A COMMISSION STUDY

17:

733 W. FOURTH AVE.
ANCHORAGE, ALASKA

FEDERAL-STATE LAND USE PLANNING COMMISSION FOR ALASKA

THE EVOLVING PATTERN OF VILLAGE ALASKA

BY

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MARCH, 1976

THE EVOLVING PATTERN OF VILLAGE ALASKA

Prepared For The

Federal-State Land Use Planning Commission
for Alaska

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Federal-State
Land Use Planning Commission
For Alaska

This study is one of a series of studies through which the Federal-State Land Use Planning Commission obtained background information on which to base land planning and policy recommendations. The Commission believes that an understanding of the forces that are affecting the people of Alaskan villages is an essential part of the basic information that must be considered in making recommendations on the many issues involving Federal, State, and Native corporate land policy included in the Commission's mandate under Section 17 of the Alaska Native Claims Settlement Act.

We decided to publicize this report and to make it widely available because it contains information of value to Native village and regional corporations as well as to State and Federal agencies whose programs affect Alaskan villages. The chapter analyzing the economy of village Alaska, for example, discusses the interrelationship between the subsistence and monetary sectors and includes important perceptions about measures which could be taken to further the economic well-being of people living in villages. A subsection of this chapter, covering Federal and State public services available to villages, describes impacts of public investment decisions in terms of the settlement pattern of village Alaska. The statistical analysis of village population trends, which draws from several creditable sources, will be of value in Native corporate planning as well as in planning by government agencies. The appendix to this report shows the population of each village for a series of years dating back to 1950.

The Commission selected Berkeley Planning Associates to prepare this study because of the special qualifications of Mr. Alonzo and Mr. Rust in economics, regional planning, and population analysis. William Alonzo has recently been appointed Director of Harvard University's Center for Population Studies. He received his Ph.D. in regional science from the University of Pennsylvania; and as a professor, consultant, and author of a number of key books and articles on regional planning, demography, and settlement patterns, he has gained a national reputation as an expert in these fields. Edgar Rust is a senior analyst with Berkeley Planning Associates. He holds degrees from Williams College and the Massachusetts Institute of Technology and a Ph.D. in city and regional planning from the University of California at Berkeley.

The Commission finds that the report is well documented and researched and that the conclusions are soundly based; however, the recommendations contained in this report are those of the authors and not necessarily the recommendations of the Commission.

Walter B. Parker
State Co-Chairman

Burton W. Silcock
Federal Co-Chairman

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FOREWORD

This study of settlement patterns in rural Alaska was prepared by Berkeley Planning Associates in February and March of 1976 under a letter contract with the Federal-State Land Use Planning Commission for Alaska. It is based upon a literature review, statistical analyses, and a week of travel and interviews with informed persons in Alaska, listed below. We were impressed both by the depth of their insights and by their eagerness to help us. Without their generous help this would be a far lesser study. Our sincere thanks are extended to all of them.

Janet McCabe of the Commission staff served as Project Coordinator for this study. Going far beyond the normal responsibilities of that role, she assembled a complete collection of Alaskan source materials not available in California, helped us identify useful informants, scheduled our travel and interviews, and contributed a great many ideas and constructive criticisms despite the brief duration of the project. We thank her.

Berkeley Planning Associates' staff contributing to the project included, in addition to the authors, Gail Chiarrello, Catherine Hare, Norma Montgomery, and Arthur J. Ungar. The maps in this report were prepared by Adrienne Morgan.

PERSONS INTERVIEWED FEBRUARY 23-27, 1976

Cecil BARNES, President, Chugiak Native Corporation
Ralph DARBYSHIRE, Alaska Consultants, Anchorage
Perry EATON, Alaska Native Foundation
Lee GORSUCH, Robert Nathan & Associates, Anchorage
John HALL, Federal-State Land Use Planning Commission for Alaska
George HAYNES, Alaska Federation of Natives
Arthur HIPPLER, University of Alaska, Institute of Social, Economic & Government Resear
Bob JENKS, Interior Villages Association
Mike JONES, Association of Village Council Presidents
Larry KIMBALL, Alaska Department of Community & Regional Affairs
Lois KRAMER, Alaska Department of Community & Regional Affairs
David McCABE, Real Estate Appraiser, Anchorage
Janet McCABE, Federal-State Land Use Planning Commission for Alaska
Morris MORGAN, Tanana Chiefs Association
Ruth MOULTON, Community Enterprise Development Corporation of Alaska
Jerry NELSON, Community Enterprise Development Corporation of Alaska
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Duncan READ, Federal-State Land Use Planning Commission for Alaska
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CONTENTS

LIST OF TABLES

CONTENTS, CONTINUED

LIST OF FIGURES

I. INTRODUCTION

What is becoming of Village Alaska? As the literal home of some 70 percent of Alaska Natives, the symbolic heart of their culture, and the geographic basis for a large share of the Land Claims Settlements, Village Alaska's future is profoundly important to the Alaska Native peoples.

A scattering of tiny, semi-permanent camps and settlements along the rivers, streams, and ocean beaches of Alaska, the village system once accommodated virtually all the Alaska Native population. Seldom could the subsistence resources of a site support more than a few dozen families. Two centuries of intermittent but increasingly pervasive white contacts has involved the development of certain sites at which Natives of the surrounding areas congregated for more efficient performance of the white military, religious, or commercial purposes at hand. Village consolidation resulted, with migration to points of white contact, which became permanent villages, and gradual abandonment of the smaller and more remote camps. The people managed to survive at these higher densities only by hunting with new technology and by importing more food, so long as cash was available. There were many reverses in the process: military priorities shifted, industries rose and fell; even missions were sometimes moved or abandoned, leaving villages in extreme poverty. White-introduced diseases repeatedly decimated the villages. Nevertheless, consolidation into larger settlements was the overall trend. In the Aleutian Islands alone there were several hundred villages in the 18th century,[1] less than two dozen in 1970. The trend has continued: in North and West Alaska there were 181 villages in 1950, whereas in 1970 a 70 percent larger population lived in only 168 villages in that area.[2] A few of the villages had grown to be towns of 2,000 to 3,000 people, but most remain about one-tenth that size.

Urban Alaska as we now know it emerged with the building of the Alaska Railroad in the 1920s. At first the railroad cities were largely white, except where they literally overran previously occupied Native village sites,

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[1]Dorothy M. Jones, Patterns of Village Growth and Decline in the Aleutians, University of Alaska, Fairbanks, October 1973.

[2]The Appendix contains a roster of villages and historical populations compiled by BPA from census and other sources, upon which these figures are based.

and they attracted little Native immigration for four decades. The seeds of Native urbanization were being sown, however, in the village consolidation process. The railroad cities, too, were increasing their lead over the villages in terms of material welfare and opportunities for gain in this period and thus becoming more attractive migration targets. Anchorage, especially, boomed and prospered on an economy almost entirely based on government.

Most of the following analysis is based upon trends in the quarter century from 1950 to the present. In 1950 the quality of village life may well have reached bottom. Life was hard and short--there were white-introduced diseases, but few health services,[1] chocolate bars but few toothbrushes, growing needs for cash for survival, but almost no steady jobs. There were few airstrips, few generators, no telephones, no sanitation. Conditions in 1976, if far from ideal, seem by comparison the crest of the wave. There are annual cash payments to all enrolled Natives, free health service, increasingly universal education, vastly improved air service, much better housing, and somewhat better utilities. Nevertheless in the 1960s, it became clear that a major Native migration to the cities was underway. Its significance was confirmed, but probably understated, by the 1970 census, which found 11.8 percent of the Alaska Native population within the Anchorage census division alone, as against 0.7 percent in 1950.[2] The mechanisms and probable consequences of this migration for Village Alaska, however, were puzzling even to the best-informed observers.

Powerful counter-currents are now influencing the village system. Because of high fertility, an enormous growth of Native population resulted from the introduction of public health measures in the 1950s. Rapid growth may persist two or more decades despite falling fertility, because of the young age distribution. The Native Claims Settlement Act, and the influence of the energy crisis upon the value of known and suspected petroleum deposits, greatly increased political and economic power of Alaska Natives. The level of government services and housing quality in all but the smallest villages is probably improving. More Natives are going to high school, and increasingly they do so at or near their homes. Settlement Act payments, new bureaucratic jobs in Native corporations, and pipeline work, probably provide more money than ever before to the Native

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[1] Alaska Area Native Health Service, Description of the Program and Health Trends, Anchorage, June 15, 1973.

[2] Appendix.

villages, at least for a few years to come.

Are the villages about to be emptied, or to explode? Have they the resources to survive? Is the costly extension of public services to the villages no longer worthwhile, or, perhaps, more so than ever? Will these developments stimulate or retard urbanization? How will the way of life in villages evolve?

We have attempted in the course of this study to gain some perspective on the size of these factors and to note where overt or implicit government policies may influence their outcome, within the limited realm of North and West Alaska. We have found some degree of order and coherence among them which suggests a continuation of certain well-established trends.

The proportion of Native Alaskans living in Fairbanks and Anchorage will continue to increase, and the rate of migration to these cities will probably accelerate as the large numbers of children born in the early and mid-1960's reach the ages of greatest mobility. But Village Alaska is in no danger of extinction. Even with sustained migration to the cities, there are so many youngsters in the villages that a great many will remain. And although birthrates are falling, they remain high, well above replacement level. Thus, the remaining young in the villages will more than reproduce themselves.

The process of village consolidation can be expected to continue, for much the same reasons that propelled it historically. Government policy in almost every field now underwrites this trend by withholding services from the smallest places and by concentrating administrative activities at regional centers. Even the ostensible decentralization efforts such as the contemplated Village high schools are likely to strengthen the consolidation trend because so many of the Villages are too small to provide even the eleven students now contemplated as a minimum [1] to qualify for a high school. In short, we expect a general redistribution of population from the smallest villages--under 100, for example--to ones now in the 300 to 500 range, and to the regional centers. In the smallest size class, many villages can be expected to decline or to be abandoned in the next decades.

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[1] Personal communication, Ron Wesley, Anchorage, February 26, 1976.

The growing interconnection of Village and urban Alaska may prove to be qualitatively far more significant than the net transfer of permanent residents or the change in their relative sizes. Even without growing, the Villages will become more urbanized in their way of life. The net movement to the city is a resultant of much larger flows in and out. There are strong cross-flows of repeat and return migration between villages, cities, and job sites like the pipeline and canneries. Students, workers, or whole families leave for short or long periods with the full intention to return, and they continue village ties during their absence. The returning travelers bring money, of course, but also urban ideas, urban values, urban sophistication in making use of institutions such as government agencies, banks, courts, and labor unions. Related urbanizing influences in village life include television, telephones, and satellite communications.

To summarize, we conclude with reasonable confidence that in spite of all the new and complex influences which have fallen upon Village Alaska since 1971, five well-established historical trends are likely to continue for a generation or more:

(1) Net migration of Natives to the largest cities will accelerate for another decade, so long as economic opportunities are concentrated there, but not at a rate which would cause more than a minor decline in the population of the Village system as a whole.

(2) Within Village Alaska, the larger places will continue to grow more than the smaller ones, and many in the smallest size classes (under 100 persons, for example) will decline.

(3) Village life will continue to become more urban in style and more closely interconnected with the major cities.

(4) Village life will continue to become more dependent upon outside sources of cash income to replace subsistence hunting and fishing.

(5) Those sources of earned cash income in the villages will continue to be highly seasonal, uncertain, and in the long run unstable, unless powerful countermeasures are taken.

The balance of this report amplifies upon these points, with supporting rationale, data, and analyses. Part II describes rural Alaskan patterns of settlement and migration, employing primarily a demographic perspective. Part III explores the economy of Village Alaska, adapting the perspective of regional economics to what we could learn of Alaskan history, geography, culture, and attitudes, in search of the forces which propel demographic changes. Part IV looks into implications of these findings for the future of rural Alaska.

II. NATIVE PATTERNS OF SETTLEMENT AND MIGRATION

Village Alaska, on the whole, may be broadly defined as the part of the State outside the Anchorage and Fairbanks Census Divisions, Juneau and Ketchikan. Its population in 1970 amounted to 117,000 persons, of whom 44,000 were Alaska Natives (Eskimos, Indians, Aleuts) and 73,000 were of other races, mainly white. A majority of Village Alaskans lived in 202 villages and towns of 25 to 999 inhabitants, a few thousand in 11 regional centers of less than 4,000, and a small number were scattered in settlements of less than 25.

A map of these villages, excluding Southeast Alaska, may be found in Figure 1, but a word of caution is needed. Places of less than 25 inhabitants are omitted from the Census reports. More importantly, there have been omissions, confusions of name, definition, and the abandonment and emergence of new villages. A detailed analysis of this has been prepared and appears as an Appendix.

The future of Village Alaska is now inextricably tied to the cities of Alaska. In 1950 only 5.3% of Alaska's Natives lived in the major cities,[1] whereas by 1974 the proportion had risen to 23.5%. Put another way, the largest urban areas have absorbed over half of the State's growth of Native population: 41% in the 1950s, 55% in the 1960s, and 53% in the 1970-1974 period. The 11 regional centers for which there is 1960 Native population data absorbed 24% of Native population growth in the 1960s, and 41% from 1970 to 1974. As a whole, excluding the regional centers, the villages themselves absorbed only 20% in the 1960s, and in the 1970-1974 period did not grow at all, although there was a shift within this group from places of less than 25 population into the other villages. The relevant data is shown in Table 1.

The stability of the aggregate population of the villages (excluding regional centers) must be contrasted with the very high rate of natural increase. The Native birth rate is 30.9 births per thousand population, while deaths occur at the rate of 7.6 per thousand.[2] Obviously, there is tremendous outmigration. Equally obviously, if there were not this outmigration, the population of villages would double every 30 years, and such population

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[1]The Census divisions of Anchorage, Fairbanks, and the cities of Juneau and Ketchikan.

[2]U.S. Department of the Interior, 2-C Report: Federal Programs and Alaska Natives, Task I - An Analysis of Alaska Natives' Well-Being, I, Sec. 2, p. 16, Portland, Oregon, ca. 1974.

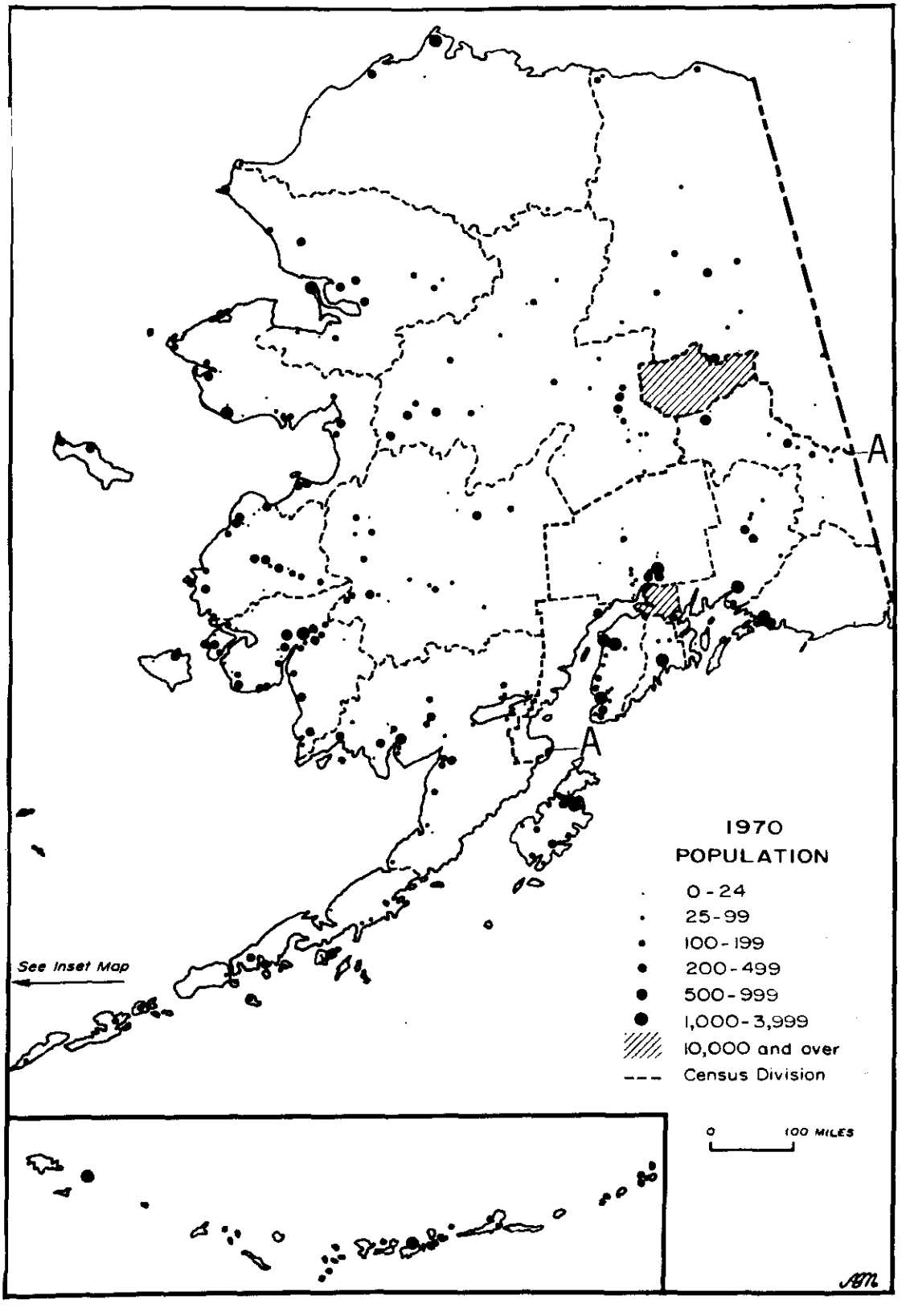

Figure 1. POPULATION DOT MAP OF NORTH, WEST, AND CENTRAL ALASKA, 1970.

Sources: see APPENDIX.

Note: THE MAIN FOCUS OF THIS STUDY IS ON THE DIVISIONS NORTH AND WEST OF LINE A-A.

Table 1

ALASKA NATIVE POPULATION DISTRIBUTION

	1950	1960	1970(4)	1974(5)
Anchorage Census Division	659(1)	2,468(3)	6,430	7,333
Fairbanks Census Division Juneau and Ketchikan	1,666(2)	3,117(3)	4,616	6,767
Regional Centers* (Other Cities over 1000 as of 1960)	33,906	7,401(3)	9,790	11,911
Villages 25+		31,864	31,244	32,566
Places Less than 25			2,644	1,343
State Total	35,835(2)	44,850(3)	54,704	59,920

*Barrow, Bethel, Cordova, Homer, Kodiak, Kotzebue, Nome, Petersburg, Seward, Sitka, Wrangell.

Sources: (1) George Rogers, Alaska Native Population Trends and Vital Statistics, ISEGR, University of Alaska, 1971.

(2), (3), (4) U.S. Bureau of the Census, Census of Population, 1950, 1960, 1970.

(5) U.S. Department of the Interior, op. cit., pp. 3-18.

pressure would transform the social structure and character of villages even if larger populations were economically and ecologically viable.

The high birth rates of Native Alaskans thus insure both the continuance of the village system and the continued rapid urbanization of the Native population. There is an enormous reservoir of Native children who in the coming years will be at the age at which young people migrate and in turn have children. For instance, in 1970, 45.6% of the Native Village population in northern and western Alaska was under the age of 15, compared to 28.3% for the United States population as a whole. Similarly, 13.9% of the Native Village population was under 5 years of age, compared to 8.4% for the country as a whole. Many but not all of these young people will undoubtedly move to the cities, and there are so many that even with massive urbanization rates enough will remain in the villages and raise families there to insure the continuance of village Alaska -- and the continuing supply of migrants to the cities.

The urban Native population has grown very fast through migration, but in the coming years its own natural increase will contribute increasingly to its growth. In 1970, 13.4% of urbanized Natives were under 5 years of age, and 39.9% were under 15 years of age. From now on, any understanding of the dynamics of the patterns of settlement of Native Alaskans must consider the system of villages as part of a larger system which includes the cities, and must consider migration and natural increase throughout the system.

A further factor, already important but potentially more so, is the migration of Natives out of the State. In the period 1965 to 1970, 3,237 Natives[1] left the State, and 2,519 re-entered it, for a net outmigration of 718. This appears a modest number, but it is, for instance, comparable to the combined increase in Native population for Fairbanks, Juneau, and Ketchikan for the period. Since it is likely that the propensity to migrate out of the State is higher for urban than for rural populations, the increasing size of the urbanized Native population suggests that migration out of the State will increase. This is comparable to the probable role of the regional centers, whose growing population represents both the swelling

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[1]Actually, the data refer to non-white, non-Negro and is based on 1965 residence as reported by 1970 Census respondents.

apex of the hierarchy of the village system and a growing base of potentially urbanizing Native Alaskans, if they follow the common pattern of stage migration of rural populations.

This study will now shift from statewide aggregates to geographical detail. It will focus on the 168 villages in that portion of Alaska that lies north and west of the road-connected cities.[1] These had in 1970 a total population of 45,000. Of these, 32,000 were Natives, and the remainder were whites and other non-whites. (The region also contained a non-village population of about 10,000, apparently mostly non-Native and in military bases.) Thus the villages of the north and west are predominantly Native (71%), by comparison to the remainder of rural Alaska, where the proportion of Natives was only 16%. Northern and western Alaska thus provides a relatively "pure" version of the village system for study. It is worth noting, in Table 2, that although new villages are being established, many are going out of existence, so that there is a declining number of villages.

The settlements of north and west Alaska are small by any standard, but they have been growing rapidly in size, from an average of 144 inhabitants in 1950, to 199 in 1960, to 264 in 1970. Thus, the average population of settlements grew by 83% in 20 years. This is a result of two principal effects: a decline of 7.2% in the number of villages, and an increase of 70% in their total population. The latter was due in part to a move from scattered settlements (less than 25 inhabitants) into the villages.

All of these changes might have happened if each village had grown at the same rate. But this was not the case. Table 3 shows the number of villages by population size for 1950, 1960, and 1970, together with their cumulative percent at each of these dates. It makes quite clear that there has been a drift from smaller to larger places. Whereas nearly half of the villages had less than 100 people in 1950, less than a third did so in 1970. Overall, the upward shift of villages by population size is marked.

A comparable pattern is to be found if, instead of looking at the average size of places, we examine the average size of place experienced by the region's inhabitants. In 1950, the typical north or west Alaskan lived in a village

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[1] Included are the following 12 Census divisions: Barrow, Kobuk, Nome, Wade Hampton, Bethel, Kuskokwim, Bristol Bay, Bristol Bay Borough, Aleutian Islands, Yukon-Koyokuk, Upper Yukon, and Kodiak.

Table 2

COMPONENTS OF CHANGE OF THE VILLAGE ROSTER, NORTH AND WEST ALASKA, 1950-1970

	1950-1960	1960-1970
Number at beginning of decade	181	173
New sites in decade	20	15
Sites disappeared in decade	28	20
Number at end of decade	173	168
Net change	-8	-5

Source: BPA Roster -- See Appendix A.

Table 3

NUMBER OF VILLAGES BY SIZE, NORTH AND WEST ALASKA, 1950-1970

	1950	Cumulative Percent	1960	Cumulative Percent	1970	Cumulative Percent
25-49	37	20.4	24	13.9	12	7.1
50-99	50	48.1	39	36.4	41	31.5
100-149	45	72.9	39	59.0	31	50.0
150-199	26	87.3	20	70.5	27	66.1
200-299	11	93.4	31	88.4	24	80.4
300-499	6	96.7	12	95.4	24	94.6
500-699	3	98.3	1	96.0	1	95.2
700-999	1	98.8	2	97.1	1	95.8
1000-1499			3	98.8	1	96.4
1500-1999	2	100.0			1	97.0
2000-2999			2	100.0	4	99.4
3000-3999					1	100.0
Total	181	100%	173	100%	168	100%

Source: BPA Roster -- Appendix A.

of 444 inhabitants; in 1960, in one of 680; in 1970, in one of 1,070.[1]

Table 4 provides yet another look at what happened to villages of various population sizes in the 1950 to 1970 period. It makes clear that the upward shift in village size is due primarily to the shift toward larger centers, and in particular to the evolution of certain larger villages into the status of regional centers,[2] together with the decline of many smaller places. In the hindsight of the 1950 to 1970 experience, the places of 500 population in 1950 had 100% odds of growing, and two-thirds of them have grown faster than the rate of natural increase, suggesting that they received net inmigration. By contrast, only two-thirds of places which had 200-500 population in 1950 grew, and less than one-fifth appear to have had net inmigration. Below that size there is a much greater variability of growth experience. With small numbers and small places, minute events affect the outcomes in particular places. A great many small places did grow, not only by natural increase but also by a net balance of migration. But 30% of the places with populations between 25 and 150 in 1950 had dropped below the 25 people threshhold by 1970. Overall, in spite of the powerful rate of natural increase in population, only about half of those places which had populations of 200 or less in 1950 managed to grow, and less than a fifth appear to have had a net influx of people moving in.

In short, small places show great variability but their overall trend is downward. Larger places generally show greater and steadier rates of population growth. The droplets of population distribution in northern and western Alaska are flowing toward larger streams, although here and there local effects combine to make particular droplets larger.

Figures 2 and 3 present more detailed pictures of population changes in the 1950-1960 and 1960-1970 decades. They show which villages lost population in that decade, which dropped below the level of 25 inhabitants, which ones stayed about stable in population (+/- 5%, which presumes a substantial

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[1]The typical inhabitant's typical village size is the statistically most probable village size for a sampling of individual Natives, and the formula is a weighted average of the form $(\Sigma P^2)/(\Sigma P)$, where P are village populations.

[2]These regional centers are over 700 population: Adak (non-Native), Barrow, Bethel, Dillingham, Kotzebue, Kodiak, Nome.

Table 4

VILLAGE GROWTH RATES BY SIZE IN 1950, NORTH AND WEST ALASKA, 1950-1970

	0-24	25-49	50-99	100-149	150-199	200-299	300-499	500-699	700-999	1500-1999	Total By Rate
Declined below 25 (no return 1970)	7*	18	17	5	3						50
Lost population (-10% to -99%)		2	9	10	4	3	1				29
Stable population (-10% to +10%)			4	6	4		2				16
Growth but outmigration (+10% to +77%)		9	10	14	14	5	3	1		1	57
Growth with inmigration** (+77%+)		8	10	10	1	3		2	1	1	36
New site (no return 1950)	30										30
Total by size	37	37	50	45	26	11	6	3	1	2	218***

*Villages which appeared only in 1960 Census.

**The figure of 77% was chosen as the overall rate of natural increase of Native population. Excepting local variability, localities above this figure may be thought to have experienced net inmigration, and those below this figure have probably experienced net outmigration.

***Because of the decline below 25 of 50 villages, the total existing in 1970 was 218 - 50 = 168.

Source: BPA Roster.

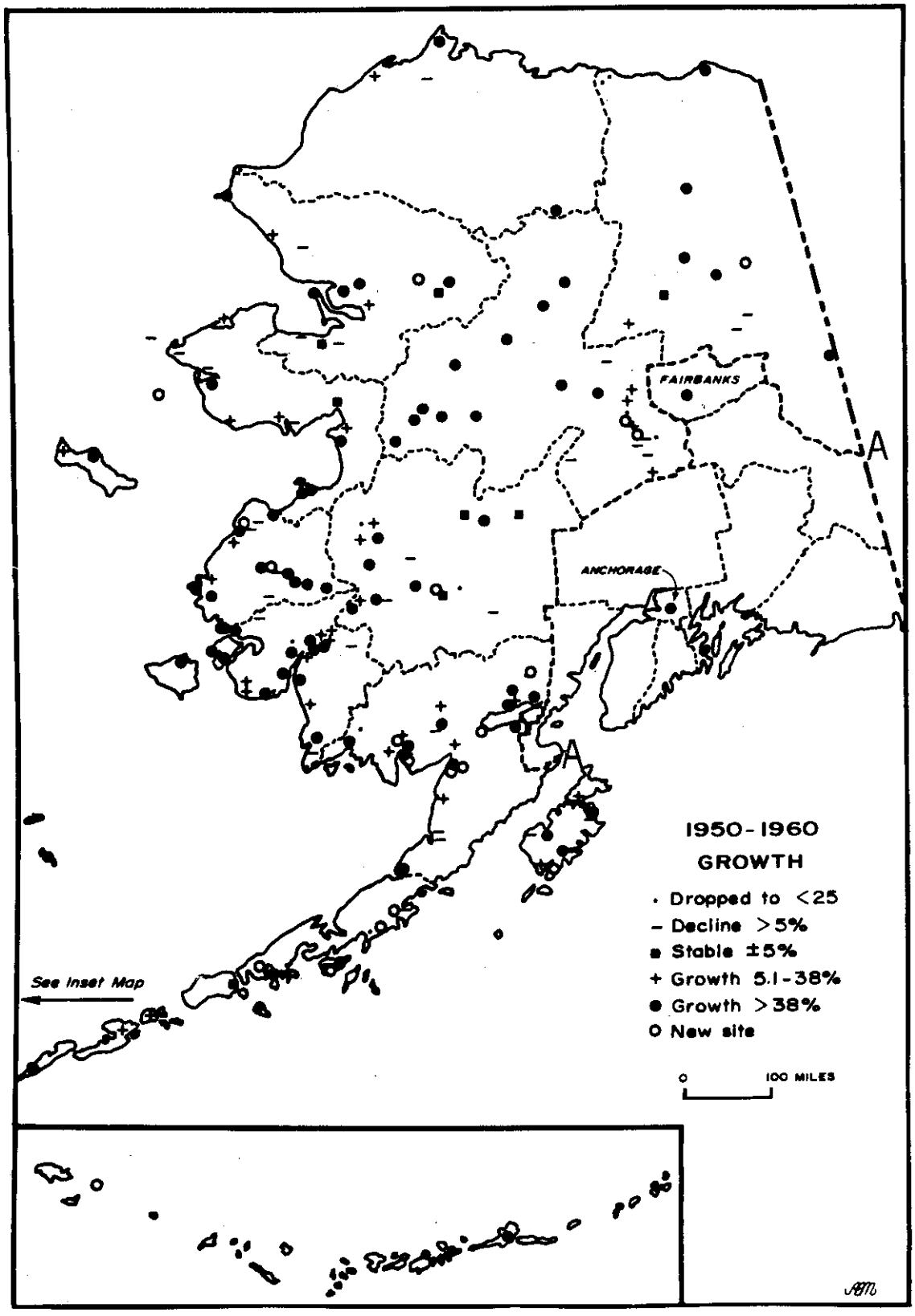

Figure 2. POPULATION CHANGE OF NORTH AND WEST ALASKA, 1950-1960.

Sources: see APPENDIX.

Note: SYMBOLS FOR ANCHORAGE AND FAIRBANKS REFER TO CENSUS DIVISION TOTALS.

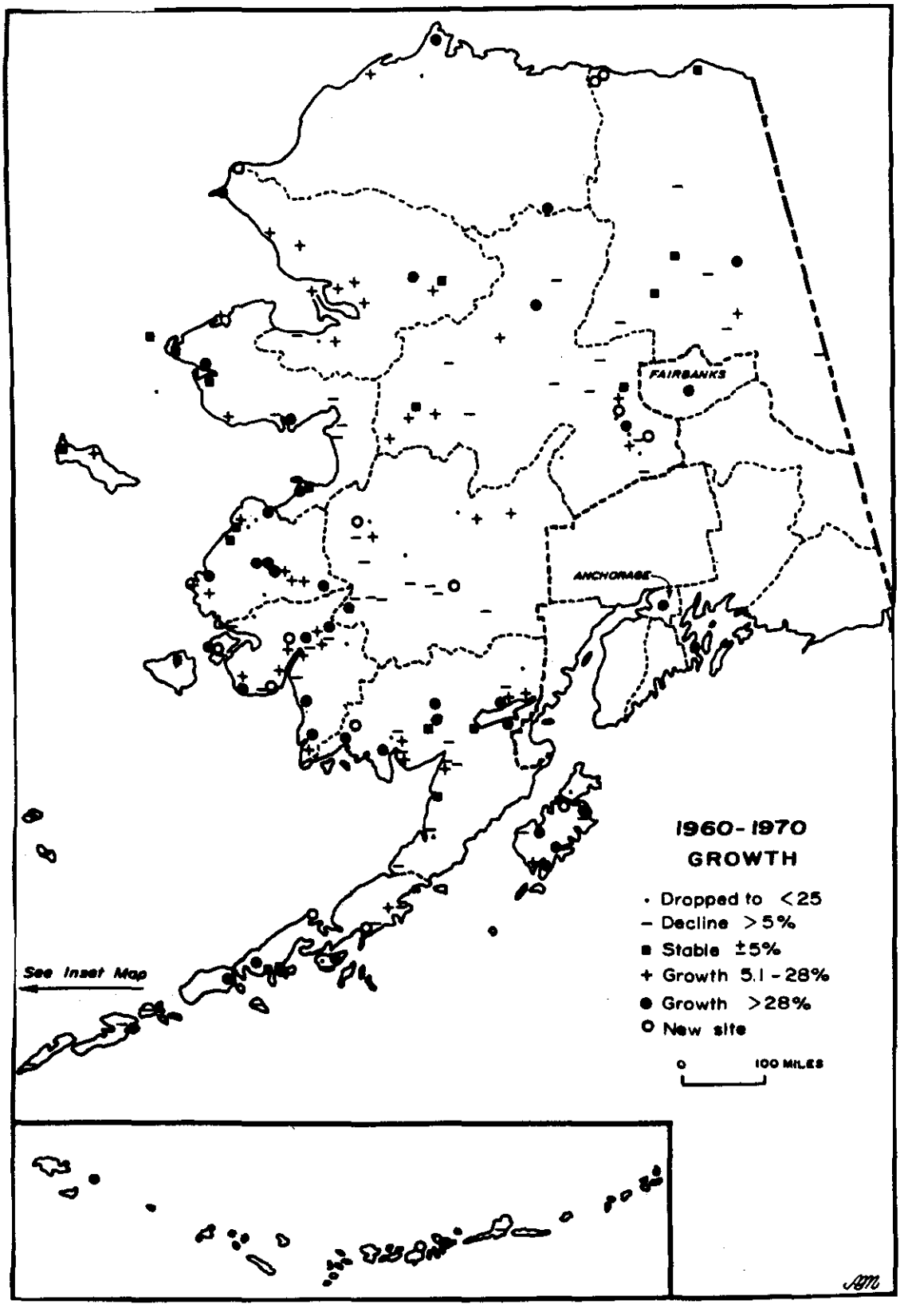

Figure 3. POPULATION CHANGE OF NORTH AND WEST ALASKA, 1960-1970.

Sources: see APPENDIX.

Note: SYMBOLS FOR ANCHORAGE AND FAIRBANKS REFER TO CENSUS DIVISION TOTALS.

outmigration), which ones grew up to rate of natural increase (which presumes some rate of net outmigration), and which ones grew by rates higher than that of natural increase, which suggests that there were people moving in. In this calculation, given the lack of reliable local data for natural increase, the average rate of natural increase of Alaska's Native population in the relevant period was used. Obviously, local birth rates will vary, and so will the admixture of inmigration and outmigration of whites and Natives in various places. Nonetheless, some overall patterns emerge. There is a net movement toward the regional centers, not so much because they are growing at a very fast rate, but because given their relatively large size in a small system, they act like slow-moving ships pushing aside boats and skiffs by their inertial weight. A modest change in growth rate for these larger places produces a large change in the small places.

Other broad locational trends are also discernible: a shift from interior to coastal locations which goes back to the earliest white contacts,[1] and which accelerates in 1960-1970 compared to 1950-1960; slow growth of villages in the Nome, Kotzebue, and Upper Yukon areas (which may still be recovering from having been overpopulated in Gold Rush times); and recently more widespread incidence of rapid growth in the North Slope and Lower Kuskokwim areas.

The maps again show that many places grew in population, while others held steady or declined. But they also make graphic that few grew at a rate matching their natural increase, and the implied substantial outmigration from the village system as a whole, especially in the 1960s. Natives leaving the villages have been going to the urban centers.

Much of the preceding discussion has proceeded inductively from evidence about population growth to inferences about the migration and behavior of people. Unfortunately, the statistical basis on the actual residentiary and migratory behavior of the Native population is sketchy. In the following pages some further data will be examined which deals with Census Divisions, with gross migration, and with age distribution. It will support the broad outlines of the preceding analysis, and provide some different perspectives on these same phenomena.

Table 5 shows selected demographic data for the 12 Census Divisions of

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[1]Arthur Hippler, From Village to Town: An Intermediate Step in the Acculturation of Alaska Eskimos, University of Minnesota, October 1970.

Table 5

SELECTED DEMOGRAPHIC DATA FOR CENSUS DIVISIONS OF NORTH AND WEST ALASKA

	Pop 1970	% Native* (other)	% Change 1960-70	% Net Migration	% Under 5 yrs. of age	Median Age
ALASKA	300,582	17.9	33.7	6.3	10.7	22.7
Aleutian Islands Division	8,057	31.1	34.0	18.7	9.1	22.7
Barrow Division	2,703	89.9	24.8	-15.6	12.1	18.2
Bethel Division	7,579	89.0	40.3	-5.5	15.2	16.9
Bristol Bay Bor. Division	1,045	18.9	NA	-10.4	8.2	24.1
Bristol Bay Division	3,587	79.6	NA		13.2	16.5
Kobuk Division	4,434	87.7	24.6	-16.2	13.7	15.9
Kodiak Division	9,409	22.4	NA	3.2	11.4	22.1
Kuskokwin Division	2,263	74.9	.2	-28.1	11.1	20.2
Nome Division	5,749	79.5	-5.6	-29.9	11.7	19.1
Upper Yukon Division	1,666	68.3	4.0	-18.3	6.3	26.4
Wade Hampton Division	3,917	94.8	25.2	-20.2	15.7	16.8
Yukon-Koyukuk Division	4,752	48.1	NA	-5.7	10.0	23.0

*Percent Native calculated by subtracting white and black population from the total. Because number of black population is not shown where it is less than 400, the percent Native may be overestimated in small Divisions where there are substantial numbers of whites with an associated black population.

Source: U.S. Census.

north and west Alaska. It shows that those Divisions which were predominantly Native had high rates of net outmigration, yet (with the exception of Nome) they managed to grow in population on the basis of natural increase. The large proportion of population under 5 years of age and the low median age also reflect the patterns we have been discussing.

Table 6 is a particularly interesting one. The Census of 1970 asked people where they lived in 1965, and this information is shown in the table. It illustrates vividly that, even though net outmigration predominates, there are many people moving into the region at the same time. The total gross inmigration of 14,789 is particularly striking for such a small population. In interpreting the figures, which are not broken out as between whites and Natives, it may be surmised that the very large migration into the region from out of state must be largely white, and that it represents not only a contribution to the growth of the white population but also evidence of a rapid turnover in that population, although the complementary figures for gross outmigration are not available. On the other hand, the gross inmigration from within Alaska, which is probably largely Native, is far smaller (20% of the total). In reality it is an even smaller fraction because it is not, of course, gross inmigration into the region as a whole. For instance, a person leaving Kobuk or Kodiak (a move within the region) appears on the table as a gain for Kodiak, but not as a loss for Kobuk. On this basis, it may be stated that approximately 90% of the gross inmigration into the region is from out of state, largely white, and involves a very considerable turnover of population as well as some net gain.

On Table 7 we have made some rough calculations of net and gross migration for the 1965-1970 period for those eight Census Divisions for which sufficient data is available. The figures must be taken as indicative only, because they combine interpolations of different data sources which are not fully consistent. The picture which emerges is clear, nonetheless, particularly if we exclude the Aleutian Islands Division, which is largely (69%) non-Native, and whose massive in- and out-migration represents largely the movement of military personnel. For the remaining seven Divisions, there was a loss of 7% in net outmigration, but this was the balance between a gross inmigration of 10.7% and a gross outmigration of 17.6%. In other words, while the figures for net loss through outmigration are striking enough, they are extremely deceptive about the actual

Table 6

1965-1970 GROSS IMMIGRATION BY CENSUS DIVISIONS, NORTH AND WEST ALASKA

Destination	Total Population 5+ Yrs Old	Total Immigrants		Migrants from Other Alaska Divisions		Migrants from Out of State*	
		#	% of Pop. 5+	#	% of Pop. 5+	#	% of Pop. 5+
Aleutian Islands	7,323	4,516	61.7	225	3.0	4,291	58.6
Barrow	2,369	417	17.6	260	11.0	157	6.6
Bethel	6,427	633	9.8	268	4.2	365	5.7
Bristol Bay Borough	878	615	70.0	97	11.0	518	59.0
Bristol Bay	3,194	291	9.1	196	6.1	95	3.0
Kobuk	3,826	410	10.7	164	4.3	246	6.4
Kodiak	8,340	4,416	52.9	661	7.9	3,755	45.0
Kuskokwim	2,033	581	28.6	149	7.3	432	21.2
Nome	5,075	850	16.7	372	7.3	478	9.4
Upper Yukon	1,514	402	26.6	114	7.5	288	19.0
Wade Hampton	3,302	377	11.4	202	6.1	175	5.3
Yukon-Koyokuk	4,276	1,281	30.0	224	5.2	1,057	24.7
12 Divisions	48,557	14,789	30.5	2,932	6.0	11,857	24.4

Source: 1970 Census of Population, Vol. 1, Part 3, Table 119

* Including Abroad

Table 7

ESTIMATED NET MIGRATION, GROSS INMIGRATION, AND GROSS OUTMIGRATION FOR SELECTED CENSUS DIVISIONS IN NORTH AND WEST ALASKA, 1965-1970

	Estimated Net Migration (a)	Gross Inmigration (b)	Estimated Gross Outmigration (c)
Aleutian Islands Division	541	4,057	3,516
Barrow Division	-169	411	580
Bethel Division	-148	612	760
Kobuk Division	-288	402	690
Kuskokwim Division	-318	530	848
Nome Division	-910	822	1,732
Upper Yukon Division	-146	397	543
Wade Hampton Division	-316	397	713
TOTAL:	-1,754	7,628	9,382
Total (excl. Aleutian Is.):	-2,295	3,571	5,866

(a) One half of the Census estimated net migration for 1960-1970, from Table 5.

(b) From Table 6.

(c) Gross inmigration minus estimated net migration.

behavior of people. Far greater numbers leave, and many others enter. The net figures understate the mobility of people and the dynamism of the situation. The gross figures, which represent the actual behavior of people, show how the prevalent anecdotal accounts of Natives returning to the villages in large numbers is perfectly consistent with a steady net outflow.

Throughout our interviews in Alaska we were told of many cases of Natives returning to villages. These involved not only Natives who found the larger centers, cities, or out of state residence distasteful, or who failed to secure a livelihood there, but also many instances of educated Natives who had been successful in the white world. As has just been discussed, such return migration is undoubtedly substantial, and still will not reverse the demographic tide. On the evidence, we must reject the notion that the Native population will resettle itself in Village Alaska on the basis of the many observed instances of the return of Natives, just as we rejected the notion that Village Alaska will disappear as a result of the net migration to the larger centers and the cities.

It does seem likely, however, that this return migration will be of greater importance in qualitative than quantitative terms. The returning migrants bring back with them more education and familiarity with the ways of the modern sector of the economy and play a significant role in the transformation of traditional village society. For instance, it appears that Natives in cities are a significant source of sound village economic development proposals.[1] But it must be recognized that the role of the returning Natives carries built-in contradictions. On the one hand, they will enable many villages to organize more effectively and to persist. On the other hand, they bring back the seeds of change for the transformation of the traditional society and thus increase the likelihood of future mobility.

An important consequence of migration is the alteration of population structures such as age, sex, and race composition at origin and destination areas. This occurs because the migrant streams often differ markedly from the sending and receiving populations. As shown in Table 8, Alaskan migration rates are higher for whites than Natives, higher for females than males, and follow an age pattern which peaks in young adulthood. In most cultures, migrants

[1] Interview with Jerry Nelson, Community Enterprise Development Corporation of Alaska.

Table 8

INTERCOUNTY AND INTERSTATE MIGRANTS, 1965-1970, AS PERCENT OF ALASKA POPULATION, BY RACE, AGE AND SEX

	Native and Other Races*		White	
	Male	Female	Male	Female
5-9	11.6	16.6	47.2	44.7
10-14	9.4	8.8	45.2	43.0
15-19	10.9	15.3	37.0	41.7
20-24	21.1	27.5	50.2	64.0
25-29	26.7	23.2	53.5	59.2
30-34	15.0	16.8	46.8	50.9
35-39	13.6	17.5	41.0	45.9
40-44	14.0	13.4	34.9	30.0
45-49	7.4	8.8	28.6	29.6
50+	7.5	7.1	20.4	23.9
TOTAL	12.3	15.0	39.8	44.3

*Non-white, non-Negro.

Source: Daniel A. Seiver and Susan R. Fison, Alaskan Population Growth and Movements, 1960-1973, Fairbanks: University of Alaska, April 1975, pp. 19-20.

also tend to be better-educated than non-migrants, and tend to be frequent movers. Declining populations become depleted of the higher-mobility groups which congregate in the growing areas. The age selection effect of migration can rapidly "age" a declining population, depressing its crude birth rate and elevating its crude death rate, by shifting the proportions of young adults and older people. (This effect is not very prominent in the 1970 Census data because of the high rural birth rates which prevailed in the 1960s, but could become a factor if present trends of urban migration and declining rural fertility[1] continue.) The educational selection effect, commonly called the "brain drain," lowers declining areas' skill levels. The selection of frequent movers, finally, depresses the declining area's outmigration rate after a while, leaving a stable residual population very resistant to further decline.

An analysis was made of village 1970 Native age and sex distributions for north and west Alaska. Comparisons were made first between all villages and the Anchorage and Fairbanks areas (Table 9), and then between groupings of villages by 1960-1970 growth rates (Table 10). The villages which lost substantially can be compared with those which were roughly stable (± 5%), those which grew at up to 38% (with probable outmigration), those which grew more than 38% but were reported in 1960, and "new sites."

A close look at the age distributions reveals that there is a huge age cohort which was aged 5-14 in 1970, born in the first decade of reduced infant mortality before birth rates began to decline. The cohort is just now reaching its years of greatest mobility, which will extend to about 1990. It contains 31.7% of the Natives of north and west Alaska, twice as many as the ten-year cohort above it (15-24) and three times the one above that (25-34), which together dominated recent migration rates. Due to education, rising prosperity and better urban-rural communications, we expect mobility to rise. But even if age-specific rates remain constant, the number of Native migrants will be in 1975-1980 roughly double what it was in 1965-1970. The combined influence of these changes would be to reduce the growth of the total population, but to increase the growth of adult population in the villages.

There is, as expected, a downward shift of ages from village to city

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[1]Daniel A. Seiver and Susan R. Fison, Alaskan Population Growth and Movements, 1960-1973, Fairbanks: University of Alaska, April 1975.

Table 9

COMPARISON OF 1970 ALASKA NATIVE POPULATION CHARACTERISTICS BETWEEN NORTH AND WEST ALASKA AND THE BIG CITIES

Age	Percent Distribution of Population by Age		Sex Ratio by Age	
	North and West Alaska	Anchorage & Fairbanks Census Div.	North and West Alaska	Anchorage & Fairbanks Census Div.
0-4	13.9	13.4	1.04	1.13
5-14	31.7	26.5	1.06	1.06
15-24	15.9	20.4	1.02	.77
25-34	10.7	16.5	1.14	.75
35-44	9.4	11.7	1.09	.66
45-54	6.9	5.7	1.25	.83
55-64	4.9	2.6	1.18	.90
65+	3.5	3.1	1.33	1.75
TOTAL	100.0	100.0	1.07	.89
BASE POPULATION	31,646	8,034		

Sources: BPA Village Roster (Appendix A) and Selected 1970 Census Data for Alaska Communities, Alaska Department of Community Affairs, March 1974.

Table 10

COMPARISON OF 1970 ALASKA NATIVE POPULATION CHARACTERISTICS BETWEEN VILLAGES BY GROWTH RATE 1960-1970

	Percent Distributions of Village Populations By Age and Village Growth Rate			
Age	Less Than -5%	-5% to +5%	5.01 to 38%	More Than 38%*
0-4	11.8	12.4	13.9	15.1
5-14	31.1	31.3	32.3	31.5
15-24	18.8	19.1	17.6	19.0
25-34	10.5	10.4	10.2	11.3
35-44	10.2	10.1	9.2	9.1
45-54	7.4	7.0	6.9	6.6
55-64	6.2	5.2	5.0	4.2
65+	4.1	4.5	3.4	3.2
Total, 1970	4,911	2,690	11,943	12,105
Number of Villages	52	19	45	52
% Total Population	80.7	90.7	81.5	58.5

	Native Sex Ratio By Village Growth Rate			
Age	Less Than -5%	-5% to +5%	5.01 to 38%	More Than 38%*
0-4	.98	1.32	1.08	.99
5-14	1.04	.99	1.06	1.08
15-24	1.08	1.01	1.01	1.00
25-34	1.37	1.31	1.08	1.08
35-44	1.18	1.10	1.03	1.10
45-54	1.32	1.29	1.22	1.25
55-64	1.28	1.47	1.02	1.29
65+	1.80	.85	1.18	1.57

*Including new sites.

Sources: BPA Village Roster (Appendix A) and Selected 1970 Census Data for Alaska Communities, Alaska Department of Community Affairs, March 1974.

Natives, and from declining to rapidly growing villages. Even the substantially declining class of villages, however, had a median Native population age of about 19 -- far from being "depleted of its youth." This is no doubt due in part to the very limited migration propensities of Natives even at their most mobile ages in the 1965-1970 period. With vastly increased exposure to the non-village world which has occurred since then, these propensities will probably increase.

A second and more pronounced difference is the percentage of Natives in the population who constitute 80% to 90% in places having outmigration, but only 58.5% in places having inmigration. The presence of large numbers of non-Natives in a place probably indicates the presence of economic opportunities and public services which would serve to attract both Native and non-Native migrants.

Sex differences also appear between the growth classes, in Table 10, with a deficit of females in the state as a whole and in the village (particularly the declining ones) but a surplus of females in the Anchorage and Fairbanks areas. Deficits of females in remote villages have also been observed by anthropologists at the case study level. Both a lack of satisfying role models for women in the modernizing villages (where women's traditional crafts have been largely supplanted by industrial goods) and the relatively greater opportunities for Native women of intermarrying with whites have been suggested as reasons for which adolescent and adult women leave the villages.

The profiles in Table 10 of Native sex ratios by age generally substantiate the view that young women are urbanizing more rapidly than young men, but a sex imbalance which may or may not be due to migration appears in the 0-4 age group. The statewide Native sex ratio* for ages 0-4 is 1.06, slightly above normal, and a very high 1.13 for Anchorage and Fairbanks, despite their low overall sex ration. The possible explanations for the apparent deficit of female Native infants in the cities are sex-imbalanced birth, migration, or survival rates. Sex ratios at birth are unlikely to vary this widely from random fluctuations for the large number involved in the Native 0-4 age group: 1,074 Native children in Anchorage and Fairbanks with a sex ratio of 1.13 and 373 children in the stable-population group with a sex ratio of 1.32. Selective urban migration of males rather than females of this age is certainly possible, but the mechanisms are hard to visualize,especially since according to Table 8 females are the more mobile group at

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* The sex ratio is the ratio of number of males to number of females in a population. If the ratio is over 1.0 there are more males than females.

this age (being harder to place with relatives in the villages, and thus more likely to accompany a single mother on her way to the big cities). Infanticide, which according to Oswalt, "was practiced everywhere" by Alaskan Eskimos in historical times when the offspring could not be supported,[1] is another. Male infants were allowed to survive in preference to females,[2] resulting in a high sex ratio. Further investigation seems to be needed before any conclusion can be drawn on this question.

A note on the seasonal rhythms of population

The figures discussed above come mostly from the U.S. Census and therefore represent the distribution of population as of a certain date in April. In Alaska there are important seasonal rhythms in the movements and distribution of population. In the winter, many Native children are living at boarding schools and dormitories away from their villages. Moreover, some families move to be with their children. Children and such families are counted where the school is in April, although they may return to their villages in the summer.

Many men and some women who are in their villages in April spend their summers elsewhere, working in canneries, off on long fishing trips, working on construction, serving with the National Guard, and otherwise earning money, to return to their villages in the fall.

Longer rhythms are sometimes involved. School children, and frequently their families, may be away most of the year for many years and, when their schooling is over, return to their villages or perhaps move to larger centers. There is also anecdotal evidence that Natives who have many years before left their home grounds to work in the monetized economy sometimes retire back to their villages, much as did many Europeans who had gone to America. Further anecdotal evidence points to Natives who are making successful careers in the white man's world and keep a second home in their villages of origin. Sometimes they vacation there; sometimes part of their family is with them in the city and part in the village. In many cases it appears that these

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[1] Wendell H. Oswalt, Alaskan Eskimos, San Francisco: Chandler Publishing Co., 1967, p. 193.

[2] Ibid., p. 194.

people regard their true residence as the village, and their actual residence elsewhere, however extended, as a transitory phenomenon. Indeed, in interviews, we were told that many apparently abandoned villages are still the true homes of many people. It may be useful for certain purposes to consider such cases as residence by reference (outstandingly in the enrollment procedures of the Native Claims Act) by contrast to residence by presence elsewhere on a seasonal or longer rhythm.

These seasonal and longer cycles of residence must be kept in mind when assessing the figures of the April Census. We have not found adequate sources to quantify these rhythms, but they must be considered as pulsations about the April Census figures rather than a steady level or trend.

III. THE ECONOMY OF VILLAGE ALASKA

Commonly, Village Alaska is said to be "in transition," as if it were going from the Native culture and way of life into the white man's. This appears an oversimplification. Rather than transition, what is taking place might more properly be called evolution or transformation, and the emerging patterns are not a replication of those of the white society but an amalgam of Native and white in unique combinations. The demographic factors discussed in the previous section make it clear that Village Alaska will endure as a demographic reality. But it will also change.

The Village Then and Now

Consider the typical description in the literature of the Native village of some years ago.[1] This village, if primitive by modern standards, nevertheless profoundly differed from the temporary camps and settlements which existed prior to white contact, and integrated in many ways with the white economy despite its extreme isolation. The village was typically established at a point of white contact -- a store, mission, or cannery, for example. Most of the food was caught by hunting and fishing, and consumed by the inhabitants although sometimes traded with nearby villages. Many, mostly men, went off for summer work and brought back the money they had earned. Other money came into the village by governmental transfer programs, such as aid to dependent children and old age assistance. In the larger villages, a few jobs were available locally, such as postmistress, school teacher, and one or two janitorial and maintenance jobs. The technology was basically simple, although it incorporated some of the products of modern society in the form of canned foods, flour and sugar, outboard motors and rifles, and possibly a radio transmitter-receiver operated from a small generator.

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[1]Norman A. Chance, The Eskimo of North Alaska, New York: Holt, Rinehart and Winston, 1966; Arthur E. Hippler, From Village to Town: An Intermediate Step in the Acculturation of Alaska Eskimos, Minneapolis: University of Minnesota, October 1970; Dorothy M. Jones, "Patterns of Village Growth and Decline in the Aleutians," Fairbanks: University of Alaska, October 1973; Wendell H. Oswalt, Alaskan Eskimos, San Francisco: Chandler Publishing Co., 1967; U.S. Federal Field Committee for Development Planning in Alaska, Alaska Natives and the Land, Washington, D.C.: Government Printing Office, October 1968, pp. 39-82, 99-283.

Imported goods arrived by ship or riverboat once a year when ice and weather permitted. Dogs were important work animals and consumed a significant part of the food supply. Life was often hard and short.

Today such a village has much changed and the isolation is greatly reduced. Some of the changes may seem trivial, others fundamentally important. Few starve, and most infectious diseases are under control. There are fewer dogs: those that remain are used as pets. In their stead, the snow machine has become ubiquitous. Virtually all villages have an airstrip or can accommodate float planes, compared with a handful 15 years ago, and over a hundred villages now have scheduled air service.[1] Many of the villages are electrified, and this has brought such household machines as washers to the daily life. It has also brought in television. More and more villages are tied to other high forms of technology, such as telephones and satellite communications. Most villages receive some routine health care, an innovation since 1950. Some of the inhabitants of each village are corporation officials, and many travel to the cities, even outside Alaska. A majority of children attend high school, often outside their village. Many quasi-inhabitants work in the major cities and return on vacations from time to time to re-establish contact with their families and their traditional way of life.

The changes have been swift, in the counterpoint of modern technology and modern ways with the traditional ones, and their intermixture is striking. Louis Wirth observed that urbanism is a way of life. In some ways, what seems to be happening is that many of Alaska's Natives, while living in the villages, are becoming somewhat urbanized.

Residential Preferences

Many surveys confirm what might be expected with respect to Native residential preferences. Alaska's Natives, in the majority, prefer to live where they can continue their traditional way of life, and in particular where they grew up and where their family and friends are. But they are also strongly attracted to jobs, to services, and to better housing. These are to some extent contradictory desires, and they account in large measure for the

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[1] Official Airline Guide, North American Edition, Reuben H. Donnelley Corporation, Oak Brooke, Illinois, February 1, 1976.

migration of many Natives to the cities and for the transformation of the character of the villages. It is also these contradictory desires that produce the changes which are not transitions from one thing to another but transformations by reconciliation of opposites.

The 2(c) survey[1] is by far the most complete study of Native attitudes. It goes well beyond the immediate topic of government services, into general patterns of family and community life and livelihood. The sample was large and carefully structured with respect to geographic representation. It is essentially a survey of older Natives, although taken on behalf of households which included younger people. No respondents were under 18. The respondents had a median age of 38, compared to 18.1 for all Alaska Natives. The survey universe of adults only is without doubt the most appropriate one for many political questions. It is less appropriate, however, for anticipating future population movements and changes of life style for the simple reason that most moving and changing is done by the young. For example, 60% of Natives who moved between Census Divisions between 1965 and 1970 were under 20 in 1965.[2] Some of these, of course, were dependent children who had little say in the matter, but the largest group of migrants among Natives, as among whites and in most other cultures, was the 15-24 age group. Locational attitudes expressed by the survey sample are likely to be more traditional and village-oriented than would those of a younger sample. Unfortunately, the report does not tabulate responses by age.

The question was asked in the 2(c) survey, "If you could live anywhere you wanted, where would you choose to live?" Results are quoted in Table 6. The majority of respondents chose their present residence, except those living in large Native villages (which we have called Regional Centers in this report). In spite of the evidence of a stage urbanization process, a majority of large-village residents would prefer to live in a Native village, indicating the conflict between attitude and behavior. The percentage choosing their present residence was highest in "medium villages" of 200-999 persons.

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[1]Department of the Interior, 2(c) Report: Federal Programs and Alaska Natives, "Task III - A Survey of Natives' Views," Portland, Oregon, ca. 1974.

[2]Ibid., Part B, p. 5, Table A-9.

The question was then asked, "Do you think the native children here in _____ will want to live in a native village when they grow up?" Again, the medium villages showed the greatest satisfaction, but the respondents expressed a much lower expectation of village residence for the next generation than for themselves. Nevertheless, 41.2% of all respondents answered yes, including 22.6% of urban residents and 50.7% of those in Native villages.

Education is almost certainly an urbanizing influence. Respondents to the 2(c) survey who were college or vocational school students (n = 192) were asked, "Where do you think you will live after you finish your education?" The largest group (39.3%) didn't know, but only 26.7% chose a Native village or Native regional center, while 34.0% chose a non-Native place or city or outside Alaska.[1]

The Subsistence Economy

A pure subsistence economy is a closed system, without exports or imports. As such, the pure subsistence economy no longer exists in Alaska. The subsistence economy has formed part of a dual economy, integrated with a monetized economy based on imports and exports, and on monetary transfers. Hunting and fishing are not only for subsistence. There is sale or barter of fish, hides, baleen, and craft goods. Similarly, hunting and fishing now employs imported fuel, motors, snow machines, guns, tackle, etc.

The directly consumed portion of the catch is nevertheless of great economic importance in Native life. Surveys indicate that subsistence hunting and fishing still provide large portions of the Native's diets and employ large parts of their time, even for those living in cities.[2] The proportion of subsistence is smaller in the larger places, but even in the cities it continues to play a role. So, while the continuing shift toward larger villages and cities is associated with increasing reliance on the monetized economy, some aspects of village life are carried into the cities.

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[1] Ibid, Task III, Part B, p. 72, Table 23-14.

[2] Ibid., Task III, Part B, Sec. 1, "Survey of Alaska Natives 1974," p. 5, Table 2A-6; Alaska Department of Community and Regional Affairs, Does One Man Have to Die so Another May Live? Juneau, 1975.

Hunting and fishing will continue as important sources of the village livelihood, although eroded by the growth of the monetized sector. But these activities in themselves are faced with some important changes. The sources of animals and fish are in some places threatened by the danger of environmental degradation, as in the areas where there is offshore drilling for oil. There also appear to have been restrictions from environmental preservation efforts, as in the cases of conflicts between the establishment of wildlife reserves, closed seasons, bag limits and licensing. Whereas "subsistence" hunting and fishing are permitted on most reserves, the sale of the catch is prohibited and the status of craft products derived from the catch is unclear.[1] In some inland regions there seems to be a danger of exceeding the environmental capacity in terms of game, especially caribou. The herds have diminished, and Natives remark that it is harder to find game. Reduced game was regarded as a major problem of subsistence pursuits by over 21% of respondents to the 2(c) survey (the state average) in the Aleut, Bristol Bay, Cook Inlet, Ahtna and SE Alaska Native Regions.[2] Some of this may be attributable to natural cycles in animal populations; some of it seems to be because of sport hunters and wolves, which have been increasing rapidly and also feed on this game. In the longer run, the question of human population pressures on the animal population must also be considered, since the number of Natives increased by over half from 1950 to 1970 and is growing now at about 2% per year. The relation of carrying capacity and subsistence economy is clearly worth examining in more detail. The Federal Field Committee found scant food resources being harvested at "near carrying capacity levels" in many areas.[3] yet we encountered no systematic sources of information dealing with this, and no particular concern either in the literature or from those we interviewed. On the other hand, we received several reports of loss of hunting and fishing skills among the young (due in part to the demands of formal education) and even of a disinclination to do serious hunting and fishing. If this is true, it clearly might bring about problems of greater reliance on the monetized economy, but it would alleviate the potential problem of carrying capacity.

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[1] David Getches, "Trouble Ahead: Some Questions and Answers About the Future of Subsistence Hunting and Fishing in Alaska," The Alaska Native Foundation, Anchorage, March 1975.

[2] U.S. Department of the Interior, op. cit., Task III, Part B, "Survey of Alaska Natives 1974," p. 25, Table 2D-5.

[3] Federal Field Committee for Development Planning in Alaska, Alaska Natives and the Land, Washington, Government Printing Office, October 1968, p. 195.

It is difficult to estimate the magnitude and prevalence of the subsistence economy. There is no way by which one can really put dollar values on its products, so that numerical estimates of the relative shares of subsistence and monetized local economies do not have clear meaning. The measure "number of months spent yearly in subsistence activities" averaged 6.4 for Native villages and 3.7 for non-Native places according to the 2(c) survey.[1]

A striking feature of hunting and fishing for subsistence is that it has now incorporated as capital a great deal of technology which originates in the monetized sector. This includes outboard motors, snow machines, rifles, sonar, and the use of freezers to preserve some of the catch. This capital intensification of the subsistence sector, based on the monetized sector, means that now the continuation of the subsistence economy requires increasing sources of money, and therefore in itself leads to the expansion of the monetized sector. It also points to some social problems. Where this technology increases the effectiveness of the hunter and fisherman, it means that because he can catch more quickly, there will be more time left over, and in some cases there appear to be problems of idleness, which may be connected with social and personal problems, such as drinking and feuding.

Although we encountered no information on the matter, based on the experience of other societies this change in the technology of traditional activities may be expected to lead to cultural changes as well. The traditional society develops its cultural forms and social organization in accordance with its modes of production. The status of individuals, the forms of organization, even the rituals, the songs, and the folklore are based on this integration of material pursuits with the social and cultural superstructure, and a change in one may be expected to lead to a change in the other. For instance, the status of the elders has been based in part on the great value of their long experience and practical knowledge in hunting and fishing, and its economic value. With new technologies, technological sophistication can become even more valuable than long experience, and this will typically be the province of the young. Therefore one may expect a change in the social organization of the village from these changes in the subsistence sector, in a manner parallel to the changes brought about by the emergence of new bureaucratic and institutional forms which are placing power and responsibility among the more educated and younger population.

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[1] U.S. Department of the Interior, op. cit., Task III, Part B.

In brief, the persistence of the subsistence sector is not an unalloyed source of stability but as this sector itself changes, it too becomes a source of change.

A final point which should be made on the subsistence economy is its value as social insurance. Historically, the Alaskan cash economy has been undependable, to say the least, from the Native point of view. Most jobs have been seasonal, cyclical and temporary. (Even the emerging Native Corporation bureaucracies face a probable income crisis when their cash settlements run out in a few years.) Without subsistence skills and resources to fall back upon, these oscillations would be even more damaging. The Federal Field Committee wrote of the Eskimos of the Yukon-Kuskokwim Delta: "Simply put, it must be emphatically said that without the seasonal round of subsistence harvest of fisheries, wildlife and berries, most people would die!"[1]

The Export Sector

In standard regional economics, the export sector accounts for the economic life of communities. The dollars earned by the sale of goods and service to the outside world are then respent within the community, giving rise to a residentiary service sector of schools, restaurants, and so forth. In the case of Alaska's villages, this conventional picture is quite misleading. This is because of the existence of the subsistence sector, but equally importantly because the export sector consists only partially of the export of commodities and services and to a large extent it also consists of direct transfers (such as welfare programs) and indirect government transfers (such as the payment for schools and other services with monies raised elsewhere), and to a degree that is as yet uncertain it will consist of returns to capital and to rents on resources through the recently-formed Native corporations.

Export of Commodities and Services

Perhaps the major and most traditional export of Alaska's villages is that of labor. Natives, principally men, have traditionally left the village during the summer months to seek employment elsewhere, returning then with some portion of their earnings. Except for its disruptive social aspects, this is economically equivalent to the use of labor in the village and the shipment out of goods for sale, in return for which monies would come. In

[1]Federal Field Committe, op. cit.

this case, the labor is exported directly rather than embodied in goods and services.

The traditional employment in the summer has been in construction, in commercial fishing, and fish processing, in National Guard service, and formerly in mining and whaling. More recently, the construction sector, and related activities such as security services for construction projects, has boomed with the oil pipeline and related projects. These jobs pay extraordinarily high wages, and have undoubtedly contributed to the capitalization of the subsistence sector mentioned above. A severe potential problem is that this boom is of uncertain duration. The oil pipeline will soon be completed and, although there probably will be other projects in the form of gas pipelines, offshore drilling, development of ports and other infrastructure, there will certainly be slack periods. If a major interruption of income happens, some of the monetary capacity to which some villages have become accustomed would be drastically reduced, and adjustment would be difficult. A further problem is that these high-paying jobs apparently set, in the minds of many, unrealistic expectations as to wage rates, and make more difficult the development of other types of employment because workers are not willing to accept normal production worker levels of wages.

Besides the export of labor, the second major export is in the form of commercial fishing and fish processing. Most of the proposals and ideas for expanding the export base also relate to these areas, and this suggests that the economic future of coastal villages may be stronger than that of the inland villages, continuing and perhaps accelerating the process of coastal concentration and interior decline mentioned in Section II. Fishing is increasingly a capital-intensive international industry, however, in which the Americans are competing less and less successfully with the Soviet and Japanese, and in which Alaska Natives are at a further disadvantage in being compelled to sell their catch only to in-state processors.

There are a few other types of exports, such as crafts and tourism. Both of these appear to have limited prospects for development. There may be some possibility of developments of the crafts on the Canadian pattern, but it has so far proven very difficult to organize the producers to maintain a market. In the case of tourism (where the customers come and bring their dollars, rather than sending the dollars in exchange for goods as in the case of other

export activities), there may be some prospects for increasing development. However, because of the distance from the principal sources of tourists and the difficult climate over much of the year, the expansion will be limited. Moreover, the type of tourism which is based on hunting, fishing, and other outdoor activities typically brings relatively little money per tourist-day and may conflict with Native uses of the fish and game. On the whole, there appear to be very few ideas available for possible directions in the development of a conventional export base in commodities and services. This is one of the greatest problems of the region. It puts it ultimately in a position of dependency, taking money from the outside for its needs but not returning goods and services as a quid pro quo. If the Native Corporations are able to generate a significant stream of income from profits in outside investments and royalties on resources, the dependency would be reduced, of course, but this remains to be seen.

The ideal industry for the region may be described abstractly: it should use local materials, it should produce output with a high value to weight ratio, it should be labor intensive, it should be capable of high productivity at small scale of operations (perhaps even cottage industries), and it should be counter-seasonal, to complement the higher levels of activity in the summer. But the fact remains that there are few if any proposals to match this abstract description.

It must be noted at the same time that there is a contradiction between an objective of full employment in production for export and the desire to preserve the villages as a way of life. Full employment in conventional economic activities would be as destructive of the Alaskan village's cultural heritage as the migration to the city and would probably contribute to cultural change which would increase the pace of urbanization.

Because of the limited prospect of the production of goods for export, it seems apparent that Village Alaska will go from a primary economy directly to a service economy, without passing through the traditional intermediate stage of the secondary or manufacturing economy.

Transfers

There are three types of transfer incomes. First, there are direct government transfers such as old age pensions, aid to dependent children, unemployment payments, food stamps, boarding fees for school children, etc. These represent a substantial source of income in many villages. Second, there are what may be termed indirect transfers in the form of salaries and other expenditures associated with services paid for with funds which originate outside the region. These funds include the wages of the local schoolteacher, the postal employees, health aides, and a caretaker for the school. These, too, can be an important source of cash flow in a typical small village, quite aside from their functional values, although the highest salaried positions are typically held by non-Natives. Finally, there may be in some cases a private remittance, money sent back to relatives by villagers now living more or less permanently elsewhere. Although, based on the experience of other poor and labor surplus regions, these payments may at times be quite substantial, we found no information about them.

While, on the whole, these transfers may be modest, they can be quite important in a small village, particularly because they are more dependable than other sources of money and can be counted on during the long winter, when the probably greater summer savings have been exhausted.

Earnings on Capital and Rents and Royalties on Resources

With the formation of regional and village Native Corporations under the 1971 Native Claims Settlement Act, two other potentially important sources may be available to the village economy, although their magnitude is uncertain. These corporations have, and will have more, funds available to them for investment. These investments may be located either within Native Village Alaska or outside of it. In either case, if profits are realized and distributed to the inhabitants of the villages, this would obviously provide a source of cash. How significant a source it will be, and how well distributed among the villages, remains uncertain. But the possibility does exist that to one degree or another the inhabitants of the villages may be able to live off the proceeds from capital, in the manner, if on a different scale, of some resort communities of the very rich.

In addition to returns to capital, the village corporations will enjoy

to a degree which is at this point quite unpredictable, rents on resources. That is to say, payments for the use of their land holdings, payments for exploitation rights, sales of underground resources, and perhaps others. The amount and the evenness of their distribution of monies from this source over the coming years remains one of the most intriguing questions. Potentially much of the village economy would be based on collections of royalties and rents. How the culture and way of life would change in such a rentier economy is a matter for speculation.

Corporate investments may to some degree be directed toward local economy, backing industry or service occupations. If such investments can be realized (and we discussed above that there are few proposals), they would be doubly beneficial in that they would not only generate profits but also jobs. It must be noted, however, that these investments need not be restricted to economic activities that would produce commodities or services for export. There may be opportunities in the residentiary service side that would increase the multiplier on other sources of funds. The multiplier is aggregate economic activity generated by a dollar's coming into a community. Some of it is spent to import goods and services from outside, but some is spent for local goods and services. Of the portion which is spent locally, again, some goes for imports and some is respent locally. Mathematically, the multiplier is the inverse of the propensity to import, so that if investment can improve the local economy's ability to provide locally what had previously been imported, each dollar that comes in from the outside will cycle longer within the local economy and provide more local jobs and income. In the developing countries, an economic strategy of increasing the multiplier has been called an import-substitution strategy. If Village Alaska cannot devise exportable production, it can probably find ways to increase the local bang for the buck of its outside income by developing its capacity to serve its own population.

We were unable to study this theme in any detail, but these possibilities suggest themselves: retailing; charter aviation; food cooperatives; housing and other construction; fuel wholesaling and retailing; repair of motors and electrical machinery; clothing and apparel; food processing. There are probably others. For instance, only slightly over 1% of the teachers of schools serving Native Alaskans are other than white. A policy of human

capital investment to qualify Natives for these jobs may be worth investigating for its direct and multiplier returns. The number of jobs involved directly is a significant fraction of the labor force, the overall impact is greater.

On the whole, we must note that the idea of a strategy of increasing the multiplier was not in evidence in dealing with the economic problems of Village Alaska. It may well be such a strategy favors location of activities in larger places, reinforcing current trends, but it seems clearly indicated in terms of what groups benefit. You must change to remain the same. Village Alaska will increase its multiplier and retain ~~more of itself by~~ doing more for ~~itself.~~

A third and already visible aspect of the Native Corporations is that of necessity they must become organizations with staffs, headquarters, and the other appurtenances of a corporation. In this sense, the immediate effect appears to be one of centralization. Several of the Native Corporations have located their headquarters in Anchorage or Fairbanks, and others have done so in the regional centers of Bethel, Kotzebue, Barrow, and Nome, with branches in the major cities. Although we were not able to ascertain the number of jobs created, in an economy as small as that which we are discussing even a few jobs for each of these corporations becomes significant.

Two other effects may be noted. First, the corporations' need and search for the qualified officials have created what is, at least in the short run, a brain drain among the Native populations, skimming off from villages a substantial proportion of the educated and knowledgeable Natives. While the presence of these people is beneficial to the Native economy through their services to the corporations, it is obvious that it may have some detrimental effects by thinning out the availability of these skills at the village levels. This may diminish their economic flexibility and their ability to make best use of their opportunity.

Another effect may be noted, which was reported to us but which we have not seen documented. It is that the formation of a number of positions in the village corporations, and the need for the creation of some new organizations of villagers for their own governance in order to interact with the new relations with the outside world, has thrust into important community roles a younger and more educated generation, in some contrast and conflict with the leadership by the older generation which has been traditional. This may

be the source of some conflict. Moreover, one informed observer remarked that a quite unexpected effect has been the passing over of that generation which is now of middle age, who in the normal course of events would have eventually succeeded to the leadership of the elders, but who now are preempted by the younger leaders. The consequences of these generational effects may be significant and complex.

Finally, in contrast to the initial effects, the concentration of Native Corporation personnel in cities may have longer-run consequences, at least according to one of our respondents. He suggested that Natives now living in cities, who have become familiar with business practices, appear to be an important source of potential entrepreneurship in the villages and are the sources of some of the current economic development proposals. If this pattern is successful, a return flow migration from the cities, even if small in the numbers of actual returning migrants, could be profoundly significant in their economic development.

This tendency towards concentration from the organization of Native Corporations, and the associated possibilities of a diffusion of economic development to the villages through knowledge and entrepreneurship developed in the cities, point to the interaction of the system of the villages with the urban system in Alaska, and to the need of considering both together rather than one as apart from the other.

The Residentiary Service Sector

Increasing the export sector, whether by the sale of goods or services or the collection of returns on capital or rents on resources, is a necessary but not the only strategy for economic development. As mentioned earlier, it is also possible to follow a strategy of import substitution. The logic of this strategy is based on the concept of the multiplier. For each dollar brought in by the export base, some fraction is spent in the local economy. Some of this is paid to the local for local goods and services, and some goes immediately to the outside world to pay for imports. Thus, when one buys a tin good, part of the purchase price goes to the local grocer, but most of it flows out immediately to pay for the wholesale price of the can of goods. The higher the proportion of locally produced goods and services to each dollar spent within the community, the higher the multiplier, which is the ratio of dollars generated for the production of local goods and services

for local consumption to the production of goods and services for export. As the proportion of local value added increases to the locally consumed goods, the total economic value of each dollar of exports increases. For instance, if prefabricated housing is bought in the village, almost all of that commodity is produced outside, with only minimal labor input for assembly. On the other hand, housing which is produced locally, with relatively few imported components, not only results in the consumption of housing (which the prefabricated house does as well), but also generates jobs and income within the community.

The opportunities for increasing the proportion of local value added for local consumption appear to be largely unexplored with the exception of BIA mutual self-help housing, in which Native labor goes largely unpaid, and some gardening. It would seem, for instance, that in the provision of frequently bought goods, retail and wholesale establishments would provide such an opportunity; others that come to mind are in the areas of housing, and the repair and maintenance of equipment, in the area of transportation (especially air transportation), and there may be others. This is especially true if one considers the villages not one at a time but as a system. The particularities of climate, clothing, culture, and dietary patterns suggest that there may be sufficiency of demand, and a sufficiently differentiated market for the development of Native enterprises in these sectors. This is a matter that deserves exploration.

Public and Semi-Public Services

In an economy as small, as unstable, and as rapidly changing as that of Village Alaska, various public and semi-public services such as schools, electrification, post offices, and telephone services have a variety of effects. In the first place, there is the service they perform, such as the education of children. In the second place, because the services are not available at the same levels at different locations, they affect the locational choices or preferences of portions of the population. For instance, in addition to jobs, the availability of housing, schools, and health services are important to the decision to stay or move among many Natives. Thirdly, the provision of the service itself, as was discussed in an earlier section, may bring into the community monies from the outside and contribute to and

be a portion of the export sector of the community, provided that the funds by which the service is paid are not raised locally. Thus, a local schoolteacher paid with federal funds, or a teacher's aide, functions in economic terms as an export job, and a few such jobs in a village may have great significance in terms of its cash economy.

Two basic issues appear to be central in the provision of these services. The first is whether the village populations shall pay for them, or whether they will be paid by the rest of the national economy on a basis of economic and social justice. Such an issue comes up in very immediate terms in the experience of some of the recently electrified villages, where the system was to be repaid through user charges, but where in fact it has proven very difficult to collect these. The same applies to some other services and raises the question of what decisions shall be made as to the level and coverage of villages in such services. It should be noted that if the costs are not to be recovered, such services become a subsidy, and thus a net benefit to the villages. On the other hand, the decision of providing them becomes lodged much more with others, outside the villages, and based on politics, goodwill, and the sense of social justice from outsiders. In other words, it puts the villagers in a position of dependency and lack of control over their own destinies.

The other fundamental feature of these services is that they all share a two-way pull. On the one hand, the logic of their efficient provision calls for large scale, and therefore of concentration of services and populations, from smaller to larger villages, and from villages to district centers. On the other hand, the purpose in maintaining the existence of villages and improving the quality of life in them calls for their dispersal to where the people in fact are. But this dispersal on a smaller scale of operation of each unit means that the costs are higher and sometimes the service inferior. The resolution of this dilemma will be one of the main problems facing the planning of Village Alaska. It is not susceptible to purely technical solutions: human values, sometimes contradictory, politics, and economic conditions will dictate the outcomes.

In this modest study we are unable to analyze fully every service. We believe that the ones we have selected will prove to be fairly representative and will adequately illustrate the fundamental issues.

(a) Schools

Most villages, except the very smallest, have primary schools. The majority of these are essentially one-room, ungraded schools, with a single teacher, and in some cases also a bilingual teaching assistant. Their educational role is obvious and the paychecks of the teacher and the assistant are an important economic factor in many villages. It must be noted, however, that only a minute fraction of the teachers are themselves either Natives or long-term residents, and that the economic gain represented to the village therefore is not the job itself but the portion of the salary spent locally.

The role of secondary education is far more complex. Traditionally, however, relatively few Native children went on to high school, and those who did left home to do so. Mt. Edgecumbe in Sitka was and remains the pre-eminent school of this type. Its role has been profoundly influential. It has trained a great share of the educated Natives and has created in effect an elite which now contributes disproportionately to the most important jobs occupied by Natives, including those in the Native Corporations. At the same time, while taking the academically ablest students from the villages, it separated them from village life and culture and a large proportion failed to return. Thus, this school, and some others, has created the leadership group current in Native affairs, while accelerating the departure of these groups from Village Alaska.

The high school system is a major force of urbanization. Almost one-half of all Native high school students are enrolled in either a boarding home program or a dormitory program run by the state or the BIA.[1] Only 76 of a total of 178 Native communities have access to high schools in their area.[2] However, most of these schools do not offer a complete high school curriculum. Thus, in order to attain a diploma it is necessary for students to leave their communities to attend school in other localities. The state operates only 15 high schools in rural areas, some of which are boarding programs. With

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[1] Department of the Interior, op. cit., Task II, Part A, p. 6.

[2] Ibid., p. 5.

the BIA supplementing the number of high schools in rural areas, the total runs to 22. Less than 73% of all high school age children attend high school, some probably because they must leave their village to do so. Furthermore, high school training outside the home village often leads to the students not returning to the village. For example, Hippler notes in Point Hope that a "substantial" number of young girls never came back from high school outside the community.[1] On the other hand, though, many students drop out of the high school program early. The State Operated Schools dorm program had a dropout rate of 20% while the boarding home program had a rate of 15%. The high school program has also extended its urbanizing influence beyond the child involved. Dixon and Gal suggest that many families move to urban centers when their children reach high school age in order to maintain family cohesion rather than separation while the children attend school.[2]

In recent years, there has been an expansion of secondary education associated with the formation of regional schools. Students did not need to go as far away from their villages, and there were attempts to house them in dormitories or in boarding houses, frequently with adult members from their village. The net effect of this, in terms of residential preferences, was probably to reduce the tendency to urban migration by reducing the cultural and geographic break with the village.

At the same time, these regional schools provided an important economic base for the communities in which they were located. They brought in the salaries of the teachers and other school personnel, and not unimportantly, the boarding fees of the students themselves. Moreover, a very high proportion of families moved to these educational centers through the period of their children's schooling to be near them. Such families would also bring their income into the local economy. Thus, as in university towns, education provided the export sector to the local economy. In terms of the pattern of villages, the educational centers would experience growth from this

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[1] Arthur Hippler, op. cit., p. 18.

[2] Mim Dixon and JoAnn Gal, "Analyzing the Impact of Rapid Change on Culture in Rural Native Alaska," (Draft, Mimeo), January 12, 1976, p. 79.

new economic base, but this concentration effect would be mitigated presumably by the reduced tendency towards outmigration of the graduates of these schools.

There were 29 high schools in north and west Alaska as of 1975, located mainly in the larger villages as shown in Table 11. Only one of the 83 villages with less than 150 persons had a high school, while 22 of the 56 villages between 150 and 1000 did, and six of the seven over 1000.

It now appears that high schools will be provided by the state in all villages that can provide at least eleven students as a result of the Supreme Court finding in the Hootch Case.[1] This change in educational policy may well present a serious break in the economic bases of those communities where the regional high schools have been located, while somewhat expanding the economic base of each of the many more locations for the new high schools. It would in that sense lead to a relative dispersal to smaller villages, although the very smallest, which cannot provide the necessary number of students, would still have their children away at this crucial age. Similarly, the fact that most Native children will be able to attend secondary school while living at home will presumably reduce the predisposition to outmigration and thus retard urbanization and lead to the growth of local populations. Such a growth in population would increase the need for economic development in the villages, and this may present problems.

In view of the age distributions discussed earlier, it appears that the proportion of persons of high school age in the village populations is reaching a peak in the mid-1970s and will decline thereafter for at least a decade. At present a village of 80 to 90 could produce the eleven students proposed as a minimum for high school service; later it may take 150 or more. As of 1970 there were 53 villages under 100 population. Thus, paradoxically, even this very ambitious attempt at decentralizing a public service will inevitably reinforce the village consolidation trend.

A further question, and one on which we were not able to obtain information, is that of the quality of education in such small high schools. While it probably would be closer to the cultural patterns of villages, it

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[1] The actual cutoff size will depend upon state appropriations and its approach to carrying out the Court's mandate.

Table 11

VILLAGES WITH AND WITHOUT HIGH SCHOOLS,
BY SIZE, 1970

1970 Population	Number Without	Number With	Total
25-49	53	0	53
100-149	30	1	31
150-199	22	5	27
200-299	19	5	24
300-499	13	11	24
500-999	1	1	2
1000-1499	1	0	1
1500-3999	0	6	6

would appear that it would not be as broad academically, or as deep. This locational change would therefore lead to a change in the meaning and value of a high school education, with consequences not only for changes in attitudes and preferences, but also possibly for the ability of the villages' populations to deal with its relations with the larger society.

In brief, this change in policy will in all probability retard the move to the regional centers and the cities. However, the question remains whether the economy of the medium-sized villages can handle the population growth this implies.

(b) Postal Service

The Postal Service is an essential part of the village economy and a vital link to the outside world. It provides as well, in virtually every village, one of the few secure jobs.

There were 141 villages with post offices in north and west Alaska in 1976 according to our compilation from the Post Office Directory, and 27 without. Some of those classified as "without" may be served by a nearby office; others (like Diomede Island, which was cut off this year) are probably really isolated. Nineteen of the 27 unserved villages were under 100 population in 1970, as shown in Table 12.

The main question here is the possibility of cutbacks by the Postal Service. The Postal Service has cut back, and is proposing to cut back further, its services to smaller places in the other 48, and its plans for Village Alaska should be looked into in terms not only of the Postal Service's own efficiency, but also in terms of the system of villages from a broader point of view.

(c) Electrification

Electric power systems have been provided thus far in 48 villages by AVEC, the Alaska Village Electrical Cooperative. Some others are partially served by individual or jury-rigged community systems. Public systems will doubtless come to more villages, although not all,[1] and will probably have

[1] We were told by an official of AVEC that the state will not provide systems for unincorporated villages because of their need for somebody to accept contractual responsibility for maintenance.

Table 12

VILLAGES WITH AND WITHOUT POST OFFICES,
BY SIZE, NORTH AND WEST ALASKA, 1975

1970 Population	Without	With	Total
25-49	6	6	12
50-99	13	28	41
100-199	2	56	58
200-499	3	45	48
500-999	1	1	2
1000-1999	1	1	2
2000-3999	1*	5	6

*Military

significant consequences for the quality of life and possibly lead to changes in attitudes and behavior. For instance, among the first uses are light household equipment such as washing machines, and television. This last may be culturally quite significant, opening windows to an outside world, even if the world on television is not necessarily the real one. Observers from the field have told us that the two favorite programs are "Daniel Boone" (which echoes the subsistence economy of a simpler time) and "Sesame Street," which many of the older villagers follow regularly, and from which they are learning to read. One need not be Marshall McLuhan, with his global village, to speculate that the social changes may be profound.

Like other services, the electrical system provides one new local job to maintain it.

(d) Communications

In addition to television, two-way communications are coming to the villages. Telephones are being installed in a number of villages. More strikingly, a system of satellite radio communications is being established, being used primarily for health services. When we were in Venetie, for example, a local health aide was receiving advice via satellite from an Anchorage physician on the care of a sick child. This is an important social experiment which has the potential of improving health and the quality of life in villages. It would appear that both telephone and satellite communications can assist in the preservation of villages by enabling them access to information.

Better communications ease some of the functional pressures toward concentration, but by multiplying urban-rural contacts, they probably also increase the positive inducements and multiply the opportunities. Like other improvements, better communications are reaching the larger villages first. Whereas their direction of influence on urban migration is ambiguous, they are certainly contributing further to the village consolidation process.

The contrast between a traditional society in the villages and the use of these advanced technologies is striking. It seems impossible that local culture can remain unaffected.

(e) Air Service

Bush charter aviation has been an important factor in rural Alaska since

prewar times. Skis and floats have always made at least a majority of village sites accessible to light aircraft in fair weather. The service, however, is expensive, irregular, and limited to light loads. Even more importantly from a village perspective, the charter service is hard to call: it is unavailable when out of radio contact, unless scheduled long in advance. It did, however, make possible the widespread dissemination of health and education services before the extension of scheduled airline service to the village.

Soon after Statehood, the state adopted an ambitious program of building airstrips suitable for commercial aircraft at every village where it was remotely feasible. The program was largely accomplished by the late 1960s. Scheduled air service followed and is now provided to 125 villages of north and west Alaska. Service is generally once or twice weekly, but not on too rigid a schedule, to the villages, and more frequent to the regional centers.

As Table 13 shows, scheduled airline service reaches about half the places under 100 population and nearly all the ones above 200.

Even scheduled service is very costly, of course, because of the large distances and small payloads. Free travel is sometimes available to villagers, however, in connection with ANS hospital treatment at Anchorage or a regional center, National Guard summer camp at Anchorage, high school attendance, and some jobs.

(f) Other Services

We have not had time to analyze several other services of equal social importance with the ones discussed above. Our preliminary impressions are that they generally influence the settlement patterns in the ways already described and they face the same classical dilemmas of capital versus operating costs, concentration versus dispersal, efficiency and quality of services versus access to all. Health services, for example, face much the same issues as were discussed relative to the education system. They are evolving from a highly centralized system to a combination of regional centers and dispersed village-level services. However thorough the coverage, better service is likelier in the largest places, and relatively little in the smallest. Like electrification, public water supply, sanitation, and housing are moving slowly down the hierarchy of village size, impeded by

Table 13

VILLAGES WITH AND WITHOUT SCHEDULED AIRLINE SERVICE, BY 1970 POPULATION

	Service, February 1976		
1970 Population	Without	With	Total
25-49	6	6	12
50-99	18	23	41
100-149	7	24	31
150-199	7	20	27
200-299	2	22	24
300-499	2	22	24
500-699	1	0	1
700-3999	0	8	8

Source: Official Airline Guide, February 1976, and BPA Village Roster

the smaller, unincorporated villages' administrative and fiscal incapacity to finance, operate and maintain the needed systems, and creating vast differences in amenity between served and unserved villages.

Exceptions may exist, of course, but we have seen little to contradict this broad pattern of influence. The various services are increasingly provided to smaller places, but against the pressure toward efficiencies of scale. As the level of services increases in the larger places in contrast to the smaller ones, the movement from smaller to larger villages is reinforced.

IV. IMPLICATIONS FOR THE FUTURE

This section will sum our conclusions as to expected trends, policy suggestions, and research needs.

Expected Trends.

The clearest trend of Village Alaska is the evolving integration of urban and rural ways of life. This occurs through education, through the extension of urban institutions to rural places, through technological change such as the provision of electronic communication, and especially through the movement of Native people back and forth between village and city. Another driving force to be felt in the near future is the emergence into young adulthood of a very large ten-year-age cohort which now constitutes nearly one-third of the Native population. This half-generation will be better-educated and probably more mobile than any before it. It will need at least twice as many new incomes as did the previous half-generation, and probably will be more insistent on having them, both because of new attitudes and because of the limits to subsistence activities in the face of a declining per capita supply of fish and game.

The migration to the cities of the Native population will accelerate over the next decade, focusing on the Anchorage, Fairbanks, and, to a lesser extent, on the temporary construction boom sites. Moreover, the already large urbanized Native population will grow not only through continued migration but increasingly from the natural increase of the already urbanized Natives. At the same time, in spite of the flow to the cities, one may expect from the age composition of village population and the likely high rates of natural increase that total village population will remain stable and that the adult population will increase somewhat.

The economy of most villages will continue to be dependent upon transfers and government service jobs, together with the seasonal export of labor. It seems unlikely that there will develop in many villages, especially the interior ones, a significant export base. A large unknown remains the degree to which there will be significant earnings on capital and royalties on resources through the Native Corporations. On the whole, it unfortunately seems that the village

economies will be subject to the continued high degree of seasonality, uncertainty, and long-term instability which has characterized them for two hundred years of white contact.

Policy Suggestions.

Many of the policy issues being faced cannot be resolved on technical grounds. These include the tradeoff of extending certain services more equally to the smaller places and the quality and cost of these services, as in the cases of education and utilities. Other policies, however, consist of cooperation with what appears inevitable, to mitigate the cost of change.

The consolidation of villages and the migration to the cities are such a case. Nothing government will do is likely to reverse them. It can, however, anticipate areas of need which are likely to result, especially at the extreme ends of the process--the smallest declining villages nearing abandonment, and the big cities--where change is the most abrupt and services the least adapted to cope with it.

The newly urban Native faces a bewildering array of institutions, one aspect of which has been poignantly described by Dorothy Jones.[1] We suggest that urban migrants might be helped in the transition before they even leave their village, with counseling in job search, transportation, and other needs, and helped in general orientation, housing, schools, etc., at the other end. The Travellers Aid Society has contracted in the past with Manpower Service relocation programs for services of this kind.

Perhaps as difficult, if less visible, are the problems of the last holdouts in a declining village. Like the urban migrants, they need to move, but they are older, less flexible, encumbered with houses and families, and they probably don't want to move. Some may choose to stay on without their former neighbors and village institutions for a long time, traveling to get supplies and services, and accepting the risk of being without help in emergencies. Others will feel trapped and want help in getting out to a nearby village, regional center, or city. The latter groups will need flexible relocation counseling services at both origin and destination. A small subsidy for the costs of travel and shipping may be required as well.

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[1]Dorothy M. Jones, The Urban Native Encounters the Social Service System, University of Alaska, 1975.

We have emphasized the increasing vulnerability of the village economies as they become more dependent upon outside income sources like transfer payments and royalties: seemingly minor policy changes in a Washington or New York office could abruptly wipe out a source of income, as has happened many times before.

The Native Regional Corporations have by and large apparently taken the sound position of using windfall income as capital for investment rather than using it to pay high dividends in the short run. We suggest two complementary strategies to moderate the potential instability of village income: to help them build up their export sectors and to help them derive a greater local income multiplier from their service sectors.

Village potential for entrepreneurship and management ability are often said to be at a low level, but we wonder if they have really been tested. In the export sector, the emphasis of CEDC and other development efforts has been mainly to invest in locally-owned versions of the traditional resource extraction and processing industries, especially fishing and canneries. No reliable numbers are available, but we view these as a small portion of the true goods-and-services export base. The bulk of it is labor export--people leaving the villages for seasonal or temporary work, and returning some of the earnings. We are not aware of any efforts to build upon this traditional pattern. It could probably be made more effective, and less burdensome to the itinerant workers, through improvements in information on job availability and placement, scheduling, and logistics. One form would be a village labor contracting cooperative.

In the service sector, we suggest a strategy of developing Native enterprises, primarily along the lines of import-substitution, not only for the economic value of these enterprises in themselves, but as a means of increasing the multiplier of all other forms of village income. This should be balanced, however, against quality and cost of services desired. Fuel distribution enterprises financed by CEDC fall in this category. But what about groceries, construction, charter flying, aircraft maintenance, food processing, garment manufacturing, and cable TV: is there not a larger place for villages in providing

the services they consume? Their markets are so isolated and specialized that it may be economically feasible for them to operate profitably at a small scale which would be impossible in an urban setting. Some regulatory changes might be needed, as well as financial backing, and technical and management assistance; and the risk of individual enterprises would unquestionably be high. Nonetheless, State and Federal governments should consider lending their support to a strategy of increasing the multiplier of the village economies.

Comparably, there are many jobs in the village system which are occupied by non-Natives. Outstanding among these are jobs in education and health services. Programs of training and education for Natives seem indicated.

Research Needs

This study has left many important questions about Village Alaska unanswered, partially because of time constraints, but largely because information is not available. Having surveyed the literature and met with many of the best-informed analysts, we think that the following are especially relevant topics on which information is lacking, research is feasible, and the benefits of research to the public, significant:

(a) An analysis of cash-flow for villages, on the basis of which to develop realistic estimates of levels of subsidy needed to reach alternative targets of village income, and to identify the most promising activities for import-substitution;

(b) A study of the subsistence sector in relation to the village pattern, including pressures on the carrying capacity of the environment and the monetary needs of the growing capitalization of the subsistence sector; and

(c) social and attitudinal studies on a sample of younger Natives and recent migrants, focusing upon how the migration process actually works, what are the relations of attitudes and preferences to actual behavior, what are the most immediate problems of migrants, and what are the best ways to help them help themselves.

An immediate extension of the present study could be:

(d) A more detailed geographic analysis of village demographic, economic, and service patterns, making use of computer mapping[1] and building upon the existing village data file. This file may be easily extended to incorporate other information, and computerized mapping would make it possible to examine easily and in detail many of the possible patterns and interactions which structure the evolution of the system of villages.

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[1]The status of BPA's Alaskan computer mapping capability is discussed in Appendix A. We were unable to use them because of time limitations, but they would permit considerable deepening of the analysis.

APPENDIX: Village and Roster Data Files

The number and the location of villages cannot be stated exactly because they are imperfectly known and in constant flux. Those places of less than 25 population are omitted from census reports. Some larger ones are missed by enumerators.[1] Some villages go out of existence; others, which had been abandoned or had declined to one or two households, suddenly are revived. Closeby settlements sometimes are consolidated, sometimes acquire separate identities. Sometimes whole villages are relocated, other times names are changed. There are instances of village decline or abandonment, both in isolated locations like the upper Kuskokwim, or the outer Aleutian Islands, and near the regional centers. A number of the abandoned places, such as Nyac, Igloo, and Bessie No. 5 Dredge Camp Village, were mining camps and probably never viewed as permanent settlements. Many of the abandonments and relocations were due to natural disasters, including the 1964 earthquake, which damaged or destroyed many villages in the Prince William Sound and Kodiak areas. As a further complication, we were told that there were cases in which the attraction of land claims under the 1971 Native Claims Act led to the enrollment of Natives who lived elsewhere to abandoned villages or to ones which would have less than the 25 inhabitants required under the Act. However, these Potemkin villages do not appear in the 1970 Census. In fact, 205 Native villages were listed in the 2(c) Report,[2] of which 27 had no reported 1970 population.

The following roster of villages approaches a complete listing of North, West, and Central[3] Alaskan places reported having 25 or more inhabitants in the 1950, 1960, or 1970 Census of Population, or the 1974 Native Enrollments as enumerated in the 2(c) Report.

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[1] There are two Russian Missions, for example, one on the Yukon and one on the Kuskokwim. Both are said to be substantial villages of several hundred people. They have never appeared in the same census.

[2] U.S. Department of Interior (1975), 2(c) Report: Federal Programs and Alaska Natives, Task 1, Part B, pp. 3-18.

[3] It goes somewhat beyond the scope of our contract to include all but Southeast Alaska, since the future usefulness of a complete roster seemed to outweigh the small marginal cost of filling in the additional census divisions from the sources already assembled.

The list has been edited to eliminate duplications due to name changes by reference to the Dictionary of Alaska Place Names and by consultation with knowledgeable Alaskans.[1] The roster as listed presents total population figures for 1950, 1960, and 1970. It was printed from a data file prepared by BPA which contains the variables listed in Appendix Table A-2. A punched-card version of the complete file is being submitted to the Commission with this report.

Also prepared under this contract were a digitized map of Alaska on tape and a set of control cards to activate the MAPEDIT, ZING, and CARTE interactive mapping programs at Lawrence Berkeley Laboratories for computer mapping. The intention was to prepare Maps 1, 2, and 3, with this program, as well as several other analytical maps, but a "bug" in the ZING program forced us to go over to manual mapping to meet our deadlines, after digitizing the locations of part of the village roster. It is our understanding that ZING has now been repaired by LBL, and this capability is available for future studies. Any data listed in Table A-2 could readily be analyzed in full geographical detail at moderate cost by generating symbol maps once the digitizing of village locations is completed.

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[1]Especially helpful was Larry Kimball of the Alaska Department of Cummunity Affairs, whose knowledge of the villages is unparalleled.

Appendix Table A-1

VILLAGES, CITIES AND PLACES OF RURAL ALASKA[1]

[1]Omitted are all places within Southeast Alaska, the Fairbanks Census Division, and the Anchorage Census Division.

		TOTAL POPULATION			ALASKA NATIVE POPULATION	
FIPS DIVISION CODE[1]	NAME[2]	1950 [3]	1960 [4]	1970 [5]	1970 [6]	1974 [7]
10	ADAK STATION			2249	82	-0
10	AKUTAN	86	107	101	90	75
10	ATKA	85	119	88	86	72
10	BELKOFSKI	119	57	59	53	55
10	CHIGNIK (CHIGNIK LAGOON)	253	207	83	67	69
10	CHIGNIK LAKE		107	117	115	91
10	COLD BAY		86	256	33	32
10	FALSE PASS	42	41	62	58	51
10	IVANOF BAY			48	46	25
10	KING COVE	162	290	283	252	254
10	NELSON LAGOON			43	39	34
10	NIKOLSKI	64	92	57	52	53
10	PAVLOF HARBOR	68	77	39	38	-0
10	PERRYVILLE		111	94	90	98
10	ST GEORGE (ISLAND)	187	264	163	156	156
10	ST PAUL (ISLAND)	359	378	450	428	429
10	SAND POINT	107	254	360	268	328
10	SHEMYA		124	1131	10	-0
10	SQUAW HARBOR		75	65	52	12
10	UNALASKA	173	218	178	122	181
10	UNGA	107	43	-0	-0	-0
10	IKATAN	29	-0	-0	-0	-0
10	PORT MOLLER	33	-0	-0	-0	-0
20	ANCHORAGE	17230	82880	124542	6430	7321

		TOTAL POPULATION			ALASKA NATIVE POPULATION	
FIPS DIVISION CODE[1]	NAME[2]	1950 [3]	1960 [4]	1970 [5]	1970 [6]	1974 [7]
40	ANAKTUVUK PASS	35	66	99	97	124
40	BARROW	951	1314	2104	1909	1936
40	CAPE LISBURNE			83	3	0
40	WAINWRIGHT	227	253	315	307	344
40	MEADE RIVER	49	30	-0	-0	-0
40	POINT LAY	75	-0	-0	-0	-0
50	AKIACHAK	179	229	312	301	316
50	AKIAK	168	187	171	169	174
50	AKOLMIUT			526	512	712
50	BETHEL	651	1258	2416	1879	1960
50	CHEFORNAK	106	133	146	141	162
50	EEK	141	200	186	180	184
50	KIPNUK	185	221	325	320	334
50	KONGIGANAK			190	183	179
50	KWETHLUK	212	325	408	391	392
50	KWIGLLINGOK	215	344	148	146	177
50	KWINHAGAK	191	228	340	334	312
50	MEKORYUK	156	242	249	234	253
50	MUMTRAK-GOODNEWS BAY	100	154	218	210	198
50	NAPAKIAK	139	190	259	255	241
50	NAPASKIAK	121	154	188	-0	198
50	NEWTOK	69	129	114	111	57
50	NIGHTMUTE	27	237	127	122	119
50	OSCARVILLE	27	51	41	38	47

		TOTAL POPULATION			ALASKA NATIVE POPULATION	
FIPS DIVISION CODE[1]	NAME[2]	1950 [3]	1960 [4]	1970 [5]	1970 [6]	1974 [7]
50	PLATNUM	72	43	55	48	68
50	TANUNAK	112	183	274	270	260
50	TOKSOOK BAY			257	251	263
50	TULUKSAK	116	137	195	193	167
50	TUNTUTULIAK	68	144	158	154	194
50	NYAC	69	54	-0	-0	-0
50	CHEECHING	54	-0	-0	-0	-0
50	CHIFTAK	50	-0	-0	-0	-0
50	CHUKFAKTOOLIK	59	32	-0	-0	-0
50	KEYALUVIK (NEWTOK)	69	129	-0	-0	-0
50	NANVARNARLUK	116	-0	-0	-0	-0
50	NILIKLUGUK	40	-0	-0	-0	-0
50	PAINGAKMEUT	44	-0	-0	-0	-0
50	UMKUMUTE	99	-0	-0	-0	-0
60	KING SALMON		227	202	12	49
60	NAKNEK	174	249	178	39	190
60	S NAKNEK		142	154	85	129
70	ALEKNAGIK	153	181	128	101	182
70	CLARKS POINT	128	138	95	75	87
70	DILLINGHAM	577	800	914	588	659
70	EGEGIK	119	150	148	74	100
70	EKUK		40	51	50	34
70	EKWOK	131	106	103	95	109
70	IGIUGIG		36	36	34	33

		TOTAL POPULATION			ALASKA NATIVE POPULATION	
FIPS DIVISION CODE[1]	NAME[2]	1950 [3]	1960 [4]	1970 [5]	1970 [6]	1974 [7]
70	ILIAMNA	44	47	58	23	108
70	KAKHONAK	39	57	88	73	75
70	KOLIGANEK	90	100	142	134	127
70	LEVELOCK	76	88	74	60	80
70	MANOKOTAK	120	149	214	205	224
70	NEWHALEM	48	63	88	83	2
70	NEW STUYAHOK	88	145	216	208	283
70	NONDALTON	103	205	184	182	179
70	PEDRO BAY	41	53	65	56	41
70	PILOT POINT	67	61	68	58	58
70	PORT HEIDEN	51	74	66	58	66
70	TOGIAK	108	220	383	377	383
70	TWIN HILLS			67	66	68
70	ALEKNAGIK MISSION		50	-0	-0	-0
70	PORT ALSWORTH		34	-0	-0	-0
70	UGASHIK	48	36	-0	-0	-0
70	ALEKNAGIK LAKE	153	-0	-0	-0	-0
70	PILE BAY	48	-0	-0	-0	-0
70	TUKLUNG	30	-0	-0	-0	-0
80	CORDOVA	1165	1128	1110	192	423
80	MEAKERVILLE	41	48	349	94	-0
80	BOSWELL BAY		32	-0	-0	-0
80	POINT WHITSHED	32	28	-0	-0	-0
80	YAKATAGA		48	-0	-0	-0

		TOTAL POPULATION			ALASKA NATIVE POPULATION	
FIPS DIVISION CODE[1]	NAME[2]	1950 [3]	1960 [4]	1970 [5]	1970 [6]	1974 [7]
90	AURORA—JOHNSON		293	1464	92	-0
90	COLLEGE	424	1755	3649	250	171
90	ESTER	74	81	264	8	5
90	FAIRBANKS	5771	13311	14771	1029	2590
90	GRAEHL	476	-0	2162	57	-0
90	LEMETA	358	1227	1318	75	-0
90	NORTH POLE		358	265	35	-0
90	SOUTH BJERREMARK		231	402	58	-0
120	ANCHOR	65	171	102	5	18
120	CLAM GULCH			47	2	-0
120	ENGLISH BAY	76	78	58	53	71
120	FRITZ CREEK			27	1	-0
120	HALIBUT COVE		25	44	2	5
120	HOMER	307	1247	1083	60	87
120	KACHEMAK			76	12	-0
120	KASILOF	62	89	71	0	15
120	KENAI	321	778	3533	191	488
120	NINILCHIK	97	169	134	18	74
120	PORT GRAHAM	92	139	107	96	113
120	SELDOVIA	437	460	437	138	153
120	SOLDOTNA		332	1202	16	107
120	STERLING		115	30	0	7
120	TYONEK	132	187	232	226	225
120	COHOE		122	-0	-0	-0

		TOTAL POPULATION			ALASKA NATIVE POPULATION	
FIPS DIVISION CODE[1]	NAME[2]	1950 [3]	1960 [4]	1970 [5]	1970 [6]	1974 [7]
170	GOOSE BAY		28	-0	-0	-0
170	MCKENZIE POINT		25	-0	-0	-0
140	AMBLER		70	169	159	173
140	BUCKLAND	108	87	104	103	131
140	DEERING	174	95	85	83	70
140	KIANA	181	253	278	268	280
140	KIVALINA	117	142	188	183	179
140	KOBUK	38	54	56	54	59
140	KOTZEBUE	623	1290	1696	1352	1561
140	NOATAK	326	275	293	286	254
140	NOORVIK	243	384	462	443	432
140	POINT HOPE	38	54	386	369	372
140	SELAWIK	273	343	429	420	428
140	SHUNGNAK	141	135	165	160	156
140	CANDLE	105	103	-0	-0	-0
140	ELEPHANT POINT	108	-0	-0	-0	-0
150	AKHIOK	72	84	115	113	121
150	KAGUYAK		36	59	33	-0
150	KAPLUK	144	129	98	95	95
150	KODIAK	1710	2628	3759	657	1350
150	LARSEN BAY	53	72	109	91	82
150	OLD HARBOR	121	193	290	269	264
150	QUZINKIE	177	214	160	143	162
150	PORT LIONS			227	184	197

		TOTAL POPULATION			ALASKA NATIVE POPULATION	
FIPS DIVISION CODE[1]	NAME[2]	1950 [3]	1960 [4]	1970 [5]	1970 [6]	1974 [7]
150	WOODY ISLAND	111	78	41	8	-0
150	AFOGNAK	158	190	-0	-0	-0
160	ANIAK	142	308	205	170	306
160	ANVIK	99	120	83	76	82
160	CHUATHSALUK	155	102	94	90	-0
160	CROOKED CREEK	43	92	59	55	94
160	GRAYLING			139	136	142
160	HOLY CROSS	157	256	199	193	210
160	KALSKAG	139	147	122	106	114
160	LIME VILLAGE (HUNGRY)	29	-0	25	25	2
160	LOWER KALSKAG	88	122	183	177	165
160	MCGRATH	175	241	279	110	119
160	NIKOLAI	88	85	112	101	101
160	RED DEVIL		152	81	22	37
160	SHAGELUK	100	155	167	159	133
160	SLEETMUTE	120	122	109	95	150
160	STONY RIVER			74	61	65
160	FLAT	95	27	-0	-0	-0
160	HOLIKASLUK	98	122	-0	-0	-0
160	TAKOTNA	42	40	-0	-0	-0
160	NAPAIMIUT	44	-0	-0	-0	-0
160	OPHIR	68	-0	-0	-0	-0
170	BIG LAKE		74	36	0	-0
170	BUTTE		559	448	12	-0

		TOTAL POPULATION			ALASKA NATIVE POPULATION	
FIPS DIVISION CODE[1]	NAME[2]	1950 [3]	1960 [4]	1970 [5]	1970 [6]	1974 [7]
170	HOUSTON			69	2	-0
170	MONTANA		39	33	4	-0
170	PALMER	890	1181	1140	47	221
170	SUMMIT		32	34	2	2
170	SUTTON		162	76	-	16
170	TALKEETNA	106	76	182	12	32
170	WASILLA	97	112	300	4	61
170	WILLOW		75	38	4	53
170	CHICKALOON		43	-0	-0	-0
170	ESKA	54	53	-0	-0	-0
170	SUSITNA		42	-0	-0	-0
170	CURRY	18 183	-0	-0	-0	-0
170	SKWENTNA	58	-0	-0	-0	-0
180	BREVIG MISSION (TELLER MISSION)	109	77	123	118	124
180	DIOMEDE	103	88	84	82	100
180	ANDERSON	154	145	174	168	156
180	GAMBELL	309	358	372	357	356
180	GOLOVIN	94	59	117	111	113
180	KOYUK	134	129	122	121	160
180	NOME	1876	2316	2488	1554	1663
180	ST MICHAEL	157	205	207	192	190
180	SAVOONGA	219	292	364	357	363
180	SHAKTOOLIK	127	187	151	145	122
180	SHISHMAREF	194	217	267	249	122

		TOTAL POPULATION			ALASKA NATIVE POPULATION	
FIPS DIVISION CODE[1]	NAME[2]	1950 [3]	1960 [4]	1970 [5]	1970 [6]	1974 [7]
180	STEPPINS	115	158	231	223	240
180	TELLER	160	217	220	192	185
180	UNALAKLEET	469	574	434	407	474
180	WALES	141	128	131	121	104
180	WHITE MOUNTAIN	129	151	87	84	88
180	KING ISLAND		66	-0	-0	-0
180	BESSIE NO. 5 DREDGE CAMP	54	-0	-0	-0	-0
180	COUNCIL	41	-0	-0	-0	-0
180	IGLOO	64	-0	-0	-0	-0
180	NASH HARBOR	49	-0	-0	-0	-0
180	SOLOMON	93	-0	-0	-0	-0
210	COOPER LANDING	60	88	31	1	1
210	HOPE	63	44	51	0	-0
210	MOOSE PASS	70	136	53	0	-0
210	SEWARD	2114	1891	1587	210	367
240	DELTA JUNCTION (BIG DELTA)	155	-0	703	12	43
240	DOT LAKE		56	42	29	37
240	NORTHWAY	196	196	40	10	186
240	TANACROSS	137	102	84	77	83
240	TETLIN	73	122	114	108	103
240	TOK	104	129	214	26	103
240	NABESENA	28	41	-0	-0	-0
250	ARCTIC VILLAGE	53	110	85	82	118
250	BEAVER	101	101	101	86	90

		TOTAL POPULATION			ALASKA NATIVE POPULATION	
FIPS DIVISION CODE[1]	NAME[2]	1950 [3]	1960 [4]	1970 [5]	1970 [6]	1974 [7]
250	CENTRAL	41	28	26	3	-0
250	CHALKYITSIK		57	130	123	79
250	CIRCLE	83	41	54	33	50
250	DEADHORSE			163	15	-0
250	EAGLE	55	92	36	4	64
250	FORT YUKON	446	701	448	378	498
250	KAKTOVIK (BARTER ISLAND)	46	120	123	108	108
250	PRUDHOE BAY			49	4	-0
250	STEVENS VILLAGE	84	102	74	72	50
250	VENETIE	81	107	112	108	107
250	BIRCH CREEK					29
250	CHICKEN	34	-0	-0	-0	-0
260	CHISTOCHINA	31	28	33	17	1
260	CHITINA	92	31	38	6	13
260	COPPER CENTER	90	151	206	93	134
260	GAKONA	50	33	88	23	40
260	GLENNALLEN	142	169	363	37	124
260	GULKANA	65	51	53	52	81
260	MENTASTA LAKE		40	68	64	62
260	TATITLEK	89	96	111	107	97
260	VALDEZ	554	555	1005	157	113
260	WHITTIER	627	809	130	5	4
260	CHENEGA	91	61	-0	-0	-0
260	ELLAMAR	46	-0	-0	-0	-0

		TOTAL POPULATION			ALASKA NATIVE POPULATION	
FIPS DIVISION CODE[1]	NAME[2]	1950 [3]	1960 [4]	1970 [5]	1970 [6]	1974 [7]
270	ALAKANUK	140	278	265	247	437
270	CHEVAK	230	315	387	376	396
270	EMMONAK (KWIGUK)		358	439	423	479
270	FORTUNA LEDGE	95	166	175	169	-0
270	HOOPER BAY	307	460	490	477	540
270	KOTLIK	44	57	228	224	261
270	MOUNTAIN VILLAGE	221	300	419	394	424
270	PILOT STATION	52	219	290	287	285
270	PITKAS POINT	84	28	70	67	69
270	RUSSIAN MISSION	55	102	146	138	130
270	ST MARYS		225	384	350	372
270	SCAMMON BAY	103	115	166	166	182
270	SHELDON POINT	110	125	125	121	112
270	MARSHALL	95	166	175	169	171
270	CHANELIAK	100	93	-0	-0	-0
270	HAMILTON	43	35	-0	-0	-0
270	AKALURAK	197	-0	-0	-0	-0
270	CHOWHOCTOLIK	98	23	-0	-0	-0
270	NEW HAMILTON	27	-0	-0	-0	-0
270	CHOGAMIUT	27	-0	-0	-0	-0
270	TAKSHAK	39	-0	-0	-0	-0
290	ALLAKAKET	79	115	174	168	128
290	ANDERSON			362	11	-0
290	CANTWELL	67	85	62	43	35

		TOTAL POPULATION			ALASKA NATIVE POPULATION	
FIPS DIVISION CODE[1]	NAME[2]	1950 [3]	1960 [4]	1970 [5]	1970 [6]	1974 [7]
290	EVANSVILLE (BETTLES)	47	77	57	14	-0
290	GALENA	176	261	302	265	323
290	HEALY	102	67	79	10	25
290	HUGHES	49	69	85	74	87
290	HUSLIA (CUTOFF)	65	168	159	151	171
290	KALTAG	121	165	206	194	205
290	KOYUKOK	79	128	124	121	112
290	MANLEY HOT SPRINGS	29	72	34	11	16
290	MINTO	152	161	168	159	199
290	NENANA	242	286	362	142	218
290	NULATO	176	283	308	298	289
290	RAMPART	94	49	36	21	43
290	RUBY	132	149	145	134	129
290	SUNTRANA	130	81	67	11	-0
290	TANANA	228	349	120	20	381
290	USIBELLI	28	30	102	14	-0
290	USIBELLI MINE			65	0	-0
290	ALATNA	31				27
290	LAKE MINCUMINA	60	34	-0	-0	-0
290	LIGNITE		37	-0	-0	-0
290	MCKINLEY PARK	59	28	-0	-0	-0
290	WOODSPUR		30	-0	-0	-0
290	KOKRINES	68	-0	-0	-0	-0

Source Notes - Appendix Table A-1

1. Geographic Area Classification Manual, Alaska Department of Labor, Employment Security Division, 1975.

2. Dictionary of Alaska Place Names, U. S. Geological Survey, 1971. Was used to reconcile name-changes.

3. 1950 Census of Population.

4. 1960 Census of Population, except where no report was made in the 1960 census for a place appearing in both the 1950 and 1970 censuses, a 1960 population was estimated as half the sum of the 1950 and 1970 populations.

5. 1970 Census of Population.

6. Alaska Native enrollments by place of residence in 1974, from the 2(c) Report, U. S. Department of Interior, op. cit., Task I, Part B, Table 1 C.

Appendix Table A-2

CONTENTS OF ALASKA VILLAGE DATA FILES

1. INPUT VARIABLES

FORMAT: (x, F3.0, 3F5.0, F4.0, 10F4.0, F5.0, F4.2/
4x, 10F4.0, F5.0, F4.2, 8F3.0/
4x, F4.0, F4.2, 8F3.0, F4.0, F4.2, F5.0, F4.0,
F3.0, 2F2.0, 5F1.0, F4.0/ 8A4)

VARIABLE LIST:

ID	Village identification number
P50	1950 population (Census)
P60	1960 population (Census)
P70	1970 population (Census)
NP70	1970 Native and Other population (Census)
MO---M65	1970 total male population by age groups (10)
MTOT	1970 total male population
MMED	1970 median age of males
FO---F65	1970 total female population by age groups (10)
FTOT	1970 total female population
FMED	1970 median age of females
NMO---NM65	1970 Native and Other male population by age groups (8)
NMTOT	1970 male Native and Other population
NMMED	1970 median age of Native and Other males
NFO---NF65	1970 Native and Other female population by age groups (8)
NFTOT	1970 female Native and Other population
NFMED	1970 median age of Native and Other females
PPRO---PPR2	Housing units by persons per room (3)
CD	Census Division Code
NR	Native Region Code
AP	Scheduled Air Service (Official Airline Guide)
HS	High school
PH	On primary interconnected highway system
CO	On coast
PO	Post office (1975 Post Office Directory)
NP74	1974 Native population based on enrollments by place of residence
NAME	Place name

Appendix Table A-2, continued:
CONTENTS OF ALASKA VILLAGE DATA FILES

2. CALCULATED VARIABLES

PSQ50---PSQ70	(Population)^2 (used to calculate $(\frac{\Sigma P^2}{\Sigma P})$
G5060	1950-1960 Population Growth Rate:
	(P60/P50) - 1.
G6070	(P70/P60) - 1.
G5070	(P70/P50) - 1.
NPG7074	(NP74/NP70) - 1.
FIPS	FIPS Division Code
PCTNAT	(NP70/P70) x 100

The Joint Federal–State Land Use Planning Commission for Alaska was created by Congress and the Alaska Legislature to provide a statewide land use planning process that will insure the economic development of the State in a manner that is compatible with the social and economic well-being of the public, their interests, and the environment.

The Commission also is to improve coordination and resolve conflicts between the State, Federal government, and private landowners in the State, and recommend laws, policies and programs to the President, Congress and the Governor of Alaska for a coordinated comprehensive statewide land use planning process.

The Commission, created by the Alaska Native Claims Settlement Act of 1971, is headed by the Governor of Alaska or his full-time Co-Chairman, and by a Federal Co-Chairman appointed by the President of the United States. Four Commissioners are appointed by the Secretary of the Interior, and four by the Governor of Alaska.