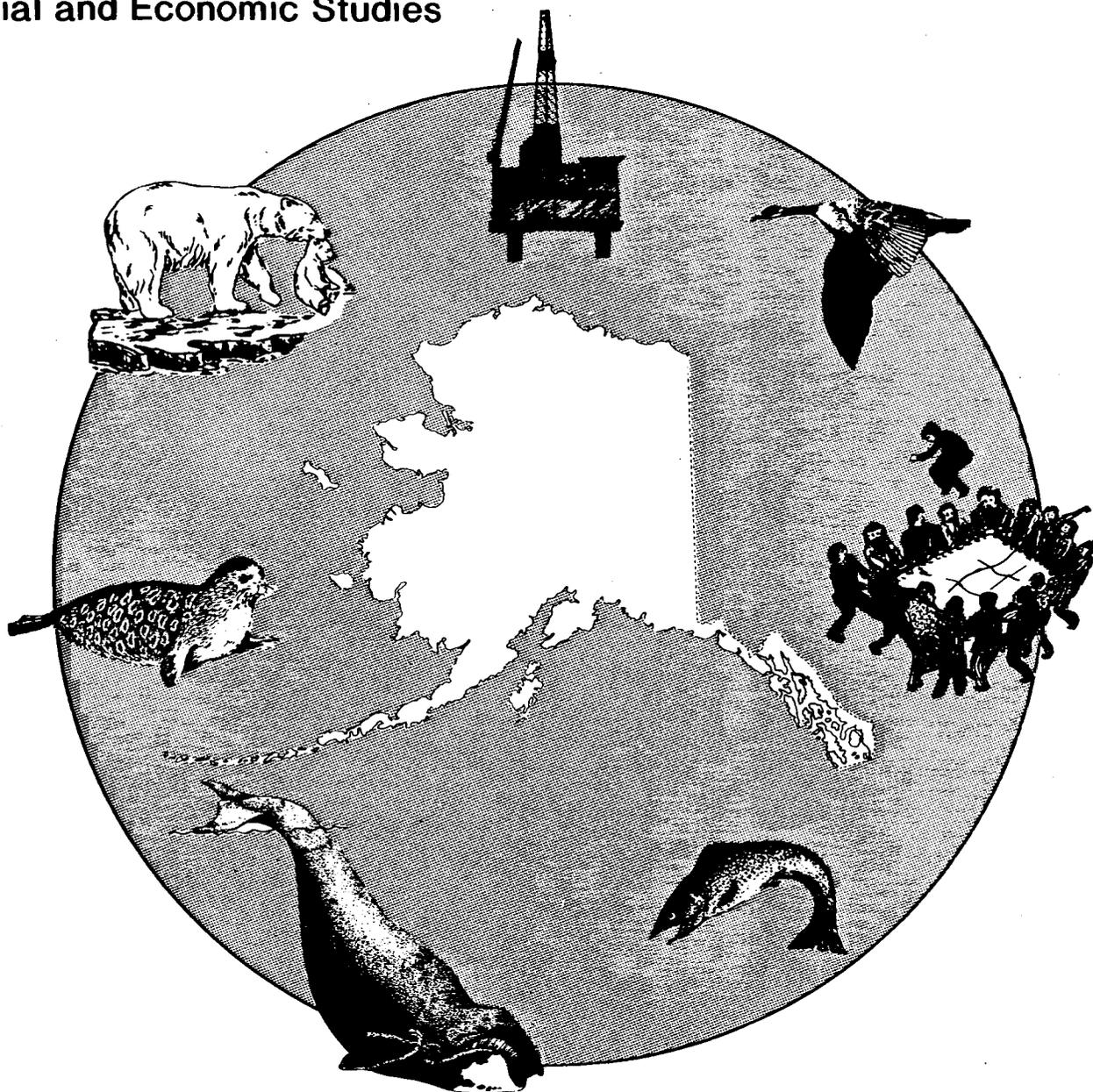


Migration and Oil Industry Employment of North Slope Alaska Natives

Social and Economic Studies



Final Technical Report

Migration and Oil Industry Employment of North Slope Alaska Natives

Prepared for

U.S. Department of the Interior
Minerals Management Service
Alaska Region
Social and Economic Studies Program
949 E. 36th Avenue
Anchorage, Alaska 99508

Prepared by

David Marshall
University of Alaska Anchorage
Institute of Social and Economic Research
3211 Providence Drive
Anchorage, Alaska 99508
(907) 786-7710—phone
(907) 786-7739—fax

January 1993

This report has been reviewed by the Minerals Management Service and approved for publication. Approval does not signify that the contents necessarily reflect the views or policies of the Service, nor does mention of trade names or commercial products constitute endorsement or recommendations for use. The United States government assumes no liability for its contents or use thereof.

This study was funded by the Minerals Management Service, U.S. Department of the Interior, Washington, D.C. under contract number 14-12-0001-30311.

Document is available to the public through the

National Technical Information Service
5285 Port Royal Road
Springfield, Virginia 22161

TABLE OF CONTENTS

Chapter One. Introduction and Summary

Purpose	1
Method	1
Results	3
Migration	3
Oil Industry Employment	5
Conclusion	7

Chapter Two. Migration

Migration Research	9
U.S. Migration: The Bureau Of The Census Database	14
Migration Interview Protocol	15
Migration Interview Results: The Amount and Pattern of Household Migration	17
The Overall Pattern	17
Pull	18
Push	21
The Community Pattern	22
Barrow	22
Nuiqsut	24
Wainwright	25
The Historical Pattern	26
The Possible Future Pattern	29
Those Who Would Leave and Those Who Plan to Leave	29
Living With Parents	31
Expectations	31
Retained Attractions	32
Migration Interview Results and Migration Research	32

Chapter Three. Migration and Employment by the Oil Industry

North Slope Native Employees	36
Migration and Working for the Oil Industry	39
Employers' Perceptions	46
Employment Pattern	47
Why the Employment Pattern Is What It Is	48
Work Schedule and Natives' Attitudes Towards Work	48
Village Life	48
Occupational Composition	49
Alcohol	49
Other	49
Moving Pattern	50

Bibliography	51
---------------------	----

Oil Industry Informants	52
--------------------------------	----

Appendix A—Method	
--------------------------	--

Appendix B—Interview Protocols	
---------------------------------------	--

LIST OF TABLES

Table 2.1. Migrant Households. Reasons for Migration. By Priority	19
Table 2.2. Migrant Households. Reasons for Migration. By Priority, By Community, By Occupation	23
Table 2.3. Migrant Households. Reasons for Migration. By Priority, By Community Where Grew Up	27
Table 2.4. Migrant Households. Future Leaving; Expectations; Attractions	30
Table 3.1. North Slope Native Oil Industry Employees Interviewed: Job Characteristics	37
Table 3.2. North Slope Native Oil Industry Employees. Community of Residence When Last Hired and Now	40
Table 3.3. North Slope Native Oil Industry Employees. Community of Residence When Last Hired and Now. All Employees. By Sex	41
Table 3.4. Employment By Community of Residence Now. By Employer	42
Table 3.5. Employment By Community Of Residence Now. By Time Employed	43
Table 3.6. North Slope Native Oil Industry Employees. Reasons for Moving from North Slope Villages	44
Table A1. Immigrant Households. Original Estimate	A-8
Table A2. Immigrant Households. Original List; Desired Interviewees; Revised List; Actual Interviewees	A-9
Table A3. Oil Industry Employers	A-10

ACKNOWLEDGMENTS

This study was prepared for the U.S. Department of the Interior, Minerals Management Service (MMS), under Contract No. 14-12-0001-30311.

This study could not have been undertaken without the help of six kinds of people: representatives of the North Slope Borough; my colleagues on the staff of the University of Alaska Anchorage, Institute of Social and Economic Research (ISER); my North Slope Borough resident colleague in the field; the MMS staff; representatives of the oil industry; and the interviewees.

The North Slope Borough took an interest in this study from the beginning. Tom Leavitt, director of planning, went out of his way to make sure we had access to his department's 1980 and 1988 censuses, which were the study's foundation at the beginning. Bob Harcharek helped greatly. He spent much time helping me understand the censuses, working with Barrow residents—including finding Vera Itta, my resident colleague in the field—and always had a lively interest in the study's conceptual framework, progress, and outcome. Margaret Panigeo worked with my local resident colleague to help restructure the interviews.

ISER's Matt Berman, economist, helped me think more clearly on several occasions: during the planning of the study, during fieldwork, and in interpretation of the interviews. Darla Siver undertook the massive job of coding the data from the interviews and organizing them in a coherent way that helped immeasurably in their reorganization and interpretation.

MMS' Don Callaway, anthropologist and MMS' contracting officer's technical representative, helped greatly with comments on the interview protocols resulting from careful and thoughtful reading, and in the sample design.

Vera Itta, my local resident colleague in the field, rescued the study by drawing on her lifetime knowledge of Barrow and the other North Slope communities. She restructured the interview schedule in Barrow especially, based on her personal knowledge of local households. The structure we had established before then was noted by her as inadequate because the 1980 census data it was based on had many shortcomings. And, she cheerfully explained the internal coherence of information given by interviewees whom I sometimes found hard to understand.

ARCO representatives especially contributed greatly. Brian Rourke and Marvara Watson, in the Anchorage office, enlisted the help of their colleagues at Prudhoe Bay. Rick Kangail and Bill Lutes at Kuparuk, and Joe Moore and Oliver Smith at Prudhoe Bay, helped me understand the structure of the industry and smoothed the way for the interviews with their employees, whose names they listed. That list was a key document. Rick Kangail subsequently clarified several issues that arose as I was reviewing and interpreting the results of the interviews. Bill Webb, Alaska Support Industry Alliance, Anchorage, was the first to give me a sense of the relative importance for this study of the companies engaged in the production and distribution of North Slope oil and gas, and of the companies that service the two major producers, ARCO Alaska and BP Exploration. The Arctic Slope Regional Corporation's Al Hopson, Barrow, and Roosevelt Paneak, Deadhorse, gave me a complete list of their shareholders working with their subsidiaries and helped set up interviews. This list too was a key document.

The interviewees themselves were without exception courteous, even when the interviews came at the end of a long working day. Several who took an interest in the interviews offered insights that enriched my understanding of their answers, and of the complexity of migration and employment issues on the North Slope. Several submitted to follow-up interviews to clarify things I hadn't understood properly the first time.

I hope this study will be of use to all the above, thank them for their cooperation, and look forward to meeting them in the future.

ABSTRACT

This report discusses why people migrate within and to Alaska's North Slope, addressing in particular whether North Slope Natives are likely to leave their villages when they get jobs with the oil industry at Prudhoe Bay. Job offers or opportunities are the main reason for migration, for both Natives and non-Natives. One-third of the North Slope Natives who obtained oil industry jobs at Prudhoe Bay left their villages soon afterwards. However, many Natives (but few non-Natives) migrate for other reasons: to be with relatives or friends; to enjoy the variety of a bigger community; to return home; to get married. The prevalence of these other reasons causes North Slope migration to differ from the pattern of migration described in the literature for the continental U.S.

These findings are based on interviews conducted in March 1992 of 52 individuals (from 52 households) who migrated over the last decade—39 North Slope Natives and 13 non-Natives—and 34 Natives who were working with the oil industry at Prudhoe Bay. The 52 interviewed households represent about 10 percent of all migrant households and 3 percent of the 1,700 total North Slope households. The 34 employees interviewed comprise half of all North Slope Natives who work at Prudhoe Bay, and less than one percent of the 6,000 North Slope oil industry workers.

CHAPTER ONE

Introduction and Summary

Purpose

This study has two purposes:

- To find out why people migrate to and within the North Slope
- To find out if working for the oil industry at Prudhoe Bay or Kuparuk makes North Slope Natives more likely to migrate

This is the first study of Alaska Native migration based on interviews of Alaska North Slope Native migrants, of non-Native migrants, and of Alaska North Slope Natives who are oil industry employees. It has two major chapters: one on household migration and the other on oil industry employment.

Method

The report is based on interviews conducted in March 1992. We used two different interview protocols: one for household migration, with 52 householders interviewed, and the other for oil industry employment, with 34 employees interviewed.

The author and Vera Itta—a North Slope Native woman who lives in Barrow—interviewed 52 householders who had migrated from one community to another within the North Slope, or who had migrated to the North Slope, between 1982 and 1992. Of the 52, 38 were North Slope Natives (mostly living in Barrow) and 14 were non-Natives; 32 had moved to Barrow, 2 had moved to Nuiqsut, and 18 had moved to Wainwright. They were asked who they were and why they had migrated. All Natives interviewed were North Slope Natives.

We did not interview migrants to the other five North Slope communities—Anaktuvuk Pass, Atkasuk, Kaktovik, Point Hope, Point Lay—either because funds were limited or because the communities had been studied in detail under other MMS contracts. Limited funds also precluded interviews with North Slope Natives who had migrated from North Slope communities—to Anchorage and to Fairbanks, for example.

The author interviewed 34 of 51 North Slope Natives known to work at Prudhoe Bay or Kuparuk in March 1992. The 34—28 men and 6 women—work for the six oil industry companies at Prudhoe Bay or Kuparuk that employ North Slope Natives. They were asked if they had migrated since starting work with the oil industry and, if so, why. Again, we interviewed only North Slope Natives. Two were re-interviewed by phone in the summer of 1992 to help clarify why they migrated from their North Slope communities.

The author also interviewed six employers: five representing four of the six companies known to employ North Slope Natives, and one former employer with many years' experience constructing, catering to, and managing North Slope camps that employed North Slope Native workers. The author asked the employers to help shed light on the pattern revealed by the responses of their employees to our interviews. They too were interviewed by phone in the summer, after analysis of the employees' responses revealed a pattern worth investigating further.

The 52 household migrants interviewed were a stratified random sample from a population based on comparing voter registration lists for 1982 and 1992 to see who had migrated within or to the North Slope in that period. The 34 oil industry employees interviewed account for 60 percent of the 51 North Slope Natives known to work for the oil industry at Prudhoe Bay and Kuparuk. The other 17 were off duty during the interview period.

The author had at first planned to use—as the basis for selecting migrant households—lists of households from household surveys conducted by the North Slope Borough in all eight North Slope communities in 1980 and 1988. The surveys gave households by names of occupants, and by lot and block number. He compared the two surveys to see which households were present in the 1988 survey but not in the 1980 survey (allowing for the creation of households that were formed by those who had grown up in the community). The comparison yielded a list of households that had migrated to all North Slope communities. The households to be interviewed were to be sampled from this list. But the author abandoned the list after he arrived in Barrow to conduct the interviews, because he found there that most North Slope Borough Natives on the list were not migrants; rather, they had not been enumerated in the 1980 survey, which was clearly flawed. The author's assistant Vera Itta—a lifelong Barrow resident—spotted this shortcoming as soon as she saw the list.

The interview protocols were drafted by the author and revised after comments by a colleague at the University of Alaska Anchorage, Institute of Social and Economic Research, and by staff of the U.S. Department of the Interior, Minerals Management Service.

The draft household interview protocol—a fairly complex document—was based mostly on the author's knowledge of Native household migration patterns in Southwest Alaska, where he lived from 1979 to 1987, and on his knowledge of migration research in the U.S. The draft employment interview protocol was much simpler and thus required no special knowledge.

The list of 51 oil industry workers to be interviewed was based on two documents. One was a list provided by ARCO Alaska Incorporated—one of the two major oil and gas producers on the North Slope—of its employees who were North Slope Natives. The other was a list provided by the Arctic Slope Regional Corporation of its shareholders employed by its subsidiaries at Prudhoe Bay and Kuparuk. Thus, when we say "oil industry workers" we mean not only those who work directly for the oil companies, but also employees of their subcontractors—including employees of the North Slope Borough who work at the solid-waste facility at Prudhoe Bay.

The other major oil producer—British Petroleum Exploration (Alaska) Inc.—declined to provide a list, but a company representative told the author that the company had at most "...one or two, maybe none who are North Slope Natives, we don't really know."

In addition, using an oil industry directory, the author compiled a list of 50 or so companies that were thought to operate on the North Slope and contacted them to find out if they employed North Slope Natives. A few said they thought they did, but none provided hard information. We suspect they may employ 10 or so more than the 51 on our list.

The interview method consisted of asking the interviewees—the householders and the oil industry workers—why they migrated, and accepting the reasons they cited. It is possible that people gave false answers unconsciously (because they didn't know why they migrated) or deliberately (because they didn't want the interviewer to know why they migrated). We don't know how to deal with this problem—to devise an unambiguous test of the proposition that interviewees were mistaken or lying when they gave their reasons for migrating.

But the author believes that the method adopted—asking questions about past, recent, and possible future migration—constituted a triangulation that would have exposed inconsistencies resulting from unconscious or deliberate evasion. We found few if any inconsistencies. And in only one or two instances did we detect a reluctance to answer questions because the interviewee felt uncomfortable. In the author's experience, most people will talk openly even about very personal matters if they feel confident that the information will be kept confidential and if they trust the interviewer. The interviewees spoke openly. Thus, he accepted their answers at face value.

Even though the number of interviewees—86, consisting of 52 migrants and 34 oil industry workers—is small, we gathered a great deal of information. The author arranged the information in this report in a few key tables to show major patterns and relationships. For migrants the tables include: the reasons why they moved, by place moved to and from; interviewees' sex, age, race, marital status, level of education, labor force status, earnings, and occupation; and household income. For oil industry employees the tables include sex, age, occupation, employer, duration of employment, moves, and reasons for the moves.

The author did not analyze all the patterns and relationships; they are too numerous. He singled out those he saw as important. Other observers may see many more as important. The reader is encouraged to explore combinations and permutations not analyzed but for which the data have been presented in this report.

Results

Migration

The single most important reason both Natives and non-Natives cited for moving in our household interviews was jobs: the offer of, or the prospect of, or the desire for work.

A handful of reasons explains migration to and within the North Slope. This is true for Natives and non-Natives, except that the two groups have different emphases. For both groups, the single most important reason cited was jobs. Employment opportunities explained the migration of almost all the non-Natives and many of the Natives. This finding is consistent with research on interstate migration in the continental U.S. A higher proportion of Natives than of non-Natives migrated to be with

relatives or friends, to enjoy a bigger or more diverse community, in response to a death or illness in the family on the North Slope, to return home (that is, to the communities where they grew up), or to get married. Those who said they moved in order to marry were mostly Native men.

The different reasons Natives and non-Natives cited for moving are to be expected, because the North Slope Natives grew up there and so have ties that non-Native immigrants to the North Slope don't have. A few Natives moved away from their North Slope communities—to escape alcohol and drug abuse, or to find housing, for example. Most of those who cited these reasons were women. For them, the impetus behind the move was a desire to leave a community, not an attraction to another community. This distinction—between the push and the pull reasons for migrating—is used in the analysis in Chapter Two.

Half of the North Slope Natives who migrated mainly for job-related reasons were women. This shows numerically what Alaska Native village residents know to be true: that women are active members of the labor force. That Native women account for a large proportion of the job holders in the villages is known: it is obvious to even the casual observer and has been shown in numerous studies. But this study provides evidence that they are just as likely as Native men to migrate in response to job opportunities.

There was not much difference between the average ages of Native women and men who migrated, whatever their reasons (except that the average age of those who migrated for job-related reasons was slightly higher). This is probably because they are all relatively young. Or it may be that we would need more than 38 Native respondents to show age-dependent reasons.

In sum, while both Natives and non-Natives cite jobs as the single biggest reason for moving, the pattern of Native migration within the North Slope differs from the pattern of (predominantly non-Native) migration between states in the continental U.S.—because North Slope Natives are more likely to cite reasons for moving that are not job-related. The pattern of non-Native migration to the North Slope is similar to the pattern of (predominantly non-Native) migration between states in the continental U.S., with employment by far the predominant reason for moving.

The pattern of U.S. migration in general has been analyzed as it relates to life cycles—as young people leave home to go to college, to get jobs, to start their own families, and later, when they retire. These life-cycle influences are obviously at work among Natives (and among non-Natives) on the North Slope. The reasons Natives give for migration—work and marriage, for example, and even to be with relatives or friends—display life-cycle influences directly. And, such influences can be inferred from the age-distribution of the Natives who migrated—they were younger than the Native population as a whole: all the Native migrants were from 15 to 49 years old when they moved, whereas that age bracket accounted for only 45 percent of the entire North Slope Native population in 1990.

An increasingly important explanation of interstate migration in the continental U.S.—that of retirees moving—is irrelevant here however. It doesn't explain the migration of North Slope Natives within the North Slope, or the migration of non-Natives to the North Slope.

Household incomes may also be important incentives to move. The 52 migrant households had lower average household incomes than the 1990 average for all North Slope households: two-thirds were in

the \$25,000-\$35,000 bracket, as compared with 10 percent borough-wide, and relatively few were in the upper-income brackets. Household income at the time of the move would be useful to analyze, but could not be reliably obtained in interviews many years after the move. (The time between the move and the interview averaged seven years for the 38 Natives.) But if that information were collected routinely when households moved, current household income would have rich explanatory potential.

In looking at the similarities and differences in Native and non-Native migration, one should bear in mind that a big group of North Slope Native migrants is not included in this study: the ones who have left the North Slope, especially those who have moved to urban Alaska. It is possible that the migration patterns among these North Slope Natives would be more similar to those of non-Natives. Those who leave the North Slope are the ones who by their out-migration show a greater degree of integration into the non-Native culture than the ones we interviewed. Thus, one would expect the pattern of migration among North Slope Natives to look more like the pattern among non-Natives in the U.S. as a whole, if we could include the North Slope Natives who have out-migrated.

One suspects that such North Slope Native emigrants are a big group, if they migrate in the same way as Alaska Natives as a whole. The proportion of all Alaska Natives living in the eight most-populous (i.e., urban) boroughs rose from 34 percent (21,515 out of 64,103) in 1980 to 40 percent (34,056 out of 85,698) in 1990. Their numbers in these eight boroughs increased by 60 percent—from 21,515 to 34,056. This is a much bigger increase than in rural areas, where the numbers of Alaska Natives grew 20 percent—from 42,588 to 51,642.

Oil Industry Employment

The links between oil industry employment and migration are not clear, although a high proportion of Natives we interviewed did move from their communities after they got oil industry jobs. It appears that many such moves off the North Slope may not be permanent. It is clear that the turnover among Native employees of oil companies is high.

Ten of the 34 North Slope Natives we interviewed migrated from North Slope communities to communities off the North Slope not long after they were hired, and one migrated just before she was hired. Almost all moved to Anchorage or Fairbanks. This high proportion suggested immediately that there is a link between getting a job with the oil industry and migrating.

But only two of the eleven told us there was a link, and the reasons they gave made sense. One man moved because he doesn't like flying the long distance between his village and Prudhoe Bay; one woman moved to urban Alaska to improve her chances of being hired by the oil industry recruiters (and obviously succeeded).

The other nine who migrated said there was no link between getting a job with the oil industry and moving off the North Slope. Six gave non-job-related reasons, and three gave no reasons. We re-interviewed two of the six by phone (we were unable to re-interview four others) to inquire more fully into the reasons. We did so because we suspected that the reasons—or the lack of reasons—given by these nine might conceal a link with employment. As noted, 11 of the 34 had migrated around the time of hire, and such a high proportion is striking.

Probing in the re-interviews disclosed a plausible chain of links not evident in the initial responses. The interviewees hadn't articulated the connection during the interviews because they hadn't thought about it and weren't conscious of it. The first link in the chain is that after some time working with the oil industry in Prudhoe Bay or Kuparuk, they felt their jobs were stable enough to support a move to urban Alaska. They had not thought of the jobs as passports for migrating. But then, over time, several things became apparent to them. One was that their paycheck was steady, so they could take the risk of moving to a city where they didn't have the same support group as in their villages. Another was that they had visited the city before—even had one or two friends or relatives there—so that the city, although not home, was not *terra incognita*. Another was that the city was cheaper to live in. And finally, it was attractive—to the younger men and women—because it was less confining socially than their villages. The city had more potential partners, and it offered a greater variety of goods and services.

The re-interviews also disclosed that one of the eleven who had migrated from his North Slope village to urban Alaska between the time of hire and the time of the interview had since moved back to his village. (This was a young man whose reason was basically personal but was also linked with the availability of housing in the village.) The author had assumed—without giving it much thought—that a North Slope Native who migrated from a North Slope village to urban Alaska would be a permanent urban resident, at least while working with the oil industry. Here, one of only eleven people who had moved away from the North Slope moved back to the North Slope, all within a short time. This was an unexpected, even startling, result. It hinted at a pattern of migration more fluid and less stable than assumed, and thereby immediately brought into focus another unexpected result of the interviews.

The other unexpected finding was the high turnover among Native employees. Of the 34 North Slope Natives interviewed, 27 had worked for the oil industry for less than three years. This was not clear until we had put the data from the interviews into computer spreadsheets. Then, the re-interviews disclosed that 2 of the 34 oil industry employees interviewed had quit between the time of the interview in spring and the time of the re-interviews in summer! This too was an unexpected, even startling, result.

To summarize, nearly one-third of the 34 North Slope Natives interviewed migrated from their North Slope communities after they got jobs with the oil industry, but hardly any said it was because of their jobs. This suspiciously high proportion led us to re-interview 2 of the 34. These two disclosed in their case subtle links between migrating and work that we think probably apply to several of the others whom we were unable to re-interview. So we felt more comfortable with the proposition that there are indeed links. But the re-interviews also led us to the conclusion that North Slope Natives may migrate from and then migrate back to a North Slope village, being employed by the oil industry throughout these moves.

The proportion who move back may be much higher than our interviews indicate, because by definition our interviews constitute a snapshot of the situation as it appeared at the instant the interviews were conducted. But this snapshot happened to show how short-lived was the tenure the North Slope Natives had in their oil industry jobs: less than three years for most of them. Thus, the snapshot may conceal a reverse flow that would be revealed by further investigation. Such investigation could be time-series (interviewing workers at Prudhoe Bay or Kuparuk every year for a number of years), or cross-section (interviewing former oil industry workers who are now back in their villages).

The interviewees themselves suggest a flow back and forth. When asked if they might move in the future, four of the nine who had migrated from the North Slope said they were likely to move back to their villages (because they would be homesick). And, six said they were likely to move to Anchorage or Fairbanks from the villages where they live now.

The discovery of high turnover—that so many of the interviewees had worked for such a short time—led us to interview the employers to see if they could help explain why. Although interviewed independently, they sounded the same central themes: the Natives' attitude towards work tends to be different from that of the non-Native. The Native tends to be intolerant of routine, and tends to find the oil industry workplace an artificial environment, and tends to quit when subsistence harvesting activities are underway. Some leave or are fired because they have alcohol problems. Of this set of reasons, one in particular—subsistence harvesting—may be the major reason for the migration back to the village. (If so, it would be found by the kind of investigation referred to above.)

Finally, the research disclosed numerically what everyone knows to be true: North Slope Natives hold few of the oil industry jobs. The 51 North Slope Natives on our list constitute less than 1 percent of the 6,000 workers at Prudhoe Bay and Kuparuk. There may be another 10 or so North Slope Natives working at Prudhoe Bay or Kuparuk, but we were unable to confirm that.

It was not part of our research to find out if and why Native employment by the oil industry is low. But the research suggests that this percentage is low because of factors affecting the supply of labor—what the Natives want to offer—rather than the demand for labor—what services the employers want to buy. This conclusion is strengthened by the simple observation that the oil companies whose employees we interviewed invest and have over many years invested considerable time and effort in recruiting and training North Slope Borough Natives for jobs at Prudhoe Bay and Kuparuk.

Conclusion

The analysis, argument, and conclusions presented in this report—on the likely future pattern of household migration within and to the North Slope, or on the likely future pattern of migration of North Slope Natives who work for the oil industry—are tentative.

There are four main reasons for this uncertainty. The first is that the economic future of the North Slope is very uncertain. The Alaska Department of Revenue projects that North Slope oil production will henceforth decline by 7 percent annually, or by 50 percent in the next decade (Revenue Sources). Revenues to the North Slope Borough may decline precipitously because its revenues come from the oil property tax. As the oil that is left declines, the value of the property declines, and the tax revenue will decline with it. As its revenues decline its spending will decline—perhaps not by as much as revenues and perhaps with a lag behind the decline in revenues—leading to a loss of jobs in the borough. And the oil-producing companies will cut back, with fewer workers at North Slope work sites. This is likely to mean even fewer North Slope Natives will work there, because many of them occupy training, unskilled, or semi-skilled positions. On the other hand, development of new oil fields could create additional jobs and tax revenues. Fineberg argues that production levels will be sustained because profits will remain high because the world price of crude will hold up.

The second reason for uncertainty is that no models exist of Alaska Native migration like the ones that have been used to predict interstate migration with a fair amount of accuracy. The past trends of migration within, to, and from the North Slope are unknown: insufficient data exist to build and calibrate such models for this area.

The third is that these other models do not include the variable subsistence, that may be one of the most important factors explaining North Slope Native migration. It may be an important reason why more migration does not occur between the villages: subsistence harvesting is widespread in all North Slope villages, so there is no need to migrate from one to another to take part in it. It may be an important reason why more North Slope Natives do not leave the North Slope: it is important culturally and economically. It should be noted that subsistence was hardly mentioned by the Native householders: only 3 of the 38 interviewed gave it as a reason, and even then not as their first reason. This fact alone suggests that it is widely practiced in all villages, and so is not a reason to migrate. It may also be that subsistence is partly embedded as a reason in two of the major reasons the Native householders did give—"home" and "relatives and friends."

The fourth reason for uncertainty is that the information in this study is gathered from a small proportion of the households having members who migrated within and to the North Slope in the last decade: 52 representatives—one for each of 52 households in three communities, or about 10 percent of the 500-plus households we estimate to have moved to the eight communities since 1982. The 500-plus migrant households are about one-third of the 1,700 households estimated in the 1990 census. On the other hand, this report's information from North Slope Natives who are oil industry workers is more likely to be reliable, as it was gathered from 34 of an estimated 60 such individuals.

We hope this report will stimulate continued research on the topic.

CHAPTER TWO

Migration

This chapter explains who migrated and why. It has five sections.

The first section puts our findings about North Slope migration in the context of U.S. migration research. It is an extensive review of U.S. research: its evolution, its present status, research issues, and recent results.

The second section reviews the protocols used by the U.S. Census, the most extensive database on U.S. migration.

In the third section, we turn to our own research findings and describe how the migration interview protocol was designed. The author drafted it, based on his knowledge of Native migration from having lived in Southwest Alaska in the 1980s and on his knowledge of migration research. He then revised it in the light of comments by colleagues at UAA-ISER and by MMS staff. The fourth section describes the results of the interviews with households that had migrated. It shows that a handful of reasons explain the bulk of the migration for both Natives and non-Natives, that job-related reasons predominate for both groups, and that reasons not related to jobs play a more important role for Natives than for non-Natives. The final section compares the results of the North Slope interviews with the results of migration research in the U.S., pointing out important differences and similarities.

Migration Research

Migration can be estimated indirectly or directly. Indirectly, it is estimated as a residual using other numbers: the population at time t , minus the population at time $t-1$, minus the excess of births over deaths between t and $t-1$. Directly, it is estimated by asking people how long they have lived in a community. The most extensive direct estimate for the U.S. is from the Bureau of the Census's decennial Census of Population and Housing, which asks "Did you live in the same house five years previously or did you live elsewhere?" Categories of "elsewhere" include a city, a Standard Metropolitan Statistical Area (SMSA), a county, a state, or another country.

Results of the 1980 U.S. census show that age is one of the most important variables explaining migration. "Young adults between the ages of 20 and 35 are among the most migratory segments..." (Clark 1986).

Results from European studies differ in how sex and migration are related. In Sweden in the mid-1960s, women were more migratory than men (Clark, 21). In Great Britain in the 1960s, men moved more often than women (Clark, 21).

Education is also an important determinant: the higher the level of education a populace has, the greater is the proportion that migrates. This was shown for the U.S. in the 1970s (Clark, 22).

Tenure is another important factor: renters move more than owners. This is partly because a higher proportion of renters than of homeowners are single or have small households, and partly because they have less equity tied up in property, on which they may suffer a loss if they relocate (Clark, 23).

Countries have different rates of migration. The U.S. rate within metropolitan areas in the 1970s was higher than that in Great Britain and Japan (Clark, 29). Over time, the rate may change in a country. The U.S. migration rate declined from 20 percent in the post-war era to 17 or 18 percent per year by 1987 (Clark, 19; U.S. Department of Commerce, 20). Over time, the direction of migration may change—from central city to suburbs and back again. The direction may be different for different places at the same time.

Life cycles explain much migration. Up to age 18, children move with their households. Then, they leave home, possibly to take a job or go to college. Subsequently, marriage is a stimulus to migration. Adult households with or without children may move from one kind of housing to another as their incomes grow. A stable period may follow, then migration may resume as children leave, or as divorce or illness or death occurs.

It may be important to distinguish between different explanations offered by the mover for the same move. For example, a household may have moved to a different community several years ago in response to a life-cycle event—the birth of a child, say—but may explain the move at the time of interview as reflecting a housing shortage in the community they left.

And, it may be important to distinguish between voluntary and involuntary migration.

Since migration involves simultaneously a movement from and a movement to, the movers' perceptions of the place moved to are important in explaining the destination (the pull), as distinct from the stimuli that led to the move in the first place (the push, such as a life-cycle event).

The neighborhood effect is well-known. Movers tend to choose neighborhoods they know: the knowledge is a form of security. And, movers are more likely to move to areas similar in economic status; income is a good indicator of where people will move. The rate of migration declines with distance, "...within cities, across regions, and...within varying levels of economic development" (Clark, 29).

Distance to work may play a part, although this variable has been looked at mainly in the context of explaining the existing pattern of location rather than relocation (Clark, 48).

Thus, movement may be regarded as the result of three lines of force: the characteristics of the household; the environment outside the household; and the household's perceptions of both itself and its environment. Models of migration incorporate these lines in different ways.

One set of models describes the probability of moving as a function of the stress (the pressure to move) and the resistance to a move (inertia). The same idea is expressed in the economic concepts of the benefits and costs of moving.

Big changes in infrastructure—railroads in the nineteenth century, turnpikes and airlines in the twentieth century, for example—have a big effect on location and relocation because they reduce the “distance” disincentive to relocation by bringing places closer together in time.

Distance and population were the two components of some of the earliest ideas underlying models of migration—those of Ravenstein, a British researcher of the late nineteenth century, who thought of applying the physical sciences’ concepts of mass and gravity to the social sciences’ interest in the movements of human populations (Clark, 56).

The gravity model is a mathematical expression of the proposition that the amount of migration between two places depends on how big they are and how far apart they are. For a given distance, migration between them will be greater the bigger they are. For a given population, migration will be smaller the more distant they are. The model was widely used in the 1940s in the U.S., when it was formulated rigorously and tested with the growing amount of census data on population distribution and movement.

By itself, the gravity model offers no causal explanation of why the pattern is what it is. To the extent that it is accurate *ex post*, its simplicity conceals the numerous factors that influence migration. However, its appeal may have lain in its apparent ability to yield projections. In principle, if it is accurate *ex post* and future population levels can be postulated, future migration can be projected, since distance is a given. (One suspects that such projections were short-lived, in part because future population levels presumably should include the immigrant component that the model is intended to project, and in part because future changes in technology affecting “distance” would have been hard to foresee.)

More recently, its use has been seen on a smaller scale conceptually. “The real value of the gravity model is not so much on the emphasis on distance...but rather on the deviations from the gross flows [that it projects]. The residuals [i.e., the deviations between the actual flows and the flows the model predicts] can be examined for other possible explanations...and are a useful device for understanding the overall pattern of flows” (Clark, 58).

In attempting to explain the residuals, analysts have added numerous additional variables and postulated their relationship to migration in formulas that were then tested. The Lowry model is one of the best known models (Lowry 1966). It postulated a relationship between the migration of the labor force on the one hand and employment or unemployment (differentials in the availability of jobs and per capita wage rates) on the other. The assumption was that the labor force moves from areas of high to areas of low unemployment, and from low-wage to high-wage areas. As modified by Rogers, and with distance also built in, this model captured over 90 percent of the variation in the flows of population among metropolitan areas in California in the late 1960s (Clark, 59).

Refinements used to break down the clump known as “distance” have included income differentials and the explicit recognition that employment and migration are mutually dependent. It is recognized that an area can have both high in-migration and high out-migration (Clark, 61).

In the late 1960s, one scholar (Rogers 1968) devised a matrix approach to measuring inter-regional migration flows in the U.S. He divided the country into four regions forming a four-by-four (16-cell) from-to matrix—from and to the Northeast, Northcentral, South, West—and used 1975-1980

population numbers. One 16-cell matrix had the resident population in it; the second matrix had the migrating population in it; the third matrix had population coefficients in it—the migrating population divided by the resident population. These coefficients are the probabilities of migration from one region to another. (Conceptually, this is the same method as that used to calculate inter-industry input-output coefficients.)

Then, the population levels in 1985 (say) are estimated by multiplying the 1980 population levels by the 1975-1980 coefficients. As with the interindustry matrix, it is clear that this mechanical approach suffers if there are shifts that change the coefficients during the period being projected—in, for example, age-composition, migration rates for different age-groups, infrastructure, and other factors.

In the 1970s and 1980s, research on the role of income and unemployment showed that the unemployed are more likely to migrate, that long-distance moves and gains in income go together, and that local out-migration is affected by local economic conditions. The supply-of-labor approach to estimating migration emphasizes the push: low wages push workers out. The demand-for-labor approach emphasizes the pull: job opportunities pull workers in.

By the early 1970s it was already recognized that economic growth in a region could occur when migration and job opportunities combined—from the simultaneous shift upwards of the curves for the supply of labor and the demand for labor (Muth 1971).

The human capital model of migration was developed as an attempt to tie together numerous variables. The idea appeared in the early 1960s (Sjastaad 1962) when the human capital approach was first being formulated and applied in other fields—development economics, and education, for example (Schultz 1968; Schultz 1974).

In this model, migration is seen as an investment now (the costs of moving) undertaken to improve income potential in the future. Using this concept permits the incorporation of a broader definition of benefits and costs (climate, clean environment, for example) and the idea of a time lag between the move and the benefits from it. The stimulus to move is the present value of the net gain of moving from one place to another. The net gain is the difference between expected utility or real income in the two places, minus the cost of moving. The formula used to measure the net gain incorporates a discount rate and the expected remaining lifetime of the mover, in order to allow for the fact that a gain in 10 years (say) weighs less heavily than the same gain now (Clark, 68).

The model has been tested using multiple regression equations, yielding low levels of fit. It has been elaborated on to apply to the household rather than the individual, thus allowing for the effects of different dynamics in different households (two parents working, for example). Work in the 1980s shows that the participation of the wife in the labor force reduces the probability of migration (Mincer 1978; Sandell, Koenig 1978).

The role of information and uncertainty—what the mover knows and doesn't know—is being increasingly examined to help explain the decision to move (Clark, 71).

Recent work has looked at the relationship between age and amenities: the retired who can afford to seek a high-quality environment, which shows up in the shifts from the Northeast to the Southwest U.S. One study concluded that the probability of migration increased with an increase in the demand for non-tradable goods (for example, the quality of life in one region that another did not and could not have, such as weather) (Graves, Linneman 1979).

The shift to the Southwest, and especially to the South—whatever the motives of the movers—was marked in the decade 1970-1980. The Southwest accounted for 90 percent of the increase in the U.S. population over that period (Greenwood 1985). This was a reversal of the earlier net out-migration from the South to the North, and was the result of three forces: international migration, internal migration, and natural increase. And, internal migration in this decade reflected in part the influence of the baby boomers—their relatively large proportion within the U.S. population, combined with the higher propensity to migrate among the young. Greenwood suggests that migration created markets that stimulated job growth—the reverse of the usual cause and effect postulate that people follow jobs.

In this same decade, the earlier rural to urban shift reversed itself: the number of residents in metropolitan areas declined. Numerous analyses of this phenomenon attribute it to a variety of causes: changes in the differential costs of doing business, in income and wealth, in the demographic structure of the population and labor force, in the number of resource-based industries in non-metropolitan areas, and in government policy (Greenwood).

In focusing on the relationship between migration and employment, one author provided a review of the research up to that point, and developed a model which was the first to analyze the decision to move and the choice of destination at the level of the individual worker (Mueller 1982). The model assumes that individuals maximize their lifetime expected utility, using variables of two kinds: personal attributes and attributes of the place moved to. Personal attributes are the movers' job turnover, job tenure, and length of residency in place of origin; place attributes are expected earnings, expected employment, percent population urban, population density, housing amount and condition, per capita government expenditure on public services, percent of population same race as mover, percent of adults completed college, and percent of families above the low income level. The model was tested using the Social Security Administration's Continuous Work History Sample (SSACWHS) of workers covering the period 1957-1969. For most of the variables the results were consistent with *a priori* expectations.

Still, Greenwood argues that "...the relationship between employment and migration...which is seemingly central to...the causes or consequences of migration, has been surprisingly neglected" (Greenwood, 526).

In addressing this lack, three authors have developed a model (Greenwood, Hunt, McDowell 1986). That model says that in an average year two more jobs equal one more migrant, one more migrant equals 1.4 more jobs, and that these relations depend on the business cycle. They used the SSACWHS time-series data for the period 1958-1975, for the 171 coterminous Economic Areas of the Bureau of Economic Analysis .

One of the most-recent models uses U.S. Internal Revenue Service data on interstate migration flows based on income tax returns for the period 1980-1987 (Kahley 1991). The model is designed to yield estimates of in-migration into a state for the period using six variables: its income growth, pay, unemployment rate, cost of living, cooling degree days, and in-and out-migration in 1975-1980. These variables "explain" 96 to 99 percent of the variation in state in-migration.

The analyses and models summarized above postulated reasons for migration, and tested the postulates by relating known amounts and patterns of migration to the characteristics of the movers and their communities. That is "...the dominant approach to answering the why of migration within the United States over the last two decades has been the application of econometric models that seek to infer the why by looking at the characteristics of areas migrants are moving to or from" (Long 1988, 1). They do not ask people why they move.

U.S. Migration: The Bureau Of The Census Database

In the U.S., the most extensive database on why people move is from interviews by the U.S. Bureau of the Census. In its 1946 Current Population Survey, the bureau asked for the respondent's last county of residence and why he or she left it. The census survey questionnaire asked respondents whether they moved for each of the following reasons: to look for work; to take a job; housing problems; change in marital status; head of family moved; and other (specify). The tabulation of the data included two more categories: to join head of family and health. The bureau did not try to identify the main reason or priority reasons.

The results showed that about half the individual moves between counties were because the head of household moved. When the reason why the head of household moved was incorporated "...about 56 percent of inter-county moves could be attributed to moving to take a job or to look for work" (Long, 230).

In its next survey, in 1963, the bureau shifted the focus from why the respondents left their former counties to why they moved to their present counties. Moves within counties were added. And several more reasons were added: job transfers; easier commuting; entering or leaving the armed forces; better housing; and forced moves (such as evictions from housing).

The results were that job-related reasons predominated in inter-county moves and housing-related reasons predominated in intra-county moves. And those who moved between counties cited more reasons than did those who moved within counties.

In 1973 the bureau started an Annual Housing Survey (AHS), which asked for the main reasons why heads of households had moved from their previous residences. The AHS therefore returned to the 1946 focus on reasons for leaving. It listed about 30 possible reasons: the ones used earlier; new ones on the size and composition of households; changes in marital status, schools, or neighborhood conditions; to be closer to relatives; retirement; climate; and several having to do with involuntary moves (disasters and evictions, for instance). The 1979 AHS was changed to enable the respondent to record multiple reasons for moving, and to give reasons why the move was to the community of residence. The survey was taken every two years after 1981.

Research is underway on the age-specific nature of the reasons given, to answer such questions as: Who is moving to relatives—the young returning home (from college or the military, say), or the elderly moving to be near their adult children?

In 1979-1981 survey results, the rate of interstate migration declined sharply with age overall, and with age for job-related, school, and all other reasons. It declined, leveled off, then rose gradually with age when to be with relatives was the reason for the move. It fluctuated with age for climate reasons. It rose with age for retirement reasons, to a peak at age 60-64, then declined sharply.

The main reasons for moving between states as given in the 1979-1981 interviews were: job-related, 46 percent (transfer, new job, look for work); relatives, 9 percent; climate, 6 percent; school, 6 percent (Long, 235). These four categories accounted for two-thirds of the migration. The addition of two more—armed forces and retirement—can bring this up to 80 percent. Allowing for differences depending on the age-distribution of the population, the fact that so few categories explain so much suggests "... the possibility of developing consistent time-series data on reasons for long-distance migration" (Long, 251).

Migration Interview Protocol

We now turn to our own migration survey, beginning with a description of the migration interview protocol. (The protocol is included as Appendix B.) It has four major parts.

Part One asks respondents about their households: head; number of members; race; sex; age; marital status; education; labor force status; earnings; household income; and occupations of household members.

Part Two asks respondents when their household moved to its present community. Some respondents were the only members of their households at the time of the move, that is, the household that existed at the time of interview did not exist at the time of the move. This part also asks where the respondents (households) moved from, when, and where and where else they had lived before the latest move. And, it includes information on the pull and the push behind the respondent's move: why the household moved to this community and why it moved from the previous community. This last information was generated by an open-ended question: "Why did your household move here?"

Part Two provides additional information on the reasons for the most recent move. This is not open-ended. The information is collected under three headings—cultural, economic, social—each with subheadings. Its purpose is to enlarge on what may have been a paucity of information—one reason only offered for the move—gleaned in earlier in Part Two. It differs from the earlier question in Part Two of the interview in that the reasons are structured in the interview, and the respondents were asked to indicate those that were relevant to their move.

In addition, Part Two asks whether the household is a year-round, seasonal, or occasional resident. By "seasonal" we mean a household that regularly moves to and from the community (for example, for the whaling season). By "occasional" we mean a household in the community only for a short time (for example, while one of its members receives medical treatment).

Finally, Part Two asks where the respondents grew up, and how they perceive the places where they grew up, including good and bad characteristics. This, too, is open-ended. Our purpose here was to reveal more of the pattern: more statements by the respondents about how they perceive communities—in this case the communities where they lived as children—to help shed light on the reasons the respondents had already given for their latest moves. This anchored the respondent's continuum of movement in its beginnings—the places of growing up—and was thus an important addition to the triangulation: perceptions of past, present, and future. It was necessary because Part Two had earlier asked the respondents to list only the communities they had lived in since 1980. (The focus of the study was migration in the last decade.)

Part Three asks the respondents' about their perceptions of events since they moved. Did the move turn out as expected; does the community still seem attractive? This part, too, is open-ended. Its purpose is to see if changes in the communities have altered the respondents' perceptions or if perceptions of the community have changed. These questions make manifest the respondents' perceptions of their communities, thus enlarging our understanding of their world. And, it permits us a first glimpse of possible future migration.

Part Four focuses on future movement. It asks if the respondents: *would leave* their communities (and, if so, under what conditions, including any related to the oil industry or to be near parents); or have actual *plans to leave* the community. The difference is that "would leave" is vague and "plan to leave" is not. In practice, the distinction was clear for most respondents. This part, too, is open-ended. It completes the continuum of respondents' perceptions of their communities, beginning with their childhood communities, through their move to their present communities, and including possible future communities. As it turned out, the explicit question on leaving to live with parents was more complicated than it seemed; these complications are discussed in the next section. And, since only four respondents answered the question on possible movement related to the oil industry, its results are summarized. (The problem lay in the question's hypothetical nature and vagueness.)

Overall, the interview was designed to elicit the respondents' reasons for moving and their perceptions of communities in which they had lived or might move to in the future. We hoped that this structure would help overcome the problems all such interviews face. The first problem is that of faulty memory. The second problem is that of conscious or unconscious deception—the respondent may want to exaggerate or conceal something from the interviewer. The third problem is that of understanding one's motives, purposes, and perceptions, and how they are linked to one's behavior.

The interview appears to have dealt reasonably well with the first and second problems. The information offered in the interviews has an internal coherence; inconsistent or illogical responses would show up because so many questions ask for complementary information. Since movement from one community to another occurs relatively rarely, it is well-remembered. Since it is among or is associated with the most important events of one's life—adolescence, leaving home, getting a job, marrying or divorcing, births and deaths—one expects the individual to have little difficulty in remembering and explicating the things that seemed important then. The respondents had no such difficulties; they offered a great deal of information. In the opinion of the author the detail respondents present is convincing. Incoherence or inconsistency of response is rare.

The author's opinion may, however, suffer the same shortcoming as that of the respondents, and for the same reasons. This is the third problem: understanding one's motives, and the link between them and one's actions. The literature has pondered such matters for many years, with fundamental disagreement still the norm.

Nisbett and Wilson assert that people sometimes don't know that a stimulus created a response or that they even responded or a stimulus existed (Nisbett, Wilson 1977). White criticizes Nisbett and Wilson for not being clear about what their experiments were testing and for not having a coherent theoretical position on the role of the consciousness in human behavior. He asserts that the problem (of consciousness) will continue to be misunderstood "If more care [than that shown by Nisbett and Wilson] is not taken in these matters..." (White 1980).

Migration Interview Results: The Amount and Pattern of Household Migration

Migration involves a pull to a place and a push from a place. In some cases the pull is strong and the push weak: someone sees an opportunity in an another place, and wouldn't have moved but for that opportunity. All respondents we interviewed gave at least one reason why they moved where they did. About half gave two reasons, and some gave three. For 23 individuals, the pull was strong and obvious, and no push was cited.

In others the push is strong and the pull weak: someone wants to leave a community, and may leave for that reason alone. Two-thirds of our respondents gave one reason why they left communities, and four gave two reasons.

Of the 52 households we interviewed, 50 were year-round residents and 2 (both in Barrow) were temporary. So the patterns discussed below do not reflect differences stemming from seasonal or temporary conditions. The two temporary households may have since become permanent—one moved because of a parent's illness, the other to avoid marital strife.

The Overall Pattern

The amount and pattern discussed in this section is based on the information supplied by one respondent representing each of the 52 migrant households. Households interviewed constitute about 10 percent of the North Slope households we estimate to have moved during the past ten years, and 3 percent of the 1,664 North Slope Borough households (i.e., occupied housing units) recorded in the 1990 census. The corresponding numbers for the three villages are: Barrow, 32 of 1,059 (3 percent); Nuiqsut, 2 of 91 (2 percent); Wainwright, 18 of 133 (14 percent).

The 52 migrants consist of 38 Natives and 14 non-Natives. These proportions reflect the sampling procedure (see Appendix A). Of the 52, 32 migrated to Barrow, 18 to Wainwright, and 2 to Nuiqsut. These proportions too reflect the sampling procedure, but with substantial modification of the procedure in the field (see Appendix A). Households having more than one individual at the time of the move are represented in this report by the individual for whom the move was undertaken—for example, the wife whose father had fallen ill.

Pull

Job offers or job opportunities were by far the most frequently cited reasons for moving, with one-third of respondents reporting their moves were job-related.

Table 2.1 shows the reasons why people moved. The focus is the column "Why Moved Here #1." This column shows the eight major reasons given by the 52 respondents for their migration to a place: jobs; relatives or friends; bigger or more varied community; death or illness in the family; returning home; marriage; alcohol or drugs; housing availability; or other reasons.

The individual interview responses are sorted in decreasing order of importance. For example, job offers or job opportunities were by far the single most important reason, cited by 18 of the 52 respondents or one-third. A move to be with relatives or friends is next, cited by eight respondents. Five people moved because they were attracted by the bigger size and greater variety of the new place. Four moved because of a death or illness in the family, four to return to the community that was home for them, and four to get married and to live in their partner's community. Two moved to avoid alcohol or drugs where they were living, and two because of a housing shortage where they were living. The remaining five moved for other miscellaneous reasons. One moved to Barrow because he had always wanted to live in Alaska, another because her children loved the village of Wainwright where they had extended family, another because he preferred the Wainwright school for his children to the school in Barrow. Another was attracted to Wainwright because it was smaller than Barrow, and the last did not want to say why she moved.

Within these major categories, Table 2.1 shows the individual responses sorted by race, sex, and age. For example, the eighteen who moved for job-related reasons consist of ten Natives and eight non-Natives. The ten Natives were three men and seven women, and the three Native men ranged in age from 23 to 47 when they migrated. Secondary reasons for migrating are also shown—up to two supplementary reasons for moving to the new community, and up to two reasons for moving from the old place. Table 2.1 reveals several interesting relationships.

Native men and women who migrated were relatively young. All the Native men who migrated are in the age-bracket 20-49. There is none of the pattern so common in the continental U.S.—that of elderly men migrating as they reach retirement at 65, or even of men between 50 and 65. The Native women who migrated tended to be even younger than the men: all were in the age-bracket 15-44.

Native women migrated more than Native men. Women accounted for 25 of the 38 Native migrants—twice as many as the 13 men.

By contrast, non-Native men were more far more likely to move to the North Slope than non-Native women—11 of the 14 migrants were men, or three times as many men as women.

Natives and non-Natives alike moved to accept job offers or look for job opportunities. These job-related reasons were the single most important reason for migration, for both Natives and non-Natives. Native women who moved for jobs (seven) far outnumbered Native men who moved for jobs (two).

Table 2.1. Migrant Households. Reasons For Migration. By Priority.

Village Now	Race	Sex	Age at Move	Village Prior	Why Moved Here #1	Why Moved Here #2	Why Moved Here #3	Why Left Prior #1	Why Left Prior #2
Barrow	Native	F	16	Atqasuk	job offer			no job	
Barrow	Native	F	23	Wainwright	job opp	bigger		no job	
Barrow	Native	F	28	Wainwright	job opp			no job	
Barrow	Native	F	28	Wainwright	job opp	death		costly	
Barrow	Native	F	31	Point Hope	job opp			few job opp	
Barrow	Native	F	42	Outside	job offer	home			
Barrow	Native	F	43	Wainwright	job offer			subsistence	kids
Barrow	Native	M	23	Noatak	job opp			no job	
Nuqsut	Native	M	40	Barrow	job offer				
Barrow	Native	M	47	Nuqsut	job offer				
Barrow	Non	F	18	Outside	job offer				
Barrow	Non	F	44	Outside	job offer			marital	
Barrow	Non	M	21	Outside	job offer	rel/friends			
Wainwright	Non	M	29	Barrow	job offer				
Wainwright	Non	M	31	Mat-Su	job offer				
Barrow	Non	M	32	Outside	job offer			visa expired	
Barrow	Non	M	41	Outside	job offer			crime	alc/drug
Barrow	Non	M	56	Point Hope	job offer				
Nuqsut	Native	F	16	Barrow	rel/friends			rel/friends	
Wainwright	Native	F	18	Barrow	rel/friends				
Barrow	Native	F	23	Wainwright	rel/friends	subsistence		low pay job	
Barrow	Native	F	26	Mat-Su	rel/friends	job opp			
Wainwright	Native	M	24	Barrow	rel/friends	subsistence		few job	
Barrow	Native	M	38	Wainwright	rel/friends			alc/drug	
Barrow	Non	M	31	Outside	rel/friends				
Wainwright	Non	M	36	Prince Wm Sound	rel/friends				
Barrow	Native	F	18	Atqasuk	big/variety			smaller	
Barrow	Native	F	19	Southeast Alaska	big/variety	job opp	rel/friends	alc/drug	
Barrow	Native	F	21	Atqasuk	big/variety	variety		smaller	rel/friends
Barrow	Native	M	26	Kaktovik	big/variety	job opp	rel/friends		
Barrow	Native	M	47	Wainwright	big/variety	cost	rel/friends	death/ill	
Wainwright	Native	F	23	Barrow	death/ill	rel/friends		bigger	
Barrow	Native	F	33	Atqasuk	death/ill			death/ill	
Wainwright	Native	M	44	Bering Sea Coast	death/ill			no job	
Wainwright	Non	M	37	Outside	death/ill	job offer			
Barrow	Native	F	22	Anchorage	home	native		education	
Barrow	Native	F	25	Outside	home			marital	
Barrow	Native	F	26	Fairbanks	home				
Barrow	Non	F	22	Outside	home				
Wainwright	Native	M	25	Point Hope	marriage	rel/friends			
Wainwright	Native	M	25	Point Hope	marriage				
Wainwright	Native	M	30	Barrow	marriage	rel/friends		alc/drug	
Wainwright	Non	M	47	Anchorage	marriage	job opp			
Wainwright	Native	F	17	Atqasuk	alc/drug	marriage	subsistence	alc/drug	
Wainwright	Native	F	21	Barrow	alc/drug			rel/friends	
Barrow	Native	F	28	Point Lay	housing			marital	
Barrow	Native	F	32	Wainwright	housing	marriage		no housing	
Barrow	Non	M	36	Outside	Alaska	variety		costly	bigger
Wainwright	Native	F	29	Barrow	kids like	rel/friends		school	
Wainwright	Native	M	45	Point Lay	school	rel/friends		school	
Wainwright	Native	M	28	Barrow	smaller	rel/friends	job	alc/drug	
Wainwright	Native	F	23	Barrow	unknown			unknown	

Source: Interviews with North Slope Borough Households, March 1992.

Many Natives migrated for reasons not related to jobs. Most of these reasons were personal: relatives or friends, deaths or illnesses, home, marriage. More Natives (15) moved for these personal reasons than moved for job-related reasons (10). This is understandable: the North Slope is their homeland. Conversely, few non-Natives moved to the North Slope for reasons other than jobs.

Native men were just as likely—maybe even more likely—to move for personal reasons as were Native women: 10 Native men and 10 Native women moved for reasons other than jobs.

Both Native men and Native women were attracted by communities that were bigger and had more variety.

But only Native women reported that they had migrated to return home—to the places where they were born or grew up.

And only Native men reported moving to get married. This suggests a stability among women—possibly a combination of work and family in place—that induces men to move to their communities. No Native women reported moving to a community to get married. It is important to know if this is a recent pattern or has deep cultural roots.

Communities exchange Native residents: eight moved from Wainwright to Barrow, and nine moved from Barrow to Wainwright. Six of the eight who moved from Wainwright to Barrow were Native women, and four of them migrated for job-related reasons. The nine who moved from Barrow to Wainwright consisted of eight Natives and a non-Native man who moved when offered a job. The eight Natives who moved from Barrow to Wainwright consisted of five women and three men.

Five Native respondents moved to Barrow because it was bigger and offered more variety than where they were living: two from Atkasuk; one from Kaktovik; one from Wainwright; and one from Southeast Alaska. The five consisted of two men and three women— i.e., Native men and women were equally likely to move from a North Slope village to Barrow because it had the qualities of a regional center. Two of these five mentioned job opportunities as secondary attractions.

Two Native women, both married, moved to Barrow because there was more housing. One moved from Point Lay; the other from Wainwright.

Miscellaneous reasons, each cited by one respondent, were: a Native man preferred the school in Wainwright because it was bigger than that in Point Lay (and, his wife was from Wainwright); a Native man preferred Wainwright because it was smaller than Barrow, he had had a job offer, and he thought Barrow had more alcohol and drug problems than Wainwright; a Native woman preferred Wainwright because her children liked it better than Barrow; one non-Native man and his family were attracted to Barrow by the Alaska mystique. One Native woman, with a Native husband and two children, offered no reasons for her household's move to Wainwright from Barrow.

Twenty-three of the migrants gave a second reason for moving to a place, including five who gave a third reason. Put differently, 29 gave one reason only—especially those who moved for jobs, to be near relatives or friends, or to return home.

The second and third reasons add only one category to the categories already listed. The new category is subsistence, cited by three Natives: a young man who gave it as his second reason for moving from Barrow to Wainwright; a young woman who gave it as her second reason for moving from Wainwright to Barrow; another woman who gave it as her third reason for moving from Atqasuk to Wainwright. The fact that subsistence was so little cited as a reason for migration suggests that all North Slope communities are well-endowed with access to subsistence resources: there is no big difference among them in this respect, and so it is not a reason to migrate from one to another.

The Natives who moved were appreciably younger than the non-Natives: 28 years old on the average, versus 34 years old for non-Natives. This is mostly because of the greater number of Native women migrants, and the women who moved were younger. Among the thirty-eight Natives, twenty-five were women with an average age of 25 and thirteen were men with an average age of 34. Among the fourteen non-Natives, three were women with an average age of 28 and eleven were men with an average age of 36.

This difference in overall age-distribution did not show up in any clear differences between the races in the pattern of migration. For example, the average age of those who migrated for job-related reasons—the single most important reason—was similar for Natives and non-Natives: 32 and 34 years respectively.

The average age of Natives who migrated for reasons that were not job-related was younger than that of job-seeking migrants. It was 24 for those who moved to be with relatives or friends, 24 for those who moved to go back home, 26 for those who wanted a community that was bigger or had more variety, and 27 for those who moved to get married.

Push

Table 2.1 shows also that 33 respondents—about two-thirds of the total—also gave reasons why they left communities.

Lack of jobs was most often cited (eight times) as the reason for leaving a community. This is consistent with job offers or job opportunities most often being cited as the reason for moving to a community.

Six respondents cited alcohol or drugs as one of their two reasons for leaving: three who moved to Barrow (including one Native man from Wainwright); and three who moved to Wainwright (including two Native men who moved from Barrow). These numbers are too small to permit any general conclusions about the problem of alcohol or drugs in one place relative to another, but it may be noteworthy that all three who moved to Wainwright did so in the early 1980s, whereas the one who moved to Barrow from Wainwright did so in 1990.

Three women moved to Barrow in part because of marital problems where they were living: one non-Native who was living out-of-state; one Native who was living out-of-state; one Native who was living in a North Slope village.

Three Natives cited education or schooling as the main push; of those, two also cited it as their main pull. One moved to Wainwright because her children wanted a bigger school (than that in Point Lay); and the other moved to Wainwright because her children wanted a smaller school (than that in Barrow). Both moved to Wainwright (rather than to some other community) at least in part because of family ties there.

Two—both Native women in their mid-20s, from the same village—cited the small size of their village as their main reason for leaving. One was married, one single.

Relatives or friends were rarely cited as a reason for leaving (although often as a major reason for choosing the community to go to). Two Native women said they left for this reason: one (with her own household now) had been a child then and moved with her parents; another left to get away from siblings. Two—a Native man and a Native woman—left soon after deaths in their families.

One respondent moved because of lack of housing; one moved from Barrow because it was too big; and one middle-aged Native woman moved to get a change from the hard routine of subsistence in her village.

Four non-Natives—all of whom moved to Barrow—gave reasons for leaving their communities out-of-state: cost of living; crime; marital discord; and visa problems.

The Community Pattern

Table 2.2 gives more detailed information, arranged by community, ethnicity, sex, and age. It includes household income.

On the whole, the 52 households that migrated to the three communities we surveyed had lower than average household incomes. Fewer had high incomes, relative to the population as a whole, and the bulk were in the fairly low-income group. For example, 22 percent of the migrant households had incomes of more than \$75,000, as compared with 29 percent in the borough as a whole in 1990. And, 25 percent of the 52 migrant households are in the \$25,000-35,000 bracket, as compared with 10 percent borough-wide.

These migrant household numbers are of household income at the time of the interview. Household income at the time of the move would be more pertinent, but cannot be obtained because on the average the move occurred seven years before the interview. It is impossible for interviewees to recall their household income that far back. In view of the potential importance of household income at the time of the move in helping explain the move, the author believes the North Slope Borough should gather that information from migrating households.

Barrow

Job offers or opportunities motivated half of the 32 respondents who moved to Barrow. Those who moved to Barrow consisted of five Native men, eighteen Native women, six non-Native men, and three non-Native women. For each of these four groups, jobs—offers or opportunities—loom large as the number one explanation for their move. It accounts for half of the moves: 15 of the 32. And, jobs are

Table 2.2 Migrant Households. Reasons For Migration. By Priority, By Community, By Occupation

Village	Race	Sex	Why Moved Here #1	Why Moved Here #2	Why Moved Here #3	Why Left Prior #1	Why Left Prior #2	Household Income \$1,000	Marital Status	Edn Level	In Labor Force	Earnings Resp \$1,000	Occupation
Barrow	Native	M	big/var	cost	rel/friends	death/ill		\$0-5	nm	elem	No		n.a.
Barrow	Native	M	job offer					\$70-80	m	colla	Yes	\$50-55	office manager
Barrow	Native	M	rel/friends			alc/drug		\$0-5	m	hsg	Yes	\$0-5	unemployed
Barrow	Native	M	big/var	job opp	rel/friends			\$70-80	m	hsg	Yes	\$70-80	foreman
Barrow	Native	M	job opp			no job		\$20-25	m	hsg	Yes	\$0-5	cargo handler
Barrow	Native	F	job offer	home				\$25-30	s	hsg	Yes	\$25-30	w.a.d.
Barrow	Native	F	job offer			subelst	kids	\$25-30	m	elem	Yes	\$25-30	maid
Barrow	Native	F	housing	marriage		no housing		\$35-40	m	elem	No		housewife
Barrow	Native	F	job opp			no job		\$25-30	m	elem	No		housewife
Barrow	Native	F	job opp	death		costly		\$150+	m	colla	Yes	unknown	administrator
Barrow	Native	F	rel/friends	job opp				\$25-30	m	colla	Yes	\$25-30	clerk
Barrow	Native	F	job offer			no job		\$45-50	m	hsa	Yes	\$25-30	maid
Barrow	Native	F	death/ill			death/ill		\$65-70	m	elem	Yes	\$35-40	clerk
Barrow	Native	F	job opp	bigger				\$5-10	s	hsg	Yes	\$5-10	teachers' aide
Barrow	Native	F	rel/friends	subelst		low pay job		\$40-45	m	elem	No		housewife
Barrow	Native	F	job opp			few job opp		\$30-35	nm	colla	Yes	\$30-35	secretary
Barrow	Native	F	home	Native		education		\$35-40	s	hsg	Yes	\$35-40	expediter
Barrow	Native	F	home			marital		\$30-35	s	hsg	Yes	\$30-35	secretary
Barrow	Native	F	home					\$20-25	nm	hsg	Yes	\$20-25	
Barrow	Native	F	housing			marital			s	hsa	No		housewife
Barrow	Native	F	big/var	variety		smaller	rel/friends	\$30-35	m	hsa	No		w.a.d.
Barrow	Native	F	big/var			smaller		\$55-60	m	hsg	Yes	\$10-15	maid
Barrow	Native	F	big/var	job opp	rel/friends	alc/drug		\$30-35	nm	hsg	Yes	\$30-35	clerk
Barrow	Non	M	job offer					\$100-150	d	hsg	Yes	\$100-150	administrator
Barrow	Non	M	job offer			visa expired		\$90-99	m	collg	Yes	\$90-99	w.a.d.
Barrow	Non	M	Alaska	variety		costly	bigger	\$100-150	m	collg	Yes	unknown	coordinator
Barrow	Non	M	job offer			crime	alc/drug	\$100-150	m	collg	Yes	\$90-99	w.a.d.
Barrow	Non	M	rel/friends					\$90-99	m	colla	Yes	unknown	supply specialist
Barrow	Non	M	job offer	rel/friends				\$90-99	nm	hsg	Yes	\$40-45	driver
Barrow	Non	F	job offer			marital		\$80-90	d	collg	Yes	\$80-90	accountant
Barrow	Non	F	job offer					\$100-150	m	colla	Yes	unknown	office manager
Barrow	Non	F	home					\$35-40	m	hsa	No	\$35-40	dispatcher
Nulqsut	Native	M	job offer					\$70-80	m	hsg	Yes	\$20-25	w.a.d.
Nulqsut	Native	F	rel/friends			rel/friends		\$50-55	m	hsa	Yes	\$50-55	w.a.d.
Wainwright	Native	M	school	rel/friends		school		\$90-99	m	voc	Yes	\$60-65	w.a.d.
Wainwright	Native	M	death/ill			no job		\$45-50	m	colla	Yes	\$40-45	w.a.d.
Wainwright	Native	M	rel/friends	subsist		few job		\$40-45	m	elem	Yes		w.a.d.
Wainwright	Native	M	marriage	rel/friends		alc/drug		\$40-45	m	hsg	Yes	unknown	w.a.d.
Wainwright	Native	M	smaller	rel/friends	job	alc/drug		\$30-35	nm	hsg	Yes	\$5-10	w.a.d.
Wainwright	Native	M	marriage					\$100-150	m	colla	Yes	\$45-50	w.a.d.
Wainwright	Native	M	marriage	rel/friends				\$30-35	m	hsa	Yes	unknown	w.a.d.
Wainwright	Native	F	unknown			unknown		\$10-15	m	hsg	No		housewife
Wainwright	Native	F	death/ill	rel/friends		bigger		\$40-45	m	hsg	No		housewife
Wainwright	Native	F	kids like			school		\$30-35	m	hsa	No		housewife
Wainwright	Native	F	rel/friends					\$25-30	m	hsg	No		housewife
Wainwright	Native	F	alc/drug			rel/friends		\$5-10	m	hsa	No		housewife
Wainwright	Native	F	alc/drug	marriage	subelst	alc/drug		\$30-35	m	hsg	Yes	\$30-35	w.a.d.
Wainwright	Non	M	death/ill	job offer				\$70-80	m	colla	Yes	unknown	w.a.d.
Wainwright	Non	M	rel/friends					\$15-20	m	hsg	Yes	\$15-20	w.a.d.
Wainwright	Non	M	job offer					\$50-55	d	collg	Yes	\$50-55	w.a.d.
Wainwright	Non	M	job offer					\$50-55	m	hsg	Yes	\$50-55	w.a.d.
Wainwright	Non	M	marriage	job opp				\$50-55	m	colla	No	n.a.	w.a.d.

Source: Interviews with North Slope Borough Households, March 1992.

Legend: d=divorced; m=married; nm=never married; s=separated; w=widowed; colla=college-attended; collg=college-graduate;

hsg=high school-graduate; hsa=high school attended; elem=elementary; voc=vocational; resp=respondent; w.a.d.=withheld to avoid disclosure

an important explanation for people ranging in age from the young (18) to the middle-aged (47). One Native woman moved to Barrow in the belief that it had more job opportunities, didn't find work, got married, and is now a full-time housewife with three small children.

The wages and salaries of the non-Natives who moved to Barrow are much higher than those of the Natives who moved: upwards of \$80,000 for the non-Natives (except for the one non-Native driver at \$40,000), as compared with less than \$55,000 for the Natives (except for the one Native manager at \$75,000).

Presumably these high wages for non-Natives reflect the higher cost of living in Barrow than in the communities they came from off the North Slope, their unwillingness to move without a substantial increase in pay, and the shortage of Natives qualified by formal education or experience to occupy these white-collar positions. Most of the non-Native respondents have been to college—six of eight. This is a much higher proportion than of the Natives—five of 24.

Six of the eight non-Natives moved to Barrow for jobs. (The other two non-Natives expected to get jobs and had no trouble doing so, including one who has in-laws who have been in Barrow for more than a decade.) Only one-third of the Natives—8 of 24—cited jobs as the main reason for their move. (Even so, it was their single most important reason for moving.)

Only Natives—none of the non-Natives—were attracted to Barrow because it is bigger and offers more variety than the places they moved from. This was important for two of the five Native males, but relatively less important for the Native females—for only three of the nineteen.

Almost by definition, Barrow is home to Natives but not to non-Natives: three Native women and one non-Native woman moved for that reason. All were in their 20s at the time; two were married and two were single. Two moved back from out of state, and two moved back from Alaska's two biggest communities, Anchorage and Fairbanks. The four have found work in Barrow, in pink- or white-collar positions paying between \$20,000 and \$40,000 annually. ("Pink collar" refers to employees who are office workers in non-supervisory positions and who are paid for overtime.) No Native or non-Native men moved to Barrow to return home.

Few—only three, two Native women and a non-Native man—moved to Barrow because they had relatives or friends there. More precisely, only three gave that as their main reason. (Many Natives who moved to Barrow primarily for other reasons also have relatives and friends there.)

Nulqsut

Our two interviews with Nulqsut residents were too few to permit analysis—and in any case we would not report anything that would reveal the identity of the two households. All we can say is that these two Native households migrated to Nulqsut from Barrow between 1980 and 1992— one to take up a job there, and the other because relatives and friends had moved there, also from Barrow.

Wainwright

The 18 we interviewed who had migrated to Wainwright consisted of 13 Natives—7 men and 6 women—and 5 non-Natives.

None of the 13 Natives moved to Wainwright for jobs. Rather, they came for a variety of other reasons.

Three Native men moved to Wainwright to marry; that is where their intended partners lived. By contrast, none of those who moved to Barrow or Nuiqsut did so to get married (except possibly the one Native man who gave this as a secondary reason for moving to Barrow). One of the three moved from Barrow because of alcohol or drug problems. The other two moved from another village, which they gave no reasons for leaving. Clearly, for them one possible reason was the lack of suitable partners in that small village.

Another Native man also moved from Barrow to Wainwright because of alcohol or drug problems in Barrow. Wainwright's smallness was its attraction for him. Another moved in the belief that the school was better for his children than that in another village. A sixth moved because he had relatives or friends there, and they, together with the hunting possibilities, provided a support system wanting in Barrow, where he had been unable to find work. The seventh moved to Wainwright after a death or illness in the family, and stayed there; the household had had difficulty finding work in a village off the North Slope, where they had been.

The six Native women who had moved to Wainwright were all relatively young at the time—between 17 and 30 years old. Five of them were single; all are now married, with their own households at the time of the interview. Five of the six had moved to Wainwright from one other North Slope community.

Two moved perceiving Wainwright as being freer of alcohol and drugs: one who moved from one village especially to avoid the drinking; one who moved from another village. One of these two had met a young man from Wainwright, so the possibility of marriage played its part in the move. And, she found the prospect of more subsistence activities in Wainwright attractive. One moved because of a death or illness in the family, and stayed on because of the support system provided by relatives and friends. Another moved because her children preferred the community to Barrow, where they had not liked school. (The children knew Wainwright from staying there with extended kin in summer and at Christmas.) A fifth moved back to Wainwright to live with her parents, after graduating from high school in another North Slope community, where she had lived with her grandparents. She now has her own household. The sixth (who was unable to complete the interview) moved for reasons unknown.

Of the five non-Native men who moved to Wainwright, two did so purely and simply because they were offered jobs in which they could earn more in the same line of work they were engaged in off the North Slope—more than enough to offset the higher cost of living in Wainwright. Of these two, one is divorced and the other is married, their wives being non-Native also. The other three are married to Wainwright women. One came to be with his wife, who had returned to Wainwright earlier from a community where they were living off the North Slope—a community with which neither had strong ties. Another moved to Wainwright with his wife on the occasion of a death or illness in her family; they stayed when both were subsequently offered jobs. The third came to Wainwright to marry his intended, and had work skills that led him to expect to find a job in the village.

Of the 18 who moved to Wainwright, five—all men, two Native and three non-Native—have some college education. One is a college graduate, and four attended college.

The Historical Pattern

Table 2.3 shows the 52 migrants in the same order as in Table 2.2, with the addition of the community where they grew up, and its characteristics. The three related questions of interest here are:

- Did the migrant move to his or her community of residence now from his or her home community—the place where he or she grew up—or from some intermediate community?
- Does the addition of information on the home community shed any light on the move, which has already been explained with reference to the community moved from?
- Is there any pattern that distinguishes those who moved from their home community from those who moved from some intermediate community?

Most non-Native respondents had moved a number of times before they migrated to the North Slope, but most Natives who had moved within the North Slope had moved only once. A high proportion of Natives moved from their home communities: 22 of 38 Natives (58 percent). A small proportion of non-Natives moved from their home communities: 3 of 14 non-Natives (21 percent).

Native women travel more widely than Native men before moving to Barrow. All five of the Native men who had moved to Barrow had not lived off the North Slope, and three of them (i.e., 60 percent) had moved from their home communities. Almost half the Native women who had moved to Barrow had lived off the North Slope—seven of 18. Correspondingly, the proportion of Native women who had moved to Barrow from their home communities was much lower: another seven of the 18 (i.e., 40 percent).

The three Native men who moved to Barrow from the villages they grew up in include one from a village off the North Slope, who noted alcohol and drugs as a characteristic of his home community (but who had not given it as a major reason for moving). Four of the five noted subsistence as a major good characteristic of their home communities—a quality that contrasts with their reasons for moving to Barrow: for jobs, and for a bigger community with more variety.

The 18 Native women who moved to Barrow had traveled more—but still with a North Slope focus. Seven of the 18 (40 percent) moved to Barrow from the North Slope villages they grew up in. Two moved back home to Barrow via one North Slope village, one moved back home to Barrow via another North Slope village, and four moved back home to Barrow from off the North Slope. Native women cited relatives and friends (rather than subsistence) as the major good characteristic of their home communities. Ten of the 18 mentioned this. And, like the Native men, their major reasons for moving to Barrow were to get jobs, and live in a bigger community with more variety.

Most of the Natives who moved to Wainwright did so from the villages they grew up in. This is true of both the Native men (five of seven, or 71 percent) and the Native women (four of six, or 66 percent with one unknown). (Because of this, their main reasons for moving are the same as those given in Tables 2.1 and 2.2, which showed why they left the community they moved from to go to Wainwright.)

Table 2.3. Migrant Households. Reasons For Migration. By Priority. By Community Where Grew Up

Study #	Village Now	Race	Sex	Grew Up Where	Why Moved Here #1	Why Moved Here #2	Why Moved Here #3	Why Left Prior #1	Why Left Prior #2	Grew Up Quality Good1	Grew Up Quality Good 2	Grew Up Quality Good 3
5	Barrow	Native	M	Kaktovik	big/var	job opp	rel/friends			subsistence		
44	Barrow	Native	M	w.a.d.	job opp			no job		subsistence	Native culture	alc/drug
4	Barrow	Native	M	Wainwright	big/var	cost	rel/friends	death/ill		subsistence		no job
13	Barrow	Native	M	Barrow	job offer					job opp		cost travel
7	Barrow	Native	M	w.a.d.	rel/friends			alc/drug		subsistence		alc/drug
14	Barrow	Native	F	Pl. Hope	job opp			few job opp		rel/friends		alc/drug
2	Barrow	Native	F	Wainwright	job offer			subsistence	kids	rel/friends	Native culture	
11	Barrow	Native	F	Wainwright	housing	marriage		no housing				
9	Barrow	Native	F	Wainwright	job opp			no job				no job
41	Barrow	Native	F	Wainwright	job opp	death		costly		subsistence	rel/friends	
8	Barrow	Native	F	Wainwright	job opp	bigger		no job		rel/friends		no job
10	Barrow	Native	F	Wainwright	rel/friends	subelst		low pay job		rel/friends	subsistence	alc/drug
42	Barrow	Native	F	Barrow	home	native		education				
3	Barrow	Native	F	Wainwright	job offer			no job		rel/friends		kid gangs
6	Barrow	Native	F	Barrow	death/ill			death/ill		rel/friends		alc/drug
1	Barrow	Native	F	Fairbanks	big/var	variety		smaller	rel/friends	rel/friends		
45	Barrow	Native	F	Barrow	big/var			smaller		rel/friends	subsistence	alc/drug
52	Barrow	Native	F	Barrow	home					job opp	rel/friends	
50	Barrow	Native	F	Barrow	job offer	home				subsistence	Native culture	alc/drug
49	Barrow	Native	F	Barrow	home			marital		rel/friends	Native culture	alc/drug
48	Barrow	Native	F	Outside	rel/friends	job opp				subsistence		
12	Barrow	Native	F	Barrow	housing			marital		job opp		
47	Barrow	Native	F	Anchorage	big/var	job opp	rel/friends	alc/drug		rel/friends		
33	Barrow	Non	M	Outside	job offer							
39	Barrow	Non	M	Outside	job offer			crime	alc/drug	soc mixed		crime
38	Barrow	Non	M	Outside	Alaska	variety		coety	bigger	rel/friends	no crime	homogeneous
34	Barrow	Non	M	Outside	job offer			visa expired		rel/friends	school	too big
35	Barrow	Non	M	Outside	rel/friends					rel/friends	environment	politics
40	Barrow	Non	M	Outside	job offer	rel/friends				environment		no job
37	Barrow	Non	F	Outside	job offer			marital		homogeneous	no crime	patriarchy
36	Barrow	Non	F	Outside	job offer					school	low crime	
51	Barrow	Non	F	Barrow	home					rel/friends	Native culture	housing
43	Nulqsut	Native	M	Barrow	job offer					school		alc/drug
46	Nulqsut	Native	F	Barrow	rel/friends			rel/friends		school		rapid change
25	Wainwright	Native	M	Barrow	marriage	rel/friends		alc/drug		subsistence		alc/drug
21	Wainwright	Native	M	Barrow	rel/friends	subsistence		few job		subsistence		no job
26	Wainwright	Native	M	Pl. Hope	marriage					subsistence		whaling quotas
24	Wainwright	Native	M	Pl. Hope	marriage	rel/friends						
27	Wainwright	Native	M	Pl. Lay	school	rel/friends		school		job opp	rel/friends	alc/drug
18	Wainwright	Native	M	Other	smaller	rel/friends	job	alc/drug		subsistence		alc/drug
15	Wainwright	Native	M	Wainwright	death/ill			no job		subsistence		alc/drug
17	Wainwright	Native	F	Barrow	kids like			school		rel/friends		alc/drug
19	Wainwright	Native	F	Barrow	death/ill	rel/friends		bigger		rel/friends		alc/drug
22	Wainwright	Native	F	Barrow	alc/drug			rel/friends		school		alc/drug
23	Wainwright	Native	F	Barrow	rel/friends					rel/friends		alc/drug
16	Wainwright	Native	F	Barrow	alc/drug	marriage	subsistence	alc/drug		rel/friends	subsistence	alc/drug
20	Wainwright	Native	F		unknown			unknown				
32	Wainwright	Non	M	Outside	marriage	job opp				gardening		
31	Wainwright	Non	M	Outside	death/ill	job offer				rel/friends		too big
30	Wainwright	Non	M	Outside	rel/friends							
29	Wainwright	Non	M	Outside	job offer							
28	Wainwright	Non	M	Outside	job offer					school	recreation	dull

Source: Interviews with North Slope Borough Households. March 1992.

Legend: Other=Other Native village off the North Slope; Outside=Outside Alaska; w.a.d.=withheld to avoid disclosure

Table 2.3 shows that a large proportion of the young Native women who moved to Wainwright from Barrow (all five who responded) mentioned alcohol and drug problems they experienced in Barrow when they were growing up. Noted earlier, this pattern is now reinforced when the migrants' village of birth and childhood is introduced.

This raises the interesting issue of marriage: five of the six were single at the time of move; all six were married with children at the time of the interview. Presumably the number of eligible Native men in Wainwright was smaller than the number in Barrow, but the young Native women moved nevertheless (and gave reasons other than marriage for their moves). But Tables 2.1 and 2.2 (and Table 2.3) show that three young Native men moved to Wainwright to get married. (As it happened, none of these three men married any of the six women.) Thus, young Native women attract young Native men to move to their communities—at least to the small village of Wainwright. But the opposite is not the case: the young Native women do not move for marriage. Noted earlier, this pattern is reinforced when the migrants' villages of birth and childhood are introduced.

The 14 non-Natives cited more characteristics of the communities they grew up in—goods and bads—than did the North Slope Natives. This is to be expected because they are of different races, from different countries in some cases, and from different economic and social backgrounds. That is, it is not possible to deduce from what they say about the characteristics either of their prior communities or of their home communities any pattern that explains their move to the North Slope. Most came for jobs; the high pay is attractive despite the higher cost of living. Thus, the explanation for their move is to be found especially in their levels of education (high), and their related occupations (skilled) and earnings (high) on the North Slope (see Table 2.2). They have traveled widely, are confident that they can use their education and skills to find work, or have job offers before they come.

Several noted that they were agreeably surprised to find out that they were easily able to make good friends with Natives and non-Natives alike, after they had arrived. But they did not know this beforehand, so it is not an explanation of their move to the North Slope—although perhaps Barrow has a reputation among non-Natives as a hospitable community. This reputation was not given as a reason in these interviews but it may still have played a part. Several non-Native interviewees mentioned the friendliness of the people in the place they are thinking of moving to—particularly if the move is to a community where the majority are of a different culture from one's own.

On a smaller scale, the same distinction was true for Natives: those who had moved prior to their move to Barrow or Wainwright had a more-varied list of reasons for moving than those who moved to Barrow or Wainwright from their home communities with no intermediate migration. The obvious such category is those who returned home. The other reasons—cited by those who had made intermediate moves but not by those who had moved only from their home community—are that the community moved to was bigger, or smaller, or the school was better, or the children preferred it, or it didn't have alcohol or drug problems.

The Possible Future Pattern

Table 2.4 shows who said they planned to leave and who said they planned to stay, and why.

Two questions were asked about leaving. One was under what conditions the respondent would leave; the other was if the respondent was planning to leave, and if so why. Leaving to live with parents was mentioned explicitly as a possible motive in the interview.

Those Who Would Leave and Those Who Plan to Leave

Half of the respondents—26 of 52—could imagine conditions under which they would leave, but only 10 planned to leave.

The 26 who *would* leave were from Barrow, Nuiqsut, and Wainwright. They include half of the Natives who had migrated to Barrow (twelve out of twenty-three) and two-thirds of the non-Natives who had migrated to Barrow (six out of nine). They include both of the Native migrants to Nuiqsut. They include relatively fewer of the migrants to Wainwright: two of seven Native men; one of six Native women; three of six non-Native men.

In short, it seems that those who move to Wainwright are more apt to stay than those who move to Barrow or Nuiqsut (but there were too few interviewees in Nuiqsut to be sure about this).

The ones who would leave or planned to leave included ten who expect to leave to live with their parents at some point. These ten consisted of: four of the six non-Native men who had moved to Barrow; four of the sixteen Native women who had moved to Barrow; one of the seven Native men who had moved to Wainwright; and one of the three non-Native women who had moved to Barrow.

Thus, they do not include any of: the five Native men who had moved to Barrow; the five non-Native men who had moved to Wainwright; the six Native women who had moved to Wainwright; or the two Nuiqsut migrants. In short, the Native women and the non-Native men who moved to Barrow account for most of those who said they expect to leave to live with their parents at some point.

It is noteworthy that the same proportion of Native migrants (19 percent) as of non-Native migrants (21 percent) said they planned to leave: 3 of 13 Native men, and 4 of 24 Native women; and 3 of 11 non-Native men and none of 3 non-Native women. The non-Native proportion seems low, in part because 4—all men—said they “may” leave, whereas the Natives said “yes” or “no” to leaving. If they are added in, the non-Native proportion rises to seven of 14, i.e., 50 percent.

Six Natives had plans to leave Barrow. They included: three who would leave for their home communities (including two off the North Slope and one whose children grew up in another North Slope village considered home); one who wants to retire to where it’s warmer; one who has not found acceptable housing at a price she can afford; one who plans to go to a community off the North Slope that has a school she feels will be a better academic and social preparation for her daughter for college.

Table 2.4. Migrant Households. Future Leaving; Expectations; Attractions

Village Now	Race	Sex	Village Prior	Grew Up Where	Would Leave	Plans To Leave	Leave To Live With Parents	Leave Why#1	Leave Why#2	Leave Why#3	Move Met	Expect #1	Expect #2	Expect #3	Still Attract	Attract #1	Attract #2	Attract #3
Barrow	Native	M	Wainwright	w.a.d.	Yes	May	No	visit			Yes	unk			No	no job		
Barrow	Native	M	Nulqsut	w.a.d.	Yes	Yes	No	retire			Yes				Yes	job	kid rec	
Barrow	Native	M	Wainwright	w.a.d.	No	No	No				Yes	cheaper			Yes	games	places go	
Barrow	Native	M	Kaldovik	w.a.d.	Yes	May	No	visit home		alc/drug	Unk				Unk			
Barrow	Native	M	w.a.d.	w.a.d.	Yes	Yes	Prob	home	parent		Some				No	environs		
Barrow	Native	F	Wainwright	w.a.d.	Yes	No	Yes				Yes	job			Yes			
Barrow	Native	F	Wainwright	w.a.d.	Unk	No	Unk				Unk				No	bigger		
Barrow	Native	F	Wainwright	w.a.d.	No	No	No				Yes	housing	job	rel/friends	Yes	cheaper	school	big/var
Barrow	Native	F	Wainwright	w.a.d.	Yes	Yes	No	child ed			No	job			Yes	unk		
Barrow	Native	F	w.a.d.	w.a.d.	Yes	May	Yes	home			Some	job			Yes	job	rel/friends	
Barrow	Native	F	Atkasuk	w.a.d.	Yes	Yes	No	home			na-ll				Unk			
Barrow	Native	F	Wainwright	w.a.d.	Yes	Yes	Yes	housing			Unk				Unk			
Barrow	Native	F	Wainwright	w.a.d.	No	No	No				Yes	unk			Yes	bingo	stores	
Barrow	Native	F	Pt. Hope	w.a.d.	May	No	May	marital			Yes	job	rel/friends		Yes	job	new friends	
Barrow	Native	F	Anchorage	w.a.d.	No	No	No				Yes	housing	school	culture	Yes	housing	school	culture
Barrow	Native	F	Outside	w.a.d.	Yes	No	May	death/ill			No	bigger			No	crowd		
Barrow	Native	F	Fairbanks	w.a.d.	May	No	No	ed			Yes	job	housing		Yes	job	rel/friends	
Barrow	Native	F	Pt. Lay	w.a.d.	Yes	Yes	No	home	job		No	no job			Yes	home		
Barrow	Native	F	Atkasuk	w.a.d.	No	No	No				Yes	school	job	stores	No	too mbrd		
Barrow	Native	F	Outside	w.a.d.	No	No	No				Yes	job	rel/friends		Yes	culture		
Barrow	Native	F	Atkasuk	w.a.d.	No	No	No				Yes	got away	house	job	Yes	got away	house	job
Barrow	Native	F	Atkasuk	w.a.d.	Yes	No	Yes				No	marriage			Yes	people		
Barrow	Native	F	w.a.d.	w.a.d.	No	No	No				Yes	job			Yes	stores		
Barrow	Non	M	Pt. Hope	Outside	Yes	Yes	No	retire			Yes	job			Yes	job		
Barrow	Non	M	Outside	Outside	Yes	May	Yes	job	death/ill	educ	Yes	job	rel/friends		Yes	unk		
Barrow	Non	M	Outside	Outside	May	May	No	education	job		Yes	small	rel/friends		Yes	small	rel/friends	
Barrow	Non	M	Outside	Outside	Yes	May	Yes	retire			Some	none			Some	small	hostility	
Barrow	Non	M	Outside	Outside	Yes	No	Yes	death/ill			Yes	job	kids like		Yes	job	kids like	
Barrow	Non	M	Outside	Outside	Yes	May	Yes	rel/friends			Yes	unk			Yes	unk		
Barrow	Non	F	Outside	Outside	May	No	No	death/ill	marriage		No	rel/friends			Yes	people	job	
Barrow	Non	F	Outside	Outside	Yes	No	Yes				Yes	job	rel/friends		Yes			
Barrow	Non	F	Outside	w.a.d.	No	No	No				Yes	job	rel/friends		Some	outsiders		
Nulqsut	Native	M	Barrow	w.a.d.	Yes	Yes	No	death/ill			Unk				Yes	subs		
Nulqsut	Native	F	Barrow	w.a.d.	Yes	May	No	job	small		No	alc/drugs			No	alc/drugs	family	
Wainwright	Native	M	w.a.d.	w.a.d.	No	No	No				No	stayed			Yes	rel/friends		
Wainwright	Native	M	Barrow	w.a.d.	No	No	No				Yes	rel/friends	job	subslst	Yes	rel/friends	job	subslst
Wainwright	Native	M	Barrow	w.a.d.	May	No	May	parents			Yes	rel/friends	sube	job	Some	job		
Wainwright	Native	M	Pt. Hope	w.a.d.	Unk	Unk	Unk				Unk				Unk			
Wainwright	Native	M	Barrow	w.a.d.	Yes	No	Yes				Yes	job	kids like		Yes	job	kids like	
Wainwright	Native	M	Pt. Hope	w.a.d.	May	No	May	parents			Yes	house	sube	politics	Yes	house	sube	politics
Wainwright	Native	M	Pt. Lay	w.a.d.	Yes	May	No	job	subslst	retire	Yes	school			Some	school grad		
Wainwright	Native	F	Atkasuk	w.a.d.	No	No	No				Yes	rel/friends	stable home		Some	environs		
Wainwright	Native	F	Barrow	w.a.d.	May	May	May	home	death/ill		Some	unk			Unk			
Wainwright	Native	F	Barrow	w.a.d.	Yes	No	No	death/ill			Yes	nicer	alc/drugs	crime	Yes	people		
Wainwright	Native	F	Barrow	w.a.d.	Unk	Unk	Unk				Unk				Unk			
Wainwright	Native	F	Barrow	w.a.d.	No	No	No				Yes	alc/drugs			Yes	rel/friends	alc	
Wainwright	Native	F	Barrow	w.a.d.	No	No	No				Yes	rel/friends			Yes	rel/friends		
Wainwright	Non	M	Barrow	Outside	Yes	Yes	No	variety	job	retire	No	mov traum			Unk			
Wainwright	Non	M	w.a.d.	Outside	Yes	Yes	No	no property	ranch		Unk				Unk			
Wainwright	Non	M	w.a.d.	Outside	May	No	No	unk			Yes	rel/friends	job		Yes	people		
Wainwright	Non	M	Outside	Outside	Yes	No	No	retire	milder		Yes	unk			Yes	unk		
Wainwright	Non	M	Anchorage	Outside	No	No	No				Yes	good life			Yes	unk		

Source: Interviews with North Slope Borough Households, March 1992.

Legend: w.a.d.—withheld to avoid disclosure

The three non-Native men planning to leave—one from Barrow, two from Wainwright—cited as reasons retirement, greater social variety, and the difficulty of finding property for sale to non-Natives.

Living With Parents

Relatively few Native or non-Native migrants had definite plans to move to communities where their parents lived.

Table 2.4 shows that few of the thirteen Native men who had moved expect to live with their parents in the future: one said yes; one said probably; two said they may; eight said no; one was unknown. Similarly, a small proportion of Native women expected to live with their parents: five of the twenty-five said yes.

A slightly higher proportion of non-Natives—five of fourteen—expected to live with their parents. Four of the six non-Native men who had moved to Barrow, one of the three non-Native women who had moved to Barrow, and none of the five non-Native men who had moved to Wainwright expected to live with their parents.

We found no particular age-pattern—those saying they would move to live with their parents' being older, for example. We asked this question to see if the response would shed any light on the extent of future moves for this reason alone—it being safe to assume that to live with one's parents would, for most of these migrant children, be a move to their parents' community.

The present responses may or may not reflect the future reality; it may be that the responses are flawed by reflecting a hypothetical situation. And, it may be that the question was ambiguous: "Do you think you will someday go to live with your parents?" may have been interpreted to mean in the same house rather than in the same community.

Only two of the 52 respondents—a Native man and a non-Native woman, both in Barrow—were currently living with their parents. What proportion of all Native and non-Native households in any North Slope community include adults and their parents is unknown. Also unknown is what proportion of the households in any North Slope community consists of households whose heads are living in the same community as their parents. If this is high, one would expect to find the result this interview had: few heads will say they expect to move to live with their parents, because they already are living in the same community.

Expectations

Most of the migrants reported their moves had turned out as they expected them to.

One would expect migrants who find their moves as they expected them to be—with no untoward experiences in the community they moved to—to be less inclined to think about moving again than migrants who had rude shocks: they are happy with their move. Table 2.4 shows this to be so.

Ignoring the eight who didn't respond, or who found the move somewhat as they expected it to be, Table 2.4 shows that most of the migrants found that their move turned out as expected: 20 of the 32 who moved to Barrow (five didn't); and 12 of the 18 who moved to Wainwright (two didn't).

Of the 20 who moved to Barrow and found it as they expected, only 2 planned to leave—to retire; of the 12 who moved to Wainwright and found it as they expected, none planned to leave.

Of the five who moved to Barrow and found that it didn't turn out as expected, three planned to leave. The other two—one woman who found a husband and another who quickly made good friends—were agreeably surprised at the turn of events. Of the two who moved to Wainwright and found that it didn't turn out as expected, only one had plans to leave. The other had intended the move as temporary, but stayed when he came across relatives.

In Barrow, jobs dominated: jobs were cited by 10 of the 20 who found the move as they expected; they expected to find work, and did. In Wainwright, being with relatives and friends dominated: it was cited by 5 of the 12 who found the move as they expected.

Retained Attractions

Consistent with the previous subsection, the majority of migrants still found the community they moved to attractive. This was true for 22 of the 32 who moved to Barrow, and for 10 of 18 who moved to Wainwright.

As described in the previous subsection, having one's expectations met—not being disagreeably surprised—is an important element in one's perception of the community one moves to. More positively, one has impressions of the things that make it attractive. Table 2.4 lists the qualities cited by the 52 respondents. (The responses of several overlapped with their responses on expectations.)

Jobs were not the number one attraction that Barrow held for its immigrants. They were attracted by a mixture of things about it: the variety of its people, its bigger size, its Native culture, its stores, its games, its being variously bigger, smaller, and cheaper. Three found its size and cosmopolitan atmosphere unattractive: too big, too crowded, and too many outsiders. One non-Native remarked on what he perceived as the alcohol-fueled hostility to outsiders as one of Barrow's few unattractive features. This was the only instance; several non-Natives remarked on the warmth of the Barrow Natives.

Migration Interview Results and Migration Research

Most household moves are explained by a handful of reasons. This is true of the North Slope Borough households and of the households nationwide. This is the major similarity between the pattern found in this study and the country as a whole.

This chapter opened by summarizing U.S. research on migration, and the most-extensive migration interview protocol used in the U.S.—that of the Bureau of the Census. This section compares our findings with nationwide migration findings.

The reasons given by the North Slope migrants (Table 2.1)—in descending order of importance as measured by how often mentioned—are: jobs; proximity to relatives or friends; greater variety (of the place moved to); death or illness in the family; returning to the home environment (i.e., where the interviewee grew up); marriage; alcohol or drugs (in the place moved from); housing availability or its lack (in the place moved to and from, respectively); and miscellaneous others.

The categories distilled from the Bureau of the Census' detailed housing survey are: jobs; relatives or friends; neighborhood conditions; marital status; household composition (startup-dissolution-retirement); housing (including forced moves like evictions); schools; easier commuting; armed forces; and disasters.

The similarity between the reasons cited by North Slope migrants and by migrants nationwide is clear, especially when one notes that neighborhood conditions include such things as greater variety, or lack of problems, or returning to a home environment. The major difference is in the greater importance of relatives or friends on the North Slope. On the North Slope, moves to be with relatives or friends accounted for eight of the 52 moves, i.e., for 15 percent. Such moves accounted for 9 percent of the interstate household moves over the three-year period 1979, 1980, and 1981. This difference is the more striking when one notes that moving to be with relatives or friends is a reason that, nationwide, increases in importance with age, and that the proportion of households whose mover was under 40 years old was the same—70 percent—for the North Slope and for the nation (Long 1988, 235 and 239). Other differences include the greater importance in the U.S. of commuting, military enrollment, eviction, and disasters.

In principle, the results of the North Slope interviews could be used to help build a model that would project the future amount and pattern of migration on the North Slope. The caveat "in principle" is needed because the big future unknown is the level of oil revenues that will accrue to the North Slope Borough. It is known that tax revenues will decline from the high levels of the past. One recent report projects a seven percent annual decline in the flow of oil and gas from Prudhoe Bay during this decade (Goldsmith 1992). This will create corresponding reductions in state spending, and in the value of the North Slope Borough oil property which is the basis for the borough's revenues. How the residents of the North Slope Borough will respond to a precipitous decline in the levels of revenues and spending is unknown; the pattern in the decade covered by the North Slope interviews sheds little light on it because revenues and spending grew rather than declined during most of the 1980s.

Numerous models have been developed to help understand, explain, and project population movements in the U.S. They include the following: gravity; differentials in employment and wage-rates; from-to matrixes; econometric; human capital or lifetime utility; amenities or environmental.

Kahley's model, referred to earlier, (p. 13) "explains" 96 to 99 percent of the variation in state in-migration in the 1980s by using only six variables: income growth; pay; unemployment rate; cost of living; cooling degree days; in-and out-migration in 1975-1980. For two reasons it is unlikely that such a model could predict North Slope migration so accurately.

First, the data are not available in the detail needed for any model (the more data that are available, the more the model can be calibrated—run and modified and rerun until its results agree with the known pattern), although the time-series data for the North Slope Borough are probably more plentiful than for other rural regions of the state. Second, the Inupiat culture introduces complexities—ethnicity and subsistence, for example—that have not so far been incorporated into migration modeling.

These two variables may be so important that much of the explanation for the migration of North Slope Native households may lie in the interstices of the models built so far, or even outside them. Variables that stand out as important include: subsistence harvesting as an equivalent-income alternative to work; sharing of the subsistence, and the general sharing typical of the Eskimo culture (a support system mentioned by several householders as a factor in their moving in the absence of a known job to go to); the relatives and friends category, which is linked with the sharing but also expresses the importance of the extended family (as distinct from the nuclear family that predominates in the non-Native culture); and returning home (which involves elements of ethnicity, subsistence, relatives and friends).

Their absence from models has been noted. “Although certain personal traits are associated with a greater or lesser probability of migration and can be linked to economic or life-cycle forces in predictable ways...other personal circumstances entail complex interactions. For example, the effect of...ethnicity is not self-evident” (Kahley, 16). *A fortiori* for subsistence.

The purpose of the research reported in this study was not to build a model. Its purpose was to shed light on the magnitude of migration on the North Slope, and to find out why people migrated by asking them. Still, the numbers and the answers may suggest areas where models could benefit from modification. At least, they have obvious implications for further research involving more communities and formal statistical analysis.

This assumes that the information gathered in the interview protocols is reliable, in the sense that the reasons people gave for their moves are the real reasons, rather than buried in the subconscious. As noted earlier, the profession has debated this problem without coming to any conclusion, so we do not presume to know. We structured the interview protocol so as to allow for many answers on moves—past, present, and future—in the hope that this would minimize the problem, but it is possible that all answers were equally from the subconscious.

CHAPTER THREE

Migration and Employment by the Oil Industry

This chapter looks at how working for the oil industry affects migration among North Slope Natives. We interviewed 34 North Slope Natives working for the oil industry at Prudhoe Bay and Kuparuk. The chapter shows that 2 of the 34 interviewed migrated because of their jobs, and it explores the possible links between migrating and working for 9 more of the Native employees who migrated.

We conclude that the link between migrating and getting an oil industry job is subtle, involving a weighing of the pros and cons of living in the village versus living in the city. Some of the North Slope Natives who migrated from the North Slope after getting oil industry jobs have returned or may return to the North Slope. In exploring the link, we found that turnover of North Slope Natives working at Prudhoe Bay and Kuparuk is high, and that few of the oil industry employees there are North Slope Natives. All the information in this chapter comes from three sources: interviews of 34 North Slope Natives employees at Prudhoe Bay and Kuparuk (using the interview protocol in Appendix B); interviews with oil industry employers; and 1990 census. It has three sections.

The first section reports that there were 51 North Slope Natives known to be employed by six companies at Prudhoe Bay and Kuparuk as of March 1992, and describes the 34 interviewees: who they were; who they worked for and where; what they did; and other characteristics of their work. We collected this information because we felt that it would shed light on the link, if any, between migration and working for the oil industry.

The author also interviewed several employers in person in March 1992, and followed up later by phone, for clarification of what kind of work the companies did—how they related to each other—and of some of the job titles that were obscure. (The employers are named in brackets in this section; also see *Oil Industry Informants*, p. 52.) Appendix A explains how we obtained the list of the names of the 51 Native employees. It combines lists from three sources: ARCO Alaska Incorporated (AAI); Arctic Slope Regional Corporation (ASRC); and the North Slope Borough (NSB). AAI is one of the two major producers of North Slope oil; the other is British Petroleum, which thought it might have one or two North Slope Native employees but which did not provide a list. ASRC provided a list of all its shareholders working for its subsidiaries at Prudhoe Bay and Kuparuk. The NSB operates the solid-waste facility there. The author interviewed 32 of the 51 in March 1992—all the employees of these companies who were on duty at the time. Two more employees filled in interview protocols later and mailed them to the author through their employer.

Prior to arriving at Prudhoe Bay and Kuparuk, the author had tried unsuccessfully to compile a list of the North Slope Native employees working for the 50 or so companies (see Table A7) we thought might be employing some. Despite letters and repeated phone calls, none of the employers provided a list. Almost all said by phone that they had no North Slope Native employees; a few, like BP, said they might have one or two. In sum, the author believes there may be 10 more North Slope Natives working for these companies, in addition to the 51 known, for a total of about 60. The 34 interviewed therefore represent about half the population from which the sample was drawn.

The second section explores the link between migration and working for the oil industry. It shows that 11 of the 34 left the North Slope after they got oil industry jobs, that 12 stayed on the North Slope, that 11 stayed off the North Slope, and that none of the 34 moved from elsewhere to the North Slope after they got an oil industry job. The first group—the 11 who left the North Slope—is the focus of this chapter. It looks at their reasons for moving in detail, and suggests that there may be a subtle link the interviewees did not spell out in the interviews—probably because spelling it out required more time than the interviewees were prepared to devote to the task. That task would have involved an explanation showing their balancing of differences in earnings, in the cost of living, in the network of relatives and friends, in subsistence opportunities, and in access to education when they decided whether or not to migrate from the village to the city. The data on employees disclosed high turnover among North Slope Natives employed at Prudhoe Bay and Kuparuk, and this discovery complicated the investigation into the link between working and migrating.

The third section summarizes the views of the employers who were interviewed to see if they could shed light on the high turnover and, through that, on migration.

North Slope Native Employees

Fifty-one North Slope Natives were known to be employed by the oil industry at Prudhoe Bay and Kuparuk in March 1992. There may have been up to 10 more, including one or two at British Petroleum, but this could not be confirmed. (See Appendix A.)

Table 3.1 shows that 34, i.e., two-thirds, were interviewed (32 in person; two who completed the interview protocol later). The 34 and the 51 were distributed as follows: ARCO Alaska Incorporated (AAI), 9 of 13; Alaska Petroleum Contractors (APC), 3 of 7; Natchiq (NAT), 6 of 7; North Slope Borough (NSB), 6 of 11; Piquiniq Management Corporation (PMC), 9 of 11; Versatile Response Cleanup Action Group (VRCA), 1 of 2. NAT and PMC are subsidiaries of the Arctic Slope Regional Corporation (ASRC), which has headquarters in Barrow; APC and VRCA are subsidiaries of NAT (ASRC, 1991 Annual Report). The remaining 17 employees were off duty at the time of the interviews.

AAI operates the Kuparuk oil field and, along with BP Exploration, the Prudhoe Bay oil field (Kangail; Smith). In the process, it employs the specialized skills of providers of services that have grown up around the needs of the major producers. They include the companies listed above. APC is an oil field services contractor involved in construction and maintenance, and in electrical work on the pipeline (Hugo; Paneak). NAT specializes in heavy equipment leasing, maintenance, and repair (Ruszkowski; Seels). NSB operates the utilities—solid waste, water, and sewer—and owns the Kuparuk Industrial Center which consists of shop space and service buildings (Schneider). PMC operates the Kuparuk Industrial Center, which provides housing, job space, and power plant operators (Komp; Svoboda). VRCA is responsible for environmental, quality including oil spill cleanup and training, rig wash downs, and disposal of drill cuttings (Cox; Johnson). ASRC is one of the 13 regional for-profit corporations established by the Alaska Native Claims Settlement Act of 1971; its role includes investments, job opportunities, dividends, scholarships, and other programs for the benefit of its 6,000 North Slope Inupiaq shareholders (Lee; ASRC).

**Table 3.1. North Slope Native Oil Industry Employees Interviewed
Job Characteristics**

Sex	Prior Oil Indy. Job	Year Hired	Months In Job	Site	Occupation	Job Term	Collar Type	Skill Level
Men	Yes	89	29	w.a.d.	Hiring Coordinator	fty	white	skilled
	No	86	67	w.a.d.	Instrument Tech	fty	blue	skilled
	No	91	13	w.a.d.	Laborer	fty	blue	unskilled
	Yes	92	1	Prudhoe Bay	Laborer	fty	blue	unskilled
	Yes	91	6	Prudhoe Bay	Laborer	fty	blue	unskilled
	No	81	132	w.a.d.	Landfill Equipment Op.	fty	blue	skilled
	Yes	92	1	Kuparuk	Maint. Trainee	fty	blue	semi-skilled
	No	92	1	Kuparuk	Mechanic Trainee	fty	blue	semi-skilled
	No	92	1	Kuparuk	Mechanic Trainee	fty	blue	semi-skilled
	Yes	80	144	Prudhoe Bay	Mechanic-Heavy Veh.	fty	blue	skilled
	No	87	61	Kuparuk	Operator's Helper	fty	blue	skilled
	Yes	86	27	Kuparuk	Operator's Helper	fty	blue	skilled
	Yes	91	15	Prudhoe Bay	Operator's Helper	fty	blue	skilled
	Yes	90	19	Prudhoe Bay	Operator's Helper	fty	blue	skilled
	Yes	88	38	Kuparuk	Operator's Helper	fty	blue	skilled
	Yes	90	34	w.a.d.	Painter's Helper	fts	blue	unskilled
	Yes	89	27	Kuparuk	Roustabout	fty	blue	semi-skilled
	Yes	89	30	Kuparuk	Roustabout	fty	blue	semi-skilled
	Yes	89	32	Kuparuk	Roustabout	fty	blue	semi-skilled
	Yes	89	32	Kuparuk	Roustabout	fty	blue	semi-skilled
	No	91	24	Kuparuk	Roustabout	fty	blue	semi-skilled
	No	92	1	Prudhoe Bay	Roustabout	fty	blue	semi-skilled
	Yes	91	14	Prudhoe Bay	Roustabout	fty	blue	semi-skilled
No	89	29	w.a.d.	Secretary	fty	pink	skilled	
Yes	92	24	w.a.d.	Utilities Trainee	fty	blue	semi-skilled	
Yes	90	20	w.a.d.	Warehouseman	fty	blue	semi-skilled	
Women	Yes	84	108	Kuparuk	Clerk-Accounts	fty	pink	skilled
	No	90	17	Kuparuk	Clerk-Camp	fty	pink	semi-skilled
	Yes	86	74	Kuparuk	Clerk-Expediter	fty	pink	semi-skilled
	Yes	92	1	Kuparuk	Housekeeper	fty	blue	semi-skilled
	Yes	85	4	Kuparuk	Materials Assistant	fty	pink	semi-skilled
	No	90	20	Prudhoe Bay	Office Assistant	fty	pink	semi-skilled
	Yes	91	3	Prudhoe Bay	Receptionist	fty	pink	semi-skilled
	Yes	89	30	Prudhoe Bay	Rep-Trainee	fty	white	semi-skilled

Source: Interviews with Oil Industry Employees, March 1992

Legend: w.a.d.—withheld to avoid disclosure; fts—full-time seasonal; ftyr—full-time year-round

Nineteen of the 51 Native employees were off duty during the two days the author spent interviewing; he left blank forms with their supervisors (Kangail; Lutens) for AAI and NSB employees off duty at the time, and two employees completed and returned them.

Of the 34 interviewed, 26 were men and 8 were women. The men ranged in age from 19 to 61 years, the average age being 34. The women ranged from 22 to 53, the average age being 32. Slightly more than half the men (15 of 26) and slightly less than half the women (three of eight) had never been married. Four men and two women were divorced, and one man and one woman were separated from their spouses. The proportion having children mirrors closely the marital status: the married, divorced, and separated have children; the never married don't have children, with a few exceptions. (Much of the detail needed to show these facts has been withheld to avoid disclosure of information that would identify individuals.)

On the whole, the oil industry workers are younger than the Native labor force (those aged 20-59) in the borough as a whole. Of the men working at Prudhoe Bay and Kuparuk, 72 percent were in the 20-39 age bracket, as compared with 66 percent in the entire borough. Of the women, 88 percent were in the 20-39 age bracket, as compared with 68 percent throughout the borough.

Half worked at Kuparuk (18 of the 34) and half at Prudhoe Bay (16), even though Prudhoe Bay is by far the bigger work site. This reflects two facts. First, Kuparuk has had an entry-level (7708, laborer lowest step) program for several years with an emphasis on roustabouts, whereas Prudhoe Bay has emphasized more the employment of experienced workers and has only recently begun an entry-level program (Carothers). (ARCO has three employment categories, each of which has step increases as the individual is promoted: 2200 clerical; 4400 supervisory; 7700 laborer. The 7700 category's lowest step is 7708, then 7709, then 7710 as the highest) (Casey). Second, Kuparuk is the focus of the activities of one of the two major ASRC subsidiaries on the North Slope: PMC, which operates the Kuparuk Industrial Center.

All except one of the 34 positions were full-time, year-round. Most were blue-collar jobs: 25 of the 34. There were two white-collar employees (one man and one woman), and seven pink-collar employees (one man and six women).

Table 3.1 conveys three facts that are especially important for understanding the link, if any, between working for the oil industry and migrating, which is the focus of the next section:

- *Most were in unskilled or semiskilled jobs*—21 of the 34, or 82 percent; the 13 skilled operators include 5 who are not yet skilled, but who are trainees.
- *Most had worked for the oil industry before*: 17 of the 26 men (65 percent), and 6 of the 8 women (75 percent).
- *Turnover is high: most had worked for less than 36 months*: 21 of the 26 men (81 percent), and 6 of the 8 women (75 percent).

Migration and Working for the Oil Industry

Table 3.2 shows the pattern of migration: how many of the 34 migrated after they got jobs with the oil industry. It shows that 11 of the 34—the ones in the lower-left quadrant—migrated from the North Slope to off the North Slope: to Anchorage, Fairbanks, and Wasilla.

These 11 are the focus of this chapter. It is important to note that none of the 34 moved the other way—from being in a community off the North Slope when they were hired, to moving to a community on the North Slope after they were hired: the entries in the top-right quadrant are all zero.

The other 23 didn't migrate. The top left quadrant shows that 11 who were living off the North Slope when they were hired were still living off the North Slope at the time of the interview. Most of them were from families that had lived off the North Slope for some time; many of them were born and grew up off the North Slope. The bottom right quadrant shows that 12 who were living on the North Slope when they were hired were still living on the North Slope at the time of the interview.

The 11 who left the North Slope are so many—one-third of the 34—as to suggest a link between migration and working for the oil industry at Prudhoe Bay and Kuparuk. One left Anaktuvuk Pass, seven left Barrow, two left Kaktovik, and one left Wainwright. There is no obvious explanation here—that the migrants left some villages rather than others, say—because the 12 who stayed on the North Slope live in the same four villages as the ones who left (except for the one who stayed in Nuiqsut).

We are not sure if Native men or Native women are more likely to leave if they get a job with the oil industry. Table 3.3 shows who they were by sex. Nine of the eleven were men (nine of twenty-six men, or 35 percent); two of the eleven were women (two of eight women, or 24 percent). Thus, men may be more inclined to leave than women, but the numbers are too small for us to be confident that this is so.

The leavers don't seem to be concentrated by employer. Table 3.4 shows the relationship between community of residence and employer. There is nothing here that sheds light on the link, if any, between migrating and working for the oil industry. For example, there are no clusters of employees who have the same employer who now live in a particular community. On the contrary, they are scattered across different communities. Most live in Anchorage or Barrow, which simply reflects the fact that these are the two biggest communities.

Leaving may be related to length of time employed: the longer the time, the more likely the move. Table 3.5 shows the relationship between community of residence and length of employment. This may shed some light on the link, if any. One notes that six of the seven employees who have worked for the oil industry for 3 years or more live off the North Slope. Thus, it could be that over time an individual becomes more likely to migrate.

Table 3.6 shows the reasons the 11 movers gave for migrating. Two said they had moved for job-related reasons; five said they moved for other reasons; four didn't say why they moved. Of the two who said they moved for job-related reasons, one left his village for urban Alaska because he didn't like flying, and his

**Table 3.2 North Slope Native Oil Industry Employees
Community Of Residence When Last Hired And Now**

Community of Residence When Last Hired	Community Of Residence Now												Total		
	Off-North Slope				North Slope				Total						
	Anchorage	Fairbanks	Washington	Wasilla	Subtotal	Anaktuvuk	Barrow	Nulqsut	Wainwright	Subtotal					
Off-North Slope															
Anchorage	6	0	1	1	8	0	0	0	0	0	0	0	0	0	8
Fairbanks	0	2	0	0	2	0	0	0	0	0	0	0	0	0	2
Washington	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Subtotal	7	2	1	1	11	0	0	0	0	0	0	0	0	0	11
North Slope															
Anaktuvuk	0	1	0	0	1	1	0	0	0	0	0	0	0	0	2
Barrow	3	3	0	1	7	0	8	0	0	0	0	0	0	8	15
Kaktovik	1	1	0	0	2	0	0	0	0	0	0	0	0	0	2
Nulqsut	0	0	0	0	0	0	0	1	0	1	0	0	1	1	1
Wainwright	1	0	0	0	1	0	0	0	2	0	0	2	2	3	3
Subtotal	5	5	0	1	11	1	8	1	2	1	2	12	2	23	23
Total	12	7	1	2	22	1	8	1	2	1	2	12	0	12	34

Source: Interviews with Oil Industry Employees, March 1992.

**Table 3.3. North Slope Native Oil Industry Employees.
Community Of Residence When Last Hired And Now. All Employees. By Sex**

Community of Residence When Last Hired	Community Of Residence Now																								Total	
	Off-North Slope												North Slope										Subtotal			
	Anchorage		Fairbanks		Washington		Wasilla		Subtotal		Anaktuvuk		Barrow		Kaktovik		Nuiqsut		Wainwright		Subtotal					
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F		
Off-North Slope	2	4	0	0	1	0	0	1	3	5	0	0	0	0	0	0	0	0	0	0	0	0	0	3	5	
Anchorage	0	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	
Fairbanks	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	
Wasilla	3	4	2	0	1	0	0	6	5	0	0	0	0	0	0	0	0	0	0	0	0	0	6	5		
North Slope	0	0	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0		
Anaktuvuk	3	0	2	1	0	0	1	6	1	0	0	7	1	0	0	0	0	0	0	0	0	7	13	2		
Barrow	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1		
Kaktovik	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0		
Nuiqsut	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0		
Wainwright	4	1	4	1	0	0	1	9	2	1	0	7	1	0	0	1	0	1	0	2	0	11	20	3		
Subtotal	7	5	6	1	1	1	1	15	7	1	0	7	1	0	0	1	0	2	0	11	1	26	8			

Source: Interviews with Oil Industry Employees. March 1992.

Table 3.4. Employment By Community Of Residence Now. By Employer

Employer Now	Community of Residence Now										Total
	Off-North Slope					North Slope					
	Anchorage	Fairbanks	Washington	Wasilla	Subtotal	Anaktuvuk	Barrow	Nulqsut	Wainwright	Subtotal	
AAI	2	2	1	1	6	0	2	0	1	3	9
APC/NAT	1	1	0	0	2	0	0	0	1	1	3
NAT/ASR	2	3	0	0	5	0	1	0	0	1	6
NSB	5	0	0	0	5	0	1	0	0	1	6
PMC/ASR	2	1	0	1	4	1	3	1	0	5	9
VRC/NAT	0	0	0	0	0	0	1	0	0	1	1
Total	12	7	1	2	22	1	8	1	2	12	34

Source: Interviews with Oil Industry Employees. March 1992.

Oil Industry Employment: A Survey Of Alaska Native Employees. North Slope Borough

Legend:

AAI=Arco Alaska Inc;

APC=Alaska Petroleum Contractors, a subsidiary of Natchiq

NAT=Natchiq, a subsidiary of Arctic Slope Regional Corporation

NSB=North Slope Borough

PMC=Piquiniq Management Corp, a subsidiary of Arctic Slope Regional Corporation

VRC=Versatile Response Cleanup Action Group, a subsidiary of Natchiq

Table 3.5. Employment By Community Of Residence Now. By Time Employed

Years In Present Position	Community of Residence Now										Total
	Off-North Slope					North Slope					
	Anchorage	Fairbanks	Washington St	Wasilla	Subtotal	Anaktuvuk	Barrow	Nulqsut	Wainwright	Subtotal	
12-13	1	0	0	0	1	0	0	0	0	0	1
11-12	1	0	0	0	1	0	0	0	0	0	1
9-10	1	0	0	0	1	0	0	0	0	0	1
6-7	0	0	0	1	1	0	0	0	0	0	1
5-6	0	1	0	0	1	0	1	0	0	1	2
4-5	1	0	0	0	1	0	0	0	0	0	1
2-3	3	2	1	1	7	0	1	1	2	4	11
1-2	4	0	0	0	4	0	3	0	0	3	7
less than 1	1	4	0	0	5	1	3	0	0	4	9
Total	12	7	1	2	22	1	8	1	2	12	34

Source: Interviews with Oil Industry Employees. March 1992.

**Table 3.6. North Slope Native Oil Industry Employees
Reasons for Moving from North Slope Villages**

Sex	Year Hired	Months In Job	Reason for Leaving	Move Back Likely In Future	Reason
Men					
1	81	132	personal-unknown	No	
2	87	61	city variety	No	
3	88	38	unknown	Yes	homesick
4	89	32	village alcohol	No	
5	89	30	unknown	No	
6	89	29	dislike flying	No	
7	89	28	unknown	Yes	
8	92	1	personal-illness	No	
9	92	1	unknown	Yes	homesick
Women					
10	89	30	no village housing	Yes	homesick
11	85	4	for oil industry hire	No	

Source: Interviews with Oil Industry Employees. March 1992.

Note: These are Native employees who moved from the North Slope near or since the time they were hired.

village was too far away. (Recall that urban Alaska is used to denote Anchorage, Fairbanks, or their vicinity, so as to avoid disclosure of the identity of the individual.) The other left for urban Alaska because she felt she would have a better chance of being recruited by the oil industry there than in her village.

Five left for other reasons: one left for reasons he noted were personal; one was attracted by the variety of the big city; one left to escape pervasive alcohol problems in his village; one left because of illness in members of the family who were off the North Slope; one left her village for personal reasons; and one left her village because of a housing shortage there.

In thinking about these non-job-related reasons, the author felt that they didn't quite get to the level of understanding needed. For example, it may be that the individuals would not have left, even for the reasons they gave for leaving, if they had not had the steady income of a job with the oil industry—in other words, they left not because they had the job but because the job enabled them to leave (for reasons they already had). In that case the job may be the catalyst. There are only two ways to test the hypothesis, and both present difficulties. One is by doing more interviews of people who moved—enough more to see if a pattern emerges where the ones with oil industry jobs migrated but the ones without such jobs didn't, when the two were otherwise identical. But making sure they are otherwise identical is difficult. The other way is to ask people what they would have done under different circumstances from those they experienced, or what they would do under changed circumstances; for example, “would you have migrated to enjoy the variety of urban Alaska even if you hadn't gotten an oil industry job?” It is difficult for people to know what they would have done under other circumstances.

At this point, and with so few interviews, one can only suggest reasons for thinking a job with the oil industry may be a catalyst for migration, in view of the fact that so few who migrated related their migration to their jobs. One set of reasons is as follows.

Goods and services cost less in urban Alaska than in the villages. But subsistence food can be had in the villages fairly cheaply—the cost of harvesting it—as long as one has the time. Urban Alaska has a greater variety of goods, services, people, and activities. But the villages constitute a network of friends and relatives reliable to provide financial and psychological support. Oil industry work is routine, day in and day out; village work—particularly semi-skilled and unskilled construction work—has greater spontaneity and less responsibility. A village resident has the option of short-term well-paid work, mixed with subsistence activities. An oil industry worker has a steady job with lower hourly pay. Annual earnings from an oil industry job are higher than from village work. The steadier and higher earnings from an oil industry job, when combined with the lower cost and greater variety of living in urban Alaska, may be enough to offset the pleasure of subsistence activities and the reliable network of friends and relatives in the villages. These general themes can be elaborated on in numerous variations.

This is the context for the three facts listed earlier that came out of the interviews: the North Slope Natives who work for the oil industry at Prudhoe Bay and Kuparuk are in fairly unskilled occupations; many have worked for the oil industry before; and turnover is high.

Combined, the three facts suggest that the link between working for the oil industry and migrating from the North Slope is not obvious. Pay in fairly unskilled occupations is low—maybe too low to support

even the lower cost of living in urban Alaska. Working for the oil industry is seen not as a lifetime career but as an occupation that one engages in for a period of time, leaves, and returns to. Many individuals take jobs for a short period and leave without returning, hence the high turnover.

Two cases illustrate opposite migration—from urban Alaska back to the villages—and are also suggestive. One of the 34 Native employees we interviewed lived in a village when hired many years ago, moved to urban Alaska subsequently, returned to his village later, then went back to urban Alaska, and has since returned to his village, where he now lives and from where he was rehired. Another stayed in the village at first to finish a job he had there, which he did during his two weeks off. When it was finished he moved to urban Alaska “...to get out of [the village] for a while....” Since that time he has returned to the village and then subsequently gone back for personal reasons to urban Alaska, where he now lives and from where he was rehired.

Table 3.6 shows four possible future examples of this opposite kind of migration: back to the North Slope. Four of the 11 who have moved off said they were likely to move back. This is a high proportion. Interviewed independently, 3 of the 11 said they were likely to move back in the future because they would be homesick and the fourth gave no reason. It is not known if they expected to move back while still employed by the oil industry or if they expected to quit as part of the move back. It's difficult to know how much credence to attach to such sentiments. But we saw that this very same reason was given for their past migration within the North Slope by four women who were householders (Table 2.1), and as a reason for their likely future move within the North Slope by seven householders (Table 2.4). This degree of consistency is presumably more than random.

On the other hand, four of the twelve who have stayed on the North Slope said they were likely to leave: two because of the high cost of living in their villages; one for easier access to education; and one to live with relatives.

Transportation is not generally a factor influencing migration. The companies fly their workers to and from the villages. Or, if their planes are not available at the time, they pay their employees' plane fare. Thus, there is no need to move to urban Alaska to be nearer work. This was not true for the one employee we interviewed, who happened to be from the most-distant village of all the 34 employees, and who didn't like flying. It may be that self-selection is at work here: that numerous individuals from the three villages west of Barrow don't have any interest in working at Prudhoe Bay or Kuparuk because the distance is a disincentive. (The 34 include two who have remained in Wainwright and one who has left.)

Employers' Perceptions

This section summarizes the views of oil industry employers, who were asked in unstructured interviews to comment on the fact that 27 of the 34 interviewees (80 percent) had worked for less than 36 months: 21 of the 26 men (81 percent), and six of the eight women (75 percent). (The author faxed them Table 3.1, which shows the number of months worked by each interviewee.)

The employers confirmed that high turnover among North Slope Native employees at Prudhoe Bay and Kuparuk is a fact. They do not know exactly what causes the high turnover, but they believe that the many sharp differences between village life and the work schedule are an important part of the explanation.

It should be noted that the employers were not asked to comment on the pattern of migration, because that is not something which they are especially concerned or even knowledgeable about. One or two volunteered an opinion on that topic in the course of discussing high turnover, which they were asked to comment on because that is something they know about.

We anticipated that their views on turnover would help shed light on migration. Underlying this hope was the idea of expectations: that a North Slope Native who expects to stay with a job and or has stayed with a job is more likely to migrate from a village to urban Alaska than someone who expects to leave after a short time. Thus, if the employers could explain the high turnover, we would realize it actually existed: that the high turnover we found was not an accident of sampling but was a constant theme. Then, we would be inclined to caution in looking for the links between migrating and working for the oil industry.

In addition, we anticipated that employers' views on turnover would help shed light on why so few North Slope Natives work for the oil industry at Prudhoe Bay and Kuparuk. We found that only 50 or 60 worked there at the time of our interviews. That is one percent of the approximately 6,000 workers at Prudhoe Bay and Kuparuk (Alaska Department of Labor, 1992). And, it is three percent of the 2,000 North Slope Natives in the labor force (i.e., those aged 20-64). This issue was not part of the scope of this study. But it is an issue of perennial interest to Native organizations, to the North Slope Borough, and to the employers. Therefore, we hope that the employers' views, summarized below, will be a useful contribution to the debate.

Employment Pattern

The employers' training programs have not led to the employment of anywhere near as many North Slope Natives as the companies are prepared to employ; and they do not know how to behave differently so as to increase the number of North Slope Natives employed at Prudhoe Bay and Kuparuk. Reduced earnings in the villages (as Prudhoe Bay oil production declines) may increase the number of applicants and the amount of time they are willing to stay with the jobs.

The employers were not surprised to see the data of Table 3.1. One employer saw a pattern of North Slope Natives' staying for two to three years, and remarked that ...“even those who are in permanent positions are not willing to work much beyond that.” He looked at recent data which showed that, of six who started in the company's training program, two graduated and are still with the company three years later. Of the remaining four, two were terminated after 26 months and two quit within 6 months. He felt that ...“other Alaska Natives stay longer than North Slope Natives.”

Another employer noted a change in the pattern. “Recently we've had a lower attrition rate—more are staying longer.” Another employer said that one reason why a large proportion of his company's North Slope Native employees had worked there for only a short time was that several were in a training program that the company had only recently started. Another said “Even three years is stretching it [as an estimate of the average length of time an employee stays in a position]. We have a hard time getting anybody to work for more than a year.”

Why the Employment Pattern Is What It Is

The employers all said they did not understand why turnover was so high, but they offered similar explanations: that the volatile element was North Slope Natives' quitting, not companies' firing them. And they all mentioned the contrast between the work schedule and village life as possibly being part of the explanation.

One employer said "When you consider the investment we put in the training, plus a decent wage to start, I don't know [why more don't stay]." Another, with the same company, noted that "We've had a pretty high attrition rate reflecting especially voluntary withdrawal by the employee, although we've had a few terminations. Recently we've had a lower attrition rate—more are staying longer. We're not sure why." In general, the employers felt that if they did know why the rate of turnover was high they would be able to reduce it.

The opinions they offer as possibly being part of the explanation revolve around: the oil industry work schedule and Natives' attitudes towards work; village life, including family, subsistence activities, and pressures; alcohol; and occupational composition. All the employers interviewed offered views on the contrast between the work schedule and village life.

Work Schedule and Natives' Attitudes Towards Work

One employer said that "After a period of time [of being employed by the oil industry] there's two factors—[the] regimented schedule [to which North Slope Natives find it] hard to adjust [because there is] no time clock in village; [their] family ties, [which make it] harder to leave family over time [to report back to work]. They don't like the rotation, or being away from their families." Another noted that "The basic problem is the work style. Natives will work round the clock on jobs they see as needed, but they don't like the discipline of routine." Yet a third offered this. "It's a different lifestyle [that is] depressing to [Natives]; a rigid schedule—7 to 12 work, 12 to 12:30 lunch, 12:30 to 5:30 work, then back at 7 the next morning."

A fourth employer observed that "We have had a hard time getting people to be at work on time in our training program." In remarking on the fact that some don't show up for work but don't let him know beforehand, one employer said that "Some don't know how to accept responsibility; some assume the company is there for their convenience." And, he noted that "Some [who are] real smart get upset if not promoted [but they're] not willing to stay long enough to prove [their abilities]. You have to pay a price for promotion—stay at least six months to a year." Some find the work "...beneath their dignity, menial..."

Village Life

One employer said that "[The ones who withdraw do so] to return to the village lifestyle." Another noted that "...there is no time clock in the village." Another said "Some quit for whatever sport [sic] or season it is. Most times they don't use the hunting or fishing excuse. They won't just...tell you...I'm going hunting or fishing.' They just don't come back [from their two weeks' off, in the two-weeks-on, two-weeks-off routine]. They'll call and say 'dental appointment tomorrow.' [One individual] called and said he was with his wife, and his daughter had just died. We found out later he had no daughter and no wife.

A third said 'Sometimes North Slope Natives don't come back to work.' A fourth offered the observation that 'Some want the whole winter off for subsistence; some have family situations.' One of the above three noted also a case where one of his employees worked until retirement and found on returning to his village [as a de facto elder] that [it] took time to accept him back [with tension around] leaving the village to work, not there supporting the family 365 days a year."

An individual who is not now an employer but who spent 15 years as an employer in Prudhoe Bay camps felt that "Part of the turnover is young men who didn't want to work at Prudhoe Bay anyway but were told to [apply] by the village chief because of their drinking and carousing in the village. So one factor is that they were coerced." This same individual felt that being out of the village was a source of discomfort because there they "...are a majority...but are a minority in Prudhoe Bay [where] there's too many people—2,200 in a camp versus 200 in the villages."

Occupational Composition

A company with a higher proportion of roustabout jobs has a higher turnover because these are less-skilled jobs and roustabouts are laid off first in slowdowns or cutbacks. One occupation (not named because that would identify the company) has especially high turnover because it is four weeks on or two weeks off and involves long hours and much work.

Alcohol

The employers agreed that alcohol was an important problem—perhaps more so off-site than on. One employer felt that "Alcohol is the main reason for high turnover. [It accounts for 90 percent] of those who quit and those who are terminated. Some are terminated because they don't show up [for work] because they're drunk. Most of those who quit do so when they're drunk; they get hold of a bottle and it's good-bye." Another noted this as the reason for the termination of two in his training program. As noted above, one former employer cited drinking in the village as a factor underlying some North Slope Natives' being told to [apply to] work at Prudhoe Bay.

Other

The former employer also cited ethnic problems and limited skills. "There's discrimination—trying to make Natives fail. Next [after the problem of different work styles] is skill levels. They have skills as mechanics but are used to fixing small machines in the villages, and the machinery at Prudhoe Bay is too big. Some couldn't drive." The one employer who noted a drop in attrition in the last year or so thought this might be partly because his company was being more 'picky' [selective in recruitment and hiring], or because gradually the labor force was becoming "...acclimated to the [Prudhoe Bay] routine....," or both. Another, with the same company, speculated that ASRC—which has an active recruitment program—might be "...trying harder now with the expected decline in oil revenues or taxes."

Moving Pattern

One employer noted that "Eighty percent of the North Slope Natives from the villages get three or four paychecks and then move to Anchorage or Fairbanks because of the high cost of living on the North Slope. Some may go back to their villages a year later."

It is important to know how the Native employees perceive working with the oil industry, for two reasons: first, to get their side of the picture; second, to gain insights into the patterns revealed by the data. (We did not ask them because we did not know at the time we interviewed them that the interviews as a whole would disclose such high turnover. We saw the pattern only after having analyzed the data. At that point, interviewing the few employers was a more manageable task than interviewing the many employees.)

Thus, it is strongly recommended that interviews of present and former North Slope Native oil industry employees be undertaken to help explain the reasons for the pattern shown in this study. Such work has not hitherto been undertaken.

Bibliography

- Alaska Department of Labor. 1992 Printout for Marshall. Oil Industry Employment 1986-1991. Anchorage, Alaska.
- Alaska Department of Revenue. Spring 1992. Revenue Sources Book: Forecast and Historical Data. Anchorage, Alaska.
- Alaska Support Industry Alliance. 1990. Alaska Oil And Gas Directory. 1990-91 Edition. Anchorage, Alaska.
- Arctic Slope Regional Corporation. 1992. 1991 Annual Report. Barrow, Alaska.
- Clark, WAV. 1986. Human Migration. Sage Publications. Beverly Hills, California.
- Fineberg, RA. 1982. North Slope profits and production prospects. Alaska Senate Finance Committee, Juneau, Alaska.
- Goldsmith, S. 1992. Safe landing: a fiscal strategy for the 1990s. University of Alaska Anchorage, Institute of Social and Economic Research. Anchorage, Alaska.
- Graves, PE, Linneman PD. Household migration: theoretical and empirical results. *Journal of Urban Economics*. 1979. 6: 383-404.
- Greenwood, MJ. Human migration: theory, models, and empirical studies. *Journal of Regional Science*. 1985. Vol. 25, No. 4.
- Greenwood, MJ, GL Hunt, JM McDowell. Migration and employment change : empirical evidence on the spatial and temporal dimensions of the linkage. *Journal of Regional Science*. 1986. Vol. 216, No.2.
- Kahley, WJ. Population migration in the United States: a survey of research. *Economic Review*, January/February 1991. Federal Reserve Bank of Atlanta. Atlanta, Georgia.
- Long, L. 1988. Migration and residential mobility in the United States. Russell Sage Foundation. New York, New York.
- Lowry, IS. 1966. Migration and metropolitan growth: two analytic models. Chandler. San Francisco, California.
- Mincer, J. Family migration decisions. *Journal of Political Economy*. 1978. 86: 749-773.
- Mueller, CF. 1982. The economics of labor migration: a behavioral analysis. Academic Press. New York, New York.
- Muth, RF. Migration: chicken or egg? *Southern Economic Journal*. 1971. 37:295-306.
- Nisbett, RE, Wilson TD. Telling more than we can know: verbal reports on mental processes. *Psychological Review*. 1977. 84: 231-259.
- Rogers, A. 1968. Matrix analysis of interregional population growth and distribution. University of California Press. Berkeley, California.
- Sandell, SH, PJ Koenig. 1978. Geographic mobility of young women and their families in years of decision. U.S. Manpower Policy and Evaluation Research Monograph 25. Washington, D.C.
- Schultz, TW. 1968. Development and change in traditional agriculture: Focus on South Asia. Michigan State University Press. East Lansing, Michigan.
- Schultz, TW (ed). 1974. Marriage, family, human capital, and fertility: proceedings of a conference, June 4-5, 1973. National Bureau of Economic Research and the Population Council. University of Chicago Press. Chicago, Illinois.
- Sjastaad, LA. The costs and returns of human migration. *The Journal Of Political Economy*. 1962. 70: 80-93.
- U.S. Department of Commerce, Bureau of the Census. *Statistical Abstract of the United States: 1989* (109th edition). Washington, D.C.
- White, P. Limitations on verbal reports of internal events: a refutation of Nisbett and Wilson and of Bem. *Psychological Review*. 1980. 87, No.1: 105-112.

Oil Industry Informants

Individuals With Whom Marshall Spoke by Telephone (t) or In Person (p) Over the Period January 1991 Through March 1992

The following individuals gave information that was of key importance in: establishing the number of North Slope Borough Native employees working for the oil industry in Prudhoe Bay; contacting and interviewing the employees; understanding the working relationships among the corporations there. (They are in most cases different from the informants listed in Table A7, who offered only employment information on their companies.)

Name	Company	By Telephone/ In Person
Bartos, Henrya	North Slope Borough	t
Carothers, Randy	ARCO Alaska Incorporated	t
Casey, Caroline	ARCO Alaska Incorporated	t
Cox, Richard	Versatile Response Cleanup Action Group	t
Glover, Wanda	British Petroleum	t
Hopson, Al	Arctic Slope Regional Corporation	p
Hugo, Harry	Alaska Petroleum Contractors	p
Johnson, Larry	Versatile Response Cleanup Action Group	t
Kangail, Rick	ARCO Alaska Incorporated	p
Komp, Steve	Piquniq Management Corporation	p
Lee, Brenda Itta	Arctic Slope Regional Corporation	t
Moore, Joe	ARCO Alaska Incorporated	t
O'Connor, Mike	Piquniq Management Corporation	t
Padgett, Carol	ARCO Alaska Incorporated	t
Paneak, Roosevelt	Alaska Petroleum Contractors	p
Rourke, Brian M.	ARCO Alaska Incorporated	p
Ruszowski, Leslie	Natchiq	t
Schneider, Doug	North Slope Borough	p
Seels, Blackie	Natchiq	p
Smith, Oliver	ARCO Alaska Incorporated	p
Svoboda, Rick	Piquniq Management Corporation	t
Watson, Marvara	ARCO Alaska Incorporated	p
Webb, Bill	Alaska Support Industry Alliance	p

Appendix A - Method

Migration

Summary

The list of households to be interviewed was compiled from two sources: North Slope Borough Household Surveys, 1980, 1988; Voter Registration Lists, 1982, 1992.

Two sources were needed because the North Slope Borough Survey Household Survey of 1980 proved to be unreliable for Barrow: it was missing numerous households and/or then-existing members of households.

The NSB Household Surveys were used to compile the list for the villages other than Barrow; the Voter Registration Lists were used to compile the list for Barrow.

The selection of households to interview was done in five stages, which are described in detail in the following sections. First, the 1980 and 1988 Surveys were compared, and the 1988 households that were not in the same communities in 1980 were the list from which households were to be chosen for interview—the immigrant households. Second, the number of communities where interviews were to be conducted was reduced from eight to three: Barrow, Nuiqsut, Wainwright. This narrowing down reflected three things: the budget; the fact that some communities but not others had already been studied in detail in other MMS contracts; ease of access at the time the interviews were to take place. Third, the immigrant households in the three communities were divided into Native and non-Native, and a stratified random sample was selected: proportionately more Native households were selected; given the Native and non-Native proportions, the selection of households for interview within each group was random; non-Native households whose head worked for the school district were deleted from the list (at the suggestion of the North Slope Borough Planning staff) on the grounds that their reason for immigrating was already known. Fourth, the Voter Registration Lists were used instead of the Household Survey lists for Barrow after the author arrived in Barrow to begin the fieldwork and found that most of the Barrow Native immigrant households from the Household Survey list were not immigrant but life-long residents a few of whom may have been out of Barrow in 1980 (when the unreliable survey was taken) because they were at school or college, for example, or for more temporary reasons. Fifth, the households interviewed in all three communities were all those who could be reached (by phone at home or work or by knocking on the door) who agreed to be interviewed in the time available. In Barrow and Nuiqsut this was less than the sample size; in Wainwright it was almost all those on the sample (which in turn was all the Native immigrant households).

The migration interview protocol (see Appendix B) was drafted by the author, and revised by him after comments by Matt Berman, UAA-ISER, and by Donald Callaway, MMS.

It was used in March, 1992 in interviews with heads of households in Barrow by the author and Vera Itta, in Nuiqsut by Itta, and in Wainwright by the author. They interviewed 52 households: 32 in Barrow; two in Nuiqsut; 18 in Wainwright.

Each interview was given a code number by the author chosen at random, and entered onto an SPSS/PC database by UAA-ISER, Darla Siver, under the supervision of Berman.

The database was then translated by UAA-ISER onto an Excel 3.0 spreadsheet and given to the author. The author revised the spreadsheet in two ways, for purposes of analyzing the data: by entering words instead of numbers; by shifting the arrangement of the rows and columns.

Why And How Two Sources Were Used

The NSB Household Surveys for 1980 and 1988 were used because they had the addresses of all households and the names and ages of all household members. The NSB Household Surveys for 1980 and 1988 were accurate for the villages but not accurate for Barrow. Therefore, the Voter Registration Lists were used for Barrow.

The NSB Household Surveys for 1980 and 1988 yielded the data of Table A1.

There were 1,655 households in the eight North Slope Communities in 1988: 593 in the seven villages; 1,062 in Barrow;

Of the 593 in the seven villages, 19 had immigrated: i.e., 19 in one village in 1988 were in a different village in 1980. (Many more than 19 households may have moved from one village to another during the nine years. Since we had surveys for only two years, we could not know how many; we could know only how many were in one village in one year but in a different village in another.) All except one of these 19 were Native households.

Of the 1,062 in Barrow, 721 had immigrated: 35 from the seven villages; 686 from off-North Slope. Of the 35 that had immigrated from the seven villages, two were non-Native. Of the 686 that had immigrated into Barrow from off-North Slope, 246 were Native and 440 were non-Native.

The list of households to interview was reduced in two stages. In stage one, five of the seven villages were dropped; in stage two, a sample was selected from the three remaining communities Barrow (including Browerville) Nuiqsut, Wainwright.

The five villages dropped were: Anaktuvuk Pass; Atqasuk; Kaktovik; Point Hope; Point Lay. Anaktuvuk Pass and Kaktovik were dropped because they had few inter-village migrant households (relative to Nuiqsut and Wainwright). Atqasuk was dropped because of potential weather problems (plane access and egress), because it too had relatively few immigrant households, and because there were no otherwise-compelling reasons for including it. Point Hope and Point Lay were excluded because they had already been studied in other contracts of the U.S. Department of the Interior, Minerals Management Service. (And, Point Lay had relatively few immigrant households.)

Thus, the list of households to be interviewed was of households that had immigrated into the remaining three North Slope communities: Barrow; Nuiqsut; Wainwright.

This list was sampled using a modified random sampling procedure. Non-Native immigrant households headed by individuals who worked for the school district were excluded on the grounds that their reason for immigrating was already known.

The names on the resulting list—which at this point was based exclusively on the 1980 and 1988 North Slope Borough Household Surveys—were given random numbers for purposes of random sampling.

Selecting The Number To Be Interviewed

Table A2 shows that the total number of immigrant households selected for interview was 75, distributed as follows:

38 in Barrow

20 Native households immigrants from off-North Slope

10 Native households immigrants from on-North Slope (Nuiqsut, 6; Wainwright, 4)

8 Non-Native households immigrants from off-North Slope

20 in Nuiqsut

5 Native households immigrants from off-North Slope

13 Native households immigrants from on-North Slope
(Barrow, 9; the 4 from the villages)

2 Non-Native households immigrants from off-North Slope

17 in Wainwright

7 Native households immigrants from off-North Slope

7 Native households immigrants from on-North Slope (Barrow, 3; the 4 from
the villages)

3 Non-Native households immigrants from off-North Slope

Before starting the interviews the author modified this random sample in two ways, because he was informed soon after arrival in Barrow that the immigrant list for Barrow was defective: most of the Native household names on it were of lifelong residents, not immigrants.

First, he modified the number of households for these three communities after discussions in Barrow with four Barrow residents: two North Slope Borough Planning Department staff (Tom Leavitt, Bob Harcharek), one chosen to help conduct the interviews (Itta), and one (Margaret Panigeo, director, NSB Housing) for her special knowledge, who was hired to check the alternative data source—the Voter Registration Lists.

Second, he modified it by deleting the households selected from the 1980/88 surveys that were not there in 1992 because they had left between 1988 and 1992. (For example, two of the four Native households immigrants into Nuiqsut from the villages were not in Nuiqsut in 1992.) This second reason is a minor reason.

The discussions focussed on the fact that the Household Surveys were not accurate for Barrow, Nuiqsut, or Wainwright. The Barrow residents felt that, for two reasons, the comparison of the Household Surveys had resulted in a list of more “immigrant” Native households comparing 1988 and 1980 than was plausible.

First, the 1988 Census of Population and Economy included many individuals who should have been included in the 1980 Households Survey but who were excluded then by mistake: informant error; interviewer error; data-handling error. Second, the 1988 Census of Population and Economy included numerous individuals who had returned to Barrow, Nuiqsut, or Wainwright, from which they were temporarily absent in 1980—especially those who were at school or college off-North-Slope during the 1980 interview.

Thus, most of the Native immigrant households into Barrow, Nuiqsut, or Wainwright on this list were not immigrant Native households but households of two kinds: 1980 households uncounted then; new Native households formed in the 1980s from the splitting up of already-existing Native households in 1980 as their children reached adulthood, some of whom had left Barrow, Nuiqsut, or Wainwright for schooling or other reasons and returned, some of whom had never left Barrow, Nuiqsut, or Wainwright. Hardly any were immigrant Native households that were not in Barrow, Nuiqsut, or Wainwright in 1980 but that had returned to Barrow, Nuiqsut, or Wainwright in the 1980s from off-North Slope. But we did not know this until the author went to Barrow and showed the lists to Vera Itta, a lifelong Native resident of Barrow hired to help conduct the interviews. Until her local knowledge was available in this way, the comparison of the NSB Household Surveys for 1980 and 1988 could not tell which of these apparently “immigrant” Native households in Barrow, Nuiqsut, or Wainwright were immigrants in the sense that: they were phantoms because they were missing from the 1980 household survey; they had never left Barrow, Nuiqsut, or Wainwright but were heads of households in 1988 and children in 1980; they had returned to Barrow, Nuiqsut, or Wainwright since 1980, but were not in Barrow, Nuiqsut, or Wainwright in 1980 because of schooling especially; they had left Barrow, Nuiqsut, or Wainwright as households to go to other villages on the North Slope, or to go off-North-Slope and returned to Barrow, Nuiqsut, or Wainwright from off-North-Slope. Of these, the last category were the only true Native immigrant households for our purposes.

It proved to be impossible to get volunteer help in Barrow to comb the 1980 and 1988 surveys before the author went there. The immigrant list compiled by the author from the two surveys was mailed to the Borough Planning Department well in advance, but the staff had little free time to scrutinize it. Thus, the dimensions of what turned out to be a big problem were not known until the last minute. Once the problem was uncovered and the author was there daily, he was able to get the cooperation needed to overcome it: decide what other sources could be used; get the documents (the Voter Registration Lists); find a knowledgeable North Slope Borough employee (Panigeo) to compare the lists independently of the comparison made by Itta.

The NSB Household Surveys for 1980 and 1988 were used as the basis for the names of Native and non-Native households which had moved intra-North-Slope inter-village (including Barrow) between 1980 and 1988. They were used as a starting point for the households that moved to Barrow, Nuiqsut, or Wainwright between 1980 and 1990. They were supplemented for the households that moved to Barrow, Nuiqsut, or Wainwright between 1980 and 1988 by the 1982 and 1992 Voters' Registration Lists for all North-Slope communities. Ms. Itta and Ms. Panigeo, Director, North Slope Borough Housing, examined the Voter Registration Lists independently, marking on the 1992 list those who had immigrated from other North Slope villages and those who were from Barrow, Nuiqsut, or Wainwright originally.

(As before, the resulting list of immigrant households did not distinguish between: immigrant households that had made several moves between 1980 and 1988 or 1990, ending up in the community they were in in 1988 or 1990; immigrant households that had made one move—from the community they were in in 1980 to the community they were in in 1988 or 1990.)

After corrections for these reasons, the consequences were as follows.

Table A1 and Table A2 show that the original Barrow (including Browerville) list had 281 Native “immigrant” households: 35 from other North Slope communities; 246 from off-North Slope.

Table A2 shows the revised list for all three communities.

The revised list for Barrow had 80 Native immigrant households: 26 from other North-Slope villages; 54 from off-North Slope. The 54 were thought to be new Native households in 1992, from one of two sources: uncounted in the 1980 Households Survey; formed from the splitting up of already-existing Native households in 1980 as their children reached adulthood, some of whom had left Barrow for schooling or other reasons and returned, some of whom had never left Barrow. And, the 440 non-Native immigrant households were accepted from the comparison of the 1980 and 1988 Household Surveys (as in Table A1).

Table A1 and Table A2 show that the original Nuiqsut list had 45 Native “immigrant” households (22 from other North Slope communities including 18 from Barrow; 23 from off-North Slope) and 12 non-Native immigrant households. The revised list had 20 Native immigrant households from other North Slope communities (16 from Barrow) and 11 non-Native immigrant households.

Table A1 and Table A2 show that the original Wainwright list had 46 Native “immigrant” households (10 from other North Slope communities including six from Barrow; 36 from off-North Slope) and nine non-Native immigrant households. The revised list had 15 immigrant Native households (14 from other North Slope communities including 10 from Barrow, and one from off-North Slope) and eight non-Native immigrant households.

The random sample described above (p. A-3) was then modified. The same total of 75 for each of the three communities (Barrow, 38; Nuiqsut, 20; Wainwright, 17), was kept as the target, but the distribution within each community was changed to the following:

- In Barrow, interview 20 of the 26 Native immigrant households, from other North Slope communities, eight of the 440 non-Native households, and 10 of the 54 Barrow Native returnee households
- In Nuiqsut, interview 18 of the 20 Native households and two of the 11 non-Native households
- In Wainwright, interview 15 of the 17 Native households and two of the eight non-Native households

In the field, these targets were modified by the fact that several households on the revised list: were not in town; had left their communities since the 1982 Voters Registration List was compiled; declined to be interviewed. That is, the actual number interviewed differed from the desired revised distributions.

The Number Interviewed

Table A2 shows that the actual number of interviews was 52—23 short of the 75 wanted—as follows:

Barrow, 32:

23 Native immigrant households (16 from other North Slope communities; seven returnees from off-North Slope)

Nine non-Native immigrant households

Nuiqsut, two:

Two Native immigrant households (both from Barrow)

Wainwright, 18:

13 Native immigrant households (11 from other North Slope communities; two from off-North Slope including one returnee)

five non-Native immigrant households

The main reason for the discrepancy between the actual and the desired number of interviews was lack of time: much time that had been allocated to interviews was used up in revising the list of households to be interviewed. Few households were not in their communities; even fewer refused. (Those not in and those who refused amount to not more than 10 in Barrow and Wainwright combined; the corresponding number for Nuiqsut is unknown because Itta did not compile it.)

Oil Industry Employment

The employment interview protocol (see Appendix B) was drafted by the author, and revised by him after comments by Berman and Callaway.

The author compiled the list of names of 51 North Slope Inupiaq Native oil industry employees working at Prudhoe Bay, and their employers, from three sources: ARCO Alaska Inc., Kuparuk; ARCO Alaska Inc., Prudhoe Bay; Arctic Slope Regional Corporation, Barrow. All 51 on the list are shareholders of the Arctic Slope Regional Corporation.

The author then used it in March 1992 in interviews with oil industry employees and supervisors in Kuparuk and Prudhoe Bay. He interviewed 32 North Slope Inupiaq Natives from a list of 51 North Slope Inupiaq Native employees; two (ARCO Alaska Inc. employees) filled in the interview forms later at the request of their supervisors. Thus, 34 North Slope Inupiaq Native employees provided data.

The author compiled a list of all potential employers of North Slope Inupiaq Natives, from the Alaska Oil and Gas Directory, from interviews with knowledgeable industry officials, from letters to the employers, and from telephone conversations with them. That list of 50 employers is included as Table A7. Most were certain they had no North Slope Natives; 16 thought they might, including the six interviewed. Despite letters and repeated phone calls, it proved to be impossible to get definite information from the remaining 10 employers—including British Petroleum,

whose spokeswoman thought her company may have one—on which if any of their Alaska Native employees were North Slope Inupiaq. The author believes the number is not more than 10. None of them was interviewed.

As with the migration interview protocols, the author entered on a list the name of each person for whom an interview was completed, gave each name on that list a random number, and gave the random numbers only (plus the completed interviews from which he had removed all other information that might identify the individual) to Berman, UAA-ISER. Berman supervised Darla Siver, who entered the random numbers and the information from the interview protocols onto an SPSS/PC.

The database was then translated by UAA-ISER onto an Excel 3.0 spreadsheet and given to the author. The author revised the spreadsheet in two ways, for purposes of analyzing the data: by changing the way in which the information was displayed; by changing some of the information in the cells.

Changing the way in which information was entered meant two things: entering words instead of numbers in the cells of the spreadsheet; reordering columns and rows (for example, by putting the columns “age at time of move” and “age at time of interview” next to each other; by clumping all males together in adjacent rows.)

In changing the information in some of the cells, the most-numerous such change was in the employees' occupations. This was necessary because different employees used different occupational categories for the same occupation. (The author clarified this in discussion with an ARCO Alaska Inc. supervisor.)

Table A1. Immigrant Households. Original Estimate

Moved From	to Anaktuvuk	to Atkasuk	to Kaktovik	to Nulqsut	to Pt. Hope	to Pt. Lay	to Wainwright	to North Slope subtotal	to Barrow	Total Immig Hhlds	Total Number Hhlds 1988
Anaktuvuk	0	0	0	0	0	3	0	3	2	5	76
Atkasuk	0	0	0	0	1	0	0	1	2	3	54
Kaktovik	1	0	0	2	0	0	0	3	3	6	64
Nulqsut	2	0	0	0	0	0	0	2	16	18	81
Pt. Hope	0	0	1	1	0	0	2	4	3	7	144
Pt. Lay	0	0	0	0	0	0	2	2	1	3	46
Wainwright	0	2	1	1	0	0	0	4	8	12	128
Subtotal Villages	3	2	2	4	1	3	4	19	35	54	593
Barrow	0	13	4	18	4	5	6	50	0	50	1,062
Total on-North Slope	3	15	6	22	5	8	10	69	35	104	n.a.
Non-Native off-North Slope	20	8	16	12	20	8	9	93	440	533	n.a.
Native off-North Slope	17	16	17	23	56	22	36	187	246	433	n.a.
Total off-North Slope	37	24	33	35	76	30	45	280	686	966	n.a.
TOTAL	40	39	39	57	81	38	55	349	721	1,070	1,655

Source: North Slope Borough, 1980 and 1988 Household Surveys

Legend: n.a.=not applicable

Table A2. Immigrant Households. Original List; Desired Interviewees; Revised List; Actual Interviewees

Moved From	Nuiqsut original list		Nuiqsut desired inter		Nuiqsut revised list		Nuiqsut actual inter		Wainwright original list		Wainwright desired inter		Wainwright revised list		Wainwright actual inter		Barrow original list		Barrow desired inter		Barrow revised list		Barrow actual inter		Total original list		Total desired inter		Total revised list		Total actual inter	
	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to	to		
Anaktuvuk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	0	0	0	0			
Atkasuk	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2	0	0	0	5	4	4	2	0	0	6	5			
Kaktovik	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	1	1	1	1	5	2	3	3	1			
Nuiqsut	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	6	2	2	1	1	16	6	2	2	1	1			
Pt. Hope	1	1	1	0	0	2	2	2	2	2	2	2	2	2	2	2	2	3	0	0	3	2	2	6	3	3	6	4	4			
Pt. Lay	0	0	0	0	2	2	1	1	2	2	2	1	1	1	1	1	1	1	0	0	1	1	1	3	2	2	2	2	2			
Wainwright	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	4	4	7	7	7	9	5	5	15	7	7			
Subtotal Villages	4	4	4	0	4	4	4	4	4	4	4	4	4	4	4	4	4	35	10	10	16	16	16	43	18	18	34	20	20			
Barrow	18	9	16	2	6	3	10	8	6	3	3	10	8	0	0	0	0	0	0	0	0	0	0	24	12	12	28	10	10			
Total or-North Slope	22	13	20	2	10	7	14	12	10	7	14	12	12	35	10	26	16	35	10	26	16	16	16	67	30	30	60	30	30			
Non-Native off-North Slope	12	2	11	0	9	3	8	5	9	3	8	5	5	440	8	440	9	461	8	440	9	440	9	461	13	13	459	14	14			
Native off-North Slope	23	5	0	0	36	7	1	1	36	7	1	1	1	246	20	54	7	305	20	54	7	54	7	305	32	32	55	8	8			
Total off-North Slope	35	7	11	0	45	10	9	6	45	10	9	6	6	686	28	494	16	766	28	494	16	494	16	766	45	45	514	22	22			
TOTAL	57	20	31	2	55	17	23	18	55	17	23	18	18	721	38	520	32	833	38	520	32	520	32	833	75	75	574	52	52			

Sources: North Slope Borough, 1980 and 1988 Household Surveys; Alaska Division of Elections, Precinct Registers, 1982 and 1992.

Table A3. Oil Industry Employers

Size	Name Of Company	Place	Phone #	Contact	Status	Comments
s	Aim International	Anchorage	333-1975	via Rourke		
m	Ak Gen Construction	Anchorage	349-4438	via Ellsworth		
l	Ak Petroleum	Anchorage	344-6400	Chas Riddick	HNSN	
s	Ak Welding	Fairbanks	456-5962	via Ellsworth	closed?	
l	ARCO	Anchorage	276-1215	Brian Rourke	HNSN	faxed data
s	Arctic Oil	Prudhoe Bay	659-2614	via Rees		
s	Atlas	Anchorage	563-3233	Ray Utter		
s	Atkasuk	Fairbanks	451-8282	via Rees	HNSN	
m	Bell F Robt	Anchorage	562-3800	Kathy Stone		
s	BJ Services	Anchorage	349-6518	Chuck Markham		
l	British Petroleum	Anchorage	564-5184	Jeff Hamilton		phoned data
l	Camco	Anchorage	562-2132	Lee Deloney		phoned data
s	City Electric	Anchorage	271-4531			
s	Clearwater Heating	Fairbanks	452-6083	Branson	HNSN	
m	Cold Weather Contractors	Anchorage	561-1269	Bill McLaughlin	HNSN	
l	Conam	Anchorage	563-6600	Stinson		
l	Conoco	Prudhoe Bay	659-6325	Tom Yager		phoned data
m	Doyon	Anchorage	563-5530	Ben		
s	Fischbach/Moore	Anchorage	561-2800	via Rees		
s	Fraleigh Eopt	Anchorage	344-0574	via Rourke		
m	Green Constr	Anchorage	279-5436		HNSN	
s	Halliburton	Anchorage	261-7700	Jim Givens		
l	Houston Contracting	Anchorage	349-4931	Jim Beasley		
l	ISSI Catering	Anchorage	274-3517	Bob Brocius		phoned data
s	JV Construction	Anchorage	344-1577	via Rourke		
m	Kodiak Oilfield	Anchorage	561-4466	via Rees		
s	Kuparuk IC	Prudhoe Bay	659-2900	via Rees	HNSN	
s	LHD & Assoc	Anchorage	277-4513	via Rourke		
s	Little Red	Anchorage	349-2931	Jack Dunbar		
m	Lynden Transport	Seattle	276-4800	via Rees		
s	Nabors	Anchorage	561-4440	Jim Taylor		
l	NANA-Marriott	Anchorage	265-4101	Sarah Scanlan		mailed data
m	National Structures	Anchorage	274-9566	via Rees		
l	Norcon	Anchorage	563-5668	Cindy Sexton		faxed data
m	NS Tech Services	Fairbanks	452-1799	via Rees	HNSN	
l	NW Technical Services	Anchorage	562-1633	Mary Shields		
l	Peak Oilfield Services	Anchorage	561-3200	Ross Thompson	HNSN	faxed data
s	Pgh Testing Lab	Anchorage	561-2400	via Rourke		
l	Piquinq Management Corp	Anchorage	522-5234	LoAnn Larson	HNSN	faxed data
l	Piquinq Service Corp	Anchorage	522-5234	LoAnn Larson	HNSN	faxed data
s	Pool	Seattle	276-5464	Dennis Smith		
m	Price/CIRI	Anchorage	581-4400	via Rees		
l	Schlumberger	Anchorage	562-2654	Jeff Meisenhelder		phoned data
l	Statewide Services	Anchorage	262-5181	via Rourke		
l	Tanana CC	Fairbanks	452-8251	Mae Clow		phoned data
l	Udelhoven Oilfield System	Anchorage	344-1577	James Udelhoven		phoned data
l	Universal Services	Anchorage	561-1300	Bob Tallent	HNSN	phoned data
l	VECO/Arco	Anchorage	561-6130	Gordon Collier	HNSN	faxed data
l	VECO/BP	Anchorage	561-6130	Becky Lobb/	HNSN	
m	Wackenhut	Anchorage	274-7922	Lorinda Mitchell		

Sources: Alaska Support Industry Alliance, 1990. Alaska Oil And Gas Directory. Anchorage, AK; interviews with company officials
 Legend: l=large; m=medium; s=small; HNSN=Hired North Slope Natives (believed to have)

Appendix B - Interview Protocols

MIGRATION: A SURVEY OF HOUSEHOLDS THAT MOVED, 1980-92
NORTH SLOPE BOROUGH

SPRING 1992

UNIVERSITY OF ALASKA ANCHORAGE
INSTITUTE OF SOCIAL & ECONOMIC RESEARCH
3211 PROVIDENCE DRIVE
ANCHORAGE, AK 99508
907: 786-7710
DAVID MARSHALL; MATT BERMAN

1. Interviewer ID _____
2. Date of Interview: Month _____ Day _____
3. Interviewee Number: _____
4. Interview Number: _____

Community #: _____; Interview #: _____;

We are asking members of households that moved to this community since 1980 why they moved here.

The purpose of the survey is to help us understand why households have moved from one community to another on the North Slope in the last ten years.

The information you give us will be used in a report to be written by the University of Anchorage this summer. The report will be available to the public. We hope it may help you, your community, and the North Slope Borough plan for the future by understanding the past better.

The information you give us will be confidential. The information from all households will be added together so no individual household can be identified in our report. Maybe in future other researchers would like to know which households we interviewed. If so, do you allow us to give your name to them? (Yes ____; No ____). Then, if they wanted to read this survey they would first have to ask your permission.

The survey has four parts.

In Part One we ask you to tell us who is in your household now.

In Part Two we ask when your household moved to this community, why, and where from.

In Part Three we ask if the community turned out to be what you expected when you moved here.

In Part Four we ask if you are thinking of moving to a different community and, if so, why.

If you have any questions please ask them anytime during the interview. If there are things you want to say that we don't ask about please tell us.

Community #: _____; Interview #: _____;

Part One: Who Lives In This Household Now

Please give us this information starting with yourself

Table 1.1. Demography

Person Number	Name Of Member Of Household	Ethnicity (a)	Sex	Age	Relation To Head Of Household(b)
1					Head
2					
3					
4					
5					
6					
7					
8					
9					
10					

Legend:

- (a) Alaska Native; American Indian; White; Hispanic; Filipino; Oriental; Black; Other; NA
- (b) Spouse; Child; Sibling; Parent; Grandparent; Grandchild; Aunt/Uncle; Other Relative; Significant Other; Non-Relative

Community #: _____; Interview #: _____;

Table 1.2. Economy

Person Number	Marital Status (a)	Highest Education Level (b)	In Labor Force Yes/No	1990 Earnings (\$)		Major Occupation
				In Village	Outside Village	
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

Legend:

(a) Married Now; Widowed; Divorced; Separated; Never Married

(b) Ph.D/Other Doctorate; MA/MS; BA/BS; Some College; Vo-Tech Grad; High School Grad; GED; Attended High School; Now In High School; Pre-School

1.3 What was your household income in 1990? (Select one) _____

- | | | |
|-----------------------|-----------------------|-------------------------|
| \$0-4,999 _____ | \$30,000-34,999 _____ | \$60,000-64,999 _____ |
| \$5,000-9,999 _____ | \$35,000-39,999 _____ | \$65,000-69,999 _____ |
| \$10,000-14,999 _____ | \$40,000-44,999 _____ | \$70,000- 79,999 _____ |
| \$15,000-19,999 _____ | \$45,000-49,999 _____ | \$80,000-89,999 _____ |
| \$20,000-24,999 _____ | \$50,000-54,999 _____ | \$90,000-99,999 _____ |
| \$25,000-29,999 _____ | \$55,000-59,999 _____ | \$100,000-149,999 _____ |
| | | \$150,000 or more _____ |

Community #: _____; Interview #: _____;

Part Two: When And Why You Moved Here

First, we ask when your household moved here and where from.

2.1 Which communities has your household lived in since 1980, and how long did you live there?

Place _____	From _____	To _____
Place _____	From _____	To _____
Place _____	From _____	To _____
Place _____	From _____	To _____

2.2 When did your household move here? _____

2.3 Where from? _____

Now we ask why you moved. We would like you to tell us in your own words why you moved to this community from your previous community. Then we would like you to look at a list. That way, you will improve our list and our list may jog your memory. The list is a list of reasons why households move. It is based on our experience of living in rural Alaska and on reading what North Slope Borough residents have said about their lives in other surveys.

2.4 Why did your household move here?

To This Community

From Previous Community

This Table 1 is the list we mentioned. Would you please check off any reasons that apply to your most-recent move?

Community #: _____; Interview #: _____;

R2.3 Subsistence

We could do more subsistence things here _____
 There are more subsistence resources here _____
 It was closer to fish/ game/marine mammals here _____
 Other _____

R3. SOCIAL

R3.1 Family

I came here to be with my partner _____
 I left because my partner and I split up _____
 We came to be near our kids _____
 We left to be away from our kids _____
 We came to be near our parents _____
 We left to be away from our parents _____
 We came to be near our other relatives _____
 We left to be away from our other relatives _____
 The kids needed a bigger school _____
 The kids needed to learn more about village life _____
 The kids needed more of a social life _____
 Other _____

R3.2 Friends

We came to be near friends _____
 We left to be away from people we couldn't get along with _____
 Other _____

R3.3 Education

We wanted to go to school _____
 The school is better here _____
 Other _____

Now could we please go over the reasons you gave for moving, and number them: 1 for most important; 2 for important; 3 for somewhat important; 4 for least important?

2.4 Which of these three categories best describes your household in this community:
 permanent _____; seasonal _____; occasional _____

Finally, we would like to ask two questions about where you grew up.

2.5 What community did you grow up in? _____

Community #: _____; Interview #: _____;

2.6 What things are most important about the community you grew up in—good things and bad things?

Community #: _____; Interview #: _____;

Part Three: How The Move Worked Out

3.1 Did the move to this community turn out as you expected?

Yes _____
Somewhat _____
No _____

3.2 Please explain

3.3 Does it still have the things that attracted you here?

Yes _____
Somewhat _____
No _____

3.4 Please explain

Community #: _____; Interview #: _____;

Part Four: Future Possibilities

4.1 Are you planning to leave this community? ___ Yes ___ No ___ Maybe

4.2 (If yes or maybe) Why?

4.3 Do you think you will someday go to live with your parents? ___

4.4 Are there conditions under which you would leave this community?
_____ Yes _____ No _____ Maybe

4.5 (If yes or maybe) For example:

4.5.1 To work in an oil industry job _____

4.5.2 If the oil industry came here _____

4.5.3 For other reasons (say what reasons)

Thank you very much. That is all our questions. If there is something you think we should know about that we haven't discussed or asked about, please tell us.

END

Community #: _____; Interview #: _____;

OIL INDUSTRY EMPLOYMENT 1992: A SURVEY OF ALASKA NATIVE EMPLOYEES
NORTH SLOPE BOROUGH

SPRING 1992

UNIVERSITY OF ALASKA ANCHORAGE
INSTITUTE OF SOCIAL & ECONOMIC RESEARCH
3211 PROVIDENCE DRIVE
ANCHORAGE, AK 99508
907: 786-7710
DAVID MARSHALL; MATT BERMAN

1. Interviewer ID _____
2. Date of Interview: Month _____ Day _____
3. Interviewee Number: _____
4. Interview Number: _____

Employee Number: _____; Interview Number: _____

UAA-ISER NSBEMP 1992

In this survey we ask Alaska Natives who are employees of the oil industry on the North Slope questions about their employment, households, and migration.

This is the first survey of oil industry employment and migration in rural Alaska.

The purpose of the survey is to find out about Alaska Natives who work for the oil industry on the North Slope: what they do; how long they work; what their skills are; where they live; if they have moved or might move from one place to another.

The information you give us will be used in a study to be written by the University of Alaska ISER this summer. The study will be available to the public. We hope it may help you, your community, your employer, and the North Slope Borough plan for the future by understanding the past and the present better.

The information you give us will be confidential: the information from all employees will be added together so no individual can be identified in our study.

The survey has two parts.

In Part One we ask you about your work.

In Part Two we ask about your household and you.

If you have any questions please ask them any time during the interview. If there are things you want to say that we don't ask about please tell us.

Employee Number: _____; Interview Number: _____

Part One: Your Work

1.1 Where on the North Slope do you work? _____

1.2 What company are you employed by?

1.3 When did you start work with that company?

Month: _____; Year _____

1.4 What is the job description of the work you do?

1.5 Is the work

full-time year-round _____

full-time seasonal _____

part-time year-round _____

part-time seasonal _____

occasional _____

1.5 How long have you had this job?

Months: _____; Years: _____

1.6 Did you get training for it? Yes: _____ No: _____

1.7 Where did you get training?

1.8 When did you get training? Month: _____; Year _____

1.9 Is this the first job you've had with the oil industry? Yes: _____ No: _____

Employee Number: _____; Interview Number: _____

UAA-ISER NSBEMP 1992

1.10 What other jobs have you had with the oil industry, how long did you have them, when, where, and who did you work for then?

1.11 What oil industry skills do you have and how did you get them?

Skill	How Acquired				
	On The Job	Formal Training			Both
		Who	Where	When	

Employee Number: _____; Interview Number: _____

Part Two: You And Your Household

2.1 Where do you live now? _____

2.2 Did you ever move from one community to another?

Yes: _____ No: _____

	From Where	To Where	When
2.2.1			
2.2.2			
2.2.3			
2.2.4			
2.2.5			
2.2.6			

2.3 Were any of these moves related to your work for the oil industry?

Yes: _____ No: _____

2.4 If Yes, which ones were related? _____ (use # 2.1.1-2.1.4)

2.5 In what way were they related to your work for the oil industry?

Employee Number: _____; Interview Number: _____

UAA-ISER NSBEMP 1992

2.6 What is your age, sex, and marital status?

Age: _____

Sex: _____

Marital Status:

Never Married _____

Married Now _____

Separated _____

Divorced _____

Widowed _____

Have Kids Under 18 _____; 18 or older _____

2.7 Is your job with the oil industry steady?

Yes: _____; No _____; Don't Know _____

2.8 How likely are you to move in the next five years?

very likely: _____ likely: _____; unlikely: _____; very unlikely: _____

2.9 If very likely, where to and why?

to where: _____

why: _____

Maybe in future other researchers would like to follow up on this interview. If so, do you allow us to give your name to them? (Yes _____; No _____) Then, if they wanted to interview you or read this survey, they would first have to ask your permission.

END

Employee Number: _____; Interview Number: _____

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interest of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. Administration.

