoal	Charcoal	BC 2884-969

Table 4: Calibrations of radiocarbon dates mentioned in text. (Sources: Stuiver et al. 1998; Stuiver, Reimer and Braziunas 1998)

the past. Nelson's (1899:383) eyewitness report that caribou bladders were present at the *Qissunaq* [Kashunuk] Bladder Festival in 1878 suggests huntable populations of caribou may have remained in some areas of the Yukon-Kuskokwim mainland until ca. 1880. (But, it is also possible that the bladders in question resulted from *Qissunaq* hunters harvesting caribou on Nunivak Island.) Finally, caribou remains have also been recovered in every significant excavation performed to date on the Yukon-Kuskokwim mainland: i.e. Hooper Bay (Oswalt 1952:61-62, 73); *Kaumillillermiut* [MAR-007] (Shaw 1983:303); and Tununak (Okada et al. 1982:20). Future excavations in this archaeologically under-studied region will no doubt shed additional light on prehistoric human use of caribou.

The long-standing tendency of anthropologists to overlook the role of caribou to specific cultural groups in this region is well-illustrated by information presented about the *Qaluyaarmiut* [people of Nelson Island] in Okada et al. (1982). The crew's ethnographer (i.e. Oka 1982:38) concluded that *Qaluyaarmiut* terms for the months of September and October were both related to caribou (cf. Jacobson 1984:670; Zagoskin 1967:231), and its archaeologists documented caribou remains in excavations on the island. Nevertheless, the final project report fails to consider the possibility that these animals were actively hunted by the *Qaluyaarmiut*, asserting instead that the people depended "on trade with their inland neighbors for large game products such as caribou" (Okada et al. 1982:26). No explanation is given for how caribou remains found in archaeological contexts were determined to derive from trade; but the paired assumption that caribou products must have come from the *Qaluyaarmiut*'s 'inland neighbors' indicates the researchers were completely unaware that caribou once flourished on Nunivak Island, and also are reported to have inhabited Nelson Island (Skoog 1968:228-229; US Census Office 1893:110).

To fairly assess the role of caribou in prehistoric Eskimo economies of the central Bering Sea region requires that researchers: (1) apply greater critical objectivity to past findings; (2) avoid making sweeping generalizations based on extremely limited data (unless it is acknowledged that that is what is being done); and (3) actively seek out unpublished information.²⁶ In other words, solid research and scholarship is needed. Further archaeological research is also vital to this process; however, progress on this front may be slow since many of the most promising areas for such research are difficult and expensive to access.

Bering Sea and North Pacific Islands

The Nunivak data have important implications for research *outside* the Yukon-Kuskokwim region, as well, particularly at other insular settings whose Native occupants are also assumed to have lacked inland orientations (refer to Figure 12). For different reasons, the two most promising islands in this regard are St. Lawrence and Unimak. But Amak Island, Deer Island, and the Shumagin Islands—especially Unga—merit obvious attention based on reports that caribou were found there in precontact and/or historic times (Black 1998:128; Skoog 1968:218-221).

The presence of caribou on these outlying islands is significant, because it implies a large population on the [Alaska] Peninsula itself. It seems doubtful that caribou would swim the 5-15 miles [3-10 km] necessary to reach these islands unless population pressures were fairly high on the mainland; of course, the animals might have

²⁶ A good example is the BIA ANCSA 14(h)(1) collection (see Pratt 1992), from which much of the information presented in this paper derives. Just because the vast majority of the information contained in this collection has never been published does not mean that it is inaccessible or unavailable for use (cf. Shaw 1998:236-237); it simply means researchers interested in mining its substantial depths will have to devote extra time and effort to their work.



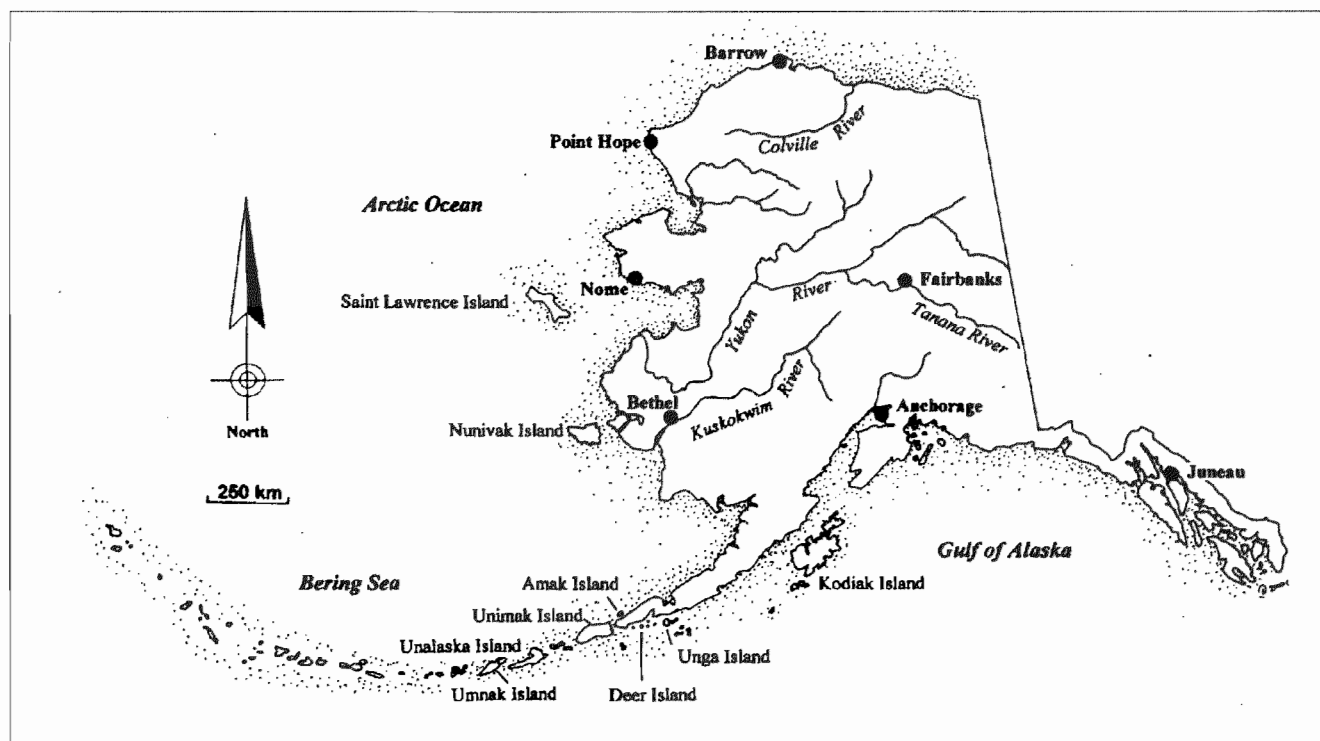


Figure 12: Map of Alaska showing islands where interior surveys are recommended

crossed via the ice-pack during an exceptionally cold winter (Skoog 1968:219).

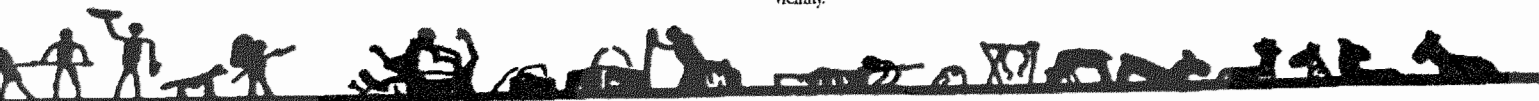
The possibility that the Bering Land Bridge may have afforded caribou access to the present-day islands of Unalaska and Umnak (e.g., see Laughlin 1967:429 [Fig. 4]) make them intriguing candidates, as well. And, finally, Kodiak Island also deserves some consideration as a former home for caribou.

It is noteworthy that stone shelters/houses virtually identical to those found on Nunivak have also been recorded on Seward Peninsula (e.g., Schaaf 1995:110 [Figure 3.8], 231 [Figure 4.2], 240-244) and St. Lawrence Island (Bandi 1995:178 [Figure 10]). Most of those on Seward Peninsula are located atop prominent buttes or volcanic cinder-cones and are explained in association with caribou hunting activities (see Powers et al. 1982:56-63; Schaaf 1988:249-260). However, these site settings—combined with ethnohistorical accounts about territoriality and intergroup conflicts—have also led one researcher to conclude that some Seward Peninsula stone features were built for defensive purposes, related to conflict over caribou resources (i.e. Schaaf 1995:109, 288-300; cf. Powers et al. 1982:60; Schaaf 1995:290). Evidence offered in support of this conclusion is purely circumstantial. Similar features found on St. Lawrence Island have been *exclusively* interpreted as defensive structures built in response to Native intergroup warfare (Bandi 1995:176-180). One point must be made explicitly clear: there is *no evidence whatsoever* to suggest that stone shelters on Nunivak Island were built for defensive purposes

or used in association with warfare. And the fact that warfare took place on St. Lawrence Island and the Seward Peninsula does not constitute evidence that stone features recorded in those areas result from such activity. It seems warfare is increasingly (and probably unjustifiably) invoked to explain archaeological anomalies and/or complex ethnohistorical problems that cannot be resolved with the available evidence. The St. Lawrence case exemplifies this tendency.

Although lacking firsthand knowledge of the sites, Native “helpers” offered Hans-Georg Bandi two different explanations for St. Lawrence sites containing stone shelters. Bandi logically dismissed the idea that these sites might have been used exclusively for bird hunting and egg gathering²⁷—but he readily embraced the equally problematic suggestion that they “were hiding places and lookouts in case of attack from the sea” (Bandi 1995:178-179). His interpretation that these were defensive sites, exclusively, is evidently based on the fact that they occupied high-ground areas not visible from the seashore (1995:177-180). Yet, some of the sites in question contained at least 50 stone shelters! Bandi fails to explain why people intent on defending against enemy warriors would have built such a large number of *separate* structures at a site as opposed to massive stone walls or enclosures that could potentially afford protection for the entire group. More importantly,

²⁷ Nunivak Island cliff formations that were extensively used for bird hunting and egg gathering contain only a handful of such shelters (Pratt 1990; US BIA ANCSA 1995 [2-3])—despite intensive, repeated use of the areas and an abundance of stone in the immediate vicinity.



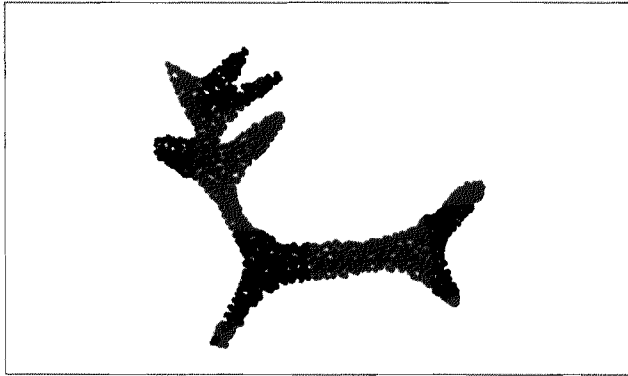


Figure 13: Kodiak Island petroglyph (after Knecht 1991)

however, his interpretation is not supported with hard evidence of any type (cf. Mason 1998:301-302). In sum, neither warfare nor bird hunting/egg gathering activities—alone, or in combination—seem to adequately account for the presence of sites with large numbers of stone shelters.

Could caribou hunting activities account for some of the stone structures on St. Lawrence Island? The literature consistently expresses the view that caribou were never present on that island (e.g., Bandi 1995:170-171; Collins 1937:247; Hughes 1984:262-277; Nelson 1887:285; Taylor 1966:116; cf. Crowell 1985:15; Murie 1936:345); however, this appears to be an unchallenged assumption, as opposed to an established scientific fact. Evidently, the possibility that caribou may have once inhabited the island has also never been explored through oral history research. Is there some compelling reason why caribou could *not* have reached or survived on St. Lawrence at any time in the past? Initial access to the island could have been via either the Bering Land Bridge or pack-ice. And St. Lawrence was certainly capable of supporting caribou: this is indicated by the reported increase of a group of 70 reindeer introduced in 1900 to a population estimated at 10,000 animals by the mid-1930s (Geist and Rainey 1936:6; cf. Hughes 1984:263-264). As a whole, these points suggest that 'looking inland' on St. Lawrence Island has potential to yield significant results.

The same can be said for the Aleutian Island of Unimak. The long-term presence of caribou on Unimak is well known (see Nelson 1887:285; Skoog 1968:218-226) and it is logical to assume that its indigenous residents not only hunted these animals but also established interior sites in the process. Certainly, such sites will eventually be found on the island. The possibility that Unimak, Unalaska, and Unnak islands were formerly parts of a single landform (see Black 1981:330-331 [Notes 11, 12]; Laughlin 1967:427-431) also should not be ignored; because, if true, then Unalaska and Unnak may have also harbored caribou in the distant past. Not surprisingly, none of these islands have been subjected to interior surveys.

Finally, some comments are necessary about caribou and Kodiak Island. At least one reference in the literature (i.e. Black 1992:165) suggests caribou were an important resource to the Kodiak people at the time of European contact. This is supported by the common occurrence of caribou antler and bones in archaeological sites on the island, the presence of which is thought to be the result of extensive, local trade with Alaska Peninsula peoples (e.g., Fitzhugh 1996:177; Jordan and Knecht 1988:261, 267; Steffian 1992a:158-160; 1992b:125-127). Alternatively, perhaps Kodiak Islanders regularly engaged in caribou hunting on the peninsula? Also intriguing is the documentation of petroglyphs on the island's southern tip depicting land animals among which "some horned form is suggested" (Heizer 1956:288). It is difficult to interpret a recent image of one of these petroglyphs (Knecht 1991) as anything but a caribou (Figure 12). This is hardly compelling evidence that caribou once occupied Kodiak, but consider a few other points. Kodiak's distance from the Alaska Peninsula mainland is nearly identical to that of Nunivak from the Yukon-Kuskokwim mainland. Thus, despite the lack of historic evidence for pack ice formation in the area, it may be within the realm of possibility that caribou crossed what is now Shelikof Strait and reached Kodiak at some point in the distant past (cf. Skoog 1968:207; Spiess 1979:33)—just as bears did. One Kodiak specialist has cautiously acknowledged this possibility by suggesting that the presence of caribou on the island during early prehistoric times, "could provide a functional explanation for the endurance of a typical mainland microblade and bifacially flaked projectile point industry through [the Ocean Bay] period, and the decrease in frequency of these implements through time" (Fitzhugh 1996:178; cf. Guthrie 1983). Their meager scope notwithstanding, these points hint that Kodiak Island might have held caribou in prehistoric times. Once again, interior investigations could shed light on this question.

CONCLUSION

It appears that many anthropologists concerned with Alaska remain advocates of the outdated Nunamiut (inland people)/Tagiugmiut (coastal people) model of human ecological adaptation developed for northern Alaska (see Larsen and Rainey 1948:24-36; Spencer 1959), despite ample warning that it is an oversimplification (e.g., Burch 1976; 1980:253-258; 1998:3, 8-11, 307-308). Worse yet, anthropologists have essentially applied this model (consciously or otherwise) to every region of Alaska occupied by Eskimo and Aleut peoples. Research concerning insular Eskimo and Aleut groups, in particular, is so biased toward "coastal" adaptations that the possibility these people may have had inland orientations has been almost completely disregarded (cf. Hanson and Staley 1984; Pratt and O'Leary 1999). With rare exceptions (e.g., Dall 1896:6-7), the published literature implies that even intra-island travel by these groups was restricted to coastal routes and watercraft. As an esteemed colleague once noted: "To find a quark you have to look for a quark." Similarly, I contend that it is



unscientific for anthropologists to perpetuate the assumption that Alaska's island-dwelling Eskimos and Aleuts have, since time immemorial, "lived by the sea, and died by the sea" without first making an effort to research the interior margins of their territories.

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Kenneth L. Pratt

KennethPratt@bia.gov

Bureau of Indian Affairs, ANCSA Office,
2101 E. 63rd Avenue, Anchorage, AK 99523

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ALEUT IDENTITIES AND INDIGENOUS COMMERCIAL ECONOMIES:

LOCAL RESPONSES UNDER GLOBAL PRESSURES IN THE EASTERN ALEUTIANS

Katherine L. Reedy-Maschner

Abstract: Aleut villages on the lower Alaska Peninsula and eastern Aleutian Islands are facing economic collapse and out-migration with increasing restrictions on the commercial fisheries. Commercial fisheries are not only the sole economic means of survival, but participation in all aspects of commercial activities provides community cohesion, family solidarity, and individual fulfillment. This paper traces the importance of individual success to cultural success, and specifically the importance of these fisheries to individual, community, and ethnic identity. Through these levels of identity, this paper follows the circumstances surrounding disruptions in the fisheries and considers the relationships between sociocultural change, the economy, the success of traditional activities, social opportunities for individuals, and locally-defined stress during a time of dramatic imposed change in order to untangle these complex problems of both local and macro-regional importance.

Key Words: Aleut identity, commercial fisheries, King Cove.

INTRODUCTION

Rapid social, cultural and economic change is accelerating in Native Aleut¹ villages of the Alaska Peninsula and Aleutian Islands but little social research has been published on the Aleut for decades. The fisheries that Aleuts depend upon for survival are in decline or subject to profound restrictions and Eastern Aleut villages are in danger of disappearing along with the commercial industries. Aleut identity and community vitality must be analyzed in the context of this rapidly transforming environment. This paper examines how multiple levels of identity are constructed and maintained and how global forces are felt at the local level through an understanding of Aleut social and cultural values, socioeconomic success and vulnerability, and individual well being.

While subsistence studies abound throughout Alaska (e.g. Anderson *et al.* 1998; Condon, Collings, and Wenzel 1995; Fall *et al.* 1993a, 1993b; Fall and Stanek n.d.; Fall, Walker and Stanek 1990; Freeman 1993, 1997; Kruse 1991; Langdon 1986, 1991; Veltre and Veltre 1981a, 1981b; Wolfe *et al.* 1984; Wolfe and Walker 1987; numerous technical reports and grey literature), relatively few investigations of the importance of commercial industries to Alaska Native communities exist (e.g. exceptions are Black *et al.* 1999; Langdon 1986, 1991; Veltre and Veltre 1987; Wolfe 1984). In regards to commercial fisheries in Alaska, there are several treatises on non-Native men and women in the industry (e.g. Allison, Jacobs, and Porter 1989; Fields 1997; Gatewood 1983; McGoodwin

1990; McCloskey 1998), but one is harder pressed to find a study on the importance of commercial fisheries to Alaska Natives (see exceptions Langdon 1986; Mishler and Mason 1996; Palinkas 1987; Wolfe 1984). An understanding of the transition from subsistence to commercial industries among indigenous societies worldwide is important to anthropology given a global trend towards cash-based economies, but has largely been ignored in favor of more Boasian searches for the remnants of the primitive. While some societies produced surpluses for social and ceremonial occasions, such as yams and pigs of the Tsembaga-Maring (Rappaport 1968) or salmon for competitive feasting on the Northwest Coast (e.g. Codere 1950), societies worldwide have produced surpluses for the purposes of barter or sale. For example, Aka Pygmies sell game and agricultural products to Bantu and neighboring farmers (Bahuchet and Guillaume 1982); the Nuer sell their cattle as payments of fines, debts, and as bride prices in marriage (Evans-Pritchard 1956); and the Hopi commercialized their traditional ceramics and kachinas that are sold on the Hopi Reservation in Arizona and across the southwestern United States.

In Alaska, as is often the case worldwide, subsistence has become synonymous with tradition in anthropological discussions, though most Alaska Natives have commercialized some aspects of their traditional economy, be they skin sewers, ivory carvers, net hangers or commercial fishermen. These developments, though not a replacement of subsistence, are of particular importance to our understanding of Alaska Native peoples who have made forays into international markets with the commercialization of traditional foods and crafts while retaining them for their own use. Some portrayals of commercialization are presented as Native Alaskans responding to unwelcome economic intrusions, with their success

¹ I use the term *Aleut* since almost every reference, both historic and contemporary, and the people of the lower Alaska Peninsula, use this ethnonym and not the more politically correct indigenous term *Unangan*.



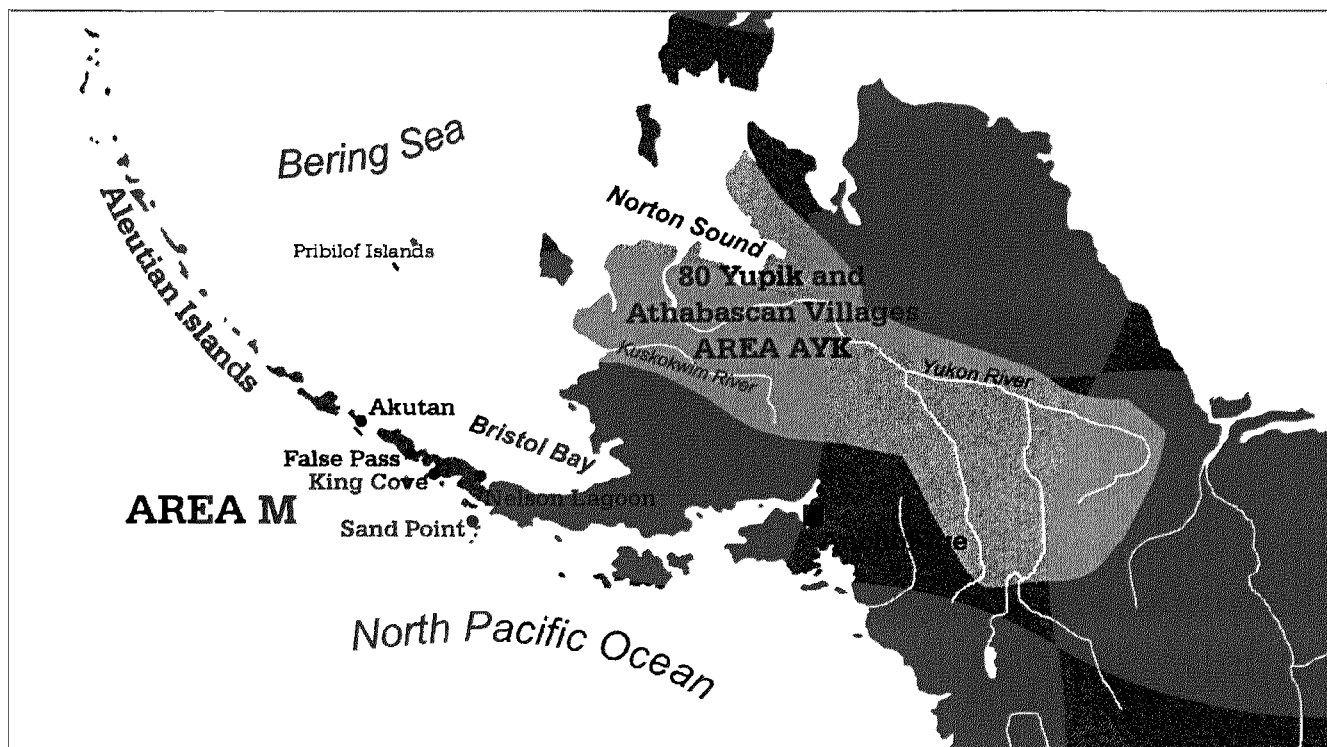


Figure 1. Map of Alaska indicating the 2000 Yukon-Kuskokwim-Norton Sound Disaster Area and Area M.

being measured in how much of the traditional have been maintained while incorporating new socioeconomic systems (e.g. Jacka 1999:214; Wolfe 1984:160).

Few regions of Alaska have incorporated the market economy so thoroughly as have lower Alaska Peninsula and eastern Aleutian villages (see Figure 1). The Eastern Aleut were active participants in commercial development and measure their success in new ways, not in how much of the traditional society there is to be found. In these villages today, there is virtually no separation of commercial fishing from subsistence fishing in the discourse, and most subsistence fish are taken during the period of commercial harvests. One Aleut leader stated, "Commercial fishing has become our subsistence. It's the only thing we have. And it's slowly being taken away from us, all of it is. Not slowly, it's being taken away from us fast." Though it was not his intent to reverse the official meaning of subsistence and subsistence uses (defined in the 1980 Alaska National Interest Lands Conservation Act as "the customary and traditional uses by rural Alaska residents of wild, renewable resources for direct personal or family consumption" Sec. 801), nor to downplay the critical importance of subsistence throughout Alaska, he believes that commercial fishing has grown in its importance such that subsistence is not enough to sustain his village economically, socially, or culturally.

The twentieth century eastern Aleutian region saw some of the most productive yet volatile commercial fisheries in the world. Most recently, restrictions on these commercial fisheries have been increasing while productivity has continued to fluctuate for all

species. The most severe restrictions have been on the commercial salmon industry, in which most Aleutian fishermen make the bulk of their income for the entire year. These restrictions are in response to low salmon returns on the rivers of western Alaska where villagers, despite attempts to develop lucrative commercial salmon and herring fisheries, rely heavily on salmon for subsistence purposes. Many Aleutian residents fear that a disruption in their local salmon fishery would be tantamount to the destruction of modern Aleut society and culture on the same scale as the tragic events of Russian and American colonization. Though this may be an overstatement compared to the enslavement, murder, forced relocation, and starvation of the last few centuries, it is clear that the Alaska state government's attempt to solve the social problems that are arising from, or exacerbated by, the failed salmon runs in western Alaska may indeed create similar social problems for Aleut peoples.

What are the consequences to individuals and villages if the commercial fisheries disappear or are no longer legal to be fished? What are the prospects for sociocultural and economic recovery? And what happens when the lifeblood of one Native group is removed in order to save the subsistence way of life of another? This paper considers these questions from the Aleutian perspective through three primary levels of identity, each manifesting themselves differently and offering different levels of empowerment: the community level, the individual level, and the level based upon Aleut ethnicity. These levels are used in order to assess the vulnerability and resilience of Aleut communities and culture in a rapidly shifting environment.

The Aleut, the fisheries, and socioeconomic vulnerability

The Aleut, who today inhabit the western Alaska Peninsula, the Aleutian archipelago and the Pribilof Islands, have maintained a way of life and culture based almost entirely on marine resources for more than 6000 years (Maschner 1998, 1999; McCartney 1988). Today, the Aleut economy is based on subsistence harvesting, commercial fishing, wage employment in local services, the Permanent Fund, and state and federal aid, but most Aleuts define themselves as commercial fishermen.² Inhabiting a dozen villages in the region, they continue to have an intimate relationship with the sea.

While there is an extensive ethnographic literature devoted to Yup'ik and Iñupiaq cultures of Alaska, most work in the Aleut region has been archaeological (e.g. Corbett, Lefevre, and Siegel-Causey 1997; Dumond 1987; Hoffman 1999; Maschner 1998, 1999, 2000; Maschner and Reedy-Maschner 1998; McCartney 1984, 1988; McCartney and Veltre 1999), ethnohistorical (e.g. Bergsland 1998; Bergsland and Dirks 1990; Black 1977, 1984, 1987, 1989, 1998; Black *et al.* 1999; Liapunova 1989, 1996; Townsend 1978, 1980, 1983; Veniaminov 1984), or linguistic (Bergsland 1959, 1994, 1997). There have been a few recent publications on contemporary village life in the Aleutians (e.g. Hudson 1998; MacLeish 1997), but the most recent anthropological studies of modern Aleut villages are several decades old (Berreman 1953, 1956, 1964; Jones 1969, 1973, 1976; Robert-Lamblin 1982a, 1982b; Spaulding 1955). An inevitable demise of the Aleut and an urgent scramble to salvage whatever is left of their traditional culture has been emphasized by several social scientists who have given them attention (see this emphasis in Bank and Williams n.d.; Hrdlicka 1945; Jones 1976; Lantis 1970; Laughlin 1980). The focus has routinely centered on how things were or what is left of the past, rather than how things are.

Aleuts are perhaps the least recognized arctic culture, and certainly less "traditional"³ than many groups in the far north. Their indigenous language is only spoken by a small number of elders spread throughout the communities and in Anchorage, they live in government built homes, ride ATVs, hunt with rifles, and equip their costly boats with fathometers, GPS systems, and radios. They do not sport traditional dress or perform rituals around harvesting

fish and game. However, there are strong feelings of geographic place, a revived interest in their language, a powerful interest in prehistory, which they recognize specifically as *their* prehistory, and there is a pan-Aleutian social, political, and economic emphasis on subsistence and commercial harvesting of marine resources. Though the modern population is relatively small due their turbulent contact history, eastern Aleut villages have thrived economically and socially.

The classic picture of the Aleut maritime economy as envisioned by many non-Aleuts is the unilinear progression from cooperative subsistence fishermen in baidarkas (skin kayaks) or open skin boats to commercial fishing conducted aboard increasingly high-tech boats costing hundreds of thousands of dollars, and with that, the loss of control over the resources (Jacka 1999). However, historical data show that the current commercial fishing system is the most recent in a long history of commercial activity and global interaction in whaling, sheep and cattle ranching, fox farming, fur trapping, and coal and gold mining under the influence of different political systems (Black *et al.* 1999; Lantis 1984). Commercialization of Aleutian fisheries began in the 1880s as an export economy in salted cod and canned salmon when the first canneries opened on the Alaska Peninsula. Much like subsistence farmers producing a surplus to sell, Eastern Aleuts translated 6000 years of a marine subsistence economy into a commercial economy spurred by seafood processing plants, and modern Aleut people developed a successful fishing industry of multiple species in the coastal waters around their villages. Given the high marine productivity of the surrounding continental shelves, this was a prime location to develop these industries. Today, with fishing boats cruising in and out of the harbor and fishermen sharing their tenth cup of coffee in the harbor house, eastern Aleutian villages seem to fit the quaint, romantic ideal found in the popular imagination. But this is expensive machinery, tense politics, big business, gear wars, and environmental unpredictability: the lifeblood of villages, of a society, and of a culture. The Alaska Board of Fisheries designates the Eastern Aleutian region they fish as Area M, which has come to be synonymous with the salmon fishery. This is considered an 'interception fishery' because Area M fishermen get first shot at harvesting the mixed stock of salmon before the fish swim north to western Alaska or west to Asia and sort themselves out into their rivers of origin to spawn.

In July 2000, miserably low salmon returns prompted the Governor of Alaska to declare a disaster area in the 80 Yup'ik, Iñupiaq, and Athabascan villages of the Yukon and Kuskokwim river drainages and Norton Sound, designated Area AYK (Arctic-Yukon-Kuskokwim) by the Board of Fisheries (see Figure 1).⁴ The commercial fisheries for this region are far less lucrative than for Area M, given that there are 2,146 AYK salmon permit holders and

² Though some academics and many of those who fish have dropped the term *fishermen* in favor of the more inclusive term *fishers*, I have chosen not to. Certainly many women fish as captains and as crew on boats throughout Alaska, and indeed the world, but many of Alaska's commercial fishing women resist the new politically correct term (Allison, Jacobs and Porter 1989:xix; Fields 1997). Though women encounter gender issues at all levels of the fishing industry, it is understood that the term *fishermen* includes women who fish, just like actors includes actresses.

³ The term "traditional" is problematic in anthropology since it often is used to describe authenticity, a pristine past before Western influence, and a static cultural state of history. In this context, "traditional" is used as relative to other Alaska Natives, who tend to have a more visible culture materially and linguistically.

⁴ This was not the first time Yukon-Kuskokwim Delta and Norton Sound has been declared a disaster. Three of the last four summers have suffered the same fate and millions of dollars in aid have been offered to the region.



fewer fish returning to the rivers (Malecha, Tingley and Iverson 2000b:20). In 2000, the runs for several key species of salmon, especially chum salmon, were less than fifty percent of their twenty-year historic average (Gov. Knowles, 7/19/00, Declaration of Disaster). Consequently, not only was commercial fishing almost an impossibility in 2000, but subsistence fishing, which constitutes a large portion of the diet for these 80 villages, was also drastically low or non-existent. The Governor named Area M as the main agent threatening these salmon stocks, and recommended to the Board of Fisheries that they "stop the interceptions", which would severely limit the commercial salmon fisheries for the Aleut (Gov. Knowles, 8/8/00, letter to Board of Fisheries Chairman Dan Coffey).

Restrictions on Area M's fishery have been increasing over the last few years because of low chum returns in Area AYK and relatively low sockeye returns in Bristol Bay. Area M fishes for sockeye salmon, for which the cannery pays a much better price than it does for the few cents it pays per pound for chum salmon (in 2000, it was \$0.85 vs. \$0.07). In the course of fishing for sockeye, chum salmon are incidentally harvested in small percentages. There was an abundance-based "chum cap" adopted in 1998, or limit to the number of allowable chum that they can catch in June, and Area M fishermen, through years of experience on the water, take steps to avoid catching them,⁵ lest they reach the quota and have to stop fishing altogether. In the June 2000 fishery, Area M fishermen caught only half their commercial allocation of sockeye salmon and they stayed well below the "chum cap" (the 2000 cap was set at 350,000-400,000 chum and Area M fishermen caught 240,000 chum (Shaul *et al.* 2000:5). Even though they were well below their quotas, at the closing of the Board of Fisheries meetings in January 2001, the 2001 June Area M salmon fishery was restricted to three days a week for the month and could possibly be closed in the future. In addition, Area M fishermen can no longer harvest the previously allowed 8.3 percent of the pre-season forecast sockeye harvests for Bristol Bay, an area which has seen some of the largest salmon runs in Alaska. The June sockeye salmon fishery in Area M is arguably the most important fishery to Aleut villages; it is the month in which Aleuts earn a large percentage of their income for the year, the month where fishermen focus most of their efforts because the runs are the largest, and they harvest much of their subsistence fish⁶ for use throughout the winter (Fall *et al.* 1993:43; Northern Economics 2000:Part I).

Not only might Aleutian fishermen lose a major portion of their salmon fishery, they are in danger of losing the opilio crab fishery because of such low returns in 2000. They might also lose their

king crab fishery, which has been restricted to only a few days of fishing in recent years. They have lost most of the cod, pollock, and Atka mackerel fisheries because the Stellar sea lion has been placed on the endangered species list. This means that trawlers cannot fish within 20 nautical miles of their designated critical habitat, which is where the fish are, and no other fishing gear type can be used within three nautical miles around all sea lion haulouts. Other species, particularly the Stellar's eider and the sea otter, are being considered for protection under this act, which will further restrict fishing.

The study area

This research focuses on an Aleut village that depends almost entirely upon the Area M fisheries. The village of King Cove, located on the Pacific Ocean side of the western Alaska Peninsula, is home to about 700 permanent residents (approximately 65% Native) and contains the primary cannery for all regional commercial fisheries. The population doubles during the peak fishing seasons with an influx of international cannery workers. The village formed around a Pacific American Fisheries cannery beginning in 1911 when people from the former villages of Belkofski, Pauloff Harbor, Sanak, Morzhovoi, Ikatan, Ozernoi, Unga, Thin Point, and other villages out in the chain or up the peninsula moved to King Cove for employment at the cannery, for tending fish traps and supplying the cannery, and so their children could go to the school there and not need to board for the academic year. King Cove continues to be a commercial fishing town with almost all residents tied directly or indirectly to fishing and/or seafood processing. The facilities of Peter Pan Seafoods, Inc., Pacific American Fisheries' successor, burned in 1976, but the adoption of the 200-mile fisheries limit under the Magnuson-Stevens Fishery Conservation and Management Act, which in 1978 extended the waters around the United States to 200 miles offshore to protect American fishing rights, encouraged its rebuilding. King Cove has experienced record salmon harvests, and emerged as a regional service center. Thus far, despite cycles of productivity and decline, the sea has provided a relatively stable economy for salmon, crab and groundfish.

King Cove is a relatively affluent community when compared with other Aleut and Alaska Native villages. (The 1997 median household income in King Cove was \$53,631, compared to \$42,384 for the Aleutians East Borough, \$43,657 for the State of Alaska, and \$29,628 for the Bethel census area).⁷ It has experienced a demographic shift towards a higher percentage of non-Aleuts in the last few decades but there continues to be a high degree of inter-relatedness. It has a history of ethnic mixture between Aleuts, Russians, Scandinavians, and other northern Europeans. Most of the first families in King Cove consisted of a European father and an Aleut mother (Black and Jacka 1999:103-104; Jones 1973).

⁷ www.dced.state.ak.us/; www.census.gov

⁵ Experienced fishermen are very skilled at knowing where to set their fishing nets based on sighting the various species jumping out of the water, previous years experience, exposure to weather, and knowledge of the currents. From my conversations with many of these fishermen, the mixed stock is less mixed than is believed by non-fishermen.

⁶ In a 1992 Alaska Department of Fish and Game survey, 37.7 percent of all wild resources harvested (51.5% of salmon) for home use in King Cove were removed from commercial catches, and 37.3 percent of all wild resources (41.3% of salmon) in Sand Point (Fall *et al.* 1993:104; Fall *et al.* 1996:86).



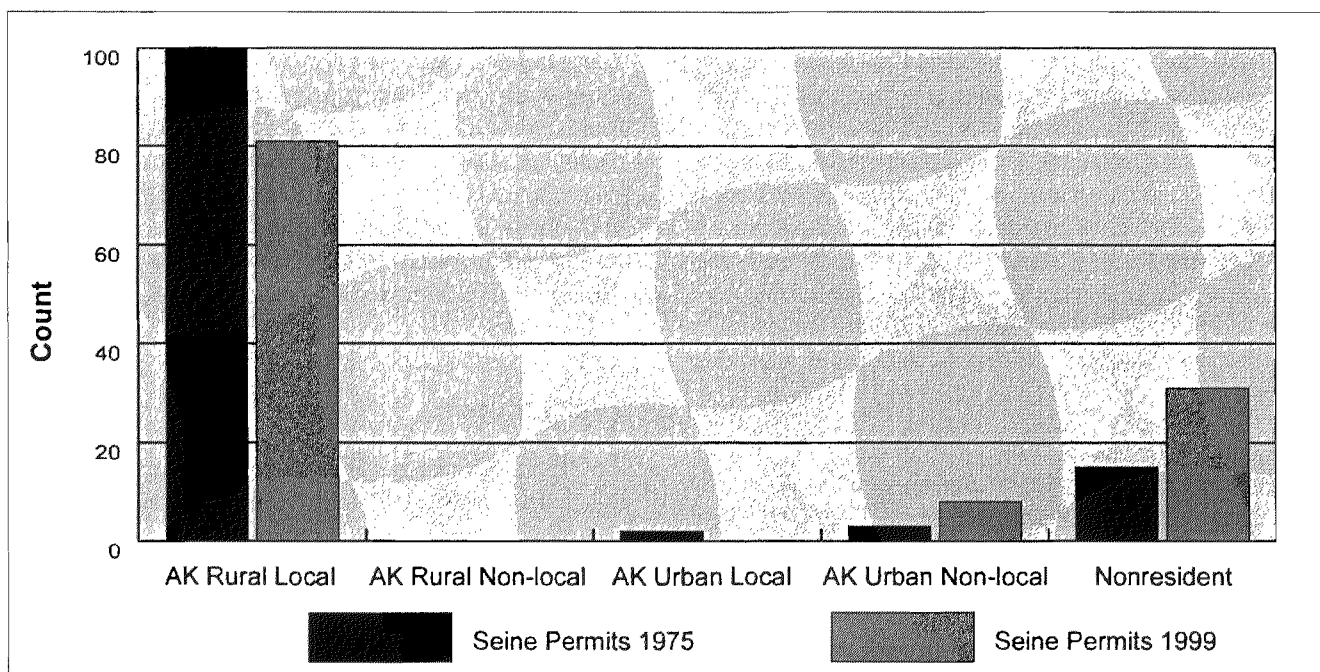


Figure 2. Number and residency of purse seine permit holders in Area M, 1975 and 1999. **Alaska Rural Local** is an Alaska resident of a rural community that is local to the fishery. **Alaska Rural Non-local** is an Alaska resident of a rural community that is non-local to the fishery. **Alaska Urban Local** is an Alaska resident of an urban community that is local to the fishery. **Alaska Urban Non-local** is an Alaska resident of an urban community that is non-local to the fishery. **Non-resident** is a non-resident of Alaska (Malecha, Tingley and Iverson 2000b).

Western influences on cultural, economic and social structures have continuously been felt.

In the summer months during the salmon season, King Cove is as timeless as the arctic sunlight. At midnight, children are still riding their bikes and playing in the streets, the harbor house is still abuzz with caffeine and conversation, boats are moving in and out of their slips, the VHF radio is crackling with chatter, people are driving out as far as the road will go looking for bears, and the bar's jukebox is still fired up. In the winter crabbing season, which claims the lives of local and non-local fishermen and boats almost every year, there is an influx of massive crab boats and non-local fishermen from all over the north Pacific. The whole community braces as local and non-local boats set out for the Bering Sea crabbing grounds with the hope that all will return safely and with their holds teeming with crab. In the cod and pollock seasons, which have increasingly become important to fishermen as the other fisheries have become less lucrative, there continues to be a sense of hope as the community has come to rely on these fisheries.

Global relations

Anthropology's current emphasis on local-global interaction links the peoples of seemingly isolated areas to regional, national, and global concerns (e.g. Ang 1998; Friedman 1994). What appear to be bounded local circumstances have global implications. In the Aleutians, a relatively small population influences access to

valuable natural resources, which has local, national, and global economic consequences. But the reverse is also true, as Aleuts have a long history of global interaction and enduring economic pressures under different political systems (Black *et al.* 1999; Jones 1976; Morgan 1980). The Aleutian Islands have been at the core of a global system for millennia, and a crossroads for people from all directions; Aleut social life and culture has always been dynamic because of this. The Aleutian region has been at the center of a vast interaction sphere that included prehistoric Chinese, Japanese, and northeast Asians to the west, and ancient Koniag and Yup'ik peoples to the north and east. There is direct material evidence that the Aleut were participating in a world economic and social system long before any other Native Alaskan group (Black *et al.* 1999; Hoffman 1999; Lantis 1984; Maschner 2000). Indigenous innovation, foreign intrusions and adaptations, climatic instability, and governmental policies have all played critical roles in the development of Aleut culture.

A wide range of political interests are constantly being asserted in multiple ways; the United States, the State of Alaska, environmental groups, local villages, other Alaskan Natives, non-Natives, and individual Aleuts each heterogeneously have their own interests and agendas. At the heart of this local-global relationship is the Alaska Native Claims Settlement Act (ANCSA), an act of Congress that launched Aleuts into the modern global system as corporate managers of for-profit regional and national corporations. However, the village impact was less significant because, while individual



shareholders may receive a small return on the economic success of the regional corporation, villages are still dominated by family-based fishing economies.

Changes in marine resource productivity may be natural and/or anthropogenic (e.g. Finney 1998), but no studies have been conclusive. Aleuts are nonetheless carrying the burden for these changes on many fronts, because, as many of them argue, they do not carry the same political weight as other Alaskan Natives, given their comparatively low population (Aleuts comprise 2.2% of the total Alaskan Native population)⁸, fewer political votes (only 0.3% of voting age Alaskans are Aleut)⁹, cultural differences (they are seen as less traditional than Eskimo societies, elaborated below) and geographic isolation (travel is difficult and expensive, hence they cannot always afford to fly to Anchorage to defend their rights and rarely do politicians spare the time and expense of travel to these communities).

Like many indigenous societies, Aleuts have multiple identities and political statuses, and they have rights as Native people that non-Native United States citizens do not. From my research in King Cove, overlapping community, individual, and ethnic identities have become increasingly visible in the context of social relations and valuable tools in political and economic strategizing.

COMMUNITY IDENTITY

Identity is a dynamic construction within specific historical, spatial, experiential and cultural contexts involving the central themes of self, place, difference and tradition (Gellner 1987; Mousalimas 1997). Identity can be defined as a constantly negotiated sense of community belonging. A community or village identity, though not entirely homogenous, has emerged in eastern Aleut villages in light of historical events, their geographic locale, in opposition to economic interests by outsiders, in competition with other Aleut villages, in attempts to secure funding for public projects, and in attempts to preserve or recover their rights to fish from State and federal policymakers.

Aleutian communities are located in remote, sometimes inaccessible, coves and bays of the peninsula and islands. Accessible only by air and sea, getting in or out of a village could take days, and occasionally weeks, due to unpredictable and often violent weather. Living and working in this harsh environment takes great skill, energy, and ingenuity, and surviving the everyday is an empowering validation that Aleuts can continue to live in their

homeland.¹⁰ This strong sense of geographic place has its roots in history. Individual Aleuts and communities moved continually and involuntarily during the Russian and American periods. Aleut men were transported to new hunting grounds that had previously been uninhabited, most notably to hunt the fur seals of the Pribilof Islands and sea otters throughout the chain (Black 1984; Veniaminov 1984). Many from Attu Island were moved east to Unalaska, while others were moved west to the Commander Islands (also previously uninhabited) and subsequently cut off from relatives after the purchase of Alaska.¹¹ Some Aleuts were taken as far away as Fort Ross in northern California. They also made voluntary moves, creating villages around newly established canneries (Black *et al.* 1999). In 1942, the threat of the Japanese landing in the Aleutians prompted evacuation by the U.S. government. All Aleuts west of Unimak Island (save for those on Attu, who were taken to a prison camp in Japan) were taken to abandoned canneries in southeast Alaska where many died from disease and malnutrition (Kohlhoff 1995). After the chaos of World War II, Aleuts who were able to return home, or at least to the Aleutians if not to their own village, found their villages burned (supposedly to prevent Japanese use), vandalized, and homes and churches riddled with bullet holes having been used as target practice (Kohlhoff 1995; Smith and Petrivelli 1994:8). Surviving these traumatic events and concomitant social disorganization, Aleut communities temporarily withdrew from the global stage and concentrated on rebuilding their villages and fishing economies.

Community identity depends on historical circumstances and is often in response to some positive or negative event or action. Though Eastern Aleut villages were never evacuated, they were indirectly affected as many of their relatives in other villages were sent to camps, some never to return. Aleut villages and towns represent one of the most salient aspects of community identity: a strong and profound sense of place, and a sense of knowledge and history that is a product of having an understanding of a natural and social landscape. While the intensity of community identity may ebb and flow with the intensity of external economic and political pressures, the sense of place and landscape remains a powerful organizing force that transcends both internal and global disruptions.

Permit holders and residency

At the 2001 annual meeting of the Alaska Anthropological Association held in Fairbanks, I presented a paper on the Aleut fishermen of Area M, putting a human face on the fisheries. Many

⁸ www.labor.state.ak.us. From Census 2000, there are 2,150 Aleuts and 98,043 total Alaskan Natives.

⁹ www.labor.state.ak.us. There are 1,449 Aleuts of voting age; 60,252 Alaskan Natives of voting age; and 436,215 Alaskans of voting age.

¹¹ Aleuts still live on the Commander Islands today and face severe economic and social problems, but have no representation in the regional legislature (Krivoshapkin 1996).

¹⁰ Since the 1980s, the village of King Cove has lobbied heavily to be able to build a road to connect the main airport in Cold Bay to their village with the hopes of keeping the travel accident rate down. This project is still in negotiation because a section of the proposed road would have to pass through a national wildlife refuge.



who commented to me about my presentation, which included those from the Alaska Department of Fish and Game, U.S. Fish and Wildlife Services, and other anthropologists, were insistent that Area M is comprised largely of "Seattle boats" and many believed that local Aleut fishermen had long sold their permits to non-resident strangers (or at least one of them, since many were issued two permits after the Limited Entry System was created in 1973). In 1975, 100 seine, 98 drift gillnet, and 99 set gillnet transferable permits were issued to Alaska Peninsula/Aleutian local residents (Malecha, Tingley and Iverson 2000b). A total of 25 transferable permits were issued to other Alaskan non-local residents and a total of 71 transferable permits were issued to non-residents (see Figures 2, 3, and 4). Changes in permit distribution statewide have been tracked by the Commercial Fisheries Entry Commission (CFEC) since 1980 (Malecha, Tingley and Iverson 2000a, 2000b). In the Alaska Peninsula/Aleutian region, of the 166 seine permit transfers since 1980, 23 (13.9%) went to a friend/partner, 106 (63.9%) went to an immediate family member, 8 (4.8%) went to another relative, and 29 (17.5%) went to "other". Of the 288 drift permit transfers, 58 (20.1%) went to a friend/partner, 101 (35.1%) went to immediate family, 22 (7.6%) went to another relative, and 107 (37.2%) went to "other". Of the 276 set gillnet permit transfers, 65 (23.6%) went to a friend/partner, 106 (38.4%) went to immediate family, 23 (8.3%) went to another relative, and 82 (29.7%) went to "other" (Figure 5 shows the relationship of transferors to transferees for all seine, drift, and set gillnet permit transfers from 1980-1999). Though many permit holders may list their residency outside of an Aleut village or out of the state of Alaska, their status cannot automatically be considered non-Aleut,

non-family, or stranger. In going through the list of names and addresses of permit holders for the year 2000 of the CFEC website, I was able to identify several from Ferndale and Bellingham, Washington, Anchorage, Kodiak, Palmer, and Kenai as relatives to King Cove residents, not to mention those who I do not know of, or any of the other villages, or other kinds of relationships.

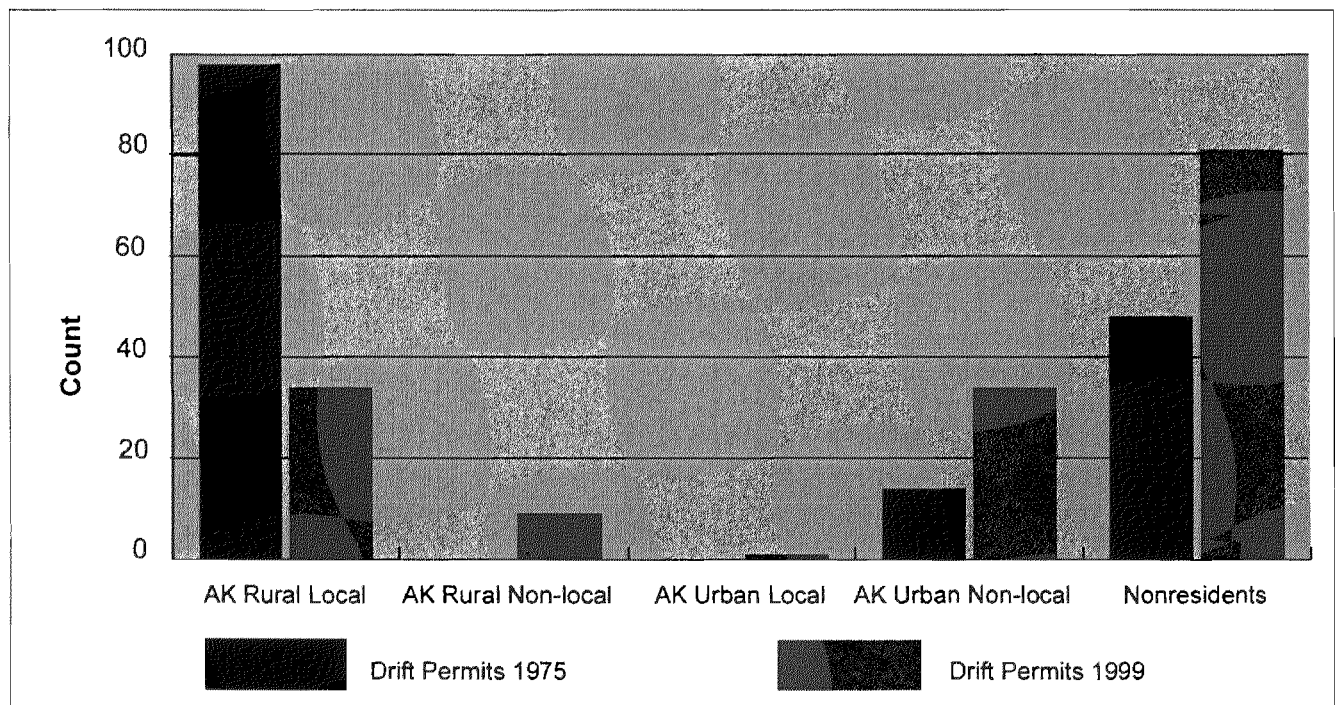
In 2000, there were 85 purse seine, 36 drift gillnet, and 82 set gillnet permit holders who listed King Cove, False Pass, Sand Point or Nelson Lagoon as their primary residence¹² (see Figure 6). These numbers do not take into account that some individuals hold multiple permits. Though these numbers are quite small when compared to the combined approximately 1,568 locally owned Kuskokwim, Lower Yukon, and Arctic salmon permits of Area AYK, it is greater when compared to the percentage of village residents in the region (In 1999 and 2000, 5.2% of the 29,585 AYK residents held salmon permits, whereas 10.7% of the 1,891 residents of Area M communities held salmon permits, or 7.5% of the total 2,697 Aleutians East Borough residents¹³).

The belief that Area M is composed mostly of wealthy Seattle fishermen with jobs the other nine months of the year has fueled much of the arguments for the closure of that salmon fishery. These data indicate that not only are a significant number of local residents holding permits, but that they did not always sell or transfer their permits to the highest bidder. Often permits were sold, traded, or

¹² www.cfec.state.ak.us

¹³ www.census.gov; Malecha, Tingley and Iverson 2000a, 2000b.

Figure 3: Number and residency of drift gillnet permit holders in Area M, 1975 and 1999 (Malecha, Tingley and Iverson 2000b).



gifted to family and friends no matter their residency, or were inherited (Malecha, Tingley and Iverson 2000a:20-21). Fisheries with lower permit values tended to be gifted more than higher values, such as those found in Area AYK, but an exception to this is the Peninsula/Aleutian salmon seine fishery with a high percentage of gift transactions and high permit values (2000a:21).

In both areas, most residents that hold commercial fishing permits employ non-permit-holding members of their families and the community. In King Cove, boys and girls crew on their fathers' boats starting at a young age and it is common for an entire nuclear family to run a boat.

Peter Pan Seafoods, Inc. and King Cove

The facility of Peter Pan Seafoods, Inc., currently one of the largest and most diverse canneries in the world, is situated in a fenced compound in the center of downtown King Cove. Though the cannery is on a separate sewer and water system and has its own store, mess hall, Laundromat, and living quarters, the cannery and the community are not rigidly separated. Fishermen and the cannery have a symbiotic relationship; neither one could exist without the other, though dependence of the cannery on the local fleet varies by species. The cannery pays for boat repairs, parts, and other equipment, and determines the price per pound of fish to pay the permit holders. Many cannery workers and managers have been in King Cove for decades, have raised their families in the community, and vote in local elections. Few local Aleuts work in the cannery because so many are fishermen, and their status

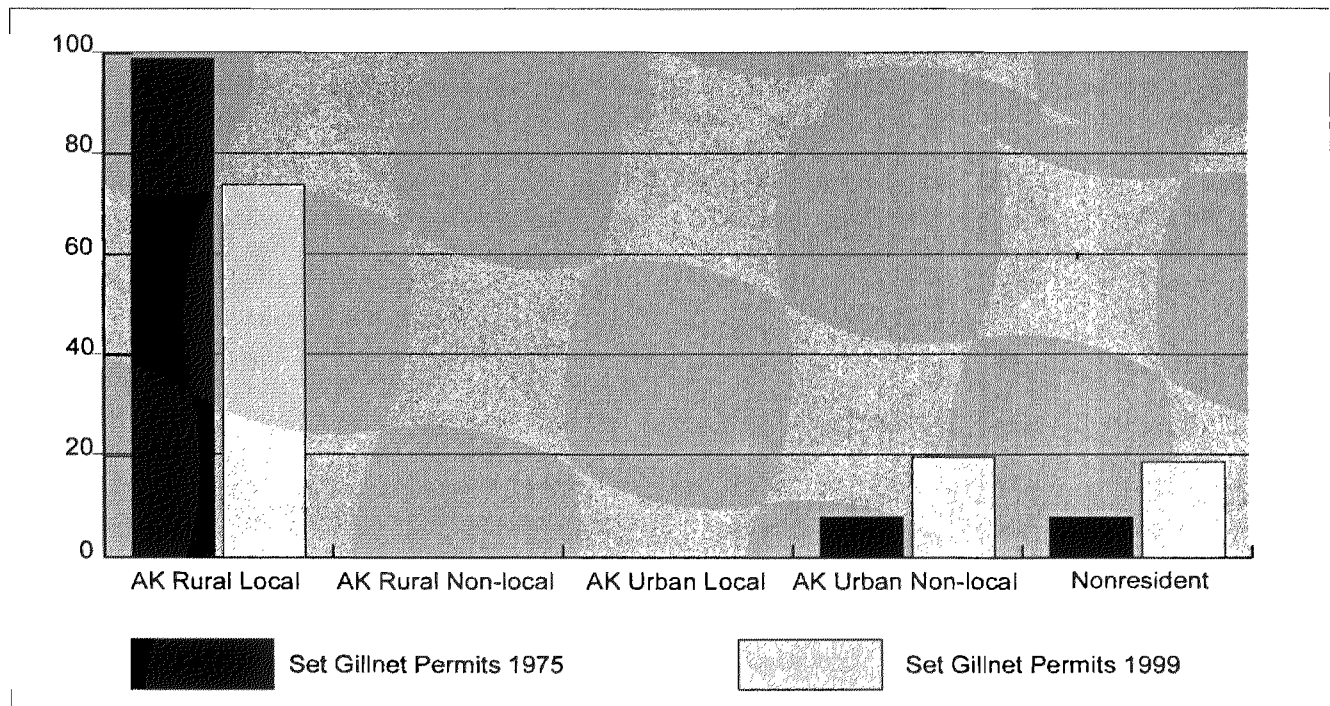
and identity in the community depends on access to the fisheries and their ability to fish. Fishermen supply the cannery with seafood, but it is the preparation to fish and the act of harvesting, rather than the processing, that enlivens the community.

The village is centered economically, politically, and socially around the commercial fisheries. The city government operates on a local sales tax (approximately 12% of the total city revenues), a "fish tax" on the fish harvested (30% of the total), federal funding (5%), utilities (28%) and boat harbor revenues (9%) in addition to grants and other revenues (Braund *et al.* 1986:Table 5-3). Local fishermen hold most of the city's offices, having incorporated it as a first class city in 1974. The city has successfully attracted grants and loans for roads, the school, harbor expansion, power, sewer and water. Local fishermen have also taken a measure of control in fishery politics and have been able to influence the price of fish to some extent through striking, lobbying the canneries, and attending meetings during which prices are set. Every political decision made in the community is evaluated in terms of how it will impact the fisheries. For example, the 2000 mayoral election was largely determined by each candidate's position on whether they would allow residents to delay payment of their utility bills during bad fishing years.

A study of identity in an Icelandic fishing town found that social life could not be separated from their economic livelihood (Pálsson 1988; 1993). The same is true in the eastern Aleutian region where the entire social, political, and economic identity of an Aleut community, regardless of gender and age, cannot be separated from the fishing industry. Taylor (1981) found in the coastal settlement

63

Figure 4. Number and residency of set gillnet permit holders in Area M, 1975 and 1999 (Malecha, Tingley and Iverson 2000b).



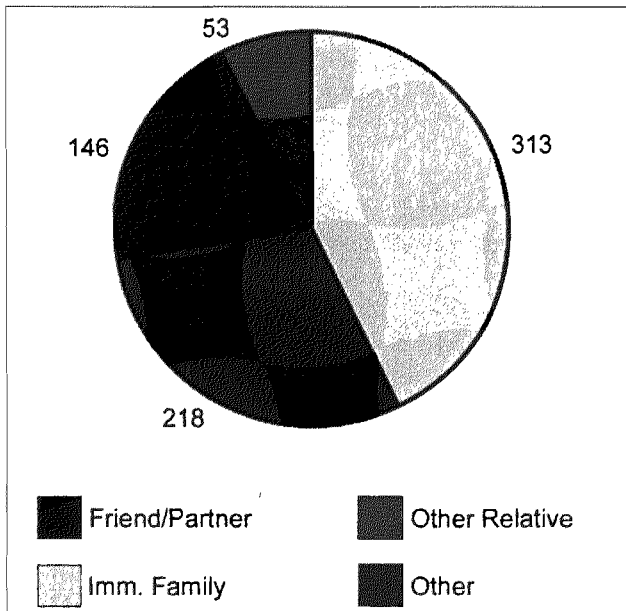


Figure 5. Cumulative number of transfers and relationship of permit transferors to transferees for all seine, drift, and set gillnet permit transfers in the Alaska Peninsula/Aleutian salmon fisheries from 1980-1999 (from Malecha, Tingley and Iverson 2000b).

of Teelin, Ireland, that the pursuit of salmon, even though it is of minor economic importance to the community today, is the source of community and personal identity. The fish are sold commercially, and only a small number of the fishermen earn a worthwhile profit. Though fishing only lasts 8 to 10 weeks of the year and the rest of the year is spent in factories or other jobs, most men describe themselves as fishermen. Taylor argues that, while competition is as frequent as cooperation, the salmon fishery "lends a certain aesthetic coherence to local life, whose effects on the individual psyche should not be undervalued" (1981:787). In the Eastern Aleutians where the fishery's economic importance is much greater, fishing also connects extended families and friends, provides financial stability, and reinforces solidarity and individual identity through cooperative and competitive commercial and subsistence activities. They have privileged access to these natural resources and have developed systems of status and social honor within this fishing complex.

Community disruption

Braund *et al.* (1986) conducted a study evaluating the potential community sociocultural and socioeconomic consequences of harvest disruptions to King Cove due to hypothetical offshore oil development in the eastern Aleutian region. They found that a one-year closure in the Area M fishery (the result of a hypothetical oil spill) would cause fishermen to lose one-third of their gross earnings, city government to lose approximately 15% of its revenue, businesses to suffer from lack of revenue, and there would be a broad disruption in all social and political organizations linked to

the fisheries. Harvest methods and seasons of subsistence activities would change, and reliance on subsistence would increase. Decreased incomes would negatively affect household economies and social health with increased stress linked to financial dependency, alcohol abuse and related crime, negative attitudes towards non-locals, and out-migration. The necessity of women in the workforce (such as cannery labor) would increase. Kinship and extended family relations would increase in importance to harvest activities.

Community disruption in King Cove is not a hypothetical circumstance, and though an oil spill and subsequent closure of one-year is unlikely, many of Braund *et al.*'s predictions are holding true. Stress among borough and city officials has soared, as they are concerned about their budgets, maintaining local infrastructure, and the very survival of the villages. Local businesses are suffering as people are unable to pay for groceries and other needs and cannot pay down a charge account (Gould, personal comm.). Many fishermen find it difficult to pay their city bills and impossible to pay their boat and insurance payments; the cannery will extend credit for these payments, but only temporarily. Seasonal out-migration has increased, as fishermen seek winter employment away from the village to supplement their fishing earnings, and a few have made the decision to move permanently.

The fishing community has experienced past harvest disruptions of all species (Braund *et al.* 1986:Ch. 11:11-18). Despite these declines and rebounds, there has been a continued reliance on these fisheries and an adaptive ability to changing to harvesting other species to compensate for poor seasons. An imposed disruption, as opposed to natural occurrences or one that appears to be temporary, has helped to create a less flexible mindset on behalf of the fishermen, and their adaptive choices are resented.

Northern Economics, Inc. conducted a study for the Aleutians East Borough on the importance of salmon harvests to borough residents (Northern Economics 2000). They looked at a number of future harvest scenarios for Area M, including the closure of all salmon fishing for the month of June. Under this scenario, they found that the average seiner would not be able to cover expenses and will face bankruptcy (2000:Sec. 7:1). The average drift and set gillnetter would be able to just cover expenses, but the marginal vessels can expect trouble with creditors. The importance of a cash income must not be downplayed (Langdon 1986:35; Wheeler 1998). Cash is necessary for boat maintenance, insurance payments, house payments, fuel, clothing, and other basic necessities. There are no other viable cash economies in the Aleutians outside of fishing and local infrastructure. Commercial fishing is the primary source of money for the purchase and maintenance of subsistence harvesting equipment (Braund *et al.* 1986), and while it is true that subsistence remains a critical part of the household economy, the burden of supporting these communities in the absence of the fishing industry, even with subsistence practices still intact, would be welfare.



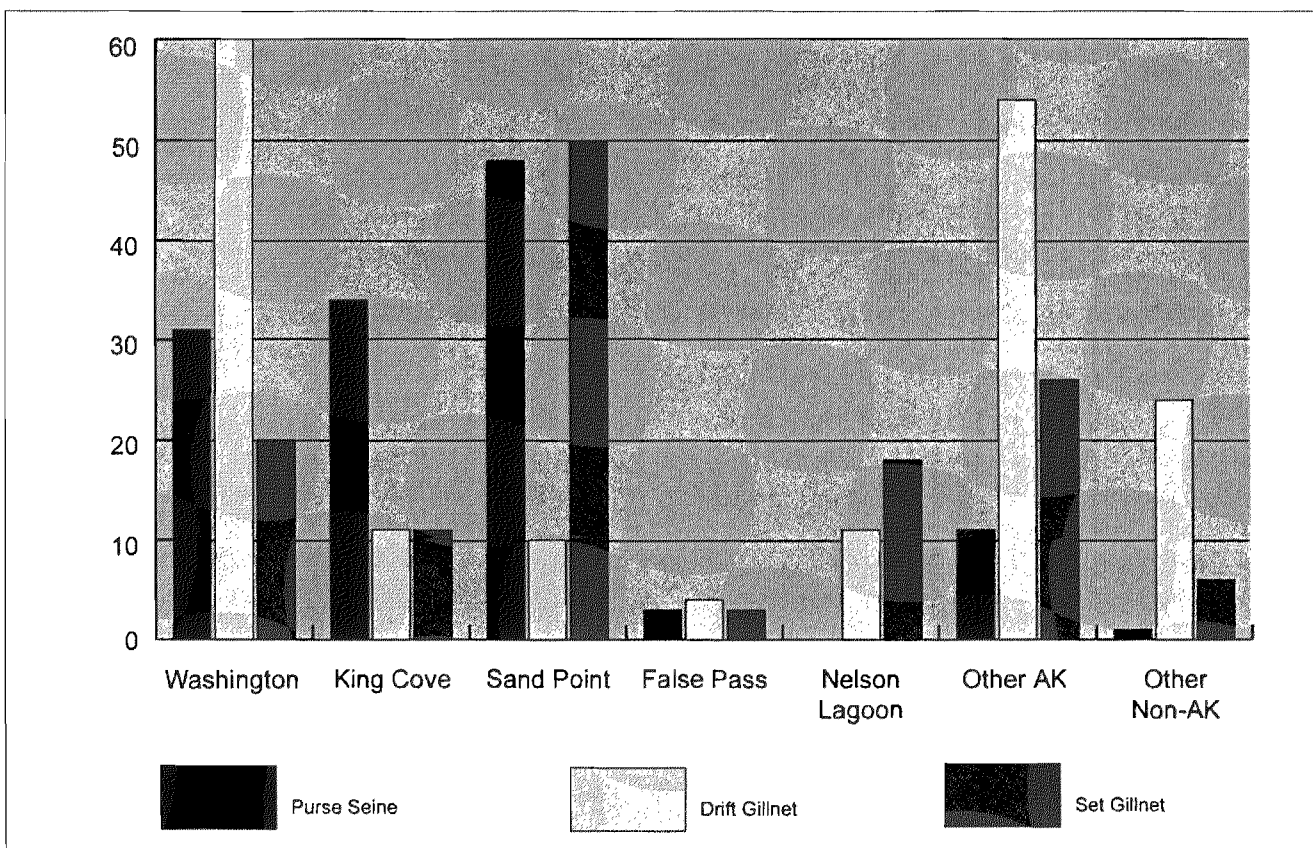


Figure 6. Alaska Peninsula/Aleutian permit holders' residency 2000 (compiled from www.cfec.state.ak.us).

FISHING COMPETITION AND INDIVIDUAL IDENTITY

Anthropologists have long recognized the role of individual success to cultural success (Alexander 1979; Goldschmidt 1991; Leach 1954). Using Malinowski's and Firth's data, Polanyi (1945:53-60) argued that individuals are far more interested in preserving their social status than they are in possessing material wealth. Locally defined identity and social status in the Eastern Aleutian region hinges on all aspects of the commercial fishing industry, especially for males, and multiple forms of male behavior with regards to fishing are culturally exalted.

Historically, Aleut society was highly stratified with hereditary classes of nobles, commoners, and slaves (Townsend 1983). In the past, individual male identity was based on their success as sea mammal hunters, fisherman, and warriors (Maschner and Reedy-Maschner 1998; Townsend 1983). Status-seeking activities follow similar criteria today. Aleut subsistence identity has been transposed into an identity based on access to the commercial fishing industry, success in the industry, and the ability to cope with the environment. As fishing boats replaced labrets as social status markers among the Alutiiq (Mishler and Mason 1996:268), fishing boats have likewise emerged as status indicators among the Aleut. In addition, community leaders tend to be from the largest families, considering

the support base that accompanies them, and they are usually members of the founding families of King Cove who have been fishing the longest.

Fishing and status

Fishing provides more than just food and cash in Aleut villages. The act of fishing in turbulent waters and unpredictable weather is extremely difficult, and fishermen derive a great deal of status from overcoming these obstacles. There is a profound sense of pride and accomplishment in filling the fish holds of their boats, giving fishermen a sense of individual self-worth. Most fishermen boast of their innate ability to fish. They frequently talk of the history of fishing in their families and insist that fishing is "in my blood". In the current era of economic uncertainty, they also frequently talk of their lack of ability to fulfill any other type of job, their lack of interest in any other occupation, and how devastating it would be to have to leave their villages.

Competition between fishermen from other communities has led to an intensification of most fisheries and the purchase of larger, more efficient vessels (e.g. Shirley 1996). Reduced fishing seasons and regulations have exacerbated this trend. Similar to that found in the Norwegian cod fishery (Maurstad 2000), increasing regulations on the industry inspired expansion. Dreaming of a



commercial empire, one Aleut family began to expand their fishing fleet after the founding patriarch passed away, but they are paying the price just two years later because of bad salmon seasons and are trying to sell one of their boats.

Individual fishermen strive for an impressive catch record, and while they might joke about their failures, they refrain from expounding on their own successes. The most successful are called "highliners", who often, but not always, have the largest boats, better equipment, a seasoned crew, and more money. Highliners with their "Midas Touch" are most distinguished in the largely non-resident crab fleets, where ten percent of the fleets catch 90 percent of the crab.

Self-sufficiency and independence of fishermen has been found cross-culturally (Acheson 1981). It is a dangerous, uncertain occupation where so much depends on the skill of the captain, but Aleut fishermen often understate the difficulties and the dangers of their work. Palinkas (1987:301) argued that the sense of self-reliance decreases with participation in the commercial economy due to dependence on a cash income and the market economy, and that self-reliance is easier realized through subsistence activities. The community is cash dependent: fishermen schedule payments on their boats, insurance, maintenance, and family expenses around the different fisheries. If one collapses, they try to make up for it in the next venture. However, independent behavior is still idealized among fishermen and is measured in individual skill and innovation, knowledge of the ocean and fishing grounds, crew management, and commitment to the occupation of fishing, and less so in actual monetary income.

During periods when there is no fishing, fishermen still "go to work." They congregate at the harbor house, which has a small room lined with chairs, walls covered in nautical charts, coffee for all, and the harbormaster's office and VHF radio. This is where most fisheries meetings are held and where the city mayor spends much of his time. Even retired fishermen can be found there giving advice, interpreting the weather report, discussing past seasons, and catching up on the local chatter at all times of the year. Braund *et al.* (1986:Ch. 9, p. 58) noted that this is because they are in their "preferred domain as fishermen."

That male identity is intimately tied to the fishing industry is reiterated in the behaviors and goals of village children. Most young boys aspire to be fishermen, and their future occupational aspirations rarely extend beyond some relationship to the fishing industry. There is no other activity that grabs the attentions of boys more than fishing, and it is not uncommon for teenage boys to be running the family boat on their own. While playing badminton with a six-year-old Aleut boy, he asked, "Can we catch fish with this net?" Likewise, young girls will crew on boats, mend nets, and can or jar fish as soon as they are able, and many aspire to marry fishermen and stay in their community. Some young women become boat captains through inheriting permits from their fathers as well.

Accordingly, their entire childhood identity, male and female, revolves around the harvest, the processing, and the consumption of fish.

Thus, all that it means to be male, and all that many women look for in a male, is tied in some way to being successful in the fishing industry. If there is a major disruption in the Area M fishery, what will be the effects on individual identity and social relations? How will self-worth and status be redefined? At this time in Eastern Aleut culture, there is no viable alternative for status, prestige, and identity in any part of the social, political, or economic system.

ALEUT IDENTITY

Ethnic identity has often been used to avoid demographic collapse or catastrophe (e.g. Nuttall 1998; Stevens 1997). The historic Aleut population and the number of villages have diminished due to the activities of Russian reorganization, disease, and the evacuation of Aleuts during World War II. Today there are approximately 2,850 Aleuts living in the Aleutian region, all of a mixed ethnic heritage (Petrivelli 1991:15). Though Russian, Scandinavian, other European, and Aleut heritage can often be found in the same individual, the majority call themselves Aleut before any other affiliation. The emergence and maintenance of an ethnic identity is often expressed in opposition to dominant forces. In the eastern Aleutians, an Aleut ethnic identity and a heightened sense of cultural distinctiveness is emerging in the face of negative change, and in response to other cultural groups doing the same.

An Aleut identity that crossed village or island boundaries emerged in relation to larger socio-economic and political processes during the Russian and American periods while still being regionally specific, given the vast expanses of ocean between villages (Townsend 1983). As the Russians and Americans strove to enforce and legitimize their dominance through religion, political and social reorganization, education, economic control, and material culture, they inadvertently promoted the unity of Aleuts. Throughout this process, Aleuts revitalized aspects of traditional culture while adopting new religious beliefs, housing styles, and politics and appropriating new symbols of European and Russian power.

Identity and heritage pride has been argued to be the sole means of ensuring cultural survival among Alutiiq of the Gulf of Alaska to the east (Pullar 1992). Studies of youth aspirations and identity in rural Alaska found that Native ethnic identity and gender, that is, local images of where they belong in the world, largely determines each village's future in the face of social and economic change (Seyfrit *et al.* 1998). A growing uncertainty as to what to aspire to can be found among Aleut youth, since many of their fishing parents, fearing the future and knowing the uncertainties of the industry, are reluctant to encourage them to follow in their footsteps. Aleut youth are firmly rooted in their environment, in the harvest and consumption of local foods, and are feeling the same strain as their parents.



Area AYK	Area M
No subsistence permit required for any species, except in a few small sections of inland rivers.	Subsistence permit required for salmon, rainbow and steelhead; No permit for other fish species.
No harvest limits set on any species.	Salmon limit of 250.
Few time limits (only in specific districts and for one day before a commercial fishing opener).	No salmon taken within 24-hours before or 12-hours following and within a 50-mile radius of a commercial fishing opener.
Gear limits: for salmon only gillnet, beach seine, fishwheel, and rod and reel are allowed; by spear in a few areas. No gear restrictions on other fish species.	Gear limits: for salmon and other fish species only seine, gillnet, rod and reel, or gear specified on the permit allowed.
No recordkeeping required.	Recordkeeping required on the reverse side of the permit, returned October 31 to the Federal Subsistence Board.

Table 1: Summarized from *Subsistence Management Regulations for the Harvest of Fish and Shellfish on Federal Public Lands and Waters in Alaska*. 1999-2001. Federal Subsistence Board, U.S. Fish and Wildlife Service.

Many adult fishermen also believe that they will have to leave their homes and the villages will disappear if they do not encourage their children to try to make the same living. The potential closure of the salmon fishery is viewed as a direct threat to the existence of Aleuts. Steps taken by the State government and environmentalists to close Area M's fisheries have been viewed locally as "genocide." Nowhere in the State's numerous press releases; letters to the president, his cabinet, Alaska's Board of Fisheries, the North Pacific Fisheries Management Council; and speeches and declarations culled from the Governor's Operation Renew Hope website¹⁴ is there any concern for residents in the Aleutians. For example, on August 8, 2000, to Board of Fisheries Chairman Coffey, the Governor wrote, "I request the Board to take action to stop the interceptions of the salmon stocks in the Area M fishery and any other fishery that threaten the subsistence and escapement needs of Western Alaska." Aleuts have largely been dehumanized, referred to solely as "Area M", and their economic lifeblood described as bycatch, interception, or incidental harvest, without any mention of people. Despite their lobbying efforts, there are not enough Aleut votes to affect these political decisions (again, from Census 2000, Aleuts over 18 years of age comprise only 0.3% of voting age Alaskans and 2.4% of voting age Alaskan Natives). The State has concluded that all salmon user groups share the burden in protecting subsistence rights, but by cutting Aleuts off from their livelihood, they will create the same social problems in Aleut villages that have plagued western Alaskan villages for decades.

Aleuts have an historical claim to fish just as much as any other Alaska Native group, and perhaps they have a greater claim to fish commercially given their historical role in global economic activities discussed above, but that might mean very little in today's political climate. The Native American Rights Fund seemed to neglect Aleut Native-ness when defending Yup'ik and Iñupiaq villages' attempts to block the June salmon fishery in Area M.¹⁵ The Governor's failure to consider the impact of his recommendations on the people of Area M is equally indicative of the disregard for Native Aleut claims.

Without debating which fish belong to which Native group, Aleuts see residents along the Yukon and Kuskokwim Rivers receiving special considerations. Politicians make trips out to their villages to hear their grievances, but trips to Aleut communities are often at the expense of the Aleutians East Borough or the villages themselves. In addition, the rules regarding subsistence activities set by the Federal Subsistence Board are quite different for the commercially defined Areas M and AYK, and are more restrictive for Area M (see Table 1). Subsistence users in Area AYK are allowed to self-regulate their harvests, which the State and federal boards consider to be relatively low and stable, and impose no limitations, whereas the Aleutians are closely monitored and limited (Federal Subsistence Board 1999-2001; Wolfe 1984:174). Rules regarding commercial fisheries in each area are likewise inconsistent, but to elucidate these fisheries management issues is to track a perpetually

¹⁴ www.gov.state.ak.us/Rural/RenewHope/index.html

¹⁵ <http://www.narf.org>. In *Native Village of Elim vs. State of Alaska*, the Native American Rights Fund filed a motion in State court siding with the Iñupiaq community against Aleut fishermen to compel the Alaska Department of Fish and Game to take steps to minimize the harvest of chum salmon.



moving target, though it is generally written that overharvest is a concern at the start of salmon migration and not at the end where they spawn. There are stark differences between harvesting salmon in the open ocean, where a higher grade of fish is to be found, and harvesting salmon where they spawn since their flesh starts to decay as soon as they reach fresh water.

Few Aleuts dispute the fact that the situation is a dire one in the 80 villages of the disaster area, but the proposed solutions to the social and economic problems found along the Yukon and Kuskokwim Rivers (e.g. Fienup-Riordan 1994; Lee 1995; Palinkas 1987; Shinkwin and Pete 1983; Wood 1999) are considered to be more than an economic threat to Aleuts. As one local man put it, "We'll become Anchorage's next street people." If Aleuts can no longer fish commercially, social problems will escalate, people will be forced to relocate in order to survive, the villages will gradually disappear, and eastern Aleut culture will cease to exist.

COPING WITH RAPID CHANGE

The local behavioral health coordinator in King Cove found fishing to correlate inversely with emotional health, though he believes that successful fishing seasons do not always lead to healthy individuals and families (Gallagher, personal comm.). He found that during successful fishing seasons, there is an increase in alcohol problems, drug use, adultery, and divorce. During bad years, there is an increase in depression and anxiety, family violence, sexual abuse, and relational problems. Some spouses fear bad years because of the potential for abuse. When there is a surplus of money, he noted that there is some hedonistic behavior. Men who feel a sense of prosperity might be compelled to travel to Anchorage to spend money, cheat on their wives, or perhaps leave their families. When there is a deficit, there is a lot of anxiety, tension, irritability, and people looking for someone to blame. Data on substance abuse, especially alcohol abuse, family violence, separations and divorce, and emigration has been anecdotally collected by myself, but it is difficult to quantify these kinds of problems and their relationship to the fisheries at this point. In King Cove, previous restrictions in the fisheries have already created disenfranchised individuals and social problems that the community must cope with. Social problems among youth are far less prevalent in the salmon season and teens do not get in as much trouble when they are fishing. "This is our slow time," said one mental health counselor during the June salmon fishery. But what will occur when every season is a "slow time," as should be expected if there is a closure of the Area M fishery?

Strategies for survival

In this time of rapid change and political conflict, different strategies for survival have emerged in both the Aleut and Yup'ik

regions of Alaska. The Yupiit tend to have more visible cultural symbols and traditions than do Aleuts, and Aleuts are now having to adopt similar practices and rhetoric as the Yupiit in order to survive. The result of Yupiit appeals for help was a State coordinated response to the disaster in western Alaska, dubbed "Operation Renew Hope," which includes work programs for youth and job training, food aid, and energy assistance.

There is a growing sense among Aleuts that they need to recapture their historical identity in order to combat contemporary political trends. This historical identity is becoming an important position for debate in disputes over fisheries, and undoubtedly history will be shaped by the present circumstances. Aleuts are devising new ways to combat potentially damaging political decisions and are assessing how harmful the fisheries closure would be to their culture and their entire way of life. Part of their strategy is to make concessions and agree to some restrictions. They may have to agree to put observers on their boats to prove that they are avoiding harvesting chum salmon. It was even suggested that they donate the chums that do get harvested to Yupiit (which they freely agreed to) and hire them on their boats as crew (which was not taken as a real suggestion given the amount of bad feelings in both regions).

Given what is at stake, many Aleuts have begun to describe themselves as better custodians of marine resources than the people of Area AYK and as able to sustain their livelihood without government intervention. Without direct knowledge of Yup'ik practices, they talk of poor sewage draining into the rivers and of the Yupiit hanging fish on the banks to rot after stripping the roe. Aleut fishermen argue that one cannot harvest fish where they spawn and expect them to return to the streams, and that the State has mismanaged all fisheries in western Alaska.

In addition, though there are several Aleuts who have been actively involved in fisheries politics for decades, the majority of Aleutian fishermen are having to recast themselves as politicians and become their own advocates in order to keep fishing. They have been engaging directly with the State and federal governments: they write letters to the Congressional Delegation, community leaders have been known to dine at the homes of State Senators, and several have testified in front of Congress on all matters from reparations for damages during World War II to the building of a road to protecting their right to fish. But these activities are taking a toll as well. The expectation and pressure on individual fishermen and their families to pay their way to meetings (many of which are held during fishing openers), testify, write letters, and act as politicians in order to fish is creating social and political stress between individuals and between communities. This is creating destabilizing competition between individuals, families, and villages where cooperation has been the historical norm.



DISCUSSION AND CONCLUSION

Most arctic societies depend upon local marine resources. Anthropological studies of this dependence focus on the traditional importance of subsistence and coping with economic loss (e.g. Anderson 1998; Condon, Collings and Wenzel 1995; Langdon 1991; McNabb 1988). Hensel (1996) argued that Yup'ik peoples constantly construct ethnicity and identity through subsistence practices and discourse, and that changes in these traditional avenues for success affect cultural identity. I argue that this can be extended to the traditional commercial fishing activities in Aleut villages.

The image of Eastern Aleutian villages has been distorted across Alaska to suggest a wealthy, non-resident, non-Native fishing fleet with little or no vested interest in sustaining the fisheries. However, the majority of the fishermen are local Native residents that are entirely dependent upon the salmon fisheries for their livelihood and are deeply intertwined in a sociocultural system of status and identity that cannot be separated from the fishing industry. Local fishermen catch most of the fish, own their boats and permits, and manage their own crews. Many non-resident fishermen are relatives or friends who obtained their permits from local fishermen through gift, trade or sale, and are not seen as outside competition siphoning away money and resources. The cannery depends on the local fleet for the harvest of salmon, and they cater to the standard small-boat fisherman. The cannery formerly employed a large number of local residents (primarily women) in processing and cannery maintenance, but much of the local population gradually removed itself from those jobs as fishing became more lucrative. They participate in other fisheries in smaller percentages because to enter into these fisheries requires new permits, new gear, and often, new boats, and the social significance of these fisheries is not as strong as it is for salmon.

Eastern Aleutian fishermen took an active role in commercial development from its inception: they relocated their villages voluntarily, hired on at the canneries as seasonal processors, and purchased vessels and gear to fit the fishery, from dories tending fish traps to diesel-powered boats with hydraulic net lifts and reels. Commercial fisheries have increasingly gained in their importance economically, socially and culturally. Permits, boats, and required insurance are expensive to maintain and if fishermen are not allowed to catch enough fish to meet expenses and feed their families, they will have to sell out and be disenfranchised from their society. Aleutian social and cultural identity pivots on the reliance on the local environment, and it is through the fishermen's relationship with the natural resources that Aleuts express and transmit the core of their identity, social organization, discourse, and culture to their children.

Wiener and Mesquida (1997) demonstrate that levels of cultural violence and crime are intimately related to the number of

disenfranchised males in that society – a serious problem among the Aleut when identity is directly tied to their role as fishermen. It has been well documented that a disruption in traditional status outlets for males, without a culturally defined alternative, results in increased levels of crime, violence, and social unrest (Daly and Wilson 1988; Maschner and Reedy-Maschner n.d.; Reedy-Maschner and Maschner 1999; Wilson and Daly 1985). Social problems have been linked to the systematic erosion of individual autonomy in the high arctic (Bodenhorn 1988), a concern in the Aleutians where individual and community independence in fishing is so highly valued. Palinkas (1987) examined problems related to integrating commercial industries with traditional subsistence in Bristol Bay and found that stress-related morbidity and mortality occur among disenfranchised residents who have been lost in the attempt to merge these two systems. However, Aleuts successfully merged the subsistence with the commercial and have maintained low rates of crime, violence, substance abuse, and mental health problems that disproportionately plague so many arctic rural communities. The cause of Aleut disenfranchisement is externally imposed, and we can expect these rates to increase.

It has been argued that identity is often most visible during times of social and economic upheaval when individuals may lose social or economic privileges. Differences in how Aleutian fishermen and western Alaska fishermen are regulated and treated by bureaucracy have exacerbated an ethnic conflict over Native rights and the cultural importance of subsistence and commercial fishing. On the Yukon and Kuskokwim Rivers, subsistence fishing is regulated by local custom whereas subsistence fishing on the Alaska Peninsula and Aleutians is externally limited. The social and cultural role of commercial fishing has been given less weight relative to subsistence throughout the State. Aleuts believe that their traditional commercial livelihood is equally worthy of preservation and that their existence as a culture depends on their access to the fisheries.

After surviving earthquakes, volcanic eruptions, tsunamis, climatic change, the trauma of Russian reorganization, American hegemony, and forced relocation in World War II, the final blow to Aleut culture and society would be the closure of the traditional commercial fisheries. Considering changes in the fishing industry, the globalization of the arctic, and the structure of Aleut communities, it is a critical time for the investigation of the place of individuals, families, and villages in these larger constructs.

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Katherine L. Reedy-Maschner

klr26@cam.ac.uk

University of Cambridge, Department of Social Anthropology, Free School Lane, Cambridge UK, CB2 3RF. and Department of Anthropology, Idaho State University, Campus Box 8005, Pocatello, ID 83204 (corresponding address).



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NUNIVAK ISLAND, ALASKA: A HISTORY OF CONTACT AND TRADE

Dennis Griffin

Abstract: Nunivak Island is believed to be one of the last places in North America to be directly impacted by the introduction of western material culture and technology. This late impact is due to the island's relative isolation and lack of desired trade resources. Recent anthropological investigations on Nunivak have resulted in the collection of extensive ethnohistoric and oral historic information for the early contact period. This information is used to construct an outline of the speed and direction of early contact and the history of trade between the Nuniarmiut of Nunivak Island and mainland Natives and Euro-Americans during the nineteenth and twentieth centuries. An analysis of changes in Nuniarmiut material culture, as seen in five early ethnological collections (ca. 1874-1927) and recent archaeological excavations, are then compared with the outline to add additional insight into the impacts resulting from early contact between area peoples.

Key Words: Nuniarmiut, Euro-American contact, ethnological collections, Bering Sea

INTRODUCTION

Nunivak Island (Figure 1), located approximately 37 kilometers off the southwest coast of Alaska, is the only major offshore island inhabited by Central-Yup'ik speaking people, the Nuniarmiut (Van Stone 1989). The Nuniarmiut have a distinct culture and speak their own sub-dialect of Yup'ik (Lantis 1984) known locally as Cup'ig¹ (Drozda 1994) and by linguists as Cux (Hammerich 1958; Woodbury 1984). It is the most distinct dialect within the Yup'ik family and serves to highlight the isolation and uniqueness of the Nuniarmiut people. Due to the island's geographic isolation, severity of climate, and lack of desired trade resources, the island attracted little attention from early Russian explorers and Euro-Americans, allowing the Nuniarmiut to maintain their "traditional" lifestyle until the mid-twentieth century. Changes to Native lifeways, documented during the mid-nineteenth century in the neighboring Yukon-Kuskokwim Delta (Michael 1967:106-108, 117; Oswalt 1972), did not reach Nunivak until the 1920s. By 1939, Lantis (1946:161, 1960:vi) felt that Nuniarmiut culture still remained at least 50 years behind that of mainland Natives in accepting western culture. Due to the island's relative isolation, changes in Nuniarmiut lifeways and material culture prior to this period are difficult to document.

Recent anthropological investigations on Nunivak Island (Griffin 1999) resulted in the identification of numerous sources of previously unpublished ethnohistoric documents in addition to the recording of oral historic information from contemporary Nuniarmiut elders. Information gleaned from these data are used here to provide an outline of the history of early contact and trade between the Nuniarmiut and mainland Native and Euro-American peoples during the nineteenth and twentieth centuries. To provide

more substantive data to this historical outline, an analysis of early Nuniarmiut ethnological collections and material cultural remains from recent archaeological excavations are placed within this historical context, documenting the speed and range of changes that resulted from increased contact with western technology and material culture.

Five ethnological collections from Nunivak Island are known to have been acquired between the years 1874 and 1927. These include material acquired by William H. Dall (1874), Edward W. Nelson (1878-1881), George B. Gordon (1905), William Van Valin (1917), and Henry B. Collins (1927). Materials from the Dall, Nelson and Collins' collections are housed at the National Natural History Museum, Smithsonian Institution, Washington, D.C., while the Gordon and Van Valin collections are curated at the University Museum, University of Pennsylvania in Philadelphia. These collections span an important period of history for Nunivak Island that included the extermination of island caribou (1880s), increased contact with Euro-Americans and the availability of western trade goods, the establishment of a permanent island trading post (1920), the introduction of reindeer (1920), and the first island school (1923). Each of these activities had a direct affect on Nuniarmiut material culture.

In addition, the results of recent archaeological excavations at *Ellikarmiut*², a village along Nunivak's northwest coastline and the site of the island's first school, provide comparative data useful in measuring changes in local material culture. *Ellikarmiut* consists of two distinct occupation areas separated by a small stream. One

¹ The Cup'ig spelling of all Native names follows the current orthography set out in the Cup'ig dictionary (Amos, M. and H. Amos 1999).

² *Ellikarmiut* is the Cup'ig name for the general village area located at Nash Harbor. It is comprised of two parcels of land divided by a small drainage, each locally referred to by a distinct name: *Qimuglugpagmiut* (translation: "village of residents of *Qimuglugpag*, big bad dog"), located to the west of the drainage, and *Ellikarmiut* (translation: "village residents of *Ellikar*, whetstone, sharpening stone"), located to the east (Drozda 1994). In this paper, unless otherwise specified, *Ellikarmiut* is used to refer to the entire village site area.



area, occupied for about 500 years, was abandoned in 1900 following an epidemic that killed many island residents. The surviving village population moved to the previously unoccupied parcel until the village's eventual abandonment by 1959. Differences in the type and frequency of historic artifacts recovered from excavations in both site parcels provide data useful in assessing the impact of contact and trade. The following discussion provides a summary of the history of contact and trade with the Nuniwarmiut during the nineteenth and early twentieth century, thus establishing a foundation for understanding the acquisition of each of the Nunivak collections discussed later.

HISTORY OF TRADE AND CONTACT

Early trading contacts

The degree of contact between the Nuniwarmiut and mainland Native peoples, prior to the "discovery" of Nunivak Island by the Russians in 1821, remains unclear. Hostilities between Yup'ik groups throughout the Yukon-Kuskokwim Delta (i.e. Bow and Arrow Wars) are thought to have been ongoing since at least the seventeenth century with the Nuniwarmiut often being named as a major player in the conflicts (Amos, W. and N. Amos 1989; Curtis 1930:54-55; Fienup-Riordan 1988:50-54; Kolerok and Kolerok 1991a; Lantis 1946:168-169). Native trade networks linking Nunivak to the mainland have probably been in place since the island was first inhabited (> 2600 years ago), although trade until the late 1800s is thought to have largely been limited to periodic contact with relatives and friends (Fienup-Riordan 1983:114; Lantis 1946:169-170).

Contact between the Nuniwarmiut and their mainland relatives (e.g., at Nelson Island and Hooper Bay) would have been limited to periodic trips between the months of May and October when Etolin Strait, the 37 kilometer wide body of water that separates Nunivak from the mainland, was ice free. This period also represented the ideal time for the arrival of mainland raiding parties. Nuniwarmiut oral history is rich with stories of Yukon warriors attacking Nunivak villages and reciprocal mainland raids (Kolerok and Kolerok 1991a, 1991b; Noatak 1986; Orlun 1991). Contact with mainland relatives is thought to have been infrequent (Lantis 1946:168-170). The end of the Bow and Arrow Wars is commonly thought to have resulted from threats of direct suppression by the Russians (Lantis 1946:173; Nelson 1877-1881:6) or new trading opportunities and the effects of population decimation due to introduced diseases (Burch 1988:232; Sonne 1980:29-30; Wolfe 1979:28; 49). Prior to the 1880s, Lantis (1946:170) believes that mainlanders rarely came to Nunivak and that most trade would have passed through Nuniwarmiut traders that periodically visited the mainland. While historic accounts include stories of the Nuniwarmiut's ill treatment of people whose kayaks inadvertently washed up on Nunivak's shoreline (Fienup-Riordan 1988:33, 378),

and the Nuniwarmiut's fear of reprisals from past raids against mainland peoples (Fienup-Riordan 1988; Lantis 1960:5), trade with the mainland must have continued throughout the nineteenth century, albeit in limited fashion. One 1897 account states that the killing of strangers on Nunivak is said to have only recently stopped but distrust of strangers remained strong (Fienup-Riordan 1988:378).

Long before the Russian period in Northwest Alaska, an extensive aboriginal trade system was in operation linking Siberia with Alaskan Eskimo and Indian populations (Foote 1965:102-105). Goods from the interior (e.g., caribou and land mammal skins) were transported to the coast where they could be exchanged for coastal oriented supplies (e.g., seal oil, walrus skin rope, bird and sealskins) and available exotic western goods. When the Russians first established a trading post at St. Michael in 1833, Natives were found to already possess metal pots, knives, lances, iron, and chewing tobacco (Michael 1967:100). It has been estimated that by the early 19th century, it took approximately two years for trade goods from St. Petersburg to reach the Yukon River area (Foote 1965:102-114). Some of these goods undoubtedly reached Nunivak Island through established trade networks.

The Russians first "discovered" Nunivak Island in 1821 (i.e. ship *Otkrytie*, July 11, 1821). Commander Vasilev went ashore along Nunivak's northwest coast and was told by the Nuniwarmiut that they had never seen Europeans and had seen other islanders (mainland Natives?) for the first time only the year before (Russian American Company 1820-1822:213; Van Stone 1973:15, 61; 1989:2). In 1822, when Khromchenko and Etolin visited several villages along Nunivak's south and east shoreline, the Nuniwarmiut were found to have already obtained glass beads, cloth, iron and copper bracelets, and an iron adze, through trade with the mainland Kuskowagamiut (Van Stone 1973:60). In one village, Khromchenko encountered several Native men and women from the mainland which suggests that trade relations between the island's east coast and mainland Natives had been in place long before Vasilev's earlier report (i.e. the previous year). With the later establishment of Russian trading posts in the region (i.e. Kuskokwim River - 1832, 1841; St Michael - 1833), access to introduced trade goods would have increased.

In addition to indirect access to Euro-American goods through Native trade networks, direct contact between the Nuniwarmiut and non-Natives is known to have periodically occurred throughout the nineteenth century through contact with whaling and trading vessels or ships that failed to navigate the island's largely uncharted waters (i.e. six shipwrecks are known to have occurred along Nunivak's reefs or shoals between 1863-1909) (Seattle Chamber of Commerce 1916; Tornfelt and Burwell 1992:99-100). Trading contacts throughout this period were generally of short duration, with limited contact with the island's population. Shipwrecks had the potential of resulting in prolonged contact between stranded crew members and island Natives (e.g., brig *Timandra* 1879-



1880), in addition to introducing a wealth of western items extracted from the wrecked vessels (e.g., metal door hinges, milled wood, dinnerware) (see Griffin 1999:186-193; U.S. BIA ANCSA 1995, I:12-13).

Changes resulting from early contacts with Euro-Americans are thought to have been slow to take effect (Lantis 1946, 1984:210-212; Oswalt 1963:153-160). Significant impacts to mainland traditional Eskimo beliefs, ceremonial feasts, music, or food preferences are not believed to have occurred until after the 1880s-1890s (Foote 1964:19; Oswalt 1990:66-68, 86-88, 90-91; Spencer 1959:358-382), and on Nunivak not until after 1940 (Lantis 1972:4, 1984:215). The language barrier between Natives and Euro-Americans is thought to have earlier precluded even basic communication, let alone the exchange of subtle and abstract thoughts. By 1880, however, contact between Euro-Americans and Natives throughout Alaska had drastically increased (due to the gold rush, increased maritime trade, and tourism).³ It is during this period that early American ethnographers began to visit the Yukon-Kuskokwim Delta and Nunivak Island recording the lifeways of southwest Alaskan Natives prior to the changes that were about to seriously impact their way of life. For Nunivak, the important early ethnographer during this period was William H. Dall (ca.1874) with Edward W. Nelson (ca.1878-1881) recording additional information he acquired from mainland traders.

Post 1880 contact

While the availability of western goods increased throughout the Yukon-Kuskokwim area due to the establishment of commercial

³ It was at this time that missionaries began to establish missions in Native villages, whalers established long-term mainland camps in northern Alaska, and gold-seekers flocked to the Seward Peninsula and Norton Sound. Not until early missionaries learned the language of the people they were living among were they able to really influence Native lifeways (Oswalt 1963:37-38).

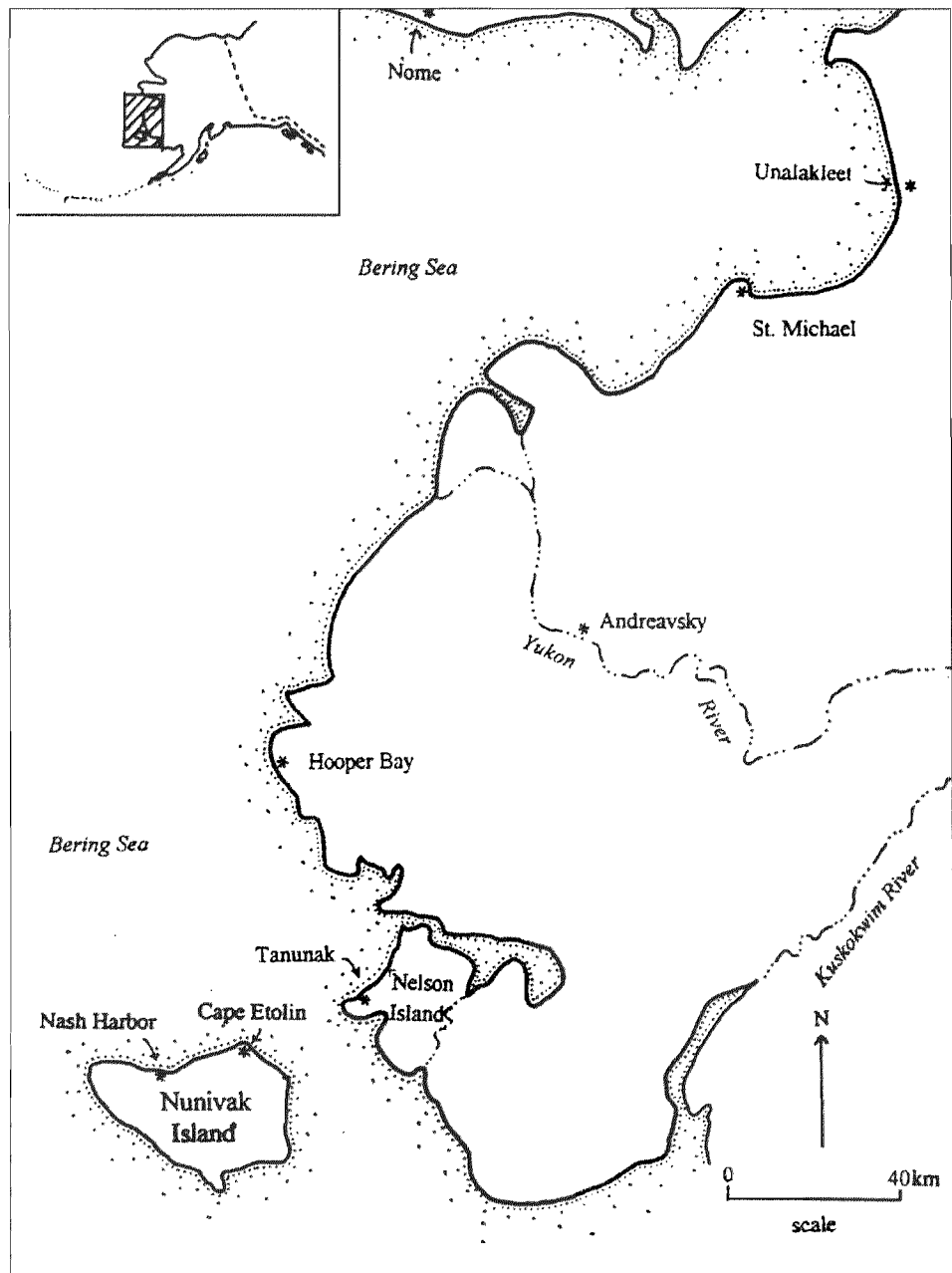


Figure 1: Map of Yukon-Kuskokwim Delta showing sites discussed.

trading posts, the Nuniwarmiut maintained their traditional mainland trading contacts and spent considerable time preparing items for trade that were desired by southwest Alaskan Native populations. Such desired items included seal oil, seal/walrus skin rope, and bird skins (Levering 1905; Smith, P. 1987). An example of a trading transaction during this period was recorded on Nunivak in 1891 by U.S. Census enumerator Ivan Petroff. Petroff was fortunate to be in the Nuniwarmiut village of 'Koot'⁴ (i.e. Nunivak's reported commercial center) when a Native trader from Nelson

⁴ In this case, "Koot" correlates with the village of Pengurpagmiut, on Cape Etolin. Previous research has also correlated "Koot" with the village of Mekoryuk and other locations (see Coonrad 1957; Pratt 1997:25).

Island arrived (probably associated with the ACC trading company at St. Michael). Petroff recorded that the trader's cargo consisted of "10 bales of leaf tobacco of 50 pounds each, 8 sacks of flour of 50 pounds each, 3 pieces of faded calico print (of about 48 yards each), 100 half-pound cans of powder, 200 pounds of bar lead, 1 tin of matches, and 1 small box containing a few cheap knives, needles, thread, thimbles, and fine-toothed combs"⁵ (U.S. Census Office 1893:114-115). In exchange for the above goods the trader was given "280 tanned maklak (seal) hides, a dozen fox and land-otter skins (mink?), 39 pairs of walrus tusks (from 5 to 7 pounds to each tusk), about 100 gallons of oil in bladders, and several thousand fathoms of seal and walrus line" (U.S. Census Office 1893:115). This list provides a good index of the type of items generally available through established trade networks at that time. By 1900, Nuniwarmiut traders are known to have made trips to the St. Michael and Bethel trading posts with yearly regularity (Noatak 1989; Noatak and Kolerok 1987; Smith, P. 1988; Williams and Williams 1995), stopping off en route to visit relatives on Nelson Island. Gordon (1905a) found three Nunivak families spending considerable time at St. Michael in 1905 and Moravian records (Levering 1905) report that Nunivak families often could be seen trading along the Kuskokwim River.

The higher asking price of items purchased on Nunivak, compared with those available on the mainland, was well known to Nuniwarmiut traders, and provided an encouragement to periodically visit the mainland (Ivanoff, M. 1933). In turn, mainland traders realized the potential of the Nunivak market and periodically transported goods to the island to stock local traders' supply caches (Lantis 1960:5). Prior to the arrival of the first permanent trading facility on the island (i.e. Lomen Commercial Company, ca. 1920), numerous supply "caches" were established on Nunivak (Figure 2) that were maintained by local traders from supplies purchased directly from mainland traders.⁶ Caches were often restocked only once a year, so intra-island trading patterns would have been the norm throughout the majority of the year for exchanging local goods and acquiring western items (see Griffin 1999:194-197; Pratt 1990:76-78). Nuniwarmiut elder Peter Smith (1986a:25) summarized the intra-island exchange system in this way:

This summer he needs guts for raincoat and he got a white fox, what they saved, last winter, what he got. And he come

to me and ask me "Can I exchange for that, guts for my raincoat, with my white fox?" And I said yes.... And when I got it, white fox, when the white men came by boat, sail boat, I take along the white fox down to the ship, and I came to the pilot and I say, "You have tobacco? Yeah, I got a white fox. Can you exchange my white fox with tobacco?" And he says "Yes." And I gave my white fox to captain and he give me tobacco, exchange for tobacco. Boy! I got lotsa tobacco. And then when I take it home everybody that needs it call me. Peter Smith, he got tobacco from the ship. And he says one leaf, one tobacco, he says one white fox.

Given an active trade network and knowledge of desired resources, the increase in availability of western trade goods and trading opportunities would have provided an economic incentive for Natives to construct items intended for resale. According to Nuniwarmiut elders, however, items normally purchased during the early twentieth century by Nuniwarmiut traders included traditional items such as smoked fish, squirrel skins, punk (bracket fungus), paint pigments, and alder bark for dyeing skins (Williams and Williams 1995), with western items limited to rifle primers, lead and gunpowder, tobacco and snuff, sugar, flour, tea, cloth, and glass trade beads. Items offered in exchange for these goods included walrus and seal skin rope, walrus flippers, dried seal meat, dried cod, seal oil, and the skins of seal, sea lion, walrus, fox, mink, and birds. Craft production for tourists is said to have been slow to develop on Nunivak compared to elsewhere in Alaska with no real effort spent prior to the arrival of the Lomen Commercial Company in 1920 (Curtis 1930:38; Lantis 1946:169-170). Examples of Nuniwarmiut ethnological collections from this period include that of George B. Gordon (ca.1905) and William Van Valin (ca.1917).

Establishment of a permanent island trading post

The first permanent trading post was established on Nunivak Island in 1920 by the Lomen Commercial Company of Nome, Alaska, who introduced a private herd of reindeer to the island at the same time. Nunivak was seen as an ideal pasturage for reindeer (Lomen and Lomen n.d.:14) in spite of the U.S. Governments rejection of the idea to create a reindeer reserve for the Natives three years before (Schofield 1931). The private herd's introduction was done without consideration of the Nuniwarmiut (see Griffin 1999:238-243; Pratt 1994:340-342). Aside from reindeer husbandry, the Lomens understood that in order to prosper on the island they had to develop a side industry — trade. To assist in this they sent Paul Ivanoff, a Native of part Russian, part Iñupiaq descent from Unalakleet, to manage their reindeer herd and operate a year-round trading station. Paul and his wife May, established their home at Cape Etolin where he built the first island trading post buying local ivory and furs from the Nuniwarmiut in exchange for basic European

⁵ In contrast to the recorded tally, in an article by Petroff for a San Francisco weekly (Petroff 1892:229), he describes the yearly supply of goods brought by the Nunivak trader as including: "3 bales of leaf-tobacco of fifty pounds each, two half-sacks of damaged flour, four pieces of cotton prints and one of ticking, a soapbox full of matches, needles and thread, twenty pounds of powder, perhaps fifteen of bar lead, and about three thousand percussion caps. In addition there was a little package of tea and a few pounds of pilot bread and sugar for use of the nuniachpuk (village trader)." See Pratt (1997) for details regarding the historical accuracy of Petroff's 1891 census enumeration.

⁶ An exception to this would be a store established at *Tacirrararmiut*, along the northwest coast of Nunivak, in 1879 by two shipwrecked sailors from the brig *Timandra*. Items offered for sale were derived solely from salvage from the wreck. The store stayed in operation until the following spring when the sailors managed to build a boat and leave the island (Griffin 1999:200; Kolerok 1995; U.S. BIA ANCSA 1995 (3):19, 22-23).



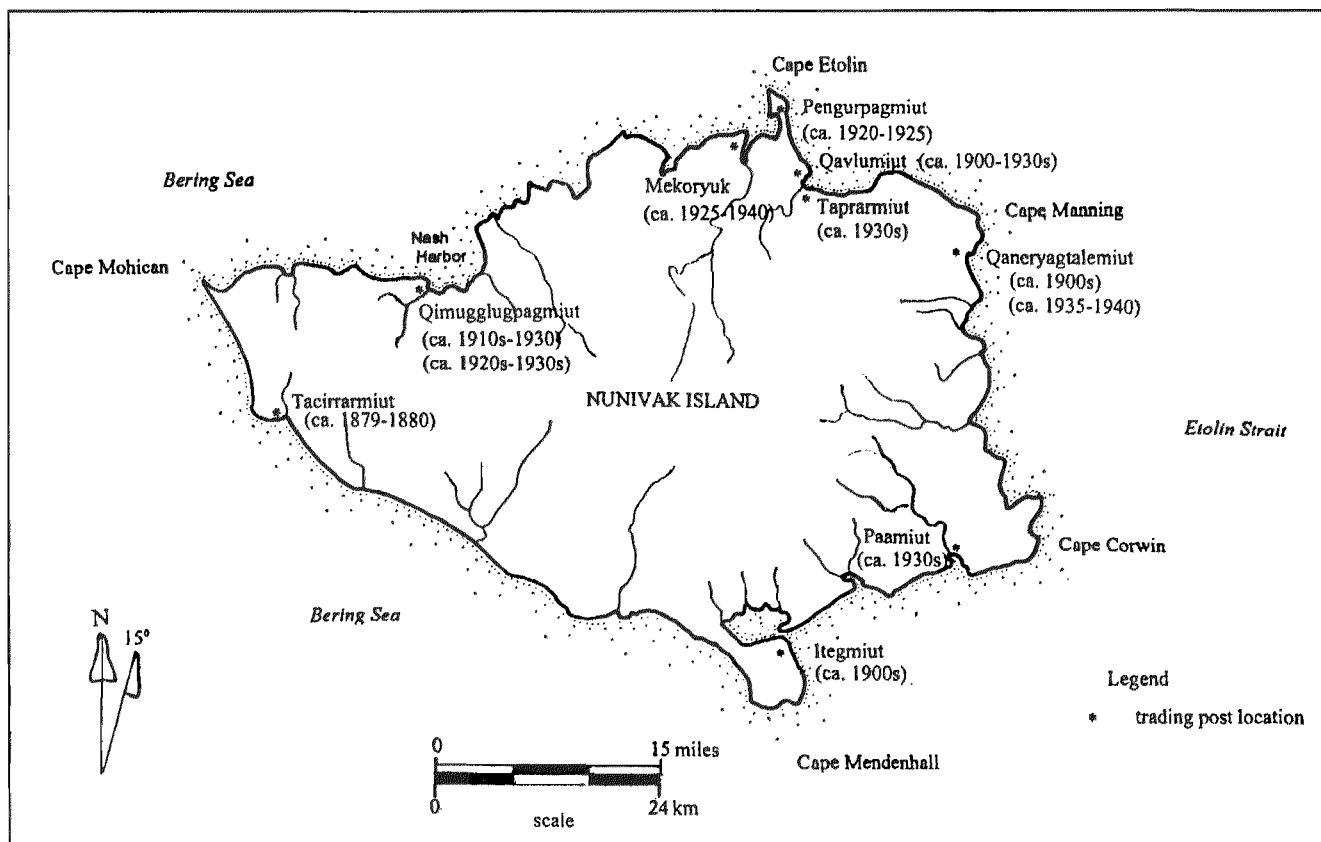


Figure 2: Historic trading post/caches on Nunivak Island.

staples. The Lomen store initially offered islanders American-style clothes and fabric; animal traps; firearms including cartridges, powder and shot; and foodstuffs including flour, butter, tobacco, tea, and sugar (Kolerok 1995). To encourage the success of their trading venture and to provide items to encourage Nuniwarmiut success in bartering, the Lomens helped establish a commercial basketry industry on the island and imported walrus tusks from the north for local Natives to carve. The resultant carvings, cribbage boards, baskets, and trinkets (e.g., ivory cigarette holders, billikens, chains, fish-shaped toothpicks) found favor with the booming Alaskan tourist market and were purchased by the Lomens for resale. The Lomen Commercial Company instituted a barter method of exchange on the island where the Nuniwarmiut could exchange their crafts and furs for reindeer meat and western supplies (Lomen 1931:41). Due to the Lomen trading monopoly, however, the exchange rate was often three to ten times higher than that available on the mainland (Trowbridge 1932).

Paul Ivanoff's personal journals reveal details on local trade transactions during the 1920s (Ivanoff, P. n.d.) (refer to Lantis [1946:170] for trade exchange value in 1939). While Ivanoff states that exchange rates should always be considered only a guideline and subject to change given the current situation of both parties, Table 1 provides Ivanoff's general rate of exchange. A review of this exchange rate reveals several interesting details. Green glass

beads⁷ were highly valued by the Nuniwarmiut to be worth an entire bearded sealskin. Such a rate suggests that sealskins were quite easily obtained or that bead availability was extremely limited. Most items offered to the Lomens in trade were local products such as furs and oil, with the requested western products limited to glass beads, tobacco, cloth, tea, and flour. Sealskins and oil make up the most common exchange items and are included in most exchange rates. This emphasis highlights the importance of seals to the Nuniwarmiut and the demand for seal products in mainland markets.

In spite of the increased availability of western trade items and the dominant role of furs (both sea and land mammal) in the local exchange system, trapping on Nunivak failed to ever seriously threaten island fox populations. Local trappers restricted their trap lines to two or three traps. "When they had secured a sufficient number of foxes and mink with which to purchase what they need they do not feel inclined to trap more" (Miller 1929:1). This practice was in stark contrast to that practiced on the mainland where hundreds of traps were maintained on lines 60 to 100 miles in length (Miller 1929:1).

⁷ Preference for particular colored trade beads are known to have varied from village to village depending on local fashion. Zagoskin (Zieleny n.d.:67) records that red beads were the rage along the Yukon in 1839, with preference switching to black beads the following year.



Trade Item	Asking Price
4 saltwater green beads (for nose)	1 leftak (bearded seal)
1 ukruk (adult bearded seal)	2 leftak, 4 white foxes, 2 red foxes, 1 bundle parka squirrel, 1 poke seal oil, or 1 set bird parka skins
1 red fox skin	1 leftak or 1/2-lbs hank tobacco
1 white fox skin	2-yards cloth denim
1 mink skin	2 sealskins
1 seal	1 white fox or 1/20lb. leaf tobacco
1 leftak	2 seals, 5-cups tea, 50-lbs. flour and 1-cup tea, 1 fawn skin, or 1 young baby seal
1 large wooden box (40" x 26")	2 pokes of seal oil, 2 ukruk or 4 leftak
1 small wooden box	2 leftak or 1 ukruk
1 spotted stone labret from mainland	1 ukruk
1 smaller size stone for labret	1 leftak

Table 1: Exchange rate for Nunivak products, ca. 1920s

After the establishment of the Lomen Commercial Company store, the Lomens began purchasing many types of local trade items for resale (i.e. seal skins, seal oil, bird skins), thus attempting to control the existing local market. This undoubtedly resulted in a reduction in mainland trading ventures by Nuniwarmiut traders (Lantis 1946:170), however, some island traders continued to visit St. Michael into the 1930s and the Kuskokwim area into the 1940s. The trading monopoly held by the Lomen Commercial Company maintained prices at such a high rate that trading off island still proved profitable to an enterprising island trader. The Henry B. Collins ethnological collection (ca. 1927) provides a range of items available on Nunivak Island during the 1920s.

After 1920, craft production for later resale became popular among many of the Nuniwarmiut thus providing a source of income to purchase nonessential items. A dependence on western trade goods or technology, however, does not appear to have developed on Nunivak until after the arrival of the island's first missionary in 1937. This lack of dependence is in spite of the supply of items offered by the Lomen Commercial Company store. A 1937 inventory of merchandise available at the Cape Etolin trading post (Lomen Commercial Company 1937) includes: western food items (e.g., canned fruit, coffee, tea, oats, sandwich spreads), metal tools (e.g., knives, chisels, wrenches, files, and a grinder), clothes (e.g., buttons, gloves, flannel, neckties, union suits, Mackinaws), soap, china, enamelware, ammunition, and entertainment items (e.g., harmonica, phonograph). It is unclear, however, how much of this material was purchased by the Nuniwarmiut versus how much was

intended for the island's reindeer operations and the trader's family. Contemporary Native elders recall only basic foodstuffs, cloth, and glass beads being available outside of Mekoryuk village (Lucier 1997; Smith, P. 1987; Williams and Williams 1995).

The degree of influence Paul Ivanoff had on changing Nuniwarmiut lifeways has been little studied. Paul was the son of a lay missionary, had attended Chemawa Indian School in Oregon, been a former teacher with the Bureau of Education, and was incredibly handy with his hands (Bunch 1998). Many outsiders considered Paul the spokesman for the Nuniwarmiut (Curtis 1927:29; Lomen 1929:2). He was influential in the arrival of the island's first missionary (ca. 1937), and the movement of the island's school to

Mekoryuk (ca. 1940). While Paul was said to have made no serious effort to change the Nuniwarmiut's traditional lifestyle (Bunch 1998), he encouraged the development of an island craft industry (Curtis 1930; Lomen 1954:179; Lantis 1950:70; Ray 1961:121-122), brought with him many modern conveniences (see Figure 3) and helped to introduce a wage based economy with periodic employment opportunities.

The island's first missionary, Jacob Kenick, from the Swedish Evangelical Covenant Church, arrived on Nunivak in 1937. His stated mission was to bring the "heathen" out of barbarism and into the light of civilization. The "old ways" were said to be no longer acceptable and villagers were asked to embrace western technology (Burg 1941). While Lantis (1946:161) stated that in 1939 the Nuniwarmiut were 50 years behind mainland Natives in accepting western technology, by 1960, in most aspects of their culture, they had caught up with mainland villages long under outside influence (Lantis 1960:vi).

NUNIWARMIUT ETHNOLOGICAL COLLECTIONS

In association with a Pre-doctoral Fellowship grant by the Smithsonian Institution's Arctic Studies Program, the author examined Nuniwarmiut cultural material within five early ethnological collections (totaling approximately 2,000 objects). All cultural objects were measured, described, and photographed in order to determine the number and type of objects within each



collection (e.g., hunting and fishing implements, items of personal adornment), and the degree of incorporation of western material culture (e.g., inclusion of glass trade beads or copper). Original field notes and accession records for each collection were also examined to provide a context for their selection and purchase. The following discussion provides a review of the collected material culture in light of the degree of contact and trade between the Nuniwarmiut and Euro-American/mainland peoples during the early contact period.

Theoretical limitations in the use of ethnological material

All societies in contact with each other eventually exchange materials, items, and ideas. Foreign materials are substituted for increased efficiency or to replace hard to obtain Native objects (Graburn 1976:10; Quimby and Spoehr 1951:146-147). New forms of objects are introduced for resale. Early ethnological collections offer one source of data to help document the speed and degree of acceptance of foreign objects and ideas. The difficulty in attempting to measure these changes, however, is compounded by several problems inherent in the collections themselves. Such problems include the following: 1) the appearance of an object within an ethnological collection does not necessarily provide the date of its introduction, for it could have predated the collection period by many years; 2) the difficulty in determining how representative ethnological collections are when compared to the total range of available items in use at the time the collection was made (e.g., differential access of collectors to segments of material culture; gender bias); 3) the possibility that particular items were purposely not purchased so that the collection would reflect an image of a "traditional" people unaffected by outside contact (i.e. avoidance of items incorporating western material culture); and 4) the percentage of items in a collection that may have been purposely made or modified for resale. The types of items entering local trade networks reflect both the economic needs of the seller and the interests of the buyer. Both factors must be considered when attempting to draw conclusions from limited sources of data, such as ethnological collections. Collecting activities aimed at representing a culture are always selective and strategic. Early anthropological collections typically focused on acquiring items that appeared "traditional" (Clifford 1988:231).

The first three of the above problems focus on determining the degree of representativeness of early collections. Early attempts to analyze Native American collections were often criticized due to the incorporation of western materials in Native items, which emphasized western influence (Phillips and Steiner 1999). Collections were said to have been "spoiled by European importations" (Stolpe 1927:93). As early as 1881, collectors in some parts of Alaska were finding it difficult to purchase ethnological items that did not incorporate such material because "nearly all of them made are ornamented with (trade) beads and

the shell (*Dentalium d.*)" (Fisher 1881 in Graburn et al. 1996:7). Such historic references emphasize a conscious selective process in place during the late nineteenth century which would have resulted in the purposeful omission of particular cultural items that incorporated non-Native materials (e.g., glass beads, cloth). The inclusion of such items would not have supported the image of "premodern" Native Americans that museums were encouraging during the late nineteenth century (Clifford 1988:231; Graburn 1989; Phillips 1998). The exclusion of introduced Euro-American items, such as firearms and animal traps in most period collections, illustrates such a selective process. The choice to not purchase such items may have also been influenced by an exorbitant asking price. Exotic and unusual items were highly valued by Native peoples and their incorporation on traditional items would have increased their value in the eyes of the seller. Collectors generally looked for bargains and sought to purchase as many items as possible given their limited funds. The exclusion of some available non-traditional items in all early Alaska ethnological collections may be considered a given. While such absence limits the inferences that can be drawn from an analysis of such collections in seeking information on culture contact, the incorporation of data from other sources (e.g., archaeological excavations, oral interviews, ethnohistoric documents) provides an alternative method of assessing the representativeness of collected material.

The fourth problem focuses on what percentage of collected items, specifically made for trade, constitute part of an ethnological collection. As contact between isolated "traditional" peoples and commercial forces (traders, tourists, and collectors) increase, replicas of traditional art forms are created and a souvenir industry is fostered (Graburn 1987; Smith, V. 1989). Evidence of lack of wear, nonfunctional construction, or use of substitute, introduced materials must be considered when determining if objects within collections include replicas made for sale (Graburn 1976:10-12; Rousselot 1996:39). Earlier studies of Native material culture have been criticized due to the lack of recognition of the inclusion of commercially produced replicas in most late nineteenth and early twentieth century collections (e.g., Berlo and Phillips 1998; Graburn et al. 1996:10-12; Lee 1999; Phillips 1995, 1998:49-71). One recent study (Berlo and Phillips 1998:154) has suggested that during the late nineteenth century, Eskimo carvers made many of the 'ethnological specimens' now in our museums, specifically for sale. This opinion stands in contrast to observations of the Edward Nelson collection (ca. 1877-1881), which contains nearly ten thousand specimens, and is thought to contain only a very few items that had been made explicitly for European trade rather than Native use (Fitzhugh 1983:29). Unlike most early collectors, Nelson spent a considerable time detailing observations on Native culture throughout the Yukon-Kuskokwim Delta and was very aware of what items were regularly in use (Nelson 1899). His familiarity with local culture and personal collection strategy earned him the name of "the man who buys good-for-nothing things" (Collins



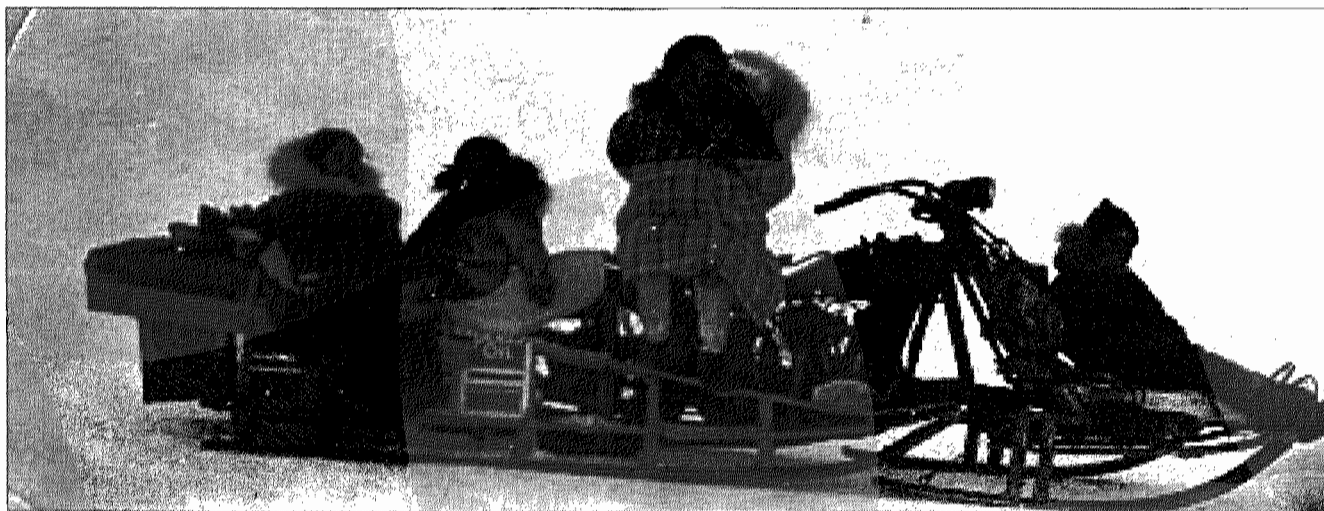


Figure 3: Mary Ivanoff and family with cycle-sled, ca. 1925. Source: Irving Bird; courtesy of Joann Amall Boston

1982:29; Hooper 1884:37; Nelson 1899:373). To what degree does the incorporation of replica commercial arts affect our image of Native material culture? What percentage of such items are included within Nuniwarmiut ethnological collections? To answer either of these questions it is important that the context of the acquisition of each ethnological collection be understood, including the aim, purpose and biases of each collector, and the distance of the collector from the makers and users of the purchased items (Krech and Hail 1999:1-4).

ACQUISITION OF NUNIWARMIUT ETHNOLOGICAL COLLECTIONS

The above synopsis of contact and trade between the Nuniwarmiut and Euro-American/mainland traders provides a background necessary to understand the interchange occurring at the time of purchase of each of the five examined Nuniwarmiut ethnological collections.⁸ The following discussion provides data on the acquisition of each of the collections so that the intent of the buyer, and perhaps the sellers, can be understood.

William H. Dall Collection- 1874

The first collection of ethnological objects from Nunivak Island known to have been purchased was that of William Healy Dall. Dall, aboard the United States Coastal Service (U.S.C.S.) Schooner *Yukon*, conducted a geological survey of the northeastern portion of the island during the summer of 1874. When Dall (1870, 1874a, 1874b, 1877) dropped anchor east of Cape Etolin, approximately 30 natives from a nearby winter village (perhaps *Pengurpamiut*, near the tip of Cape Etolin) approached the vessel in eight to ten

bidarkas. With them Dall conducted a brisk trade for arrows, lances and cultural items. Spending four days here, Dall continued his trade with local natives while taking nautical observations on the island's terrain and commenting on the variety of wildlife present. In addition, he and his party went ashore and collected "a variety of good things" from the beaches (Dall 1874b).

It appears to this author that from the very first, island natives may have gotten a poor impression of visiting scientists. In addition to the ethnological items Dall purchased and a small collection of seashells obtained on the beach, Dall and his men broke into ancient graves and obtained eleven human skulls. Dall comments that his men accidentally broke into a Nuniwarmiut cache and cut open their seal oil bags thinking that the cache was a grave (Dall 1874b). Departing on August 2nd, Dall took with him an ethnological collection of 407 objects, largely comprised of hunting and fishing implements (e.g., seal lances, fishing bows, bird or fish spears, harpoons, atlats) with an assortment of personal items (e.g., snuff boxes, needles, and labrets). Seventeen percent of his collection (i.e. 70 objects) has since been lost or traded to other museums and was not available for examination. All object types collected by Dall, however, were described in his journals and inventory lists, and have been considered in this discussion.

Edward W. Nelson Collection - 1877-1881

The next record of ethnological items collected from Nunivak is found in the records of Edward W. Nelson. Nelson never visited Nunivak himself but employed an Alaskan Commercial Company (ACC) trader, Charlie Peterson, an American living in Andreavsky, to obtain trade items for him (Nelson 1877-1881, II). To acquire Nuniwarmiut material, Peterson made several trips to Nunivak Island, in addition to purchasing material from a Russian ACC fur trader living on Nelson Island (Nelson 1877-1881, IV). In all, Nelson purchased 277 ethnological specimens from Nunivak Island. While

⁸ Ethnological collections are defined as all cultural items acquired by the five early ethnographers. These collections do not include any human remains or natural history specimens (e.g., shell, rodents) returned for study.



a complete inventory of items acquired by Nelson are listed in his field notes, approximately 11% of these items were later lost or exchanged to other museums and were not able to be examined.

Given that Nelson had little direct contact with the Nuniwarmiut (i.e. his journals mention meeting only one Nuniwarmiut while visiting Nelson Island [Nelson 1877-1881, IV]), he records very little ethnographic information about Nunivak aside from the ethnological items that he purchased. Nelson does record, however, that by 1880, the island's caribou population had been severely decimated by mainland hunters and he estimated that the island's caribou would be exterminated by 1881⁹ (Nelson 1877-1881, V). Nuniwarmiut elders recall being told that families from the Kuskokwim area, Goodnews Bay, north of Teller, Unalakleet, St. Michael, Yukon River, Hooper Bay, and Nelson Island spent five years on Nunivak prior to the caribou's extinction (Smith, P. 1986b). Contact with these mainland peoples would have resulted in both increased trading opportunities and knowledge of mainland markets, prices, and availability of exotic goods.¹⁰

George B. Gordon Collection - 1905

The next known Nuniwarmiut ethnological collection is that purchased by George Gordon, the curator from the University of Pennsylvania Free Museum of Science and Art. Gordon is generally acknowledged to have spent about two weeks on Nunivak Island during the summer of 1905, where he worked on gathering a vocabulary of the Cup'ig language, recorded numerous string-figure variations, and purchased a large number of ethnological items for his museum's collections (Gordon 1905b, 1906; Kaplan and Barsness 1986:25-27). In reviewing Gordon's field journals and summer purchasing records, however, there is serious reason to doubt he ever actually reached Nunivak Island. Gordon (1905b) states that his summer was spent "on the Yukon, the Tanana and the Kuskokwim Rivers, and on the Bering Sea from the mouth of the Kuskokwim to Cape Prince of Wales." In all, he is said to have visited eighteen tribes, collected over 3,000 ethnological specimens and acquired over 300 photographs. One hundred and seventy of these ethnological specimens were from Nunivak.

A review of Gordon's field notebook for 1905 (Gordon 1905a) has revealed some inconsistencies in his reported itinerary. By following Gordon's progress throughout his Alaskan trip it appears that he not only failed to reach Nunivak Island, but also may not

have reached the mouth of the Kuskokwim River or perhaps even Cape Prince of Wales. Gordon traveled down the Yukon River aboard the steamship *Cudaby* arriving at St. Michael on August 12th. Here he found two "Indian" camps, "one consisting of 3 families from Nunivak Island" and the other, I believe to be from the lower Kuskokwim River (Gordon 1905a:6). Gordon spent the next 11 days in St. Michael visiting daily with the Nunivak families. The wife of one of the traders, Keoniouk, served as his principal informant and shared with him many Cup'ig words and string-figure constructions. The University of Pennsylvania Museum records that Gordon purchased 170 items from Nunivak. Over 80% of these items can easily be accounted for from Gordon's St. Michael's purchasing catalog.

On August 23rd, Gordon departed for Nome where there is no record of his leaving prior to his departure to Portland, Oregon. During the interim period, Gordon's (1905c) catalog of expenses (i.e. hotel bills) and craft purchases suggests that the majority of ethnological items purchased were from Nome area collectors (who he paid using bank drafts) or from Natives visiting Nome during his stay. No expenses were billed for additional transportation nor does there appear to be enough time left between the payment of his cataloged bills to have reached any destination far from the Nome area.

Since the 1880s, museums had been scrambling to obtain objects from Alaska and the Northwest Coast (Cole 1985). Gordon believed that in Alaska, Native culture was quickly disappearing due to the effects of introduced Euro-American diseases and the introduction of western material culture. In describing his 1905 trip, Gordon (1905b:1) states:

Nothing impressed me more during this trip that (*sic*) the rapidity with which the materials of which ethnology is made are disappearing from the North American continent. Three years from now the Ethnologist will find Alaska a barren field and at the present rate of decrease in the native population it is doubtful whether any communities of any considerable size will be found to exist in five years from now.

Gordon's ethnological collection remains quite valuable as an example of cultural items available at the time of his trip (ca. 1905). The details of its purchase, however, are important in order to understand the composition of his collection and the value we should place on his observations. With Gordon never visiting Nunivak Island, ethnographic information that he recorded must be carefully considered. For example, Gordon remarks that the custom of wearing labrets had died out "in the region lying between the mouths of the Yukon and the Kuskokwim and on Nunivak Island" where he had failed to observe a single instance of their use (Gordon 1906:82). Photographs and records made by Henry B. Collins (ca. 1927) and Edward Curtis (1930:12), visiting Nunivak 22 years later, recorded that the practice was still very common among the island's

⁹ Palmer (Palmer and Rouse 1938), quoted in Bos (1967:80) credits Nelson with estimating the caribou population on Nunivak at 25,000 head before they were exterminated by over-hunting by mainland Eskimo peoples and overgrazing of island lichens.

¹⁰ While evidence exists that these hunters were not welcome to Nunivak, some relationship between the Nuniwarmiut and the visiting mainlanders developed during their residence of several years. This relationship is supported by mainland census data (U.S. Bureau of Census 1900) that records birth records of six children on Nunivak of Bering Straits heritage and two marriages between Nuniwarmiut and mainland natives during this period.



women and some men. In addition, by acquiring all of his cultural artifacts at St. Michael, the regional trading station, the likelihood of Gordon's collection containing items intended for resale must be considered.

William Van Valin Collection - 1917

Van Valin, a member of the Wanamaker Expedition and an employee of the University of Pennsylvania Free Museum, visited St. Michael in 1917 where he is said to have purchased 103 ethnological "curios" from Nunivak. Whether these "curios" were largely purchased from visiting Nuniwarmiut traders, as were Gordon's earlier purchases for the museum, or from the St. Michael trading post remains unknown, but the discovery of prices marked on some of the items suggests the later. Many of the purchased items undoubtedly were constructed with the intention to resell (i.e. many appear unused; decorative items with cloth borders and glass beads). In reviewing Van Valin's (1917a, 1917b) field notes and artifact catalogs, there is reason to believe that some of the items attributed to Nunivak may have been miscatalogued by the museum and that a portion of the collection originates from Nunavak, a site near Barrow approximately 1207 kilometers to the north, where Van Valin was stationed for several years.

Henry B. Collins Collection - 1927

Henry B. Collins and Dale T. Stewart, from the Smithsonian Institution, spent several weeks on Nunivak in 1927 collecting human skeletal remains, grave goods, taking physical measurements of the Nuniwarmiut population, and purchasing ethnological items (Collins 1927a, 1927b). They obtained 1,219 objects from Nunivak, which constitutes the largest collection of curated Nuniwarmiut items that were examined during the present study. Aside from purchasing items from local residents, many of their acquired items were obtained from historic graves so the antiquity of many of the objects is unknown and their preservation poor (i.e. poor preservation of organic materials due to exposure to environment). While it is only possible in a few cases, to associate specific funerary objects to the appropriate human remains (Speaker et al. 1996:18), they focused their collecting activities on late nineteenth and early twentieth century graves; the only graves where bone preservation would have been sufficient for taking anatomical measurements. In fact, Curtis (1927:34) remarked that many of the "skeletons" collected by Collins and Stewart were from recently deceased individuals whose bodies were still in the process of decomposing. Human remains from at least 177 individuals (percent male/female individuals fairly equal) were removed from graves by Collins and Stewart with the remains and associated funerary objects sent to the Smithsonian Institution for curation (Speaker et al. 1996:13-14, 18-38). The Smithsonian Institution has catalogued these items as belonging to the H.B. Collins collection.

OBSERVED CHANGES IN NUNIWARMIUT MATERIAL CULTURE

In analyzing Nuniwarmiut ethnological materials acquired between the years 1874 and 1927, several changes in Nuniwarmiut material culture over time were identified. Most of the early collectors of Nunivak material culture had the same interest in mind — to collect cultural objects before "traditional" Native life disappeared due to interaction with Euro-Americans. The only exception to this was Henry Collins who obtained much of his collection from Nuniwarmiut graves. Table 2 presents the percentages of artifacts of various classes identified in each of the examined collections. Artifacts have been classified within each collection according to inferred function and their degree of incorporation in the Nuniwarmiut lifeway: e.g., items related to fishing and hunting equipment have been designated hunting tools; wedges and scrapers are placed under utilitarian tools; items worn or carried by an individual [e.g., labrets, earrings] are classified as personal adornment. Functional categories have been assigned based on the individual collector's field notes, information shared by contemporary Nuniwarmiut elders, and a review of other southwestern Alaska collections (e.g., Dall 1874b; Hoffman 1895; Nelson 1899; Turner 1886). In response to the Nuniwarmiut's request to repatriate all human remains removed from Nunivak that were curated at the Smithsonian Institution, the Smithsonian's Arctic Studies Program assisted three Nuniwarmiut elders with interpreters to journey to Washington D.C. in 1996 to examine the Collins, Nelson and Dall collections (Ken Pratt, personal communication 2001; Loring 1996). In 1998, photographs of the Gordon and Van Valin collections were shared with Nuniwarmiut elders in Mekoryuk, the only extant village on Nunivak, in order to obtain information on the Cup'ig name, function and construction of many of the curated items.

Early collections are dominated by hunting and fishing implements. This emphasis may be due to the intent of the collectors, the predominance and importance of such tools to the Nuniwarmiut contacted by early collectors, or limitations on items offered for trade. Upon Ivan Petroff's arrival on Nunivak Island in 1891 to conduct the U.S. Census, he found that items offered him in exchange for his western goods included:

carved walrus ivory, such as spear and arrowheads, various fittings for the canoes, small tubes that they use for snuffing up their powdered tobacco, snuff boxes, toggles, labrets, and ear pendants. In addition to these small articles they offered the tanned hides of hair seal, long lines of seal hide used for packing and towing, and any number of spears and arrows and hunting gear (Petroff 1892:219).

This list encompasses most items contained in early island ethnological collections. A question that must be asked, however,



COLLECTION	Hunting Tools	Household Goods	Children's Items	Utilitarian Tools	Personal	Unknown
William Dall Collection (1874) n = 407	60%	10%	0%	8%	16%	6%
Edward Nelson Collection (1877 - 1881) n = 277	54%	9%	5%	8%	21%	3%
George Gordon Collection (1905) n = 170	20%	13%	0%	14%	53%	0%
William Van Valin Collection (1917) n = 103	27%	11%	9%	3%	50%	0%
Henry Collins Collection (1927) n = 1,219	45%	8%	3%	23%	6%	15%
LEGEND: Hunting Tools = hunting and fishing related items Household Goods = bowls, utensils, . . . Personal = labrets, earrings, snuff tubes Utilitarian Tools = wedges, scrapers Children's Items = dolls, toys						

Table 2: Artifact classes represented in Nunivak Island ethnological collections

is how representative is the composition of each of these collections? Do they contain a comprehensive selection of "traditional" items available from daily use or are they limited to those items known to be desirable by early traders and collectors? Do items in the collections accurately represent the degree of incorporation of western trade items at the time of purchase? Since each of the collectors discussed here were men, did they have access to the range of women's goods available? Were items acquired predominately from male traders? Ethnohistoric records state that women traders on Nunivak were not unknown (Kiokun 1997; Katie Tookaylok, personal communication, September 25, 1995), and some women were known to have accompanied their husbands on trading ventures where they participated in at least limited trading opportunities (Levering 1905).

Gordon and Van Valin had little choice in access to available trade items. Since their collections were acquired at regional trading posts far from Nunivak Island, they could only make purchases from items brought to St. Michael for trade or personal use. Gordon's extensive work with Keoniouk would have afforded him greater access to women's personal items than that thought to be available to Van Valin. The choice of items purchased by Dall and Nelson may have suffered a similar bias. Dall chose his purchases from those offered by Natives who boarded his ship to trade. Trading contacts with visiting ships had long been in practice and Nuniwarmiut traders were certainly aware of the range of items likely to fetch the best exchange. Nelson acquired his Nunivak collection via mainland traders whose emphasis was directed toward obtaining items for resale. While on the mainland, Nelson was often referred to as "the man who buys good-for-nothing things" (Collins 1982:29), it is difficult to know to what degree mainland traders incorporated this philosophy when purchasing Nuniwarmiut items. Of the five collectors discussed here, only Collins is known

to have personally visited a Nuniwarmiut village. Some varieties of cultural items, not normally offered for sale or trade, may be lacking in all of the early Nunivak Island ethnological collections. For example, in 1891, Petroff (U.S. Census Office 1893:112) remarked that while recording the Native population for the island, he noticed that the Nuniwarmiut had "heaps of finely carved masks and other paraphernalia (associated with masked dances and performances) which can be found deposited at the outskirts" of villages. The first example of masks or dance regalia found in any of the Nuniwarmiut ethnological collections is that purchased by Collins in 1927.

In order to focus on available "traditional" items, early collectors may have purposely avoided purchasing western goods; but the high personal value given western goods by Native groups (see Collins 1982) suggests examples would be present in Native graves examined by Collins. Such items would have, of course, been subject to differential rates of preservation based on material type. Artifacts acquired from a grave context were usually limited to items directly associated with the deceased that had been provided for their otherworld journey (Lantis 1946:228). Non-Native historic materials Collins recovered from historic graves consisted primarily of metal harpoon points and knife blades, iron tools, two Russian pipe bowls, and numerous items of personal adornment (e.g., trade beads, metal bracelets and buttons).

None of the ethnological collections or recently recovered archaeological remains contain examples of non-Native ceramics, a luxury item that was highly valued among mainland Natives (Jackson 1988, 1990a, 1990b). According to Nuniwarmiut elders, early trade negotiations focused on acquiring products essential to the maintenance of the subsistence round. Selected non-Native items highlighted subsistence activities (e.g., firearms, traps) and personal consumption (e.g., tea, tobacco). While tea was evidently



in great demand on Nunivak by the beginning of the twentieth century (Smith, P. 1988; Williams 1991), a desire for European ceramics does not appear to have developed. No examples of ceramics were recovered in the funerary objects collected by Collins. Ceramics do not appear to have become a popular trade item on Nunivak until after 1930 when their appearance is noted in many late historic graves (personal observation from 1986 BIA ANCSA surveys of island sites) and the Lomen Commercial Company's trading post inventory (Lomen Commercial Company 1937).

VARIABILITY IN COLLECTIONS

Differences in material type and percentages of western material goods (calculated by presence vs. absence) incorporated among the collections' objects reveal two expected changes through time; 1) the decrease in items made from caribou, and 2) an increase in the percentage of western materials. Table 3 outlines observed differences and offers possible explanations for the changes.

The decrease in caribou by-products in the Gordon and Van Valin collections is easily explained due to the earlier extinction of the island's caribou herd. The respective increase in products made from fish skin and bird feet (see Figures 4 and 5) may represent a corresponding replacement for the loss of caribou hides, or a bias in the earlier Nelson collection due to its unrepresentativeness of available Native artifacts from Nunivak

Island as a whole (i.e. bird related items may have been confined to west coast villages near island rookeries which may not have been heavily involved in mainland trade). Nelson collected similar fish skin and bird feet products from the Yukon-Kuskokwim Delta during his earlier tenure (1877-1881) and I believe that it is reasonable to assume that his agents would have collected them from Nunivak, if readily available. Prior to Nelson's arrival to the region, caribou had been overhunted on the mainland forcing people to look elsewhere for alternative material sources. An alternative explanation for the later appearance of fish skin products from Nunivak may be due to their context. Items purchased by Gordon and Van Valin were primarily brought to St. Michael to be sold, and bird feet and fish skin products may have become popular items for resale by the early twentieth century.

An analysis of items within Gordon's collection raises two additional points. According to Gordon's journal, his collection appears to have been largely purchased from three Nuniwarmiut families. This would account for the larger percentage of personal items, such as labrets, earrings, and snuff tubes, and for the predominance of a single family's personal property mark (e.g., five purchased arrows had same double band design). Some of the items purchased by Gordon, however, do not appear to be functional in their present state. In spite of the published admonitions that "Gordon was quite specific when discussing collecting strategies" and "he wanted only particular types of objects, and only those of high quality" (Kaplan and Barsness 1986:27), several of the collected objects appear to consist of

Table 3: Composition of Nunivak Island ethnological collections

Collector	# of Items	Material type(s)	% of Western goods	Possible Explanations
Dall (1874)	407	Many tools from antler & caribou skin clothes.	20%: metal tips for harpoons, 3 knives; glass beads.	Large caribou herd on island; metal derived from salvage from 1863 shipwreck or through trade.
Nelson (1880)	277	Many antler tools; no clothing.	15%: metal tips for harpoons, fish hooks, knife; glass beads.	Objects purchased second hand; caribou herd actively hunted during period; shipwreck near island in 1879.
Gordon (1905)	170	Antler constitutes 2% of tools; many fish skin & bird feet items; grass baskets.	15%: glass beads; yam and cloth decorations; metal knife blades, brass shell casings.	Objects purchased at St. Michael; antler tools curated; possible reliance on other materials due to extinction of caribou.
Van Valin (1917)	103	Few antler foreshafts; rabbit and wolverine fur from mainland; bags of fish skin, bird feet and seal flippers.	50%: cloth and glass beads for decoration.	Objects purchased at St. Michael; antler curated; mainland furs suggest increased interaction between areas; reliance on alternative species for products.
Collins (1927)	1,219	antler makes up 6% of items (knife handles, wedges); very little clothing in collection; fish skin nonexistent.	20%: metal used for harpoon tips, knives, pipe bowls, and decorations; glass beads.	Reindeer introduced in 1920; collection largely from grave context resulting in poor preservation of cloth and skin products.





Figure 4: Salmon skin bag purchased by Gordon in 1905. Bag #NA193, University Museum, University of Pennsylvania.

items that have been hastily strung together and render the object nonfunctional. For example, two wooden hunting hats from Gordon's collection have had 'ivory gaff hooks' laced to their bill as decorations. Their addition results in the hat falling forward, making it impossible for the hunter to see where he was going (Williams and Williams 1998) (see Figure 6).

The lack of fish and bird skin products in the Collins' collection is likely due to how and where he acquired his collection (i.e. poor preservation in grave context). The increased percentage of antler in this collection, compared to those of Gordon and Van Valin, is also easy to explain. Reindeer were introduced on Nunivak in 1920 but neither hunting nor butchering of the animals was permitted until 1928. Bones, hides and meat from reindeer that had died of natural causes had to be purchased from the Lomen Commercial Company at a price that few Nuniwarmiut residents could afford (Nash 1933:99; Weston 1932:1). Reindeer hides are

not expected to have had any significant impact on Nuniwarmiut material culture until after 1928. A new source of antlers, however, would have been available from those lost on the tundra each year by the island's fledgling reindeer herd.

The earliest examples of ethnological items intentionally made for resale were found in the Gordon and Van Valin collections (see Figures 5 and 7). The increase in the appearance and incorporation of western trade items between 1905 and 1917 (i.e. 15% - 50%) supports a marked increase in contact between Nunivak and mainland peoples in addition to contact with trading vessels. If one considers the entire list of objects that is currently credited to Van Valin by museum staff (total=103), approximately 50% of the purchased items include western materials (i.e. beads, colorful cloth borders) that appear intended for sale. Cloth borders are present on the majority of bags and pouches, which dominate the collection (Figure 7). This may reflect the makers' intent to meet consumers' desires.

Aside from documenting changes in the composition of Nunivak ethnological collections influenced by increased contact with non-island residents, new insights on traditional Nuniwarmiut lifeways were discovered during the author's analysis. For example, Lantis (1946:172) earlier stated that Nuniwarmiut hunters did not wear animal skins or don antlers as a disguise when hunting for caribou on the island. A close examination of an incised wedge from Nunivak collected for Nelson in the late 1870s suggests a hunter approaching a caribou using just such a disguise (Figure 8). Knowledge of this hunting technique may have been forgotten after the caribou's extinction on the island, or it may not have

been shared with Lantis at the time of her research. Evidence of newly identified Nuniwarmiut tool use or construction includes the presence of a fishing gorge (a technique not earlier reported for Nunivak Island nor recovered archaeologically), and the existence of coiled grass baskets (see Figure 9) — a style of basketry said to have been introduced on the island 15 years after several such baskets were acquired by Gordon (Curtis 1930:38; Gibson 1974:31; Lantis 1950:70; Lomen 1954:179; Ray 1961, 1977:36).

Artifacts exhibiting evidence of change in museum collections can generally be classified into two basic groups: 1) Native types of artifacts modified by contact (e.g., replacement of steel for slate points, glass beads for stone, fiber rope for animal skin); and 2) new types of artifacts introduced through contact (e.g., gun, outboard motor, cartridge priming tools). During the earliest stages of culture contact, cultural changes typically involve





Figure 5: Six goose foot bags purchased by Van Valin in 1917. Bag #NA10377, University Museum, University of Pennsylvania.

material replacement within preexisting Native artifact classes — the first type mentioned above (Quimby and Spoehr 1951:146-147). Tool form remains stable, in that form is often directly related to tool function. Examples of such incorporation are seen in both the Dall and Nelson collections with the introduction of western materials appearing to be material replacements within traditional tool classifications. New types of artifacts introduced through contact do not appear in museum collections until fairly late, but this absence is thought to be partially due to a purposeful bias to exclude items of western manufacture. Undoubtedly, introduced artifact types such as guns and metal traps entered the island economy prior to the purchase of any of the examined collections; but ethnologists purchasing items in the late nineteenth and early twentieth centuries showed little interest in collecting such goods, and the degree of their incorporation in Native lifeways is difficult to assess. Their absence from early twentieth century graves (i.e. Collins' collection) suggests that the availability of such items remained limited and their personal value high.

ANALYSIS OF ELLIKARMIUT ARCHAEOLOGICAL EXCAVATIONS

Another way to gauge the range of items available in the local economy is through an analysis of a site's archaeological remains, which would not have been subject to the same biases as purchased items. A series of subsurface test units were excavated in both parcels of *Ellikarmiut* (49-XNI-003) to obtain information on the antiquity of village occupation and its role in the Nuniwarmiut's settlement system through time (Griffin 1999). Of the 12 excavated test units (1m x 1m, 1m x 2m) and 23 probes (50cm x 50cm), non-Native material was recovered from 10 of the test units and two probes. Six of these test units and one probe were excavated within the eastern parcel, abandoned prior to 1900 (i.e. *Ellikarmiut*), while four units and one probe were within the western parcel, occupied from 1900 to 1959 (i.e. *Qimugglugpagmiut*). Non-Native material were recovered from all but one test unit in the eastern parcel highlighting the late occupation of this portion of the site and the reuse of houses over



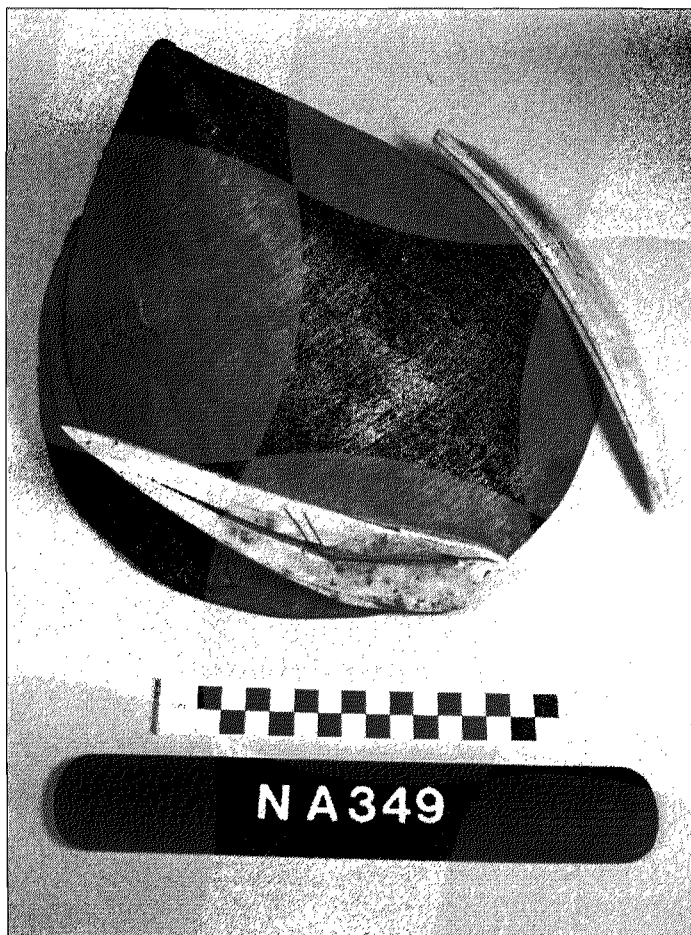


Figure 6: Nuniwarmiut hunting hat with attached ivory gaff hooks. Hunting hat #NA349, University Museum, University of Pennsylvania.

an extended period of time (i.e. >500 years). Non-Native materials were recovered from all test units within the western parcel of the site. Excavation units were purposively placed within abandoned house depressions in order to obtain information on the history of site use, and as such, may have produced a biased sample. Undoubtedly, previous use areas exist at the site that could not be predetermined by surface evaluation and were therefore not tested.

Euro-American material recovered from the pre-1900 parcel consisted of wound and drawn glass trade beads, bone and antler knives fitted for metal blades, highly oxidized metal objects (iron and copper), a musket ball, buttons, and miscellaneous green glass fragments. The appearance of these materials is thought to have derived from trade items or shipwreck salvage. The post-1900 occupation area yielded an abundance of colored glass seed beads, metal nails and highly oxidized metal objects, recent shot shell casings, and miscellaneous object fragments (e.g., glass bottles, rifle casings, plastic, tar paper, and a single white ceramic plain ware shard) (Griffin 1999:223-234). The composition of the *Ellikarmiut* excavated material reflects that found in the

ethnological collections. Pre-1900 objects are few, limited to materials replacing earlier Native tool parts (e.g., glass trade beads for stone beads, metal knife blades for slate blades) and a few introduced items (e.g., firearms); whereas post-1900 items exhibit greater variability in type and increased frequency (Griffin 1999:208-216, 224-234).

CONCLUSIONS: CHANGES IN NUNIWARMIUT TECHNOLOGY

The analysis of ethnohistoric documents, ethnological collections, and archaeological remains all support earlier theories of limited changes in Nuniwarmiut technology and material culture prior to 1930. While a conscious bias by early collectors may have helped to present an image of "pre-modern" Eskimo people, early trade transactions appear to have included few western goods. The limited availability and high price of western items through regional trade networks undoubtedly had a major effect on the speed of technological change that occurred on Nunivak. The Nuniwarmiut's natural conservatism may have also been a factor. Lantis (1946:169-170) states that the Nuniwarmiut were very self-sufficient and able to acquire most of the items they needed for survival locally. Commerce with off-island traders largely provided them with a greater variety of natural resources (e.g., animal skins, bird eggs, and natural paint) and a few exotic commodities. Furs (e.g., fox, mink) were early identified as a potential source of income for Nuniwarmiut traders but even with the later increase in availability of western items, they declined to increase their dependence on local trapping (Kiokun 1995; Miller 1929; Noatak, H. 1995; Wesley 1995). While accepting a few introduced western items, traditional Nuniwarmiut technology remained strong.

Historic records (Russian American Company 1820-1822; Van Stone 1973:63) reveal that metal (e.g., copper, brass) had reached Nunivak Island through Native trade networks prior to the Russians "discovery" of the island (ca. 1821). Copper and iron were considered the most valued trade items by the Russian American Company (Black 1984:30) and constitute the largest percentage of introduced items within the early Nuniwarmiut ethnological collections and recovered archaeological remains. The increase in western materials during the early twentieth century highlights the usefulness of metal in knife and tool production, glass beads for personal adornment and the adoption of western cloth for clothing and items made specifically for trade. The increase in metal and glass trade beads over time mirrors the results of the Nash Harbor excavations, with the percentage of both greatly increasing after 1900 (Griffin 1999:232-234).

In acculturative settings, the acceptance of technological innovation generally depends on several factors including: the need





Figure 7: Five seal skin pouches purchased by Van Valin in 1917. Pouches #NA10381, University Museum, University of Pennsylvania.

for the innovation, the relationship between the innovation and traditional practices, the cost of the innovation relative to future benefit, and the perceived effects on other aspects of life dependent on the innovation (Bamforth 1993; Oswalt 1972; Satterthwait 1972). If the cost of relying on a new innovation was too high, change would be slow. With this in mind we see western tools and materials replacing traditional Nuniwarmiut tools in labor intensive activities earlier than in other activities.

The majority of tool forms recovered from excavations in Nash Harbor's Thule components (ca. AD 1000 - AD 1820) continued to be used well into the twentieth century (Griffin 1999:112-139; Van Stone 1989:24-25) and are represented in all five of the ethnological collections. The major exception to this is pottery, which appears to have largely disappeared on Nunivak prior to 1900. The continued use of carved wooden bowls and the availability and acceptance of metal containers, whether provided from trade or shipwrecks, appears to have replaced the need to construct clay vessels, a labor intensive process that often resulted in poor quality items that were fragile. The importance of stone tools persisted throughout the first half of the twentieth century, as reflected by the high percentage of such tools found in all ethnological collections, *Ellikarmiut's*

archaeological record, and contemporary elders' wealth of knowledge regarding their creation and use (Griffin 1999:131-136, 149-153). This continuation of use is perhaps due to the limited availability or high price of metal in local trade networks.

When dealing with the pressures of European intervention, the relative "success" of Native peoples at maintaining traditional values or lifeways depends largely on their ability to avoid dependence on any outside social or economic system. Depopulation among regional Native groups and the loss of control of regional trade networks in Alaska began a general trend toward dependency among peoples relying on trade for a way of life (Foote 1964:18-19). But the effects of such disruptions were minimized on Nunivak Island due to the Nuniwarmiut's high standard of self-sufficiency. It is not until after the first missionary's arrival on Nunivak in 1937 and his denunciation of Nuniwarmiut lifeways as evil that a dependency on western culture took hold (Burg 1941; Griffin 1999:275-282). The foregoing analysis of ethnohistoric documents, oral testimony, and Nuniwarmiut material culture offers unique insights to Nuniwarmiut lifeways during the nineteenth and early twentieth centuries. Similarly, the examination of original field notes and collection strategies of early ethnologists provides important perspectives on the significance of early ethnological collections.



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Dennis Griffin

grifd@earthlink.net

Archaeological Frontiers, 295 East 33rd, Eugene, Oregon 97405

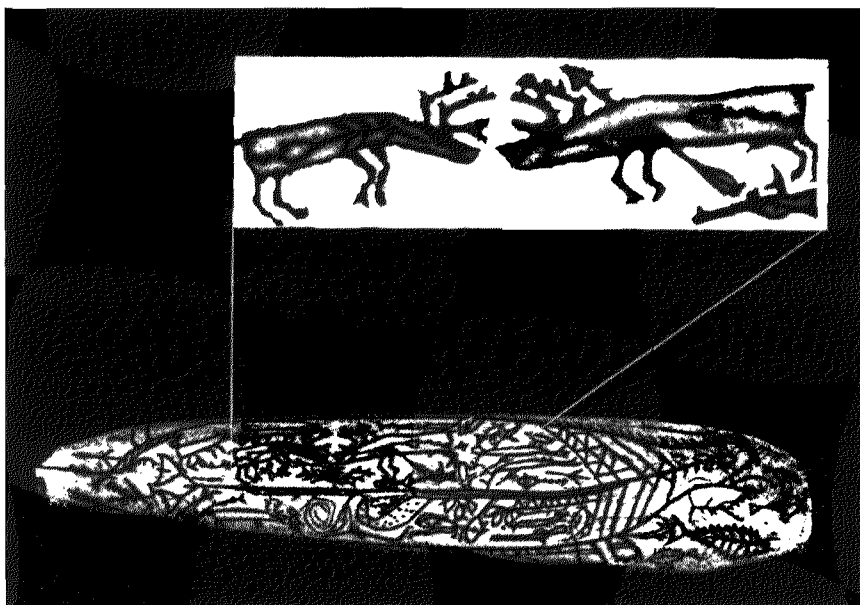


Figure 8: Artifact collected by Nelson suggesting use of caribou disguise. Artifact #43737, Smithsonian Institution (size: 19.2 x 3.87 cm).

Figure 9: Coiled Nuniwarmiut baskets purchased by Gordon in 1905. Baskets #NA 760 and 762, University Museum, University of Pennsylvania.



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ETHNOHISTORY AND THE IRA TRIBAL STATUS APPLICATION OF KING SALMON NATIVES, ALASKA

Kerry D. Feldman

Abstract: The bond between basic and applied research is rarely explained or illustrated in publications, even though it is assumed they are linked. One reason for this lacuna is that the goal of applied research is not to advance disciplinary theory or knowledge *per se*, but to add to the understanding of and/or solution to a social problem. The purpose of this paper is two-fold: (1) to demonstrate the link between applied and basic research; and (2) to present new information regarding history and culture contact in the Naknek Drainage. Specifically in the case at hand, King Salmon Traditional Native Council requested holistic anthropological research in 1998 to assist in their effort to obtain federal recognition as an unorganized tribe. A major obstacle to their claim is that, during World War II, a US air base was built on land near which they must demonstrate continued use and occupancy by native Alaskan ancestors up to and including May 1936 when the Indian Reorganization Act was applied to Alaska. The US government and local Caucasian eyewitnesses thought that native people came only after the war to find employment in the town that evolved around the air base. Five avenues of evidence will be discussed: (1) archaeological data, (2) journals of Russian explorers, (3) linguistic data, (4) Native mate selection practices, and (5) Caucasian eyewitness perceptions tested against other evidence.

Key words: Indian Reorganization Act, applied anthropology, Alaska Peninsula

INTRODUCTION

Basic ("abstract") and applied anthropological research are not in opposition but mutually support each other. However, the bond between basic and applied research is rarely explained. The goal of applied research, even that requiring ethnohistorical research, is not *per se* to advance disciplinary knowledge but to confront a social problem, and perhaps resolve it. For this reason basic anthropological researchers rarely become aware of ethnographic or ethnohistorical information gathered by applied researchers that might add to basic knowledge. Quite often, the applied research ends up as a report on the shelf of an agency. The purpose of this paper is two-fold: (1) to demonstrate the link between applied ethnohistorical and basic anthropological research; and, (2) to present new information and interpretations resulting from applied research regarding history and culture contact in the Naknek Drainage (cf. Figure 1).

THE LEGAL ISSUE

In order to establish its tribal status as an Indian Reorganization Act (IRA) unorganized tribe as applied to Alaska, King Salmon Traditional Village Council on the Alaska

Peninsula needed to document its history and the genealogies of its members. The US Congress passed the IRA in 1934; this act was amended and applied to Alaska Natives as of May 1, 1936. The King Salmon Traditional Village Council was not seeking title to land, a question that was addressed by the 1971 Alaska Native Claims

Settlement Act, but to be recognized as an *unorganized* "tribe" and thus eligible for federal social, health, education and other funds set aside for tribal groups. They were required to demonstrate that ancestors of some (number unspecified) current King Salmon Traditional Village Council members lived in the immediate vicinity of current King Salmon before and up to May 1936. They were not required to demonstrate that their ancestors lived in an organized tribal fashion with a recognized headman (toyon or tuyuq – village headman — of a village). The Alaska Amendment reads, in part, "groups of Indians in Alaska ... having a common bond of occupation, or association, or residence within a well-defined neighborhood, community or rural district, may organize..." (25 USC 473(a)). The lawyers for the Council argued that:

The intent of the law, in Alaska, was to allow disorganized groups of Natives to organize so as to undertake tribal activity. Since there was never a requirement for a distinct political structure or even that the group be a distinct ethnological 'tribe' or 'band,' there is no requirement to prove continuous organized tribal activity, as such, back to 1936. If a group existed which could have organized in 1936, and that group (as defined by one of the common bonds mentioned in the Act) still exists, it can organize today" (Baltar 1994).

The Catch-22 in the King Salmon Natives' situation is that the U.S. military asserted in 1941 that there were no people residing in the vicinity, thus allowing the construction of an air base in 1942 to confront the Japanese invasion of the Aleutian Islands. After WW II ended in 1945, a small town called King Salmon developed around



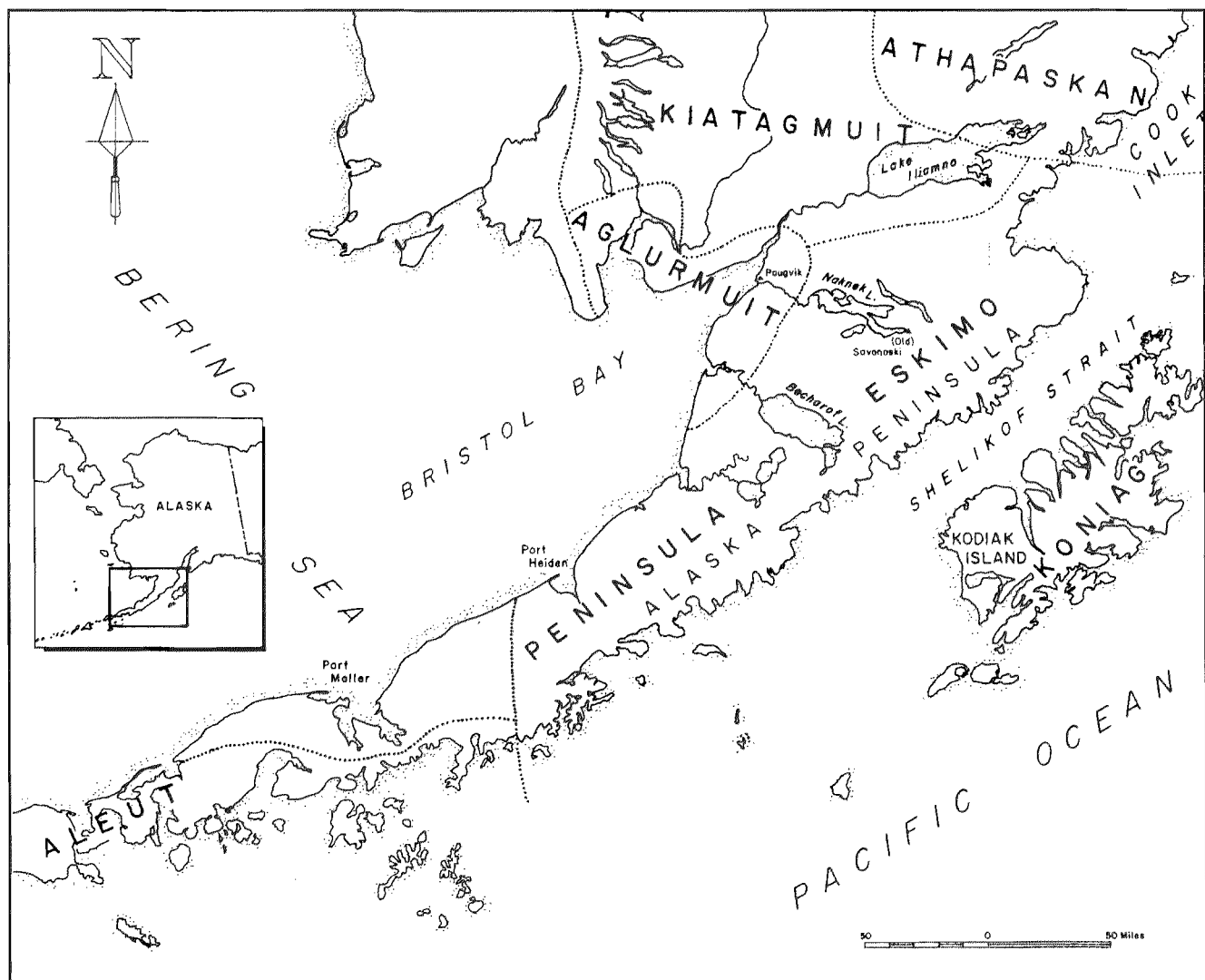


Figure 1: Location of Native groups in the 19th Century: northern Alaska Peninsula and vicinity [after Dumond (with permission)]

the base, attracting Whites as well as Natives for employment opportunities. King Salmon Creek exits into the Naknek River near the town, giving the town its name. Most residents of the area thought that it was the presence of the air base that attracted Natives to King Salmon, seeking employment.

In 1988 the King Salmon Traditional Village Council submitted an application for IRA status to the BIA in Washington, D.C. but were later told it was never received. I was contacted in February 1998 by the law firm representing King Salmon Traditional Village Council to perform the necessary research and provide a report (Feldman 1998). When the application with my report was handed to BIA officials in Washington, D.C., the Natives photographed the transfer from hand to hand. What intrigued me about the research was how to investigate a Native presence in 1936 in an area declared bereft of Native inhabitants by the U.S. government in 1941. In addition, there were three Caucasian eyewitnesses whom I

interviewed who said there weren't any, or only a very few, Natives in the vicinity of the newly constructed air base in 1942. If there weren't Natives living there in 1941/1942, by implication they weren't there in 1936.

The holism of anthropology was needed to piece together the archaeological, linguistic and ethnohistorical clues of a complex puzzle buried beneath a hundred years and more of intensive western intrusion. Five avenues of evidence will be discussed in this paper: (1) archaeological data, (2) journals of Russian explorers, (3) linguistic data (particularly place names and ethnonyms), (4) indigenous mate selection practices and family genealogies (which proved to be the most critical information in the BIA view), and, (5) Caucasian eyewitness perceptions tested against other evidence.



REPORT SUMMARY

The King Salmon Traditional Village Council taped interviews (1992) of three elderly Native people: Victor Monsen (b. 1916, Naknek), Olga Malone (b. 1918, unknown place of birth but resided during her childhood on Smelt Creek and Eskimo Creek from ca. 1926-1930s) and Ted Melgenak (b. 1937, South Naknek, whose father, Mike McCarlo moved from near Old Savonoski to New Savonoski in 1912). They provided information regarding the names and cabin locations of Native men, women and children who lived, at least during the winter trapping season if not year-round, along the four creeks feeding into Naknek River as of 1936. Based on my transcription of these tapes (Victor Monsen's information was the most informative and thorough), and other interviews that I conducted in 1998, 29 Native men, women and children and their descendants, plus 13 Scandinavian men, some with Native wives, were identified who resided along those four creeks. Their names and cabin sites in and of themselves would not be adequate to satisfy the legal requirements for being awarded tribal status. Who were these people, what were they doing there, and who were their descendants?

The report submitted to the BIA included the genealogical linkage to their living descendants of 29 Native people identified as living in the area in 1936, emphasizing the role of marriage among bilateral hunting societies for gaining access to the use of others' territory. Photographs were included of some Native ancestors and of their Native descendants. Photographs were taken of some pre-1936 cabins owned and used by Native people. Federal archival data were included regarding a reindeer herding permit issued in 1932 to local Native inhabitants. An explanation was provided of journal entries by Russian explorers in 1818 and 1829 regarding the Native presence in Naknek Lake and the Naknek River drainage. A photograph was included of a wedding certificate of a Native woman (Olga Malone) whose Eskimo mother lived in the 1920s and 1930s at Smelt Creek and Eskimo Creek where it entered the Naknek River in the heart of current King Salmon. Copies were included of Bureau of Land Management records of Native Allotment files for Naknek and King Salmon Native people regarding pre-1936 land use and occupation. Copies were included of the Alaskan Russian Church records of baptisms, births, deaths and weddings of the late 19th and early 20th centuries. Archaeological reports on the region were summarized.

HUMAN PRESENCE IN THE NAKNEK DRAINAGE

An application for IRA tribal status should, through ethnohistorical and archival research, locate the people in time and space because local continuity would be a factor in the BIA decision. In addition, archaeological data were crucial for my own understanding of why the King Salmon Village Council was not

willing to accept membership in the existing ANCSA-based Paugvik Village Council in Naknek¹ only fifteen miles away.

This was, initially, a mystery to me: why wouldn't Native people, both calling themselves "Aleut," in such close proximity, be content with membership in the same Village Council? How and why did they perceive themselves to be different?

Archaeological evidence documents the presence of human settlements and camps in the Naknek Drainage area from around 8,500 years ago. Continued archaeological excavation is occurring along the shores of (north) Naknek (1998), directed by Don Dumond of the University of Oregon. Dumond and his students have conducted archaeological research in the area for forty years, including the summer of 1998 (e.g., Dumond 1971, 1981, 1986, 1987a, 1987b, 1994; Dumond and Van Stone 1995).

Dumond has suggested different phases of human occupation of the Naknek Drainage area from AD 600, subsequent to the earlier Arctic Small Tool traditions. These phases include sites at Brooks Lake, Naknek Lake and Naknek River up to AD 1800. A continuous cultural group who controlled and utilized the entire Naknek Drainage from Old Savonoski Village at Naknek Lake to the present towns of Naknek and South Naknek probably made these cultural changes.

This cannot be said for the historic Paugvik phase on the Naknek River.² The Russian Governor, Wrangell (1980:64) described the Paugvik people (the Aglurmiut), as invading and settling at the mouth of the Nushagak River (no date provided). Archaeological research interprets their arrival at the mouth of the Naknek River around 1810 (cf. Figure 1). Paugvik survived from 1810 to about the 1880s. The Aglurmiut continued to live nearby at present-day Naknek but the Paugvik site was abandoned. The arrival of canneries in Naknek in 1893 dramatically altered the cultural landscape and context.

PACIFIC ALUTIIQ TIES TO NAKNEK LAKE NATIVES

A key feature that Dumond used to assess the cultural affiliation of prehistoric peoples in the area is house type. He recently altered his view regarding the house type of the Brooks River area in AD 1450 (Bluffs phase) (Dumond and Van Stone 1995:99). Dumond concluded that by this time semi-subterranean homes ("houses" in archaeological texts) which utilized wooden posts and frames

¹A Yup'ik term for Naknek is Nakniq, Nakniq, or Naknik meaning "precision point" (Abalama 1990, from Egigik). Nakuirmiut would be the "village/residents of Nakniq" (Abalama idem.). Naknek village was also called Ken'aryak, referring to the "red salmon of Naknek" (Abalama idem.).

²The Paugvik site was abandoned by the 1880s, probably due to the development of salteries fishing enterprises a few miles upstream (Dumond 2000, personal communication).



covered with leaves, mud and sod (called barabaras by Russians) were multi-room houses like those on Kodiak Island at the same time period that evolved due to population increase, not one-room houses as he originally thought. Various shared cultural artifacts lead Dumond to conclude that there was substantial culture contact between the Pacific-side Alutiiq people and the people inland at Brooks River by AD 1450.

Aglurmiut invasion

An in-migration or invasion reportedly occurred along the Naknek River just prior to AD 1818: the arrival of northern people whom local Natives identified to the Russian explorers as "Aglegmiut" from the lower Kuskokwim Yup'ik Eskimo territory to the north. They are said to have moved to Nunivak Island and down the Peninsula coast as far as the Egegik River. Today they are called "Aglurmiut" (cf. Fienup-Riordan 1984), a designation used here. They were said by Russian accounts to have been driven south by other Eskimo groups: the Kuskokwagmiut and the Kiatagamiut. Russian explorers and trading fort administrators emphasized to Native peoples that if they wanted Russian trade goods they would have to abandon traditional warfare. Harritt, a student of Dumond's, believes that the Aglurmiut newcomers took up residence at Paugvik on the Naknek River, displacing the former Natives south to Ugashik³ and east to Old Savonoski and other Naknek Lake villages (Harritt 1997; cf. Dumond and Van Stone 1995:99). This assertion is crucial for my argument. It is the descendants of the displaced Natives who have provided the nucleus of the King Salmon Traditional Village Council and organized the application for tribal status.

Dumond believes that the cultural remains of Paugvik and the upper drainage Naknek Lake sites are distinguishable. He goes so far as to say that the area between Paugvik and Old Savonoski became a "no man's land" sometime after AD 1810 to avoid inter-group hostility⁴. Harritt summarizes this view:

... the intrusive lower drainage protohistoric Aglurmiut who arrived sometime around AD 1818 are seen as a discontinuity in the late prehistoric cultural continuum for the period AD 1450-1912. In contrast, the contemporaneous inhabitants of the upper drainage are seen as direct descendants from their late prehistoric progenitors of the Bluffs phase. This view is consistent with those previously stated (Dumond 1981), but it narrows the definition by a significant degree. And, using this approach, the Aglurmiut inhabitants of Paugvik are seen as a portion of an entity separate from the upper drainage ethnogenic continuum, but nevertheless sharing some of the tech-

nologies that were pervasive in Eskimo areas of southwestern Alaska (Harritt 1997:50).

... it is also possible that Naknek and Ugashik groups each had their own distinctive subdialect of Peninsula Eskimo speech. It is also probable that Peninsula Eskimo speech was more closely related to Pacific Eskimo Sugpiaq than to the Yuk dialect spoken by the Aglurmiut immigrants. Russian distinctions between the Aglurmiut and "Aleut" or Peninsula Eskimos indicate that they perceived some degree of dialectical difference between these two groups (Harritt 1997:53).

What is significant about these observations is as follows. The inhabitants of the Naknek Lake villages (or "Severnovskie"—various spellings of this Russian word that means "settlement(s) of people from (of?) the north"; "sever" = north in Russian) had a continuous relationship to the entire Naknek Drainage area. The Aglurmiut who came to Paugvik after 1800 did not. But in 1912 Old Savonoski Natives were forced to relocate to New Savonoski due to the Katmai (actually, Novarupta) volcanic eruption. Various King Salmon Natives today are descendants of the original Naknek Lake people, calling themselves "Katmai Descendants." The effort to obtain IRA tribal status by the King Salmon Village Council is headed by these "Katmai Descendants" (53% of 1998 King Salmon Traditional Council enrollees).

Kodiak Island culture and the upper Naknek drainage

In looking at the wider Pacific culture area, Erlandson et al. (1992) summarized prehistoric and post-contact survey and excavation data on 1,295 sites for the Alutiiq and the even earlier Native people of Kodiak Island and their surrounding territory—including Prince William Sound and the Kenai Peninsula. They argue that the human presence on Kodiak Island begins between 8,000 and 11,000(?) years ago, and continued to the present, but with the influx of "Alutiiq"-speaking Central Yup'ik people around AD 1000 (Erlandson et al. 1992:29). The largest prehistoric sites are found near the most abundant food resources in protected bays, usually near highly productive salmon streams, but inland Peninsula sites are also found along salmon-rich rivers/streams such as the Naknek River, Savonoski River and Brooks River in the Naknek Lake area.

A significant question for archaeologists has been determining how and when the inland Peninsula Eskimo settlements around Naknek Lake were involved with Pacific Eskimo culture, and when/how inland Peninsula Eskimo were influenced culturally by more northern Peninsula Eskimo. Contact by Naknek Drainage groups with both Pacific and other Peninsula groups probably occurred prehistorically. The nature and amount of influence on the Naknek Drainage people by northerly Yup'ik and by the Kodiak Island Koniag

³Ugaassaq or Ugaassarmiut is a Yup'ik term for Ugashik (Abalama 1990).

⁴Dumond's excavation at Naknek in 1998 reaffirmed this interpretation (Dumond 2000, personal communication).



fluctuated, depending on subsistence needs, trading interests and other factors.

Harritt (1997) has hypothesized about ethnogenesis in the Naknek Drainage Area. Harritt and Dumond now think that two distinct, even polarized, Native groups lived at both ends of the drainage from about AD 1810 to 1912. On the west end was Paugvik Village on the north side of Naknek River, and Kougumik Village on the south side—the village name on a map made based on a Russian explorer's (Vasilev) 1829 exploration. On the east end of the drainage in Naknek Lake was (Old) Savonoski, plus other kin-related villages. The invasion of Aglurmiut from the north around AD 1810 that is believed to have resulted in the establishment of Paugvik and Kougumik villages occasioned the relocation of prior Yup'ik-speaking users of these lower river sites to Naknek Lake and south along the coast to Ugashik.

RUSSIAN EXPLORERS

Linguistically-related Central Yup'ik-speaking people, Kiatagamiut, lived south and west of Lake Iliamna (cf. Figure 1). The meeting point of the more northerly Central Yup'ik-speaking people (excluding the Aglurmiut) and the linguistically related people of Naknek Lake seems to Dumond (1998, personal communication) to occur around Old Savonoski. This evolving complexity was increased by the arrival of Russian explorers in 1818/19 (P. Korsakovskiy's expedition), then in 1829/30 (Ivan Vasilev's expedition) (Van Stone 1988). Both expeditions were seeking information about the people and resources of the Bristol Bay area after the Russians had depleted the fur stocks on the Pacific side of the peninsula

Korsakovskiy noted on June 2, 1818 the presence of an "Alegmiut" village (singular) that he called "Pavik" (referred to as Paugvik today) on the "left" (north) bank of the Naknek River as it exits into the Bay. Eleven years later, on the map depicting Vasilev's 1829 expedition, a second village is noted: "Kougumik," on the south bank of the Naknek River (Van Stone 1988). Paugvik and Kougumik are situated where today are found, roughly, Naknek and South Naknek, respectively. Korsakovskiy either didn't see Kougumik or it was, more likely, founded subsequently.

Etymologically Paugvik perhaps derives from the Yup'ik terms "Pauk" meaning "post, pole" and "Paug" meaning "to put a post in the ground" (cf. Jacobson 1984:283). "Aglurmiut" itself is thought to derive from the Yup'ik term "Aglug" meaning "ridgepole, center beam of a structure" among Bristol Bay speakers (Van Stone 1988:241). Nowhere in the anthropological literature is the question raised whether this is the self-designation of the Aglurmiut or one used by other Yup'ik people in reference to them. One of the reasons for the confusion regarding names of villages is that in Russian records there is not always clarification between what people called themselves/their village and what neighbors or enemies called them.

Korsakovskiy was instructed to make this distinction in the letter detailing his mission by his superior.

How were the inhabitants of Paugvik and Kougumik related? Were the Kougumik simply more "Pole" or "Ridgepole People" who lived close to the mouth of the river? Probably, but it should not be assumed. Or were they pre-Aglurmiut who returned there after the 1810 Aglurmiut invasion, in-between the explorations by the Russians? It should be noted that when the Naknek Lake people relocated downriver at New Savonoski in 1912, they took up residence on the south side of the Naknek River, about six miles away from where Kougumik was reported in 1829. According to Paul Chukan (b. 1901, Naknek), an Aglurmiut descendant in my opinion whom I interviewed in 1978 on an unrelated project, the New Savonoski inhabitants agreed to focus their subsistence activities south of the Naknek River. It seems that after the devastating flu epidemic of 1919 there was no need to divide up subsistence territory in this manner.

The attention that needs to be given to linguistic labels is seen in the change of label that Korsakovskiy provides in his June 5th journal entry while at Paugvik in his reference to the "*Takhut* notables: Chveniak and Alinak" (italics mine) receiving gifts from Kolmakov, another Russian who traveled with Korsakovskiy. These two "notables" might at first glance each seem to be a local "toyon" or village headman. They were probably not of toyon status because Korsakovskiy distinguishes the "wives of toyon" from the "wives of notable men" in the June 6th entry. "Toyon" is a Russian loan word. Each village, said Paul Chukan (cf. Branson 1998, Photograph #241.H-809) of Naknek, had one such leader; however, he used the term "*tuyuq*" instead of "*toyon*" (Feldman (1978). "Takhut" is not Korsakovskiy's version of the Yup'ik term, "*tuyuq*," because he always uses "*toyon*" to identify village leaders⁵. Van Stone states: "Takhut" is "Possibly the name by which the Russians identified a group of Naknek River Eskimos" (Van Stone 1988:68). But the term is never used again in the journals. However, a watercolor from the period 1827-28 by Pavel Mikhailov portrays three individuals described as "Takhuty, inhabitants of the Naknek River, Alaska" (Shur and Pierce 1978:362). Why would people at Paugvik label themselves or others as the "Takhut"? There was a "toyon" referred to by Korsakovskiy as an "*Indian*" from the Pacific Katmai Bay settlement accompanying the Russians as a guide "to the Alegmiut *Indian* (sic) Settlement" (May 19th Korsakovskiy journal entry, emphasis added). Was that toyon (possibly an Alegmiut middleman because both the Alegmiut and this toyon are called "*Indian*," unlike the Katmai Natives whom Korsakovskiy referred to as "*Americans*") providing the Russians, via the two interpreters that accompanied the exploration, with a term, *Takhut*, by which the Alegmiut referred to themselves? What is the meaning of

⁵ Mr. Chukan's term is a Lake Iliamna Yup'ik term for "chief," a loan word "probably from Russian toyon" (Jacobson *ibid.*:380). Tuyuq is also the Kodiak Alutiiq word for "chief" (Partnow 1995:157; Leer 1998 (orig. 1978):46)). Why did Korsakovskiy refer to more than one toyon at Paugvik if there was only one for each village?



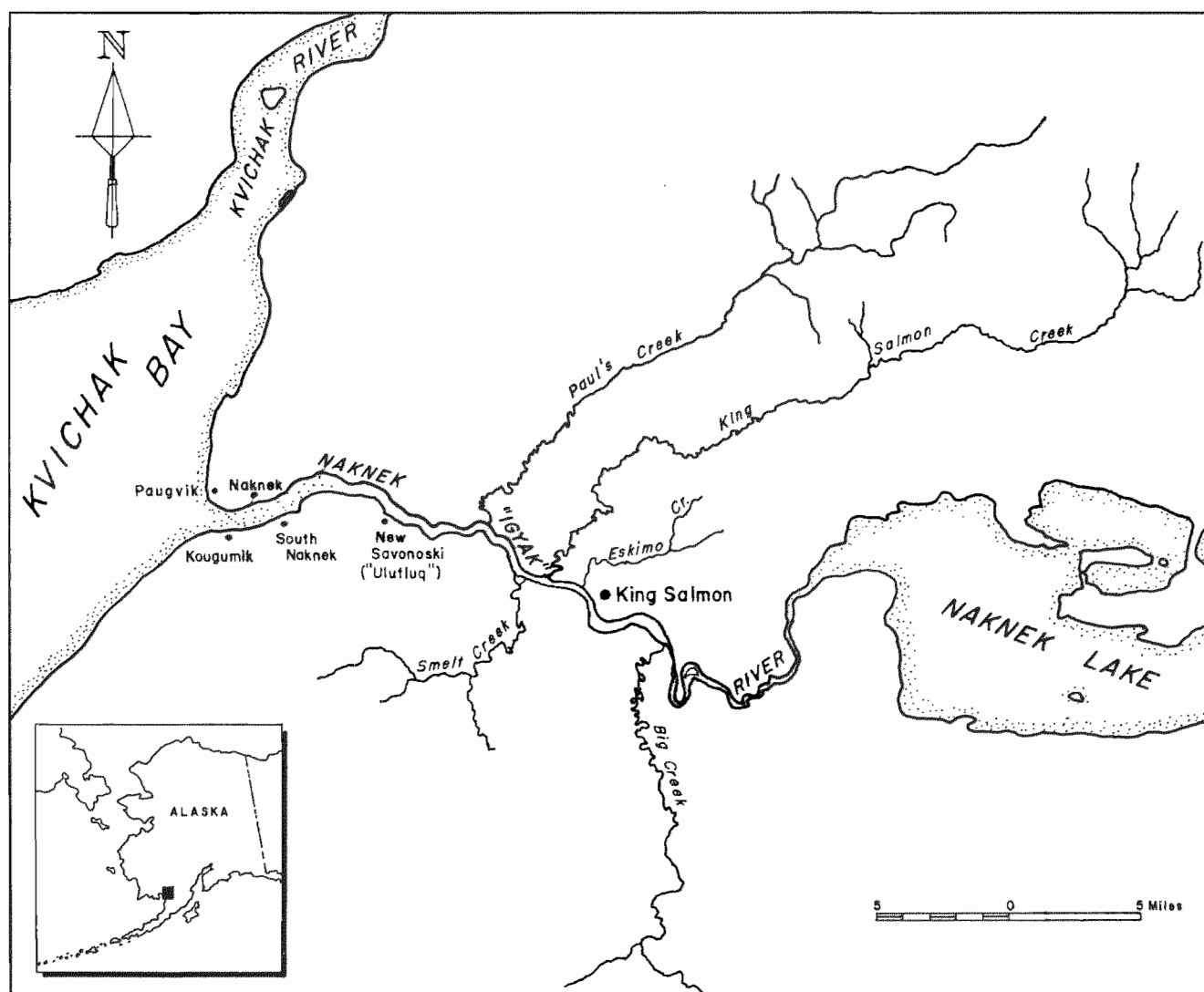


Figure 2: Naknek River Drainage: Alaska Peninsula

Takhut? I suggest the term derives from "Tag'ag," a Yup'ik term for "surf; tide which brings things ashore" (cf. Jacobson 1984: 748). The Aleut language is similar: "tagugha - for surf to come in over shallow part of beach" (cf. Bergsland 1994:380). The area inhabited by these "Takhut notables," if my interpretation is correct, had floodtide problems. The label, "*Takhut*," would likely come from the local inhabitants - a self-designation, not from Outsiders who knew less about high tide effects locally. That is, "Aglurmiut" is perhaps a non-Aglurmiut term for people with a different kind of house construction, but *Takhut* might be what the Aglurmiut there called themselves. Dumond (2000, personal communication) notes that about half of old Paugvik house sites were washed away due to tidal erosion. However, there is more that seems related to the *Takhut* reference.

"ULUTLUQ" OR "ULUTELLEQ" = "NEW SAVONOSKI"

Vera (Kie) Angasan, now of King Salmon, stated that New Savonoski had a Native name, *Ulutluq*, which has never appeared in published accounts (cf. Figure 2). This name appears as *Ulutelleq* in BIA-ANCSA in transcribed tapes of interviews with Nick Abalama (1990) and as *Ulutylkh* in Alaska Russian Church Records (Katherine Arndt, unpublished genealogical research re: Trefon Angasan (b. 1910)). Vera was born in 1924 in Ugashik, one place to which the original Native users of the west end of the Naknek River are said to have been displaced. Vera Angasan was adopted by the leader of New Savonoski, One Arm Nick (Figure 3) and his wife, Pelageia Melgenak (sometimes recorded as Melonak). Vera lived in New Savonoski after 1932, following the death of her Native mother when Vera was eight years old. Her Japanese father died earlier. New Savonoski, founded by Old Savonoski residents after



Figure 3: One Arm Nick Melgenak and family members, mid-1930s at "Kittywick," the local name for what is now known as Brooks Camp. His wife, Pelegeia, is seated, wearing a white cap. Mr. Melgenak and Pelegeia adopted many orphaned children (Branson 1998, photograph # H-1119).

the 1912 Katmai explosion, located about six miles east of today's South Naknek, was called "*Uluthuq*," according to Vera Angasan (or perhaps more correctly, "*Ulutelleq*" – 'one that flooded' (Abalama 1990)). This term meant "overflowing tide - a big one" (Vera Angasan 1998, personal communication). The Yup'ik word, "ulute-," means "to flood, to inundate" (Jacobson 1984:389). "Ule-" means "to rise (of liquid); (coast and along tidal rivers) to be high tide; (inland) to flood" (Jacobson 1984:388).

Is it merely a coincidence, due to a similar tidal phenomenon, that an Aglurmiut group in 1818 would have the same "tide-overflows-the-beach" designation as a 1912 group, nearly one hundred years later, by their former enemies, but located some six miles upriver? Or was New Savonoski in some way an extension of, or perceived as the extension of, the 1818 *Takbut* —the Tide-Overflows group? Did the 1912 relocation to New Savonoski involve some residents, perhaps relatives, from Kougmik (near South Naknek) moving to New Savonoski, also? I don't have an opinion on that question.

Some mixture of different Native groups had been occurring earlier at Paugvik and Old Savonoski. Dumond (1986:5) used

Russian Orthodox Church Records in tabulating the percentage of different ethnic groups, *based on father's ethnic affiliation only*, who are present in Paugvik from 1840-1895. 21% of the Paugvik residents were Kuskokwagmiut, 2% were Kiatagamiut, 3% were "Aleut" and 74% were Aglurmiut. Old Savonoski was a more homogeneous village during this entire time. Dumond discovered that only 5% of the individuals at Old Savonoski were listed in Russian Orthodox Church Records as Aglurmiut, 3% as Kiatagamiut, and 92% as "Aleut." However, K. Arndt (2001, personal communication) notes a problem with the 1840 to 1895 time range of Church records. Up to 1867 the populations of all these villages were identified in church records as much more homogeneous. However, between 1868 and 1875 there is a lack of records because the church basically shut down in many areas due to the uncertainty regarding support after the purchase of Alaska by the US. Then from 1876 onward the populations become more heterogeneous as people move around due to the more varied economic opportunities. The challenge of providing ethnic frequencies for these populations is further complicated by the fact that the Russians enumerated ethnic identities based solely on the father's affiliation. Arndt does not know how the Native peoples themselves viewed



their ethnic identity if father and mother derived from different groups. In any event, there was precedent for some population admixture locally prior to 1912.

Katmai Descendants could also be called the descendants of the Ulutelleqmiut on the Naknek River.

VILLAGE NAMES AND "IGYAK"

On the map depicting the exploration of Vasilev in 1829 there is a name for, or a designator of, the river on the banks of which Paugvik and Kougumik were located: "*Igyak*." "*Igyak*" is related to the Yup'ik root, "*Ige-*," meaning "to swallow," and "*Igyaraq*," meaning the "area of (a) river at (the) outlet of (a) lake" (cf. Jacobson 1984:158). Vasilev may have obtained the name "*Igyak*" from the Upper Drainage people in 1829 whom he encountered before he went down the Igyak/Naknek River, which was at the mouth of Naknek Lake where the "*Iqkhagmiut*" resided. Igyak might be, in my opinion, a word used by inland riverine dwellers as opposed to coastal-dwelling Aglurmiut at the mouth of what is called today the Naknek River.

Russian Orthodox Church Records refer to Old Savonoski inhabitants as "*Iqkhagmiut*." The Lake Iliamna village of Igiugik (from the same root as Igyak) likewise is located where the lake flows into Kvichak River. "*Ikak*" or "*Igyak*" (also listed in Russian Church Records) were perhaps not indigenous terms for any ethnic group. My view differs from that of Harritt (1997:49) who suggests that the Old Savonoski inhabitants be called the "*Ikkhagamut* or *Ikkhagamute*" because in his view it is the "actual Yup'ik name for the protohistoric village in their territory". Harritt might not be aware of the etymology of *igyak* or its possible relation to the names of Lake Naknek villages. "*Igyak*" (similar in sound to "*Ikak*" or "*Iqkhag*") may have simply been the indigenous response to the question by Russians of "where do you live?" The indigenous answer would have been descriptive - "We live at the mouth" — as were other villages in Naknek Lake "at the mouth" of some river⁶. However, if "*Igyak*" meant "at the mouth of," which group provided Vasilev with the term: the Aglurmiut or Lake Naknek Natives? I think it was likely the Naknek Lake Natives whom he encountered first. Akalena (Olympic) Holstrom (b. 1922 at Naknek Lake, about four miles from where Naknek River exits the Lake, now residing in Naknek) said that "*Igyak*" meant "at the mouth of" a river as it exits a lake. Akalena descends from Lake Iliamna area Kiatagamiut. She lived many years in Igiagik (her emphatic pronunciation of the village today called Igiugik. Russians also recorded the name of the village as *Ig'iagik*, according to K. Arndt, 2001, personal communication). She is the daughter of the Kiatagamiut, Evon Olympic, and his wife, Agrappina (whom Akalena called Agraphina). Children of Trefon Angasan (b. 1910, Old Savonoski:

Mary Jane b. 1945 and Ralph, Jr., b. 1948) also informed me that "*Igyak*" means "at the mouth of" a river as it exits a lake.

PROBLEMS WITH RUSSIAN PLACE NAMES: "KANIG" AND "NUNAMIUT"

In the first decade of the 20th century the Russian Orthodox Church Records from Nushagak parish, which had responsibility for Old Savonoski (comprised of two villages: *Ikak* and *Alinak*) after 1844 and Paugvik after 1842, lists "*Nunamiut*" as a Naknek Lake village and a few years later lists "*Kanigmiut*" as a village there also. An anthropological report by Lydia Black to the U.S. Department of the Interior noted that "*Iqkhagmiut*" (Old Savonoski) may have fissioned into these two villages (cf. Black letter to Tanner, U.S. Department of the Interior, 1984). "*Nunamiut*" simply means "People of the Land" (Nuna = "land, place soil, earth, village, country," Jacobson *ibid*:269). A "*Nunalgun*" is "anyone from one's home village." Any inland Yup'ik person could be a "*Nunamiut*." Perhaps the priests asked people from the coast who did not live at these inland lake villages who the people there were. To coastal Yup'ik speakers, those inland would be "Land People" (Inland People or *Nunamiut*). "*Kanigmiut*" is a Yup'ik term that might relate to "*kangiq*" (cf. Jacobson *ibid*:1870), meaning "headwaters of a river," similar in meaning to "*Igyak*" but not specifying that the river is exiting a Lake. The Russian phrase "Severnovskie selenia" — Severnovskie settlements (plural) — is used in 1909, so there presumably were now two separate settlements, but I question whether the correct indigenous names of these villages are provided in the Russian Church records (cf. Pratt 1984:41-43 for a discussion of similar place name problems).

Black explains the problems in the Church records noted above when she notes that a "dedicated native son, Yup'ik speaker," Father Shishkin, compiled and transliterated Nushagak Parish records from 1870-1880. But thereafter two new priests (Father Modestov and later Father Kashevarov) had to rely on interpreters and in this case "the competence of the interpreter becomes crucial" (Black letter, *ibid*.). The Church and its records from 1917 - 1950s, she notes, "suffered greatly" due to the inferior educational level of the assigned priests after the Russian Revolution. One cannot rely exclusively on early Russian Orthodox Church records, in fact, at any time, to settle definitely any questions about Alaskan Native individuals regarding names/date of birth/place of birth/parents/death/marriage. Russians did not always record place names accurately or consistently when transliterating Native words. It is possible that Russian priests, explorers or administrators asked a member of Native Group A who Native Group B was or what the name of their village was, thus recording outsiders' names but giving the impression that locals called themselves by such names.

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⁶ However, Clemens and Norris (1999:41) note that "In 1880, Petroff reported 'Ikkhagmute' as the name used by its inhabitants for the settlement at the end of Iliuk Arm."



Jacobson (1984) lists "*Yuraq*" as the Yup'ik term for dance "Eskimo style." (An Alutiiq term for dance is "*Agnguarluni*" which refers to western dance; "dance native style" is called "*Ililerluni*," which is unrelated to "*Yuraq*.") Traditional dances were not simply festive, recreational activities. It was at these dances that parents looked for mates for their sons and daughters, according to Mr. Chukan. Ralph Angasan, Sr. (1998, personal communication) said there was an effort by villages to avoid in-breeding. Parents were on the lookout for suitable mates for their children from other villages. Dancing feasts were one occasion at which possible spouses for children were sought. The Russian priest did not approve of all the things that were given away between villagers at the dance feasts, or with which an individual was rewarded for exceptional dancing. Paul Chukan (Feldman 1978) said that villagers from Branch River, Koggiung, South Naknek and Savonoski (New or Old? he did not say) were invited to the Naknek dancing feasts, but not (Kiatagamiut) people from Iliamna because it was too far away for dogsled travel. Whatever hostility may have existed between lower and upper Naknek drainage people in the 19th century had dissolved by the time Mr. Chukan was attending these dancing feasts.

In 1923, Paul Chukan (an Aglurmiut descendant in my view, b. 1901, Naknek) married Anna Andrews (b. 1907) (Figure 5) who lived at the time in South Naknek (Feldman 1978). Anna Andrews was originally from Cape Douglas, Kodiak Island (an Alutiiq region) (Kathryn Brown, her granddaughter, 2001 personal communication). Anna's family had moved from Kodiak Island to Levelock which is within the coastal region that Dumond and Van Stone (1995) assign to the Aglurmiut following the latter's post-1810 arrival in the area. Paul's aunt chose Anna as a spouse for him while Anna was residing in South Naknek following the death of her parents in 1919. His parents were also deceased.

Many (80) of the adults in Naknek died of the influenza after the first case was reported May 26, 1919, only a few days after the flu-carrying boat, the *Kvichak*, arrived off Naknek on May 22. Paul would have been about 18 years old. Sixteen orphaned children from "upper Ugashik village" (Figure 4) and 12 from the "lower village were transferred with the sixteen Naknek orphans to the government hospital at Dillingham" (Branson 1998). Aglurmiut traditions and culture probably all but disappeared after the amalgamation of diverse children at the Dillingham orphanage. Paul's aunt selected a spouse for him (Anna) whose (probably Alutiiq) family had resided in Levelock, the post-1810 Aglurmiut region.

A traditional Old Savonoski and Ugashik marriage

In 1947 Trefon Angasan (b. 1910, Old Savonoski; cf. Branson 1998:85) (Figure 5) married Vera Kie (b. 1924, orig. from Ugashik, his second wife). Vera Kie moved from Ugashik to New Savonoski

on the Naknek River around 1932 when her Native mother died. She was adopted by One Arm Nick Melgenak and Pelageia Alingnak (or Ityg'yuk; cf. Clemens and Norris 1999, inside cover). Trefon Angasan, the son of the toyon of Old Savonoski, also lived with One Arm Nick Melgenak and his wife at New Savonoski during his boyhood. Their household survived because Pelageia locked their doors when the influenza epidemic began and didn't allow anyone in or out for some time. Vera's move into the household of former Old Savonoski residents reflect what archaeologists, Russian explorers and administrators thought had happened: the Natives displaced by the Aglurmiut at Paugvik went to Ugashik and Old Savonoski because they were related. Over one hundred years later these cultural links between Ugashik and Old Savonoski are evident in the 1947 marriage between Trefon Angasan and Vera Kie.

Culture change? - An Old Savonoski and Aglurmiut marriage

Prior to 1912, Trefon's father, Trefon Angasan, Sr. (b. 1884 or 1880, Old Savonoski), married Katherine Alingnak (perhaps the name of her village or of her *toyon* father), niece of Pelageia Alingnak, at Ikhhagmiut in 1905. After Katherine Alingnak died, Trefon, Sr. married the aunt of Paul Chukan, Katherine Chukan, who I think was an *Aglurmiut*⁷. This marriage occurred as best I could determine after the 1912 Katmai eruption and establishment of New Savonoski. This marriage might continue pre-existing intermarriage patterns or indicate the closer ties that became possible or were politically expedient between Upper Drainage Natives and Lower Drainage Aglurmiut when they began to reside only six miles apart at New Savonoski after 1912. It was the kinship basis for the adult hunting partnership between Trefon Angasan (b. 1910, Old Savonoski) and Paul Chukan (b. 1901, Naknek; cf. Branson 1998:85 for photograph of Anna Chukan and Trefon Angasan).

A Kiatagamiut and Naknek Lake marriage

Evon Olympic (Figure 6) was born "Ioann Kuliliuk" of Kiatagamiut descent in 1880 at or near Kashkinak in the Lake Iliamna area (K. L. Arndt 1999, personal communication, based on Alaskan Russian Church Records). He was recorded as a Church member at "Alagnak" from 1894 through 1899, and at "Kakhonak" from 1903 through 1910 (cf. Branson 1998, photograph #267.H-1144). In 1904 Evon married a sixteen-year-old Native girl, Agrippina (b. 1888) following their common-law marriage which

⁷ In 1978, Paul Chukan told me that his great-grandfather said he had "come from the north." In working back through four generations (a conservative 25 years per generation), this would have meant sometime prior to at least 1840. Don Dumond and I both became involved as expert witnesses in a Paugvik Village water rights case vs. the State of Alaska. Dumond was pleased to learn that via the genealogical method, Mr. Chukan's ancestors' arrival was dated at approximately the same time as indicated by archaeological research and the journals of Russian explorers.





Figure 5: A group of Native people in Naknek, 1931-32. From left to right are Trefon Angasan (1910-1988), Anisha Chukan (1927-1993) in front of Trefon, Okalina Angasan (first wife of Trefon Angasan), Anna Chukan (1907-1996) who was married to Paul Chukan, Okalina Holmstrom holding Nadia, and Nick Holstrom, Sr. (?- 1972) (Branson 1998, photograph # H-1125).

may have been a few years earlier. Around 1930, Evon and Agrappina Olympic's daughter, Evdokia (b. 1912, d. 1994), married Andrew Ansaknok (the name was also spelled "Angasan"), nephew of Trefon Angasan (b. 1880 or 1884, Old Savonoski), establishing kinship ties between the Olympic and the Angasan families.

The above three marriages established kinship ties among families from the Lower Naknek Aglurmiut descendants to the Katmai Descendants to the Lake Iliamna Kiatagamiut. The intermediate family was the Angasan family.

POST-CONTACT DISEASES

The small number of Katmai Descendants still residing in King Salmon and upon whom a claim to tribal status was made requires an explanation. The explanation for the limited number of

descendants there (others reside elsewhere in Alaska) is primarily due to diseases occasioned by contact. Diseases began to decimate villages in the area soon after contact with Russians. Only 10% of the 67 pre-contact settlements on Kodiak Island survived as of 1839 according to the Russian census (Erlandson et al. 1992:53). Smallpox decimated the coastal and Peninsula populations between 1836-39. Of the Russian estimate of 8,000 inhabitants on Kodiak Island prior to Russian contact (probably a low figure) (Steve Langdon 1999, personal communication), less than 20% or about 1,500 people were enumerated in the 1839 census. After the purchase of Alaska from Russia by the United States in 1867, other diseases continued this population decimation – most notably, those that struck in 1899 and 1918/19. I want to emphasize that population decimation does not simply result in a reduction of people but can necessitate changes in their way of life – in their culture (cf. Pratt 1998:21). One must therefore examine closely



the efforts at cultural links to the past by this tenacious group of Old Savonoski survivors, who today call themselves "Aleut."⁸

EYEWITNESS CAUCASIAN VIEWS

Three local Caucasian men (whose anonymity I prefer to maintain) were interviewed regarding the presence of Native people in the King Salmon area prior to the construction of the (Naknek Army) Air Base. Caucasian eyewitness #1 came as part of a Medic Corps to the Air Base at current King Salmon in 1946. He had briefly been at the same Air Base, on his way to Dutch Harbor in 1942 during World War II. He was stationed in Dutch Harbor from 1942 until 1946 when, after the War, he moved to "Bristol Bay." He eventually married a local Naknek woman (born 1926) who had a Native mother and Scandinavian father. He told me, "There were not many mud huts" (traditional Native barabaras) around King Salmon when he came through in 1942 and later when he returned. In his view, "Around 1923 the canneries started providing (wood) homes to Native people." However, he noted there was "an old log cabin from the early 1900s, lived in by a Native man at Paul's Creek." It was there "long before the Air Base. Maybe built in the 1890s." The Native man who lived there, he said, was his Native wife's godfather who had lived in Naknek. (When I investigated, I learned that it was actually Trefon Angasan (b.1910), a Katmai Descendant, who owned the cabin, which he shared with a hunting partner from Naknek – Paul Chukan). "There were very few people here," he said, when the Air Base was constructed. "There were a few trappers - white men with Native girls and their children."

⁸ Because the Russian explorers and traders first met people along the Aleutian chain prior to contacting other Native people further east, they and the subsequent Russian Orthodox Church missionaries referred to the Kodiak Island and Alaska Peninsula Native peoples as Aleut. This nomenclature was used even though the Peninsula and Kodiak peoples spoke languages related to Yup'ik Eskimo. That is, they were not self-designated "Aleuts" in pre-contact times. As a result, however, the self-designation today of Native people in the Naknek area is "Aleut." There is a problem, now, in that self-designated "Aleuts" speak a Yup'ik dialect. To accommodate this anomaly, linguists use the term: "Alutiq." Trefon Angasan (b. 1910) told his son, Ralph Angasan, Sr., that he spoke "Sugpiaq." The latter term is reportedly gaining some currency again.



Figure 6: Evon Olympic (Russian Orthodox Church Records list his name as Ioann Kuliliuk, born 1880 and died 1975 (Branson 1998, photograph # H-1144).

Native Allotment files raise some questions about the accuracy of his view. His own wife, a non-Katmai Descendant Native woman, filed for and eventually received two Native Allotments: one on Paul's Creek and the other at the confluence of King Salmon Creek and the Naknek River (at "*Anaqchiak*"). There was a decaying wood cabin built into the ridge above the creek where she filed. In 1969 the U.S. Department of the Interior, Bureau of Land Management, noted regarding her application:

The lands applied for by the State selection had been periodically and continuously used by the appellant's father and mother prior to 1939 in their customary and traditional way of life for fishing, hunting, and gathering berries to contribute to the subsistence of the family of twelve children. Appellant's father died in 1939; thereafter her mother continued to use the lands in the same manner. In 1942, a shelter cabin was built which has been used periodically and continuously over the past years. Appellant has used the land in the traditional and customary way of life in contributing to her family subsistence.



It should be noted that gravel rights to her Paul's Creek allotment were sold to a Fairbanks gravel company upon her application being approved in the 1980s. This gravel was sold to the State of Alaska for local road construction. Records indicate that her Caucasian husband had continuously queried the Department of the Interior regarding his wife's Native Allotment application. The sale of the gravel to the Fairbanks gravel company in part explains his continuous queries regarding the status of his wife's application. Although he thought there were very few Native people in the King Salmon area prior to the construction of the Air Base, his own wife's family was among them.

Caucasian eyewitness #2 was interviewed long-distance by phone because he resides out-of-state. He lived in Alaska from 1916 to recently — "all my life," he said. He attended the University of Alaska, Fairbanks, receiving his degree in 1933. In 1934 he moved to Naknek where he taught school until World War II in 1942. He recalls when the military arrived, looking for a place to build an Air Base. At first they looked behind Naknek, concluding that a suitable location was available about a half mile north of Naknek. A few local men — himself and two or three others — showed the military a better "flat place," two days after Pearl Harbor was bombed by the Japanese. The "flat place" was east of Naknek where the King Salmon runway exists today. The Base was completed in 1942. In that fall and winter, he was in charge of getting boats ready for the military and also gathered information for the military in Seattle. A General asked him to accept a commission, which he did, becoming a Lieutenant in 1943. He later lived a year in Japan, after the war. He returned after the war and taught school in Naknek.

"There was nobody on the Base land," he said. At Paul's Creek there was "nothing there," except a man who lived on the beach — "an old friend of ours." There was no one living where the army huts were built, in either summer or winter, he thought. The soldiers would go fishing in the summer and would travel (hunt) with sled dogs in the winter. Regarding whether there were cabins at Smelt Creek, he said, "I don't think so. There were a couple people living along the river, above the airbase and across from the airbase." He recalled that Big Creek was called "Boat Creek." He said there were "a few cabins" on the creeks, along Naknek river, and a couple of people "lived across" (the Naknek River) — maybe two or three. There were mostly "white folks" living in the cabins around King Salmon and most weren't married to anyone, as he recalled. The white men caught and sold fish for ten cents a fish.

Because he emphasized how few Natives were in the King Salmon area, an effort was made to obtain a more precise estimate of their number. He was asked if ten or twelve Native people possibly lived in the area before the Air Base was constructed. "Yes," he said, maybe as many as that. Could there have possibly been twenty Native people in the King Salmon area during and before the Base was constructed? "Yes," he thought, there could have been that many.

While investigating BIA census records for Native villages in Alaska, a letter was found that was written November 1, 1938 from this same man to Charles W. Hawkesworth, Assistant to the Director of the Office of Indian Affairs, in Juneau, Alaska. He was reporting to Hawkesworth the census he made of Native people living in Naknek that fall. Attention is drawn here to the Oct. 31, 1938 census that he made of Naknek Natives. He enumerated Paul Chukan and "Trefem (sic.) Angasan" (b.1894) plus his son "Trefem (sic.) Angasan" (b.1910). He enumerated only fourteen Native people, none with less than one-half "degree of Native blood." One of the perceptions of Caucasian men seems to have been that people who were less than one-half Native in ancestry were not Native. This perception resulted, perhaps, in the undercounting of Native people based on present standards for establishing Alaska Native identity.⁹ The next interview with a Caucasian eyewitness strengthens this assertion.

Caucasian eyewitness #3 was born "Outside" in 1917. He joined the military when World War II broke out, went to Cadet school and became a navigator on B-24s during the War, serving in Europe, North Africa and the Middle East. He moved to Fairbanks, Alaska, when he was 28 years old (around 1945). He came to work in King Salmon for Pacific Northern Air in 1945 at the Naknek Army Air Base, later called the King Salmon Air Base. His job was to meet planes, unload and load them. The planes would pick up fishermen, among other cargo, as the region became popular for sportsmen. He married an Athabascan woman and their children are enrolled today in a Regional Native Corporation.

He said that "a Native man" had a cabin on Paul's Creek, three miles up the creek, and it is still there. Unlike Caucasian eyewitness #1, he said there were cabins that he saw on Smelt Creek, built in the 1920s and 1930s, but he didn't say who lived in them. There were also old reindeer corrals near Smelt Creek, which are still there. He said there were reindeer being herded in the area until the 1940s, as best he could remember: "There were still a couple (Native) guys being paid to be herders when I came in 1945."

He noted that "old-timers lived about every mile" along the Naknek River and other creeks when he arrived in 1945. They would commercially fish during the summer, work on their own set-nets along the shore, then come "up river" to King Salmon (from North and South Naknek) in the winter. Many made home-brew during the winter. In his memory, these were "all white guys." A few white men trapped in the winter, but not as a "profession." Primarily it was Native people who trapped.

During World War II, he said, there were about 10,000 soldiers living in King Salmon. He said that after the war there were six

⁹ It should also be noted that this eyewitness incorrectly gives the birthdate of Paul Chukan as 1904, at "Koggiung" in his census report (a Yup'ik term for Koggiung is *Qertungayagmitut* (Abalama 1990)). However, the Russian Orthodox Church records give a birthdate of June 5, 1901 for Paul Chukan, which was the year of birth he provided to me in 1978 when I interviewed him regarding another issue. Paul told me, also, that he was born in Naknek.



Federal Aviation Agency (FAA) houses there. There were also Quonset huts that housed 22 soldiers and a lieutenant. There was a mess hall for meals and an observation tower. Six Alaska Communication System employees lived on base, too.

He thought that beginning around 1900 Native people moved in to be near canneries at Naknek in the summer. Natives and non-Natives lived together, creating mixed-blood families. "It was hard to tell who was Native until Allotments began and the 1971 Settlement Act," he noted. Then "a lot of people 'became Native' after that. It was popular to be Native, then." There were Chinese fishermen on sail ships owned by the canneries as well as Italians and Filipinos, he noted. Everyone was "mixed together."

He said there were "no Native people at King Salmon" when he arrived. Native people lived, he thought, at Naknek, at the canneries "down there": at Alaska Packers, Columbia Ward Fisheries and Libby's cannery (at Naknek). "There was not much here (at King Salmon) during the winter." He did note, though, that Native people trapped in the King Salmon area in the winter.

Although he said the "old-timers" living along the creeks in 1945 were "all white guys," he failed to mention that many had married Native women, resulting in mixed-blood offspring. It seems to me that in his view if a father was a Caucasian so were his children even if their mother was a Native woman. He did not perceive "Natives" to be in the King Salmon area when he arrived in 1945. This is not a "fact" at all but is his perception that "everyone was mixed in with everyone else." Being "mixed in" meant, to him, that there "weren't any Natives here."

This statement overlooks his comment regarding the presence of Native reindeer herders in the area, around Smelt Creek south of King Salmon. An "Application For Grazing Permit Or Lease" was discovered in Federal Archives (Anchorage) for that area submitted in 1932 by several Native men. Some were Katmai Descendants and included Trefon Angasan (b.1910) as well as one of the Olympic brothers. The Angasan and Olympic families were not only intermarried, they had become business partners in the 1930s.

Contrary to these Caucasian eyewitness accounts, Native people said that Native women, their Caucasian husbands and offspring, lived in cabins or barabaras in the King Salmon area year-round and during the winter trapping season in the early 20th century. For example, the mixed-blood Native grandson (now living in Port Heiden) of one of the King Salmon area Scandinavian men—known locally as "Dirty Nick"—said that the construction of the Air Base in 1942 would have driven away Native people until after the war ended. "Dirty Nick" lived at Smelt Creek (sometimes in a barabara there) and at Eskimo Creek in a cabin with his Eskimo wife, Massa, the latter woman having a full-blood Native daughter from a previous marriage. "Dirty Nick" made moonshine liquor in the 1920s and 1930s during the winter at Smelt Creek, according to his grandson. He sold it during the summer from his cabin on Eskimo Creek as it

exits into the Naknek River in the heart of present-day King Salmon town (cf. Figure 2). "Eskimo Creek" perhaps received its name because his wife, Massa, was a (Yup'ik) Eskimo woman from further north. Massa's descendants still live in King Salmon and are enrolled in the King Salmon Village Council. Her full-blood (Eskimo) daughter, Olga, could skin beaver better than anyone according to Olga's (second) Caucasian husband, an ex-soldier who outlived her and resides in Naknek.

THE KATMAI DESCENDENTS

In order to provide other researchers with the data upon which my conclusions have been reached, Table 1 presents names of the 1998 enrollees in King Salmon Traditional Council. Table 2 identifies their ancestors.

CONCLUSIONS

Each piece of applied ethnohistorical information must be interrogated by other pieces in a holistic manner. In the present research, information was examined and interrogated from the archaeological record, linguistics, mate selection practices, explorer journals, interviews with non-Natives and Natives, archival records, genealogical charts and on-site inspection. Applied anthropological research on behalf of Native people can contribute to basic anthropological knowledge in understanding complex historical situations precisely because such research includes the views of the Natives affected by the research. This paper identifies an indigenous name for the confluence of King Salmon Creek and the Naknek River, makes public the indigenous name of New Savonoski that was present in Russian Orthodox Church records and unpublished ANCSA interviews, and alerts researchers of this area to be aware of whether a Native place name derives from the local inhabitants or from outsiders. The mate selection information suggests how subsistence practices of indigenous people with bilateral kinship make use of marriage as a means to use others' land. That is, a study of subsistence practices should not focus exclusively on technology, group size and the availability of resources as if "optimum foraging strategy" (or any other approach to these questions) is a mechanistic process unrelated to choices that individuals could and did make which enhance and territorially expand subsistence success. Also, current interest in "discourse analysis" should not render obsolete the necessity for training in how to conduct genealogical research. Interpreting discourse requires knowing the place of the speaker in the social fabric.

There was a Native presence in the King Salmon area prior to and up to 1936, and the subsequent war years. This presence was dramatically decreased after roads, jeeps, military planes and barracks flooded the land after 1942, forcing Natives to move until the war ended. Katmai Descendants from Old Savonoski, who provide leadership for the King Salmon Traditional Village Council,



Table 1: Descendants of King Salmon area pre-1936 Native inhabitants who were enrolled in King Salmon Village in 1998

	Member ID	Last Name	First Name	"Blood Quantum"
1.	?	Melgenak	Ted	4/4 Aleut
2.**	KS-93-002	Angasan	Clara	1/2 Aleut
(Married to Ralph Angasan, Sr., but is not herself a direct descendant)				
3.	KS-93-003	Angasan	Ralph, Sr.	3/4 Aleut
4.	KS-93-004	Angasan	Alexander L.	9/16 Aleut-Eskimo
5.	KS-93-009	Angasan	Ralph, Jr.	1/2 Aleut
6.	KS-93-010	Angasan	Brenda Elaine	9/16 Aleut-Eskimo
7.	KS-93-011	Angasan	Ruth Ann	1/2 Aleut
8.	KS-93-014	Angasan	Peter Louis, Jr.	9/16 Aleut-Eskimo
9.	KS-93-015	Angasan	Peter Louis, Sr.	1/2 Aleut
10.	KS-93-024	Williams	Bertha Alzenia	1/2 Aleut
11.	KS-93-025	Williams	James	1/2 Aleut
12.	KS-93-026	Williams	R.A.	1/8 Aleut
13.	KS-93-028	Williams	Karl Andrew	1/8 Aleut
14.	KS-93-029	Williams	Allen Andrew	1/16 Aleut
15.	KS-93-031	Olsen-Angasan	Trygve M.	5/8 Aleut-Athabaskan
16.	KS-93-033	Angasan	Steve Kie	3/4 Aleut-Eskimo
17.	KS-93-034	Angasan	Ralph	5/8 Aleut-Athabaskan
18.	KS-93-035	Vaag-Angasan	Joni K.	1/2 Aleut
19.**	KS-93-037	Swain	Sean	1/16 Aleut
20.**	KS-93-038	Swain	Marlene	1/8 Aleut
21.**	KS-93-039	Swain	Michael	1/16 Aleut
22.	KS-93-049	Caruso	Christi Rose	1/4 Aleut-Eskimo
23.	KS-93-050	Caruso	Misti Jean	1/4 Aleut-Eskimo
24.	KS-93-051	Caruso	Peter John	1/4 Aleut-Eskimo
25.	KS-93-055	Jones	Sandra	1/2 Aleut
26.	KS-93-056	Jones	Thomas E.	1/4 Aleut
27.	KS-93-057	Jones	Davis E.	1/4 Aleut
28.	KS-93-058	Monsen	Roland	1/4 Aleut
29.	KS-93-059	Monsen	Roland Earl	1/4 Aleut
30.	KS-93-060	Monsen	Rnnita E.	1/4 Aleut
31.**	KS-93-061	Neilsen-Monsen	Ruth	1/4 Aleut
Not a direct descendant, but was married to Paul Monsen (b. 1923) who had a cabin on Paul's Creek.				
32.	?	Angasan	Eddie	1/2 Aleut?
33.	?	Angasan	Alma (Willson)	?
34.	?	Willson	Floyd	?
35.	?	Willson	Miquela	?
** Indicates non-direct descendant, but married to a direct descendant OR someone whose relationship to pre-1936 King Salmon inhabitants was unclear.				
Note: Genealogical information was presented in kinship chart form in my report				



Table 2: Ancestors of the King Salmon Traditional Council enrollees from among the pre-1936 inhabitants of the King Salmon area:

Enrollee:	Descended from:
(1) Ted Melgenak	Adopted son of Pelageia and One Arm Nick Melgenak. Ted had a barabara at mouth of King Salmon Creek.
(12) Individuals with Angasan Last Name	From Trefon Angasan
(1)(Clara (Neilsen) Angasan	Not a direct descendant but is married to Ralph Angasan, Sr.).
(5) Individuals with Williams Last Name	From Annie Gottschalk
(1) Sandra Jones	Sandra (Kihle) Jones is the daughter of Olga (Christiansen) Kihle (later became Olga Malone via marriage).
(2) Thomas E. Jones & Davis E. Jones	Sons of Sandra (Kihle) Jones.
(3) Individuals with Caruso Last Name	Cousins to Alma Willson who is a great granddaughter of Nick Olympic, a brother of Evon and Pete Olympic. All three Olympic brothers had residences in the King Salmon Area. Nick Olympic had a home at a small village called "Igyak" (or Igiagak) at the mouth of the Naknek River as it exits Naknek Lake. Alma Willson is married to Mark "Eddie" Angasan, son of Ralph Angasan, Sr. and grandson of Trefon Angasan.
(1) Alma (Willson) Angasan	Great granddaughter of Nick Olympic and wife of Mark "Eddie" Angasan, in King Salmon.
(1)Floyd Willson	Son of Alma (Willson) Angasan who is married to Mark "Eddie" Angasan of King Salmon.
(1) Miquela	Daughter of Floyd Willson, grand-daughter of Alma Willson.
(2) Hans Monsen & Rennita Monsen	Children of Roland Monsen, and grandson & granddaughter of Paul Monsen.
(1)Roland Earl Monsen	Son of Ruth Nielsen-Monsen and Paul Monsen.
(1) Ruth Nielsen-Monsen	Not a direct descendant but is related to one through marriage. She was married to Paul Monsen (b. 1923), a part-Aleut man who had a cabin on Paul's Creek, three miles up, and shared a cabin or barabara at Naknek Lake with his older (half)-brother, Johnny Monsen.
Total with clear King Salmon Area ancestor: 31; 2 through marriage	
THE SITUATION IS NOT AS CLEAR TO ME REGARDING:	
(2) Individuals with Swain Last Name	From Martha McGlashen, an Aleut woman married to Martin Monsen in early 1900s; Martha was the mother of Josie Monsen from whom the Swain group descend (Josie was married to Nick Wycoff, a Caucasian, who lived on American Creek which exits into Naknek Lake from the north, outside of what I call the King Salmon area).
Note: In my report, each ancestor was linked to a cabin or location in the area between Paul's Creek and Naknek Lake.	



attempted to obtain tribal status distinct from nearby Paugvik people because they descend from an ethnically distinct group, whose ancestors had a continuous use of the King Salmon area from time immemorial.¹⁰

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Kerry D. Feldman

afkdf@uaa.alaska.edu

Professor of Anthropology and Associate Dean of the College of Arts and Sciences, University of Alaska Anchorage.

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¹⁰ Notification of the "Federal recognition of the King Salmon Tribe" was received by King Salmon Village Council on December 29, 2000. Genealogical data were the most crucial information in the BIA decision.



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A SOUTHEAST ALASKA CASE

Judith Brakel



BACKGROUND OF THE STUDY

This study is based primarily on interviews with 55 long-term commercial fishermen⁴ in northern Southeast Alaska and ten additional interviews for the same project conducted by Dr. Stephen J. Langdon. The interviews were part of a project funded by the National Park Service.⁵ I subsequently obtained permission from the fishermen to use the interviews for a master's thesis (Brakel 1999). The study for the Park Service was occasioned by a plan to exclude commercial fishing from the 65-mile long Glacier Bay and, possibly in the future, from other Park waters, a total of approximately 940 square miles, including parts of Icy Strait and the Pacific Ocean from the Park's west coast to three miles offshore (USDOI 1998:3-3).

The lower Bay and the outer waters were encompassed when the Glacier Bay National Park boundaries were expanded in 1939.⁶ These are important commercial fishing waters that have been fished since before 1900. A 1994 court decision determined that there was no statutory ban on fishing in Park waters except in several small areas designated by Congress as "wilderness waters."⁷ However, under pressure from national environmental organizations and the Alaska Wildlife Alliance, the Park proceeded with regulations to exclude commercial fishing gradually from the entire Bay; the question of the outer waters would be reconsidered in 15 years (USDA 1998). In 1998 U.S. Congressional legislation sponsored by Alaska Senator Ted Stevens suddenly decided the matter along similar lines but provided financial compensation for those excluded and provided that the outer waters would remain open to fishing.

The interviews were conducted in 1996 and 1997, prior to the action by Congress. All interviewees fished both inside and outside of Park waters. I became involved partly because I had background knowledge of fishing. By living near the Park and talking with tourists in the summer I also had opportunities to hear outsiders' views of fishing.

⁴ The term "fisherman" is used to refer to both men and women, in accord with common usage.

⁵ The project title is "Human Use and Behavior of Fishers in Glacier Bay," Stephen J. Langdon, Principal Investigator. Working title of the report is *The History, Social Economy and Cultural Practice of Commercial Fishing in Glacier Bay National Park Waters*. Interviews conducted by Langdon were used as they appeared in the draft report.

⁶ The boundary expansion of what was then a national monument was by presidential proclamation, so there is no legislative history showing the intent of the expansion into marine waters. Documents indicate that preservation of brown bear habitat was the primary purpose of the expansion (Catton 1995).

⁷ In June 2001 the website of the Ocean Conservancy (formerly Center for Marine Conservation), stated that "overfishing so threatened the bay's resources that conservationists filed and won a lawsuit in 1998 to phase out commercial fishing in the bay." This statement is almost entirely false: the court case is the one just described, the issue was whether the Park Service had authority to allow commercial fishing in the Park, and the decision was as described here. There was no showing or indication that the fish resources were threatened by overexploitation. This is an example of the misinformation about the fisheries discussed in the section on "The view of fishermen as out of place."

THE FISHERIES

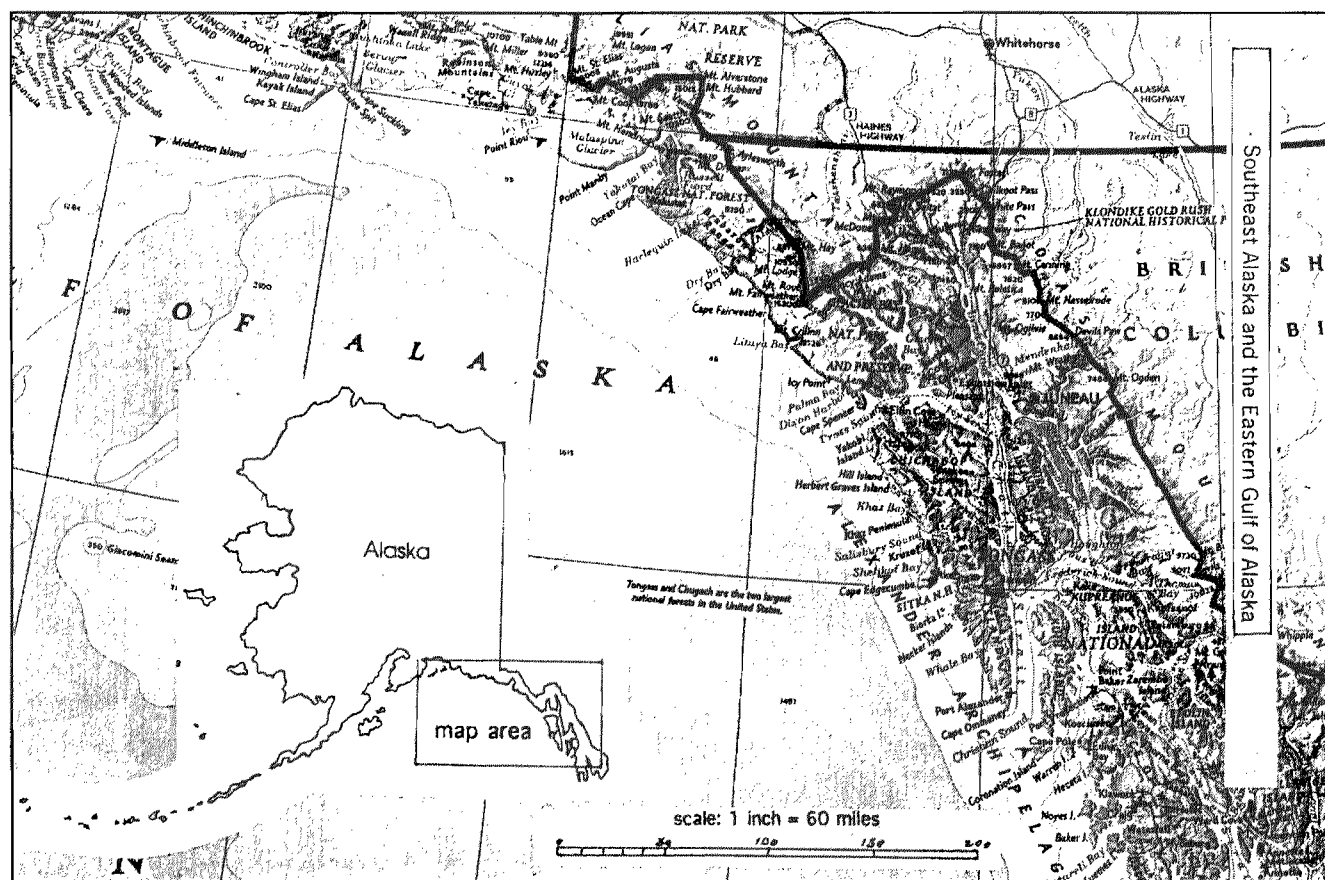
A brief description of the fisheries in which these people are engaged is appropriate: salmon trolling (a hook-and-line fishery), salmon seining, halibut and black cod (sablefish) longlining, several crab pot fisheries, and other minor fisheries. Most boats used in these fisheries are between 30 and 60 ft. in length, and the fishermen are owner-operators or crew on owner-operated boats.⁸ Some fish alone, with no crew. As in small-scale fisheries around the world, crews are paid in shares of the boat earnings. The waters fished include the inside passages of Southeast Alaska and the eastern Gulf of Alaska (see map). One individual's fishing range might include Chatham Strait, Icy Strait and Glacier Bay, plus the outside coast south to Sitka and northwest to Yakutat (the distance from Sitka to Yakutat is about 220 miles: 30 hours running time at a typical speed of 7 or 8 knots). A few boats make trips to the westward as far as the Aleutian Islands. Although these can be thought of as in-shore fisheries, some boats range as far as 30 or 40 miles off shore after black cod or king salmon. They are not involved in the large industrial-scale offshore fisheries, and vessels from those fisheries do not use local ports. The fisheries are managed by the Alaska Department of Fish and Game (ADF&G), the International Pacific Halibut Commission (IPHC), and (for offshore sablefish) the North Pacific Fisheries Management Council (NPFMC).

The fishermen interviewed live in the small Icy Strait communities of Pelican, Elfin Cove, Gustavus and Hoonah, or in the larger regional towns of Juneau and Sitka. Some who fish here live in other Alaska communities or in other states (mostly Washington and Oregon), but they were omitted from the interview sample. The sample was opportunistic but weighed toward long-term fishermen; three interviewees were retired. The majority of interviewees run their own boats, although for certain fisheries they may crew on other people's boats. The fishermen come from diverse backgrounds. Some are Alaska Natives, and many had family backgrounds of fishing. Others moved here from other parts of the U.S. and took up fishing as adults.

The Hoonah Tlingit people are the traditional owners of Glacier Bay, Icy Strait and nearby waters and much of their spiritual heritage derives from these areas. Consequently Hoonah Tlingit fishermen have a relationship to these areas beyond that described in this paper. Thornton (1995; 1997) has described the Tlingit relationship to 'place'. The Tlingit and Haida were a maritime people at the time of contact and became involved in the commercial fishing industry at its inception, well in advance of Native people in other parts of Alaska (Moser 1899). In the early 20th century the industry

⁸ The State of Alaska limited entry program reinforced this ownership pattern, requiring permits to be owned by "natural persons" rather than corporations, and allowing an individual to own only one permit of each type. Some permit leasing is allowed. The Individual Fisherman Quota (IFQ) systems instituted for halibut and blackcod in 1995 restrict ownership of most IFQs to natural persons.





120 Figure 1: Southeast Alaska and the Eastern Gulf of Alaska

dispossessed Native clans and house-groups of their ownership of salmon streams (Price 1990). But by the 1920s commercial fishing had become the dominant economic activity in Southeast Alaska Native villages, serving as a vehicle of adaptation to the cash economy while enabling retention of some elements of traditional culture (USDI 1998:3-106-7).⁹ The primacy of this industry among the Tlingit has declined in recent decades.

THE ANTHROPOLOGY OF FISHING

The fishing society discussed here has much in common with other fishing societies, but also has its own distinct character. The modest body of literature on the anthropology of fishing indicates that there are many similar patterns among fishing cultures in different parts of the world, patterns that sometimes contrast with the larger surrounding societies. This suggests that the ecological

relationships involved in fishing have considerable power to shape the culture. Poggie and Gersuny (1974:66) observe:

fishermen look upon their occupation and gain satisfaction from it in a much different way than do landbound workers. These ideational findings add further support to our contention that fishing is not simply an occupation, but a way of life, having more influence on the feelings of individuals and being more persuasive in their lives than most landbound occupations.

Despite the diversity of origins of the fishermen interviewed for this study, long fishing careers appear to have produced a considerable similarity in attitudes toward and involvement with the natural environment. The transmission of a local fishing culture to people who, in some cases, arrive on the scene as adults seems inadequate as an explanation for this consistency. Self-selection is clearly a factor.¹⁰ Bourdieu's ideas (1990 [1980]) about the generation of a common culture through 'practice' and the development of 'habitus' suggest ways in which originally diverse people could come to share a substantial amount of common

⁹ Links between commercial fishing and Tlingit subsistence life ways are demonstrated by data from the ADF&G Subsistence Division. A 1987 survey showed that commercial fishing households produced 83% of the subsistence harvest, considering all types of resources, for the community of Hoonah. Larger fishing vessels make subsistence trips that harvest for several households (Betts et al. 1994:8). Because Glacier Bay National Park is one of the few Alaska parks in which subsistence is not permitted, commercial fishing in and near Glacier Bay has been a way in which some Hoonah Tlingits have maintained ties to the area (USDI 1998:4-A-34).

¹⁰ The psychological characteristics of fishermen are said to show remarkable cross-cultural similarities, typically describing them as "aggressive, courageous and independent" (Acheson 1981:297).



culture through work, and in response to the somewhat unusual natural and socially-constituted "objective conditions" of the fishing life.

Some reservations about this study are appropriate. A directed effort to identify differences based on different cultural and socio-economic backgrounds might have identified more of these, especially between Tlingits and non-Natives. It should be emphasized that the findings of this study apply to a particular set of fishermen: long-term commercial fishermen from the Southeast Alaska area.

THEMES FROM THE FISHING INTERVIEWS

Because the interviews were originally conducted for other purposes, people were not asked to reflect upon their relationship to 'place'; they were asked about their fishing biographies, their uses of Park waters, and observations about marine areas in the Park. But their involvement with these marine places emerged as one of the most salient aspects of the interviews. This is not surprising for several reasons. Fishermen must focus intently on the environment to find and catch fish, navigate, and avoid costly or dangerous mistakes. Some have fished for most of their lives in this area. And many said the opportunity to work and live in this natural environment was one reason why they fished. The selection of themes presented here is guided by the objective of showing how fishermen's way of relating to their surroundings differs from other ways.

Fishing is a way of inhabiting a place

The fishermen interviewed have spent much of their lives aboard boats in the area. The 55 people I interviewed had fished an average of 23 years; two had fished here for 60 years and were still fishing. Some started as children and more than a third had parents and/or grandparents who fished. It was not uncommon for three or more generations to have fished in the area.

Participation in these fisheries typically involves living aboard boats for at least several months each year. A few unmarried fishermen in the group live year-round on their boats. One man stated that his engine tachometer registers 2,000 hours a year; 12 hours of running per day would mean 166 days per year on the boat. Trips last from a few days to a few weeks, but completing one may simply mean off-loading fish, getting groceries, refilling fuel, ice, and water, and heading back out, a turn-around that might not be done in ones home port. The 'homey' atmosphere inside most boats suggests that they serve as homes, even if they are not the primary residence. Indicative of this, one fisherman, complaining about having his boat unnecessarily boarded at sea by fisheries enforcement officials said, "How would *you* like it if some people

barged into *your* home, visibly armed, and demanded to see things?"

Working and living 24 hours a day on small boats in an often wildly moving environment has effects on the body. It calls for the development of habits and 'body wisdom', adaptations that not everyone who tries fishing can manage. People not accustomed to this can be exhausted, and prolonged seasickness will usually cause people to give up fishing. One person explained that "The first year is the big wash-out year." A retired woman who had fished with her husband said:

The muscles that I built up through the years – to hold my body together for this rocking and rolling on the ocean . . . I could walk just perfectly, unless it really got bad and it would throw me. I could walk, no problem at all. But now, as soon as I get where it's rocking and rolling, my body starts like it's just falling apart.

Sleep deprivation is common due to long work hours, or sometimes an inability to sleep soundly because of sea conditions, or a need to stay half-awake to monitor the situation of the boat. Problems with his legs prompted an older troller to sell his "hard riding" boat and buy a "1920s classic double-ended troller." This way of living, then, not only becomes written into the body, it also sorts people out into "fishermen" and "others."

Although fishing is often a hard-driving, ambitious endeavor, it is also a lifeway that tends to blend together in various proportions parts of existence that modern society tends to separate: work, recreation, sociality, travel, production for household use, and sometimes family life. Some couples fish together and children are sometimes included, although having children aboard was said to have been more common in the past. A man whose wife and daughter have fished with him said "I was basically born into fishing. I was on the boat at six months . . . Three kids were raised on the boat. My mother rinsed diapers by towing them behind . . . Right away we went to Pelican. We fished there to Lituya – my dad loved the area."

One consequence of being at home on a boat is that places where people fish, regularly traverse, or anchor at night can come to be regarded as "home places." A Pelican resident who has been on fishing boats since he was a toddler said of the bays west of Cape Spencer, "It's 50-60-70 miles away, but it's what we consider home." Asked what he likes about fishing, he gave several reasons and concluded: "Yeah - I feel fortunate we're one of the few to have access to do that – you know, live on the ocean, basically." A Hoonah Tlingit couple talked about fishing together in Glacier Bay:

So Mary and I, we spent most of the summer in Glacier Bay . . . *So Mary fished with you?* Yeah, she has – '74 – I hired her as my puller (laughs). We ended up getting married . . . *You go fishing with him up there when you can?* She: Every year. We're lucky our parents take care



of our kids when we're fishing. He: So anyway, Glacier Bay became a part of me, every fall. It remains that way today.

Good stories are a valued part of fishing life. One fisherman said "It seems like every fishing trip has stories," and another stated, "There's some flat-out good storytellers [naming some] and their stories will get repeated." These stories are typically connected to places and are appreciated best by people who know the settings. The director of the Alaska "Communities of Memory" Project told me, "Those who fish told stories that centered on their boats, not their landedness or winter homes" (Partnow 1999 pers. com.). The many stories associated with places are signs of fishermen's history there, although no human modifications to the land or seascape can be seen.

The place itself is often a reason why people remain in the occupation

Asked what was important to them about fishing, responses fell into these categories:

- Independence
- Diversity, always something new
- Being outdoors, being "in nature"
- Seeing the country
- Being your own boss
- Catching fish
- Producing something real or good
- It's the only thing I've ever done
- Connecting to natural cycles
- Challenge
- Travel
- Liking the people
- Adventure
- Liking boats
- Feeling of freedom
- Enable one to live in a rural area
- Peacefulness of being at sea

Fishermen consistently mentioned that they liked seeing the places, being outside, the variety, and the interesting things that happened. The importance of places appeared also in what people said about particular locales, as they related information, observations, and experiences well beyond the scope of the questions they were asked. People experience a strong sense of differentiation among parts of the area:

I really enjoy the Bay [Glacier Bay] ... it's really different than the rest of the places that we fish – you know, the Yakobi Island area – is so different than the Bay, and Yakobi and the Bay are so different than, like around in by Icy Point and Libby Island, and all that area – it's so different. And then when you get up west of Icy Point.

That whole part is just so different – you know, they're just totally different areas, and, ah – each one has its own beauty.

Fishing was described as almost the only way to make a living in some small communities: "If I did something else I'd definitely have to leave." More occupational choices are available in Juneau and Sitka. Here are the answers of two Juneau and Sitka fishermen to the question of why they fished:

1) My parents would have sent me to college, but I wanted to fish. Occasionally I do some construction in the winter. I can't imagine being in a building with filing cabinets, and a window between me and the wonderful, beautiful outside world we have in Alaska.

2) I've always done it. It's a clean living, you get to travel, you see things. People pay thousands to see what we see – especially around Glacier Bay Park. The mountains – guys I know who fished up there almost 40 years still comment on the beauty of the Glacier Bay area, the Fairweathers, and so on. Southeast Alaska – the places I enjoy – good beaches, Khaz Bay with the old mining remains, Graves, Torch Bay, Dixon Harbor – you see different wildlife you don't see here.

In Elfin Cove in November I stopped to talk to someone I'd interviewed earlier. Getting his boat ready to head out into a gray and stormy-looking Cross Sound, he commented "People fish because they love the country." I'd done a lot of interviews by then and it fit, although it omitted the critical matter of economics. Corroboration of this attachment to place over and above the economic values is provided by a 1979 survey administered by the Institute of Social and Economic Research (ISER) to about 10% of households in Southeast Alaska. To ascertain willingness to leave the area for economic reasons, ISER asked: "If you could not work at your present job in Alaska, would you take similar work in Washington or Oregon if the pay stayed the same?" Region-wide, 50% were willing to leave. In the logging camps, 83% of residents would leave, but in the small fishing communities only 6% would leave, despite incomes in these communities that were less than half the regional average (Alves 1980:II-15).

The best kind of places are wild places with few people.

The fishermen prefer wild country to developed and domesticated country, reflecting both personal preference and their view of what is best for fish and wildlife habitat. They also prefer not to have too many other boats around competing for fish. Since wild nature is seen as an appropriate setting for human life, the separation of wild areas from domesticated areas expected in agricultural societies does not seem necessary. Asked to identify places that are especially important to them, good fishing, but also



wildness, wildlife, aesthetics, and the minimal presence of other humans were incorporated in explanations of why a place was important. One man said, "I like anchoring alone. This is one of the few places left where you can actually be alone. Especially when you're fishing in the winter." Another said, "Only about 200 fishermen fish that coast a lot. Besides that, it's beautiful there."

Although other factors are at work as well, fishing settlement style and the minimal terrestrial impact of the fishing-based society suggest a lack of interest in changing the surrounding natural environment.¹¹ A fisherman who had lived in several such communities remarked approvingly that, "most fishing communities I've lived in have had no cars."

Politically, fishermen have constituted an interest group for the maintenance of wild lands in the region, lending support for a number of protected land designations and opposing developments potentially impacting fish and wildlife habitat (Durbin 1999). The interview question, "Do you have any concerns about habitat or management?" brought forth many vehement statements, particularly critical of large-scale logging. The ISER survey identified occupational group differences that corroborate this orientation toward maintaining wild lands (Alves 1980). Since such views were considerably less popular in Alaska two decades ago, ISER's findings show that expressions of appreciation for 'wilderness values' in my 1997 interviews were not simply attempts to impress the Park Service.

Learning about places has economic value

Firth (1984) and others have pointed out that the mobility of fish resources and the 'common property' treatment of them create a barrier to capital accumulation among fishermen. Fishermen can own vessels and gear, but cannot own the basic productive resources. Consequently fishing knowledge, including knowledge of places, is all the more important, serving as a kind of substitute for capital. As Symes notes, "For small scale fishermen one of their most valued assets is their intellectual capital, consisting of detailed knowledge of the local fishing grounds and the behavior of the fish stocks.... (1996:12). Others suggest that environmental or place knowledge can be considered a technology of production (Thornton 1995:5). Hoonah Tlingit fishermen became skilled in seining for salmon in the difficult tidal currents of the Inian Island passes in Icy Strait. Permanent closure of most of Icy Strait to seining in the 1970s was a blow to Hoonah's economy and morale, and precipitated in the decline of the Hoonah seine fleet (Langdon 1980 and interviews).

¹¹Anderson and Wadel (1972) report similar settlement sites and patterns for North Atlantic fishing communities. People intent on practicing agriculture initially settled the community of Gustavus near Glacier Bay. The choice of a site with flat land and no harbor, and the sprawling settlement style, contrasts markedly with initially fishing-based communities.

Through an investment of time and money, long-time fishermen have built up a huge fund of knowledge about the ocean bottom, the complex and constantly changing tidal currents, and the living creatures in the water in a great number of places. The information required about a place depends on the species pursued and the type of gear used. Many kinds of timing are important and vary from one place to another. Tidal current patterns may take considerable time to learn because they vary from hour to hour and from one tide to another. A troller commented that "each area has its formulas. It takes a few years to learn an area, and Glacier Bay is one of those areas." A woman who used to troll on king salmon fishing grounds that begin 30 miles offshore said:

It's like I can still close my eyes and I can see the Fairweather Grounds - what it was like on the bottom. Because I learned that whole bottom.... you know, the nips and the ups and downs and so on. I'm sure that all of the fishermen - the ones who tend to that part of the fisheries [can do this].

Before the era of accurate electronic position-finding technology, the knowledge of how to locate one's halibut grounds was highly protected private property; to some extent it still is. A Tlingit halibut fisherman talked about the powerful tide currents in the entrance of Glacier Bay and said, "We got to a point where we could set in between the [underwater] reefs without having to lose gear," but he declined to give details because, "We lost a lot of gear to learn that place." Information guarding of this kind is common in fisheries in many parts of the world.

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Most boats, even ones built in the 1920s, now have sophisticated electronic equipment: sonar to help find fish, global positioning systems (GPS) for navigation and for relocating bottomfish and crab fishing sites and gear. This reduces the amount of trial-and-error learning required to become a competent fisherman and navigator, but as one fisherman commented, "Electronics make it easier for people who don't know a lot," and "give you a lot of freedom, but accumulated experience still means more than electronics."

Moving about over a large region

Most fishermen have large ranges that differ for each individual captain, and they make flexible use of that territory based on strategic choices. The area used by an individual can change substantially from one year to the next. Typically they prefer the flexibility of a large range, partly to cope with the variability of the ocean environment, volatile fish prices, and changes in regulations, and they will extend their range through exploration. While learning new places has potential economic benefits, it is also true that the sense of freedom, adventure, and the opportunity to see new areas are valued as part of this relationship to 'place'.



A Hoonah fisherman described his mix of fisheries, requiring different areas including Glacier Bay: "One of the things about a fisherman is that it's the whole game plan on how you make a living for your family. It's halibut, salmon, crab; I do some gray codding and black codding and ring [Tanner crab] fishing... I can't afford to lose any more." The importance of territorial flexibility was emphasized in responses to a question about salmon caught on troll gear. Nearly everyone said the percentage of their catch coming from Park waters varies radically from year to year, based on the different routes the salmon take when migrating from the open ocean to inside waters, and on their own decisions about where to fish. A fisherman from Pelican remarked, "Several years ago you could hardly catch a coho on the south side of Cross Sound. The whole fishery was on the Cape Spencer side. Other years it's the other way around, and some years the fish are farther out." Since the Cape Spencer side is within Park waters, he added, "The main point is, it's damn good and important. I wouldn't want anybody to interpret that as, if I can't fish one place, I can go someplace else and make up for it. It's up to the fish."

The fishermen's orientation to a large region is reflected in their concerns about environmental conditions throughout their fishing ranges and beyond. Lots of concern was expressed about logging that might be occurring 200 miles or more distant from their home communities. Their regional orientation is also reflected in social relationships. Southeast Alaska communities tend to be isolated from one another but an exception is connections among fishermen. "Code groups" that share in-season fishing information and "running partners" commonly include people from different communities. People spoke appreciatively of encounters on the fishing grounds with old friends from distant towns, and of socializing in harbors and over the radio.

Wild nature is regarded as 'productive', and as a place to work.

Nature is seen as producing, without human aid, surpluses of fish and other resources that people can appropriate.¹² Although over-fishing is a clear danger, appropriations from nature are regarded as fine so long as the generative capacities of the natural systems are not diminished.

People who depend on local fisheries are less buffered from over-use and misuse of the resource than people in most occupations. Perhaps because there is an opportunity to assess feedback from the effects of economic activities over fairly short

¹² Salmon hatcheries are an intervention in the natural processes of reproduction. Some hatcheries are paid for by a "fisheries enhancement" tax on fishermen. Although no questions were asked about hatcheries, several people mentioned the benefits while others expressed unease about hatchery programs, stating concerns about genetic effects, diseases, etc. Further domestication of fish, such as salmon farming, was unequivocally opposed as dangerous to the stocks and contrary to fishermen's financial interests.

time cycles, they seem to think more about the sustainability of their activities than people in most modern occupations. Evidence of communication between fishermen and management biologists, and a fair amount of mutual respect, is interesting because the contrary is so frequently reported for other parts of the world. Contentious negotiations with Canada over transboundary salmon stocks and the threat of closure of Park waters have been an incentive for fishermen to state confidence in the management of fisheries by the Alaska Department of Fish and Game (ADF&G) and the International Pacific Halibut Commission (IPHC). My interviews for the Park report could have been seen as another opportunity to present this view. But aside from its use as an argument, "sustainability" clearly is one of the fishermen's values and concerns. This is particularly true for those who remember the 1950 – 1970s era of depressed halibut and salmon stocks. People frequently described themselves as contributing to sound management through providing information, having a voice in regulatory decision-making, and supporting decisions in favor of the resources. One man pointed out that most fish politics is not about catching more fish, but about *who* gets to catch them: allocation between gear and area groups and between commercial fisheries and the growing charter sport fishing industry. In fact, while interviews were being conducted, news reports stated that the longline fishermen's organization was concerned that the black cod quota could be too large, and fishermen on the IPHC advisory board suggested more conservative halibut quotas than those proposed by IPHC scientists (Associated Press 1998, Buckley 1998, Thompson 1996).

The environment is regarded as a source of subsistence food and materials as well. When interviews were conducted in the fall several people were preparing for or returning from deer hunts, and ADF&G data show that large quantities of subsistence foods are harvested by both Native and non-Native fishermen (Betts 1994).

The fishermen's preference for wild country and for the maintenance of fish and wildlife habitat has often put them at odds with development plans that mainstream society proposes for this area. Now they are realizing that their treatment of wild nature as productive of resources exploitable by humans puts them at odds with another set of ideas held by the dominant society. One woman worried that "We're heading toward a mentality that labels anybody who kills anything."

Observing changes in nature

In reviewing the data, the frequency with which people talked about variation and change in the natural environment was striking, particularly because the only questions asked about change had to do with technological changes. Relatively few significant changes were reported in technology except in electronics, primarily fish-finding and navigational equipment. Yet I heard a tremendous



amount about changes in nature, changes on time-scales ranging from minutes to decades. To seemingly simple questions I received answers about dynamics, couched as experiences, observations, and theories. Geographic places were often described in terms of changes: the sudden arrival of a storm in that place, the dynamics of tides there, the silting in of a bay, the changing migratory routes of fish, changing sea mammal populations. The actors in these dramas were rarely people. Salmon were especially prominent, and came up repeatedly in discussions of habitat, environment, and fisheries management, suggesting that salmon may be 'good to think with'. One troller provided a dynamic description of how salmon heading for spawning streams come in from the Pacific, enter through Cross Sound and then Icy Strait, and the fishermen's need to apprehend their movements. Another said salmon trolling is "time-consuming and mental work. It's like a pool table out there – everything is moving. It's draining in that way." Variations in the water on the outside coast were a topic:

One of the things that's really interesting in the water over there is the mixture of silt, fresh water and salt water. It's a unique ecosystem of its own. There's a lot of fringe effect there – you'll see a lot of variation in water temperatures, of 10 degrees even, going from the glacier runoff water to the much warmer ocean water. And what we call "feed" seems to like that stuff. There's lots of feed in that habitat. So it seems to be a good habitat for sea life – you know, birds, fish, marine mammals.... It's a dynamic thing, it varies a lot with the tides – the big tides flushing out of the Sound, and Alsek River, Dry Bay. You'll see the slate-colored water, glacial water coming into the bluer ocean water. You try – as a commercial fisherman – to figure out patterns of what fish'll be doing. And – I've never been able to get anything that works consistently, to figure it out. Basically, the fish are where you find them – and sometimes they're in the dark water, sometimes they're in the green water. But there is this really complex interaction in the salt water, and the wildlife that lives there.

Crab fishing produced slightly less dynamic descriptions than salmon based on their more stationary habits, but a Tanner crabber's description of fishing in Glacier Bay combined changes in crab distribution, tree distribution, competing marine mammal predator distribution, post-glacial uplift, changing ice conditions, weather, and mountain goat behavior. Another crabber said, "I like the season changes," and then described a heavy snowfall in Geikie Inlet.

The eastern Gulf of Alaska has many dynamic factors including plate tectonic movements, glacier movements, and large tides. Inter-annual variations in temperature and amplification of global warming exceed that at lower latitudes (Schimel 1999). Perhaps most significant is a difference between ecosystems on the land and those on the sea: on land, ecological processes tend to be in

fixed locations, but on the ocean they can move around, often over great distances. In the years since these interviews, marine scientists have begun to make pronouncements about "ocean regime changes" (IPHC 1999). The fishermen's level of attention to changes is understandable in this environment. Significantly, no one talked about "the balance of nature."¹³

Their view of nature as dynamic and not necessarily in equilibrium affects these fishermen's models of nature, patterns of learning, and their views about knowledge. The fishing fleet harbors many experimenters and theorists, but while they try to apprehend trends and patterns, they often find they have not succeeded. People clearly stated that many of their theories about natural processes were tentative. 'Models of nature' could even get in the way when dealing with a highly variable environment. One person said, "In fishing you always need to be looking ahead, tuned into and focused totally on what *is*, as opposed to what *was*, what you expected, or what was supposed to be happening." M. Estellie Smith suggests that fishermen's conceptions of nature are closer to the notions of chaos and complexity in scientific thought than to the scientific underpinning of the traditional approach to fisheries management. She argues that most fishermen perceive natural processes as complicated, dynamic and sensitive to small initial perturbations (1996:208). I asked two fishermen to comment on her description of fishermen's views of the natural order. One replied "This place changes! And I can give you bazillion reasons.... How many of these things happen *once*, like the king crab boom? This is a big rolling environment.... There's no two years alike, no matter what you're measuring."

Although a Dungeness crab fishermen complained that his was "a horrible fishery for the ease of learning where experienced ones set their pots," learning most fisheries requires extensive first-hand experience, partly because of the variability of the environment.¹⁴ To the extent that people do receive instruction, Ingold's observation about the education of hunters applies: "the fine-tuning of perception and action that is going on here is better understood as a process of enskillment than as one of enculturation," for what is involved is "an *education of attention*." Indeed, the instructions the novice hunter receives – to watch out for this, attend to that, and so on – only take on meaning in the context of his engagement with the environment" (1996:40-41). A Tlingit Fisherman provided an example of such instruction:

It was uncanny the way they read the tides out there. Sometimes my uncle would call me up and tell me "Watch the

¹³ Kempton, Boster and Hartley (1995:42-45) describe 'the balance of nature' as one of the cultural models of nature they frequently encountered in surveys eliciting American environmental values.

¹⁴ In Iceland fishing captains are required to have a license, and training begins with two years at the Marine Academy. Yet Pálsson and Helgason say "No formal training can cope with the flexibility and variability in the real world. Therefore, there is little, if any, connection between school performance and fishing success" (1996:49).



tides." And later on he would ask me. "What did you see?" And I said, "I saw some tide rips coming in." And he asked me, "Did you count them?" and "Which way they running?" He was grooming me, and I didn't know that.

Much of the knowledge gained through experience is not readily transferable from one person to another. Rather, it is implicit knowledge, activated only in conjunctions of circumstances, in practice. Borofsky (1994:340-41) cites neuroscience research by Knowlton, Ramus and Squire that distinguishes between two types of memory systems, explicit and implicit:

One system stores in explicit memory the actual instances that are present...the other...stores implicitly information that is abstracted about the stimuli...in the form of rules"... [and] "such patterns, because they are stored in implicit memory, are not readily verbalized or made conscious. (1994:340-41)

Interviews are unlikely to elicit knowledge that is implicit and activated only in conjunctions of circumstances, but a Hoonah seine captain provided an example. Asked how he used to set and haul his seine in the powerful tide currents when the Inian passes were open to net fishing, he said, "I can see it, I just can't say... you know what's going to happen, and people ask you *how* you know - I just know!"

A troller claimed that with management changes, the inside waters' king salmon fishery nearly disappeared because it was too haphazard. Old-timers who fished only the inside waters "had lots of specific knowledge about tides and weather – then they'd look at a certain place and find fish." As they retired or died, "that knowledge has been lost from our gene pool." His comment recognizes the *embodiment* of knowledge in the individual person. People are not interchangeable; individuals have knowledge inside them, and they inevitably take much of it with them when they go. It is not codified and transferred as readily as most modern Western knowledge. The typical fishing society's egalitarian emphasis, respect for 'elders' among the fishermen, and respect for individual autonomy might be understood partly in terms of the importance of knowledge about an environment that becomes embodied in individuals through experience.

THE VIEW OF FISHERMEN AS 'OUT OF PLACE'

What follows will be a speculative part of this discussion. I suggest that mainstream American values seemingly uncomfortable with commercial fishing come from two important sources: an agricultural heritage and a newer set of values surrounding wilderness and wild nature. Informal research indicates that people with moderately 'environmental' and pro-wilderness views are likely to view the fishing industry as almost inevitably destructive to both

fish stocks and "wilderness values." This distrust is understandably increased by the knowledge that many of the world's fisheries are over-fished. But worldwide problems with agriculture do not produce the same reactions; one never hears a suggestion that agriculture is an outdated human adaptation that should be abandoned. In Southeast Alaska some major fished species happened to be at near record high levels at the time of this study, a fact generally not recognized by those holding the values discussed here.

External perceptions of fishing should ideally be studied with carefully designed interviews and literature surveys. I did not conduct such a study because initially I did not intend to consider what non-fishers thought about fishing. But through conversations and literature I encountered factual errors about these fisheries that were so numerous and had such a consistently negative cast that I became curious about the conceptual frameworks that informed them. Misinformation seemed to be both a symptom and cause of negative views, prevalent among casual visitors to the region and almost equally so among those with reason to be better informed.¹⁵ The high priority accorded by national environmental organizations to removing commercial fishing from Glacier Bay also seemed incongruous amid the many serious environmental problems facing the world. I believe that it is productive to view the terms of reality laid down in "environmental discourse" as stemming from fundamental human ecology and cultural understandings. Based on comparisons of the fishing values described in this study with literature describing environmental and landscape values in agricultural societies and in modern America, I suggest a perspective on how commercial fishing could become antithetical to many people's views. Perhaps these tentative conclusions will inspire an in-depth study of the bases of public opinion.

Values derived from an agricultural heritage

Some agricultural values that fit poorly with fishing are:

1) *Agriculture is more acceptable than hunting, thus aquaculture is more acceptable than capturing wild fish.* Popular media and environmental literature often advise eating farmed fish as more environmentally correct (Nash 1997; Newton and Dillingham 1997).

¹⁵ Although trawl fisheries, with minor exceptions, are absent from the entire Southeast Alaska region, some park employees with several years of experience in Glacier Bay believed that large trawlers conduct fishing in the bay. Speaking with a leader of a national environmental organization who was a major proponent of excising commercial fishing from the Park, I learned that he believed fish stocks in Glacier Bay were seriously depleted, and despite his long and prominent association with Alaska issues he did not know that most Alaska salmon stocks recovered to high levels in the 1980-90s. A 1997 book about the depletion of world fish stocks authored by a marine biologist and published by Sierra Club Books described new management measures in the North Pacific halibut fishery and concluded with "The fish may even recover!" (Berrill 1997:92), yet around this time IPHC scientists estimated North Pacific halibut stocks at near an all-time high (Associated Press 1998).



2) *Wild nature should be separated from the human-used and controlled environment.* It has been argued that the concept of "wilderness" arose with the transition to agriculture and is foreign to hunter-gatherer peoples, (Hell 1996). Fishermen, somewhat like hunger-gatherers, make little distinction between wild and domestic places.

3) *Mobile and flexible use of territory is suspicious* (like the old agricultural distrust of nomadic pastoralists and the need to settle American Indians on reservations) (Bennett 1993:306-7).

There seems to be a perception by the public that attempts to regulate fishermen are futile. Although fishermen regularly comply with regulations that are exceedingly complex and frequently changing, the perception from the outside is different. A perception that they are 'out of control' may come not only from the agricultural heritage, but also from a modern expectation that people will be under a certain amount of observation, at least in their work life - the "panopticon" that Michel Foucault (1984) described. Fishermen's highly mobile and independent movements over a wide, undomesticated territory may provoke suspicion that they have escaped this. And, suspicions confirmed, when I asked why they like their occupation, almost everyone mentioned "freedom" and "independence," by which they meant many things including the freedom to move about. Moreover, Acheson's review of fishing anthropology says "a very large number of studies in widely separated cultures have mentioned the independent nature of fishermen" (1981:297).

Values associated with modern American nature ideologies

- 1) There are two kinds of nature, utilitarian and 'wild,' each treated very differently.
- 2) "Wilderness" is a sacred category that has to be kept pure.
- 3) Man is a visitor in wilderness and does not remain.
- 4) Humans should not appropriate resources from wild nature, and productive labor is not appropriate in the wild.
- 5) Work is not valued as a way of learning about nature.

Although these fishermen's values support maintenance of wild natural areas, and fishermen have been an important part of environmental movements in the region (Durbin 1999), fishermen are looked upon unfavorably by more distant environmental organizations. This perception has perplexed some leaders of Southeast Alaska conservation efforts (Kallick 1997, personal communication; Sisk 1998, personal communication). I suggest that modern Americans tend to view nature as divided into 'pristine' 'wild' nature and the rest of the earth that is used and lived in by people (Callicot 1994). This separation is combined with ideas of

the appropriate relationship of humans to a now ideologically sacred category of wild nature. Fishermen mix those categories up by working and living in pristine nature. In this ideological context fishermen's value of "sustainability" is irrelevant, their ties to 'place' may be perceived as improper in wilderness, and the knowledge they accumulate through working in the environment is not valued.

William Cronon (1996) and Richard White (1996) point out that in modern America, productive *work* in wild 'nature' is considered destructive - any use is considered *ab*-use. Instead, *recreation* is regarded as the appropriate human activity in 'nature'. White sees this as implying the loss of a way of learning:

Work once bore the burden of connecting us with nature. In shifting much of this burden onto the various forms of play that take us back into nature, Americans have shifted the burden to leisure. And play cannot bear the weight. Work entails an embodiment, an interaction with the world, that is far more intense than play (1996:74).

Charter sport fishing boats in Glacier Bay National Park are commercial operations; some are operated by a Park concessionaire. They take substantial quantities of fish but were not identified as a problem by national environmental organizations, perhaps because they are defined as *recreation*.¹⁶

Roderick Nash (1973) and others have noted the religious character of the ideology surrounding wilderness. It stands out in writing and films about Glacier Bay from the time of John Muir to the present. Wilderness, in this ideology, is a sacred category that has to be kept pure. Activities related to tourism and recreation, such as the cruise ship and charter sport fishing industries, do not defile the category, but commercial fishing does. Visitors to Glacier Bay rarely see actual commercial fishing boats because some fisheries occur in fall and winter, so they are more disturbing in concept than in direct experience. While problems and impacts of tourism are regarded as susceptible to mitigation, this is not the case for fishing. Neither arguments that fish stocks in Park waters were not depleted, nor proposals to reduce catches in Park waters to lower levels proved relevant. Commercial fishing was simply the wrong activity in sacred space.

The structuralist ideas of Mary Douglas (1970) and others are relevant to this discussion. Douglas wrote that, "dirt is matter out of place." Especially when categories are sharply drawn, violations of the structure of cherished ideas will trigger pollution behavior. Anomalous presences inside those categories must be

¹⁶ Efforts to close commercial fishing were bolstered when the *marine reserve* concept was introduced into the discussion. Marine biologists saw it as a rare opportunity to establish a reserve. But contrary to accepted guidelines for the creation of marine reserves, the application of the concept to Glacier Bay was not submitted to public discussion and the purposes of a marine reserve there were not defined. Elimination of charter boat sport fishing and the effects of tourism on marine mammals were not considered. Again, recreational activities did not defile the category.



defined as either sacred or profane. In the case of commercial fishing, it's profane. The load of negative assumptions and erroneous facts about these fisheries and their participants indicate the level of ideological disturbance and serve to support the cause of cleaning up the anomaly.

CONCLUSIONS

Interviews for this study show that the relationship of a group of fishermen to the environment in which they work is a central aspect of the culture, and, for long-time fishermen, an aspect of individual being. Fishing is a way of inhabiting a place and attachment to 'place' figures prominently in occupational choice. These fishermen prefer wild natural areas, and regard them as productive of exploitable resources and as a place to work. Flexible individualized use of a broad region is part of this relationship to place. Knowledge about places, acquired through expenditures of time and money, is a form of 'intellectual capital.' Fishermen view the environment as complex and dynamic. The occupation develops attentiveness to variation and change in the natural world, and through experience people acquire knowledge about the environment, knowledge which is often implicit, activated by circumstances, and not readily transferable.

National environmental organizations could view these fishermen as allies based upon a convergence of interest in maintaining the wild natural environment. Instead they view the fishermen as 'out of place' in the natural environment, a view that appears to be common among members of the American public aware of these fisheries. An explanation is proposed for the level of discomfort with the fisheries based on the contrast between majority society values and fishermen's values and fishermen's relationship with the 'wild.'" Some of the majority values disturbed by commercial fishing derive from an agricultural heritage. Perhaps more significant, aspects of fishermen's relationship to the 'wild' violate the categories of newer ideologies surrounding the concept of "wilderness."

A directed study of majority-society views of these and other fisheries would be valuable in expanding or modifying the perspectives presented here. Majority views can have real consequences, as in the case of Glacier Bay. As an area comes to be identified with the category of "wilderness," working in and inhabiting that area is seen as a problem where no problem was perceived before. An increase in the number of people who see commercial fishing as 'out of place' seems inevitable. As large tourist corporations locate more operations here and forge links with smaller-scale operations like charter sport fishing, they may see commercial fishermen as a problem for other than ideological reasons, resulting in a powerful convergence of interests.

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Judith Brakel

grigori@seaknet.alaska.edu

P.O. Box 94, Gustavus, Alaska 99826



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THE ARCHAEOLOGY OF ST. MATTHEW ISLAND, BERING SEA

Lisa Frink, Debra Corbett, Amy Rosebrough, and Megan Partlow

Abstract: St. Matthew Island in the Bering Sea is located some 322 km west of the western Alaskan coast. Previous investigations of this remote island had securely identified only historical human occupation. The 1997 expedition to the island also pinpointed three historical archaeological sites and discovered the Pottery House site (XSM-001); a single house pit feature with associated storage facilities. Radiocarbon dating and ceramic analysis demonstrate that this site is a late prehistoric Thule occupation and therefore expands the previous geographic boundaries of western Thule.

Key words: Thule, pre-contact, historical

INTRODUCTION

This paper summarizes the results of the 1997 archaeological investigations of St. Matthew Island in the Bering Sea. The principal goal of this archaeological expedition was to locate any evidence of past human occupation on St. Matthew Island. During survey of the northern/northeastern part of the island's coast, three historical sites were identified; the Bull Seal Point site, (XSM-002), the Cabin site (XSM-003), and the Firewood site (XSM-004). Prior to this investigation, only historical sites had been identified on St. Matthew Island (Dixon 1979). However, the Pottery House site (XSM-001), proved to be a prehistoric Late Thule occupation which therefore expands the boundaries of western Thule (Dumond 1977, 1984b) to include this remote island in the Bering Sea.

ST. MATTHEW ENVIRONMENT

Sponsored by the United States Fish and Wildlife Service (USFWS) Anchorage office, The first author accompanied an interdisciplinary team of scientists to survey and collect data from St. Matthew Island from July 18 to July 26, 1997. Heading north from the port of St. Paul, it took the USFWS Motor Vessel *Tiglay* twenty-five hours to reach St. Matthew Island. The island has an enchanting yet foreboding landscape with its extensive thin sandbars, sea cliffs, and difficult waters attested to by the rusting hull of a Greek tanker that went aground in the early 1980s.

The island is located approximately 442 km north of St. Paul Island, 322 km west of Nunivak Island, 523 km south of St. Lawrence Island, and 480 km east of Asia (60°30'N 173°30'W). Based largely on descriptions provided by Henry W. Elliott and Lieutenant Washburn Maynard during their 1870s visit to the island, this long, narrow island is one of the most striking land forms in the Bering Sea (Elliott 1886, 1896, 1898; Maynard 1898). Elliott called St.

Matthew geologically "the most interesting" island he encountered in Alaska (Elliott 1898:192). St. Matthew is 35 km long and surrounded by two smaller islands. To the northwest is Hall Island (10 x 5 km) separated from St. Matthew Island by the narrow (3 km) Sarichef Strait, and to the south of the main island is Pinnacle Island, an active volcanic cone which last erupted in 1870 (Maynard 1898:307).

From a distance St. Matthew Island looks like several small islands in a row, but low spits and bars connect the various parts of the island. Along the interspersed gravel beaches with modest bays and coves, are abrupt, perpendicular rises of metamorphic and igneous rock of which Glory of Russia Cape on the northern end of the island is the tallest at 2373 m above sea level. The grandeur of these landforms could not be fully appreciated for the "vast bank of fog" (Elliott 1886:463; Selkregg 1976) that continually covers the island during the summer months. The weather during this field season was typical of the Bering Sea islands in July, the days on this "damp and sunless" (Maynard 1898:164) island were cool, breezy, and misty.

The island is dotted by many lakes and ponds and numerous small streams in which Elliott and Maynard reported brook trout (Elliott 1898; Maynard 1898). Elliott believed there would be "land-locked salmon" in the small lakes, although none were caught (Elliott 1886:462; Maynard 1898). The interior of the island consists of rolling hills covered with maritime tundra fauna of lichen, mosses, grasses, and extensive carpets of summer wild flowers. During Elliott and Maynard's island exploration curious "dome-like" rises of peat struck them as Aleut style houses, but none were identified as cultural structures (Elliott 1886:462).

The sea cliffs that dramatically rise from the Bering Sea are home to tremendous numbers of sea birds including northern fulmars (*Fulmarus glacialis*), pelagic cormorants (*Phalacrocorax*



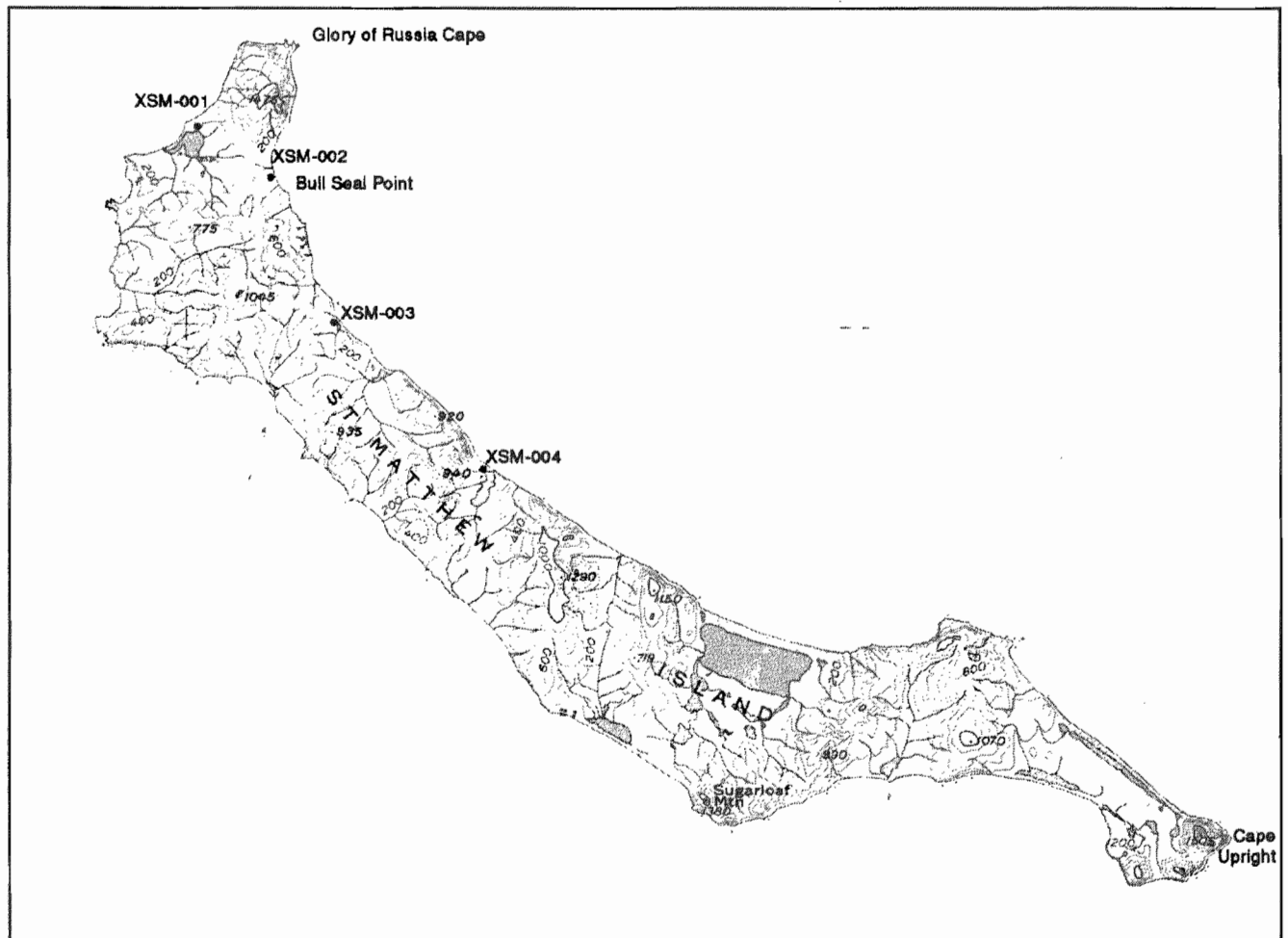


Figure 1: St. Matthew Island

pelagicus), puffins (*Fratercula* spp.), auklets (Family Alcidae), murrelets (*Uria* spp.), and black-legged kittiwakes (*Rissa tridactyla*) (Sowls et al. 1978; Selkregg 1976). The small ponds and lakes are home to common eiders (*Somateria mollissima*), Canada geese (*Branta canadensis*), sandhill cranes (*Grus canadensis*), and red throated loons (*Gavia stellata*) (Maynard 1898).

The most common sea mammals are the walrus (*Odobenus rosmarus*) and the largha seal (*Phoca largha*) (Sowls et al. 1978). Terrestrial inhabitants today are the copious vole (*Microtus* sp.) and arctic fox (*Alopex lagopus*) (Selkregg 1976). Noteworthy both on St. Matthew and Hall Islands, but not present today, was a large colony of polar bear (*Ursus maritimus*). According to William Dall, passing whalers called St. Matthew "Bear Island" (Dall 1870:249).

Although St. Matthew Island had not been systematically studied before Elliott and Maynard, the island was inhabited by an ill-fated group of Russian and Aleut hunters that stayed on the island during the winter of 1810-1811 (Elliott 1886; Dall 1870). This unfortunate group was stricken with scurvy, which killed four of the five Russians (Dall [1870:1816] asserts that all of the Russians died); and Elliott

(1886:1874) reports that all seven Aleuts lived. Elliott and Maynard claimed to identify the "ruins of those huts which had been occupied by this unfortunate and discomfited party of fur-hunters" (Elliott 1886:464).

PREVIOUS INVESTIGATIONS

Vitus Bering first identified and named St. Matthew Island in 1741, and it was later rediscovered by Cook in 1778 (he attempted to rename it Gores Island) (Elliott 1898; Maynard 1899). It was not until 1874 that the island was formally surveyed by Elliott and Maynard (Elliott 1886 1898, 1896; Maynard 1898; Anchorage Historical and Fine Arts Museum 1982). According to Elliott the two men "surveyed and walked" over the entire coast-line of this "hitherto unexplored spot" (Elliott 1886:464). The men made and reportedly submitted a chart, but it is since "missing" (Maynard 1898:307).

Not until 1976 was an archaeological survey of St. Matthew Island conducted. E. James Dixon and his five-member crew surveyed much of the eastern half of the island during an eight-day



stay in July of 1976 (Dixon 1979). Dixon was primarily interested in locating evidence of Pleistocene occupation in the island's interior, not in Holocene coastal occupations. During their survey they identified trappers' cabins (some identified by aircraft), U.S. Coast Guard camp occupations (a lean-to and a station), and a possible site indicated by a portion of *in situ* baleen on a log dated AD 625 \pm 140 (Dixon 1979: 130-132). Although Dixon and his crew found no secure indication of early human use of St. Matthew Island, he does note that an assemblage of pottery collected by USFWS biologist Dave Klein during a reindeer survey may indicate very late Eskimo settlement evidence (Dixon 1979).

FIELD METHODOLOGY AND FINDINGS

The work conducted during the brief 1997 field season consisted of survey, mapping, and test excavation. On the first day of survey along the northern and northwestern tip of St. Matthew Island, evidence of prehistoric human presence was found (Pottery House site, XSM-001). The ensuing survey of two miles of the northeastern coast revealed three historical sites. Test excavations were conducted at the Pottery House site, Bull Seal Point site, and the Firewood site. Excavations were completed using a trowel and shovel. Bulk samples were collected and brought back to the University of Wisconsin, Madison Experimental Archaeological Laboratory for cleaning, sorting, and analysis (Frink 2000). Recovered ceramics were analyzed by Amy Rosebrough (Rosebrough 1998), and faunal remains by Megan Partlow (Partlow 1998).

Pottery House site (XSM-001)

While surveying the northwestern end of St. Matthew Island, Douglas Causey (Museum of Comparative Zoology, Harvard University), Marie Sutherlin (Senior Scientist, Cambria Biosciences), and the first author located the Pottery House site. A single house pit feature overlooks the Sarichef Strait, and affords a grand view of Hall Island. The house is set on a relatively rocky incline that gently slopes down to a steep sea cliff, which sharply drops to the bay below. To the south of the site is one of the larger lakes on the island and to the east surrounding the lake is an extensive marshy area. To the north of the site rise the impressive hills of the northern end of the island.

The single rectangular house pit is located on the innermost of three beach ridges some 44 m from the sea cliff. The 3 x 2.4 m and .6 m deep depression has a slight surrounding berm and a sloping entrance which faces northwest and directly looks out over the Sarichef Strait. Use of whale is evidenced by a 5.6-m rib that lay on the surface and extended out from the entrance of the house and a 2.9-m rib that rested on the surface of the house pit.

Adjacent to the house remains are two smaller pits which may have been used for storage. A 5 x .6 m tunnel-like depression lead to a round .8m x 1.15m and .8m deep pit and a second circular depression (1.7 x 1 m and .3 m deep) was positioned 7.4 m northeast of the house. This pit had whale vertebrae on top of the pit surface. There are several round depressions just to the south of the site, nearer the large lake, which may indicate human activity. According to one of the crew botanists, Dave Murray (USFWS), the vegetation within and surrounding these pits could possibly indicate cultural disturbance. Species inhabiting the surface of the house feature included *Oxyria digyna* (Mountain Sorrel), *Sedum rosea* (Rosewort), and *Artemisia arctica* (Wormwood). Test excavation revealed no sign of human activity.

A T-shaped trench was dug into the house in order to examine stratigraphy and recover cultural remains and dateable materials. The TI trench bisected the house on the east to west axis (2.4 x .2 m) and the TII trench was cut from the northern edge of the TI trench to the entrance tunnel (1.5 x .2 m). Both trenches were dug using a shovel and trowel and hand screened, with bag samples retrieved.

Most of the remains identified in the trenches were wood, and bone (much soft and unretrievable), and pottery sherds. Cultural features included an apparent griddle stone on the east side of TI at .27 m below the surface, which was blackened (a soil sample was retrieved and is slated for chemical analysis). This same flat stone (only partially exposed in the trench) had a concentration of pottery next to it. In the center of TI was a large rock which lay on the floor at .34 m. Adjacent to this large rock and under another smaller rock (at .25 m below surface) was a small assemblage of charcoal and pottery sherds. On the western edge of TI was a horizontally positioned piece of wood that may have indicated part of a bench, and a small pit of bone, charcoal, and wood, which extended from .3 to .35 m below the surface. Sterile soil and gravel was reached at .45 m below the surface.

Within this trench were thick deposits of wood and bone with some rocks and a concentration (.3 m below surface) of charcoal, calcined bone, and pottery fragments. Quite surprisingly, among these relatively scant remains, no lithic artifacts were recovered from either trench. (This lack of identification of lithics most likely is due to the small sample size.) Two calibrated radiocarbon dates were obtained from the Pottery House site, both based on wood charcoal samples. The first was from .35 m below surface and gave a calibrated date of 350 \pm 60 BP or AD 1440 to 1665. The second, retrieved from .3 m below surface revealed a calibrated date of 430 \pm 50 BP or AD 1575 to 1625. The description and analysis of the ceramics and bone recovered from the site are reported on later in the paper.



Bull Seal Point site (XSM-002)

The Bull Seal Point Site is located on the northwest side of the island and is positioned near a small fresh water spring. The main feature of the site is a rectangular depression (5.3 x 3.3 m and .35 m deep). There was noticeable vegetation change within the pit feature, and a slight berm surrounded the dug in floor. Within the feature were deteriorating wood pieces that most likely were structural posts. Two .2 x .2 m and .35 m deep test pits were dug; TPI in the southwest corner produced charcoal and TPII was excavated in the northeast section and produced charcoal and a metal nail. On the landscape adjacent to the pit feature were 17 perpendicular wood supports that indicate further cultural activity at the site.

Sample	Measured ¹⁴ C Age	¹³ / ¹² C Ratio	Sigma	Calibrated Result
Beta 111765	350+/- 60 BP	-26.1	2	AD 1440 to 1665
Beta 111767	430 +/- 50 BP	-24.6	2	AD 1575 to 1625

Table 1: St. Matthew Island Pottery House site (XSM-001) radiocarbon dating analyses (Beta Analytic Inc.)

Cabin site (XSM-003)

The Cabin site was identified by Kevin Winker (Curator of Ornithology at the University of Alaska Museum) and the first author during a daylong survey of the northeastern coast of the island. Along the gravel covered shoreline, between two precipitous headlands and along a brackish basin is nestled the Cabin Site (GPS 60 30'10"N 172 52'75"W). This site contained a single feature (4 x 3.5 m and .6 m deep) covered by a pile of fallen wood beams, undoubtedly a collapsed semi-subterranean historical cabin. Inside the rectangular pit was a wooden doorframe and adjacent to the pit feature stood a wooden sawhorse.

Firewood site (XSM-004)

The ephemeral Firewood site is located near the gravel coast between two sheer headland rises and next to a brackish and shallow pond. The only cultural feature was two erect pieces of wood that apparently were used as foundations for the stacking of cut firewood. Several test pits revealed no cultural materials.

ST. MATTHEW ISLAND MATERIAL ANALYSIS

Ceramic analysis

Ceramic remains were the most common artifact recovered from the Pottery House site. All of the forty sherds were cleaned of residue remnants (all residues preserved for future analysis) and then washed, air-dried, and sorted according to provenience and

checked for possible refitting. A solution of acetone soluble B-72 adhesive was used to refit sherds. A sherd identification form and identification number were assigned to each sherd. A high powered incident light microscope was used to examine temper and paste of each sherd.

As shown in Table 1, the method of manufacture is likely a mixed coil and slab construction with paddle and anvil thinning. Sherds had a conspicuous proclivity to exfoliate. Temper particles for these moderately to heavily tempered vessels were rounded to subangular particles (range of size between 0.25 to 4 mm) of quartz, feldspar, agate, and basalt. One displayed the impression of vegetal fiber (grass) temper. The paste of these dark gray to dark gray-brown sherds is granular and slightly permeable but in general they are well fired and solid. The interior facades range from a gray to tan or buff, exterior surfaces are dark gray and black with carbon encrustations. The rim pieces are invariably a lighter shade than the basal sherds. All of the surfaces are smooth (with no paddling impressions) with pitting where the temper particles have fallen out. Thickness estimates for the body sherds ranged from 0.6 to 1.1 cm with an average thickness of 0.8 cm. The thicker rim sherds ranged from 1.0 to 1.4 cm at the lip. No complete basal sherds were collected; however, exfoliated basal sherds denote a thickness greater than 1.0 cm. Although there were no complete vessels acquired, based on one substantial basal segment, another sizeable body fragment, and two small simple rim sherds, it is assumed that the residents of the Pottery House site used a flat-bottomed round jar with slightly outflaring walls. In addition, a single body sherd with a sharp bend may also imply the presence of a strongly shouldered or constricted-orifice form.

The ceramic remains of St. Matthew Island fit most obviously into a late Thule type, circa A.D. 1450 or later after the introduction of gravel temper and prior to the shift in wall thickness and the conversion to rounded basal forms (Dumond 1977). Initial Thule ceramics tend to be thick-walled with gravel-temper and rounded bases. Later ceramics, like those found on Mainland Alaska (Yukon Line and Dot and related forms), Nunivak Island,



Vessel Form	Flat-bottomed jars with slightly out-flaring walls. Some vessels may exhibit angular shoulders and/or constricted orifices.
Temper	Grit; rounded to sub-angular particles of quartz, feldspar, and basalt. Rare impressions of vegetal fiber inclusions. Sand present as natural inclusion in clay body.
Paste	Granular and porous, with tendency to exfoliate. Generally well-fired.
Color	Ranges from dark gray to tan/buff.
Thickness	Lip Thickness: 1.0 to 1.4cm Body Thickness: 0.6 to 1.1cm Basal Thickness: >1.0cm
Manufacture	Mixed coil and slab manufacture with paddle and anvil thinning
Surface Treatment	Smoothed
Decoration	None noted.
Temporal Placement	Probable Late Thule (post 1450).

Table 2: St. Matthew Island Pottery House site (XSM-001) ceramic assemblage

Table 3: Faunal remains from the Pottery House site (XSM-001)

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Class	Taxon	Common Name	NISP	MNI	Weight (grams)
Aves (birds)	<i>Phalacrocorax</i> spp.	comorant	1	1	1
	<i>Fratercula</i> spp.	puffin	5	1	1
	Unidentified bird	—	1	—	1
		Total Bird =	7	2	3
Mammalia (mammals)	<i>Alpoex lagopus</i>	Arctic Fox	22	1	9
	<i>Ursus maritimus</i>	Polar Bear	9	1	129
	<i>Odobenus rosmarus</i>	Walrus	4	1	125
	Cetacea	Whale	8	1	592
	Unidentified mammal:	—	—	—	—
	fox-size	—	2	—	1
	bear/walrus-size	—	43	—	421
	unknown size class	—	150	—	77
		Total Mammal =	238	4	1354
Total			245	6	1357



and St. Lawrence Island are thinner and again have flat-bottomed forms (Dumond 1977; Oswalt 1952a; Nowak 1988).

Faunal remains

A total of 245 bones were recovered from the Pottery House site. The taxonomic distribution is given in Table 2. Over half (51%) of the faunal specimens are blackened, and an additional 8% are burned to a white color (calcined). The majority of these burned specimens (98%) were recovered from TII at the base of the slope, between .35 and .43 m below surface. The scorched and calcined specimens were fragmentary, and could be identified only as mammalian.

No butchery or carnivore modifications were apparent on any of the specimens, although the weathered surfaces of the bones may be masking alterations. The majority of the bones (97%) are mammalian, represented mainly by fragments that are not identified to either element or specific taxon. Identified mammals include whale (eight fragments from unidentified element (s)), Arctic fox (*Alopex lagopus*), polar bear (*Ursus maritimus*), and walrus (*Odobenus rosmarus*). The remaining seven specimens from the site are bird remains, including cormorant (*Phalacrocorax* sp.) and puffin (*Fratercula* sp.). All of the bird bones were collected from the east area of TI.

The identified taxa at the Pottery House site were most likely year-round residents in the St. Matthew Island group. Therefore, the faunal data fails to accord direct evidence of season of site occupation. Thule faunal assemblages are known to be highly variable (Saleeby 1994), and the small Pottery House assemblage falls within this range of variation.

CONCLUSION

Based on the radiocarbon dates, the style and temper of pottery, and general description of the house feature, this research demonstrates that St. Matthew Island was indeed occupied by pre-contact Thule people. What is not known is why and for how long the Pottery House site was occupied. What would be a motivation for occupying an island that is extremely remote and quite likely had polar bear as year-round residents? A fair interpretation must include the fact that the entire site was not excavated in the interest of future research. The relatively small sample size and future surveys of the island may have profound implications for the eventual interpretation of the site and of occupation of St. Matthew Island in general.

With that caveat in mind, given the absence of lithics and in general the low artifact density in comparison with other Thule assemblages, it seems reasonable to suspect that the Pottery House site was a short-term occupation. In addition, although the entire coastline and interior have yet to be surveyed, much of the island

has been walked over and checked for any human settlement, and prior to this survey, only historical sites had been identified. To what degree St. Matthew Island was used prehistorically is still a question. It is tempting to assert that this site indeed may be an occupation anomaly. However, recently, the first author was told by a resident of Nunivak Island that years ago on a very clear day, he could see St. Matthew Island. When told that a Thule house pit had been found on the island, he recalled old stories (that were not being told much anymore) of Nunivak Island hunters traveling to the island. Furthermore, there is the Chevak/Hooper Bay story of a hunter named *Kuvarrpak*, or "the big net", who drifted out to sea on a piece of ice. He returned two years later and is thought to have possibly lived on St. Matthew Island.

Because of the minimal amount of work that has been done and the potential that this new discovery offers, St. Matthew Island and the surrounding group clearly warrant an additional intensive survey effort in order to understand the spatial and temporal extent of human occupation on this Bering Sea outpost. It is reasonable to believe that there are more pre-contact and post-contact sites that have yet to be identified. With further collection of data and increasing detailed analysis and interpretation, the story of human occupation on St. Matthew Island will continue to emerge.

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Lisa Frink

lfrink@uwmadmail.services.wisc.edu
University of Wisconsin, Madison

Debra Corbett

debbie_corbett@fws.mail.gov
United States Fish and Wildlife Service

Amy Rosebrough

a.l.rose@arch-res.com
University of Wisconsin, Madison

Megan Partlow

c/o lubinski@cwu.edu
Central Washington University



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Figure and Table captions should follow text on individual pages, labeled consecutively, 1, 2, 3... All figures (Fig. 1, 2, 3...) and tables (Table 1, 2, 3...) must be referenced in the text. No captions should be imprinted on the figures themselves, but the figure number and author should be indicated on the reverse. The preferred format for all figures is 300 dpi *.tif or *.eps files. Hard copy submissions will be accepted, but must be "camera-ready," either line drafted originals, PMTs, or 600+ dpi laser prints. Ink jet generated prints are not acceptable. Poor quality graphics will be returned to authors for re-drafting. Tables should be submitted separately as an MS Excel spreadsheet or in hardcopy. MS Word generated tables are not acceptable. Charts should be submitted as 300 dpi *.tif or *.eps files. No proprietary file formats will be accepted. Although all originals will be returned to the authors; the journal reserves the right of copyright use, unless prior agreements are made. PLEASE PACK ALL FIGURES WITH CARE. Acknowledgements should be brief and follow the text.

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REFERENCES CITED

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Use URL format for documents obtained at FTP or Telnet sites (ftp://...) World Wide Web sites (http://...) and gopher sites (gopher://...)

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LINGUISTIC CONVENTIONS

The parallel use of community-accepted orthography for place names and linguistic terms is encouraged. The form used should be explicitly acknowledged. Orthographic standards for phonetic conventions should follow the Smithsonian Institution's *Handbook of North American Indians*, especially volume 17. The Alaska Native Language Center web site <<www.uaf.edu/anlc>> has a list of orthographies, but many local dialects may differ in usage. Standard dictionaries should be used in transcribing and defining words [e.g., *The Comparative Eskimo Dictionary*, edited by Steve Jacobsen (ANLC, Univ. of Alaska Press), *The Koyukon Dictionary*, ANLC, University of Alaska Press, by Eliza Jones, or *The Ahltna Dictionary* (ANLC, University of Alaska Press, by James Kari)].

