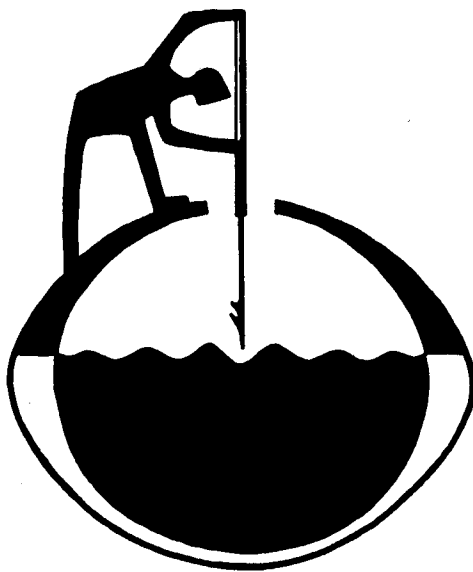


MAN IN THE ARCTIC PROGRAM
Monograph No. 1

Energy Development and the North Slope Inupiat:
Quantitative Analysis of Social and Economic Change

John Kruse
Judith Kleinfeld
Robert Travis

edited by Linda Leask



INSTITUTE OF SOCIAL AND ECONOMIC RESEARCH
UNIVERSITY OF ALASKA
Anchorage • Fairbanks • Juneau

Acknowledgments

We could not have made our North Slope survey, on which this report is based, without the cooperation of the North Slope Borough, which provided us staff time, office space and supplies. We particularly acknowledge the support and advice of the late Eben Hopson, first mayor of the borough; Lloyd Ahvakana, the borough's director of Administration and Finance; and Herb Bartel, the borough's planning director.

Rosita Worl and Edna MacLean helped us design the survey, and several North Slope leaders reviewed early versions of the questionnaire. Our thanks go to Evelyn Tuzroyluk, who headed the survey field team; to all the interviewers, particularly Loretta Kenton and Lucille Aiken; and to the hundreds of North Slope residents who answered our questions.

Finally, we thank Kandy Crowe, Kay Zito, Lynne Coxon, and Donna Schuster for their typing and proofreading of this report; the authors, of course, are responsible for any errors.

Preface

This report presents the findings of a 1977 household survey the University of Alaska's Institute of Social and Economic Research conducted in six Eskimo villages on Alaska's North Slope, site of the huge Prudhoe Bay oil field. The survey was done as part of the institute's interdisciplinary research project entitled Man-in-the-Arctic Program (MAP), funded by the National Science Foundation and the State of Alaska. MAP is a broad series of studies carried out by the institute between 1973 and 1980. Its central purpose was to assess the social and economic effects of petroleum development in Alaska. During our MAP study period, Alaska experienced an oil boom; the largest oil field in North America was developed; an 800-mile trans-Alaska oil pipeline was constructed; the National Petroleum Reserve in Alaska was explored; and Outer Continental Shelf oil leases were awarded in the Gulf of Alaska and the Beaufort Sea. The state continues to be considered one of the United States' strongest prospects for future petroleum finds.

In this study our focus was on the Native inhabitants of the North Slope, the Inupiat Eskimos. We present in this report a wide range of information on social and economic change experienced by the Inupiat Eskimos during this period of intense Arctic petroleum development. Subsequent institute reports will further analyze and interpret our survey findings, concentrating particularly on the observed changes of employment patterns among Eskimo men and women, and on the effects petroleum development has had on subsistence hunting and fishing among the Inupiat.¹

In addition to our survey on the North Slope, other institute research in this region included a study of Inupiat self-government, and a broad discussion of the effects of Prudhoe Bay development on the North Slope's economy.²

Earlier MAP work included construction of computer models simulating the behavior of Alaska's economy, under various government spending policies, different rates of petroleum development, and other variables; analyses of the choices open to state officials setting policies that will shape Alaska's future; and an examination of the impacts of trans-Alaska pipeline construction on the city of Fairbanks.³

¹Judith S. Kleinfeld, Different Paths of Eskimo Men and Women in the Wage Economy: The North Slope Experience; John A. Kruse, Subsistence and the North Slope Inupiat Eskimo: An Analysis of the Effects of Energy Development.

²Gerald A. McBeath and Thomas A. Morehouse, The Dynamics of Alaska Native Self-Government (Lanham, Maryland: University Press of America, 1980), 135 pp.; and Lee Huskey, Economic Effects of Prudhoe Bay Development on the North Slope Economy.

³David T. Kresge, Thomas A. Morehouse and George W. Rogers, Issues in Alaska Development, (Seattle, Washington: University of Washington Press, 1977); David T. Kresge, Scott Goldsmith, Michael J. Scott, and Daniel A. Seiver, Public Policy for Regional Development (to be published); and "Urban Impacts of Oil Development—the Fairbanks Experience," in Alaska Review of Business and Economic Conditions, Institute of Social and Economic Research, December 1976, Vol. 13, No. 3.

Table of Contents

| | |
|--|------|
| Acknowledgments | iii |
| Preface | v |
| List of Tables | ix |
| List of Figures | xiii |
| Chapter 1. Introduction | 1 |
| Study Context | 1 |
| The North Slope Inupiat | 5 |
| Geography of the North Slope | 6 |
| Survey Purposes and Methods | 7 |
| Limits of Survey Information | 8 |
| Report Organization | 8 |
| Chapter 2. Finding Highlights | 11 |
| Population and Other Characteristics | 11 |
| Employment and Income | 12 |
| Hunting and Fishing | 13 |
| Village Life: 1970 and 1977 | 15 |
| Chapter 3. Population and Other Characteristics of North Slope Eskimos | 17 |
| Introduction | 17 |
| Findings | 17 |
| Eskimo and Non-Eskimo Populations | 17 |
| Birth Rates | 17 |
| Death Rates | 19 |
| Age and Sex of Population | 19 |
| Marital Status | 21 |
| Emigration and Immigration | 21 |
| Family and Household Size | 23 |
| Education | 24 |
| Mobility of Population | 25 |
| Housing Characteristics | 27 |
| Monthly Household Expenses | 27 |
| Major Household Possessions and Purchases | 28 |
| Chapter 4. Employment and Income | 33 |
| Background | 33 |
| Findings | 35 |
| Village Employers | 35 |
| Occupations of North Slope Eskimos | 36 |
| Work Force Changes | 38 |
| Movement In and Out of Labor Force | 40 |
| Time Worked | 42 |
| Distribution of Jobs | 45 |
| Wages Paid | 46 |
| Household Incomes | 46 |

| | |
|---|---------|
| Chapter 5. Hunting and Fishing | 59 |
| Background | 59 |
| Findings | 64 |
| Percentages of Eskimos Who Hunt and Fish | 64 |
| Participation by Activity | 64 |
| Caribou Hunting | 64 |
| Participation by Sex | 65 |
| Participation by Age | 66 |
| Duration of Activities | 67 |
| When Hunted and Fished | 67 |
| Influence of Selected Factors on Hunting and Fishing | 69 |
| Food Obtained by Hunting and Fishing | 70 |
| Shared Food | 71 |
| Chapter 6. Village Life: 1970 and 1977 | 79 |
| Background | 79 |
| Findings | 79 |
| Effects of Petroleum Development | 79 |
| Overall Village Life, 1970 and 1977 | 80 |
| Best Village Conditions, 1970 and 1977 | 82 |
| Worst Village Conditions, 1970 and 1977 | 82 |
| Improved and Worsened Village Conditions, 1970 and 1977 | 83 |
| Difficulty of Village Life, 1970 and 1977 | 83 |
| Institution Best Meeting Needs | 83 |
| Satisfaction with Borough Services | 87 |
| Rate of Development of Village Services | 87 |
| Appendix A. North Slope Sample Characteristics of Eskimo Adults | 93 |
| Appendix B. Tables B-1 through B-23 | 95 |
| Appendix C. North Slope Survey Questionnaire | 107 |

List of Tables

| | |
|--|---|
| Table 1-1. North Slope Borough Revenues, 1973-1980 | 4 |
|--|---|

Population and Other Characteristics

Text Tables

| | |
|---|----|
| Table 3-1. North Slope Eskimo and Non-Eskimo Populations, 1910-1979..... | 18 |
| Table 3-2. Birth Rates, North Slope Eskimos, 1960-1977 | 19 |
| Table 3-3. Death Rates, North Slope Eskimos and Others, Annual Average, 1970-1976..... | 21 |
| Table 3-4. Age and Sex Distributions of North Slope Eskimos, 1970 and 1977..... | 22 |
| Table 3-5. Eskimo Household and Family Size, 1960-1977 | 23 |
| Table 3-6. Median Years of Education, Eskimos 18 and Over, 1977..... | 24 |
| Table 3-7. Median Years of Education, Eskimos 25 and Over, 1960-1977 | 25 |
| Table 3-8. Percentages of Eskimos Who Had Lived Outside North Slope, 1977 | 26 |
| Table 3-9. Trips Taken by Eskimo Adults, 1977 | 26 |
| Table 3-10. Floorspace of Eskimo Homes, 1973 and 1977..... | 27 |
| Table 3-11. Eskimo Household Expenses, Most Expensive Month, 1977 | 28 |

Chapter End Tables

| | |
|--|----|
| Table 3-12. Age Distribution of Eskimo Adults, by Village, 1977 | 29 |
| Table 3-13. Sex Distribution of Eskimo Adults, by Village, 1977 | 29 |
| Table 3-14. Eskimo Household Size, by Village, 1973 and 1977 | 29 |
| Table 3-15. Marital Status of Eskimo Men and Women, by Age, 1977..... | 30 |
| Table 3-16. Eskimo Households Owning Homes, Vehicles, Major Appliances, 1973 and 1977 | 30 |
| Table 3-17. Eskimo Households Purchasing Vehicles and Large Appliances, 1977..... | 31 |

Appendix B Tables

| | |
|--|----|
| Table B-1. Composition of Eskimo Households, by Village, 1977 | 95 |
| Table B-2. Percentages of Eskimos Temporarily Away from Home, 1977 | 95 |
| Table B-3. Percentages of Eskimos Living in Their Villages of Origin, 1977..... | 95 |
| Table B-4. Reasons Why Eskimo Adults, by Village, Traveled Outside North Slope and to Barrow, 1977..... | 96 |
| Table B-5. Reasons Why Eskimo Adults, by Sex, Traveled Outside North Slope and to Barrow, 1977..... | 96 |
| Table B-6. Reasons Why Eskimo Adults Were Temporarily Away from Home, 1977 | 97 |
| Table B-7. Reasons Why Eskimo Adults, by Sex, had Lived Outside North Slope | 97 |
| Table B-8. Length of Residence of Eskimo Adults, by Village, 1977 | 98 |
| Table B-9. Desire of Eskimo Adults for Indoor Plumbing. | 98 |

Employment and Income

Text Tables

| | |
|--|----|
| Table 4-1. Gross Wages Paid by North Slope Borough, 1973-1977..... | 34 |
| Table 4-2. Employers of Eskimo Adults, by Village, 1977 | 35 |

| | |
|---|----|
| Table 4-3. Work Experience of Eskimo Adults, by Village, with Selected Employers..... | 36 |
| Table 4-4. Work Experience of Eskimo Adults, by Sex, with Selected Employers..... | 37 |
| Table 4-5. Occupations of Eskimo Adults, by Sex, 1960-1977..... | 38 |
| Table 4-6. Employment Status of Eskimo Adults, by Sex, March and September 1977..... | 39 |
| Table 4-7. Employment Status of Eskimo Adults, by Sex, March 1960 and March 1970..... | 39 |
| Table 4-8. Months Worked by Eskimo Adults, by Sex, 1977..... | 42 |
| Table 4-9. Total Hours Worked by Eskimo Adults, by Sex, 1977..... | 43 |
| Table 4-10. Total Hours Worked by Eskimo Adults, by Village, 1977..... | 44 |
| Table 4-11. Hours Eskimo Adults, by Sex, Worked per Week, 1977..... | 44 |
| Table 4-12. Weeks Eskimo Adults, by Sex, Worked per Job, 1977..... | 44 |
| Table 4-13. Reasons Why Eskimo Adults Left Jobs, 1977..... | 45 |
| Table 4-14. Total Weeks Worked by Eskimo Adults, by Sex, 1970 and 1977..... | 46 |
| Table 4-15. Median Weekly Wages Paid Eskimo Adults, by Occupation, 1977..... | 47 |
| Table 4-16. Weekly Wages Paid Eskimo Adults, by Village, 1977..... | 47 |
| Table 4-17. Average Annual Incomes of Eskimo Households, by Village, 1975-1977..... | 48 |
| Table 4-18. Sources of Eskimo Household Income, 1976..... | 50 |

Chapter End Tables

| | |
|---|----|
| Table 4-19. Work Experience of Eskimo Adults, by Age, with Selected Employers..... | 51 |
| Table 4-20. Occupational Distribution of Eskimo Workers, by Village, 1977..... | 51 |
| Table 4-21. Monthly Employment Status of Eskimo Adults, by Village, 1977..... | 52 |
| Table 4-22. Months Worked by Eskimo Adults, by Village, 1977..... | 53 |
| Table 4-23. Hours and Months Worked by Eskimo Adults, by Sex, 1977..... | 53 |
| Table 4-24. Hours and Months Worked by Eskimo Adults, by Village, 1977..... | 54 |
| Table 4-25. Hours per Week and Weeks per Job Worked by Eskimo Adults, by Sex, 1977..... | 54 |
| Table 4-26. Hours per Week Worked by Eskimo Adults, by Village, 1977..... | 55 |
| Table 4-27. Weeks per Job Worked by Eskimo Adults, by Village, 1977..... | 55 |
| Table 4-28. Total Weeks Eskimo Adults, by Village, Worked for Selected Employers..... | 56 |
| Table 4-29. Percentages of Eskimo Adults Who Worked in Their Home Villages, 1977..... | 57 |

Appendix B Tables

| | |
|---|-----|
| Table B-10. Trends in Barrow Labor Force Supply and Demand, 1970-1977..... | 99 |
| Table B-11. Eskimo Adults' Estimates of Time Worked, 1970 and 1977..... | 100 |
| Table B-12. Job Training Among Eskimo Adults, 1977..... | 100 |
| Table B-13. Union Membership Among Eskimo Adults, 1977..... | 101 |
| Table B-14. Distribution of Incomes of Eskimo Families, 1960-1977..... | 101 |
| Table B-15. Eskimo and Other American Families with Incomes Below Poverty Level, 1970 and 1977..... | 102 |

Hunting and Fishing

Text Tables

| | |
|--|----|
| Table 5-1. Caribou Hunting Among Eskimo Adults, by Village, before 1976..... | 63 |
| Table 5-2. Percentages of Eskimos Who Hunted and Fished, 1977..... | 64 |

| | |
|--|-----|
| Table 5-3. Percentages of Eskimos Who Hunted and Fished, by Sex and Activity, 1977 | .65 |
| Table 5-4. Caribou Hunting Among Eskimo Adults, by Sex, before 1976 | .66 |
| Table 5-5. Hunting and Fishing Among Eskimo Men, by Activity and Age, 1977 | .67 |
| Table 5-6. Hunting and Fishing Among Eskimo Women, by Activity and Age, 1977 | .68 |
| Table 5-7. Number of Hunting and Fishing Activities of Eskimo Men, by Age, 1977 | .69 |
| Table 5-8. Number of Hunting and Fishing Activities of Eskimo Women, by Age, 1977 | .69 |
| Table 5-9. Number of Months Eskimo Adults Participated in Hunting and Fishing Activities, 1977 | .70 |
| Table 5-10. Periods When Eskimo Adults Hunted and Fished, by Activity, 1977 | .71 |

Chapter End Tables

| | |
|---|-----|
| Table 5-11. Influence of Selected Factors on Hunting and Fishing Among Eskimo Men | .72 |
| Table 5-12. Influence of Selected Factors on Hunting and Fishing Among Eskimo Women | .72 |
| Table 5-13. Eskimo Household Food Obtained Through Hunting and Fishing, 1977 | .73 |
| Table 5-14. Eskimo Household Food Received from Other Households, 1977 | .73 |
| Table 5-15. Lending of Money and Equipment for Hunting and Fishing, 1977 | .73 |
| Table 5-16. Estimated Changes in Amount of Eskimo Food Obtained, 1970-1977 | .74 |
| Table 5-17. Reasons Why Less Eskimo Food Obtained in 1977 | .74 |
| Table 5-18. Hunting and Fishing Among Eskimo Adults, by Month and Activity, 1977 | .75 |
| Table 5-19. Hunting and Fishing Among Eskimo Adults, by Village and Activity, 1977 | .75 |
| Table 5-20. Estimated Changes in Time Eskimo Adults, by Village, Spent Hunting and Fishing, 1970-1977 | .76 |
| Table 5-21. Estimated Changes in Time Eskimo Adults, by Sex, Spent Hunting and Fishing, 1970-1977 | .76 |
| Table 5-22. Time Fathers of Eskimo Adults Spent Hunting, Fishing and Working | .76 |

Appendix B Tables

| | |
|---|------|
| Table B-16. Effects of 1976 Caribou Regulations | .102 |
| Table B-17. Game Sold, Traded, or Given Away by Eskimo Households, 1977 | .103 |
| Table B-18. Percentages of Eskimo Adults Whose Mothers Worked | .103 |

Village Life: 1970 and 1977

Text Tables

| | |
|---|-----|
| Table 6-1. Percentages of Eskimo Adults, by Age, Who Saw North Slope Oil Development as Good or Bad, 1977 | .80 |
| Table 6-2. Community Conditions Judged Best by Eskimo Adults, 1970 and 1977 | .81 |
| Table 6-3. Community Conditions Judged Worst by Eskimo Adults, 1970 and 1977 | .81 |
| Table 6-4. Percentages of Eskimo Adults Who Found Village Life Easier or Harder in 1977 than in 1970 | .84 |
| Table 6-5. Reasons Why Eskimo Adults Found Life Easier, 1977 | .84 |
| Table 6-6. Reasons Why Eskimo Adults Found Life Harder, 1977 | .84 |
| Table 6-7. Institutions Identified by Eskimo Adults as Best Meeting Their Needs, 1977 | .85 |
| Table 6-8. Percentages of Eskimo Adults Rating Community Conditions "Good," 1970 and 1977 | .85 |

Chapter End Tables

| | |
|---|----|
| Table 6-9. Community Conditions Judged Best by Eskimo Adults, by Village, 1970 and 1977 | 88 |
| Table 6-10. Community Conditions Judged Worst by Eskimo Adults, by Village, 1970 and 1977 | 89 |
| Table 6-11. North Slope Borough Services Rated "Good" by Eskimo Adults, 1977 . . . | 90 |
| Table 6-12. North Slope Borough Services Rated "Poor" by Eskimo Adults, 1977 . . . | 90 |
| Table 6-13. Eskimo Adults' Preferences for Rate of Development of Services | 91 |

Appendix B Tables

| | |
|--|-----|
| Table B-19. Good and Bad Effects of Petroleum Development, Cited by Eskimo Adults | 103 |
| Table B-20. Eskimo Adults' Assessments of Services in Their Villages, 1977 | 104 |
| Table B-21. Eskimo Adults' Assessments of Government Dealings with Oil Companies. | 104 |
| Table B-22. Eskimo Adults' Assessments of How Much Chance They Had to Run Things in Their Villages, 1977. | 105 |
| Table B-23. Eskimo Adults' Assessments of Changes in Number of Whites in Villages, 1970-1977. | 105 |

List of Figures

Figure 1-1. Map, North Slope Borough. 3

Figure 3-1. Age and Sex Distributions of North Slope Eskimos, 1960-1977. 20

Figure 4-1. Employment Status of Eskimo Men and Women, by Month, 1977 41

Figure 4-2. Comparison of Income Distributions: North Slope, Alaska and United States 49

Figure 5-1. Peak North Slope Hunting Seasons, by Activity. 60

Figure 5-2. Percentages of Eskimo Adults Who Hunted and Fished, by Activity, 1977 62

Figure 6-1. Community Conditions Rated Improved and Worsened by Eskimo Adults, 1970-1977. 86

Chapter 1

Introduction

This report describes social and economic change among the North Slope Inupiat Eskimos during the 1970s, a period when petroleum development in the Arctic made possible the formation of an Inupiat-controlled regional government with a multibillion-dollar tax base and also speeded passage of the Alaska Native Claims Settlement Act, which awarded the Arctic Eskimos land and money. The report is based on a household survey the University of Alaska's Institute of Social and Economic Research made in six Eskimo villages on the North Slope in late 1977 and early 1978. The survey was done as part of the institute's Man in the Arctic Program,* a broad study of the social and economic effects of petroleum development in Alaska, and nowhere in Alaska were the effects—albeit indirect effects—of petroleum development in the 1970s more pronounced than on the North Slope Eskimo villages.

In this introductory chapter, we discuss first the context of our study: how the discovery of oil at Prudhoe Bay on the Arctic coast in 1968 made possible the establishment of the North Slope Borough and also spurred passage of the Alaska Native Claims Settlement Act—and how these two events in turn affected the lives of North Slope Eskimos in the 1970s. We then sketch the history of the Inupiat on the North Slope, and the geography of the region; final sections of the chapter outline our survey methods and purposes, discuss the limits of survey information, and summarize the organization of the report.

Study Context

In 1968, a 10-billion-barrel oil field, the biggest find in North America to date, was discovered at Prudhoe Bay on Alaska's North Slope. At the time of the discovery, the North Slope, covering nearly 100,000 square miles north of the Brooks Range, was home to about 3,000 Eskimos and a handful of whites. The scattered Eskimo villages of the region were among the poorest communities in the United States, and could afford almost no local government—except on a limited scale in Barrow, the area's largest village. Schools, health clinics, and other public facilities in the villages were provided by the state and federal governments, which also supplied most of the few steady jobs in the region. North Slope Eskimos still relied for much of their food on the hunting and fishing that had historically sustained them. Most of the village homes had electricity by 1970, but none had water or sewer systems, and a 1973 report described Barrow as the largest community in Alaska with no safe source of drinking water and no high school. In the early 1970s all personal property in North Slope villages was assessed at less than \$4 million.¹

The discovery of the Prudhoe Bay field, however, set in motion forces that would, by the late 1970s, make the North Slope Eskimos citizens of one of the richest per capita regional governments in the United States.

Several years before the Prudhoe Bay find, Native groups across Alaska had begun asking the federal government to award them title to lands they had historically used for hunting and fishing; these land claims had been instigated in part because of land transfers the federal government had begun making to the newly formed state government of Alaska.

Land transferred to state ownership by the late 1960s included Prudhoe Bay, and in

*See Preface.

1969 the state sold petroleum leases in the area where the huge oil field had been discovered the year before. By 1970, oil companies holding leases at Prudhoe Bay, and the state government, which would receive large sums in royalty and tax revenues when oil began flowing from the Prudhoe Bay field, were eager for work to begin on an overland pipeline that would carry North Slope oil south to the port of Valdez, at the opposite end of the state. The unresolved Native land claims, however, covered land the pipeline would cross, and in fact the North Slope Eskimos submitted to the federal government a claim for all the land on the North Slope, including the Prudhoe Bay area.² These land claims, as well as court suits brought by several environmental organizations opposed to pipeline construction, were delaying the start of the project.³

Several proposals for resolving the Alaska Natives' land claims were before the U.S. Congress when the Prudhoe Bay field was discovered, but before that discovery state, federal, and Native leaders had been unable to agree on how much land and money the Natives should receive in settlement of those claims. With the huge oil find as a spur, state and federal leaders worked together to find a settlement that would be acceptable to Native leaders.⁴ In 1971, under the Alaska Native Claims Settlement Act, Alaska's Eskimos, Indians, and Aleuts were awarded 40 million acres and nearly \$1 billion. The act also called for establishment of Native-owned regional and village corporations throughout the state to manage this land and money.

The North Slope Eskimos were awarded 5.6 million acres and \$52 million as their share of the settlement, and the Arctic Slope Regional Corporation and individual village corporations were established to manage the Eskimos' money and land. Had government officials not been eager to see the trans-Alaska oil pipeline built, this Native land claims settlement could have been delayed, possibly for years.

In 1979, the Arctic Slope Regional Corporation reported profits of nearly \$30 million; the corporation was supplying many jobs on the North Slope and exploring for oil on its lands in the late 1970s. The corporation had also established several subsidiary companies that were supplying goods and services to oil companies operating on the North Slope.⁵

The regional corporation was, then, an important force in North Slope villages in the 1970s, but a far bigger force was the North Slope Borough, which had more money at its disposal and was therefore able to create many more jobs.

Before the Prudhoe Bay discovery, North Slope villages could afford very little local government. After the discovery, however, Eskimo leaders saw that if they could establish a regional government that would include the Prudhoe Bay area, that government would have a very large tax base indeed. In 1972, North Slope Eskimos won state approval to incorporate a vast borough, covering 88,000 square miles, including the Prudhoe Bay development complex and a handful of scattered Eskimo villages (see Figure 1-1). Between 1973 and 1980, the borough collected about \$150 million in property taxes from oil companies operating out of Prudhoe Bay, and an additional \$88 million in state and federal monies⁶ (see Table 1-1). With this money, the borough in the 1970s took over from the state and federal governments public services in North Slope villages, and started construction of new schools, houses, utility systems, airports, and roads in those villages—and in the process created hundreds of jobs in government administration and on construction projects.

The futures of these two organizations that brought money and jobs to North Slope villages in the 1970s are tied to future petroleum development in the Arctic. The borough's

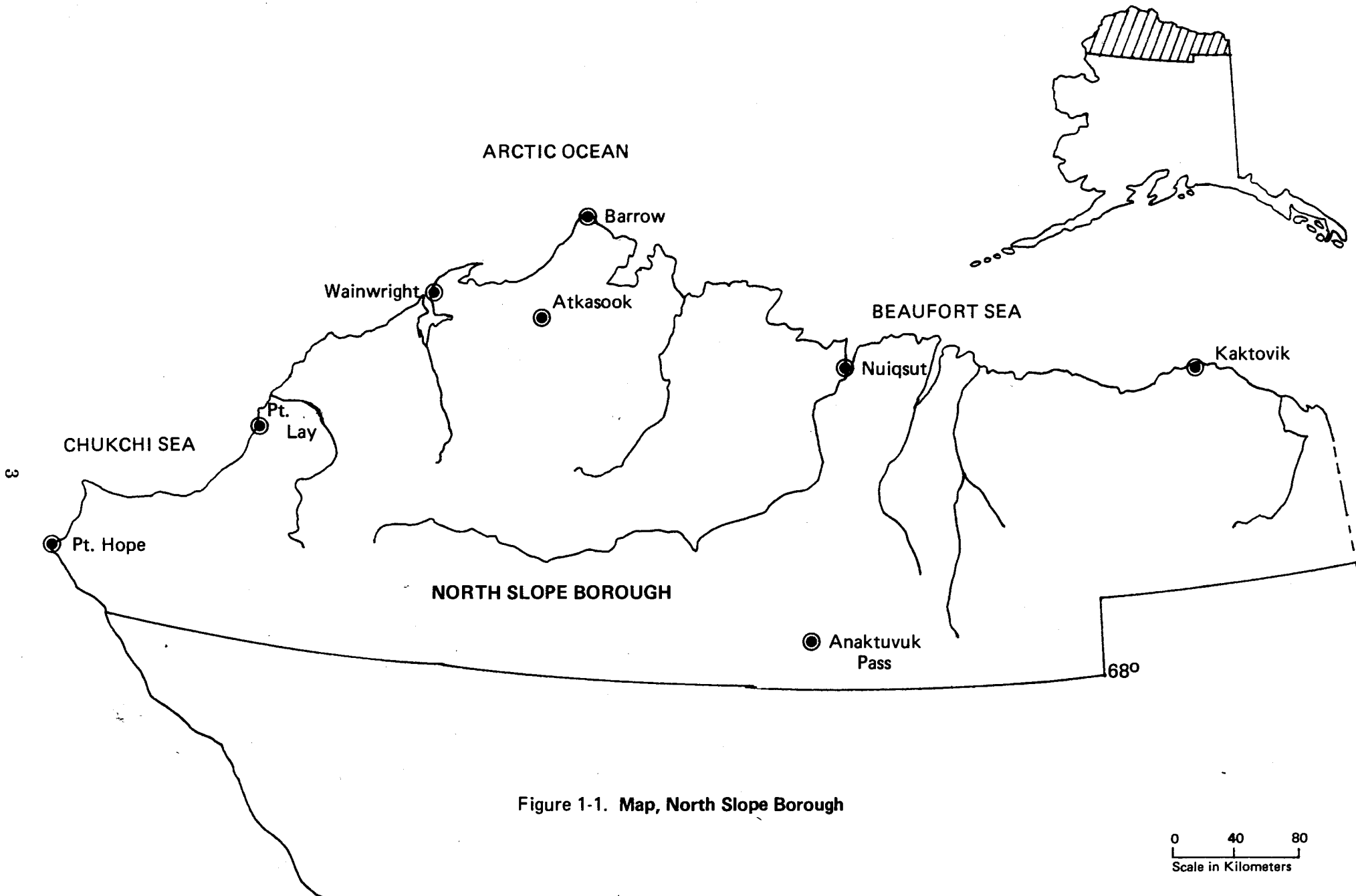


Figure 1-1. Map, North Slope Borough

0 40 80
Scale in Kilometers

Table 1-1. North Slope Borough Revenues, 1973-80

| Fiscal year | Total Revenues ^a | | Property Tax Revenues | |
|-------------------------------------|-----------------------------|-------------------------------|-----------------------|---------------------------------|
| | Amount \$ | Annual percentage increase | Amount \$ | Percentage of total revenues |
| 1973 | \$ 550,000 | | \$ 418,000 | 76% |
| 1974 | 6,160,000 | — | 3,550,000 | 58 |
| 1975 | 11,720,000 | 90% | 5,500,000 | 47 |
| 1976 | 16,630,000 | 42 | 6,880,000 | 41 |
| 1977 | 30,000,000 | 80 | 19,180,000 | 64 |
| 1978 | 45,305,000 | 51 | 26,826,000 | 60 |
| 1979 | 53,879,000 | 19 | 35,080,000 | 65 |
| 1980 ^b | 74,049,000 | 37 | 51,965,000 | 70 |
| Average annual increase, 1974-80 | — | 51% | — | — |

^aMost of the borough's revenues come, as this table indicates, from property taxes levied on oil companies operating at Prudhoe Bay; the remainder of the borough's revenues are mainly state and federal funds for education and other purposes.

^bAnticipated borough revenues, as estimated in North Slope Borough fiscal year 1980, Budget Document.

Source: North Slope Borough, Budget Documents, 1974-80.

current tax base will disappear when the Prudhoe Bay oil field is exhausted, about 20 years from now. If the federal government sells petroleum leases in the 23-million acre National Petroleum Reserve in Alaska—which lies entirely within the borough—the borough could tax private development property there. Another possible source of tax money for the borough would be any onshore facilities for offshore petroleum exploration and development in the Beaufort Sea, off the borough's northern coast; the federal and state government have in fact sold petroleum leases in the Beaufort. Lands the North Slope Eskimos received title to under the 1971 Native Claims Act are exempt from taxation until 1992, but after that the borough will tax those lands. It would, however, take a great deal of development to equal the tax base the borough currently has: in 1979, petroleum properties at Prudhoe Bay and along the portion of the trans-Alaska pipeline within the borough were assessed at \$5 billion.

Although the Arctic Slope Regional Corporation does not, like the borough, rely on tax money, it does also depend on petroleum development. If the corporation made a large find on its lands, the several thousand Eskimo stockholders of the corporation would be assured of dividends for some time into the future. Also, if oil were discovered outside Eskimo-owned lands on the North Slope, the subsidiary companies of the corporation could continue to make profits and create jobs by supplying goods and services to oil companies.

Although the North Slope is considered a good prospect for more petroleum discoveries, future finds are uncertain, and the future incomes of the borough and the regional corporation are also therefore uncertain. We made our survey at a time when, in the words of the North Slope Borough's first mayor, Eben Hopson, the North Slope Eskimos were "riding the crest of a high economic wave." We recorded numbers of jobs, levels of income, and other aspects of Eskimo life at a moment when petroleum development had given regional villages access to hundreds of millions of dollars.

Another important point to remember in reading this report is that while the North Slope Borough in the 1970s was in fact one of the wealthiest per capita regional governments in the United States, most borough villagers in 1980 still lived in cramped, substandard houses without indoor plumbing. The borough in the 1970s did translate Arctic petroleum development into more jobs and improved incomes for North Slope Eskimos, and did begin upgrading public facilities and services in regional villages—but North Slope Eskimos in 1980 still enjoyed few of the conveniences and amenities common in most other American communities.

The North Slope Inupiat

The Eskimos who came to Alaska's North Slope several thousand years ago learned to make the most of what anthropologist Richard Nelson called "an environment that provides with such frugality."⁷ Until the early 1800s, the North Slope Eskimos got virtually all their food, clothing, and fuel from sea and land mammals, many of whom spend only a small part of each year in the Arctic, migrating to more hospitable climates for the winter. The Eskimos also hunted ducks, geese, and other birds, fished, and picked berries, but the very large part of their sustenance came from mammals. Their success in harvesting sea mammals depended to a large extent on ice conditions, and the land animal they depended most heavily on, the caribou, could suddenly and unpredictably change its migration routes; also, historically, numbers of caribou on the North Slope have fluctuated sharply.

The modern North Slope Eskimos are descendents of two groups of Eskimos, the Tareumiut and Nunamiut.⁸ The Nunamiut were nomads who roamed large areas of the Brooks Range and Arctic Foothills, following the caribou which were their primary source of food. The Tareumiut were coastal Eskimos who hunted mainly sea mammals but who also hunted caribou. Unlike the Nunamiut who followed the constantly-moving caribou, the Tareumiut established small coastal villages in locations where they had access to seals, whales, and walruses.

The caribou was the "keystone of economic, social, and religious activities"⁹ of the Nunamiut Eskimos, and their ability to find caribou in adequate numbers was their only means of survival. The Tareumiut depended not on a single animal but on several kinds of sea mammals, as well as caribou, but their survival, like that of the Nunamiut, also hinged on their skill in finding game under conditions that varied from year to year. Most sea mammals found during the spring and summer in the Beaufort and Chukchi seas spend winter in the Bering Sea to the south, moving north in the spring as leads begin opening in the ice, or a short time later when the ice begins to fragment into floes moving north. How close these leads were to shore, and many other variables in the ice conditions, determined the success of the early Eskimo hunters. The sea mammal most prized by coastal Eskimos, then and now, is the huge bowhead whale, which can weigh 50 tons and be 60 feet long. An anthropologist who lived in Barrow in the 1950s described the bowhead as the "material, social, and spiritual"¹⁰ center of Eskimo life. But because ice conditions could vary greatly from year to year, the bowhead was "too uncertain a commodity on which to base a subsistence economy."¹¹ The mammal most basic to the Eskimo was the seal, because ringed seals are, unlike most other mammals, found along the Arctic coast year-round. The Tareumiut also hunted the larger bearded seals—hides of which were most commonly used in making skinboats—and walruses, which are generally found in the Arctic only in the spring and summer.

After about the 1850s, however, the North Slope Eskimos no longer sustained themselves solely from the land: that time essentially marked the arrival of the white man in the

Arctic, and the Eskimos were drawn increasingly toward what remains their lifestyle today -- a combination of working for wages and hunting and fishing. The white commercial whalers who began arriving along the Arctic coast in the mid-1800s hired some Eskimos as crewmen, generally paying them with various kinds of manufactured goods, and later Eskimos began captaining their own whaling boats, sometimes earning thousands of dollars in a season when the price of baleen was high.¹² When the demand for baleen in the United States dropped sharply around the turn of the century, many Eskimos turned to trapping and later reindeer herding to earn the money that had become part of their economy.¹³

In the 1940s, many Eskimo men for the first time began holding the kinds of jobs they largely still held in the 1970s: skilled and unskilled jobs on construction projects. The U.S. Navy carried out a petroleum exploration program in the National Petroleum Reserve¹⁴ on the North Slope in the late 1940s and early 1950s, and many Eskimos, perhaps half the working-age men in Barrow, worked for the Navy exploration contractors at some time.¹⁵ These jobs generally were only available in the summers, however, and Eskimos who worked still had most of the year open for hunting and fishing. For most of the time between the 1950s and the 1970s--except for periods of sporadic military and other government construction--jobs in North Slope villages were scarce, and Eskimos relied on hunting and fishing for much of their food.

Geography of the North Slope

That Alaska's North Slope in the 1970s had a permanent population of fewer than 4,000 Eskimos in an area that could comfortably hold all six New England states says much about the region north of the Brooks Range: it has been called an arctic desert, covered not with sand but with tundra underlain by permafrost as thick as 1,000 feet. Bounded on the north and west by the Beaufort and Chukchi seas and on the east by Canada's Yukon Territory, the region is treeless and receives less than 10 inches of precipitation in an average year.¹⁶

Winters in the region are long, very cold, windy, and dark; in Barrow, the United States' northernmost community, the sun sets in mid-November each year and does not rise again until late January. Temperatures can drop to 60 degrees below zero in the Brooks Range village of Anaktuvuk Pass, and while winter temperatures in coastal villages are somewhat warmer, winds that blow most of the time can make effective temperatures very low. Ice covers the Beaufort Sea off Barrow about nine months of the year, and even in the brief summer months the ice may move only 30 miles offshore. West of the Beaufort, the Chukchi Sea is influenced by relatively warmer waters from the south and can be free of ice about five months of the year. The sea ice found along the Arctic coast most of the year is dangerous and unpredictable because it is constantly on the move, pushed by winds and currents.

Just as there is a period when the sun does not rise on the Arctic coast, there is also a period, roughly from early May to early August, when the sun doesn't set. Daytime temperatures remain cool even during this time, ranging around 50 degrees along the coast. During the short summers, the flat plain that makes up the northern half of the North Slope Borough is transformed from a frozen expanse into a vast bog with thousands of small, shallow lakes; even though the region receives so little precipitation, the permanently frozen ground below the tundra prevents water from draining. In some areas of the borough, the ground layer that thaws each summer may be less than a foot thick, but can be as much as 10 feet thick. The southern half of the borough is covered by the drier tundra of the rolling Arctic