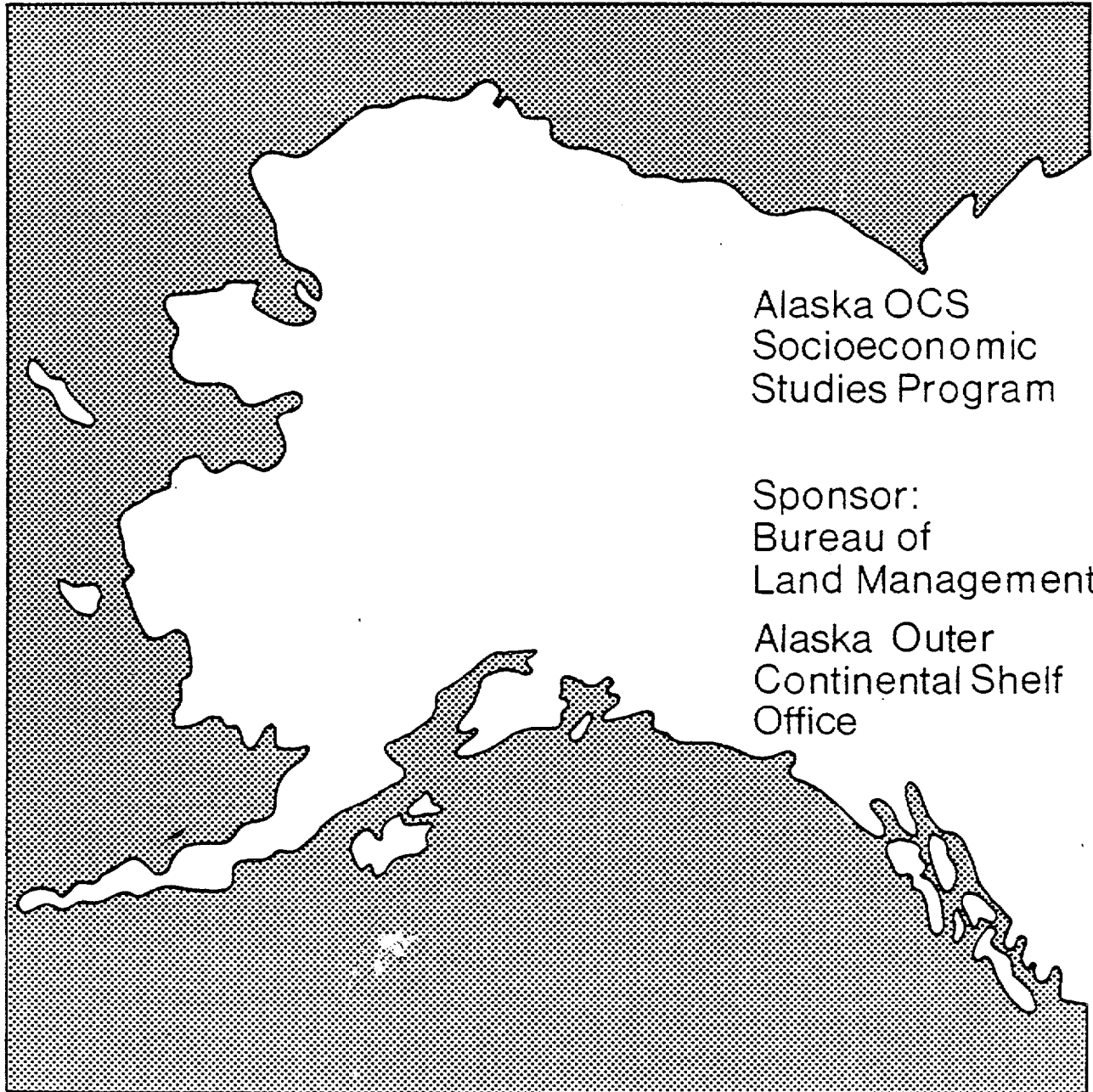


Technical Report
Number 54 Volume 2



Alaska OCS
Socioeconomic
Studies Program

Sponsor:
Bureau of
Land Management

Alaska Outer
Continental Shelf
Office

Bering-Norton
Petroleum Development Scenarios
Sociocultural Systems Analysis

The United States Department of the Interior was designated by the Outer Continental **Shelf (OCS)** Lands Act of 1953 to carry out the majority of the Act's provisions for administering the mineral leasing and development of offshore areas of the United States under federal jurisdiction. Within the Department, the Bureau of Land Management (**BLM**) has the responsibility to meet requirements of the National Environmental Policy Act of 1969 (**NEPA**) as well as other legislation and regulations dealing with the effects of offshore development. In Alaska, unique cultural differences and climatic conditions create a need for developing additional socioeconomic and environmental information to improve **OCS** decision making at all governmental levels. In fulfillment of its federal responsibilities and with an awareness of these additional information needs, the **BLM** has initiated several investigative programs, one of which is the Alaska OCS Socioeconomic Studies Program (**SESP**).

The Alaska **OCS** Socioeconomic Studies Program is a multi-year research effort which attempts to predict and evaluate the effects of Alaska **OCS** Petroleum Development upon the physical, social, and economic environments within the state. The overall methodology is divided into three broad research components. The first component identifies an alternative set of assumptions regarding the location, the nature, and the timing of future petroleum **events** and related activities. In this component, the program takes into account the particular needs of the petroleum industry and projects the human, technological, economic, and environmental offshore **and** onshore development requirements of the regional petroleum industry.

The second component focuses on data gathering that identifies those quantifiable and qualifiable facts by which **OCS-induced** changes can be assessed. The critical community and regional components are identified and evaluated. Current **endogenous** and exogenous sources of change and functional organization among different sectors of community and regional life are analyzed. Susceptible community relationships, values, activities, and processes also are included.

The third- research component focuses on an evaluation of the changes that could occur due to the-potential **oil** and gas development. Impact evaluation concentrates on an analysis of the impacts at the statewide, regional, and **local** level.

In general, program products are sequentially arranged in accordance with **BLM's** proposed OCS lease sale-schedule, so that information is timely to **decisionmaking**. Reports are available through the National-Technical Information Service, **and** the BLM has a limited number of copies available through the Alaska **OCS** Office. Inquiries for information should be directed to: Program Coordinator (**COAR**), Socioeconomic Studies Program, Alaska OCS Office, P. O. Box 1159, Anchorage, Alaska 99510.

TECHNICAL REPORT NO. 54

Contract No. AA550-CT6-61

Alaska OCS Socioeconomic Studies Program

BERING-NORTON PETROLEUM DEVELOPMENT SCENARIOS

SOCIOCULTURAL SYSTEMS ANALYSIS

VOLUME II

Prepared by

LINDA J. ELLANNA

Prepared for

Peat, Marwick, Mitchell, & Co.

and the Bureau of Land Management,

Alaska Outer Continental Shelf Office

August 31, 1980

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NOTICE

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Alaska OCS Socioeconomic Studies Program
Bering-Norton Petroleum Development Scenarios
Sociocultural Systems Analysis

Prepared by
Linda J. Ellanna

Contract No. AA550-CT6-61

August 31, 1980



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The researcher would like to acknowledge the invaluable assistance of George K. Sherrod, Richard W. Schmidt, and Lillian K. Erickson in completing this document

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PREFACE

This document includes the **non-OCS** case and impacts projection of the Bering-Norton **sociocultural** systems analysis and should be considered in conjunction with the baseline study. The baseline study is contained in Volume I, "Bering-Norton Petroleum Development Scenarios, **Sociocultural** Systems Analysis," (1980). References for Volumes I and II are the same and are printed in both documents.



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CHAPTER VI

THE NON-OCS CASE

Introduction

The primary objective of this chapter is to project current trends and historical responses to change for the **sociocultural** systems of the study area without OCS exploration and development from the present -- 1980 -- to the year 2000. **Subsequent** chapters -- VII, VIII, IX, and X -- will attempt to assess the differences between this **non-OCS** case and the exploration only, low (95%) find, mean (50%) find, and high (5%) find cases respectively utilizing the petroleum development scenarios for the Bering-Norton lease sale area (Dames and Moore, 1980b) and other pertinent studies completed relative to OCS Lease Sale No. 57 presently scheduled for November, 1982. These other pertinent studies include ISER's "Bering-Norton Statewide and Regional Economic and Demographic Systems Impact Analysis" (1980) important to this study primarily for population projections; Ender, et al. (1980) for socioeconomic impact projections related more specifically to Nome; baseline data on fisheries provided by U. of Alaska, Sea Grant Program (1980); and fish and wildlife impact analysis provided by Dames and Moore (1980a). Population, employment, and economic statistics have been taken primarily from the ISER study as directed by PMM. The following quotation, however, is indicative of the problems associated with the use of ISER's map model at the regional level:

The regional results [of the use of the model] are subject to far greater limitations and possess far fewer strengths for several reasons.

First, the available data is far sparser than on a statewide basis, and the potential specifications are far more complex. As a consequence, estimated relationships in the regional model are less reliable than their statewide counterparts. . . . especially in remote regions . . . , the susceptibility of the region to major structural change as a consequence of OCS development is far greater than that encountered at a statewide level An accurate assessment must incorporate detailed microlevel analysis of such economies. Econometric techniques cannot and should not replace such analysis. (U. of A, ISER, pp. 12-13)

Where Ender, et al. (1980) and ISER (1980) data conflict, the differences will be briefly considered.

Before embarking on both non-OCS and OCS projections endeavors, a few comments regarding the processes of projecting future sociocultural change are in order. In both Chapters I and II (Vol. I), study design and impacts projection limitations already have been mentioned. To review an important but general point, the "state of the art" in the subfield of social science impact projections is not nearly as well developed as are the capabilities of social science to analyze past and present sociocultural systems or directions of change. An example of the difficulty in projecting future trends can be demonstrated by analyzing one of the two key variables for the OCS SESP studies -- namely population growth trends under both non-OCS and OCS conditions. Population projections for the study area done in the contemporary period (i.e. over the last decade) and assuming generally similar socioeconomic conditions have resulted in significantly varying rates of annual population growth (e.g. .8 percent to 2.5 percent; Ender, et al. 1980 and U.S. Dept. of the Interior 1977b respectively). Other varying

estimates have included Alaska Consultants (1968), Richardson, et al. (1979), and Institute of Social and Economic Research (Alaska, U. of A, ISER, 1980). However, for purposes of this study ISER's population projections developed specifically for the OCS SESP will be utilized in conjunction with commentary about potential problem areas. These projections, then, will be used to establish parameters for population growth, while more qualitative interpretations will be based on baseline data and field-based knowledge of the study area.

The other major variables for purposes of the impacts projections are employment and economic data. Again, for non-OCS projections there are considerable variations in economic projections depending on the methodology of the study and on the rapidly changing nature of international and national economics which impinge on the local economic scene (e.g. inflation rates). More important, however, is the fact that the study area is not easily nor accurately analyzed economically through the use of methods, indices, criteria, or values applicable to economic systems that focus primarily or exclusively on cash, wage labor, market distribution, and industrial production. While all of these elements today play some role in the economic systems of the study area as described in the baseline, subsistence hunting and fishing, local resource dependency, kinship based or pseudo-kinship based reciprocity and redistribution, non-industrial production, and subsistence related labor all are a part of the existing economic scene. To add greater complexity to economic analyses, cash and subsistence-based economic systems

interface in day-to-day affairs, and the conceptual and methodological "tools" necessary to analyze this interface are poorly developed in the social sciences at the present time. Consequently, however, economic indices provided by the ISER (1980) and Ender, et al. (1980) such as "real per capita income" and "personal income" emerge from the study of cash economies and are of limited utility or relevancy quantitatively and qualitatively to this research effort and will of necessity provide guidelines to projecting only the cash aspects of the currently functioning economic systems in the area. Subsistence economies and interrelationships between subsistence and cash will therefore be necessarily considered somewhat apart from such cash-oriented models.

Lastly, it is important to emphasize that the criteria used to identify and evaluate "cultural change" or "sociocultural impacts" in studies of this sort are really only meaningful if the value systems of the populations being "impacted" are used in analysis. That is, in the baseline portion of this study the culturally-derived value systems of the study area's populations have been described and some effort has been expended in illustrating how these value systems may differ from those of non-local, non-Eskimo populations and their policies. Therefore, it has been critical to complete the impacts projection portion of this study

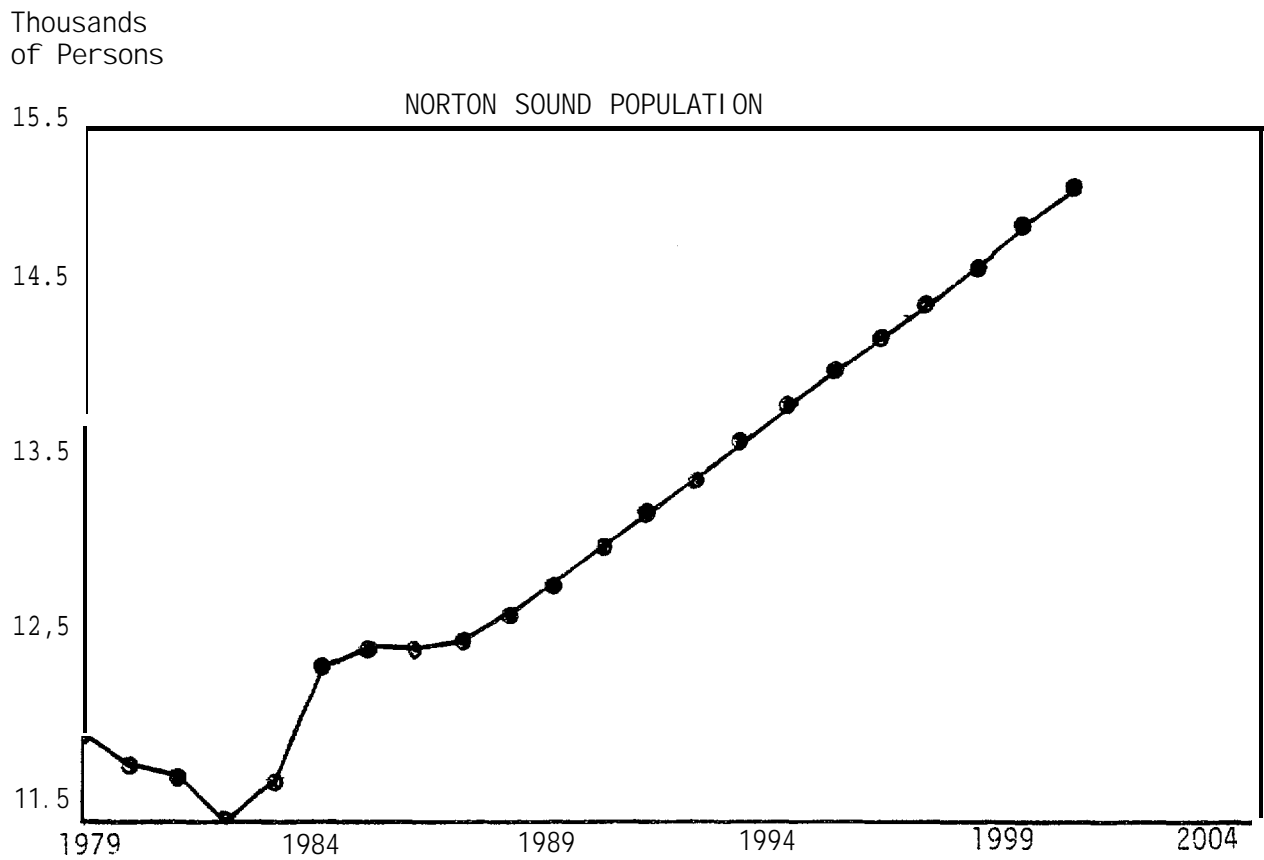
with the same degree of cultural relevancy and to avoid the pitfalls of assuming that everyone within and without the study area will perceive the same event similarly. As an example, whereas industry, governmental agencies, and some residents of a community may perceive the potential for cash employment in a given community as being a beneficial OCS impact, other residents of the same community may perceive these jobs as disruptive to subsistence, to the social order, to local autonomy or to other aspects of the local **sociocultural** system. The way impacts are perceived are, then, as important as their more or less physical or material manifestations. In the same vein, "standard of living" or "quality of life" are frequently used phrases in impacts literature that only have relevance from the value orientation of the individual assessing the quality of his or her life.

Summary of Socioeconomic Projections

POPULATION

Between the years 1980 and 2000 ISER projects that the population of the combined Nome and Made Hampton census divisions will increase from 11,846 to 15,180 (U. of Alaska, ISER, 1980, P. 120) (see Figure I). Since all communities within these combined census divisions are not a part of this study area (see Table I, P. 15),

Figure 1
NORTON SOUND POPULATION, 1979-2000
BASE CASE'



¹ Taken from Alaska, U. of, ISER, 1980, P. 123.

it is estimated that the study area population comprises approximately 72 percent of the ISER "Norton Sound" area population. However, based on more recent and locally-generated population estimates of Yukon Delta communities (Alaska Geographic, 1979) and Bering Straits Region communities (Ellanna and Roche, 1976), the ISER 1980 population estimates appear to be on the low side. In any event, using the population ratio for the study area relative to ISER's "Norton Sound" population, it is estimated that the population of the study area in the year 2000 would be 10,951. This figure represents an annual growth rate of 1.2 percent including immigration which is low relative to the current trends projected by Norton Sound Health Corporation of approximately a 1.7 annual natural increase without immigration (births/1000 minus deaths/1000 over the period 1970-1977, Richardson, et al., 1979, P. 14). For example, the village of Savoonga exhibited a 1.76 annual natural increase based on 1968-1974 data (U.S. Dept. of the Interior, 1977b, P. 29).

Based on the population estimates in this study, Nome has a December 1975 population of 2,380 (Ellanna and Roche, 1976) or 27.8 percent of the study area's population in addition to a 5 percent error factor which would maximally result in a population of 2,499 for this same period. Ender assumes a 1979 population of 3,064 (Ender, et al., 1980, P. 179) which is meaningfully higher than the 1975 population base of 2,499 with a 1.7 annual natural increase which would

result in a 1979 population for Nome of 2,718. Discrepancies in Nome's population are possibly related to population shifts of a transient nature and variations in the methodology used by different demographic studies. It is assumed, however, that the major portion of projected population increases to the year 2000 beyond natural growth would be in Nome because of its role as a regional center. Assuming that Nome continues to have 27.8 of the study area's population under non-OCS conditions, based on ISER's (1980) population projections Nome should have a population of 4,121 by the year 2000. This compares relatively favorably to Ender's 4,005 population estimated for Nome in the year 2000 (Ender, et al., 1980, P. 179).

Neither ISER (1980) nor Ender, et al. (1980) provide an ethnic breakdown for the population of the study area in the year 2000. For the non-OCS case, however, we will assume that the ethnic ratio that exists today for both Nome and the villages will persist to the year 2000. Based on this assumption the ethnic distribution will approximate 85 percent Eskimo, 14 percent Caucasian, and 1% other for the study area (see Table II, P. 16 Volume I), there should be 9,308 Eskimos, 1,533 Caucasians, and 110 "others" in the year 2000. It is also assumed that under non-OCS conditions the present ratio of 90+ percent Eskimo in the villages as opposed to 60+ percent Eskimo in Nome will continue (see Table II, P. 16 Volume I

and Richardson, **et al.**, 1979, P. 14).

ISER's regional population model is ". . . estimated as a function of employment" and ". . . is much simpler than that [i.e. demographic] component of the state model" (Alaska, U. of, ISER, 1980, P. 9). Since the population of the study area is basically rural and mostly Native, it does not lend itself well to projection models that are basically focused on urban, non-Native populations almost exclusively dependent on a cash economy. That is, populations in rural areas may be meaningfully influenced by many demographic processes beyond employment (e.g. a very high rate of accidental mortality) and, conversely, are affected more radically by relatively minor demographic shifts because of the small size, face-to-face nature of interpersonal contacts, and ethnic composition of the communities. Therefore, to accommodate both the SESP mandates for this study to rely on ISER's MAP model projections and, importantly, the overall quality of the study, population and employment will be considered separately at the outset of each case. Although inter-relationships between the two will, of course, be explored for development cases that obviously will entail substantial employment shifts, comments on other demographic factors not related to employment where relevant will be added in a concise manner.

EMPLOYMENT

According to the **ISER** model, the following scenario is suggested. As a **result** of the reduction of money in the local economy, **ISER** forecasts a decline in employment (and subsequently population) until 1982 at which time there will be a stabilization of the service sector due to growth in other segments of the economy. At this time a short-lived employment growth spurt will last until 1985 and then the growth rate will stabilize and incrementally (2% annually) increase to the year 2000 (see Figure II). For the numerical specifics of **non-OCS** total employment and employment by major job category, refer to Ender, et al. (1980, P. 184). Remember in using the **ISER** and Ender, et al. statistics that they represent an area different from that of the study area and it is possible that these numbers could be reduced by as much as 28%. Since most employment shifts would probably occur in Nome and secondarily, Bethel, such a reduction may not be warranted since Nome is within the study area for this research, **ISER** (1980), and Ender, et al. (1980). In overall summary from these data, the total employment for the study area of approximately 2,786 in 1980 decreases to 2,701 in 1982 at which time it begins to increase culminating in 3,871 jobs in the year 2000 according to this scenario (Ender, et al., 1980, P. 184). These increases, according to **ISER**, are primarily in the government and basic (production) sectors with the support sector employment remaining relatively unchanged.

Figure II
 NORTON SOUND EMPLOYMENT, 1979-2000
 BASE CASE¹

Thousands
 of Persons



¹ Taken from Alaska, U. of. ISER, 1980, P. 124.

Ender, et al. disagrees with the ISER analysis stating that in the **non-OCS** case their projections indicate the greatest gain in employment to occur in the 1980's with a slowdown in the 1990's based on the ". . . assumption that local and regional conditions **are** more important **to** growth than state effects" and that "the opportunities for modest growth are sufficient in Nome to expect a pattern different from the state in the 1980's" (P. 182). In addition they maintain that mining, manufacturing, trade, and especially services have potential for growth not recognized by ISER's MAP model, **where-** as the sporadic nature of construction will reduce the potential for growth of that sector **vis-a-vis the** ISER projection (pp. 182-183),

Based on the **sociocultural** research of this area, several **employment-related** points should be made relative to ISER's and Ender's projections:

- (1) Whether increases or decreases in employment are projected, such employment refers to wage labor (as opposed, for example, to self employment such as ivory carving). The vast majority of "employment," according to this definition, will undoubtedly increase or decline in Nome or Bethel as opposed to the villages in the associated regions. Relatedly, increases or decreases in wage monies will more heavily influence Nome or Bethel's population **rather** than that of the villages.

- (2) Based on present economic trends in the study area, it is doubtful that the ISER projection of an employment slump between 1980 and 1982 will come to pass. Moderate growth of employment possibilities (mostly in Nome and Bethel) seem much more likely in light of the directions all sectors of the job market are currently taking. It is possible the Native non-profit corporations may lose some of their CETA funds within the next two years, but they are already preparing for this with alternate funding plans (informal discussions, Charlie Johnson, Kawerak, April, 1980).
- (3) If employment declines in Nome as ISER suggests, it is very likely that some Native families will return to their home villages where it is possible to live on less cash, and that some non-Natives in Nome for purposes of lucrative employment may also outmigrate. Conversely, if ISER is incorrect in their assumption, the portion of the Nome population from villages who live in Nome to work will gradually be on the increase.
- (4) Because the vast majority of governmental positions are located in Nome and Bethel for their respective regions as is virtually all basic sector (producer) employment, employment trends will disproportionately affect these regional centers as opposed to the small, rural communities. However, as employment opportunities increase over the 1979 to 2000 time

period, **mostly** in the **quasi-urban** regional centers, the number of employment opportunities per capita in villages will decline. That is, village populations will be naturally increasing while there will most likely be negligible growth of the employment sector of these same villages. Factors such as village **outmigration** could potentially contribute to stabilizing this decline over time.

ECONOMY

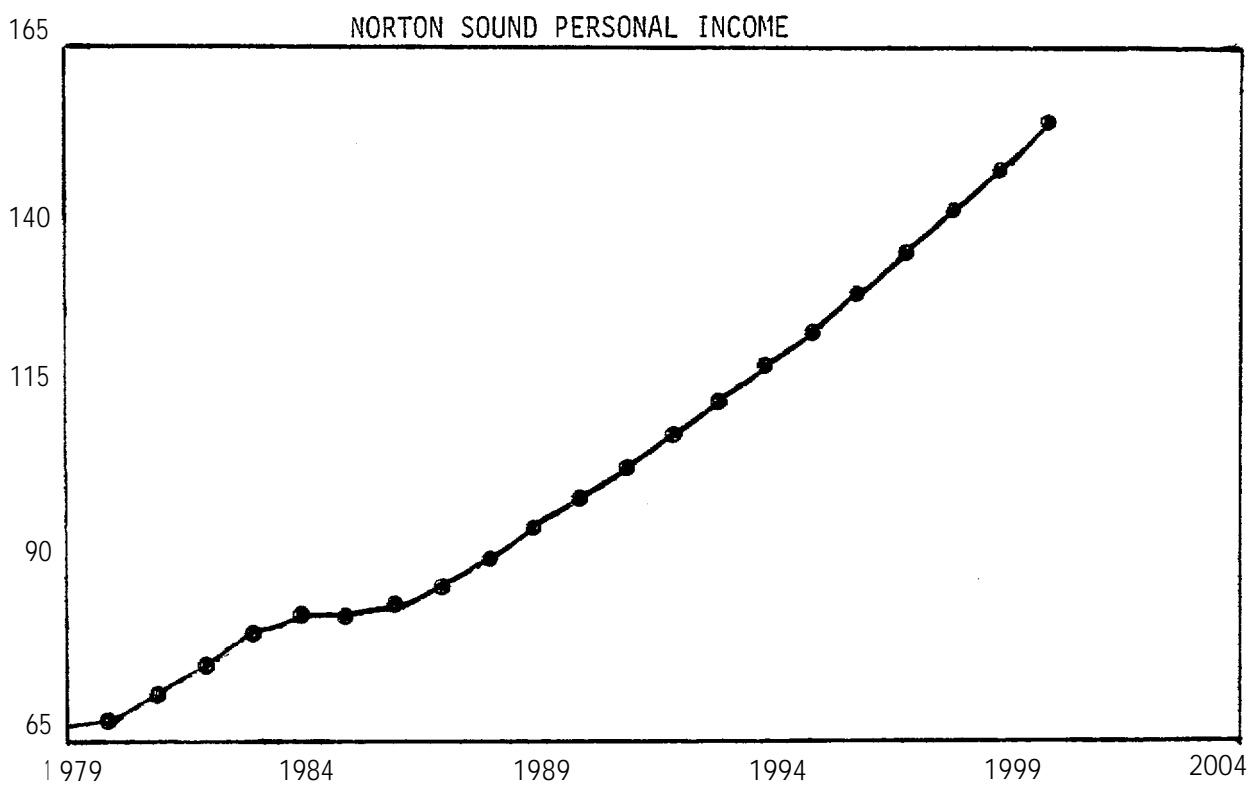
The ISER model projects a growth in personal income (i.e. **total** wages) of 4,1% over the 1979 to 2000 period reaching a grand total of 153 million dollars by the year 2000. Real per capita income (i.e. total income per person adjusted for inflation) is projected to grow at an overall rate of 2.8% and exceeds \$10,000 by the end of this same period (see Figures III and IV respectively).

Again this econometric **model** paints an unrealistic economic picture of the study area. This results primarily from averaging economic information for the region as a whole. Not only is the regional information subject to questionable accuracy (as previously discussed), but the averaging of economic information **intraregionally** allows for even more severe distortion due to the following factors:

- (1) As mentioned in the employment section, there are fewer jobs available in the villages than in regional centers, so therefore there **would** be proportionately less personal income and real per capita income in the villages.

Figure III
NORTON SOUND PERSONAL INCOME, 1979-2000,
BASE CASE¹

Millions
of 1979 \$

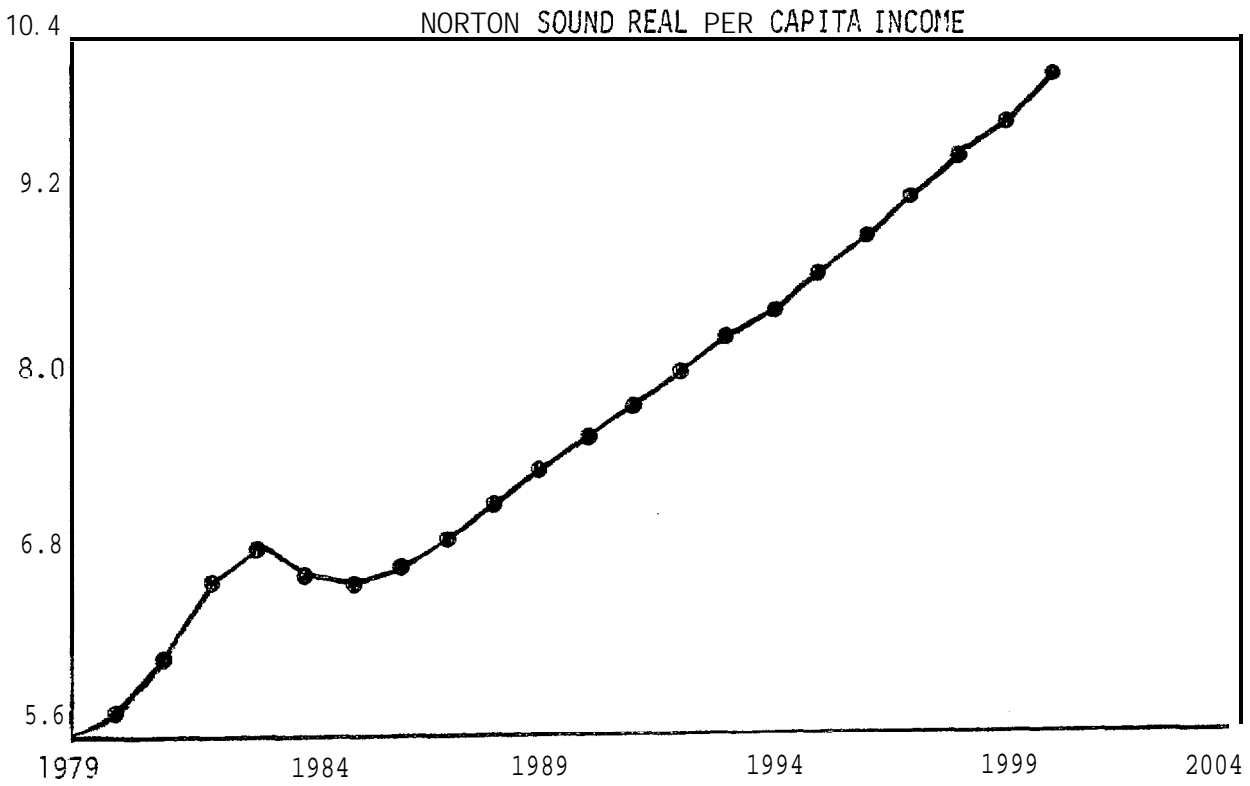


¹ Taken from Alaska, U. of, ISER, 1980, P. 126.

Figure IV

NORTON SOUND REAL PER CAPITA INCOME, 1979-2000,
BASE CASE¹

Thousands
of 1979 \$



¹ Taken from Alaska, U. of, ISER, 1980, P. 127.

- (2) Due to varying cultural priorities, language barriers, and formal educational variation, fewer Inupiat and Yuit people would have access to wage employment either in villages or regional centers than would non-Eskimos. In addition, even when jobs for Natives may be available, they undoubtedly average a lower annual wage than that of non-Natives.
- (3) Inupiat and Yuit families are larger, on the average, than non-Eskimo families in the study area thereby decreasing the overall effective income per household (i.e. there are more children and fewer potential wage earners per Native household than non-Native households).
- (4) Inflation rates in rural villages increase in geometric proportion to those in regional centers due primarily to escalating transportation costs. Each time a commercial product has to travel an additional segment of distance by air or sea, its cost increases. Regional centers, located on major jet transportation and shipping routes, absorb a smaller percentage of these costs than do rural villages.
- (5) Rural villages have a greater number of economic alternatives available to combat the pressures of inflation. However, such alternatives are generally outside of the realm of the cash economy (e.g. subsistence hunting or fishing) but may ultimately provide both direct needs [e.g. food) and raw material that can be

turned into cash (e.g. arts and crafts raw materials) or exchanged to provide direct needs (e.g. the exchange of walrus skins for berries).

In summary, despite ISER's projections, it is doubtful that meaningful increased personal income or real per capita income will be realized by rural villagers due to the factors mentioned above. The relevancy of these models to rural communities are, therefore, nebulous. In addition, the significance of the projected increases for the majority of Inupiat and Yuit in the regional centers who are not fully participant in the cash economy is questionable. They are cash-based models that inappropriately are being applied to non-cash or mixed cash/subsistence systems.

Projections of Sociocultural Change

The projections of sociocultural change below and in the other cases will be structured around the impact categories discussed in Chapter I (pp. 23-26) and will address the end result of the assumptions described also in Chapter I (pp. 26-42) Volume I.

SEA AND LAND

As reiterated throughout this document, the vast majority of Inupiat and Yuit within the study area have persisted to the present day in placing the highest value on the sea and land environs within which they live and the resources contained within. Although formal education, mass media, and other processes of modernization may have recently disrupted the intensity with which older people have been able

to enculturate younger generations in terms of the use of these environs and resources, there is absolutely no question that the **valuative** aspects of this **enculturation** process have been successful. That is, most of the very youngest Eskimo children today place a high value on the sea and land environs, and c' early their interests and priorities at an early age reflect these **valuative** directions. Therefore there is ample reason to suspect that the high value placed on these environs and resources will not diminish over the next twenty years and, in fact, will undoubtedly be transmitted to most of their offspring. The continuation of this value system can be seen as a very rational step in the process of the successful adaptation of these populations. That is, as the sea and land remain central to the economic survival of these populations, the value system will continue to be congruous with the realities of the economy. It is also projected that these **values** will basically continue to not include **well** developed concepts of personal ownership of these environs and their resources. Some non-Natives will share this value system, at least in part.

Unquestionably there will continue to be a **valuative** conflict between the majority Native population described above and the non-Native and minority Native population that perceive the sea and land environs and their resources as potential sources of personal wealth through development. As the cash economy and its demands place greater stresses on individuals and needs for cash increase, **valuative** conflict between those who rely solely or almost solely on cash and those who remain subsistence users will intensify. "Leaders" of Native corporations who

fail to remain cognizant of this **valuative** difference in decision-making may continue to be subject to the overt and/or covert disapproval of their majority constituency. Although the **valuative** dichotomy will not be precisely localized, the vast majority of those of all ethnic groups valuing development will reside in Nome. Due to the **Yupik-speaking** majority of Bethel and its greater political power **vis-a-vis non-Natives**, Bethel will exhibit a political power of disparity of views than will Nome.

It can be projected with some certainty that externally imposed regulations on the sea and land environs and their resources, emanating from state, federal, and international political entities, will continue to increase in number and degree of restrictiveness over the next twenty years. Resource pressures and competition at the national and even international levels will continue to increase governmental and developer interest in and awareness of **Alaska** in general and the study area in specific. Ironically this increased awareness of Alaska and its marine and terrestrial space and resources relative to development will stimulate the marshaling of conservationist and preservationist forces to prevent the "rape" of Alaska and its resources. Whereas the more moderate members of these ranks will continue to have some unity of purpose with Native groups, the more radical organizations

or segments of some of the larger organizations, if successful in their endeavors, will provide the impetus for additional restrictions on sea and land utilization that will continue to have a considerable impact locally in the study area. A picture emerges of local areas being caught between a developer-conservationist "war" being fought at a national level. **Whenever** either side has a victory, the result impacts local users either through increased restrictions or through developmental impact on the environment.

There is no reason to believe that this externally-derived impact on local sea and land areas and resources will diminish and, most likely, it will intensify over the next twenty years. As Native groups from the study area gain more sophistication in the use of legal and judicial tools, their attempts to influence this process will be more overt and successful. They will attempt to preserve their sea and land values and utilization patterns through litigation and legislative reform.

As the Native corporations continue to receive conveyance to ANCSA lands, their economic and political power as substantial land owners will intensify locally. This is especially true for Sitnasuak which is owner of the majority of lands adjacent to the existing Nome municipality. As corporations mandated to make profit, their decisions regarding the disposal and/or use of Native lands will increasingly involve value conflicts resulting from the divergence of

goals of profit making bodies from those implicit in the Inupiat and Yuit value systems described above. At the end of this twenty year period the ANCSA lands in organized political units (such as a borough or municipality) will no longer be tax exempt. It can be expected that some of these lands will already be developed or at least planned for development at the end of this period partly in response to a concern about how these taxation demands will be met. It is too conjectural to speculate about the ability of these corporations to achieve a subsistence/development balance. Possibly the North Slope Borough may provide a model for such a balance. Unquestionably the successful implementation of CRSA (Coastal Resource Service Area) coastal zone management plans within the next couple of years will aid in this endeavor if these plans are approved by the state. As already implied in the course of events to date, there will probably be three coastal zone management plans in the study area: Nome; the remainder of the Bering Straits Region; and the Calista Region. Based on CZM plans submitted to date, Nome's plan has a greater chance of success than does the Bering Strait or Calista area plans due to probable restrictions on development in the latter two cases.

Lastly, within the next twenty years the State public lands disposal program may be expected to have a limited effect on the study area -- limited because the quantity of State land available is not great within the study area per se. The desire for personal or business owned land in Nome specifically will increase contributing to continually inflating values.

The majority of non-Natives in Nome, who reside in Nome in large part because it is still a "bush" area in which hunting, fishing, trapping, camping, etc. can occur, can be expected to fight vigorously for the rights to carry on these activities within the study area regardless of land ownership and resource allocation patterns. Conversely, it is highly likely that Native land owners may gradually limit access to their lands and resources by non-Natives. Such a trend can already be clearly identified in some areas such as on St. Lawrence Island, on the Elim reservation, in the White Mountain area, and possibly others. In general, the trend for all land owners (whether governmental, corporate, or private) to become more restrictive of land and resource utilization is highly likely. Maritime access and use will probably be affected by coastline access, but this probably will be negligible within the next twenty years.

ECONOMIC SYSTEMS

The driving theme of the **sociocultural** baseline for the study area was the subsistence economy and its interrelationships to all other aspects of the economic, social, and **political** systems. It is clear, from baseline conditions and **historical** analyses, that changes in the subsistence system have had and will continue to have profound and potentially negative effects on areas of **Inupiat** and Yuit life that appear to be completely unrelated to subsistence

per se. Graburn (1969) found these interrelationships to be marked in his study of Inupiat economic and social change in Sugluk located in the eastern Canadian arctic. These interrelationships will be of key importance in the impacts portion of this study because of the intimate relationship between the maritime environment and human adaptation for all coastal Eskimo populations.

The important question for these purposes, then, is to what degree subsistence dependency will change during the next twenty years? Based on historical and contemporary economic trends in the study area, it can be projected that subsistence activities, particularly of a maritime nature, will continue to be vital economically, nutritionally, and culturally to the vast majority of Natives and to a much smaller number of non-Natives to the year 2000. This statement is more applicable to rural small communities that generally lack widespread employment alternatives, but it is also applicable to a large segment of Nome's Native population who are basically still adapting with a combination of cash and subsistence economies. As the inflationary trend of the cash economy continues to spiral upward, the reliance of residents on subsistence food and raw material resources can only be expected to intensify. That is, the expenditures of time, energy, and cash on subsistence endeavors probably will prove to be more adaptive and productive in economic terms not to mention the valuable terms already discussed. Meat or fish obtained through

subsistence will not be accessible in equivalent amounts for the amount of money obtained in an average wage earning endeavor of approximately the same duration even if such hypothetical jobs were to be available. Raw materials obtained from subsistence endeavors will also continue to provide a major potential for cash (i.e. ivory for carving, hides for skin clothing production, etc.). The "Overall Economic Development Plan for St. Lawrence Island" (OEDP, 1979), as an example, expresses an interest in creating an expanded cash base locally for Gambell and Savoonga through the development and intensification of subsistence-related, already existent activities. It can be expected that the vast majority of Natives in both Nome and villages, as well as a substantial number of non-Natives in Nome, will continue to invest a considerable percentage of their cash in subsistence technology (e.g. snowmachines, outboard motors, aluminum boats, nets, firearms, etc.) and that, because of this tendency, increased cash will not necessarily mean a declining subsistence effort.

Although not quantifiable researched, it is of interest to note in this regard that there is at least a superficially obvious trend towards the intensification of subsistence in Nome specifically over the last few years. This is noteworthy considering that Nome is relatively less subsistence dependent than the villages. The numbers of boats (both aluminum and skin) on the beach prepared for

hunting is greater this spring than any other year during the last decade. The number of individuals ice fishing for tomcod and crab in Nome and the number of subsistence permits for all subsistence activities requiring permits have also been on the increase, although such a shift may also be related to an increased use of and awareness of permits (particularly by Native residents) as well as an expanded level of regulatory control of resources. Whereas the utilization of a permit system, for example, may not be indicative of an actual expansion of resource dependency, some trend at least is suggested. In addition, both Native and non-Native residents of the study area verbalize their continuing need to obtain subsistence resources in order to survive economically. Based on the non-OCS case employment and economic scenario already discussed, it is apparent that the majority of Inupiat and Yuit residents in Nome will have no viable economic option but to continue their present reliance on subsistence and cash resources. As the buying power of cash decreases in conjunction with current national trends, as population increases, and as long as the employment potential remains limited for Nome's population, it is unlikely that there will be a reversal of economic dependency on subsistence in the foreseeable future under non-OCS conditions. It can also be projected that as economic pressures in Nome increase and as the competition for resources in the vicinity of Nome intensifies, it is likely that many families with recent village ties will return to the small Native community setting where cash needs are less mandatory and resources are more abundant.

Since the subsistence patterns described in the baseline focus on maritime specializations or configurations (i.e. large sea mammal hunting, small sea mammal hunting and fishing, etc.) that are closely tied to the total ecosystems of which they are a part, continuity of these basic patterns should persist into the future unless disrupted by environmental modifications and/or regulatory restrictions. In the **non-OCS** case significant environmental disruptions are unlikely with the **possible** exception of a depletion of subsistence fishery resources by commercial fishing activities. It is much more likely, however, that these subsistence patterns will be modified by regulatory restrictions on species which are now or will be considered "endangered," on species that have or acquire perceived commercial value, or on species for which there will be competitive use for any other reason. In addition, the technology used to harvest subsistence resources possibly will undergo modification in the direction of increasingly more efficient commercially-produced items, only to the degree, however, that such technology carries an accessible price and insofar that such technology is relatively adapted to the stringent environmental requisites and not in direct conflict with the social bases behind subsistence hunting and fishing described in Chapter V, Volume I. For example, it is likely that some skinboats will continue to be used for large sea mammal hunting by some hunters because there is no commercial product that is more adaptable overall and the prices of aluminum boats keep escalating.

In the area of subsistence and its interrelationship to cash, some directions can be projected for the next twenty years given existing knowledge about cultural change processes in general and northern change in specific. These directions include the following:

(1) To as great a degree as is feasible, the majority of Native people in the study area will continue to try to achieve a balance between meeting both required and desired economically productive and priority subsistence activities. To a large extent cash earning-activities will continue to include seasonal jobs, frequent job turnover, self-employment, and extensions of subsistence activities into cash earning endeavors (e.g. commercial fishing, trapping, guiding, etc.). For the most part full-time, permanent employment will not be abundantly available in small communities and when available in villages or even in regional centers (i.e. Nome and Bethel) will more frequently involve younger Native people with more formal education. It is likely, however, that as the number of younger Native people completing formal education increases, the number of those successfully seeking employment will also increase.

(2) Reciprocity, the primary mode of economic exchange in Inupiat and Yuit subsistence systems, has, for the most part, been an operative economic strategy that is not applicable directly to

the interfacing cash economy. The white man's goods, money and wages have, for the most part, been individually owned and shared usually only with close family members. This phenomena has been observed for other northern communities currently combining cash with subsistence economies (Graburn, 1969; **Pelto**, 1973). It can be projected that to the degree that cash becomes a more dominant factor in the non-Native economy of the study area, the importance of the reciprocal distribution of food, raw materials, and services will correspondingly decline. Such a decline would have implications for kin-based social relationships focused on mutual interdependence. However, because subsistence will continue to be important over the next twenty years, the demise of reciprocity as an important means of economic exchange and its social correlates will undoubtedly not occur in the near future.

(3) It is projected that relatively small-scale commercial fishing will become increasingly more economically important for the Norton Sound and Yukon Delta regions of the study area in the non-OCS case. Because of its importance there will continue to be local resistance against efforts of large-scale commercial fisheries from outside the area to "invade" this resource.

(4) It can be projected that the non-profit organization, Kawerak, Inc. , will move increasingly towards economic development of the rural communities and further away from the provision of social

services. This interest is a response on the part of the organization to their perception of the need for rural communities to move more solidly into the cash economy for continued survival. They can be expected, however, to attempt this direction in a manner which is not in conflict with subsistence concerns since they also represent the Bering Straits Region's subsistence interests politically. It is unclear, however, as to whether or not Kawerak's leadership has clearly thought through the implications of village-based economic development on the remainder of the local sociocultural systems. Future economic directions of A.V.C.P. are not as clear, but the fact that they have a separate environmental arm (Nunam Kitlutsisti) may ameliorate potential internal conflicts between developmental and subsistence goals.

- (5) The Native profit corporations, both village and regional, can be expected to continue to pursue financially successful economic ventures as their mandate under the law requires. Based on their past experience since the passage of ANCSA and resultant financial problems, it can be projected that their economic endeavors will proceed in a more informed and economically sophisticated manner in the future and that the success of these corporations financially will improve. In the Bering Straits Region Sitnasuak will continue to be the most

developmentally oriented and economically successful of these corporations -- not, however, without some internal conflict in priorities between stockholders. **Sitnasuak** will continue to become a more and more powerful economic entity within Nome.

- (6) In general , inflation in the cash economy in the study area will increase the economic disparity between the "haves" and the "have nets." For the most part, those on the lowest "rung" of the socioeconomic "ladder" will continue to be **Iñupiat** and Yuit residents of the study area who are marginal participants in both the cash and subsistence economies -- the "quality of life" for this segment of the population will not be high by either western or Eskimo standards.

Lastly, it can be projected that contemporary attitudes towards economic development will mostly persist. That is, a push towards any specific direction of economic development (e.g. tourism, mining, OCS, etc.) will most vociferously emerge from the large number of non-Native and small number of Native business owners residing in Nome. Profit corporation leaders in Nome, and some in smaller communities, will also encourage development but in a much more cautious and qualified manner. Village residents will continue to be hesitant about development that potentially may impact the quality of the maritime and terrestrial environments and their resources. Over a twenty

year period (1980 to 2000) the younger leaders today with more formal education, experience with the outside world, sophistication in dealing with **non-Natives**, and interest in many amenities of the modern western world will become the older leaders with influence that will not be moderated by the older, more traditional leaders still around today. To the degree that their more "modern" views prevail, a shift in attitudes towards the support of economic development on the part of Native leadership more similar to that of non-Natives may come about. It can be expected, however, that some segments of the non-Native business community will continue to perceive the increased involvement of the Native population in the cash economy as being threatening.

SOCIAL SYSTEMS

Throughout the baseline the importance of kinship as the key principal about which Inupiat and Yuit social systems are organized has been stressed. Kinship is of central importance in virtually all non-urban societies, and a proliferation of alliances between individuals based on other criteria such as common interests, employment, age, sex, level of education, etc. is usually indicative of the "urbanization," "westernization," "modernization," and "acculturation" of small-scale, hunting and gathering societies (Harris, 1975; Pelto and Pelto, 1979; Steward, 1955). These organizational shifts

have been specifically noted for Eskimos in particular, and the prevailing importance of kinship in contemporary Alaskan Inupiat and Yuit societies has been noted by numerous researchers (Burch, 1975; Bogojavlensky, 1969; Chance, 1960; Davis, 1979a; Hughes, 1960; Graburn, 1969; Ray, 1975b; Worl Associates, 1978, and many others). The relevancy of this discussion to the non-OCS case is multi-dimensional including the following:

- (1) The trend among Inupiat and Yuit towards the establishment of non-kin based groupings based on mostly urban and western models is well established and is projected to maintain its present level if not increase within the next twenty years. Examples of these non-kin based groupings include church organizations, formal educational organizations, the National Guard boards for many kinds of organizations (e.g. Norton Sound Health Corporation, Bering Straits REAA, Kawerak, village corporations, etc.), cooperatives (e.g. Yukon-Kuskokwim Delta Marketing Association, Northwest Skin Sewers, etc.), social service organizations (e.g. senior citizen programs like XYZ, Norton Sound Family Services, etc.), youth organizations (e.g. Boy Scouts, Future Farmers of America, etc.), and many others. All of these groupings assume functions previously undertaken by the traditional kingroups and cross-cut kinship lines. Although kinship organizational themes will undoubtedly persist in functions not adequately met by these

non-kin organizations and institutions over the next twenty years such as the functions of skinboat (or boat) crews, the network of reciprocal exchange of subsistence products, the transmission of familial and subsistence related values, and others, the shift towards a greater reliance on non-kin associations will gradually persist as small communities become increasingly involved in the "outside" world. The degree to which subsistence activities are maintained over this period will influence directly the degree to which kin-based institutions and obligations continue to function.

- (2) Conversely, an intensification of cash requisites that result in increases in Native wage labor activities (especially in Nome, Bethel or urban areas of Alaska) will result in some village outmigration and other processes that decrease the importance of familial ties for rural village residents of the study area and unequivocally decrease the kin network for those who take up cash employment away from home. That is not to say, however, that kinship will disappear as an organizational theme for Natives of the study area even in Nome, Bethel, or Anchorage. In these places Inupiat and Yuit will continue to exhibit a reliance on kinsmen in towns and at home. This reliance will, however, be increasingly less intensive. Non-Natives will continue to basically interrelate on the basis of non-kin criteria.

(3) There will continue, over the next twenty years, to be a marked difference between the size and density of Eskimo and non-Eskimo households in the study area and in the degree to which ties between individuals as kinsmen determine the character of interpersonal interaction. As could be expected because of the continuance of Inupiat and Yuit traditions and because familial ties tend to conservatively persist in the culture change process, it will be the Eskimo populations that tend to remain more kinship oriented. Although federal and state housing projects for Natives (or low income families) will persist as an effective force in encouraging nuclear family organization at the expense of extended family organization, there will continue to be greater extended family residence among Native families in new housing than among non-Natives in any kind of housing. The occurrence of this phenomena in the newly completed Senior Citizens' residence facility in Nome and in virtually every village that has received new homes within recent years are examples of this trend. In addition, the tendency for extended families to continue to function jointly in many endeavors even if located in more than one distinct household (i.e. "house") will continue. It can not be denied, however, that population expansion in conjunction with federal and state housing projects, while ostensibly improving the "standard of living," are insidiously setting the scene for extended kin group breakdown

through the promotion of a nuclear family organization. Whereas in the past new houses were, where and when possible, constructed next to or in the close vicinity of the "old house" and often occupied by adult unmarried or married children, such spatial arrangements are going to become increasingly less possible to achieve over the next twenty years due to available building space, community "planning", building codes, etc. Such spatial distance will encourage and be symbolic of nuclear family independence as can be clearly seen in trends of non-Native "American" family functioning over the last century in the contiguous United States.

- (4) Existing decentralization trends among mostly Native (but some non-Native) populations of the study area can be expected to continue. Examples of this trend include plans for Teller and some Nome people to repopulate Marys Igloo and Pilgrim Hot Springs, King Islanders to relocate at Cape Woolley, and the increasing interest of many Native and non-Native families to move "back home" (in the case of Native villagers) or "out in the country" in the case of non-Natives whose origin was outside of the region. The difficulty in a reliance on subsistence in densely populated communities in addition to increased cash requisites will contribute to continuing decentralization to obtain a favorable population density and greater local self sufficiency. Past but recent socioeconomic projections for Alaska as a whole that indicated a decrease in the number of Native places (Federal

Field Committee for Development Planning in Alaska, 1967) are obviously not going to pass in the study area, in part as a result of ANCSA. Both the number and size of primarily Native places are increasing and will continue to do so over the next twenty years. Since it has been assumed that the ethnic ratio will remain relatively stable to the year 2000, all communities within the study area will remain "primarily Native places." None of these communities will become "large" or very urban by western standards over the next twenty years.

Ender, et al. (1980) addresses regionwide formal human service delivery systems in their socioeconomic study of Nome since most of the regional human service delivery systems are, in fact, based in Nome. Some additional comments, however, related to the "social system" portion of the sociocultural baseline and its many dimensions are in order for the non-OCS case:

- (5) There currently is an effort to move the Bering Strait REAA headquarters from Nome to Unalakleet in large part as a response to conflict between the Nome School District and the REAA over the Nome-Beltz (Johnson O'Malley funded) educational facility. Since the State did support Nome School District's endeavor to obtain the complex and the two education organizations service substantially different but overlapping populations with

somewhat varying educational goals, conflict between these organizations is not likely to diminish. It is possible that the REAA eventually will relocate possibly outside of Nome in an attempt to diminish Nome's effective regional power. If such a move were made to a smaller rural community within the region, the REAA may have more problems with the logistics of managing at least some portion of the large and diverse region (i.e. if it were in Unalakleet, the northern Inupiaq-speaking villages may feel somewhat alienated and transportation would be complex whereas if it moved to Teller, the southern Yupik-speaking villages would be in a similar position). A rural location would also effectively increase the transportation and other costs for the REAA, but may give the organization a more "grass-roots" identity and relieve some of the educational interorganizational Nome conflict. Larger rural communities such as Unalakleet can be expected to support such a move for purposes of employment, cash flow, and political influence, but such a community would undoubtedly be impacted by a significant number of mostly non-Native educators that would accompany such a move. Despite apparent widespread attempts to discredit the viability of the small high school program, it can be expected to survive and improve in quality under non-OCS conditions.

(6) As long as cross-cultural educational projects and educational delivery to "minority" and/or "low income" students continues to financially support a substantial portion of Nome School Districts educational endeavors, the Nome District will continue to become involved in bicultural, bilingual, cross-cultural, remedial, and alternative educational curriculum. Increased Native political influence will also ensure this direction over the next twenty years.

(7) To the year 2000 there will continue to be an average formal educational achievement level discrepancy between the study area's Native and non-Native population (e.g. with non-Natives continuing to maintain the formal educational "lead"), but this gap will continue to close as formal education becomes more available and an intensifying priority among the Native population. More and more professional or paraprofessional positions will be available to the region's Native population, in part because of increased education, because of governmental minority hiring requirements, and, lastly, because of the expansion of Native organizations.

(8) Kawerak has recently expressed economic development planning and technical assistance rather than social services as their primary objective for the future (informal discussion, Charlie

Johnson, June 1980). Education, however, will continue to play a significant role in Kawerak's future development, particularly in the area of adult basic education. They will probably continue to be marginally involved in **postsecondary** education but only in conjunction with **NWCC** and insofar as CETA funding continues to be available to them. Other human services will probably be assumed by Norton Sound Health Corporation or other alternative organizations (e.g. the Bering Sea **Womens** Resource Center, Nome Community Center, etc.). There will possibly be an intensification of the effort to bring postsecondary education to the villages on the part of **NWCC** in Nome and **KCC** in Bethel. The endeavors of these **rural** community colleges will continue to be supplemented by alternative university programs such as **X-CEED**, University Year for Action, Correspondence Study, and other specialized programs.

- (10) Norton Sound Health Corporation (and, for the **Calista** Region, the **Yukon-Kuskokwim** Health Corporation) will continue to attempt to upgrade the quality and quantity of health care services for the populations of the study area. However, since these organizations (particularly Norton Sound which has no direct PHS facility) depend for their continued effective operation on Indian Health Service contractual funding **especially** at the village level, the quality of their efforts will

be largely determined more by policies of governmental spending than by regional needs. This singular fact may lead to critical service problems in future years if health needs, both physical and mental, are not accurately assessed or prioritized by Indian Health Services. Already the tenuous funding situation from year to year makes hospital/clinic and village delivery service planning difficult to undertake effectively. In general, however, it can be expected that the overall health status of the area's population (with the possible exception of mental health) will continue to improve to the year 2000, but the rate of improvement will be directly proportional to the availability of funds.

- (11) Despite the continuity of federal and state housing programs into the future, the quality of Native housing versus non-Native housing by western standards will continue to be lower. That is, a family with independently derived mortgage loans for house construction or purchase will, in most cases, end up with "nicer" homes than those which result from mass production governmentally funded projects. Non-Natives will continue to be eligible for the largest percentage of private mortgage loans primarily because of their level and duration of wage employment. Housing stratification will continue to be the most apparent in Nome, and, as previously mentioned, Native household

density will continue to exceed that of non-Natives. In addition, Native segments of the study area in Nome will continue to be more adversely affected by land, house, and rent inflation.

POLITICAL SYSTEMS

As discussed in the contemporary **sociocultural** baseline of the study area (Volume I), there is an integral relationship between resource control and allocation and political influence. Future changes in the existing balance of resource control and allocation will inevitably wrought change in the contemporary balance of political power. Under **non-OCS** conditions it can be projected that the **political** systems of the study area will exhibit the following directions during the next twenty years:

- (1) It can be unquestionably projected that Nome and Bethel will continue to remain regional political centers for the Bering Straits Region and **Calista** Region respectively to the year 2000. However, as the existing Native non-profit and profit corporations grow in terms of land ownership and resource control, it can be expected that their local, statewide, and even **federal** political influence will proportionately increase. This shift of power will be most evident in Nome at the local **level**. The political influence of particularly profit

corporations **vis-a-vis** the non-Native segment of the communities will, however, **reflect** their relative economic success. The unfavorable (to Natives) disposition of ANCSA lands, which potentially could mean the loss of at least some level of Native political influence, can not legally occur much prior to the year 2000 due to ANCSA mandates relative to conveyance and the **per**iod of time after conveyance in which ANCSA lands can be sold. Because of these restrictions, Native organizations will continue to have political influence throughout the duration of this projection period.

(2) The internal politics of Nome composed of diverse and complex interest groups (e.g. Nome Business Owner's Association, Nome Eskimo Community, the Chamber of Commerce, Nome Ministerial Association, the **Iditarod** Committee, the Veterans of Foreign Wars, etc.) will persist into the future basically because of the continued heterogeneity of the population. Bethel, on the other hand, will remain more homogeneous consistent with its contemporary sociopolitical makeup.

(3) Although efforts such as the organization of the Coastal Resource Service Area and the functioning of regional organizations such as the Bering Strait REAA, **Kawerak**, and BSNC will continue, it is- questionable whether or not there will ever

be, within the next twenty years, functional regional unity on most matters in the Bering Straits Region. The ethnic, cultural, and linguistic differences in the region already discussed, the variance in views between many village Inupiat and Yuit, and differences in values and priorities between many Natives and non-Natives are not likely to converge radically in such a relatively short time span. As more externally-derived issues impact the area in the near future, the need for unity of response will be evident but the realization of such a unified response will be longer than twenty years in coming. The Calista Region, however, already has the basis for future unified action in its greater ethnic, cultural and linguistic homogeneity and lower ratio of non-Native to Native residents. In this region AVCP and Nunam Kitlusiisti will continue to play major political roles.

- (4) Because subsistence utilization is so intimately related to resource management and allocation from all levels (local, state, federal, and international), subsistence-focused organizations such as the Eskimo Walrus Commission and the Alaska Eskimo Whaling Commission will gain political stature at all of these levels, especially if adequately funded and effectively and credibly managed. These organizations will politically align themselves with groups who do not conflict with

their basic interests and against other groups (such as the Isaac Walton League) who overtly oppose any and all subsistence endeavors.

- (5) As formal, western-modeled political institutions increase in number and expand in influence, traditional **Iñupiat** and Yuit political systems and leadership roles will decline in **functional** importance. Whereas in the recent past and, to a large extent contemporarily, age, sex, environmental knowledge, kin alliances, hunting skills, charisma, **intragroup** and intergroup diplomacy played major roles in determining political influence, new "leaders" are younger, better "educated" formally, wealthier in cash commodities, and more sophisticated in a worldly sense (Bogojavlensky, 1969; Graburn, 1969; Spindler, 1977; and Worl Associates, 1978). Again, the continuance of subsistence hunting and fishing will play a significant role in the persistence of more traditional leaders as will the apparent revival of interest in Native "traditions" or the "cultural revitalization" discussed in the baseline.

- (6) Ender, et al. (1980), ISER (1980), and others concur in the view that the governmental sector in the study area will inevitably expand over the next **twenty** years. This expansion has implications for the future of governance within this area.

It can be assumed that the government, both state and federal, will become increasingly involved in the day-to-day lives of the area's residents, both Native and non-Native. This involvement will manifest itself primarily in the realm of sea, land, and resource access and utilization. Historical and contemporary trends have clearly indicated the priority of what are considered to be national and territorial or state interests over local interests (e.g. consider the history of commercial whaling, mining, and World War II and, more contemporarily, the formation of national monuments, whaling quotas, commercial crabbing regulations, and even OCS itself). There is no reason to expect that this trend will reverse itself. The worldwide struggle over the management and allocation of "scarce" resources, in large part as a response to population growth, industrialization, and the diminishing of the effective size of the world due to transportation technology, has been and will continue to be felt more intensely at the local level. Regulations of primarily subsistence resources, local small-scale commercial resources, and even recreational use of the local environment and its resources will expand more dramatically in the next two decades than it has in the past ten years. Local input into this regulation process, while not significant now, is not projected to increase because of the small population base and therefore minimal

legislative input and political power. Within this local population, however, Native political influence may continue to gain in effectiveness as representative of the nation and state's newly vocal "minorities," but this influence will also probably stabilize in terms of national and even state policy decisions after the next decade. The local population will, for the most part, continue to resist and resent the increasing power of external governance but often for widely divergent reasons. For whatever reasons (e.g. pro or con development, pro or con subsistence, etc.), increasing external regulation may result in a feeling of a lack of local control and, for some, apathy. The freedoms of "bush" living will unquestionably be increasingly curtailed for the study area as a whole.

INTERETHNIC ATTITUDES AND RELATIONSHIPS

It has already been projected at the beginning of this chapter that the ethnic balance in the study area would remain relatively stable under non-OCS conditions despite a projected but gradual population increase over the next two decades. The Eskimo to non-Eskimo ratio was projected to retain this stability based on the assumption that while Inupiat and Yuit populations would have a greater natural population increase than non-Eskimos despite their higher accidental

morbidity, the influx of people to the area (primarily to Nome) would include mainly non-Natives. The ethnic ratio of small villages and Bethel was also projected to remain constant (i.e. the vast majority Eskimo) under non-OCS conditions. Interethnic interrelationships can only be meaningfully projected grounded in a knowledge of this ethnic ratio as any major disruption in the existing balance of numbers would have meaningful implications for the character of future interethnic interaction.

Other factors of major importance in determining the quality of interethnic interaction are the sources and diversity of interethnic contact and potential conflict. The historical and contemporary sources of ethnic diversity in the study area have already been explored in the baseline portion of this study (Volume I). In addition to the intra-Eskimo ethnic diversity (i.e. Inupiat and mainland and Siberian variants of Yuit), the non-Native population has been described as including people who have been "local" for more than one generation and others representing greater or lesser degrees of transiency including teachers, missionaries, social workers, health professionals, lawyers, miners, small business owners (or those aspiring to become such), clerical workers, gold field seasonal workers, employees of the transportation industry, researchers, fish buyers or processors, tourists, National Guard employees, "adventure seekers," and others. Whereas the expansion of governmental and

basic sectors of the economy as projected would, of course, increase employees in these areas over the next two decades, there is no reason to believe that the socioeconomic makeup of non-Native immigrants to the study area will undergo any immediate or dramatic shifts within the projection period. Turnover of non-Natives will probably still be marked, although the role of Native organizations in hiring employees for schools, corporations, etc. may, if taken seriously, decrease the number of non-Natives hired in some sectors of the economy and may eventually select for longevity, sincerity, and commitment on the part of non-Natives that are hired for such organizations. As is obvious from the nature of the jobs described above, many are incidentally seasonal and short-term in nature. The majority of non-Natives will continue to reside in Nome with teachers, missionaries, and transient construction workers, buyers, governmental agency representatives, and medical personnel being the major sources of non-Native contact at the village level.

While the projection of ethnic balance discussed above depicts insignificant change from the contemporary scenario, the balance of political and economic power between ethnic groups is not projected to retain such equilibrium. As has already been discussed, Native organizations and, to a lesser extent, individuals have gained more influence over the last decade. Additionally, the degree to which political and economic power have been obtained by Native

organizations and individuals has not been equivalent across the board rendering a situation of **intra-Native** economic and political stratification. What does this all mean for **interethnic** interrelationships? In order to satisfactorily answer this question for the future of the study area it is necessary to briefly analyze the nature and "evolution" of **interethnic** conflict in other ethnically mixed communities, especially those that provide insights into the processes which are presently operative in the study area and may continue to be so in the future.

The **interethnic** situation in the study area has not been clearly analogous to that of the southern United States in reference to American Blacks nor even to that of American Indians in the contiguous United States. For the most part (though not exclusively) Alaskan Eskimos and Indians, including the **Inupiat** and Yuit of the study area, retained access to their aboriginal maritime and terrestrial environments, were not displaced and relocated on reservations, met the "white man" on their own home territory, were not **overtly enslaved**, and basically (and probably most importantly for purposes of this analysis) operated in ecological and economic niches relatively distinct from incoming Euroamericans. Although there were certainly some resource conflicts (e.g. bowhead whales), the economic spheres remained relatively distinct for most of the "contact" period. The American south involved enslavement,

displaced populations (i.e. African Blacks), and both ethnic groups operating within the same economic system albeit at widely disparate levels. American Indians were displaced to restricted geographic areas and their aboriginal activities were directly in competition for the most valued commodity of the American "west" -- that is, land. In both instances, however, **interethnic** or "racial" conflict, "minority" militancy, and interpersonal hostilities have clearly emerged from attempts on the part of the minority involved to obtain and/or to exercise rights in the larger societal setting. As has already been discussed this sequence of events to date has not clearly transpired here. Hostilities, stratifications (economic, social, and political), and prejudices have all been a part of this scene, but interpersonal responses have been more covert and suppressed than overt. It can be projected that at least at the interpersonal level, and to some degree at the organizational level, the expression of **interethnic** conflict will intensify within the next two decades. This projection is based on a recognition of the fact that economic and hence political competition between the Native and non-Native segments of the study area's population (as well as between various segments of the Native population) have only recently emerged at a significant level.

ANCSA, formal education at secondary and postsecondary levels, resource competition, national civil rights legislation, the cash

requisites of modern technology and its energy demands, an expanded awareness of the larger "world" due to media and transportation, and other factors have only recently and probably irreversibly involved Native organizations and Native individuals to lesser or greater extents in the modern economic "arena". Competition in this "arena" already has and will continue to breed feelings of mutual mistrust, suspicion, and envy between Natives and non-Natives and between the more urbanized and the more rural Native individuals. These feelings will, in large part, probably manifest themselves in the guise of interethnic and some degree of intraethnic hostility and conflict. The interethnic status quo that was based on coexisting lifestyles and differing cultural priorities that articulated in at least a relatively predictable if not necessarily equitable manner have undergone significant shifts that, for reasons discussed above, can only be projected to intensify in the future. In short, inter- and intraethnic group conflict frequently result from competition and direct confrontation involving the same resources. Subsistence resources were available to different Native groups at different places traditionally. Most Euroamericans in the area initially were seeking resources as a source of wealth in a cash system. For much of the historical period most Native residents had negligible need for, interest in, or means by which they could obtain the same wealth in the same economic system as did non-Natives. This is no longer the case and it is clearly setting the scene for increasing

confrontation at various levels. The same phenomena has been noted in other similar **sociocultural** settings (Baring-Gould and Bennett, 1976; Braroe, 1975; **Burch**, 1978; Davis, 1979a; Graburn, 1969; Harris, 1975; Jones, 1976; **Lantis**, 1973; **Pelto**, 1973; Spindler, 1977; and others).

Overt **interethnic** conflict will be mediated at the organizational level by non-Natives who perceive an intrinsic value in **interethnic** cooperation and by Native organizational leaders who are acculturated to the degree that they opt to function successfully within the dominant "western" economic system. Interethnic conflict at the individual level, while on the increase, will **still** be somewhat ameliorated by the Eskimo ethic which deters over confrontation, at least during the early years of the projection period. An increase in the use of alcohol or other drugs that render ineffective personal internal controls will unquestionably exacerbate any existing overt interethnic conflict.

INDICATORS OF RESPONSE TO CHANGE: POSITIVE AND NEGATIVE

As has been described in the baseline portion of this study, there is minimal hard core data available on the contemporary mental and social health conditions in the study area today as well as on past trends in individual and societal health. As the baseline

points out, what is known indicates that there are psychosocial problems related to alcohol and other drug abuse, accidental death (much of which is related to alcohol abuse), suicide, homicide, and other violent and non-violent crimes and the rates of this dysfunctional behavior appear to be on the increase (Kelso, 1979; Krause and Buffler, 1979). The seemingly increasing rate may be a reality or may, in fact, represent more intensive efforts to identify and quantify these problems -- in fact, it is probably a combination of both factors.

In any event, the absence of clearly identifiable historical trends and good baseline information on the contemporary scene make the task of projections, especially in the **non-OCS** case, difficult and potentially unreliable. At best both the use of "gut feelings" tempered with education and a theoretical knowledge of mental health and cultural change in other areas are necessary in undertaking the projections task. Based on this process, then, the following projections are suggested:

- (1) Based on the assumption that rapid **sociocultural** change is instrumental in creating individual stress (Krause and Buffler, 1979; Spindler, 1977; Chance, 1965; Hughes, 1974; Pelto, 1973; and others), **non-OCS** development, formal education, and increased communication with the "outside" world will continue to contribute to **stable** if not exacerbated rates of **sociocultural** change. In a parallel fashion, symptoms of stress such as alcohol,

other drug abuse, and suicide will also be on the increase. Social and health service delivery systems will persist in their attempts to identify and treat such dysfunctional behavior but will continue to have limited success due to funding and staffing limitations, an incomplete understanding of the nature of the bases for the behavior, problems in the formal application of western mental health treatment cross-culturally, and geographic isolation of the populations needing assistance. Whereas the next twenty years will involve one additional generation and at this time the dramatic socio-cultural change experienced by today's Inupiat and Yuit adults may not be as marked, the rapidity of sociocultural change in the nation as a whole will be felt here and consequently will only exacerbate the effect of the cross-cultural (i.e. Eskimo versus non-Eskimo) change processes.

- (2) Due to population increases in the study area, the rapidly inflating national economic scene, increased regulatory restrictions, and more demands for cash at the village level largely as a result of the expanded use of western technology, there will be an increased competition for available resources. This situation will result in both a real and a perceived lowering of individual "standards of living" which most likely, will be associated with individual depression, frustration, apathy, covert or overt hostility, and stress. These in turn

may result in intensified efforts at escapism such as alcohol and other drug abuse, withdrawal, and/or suicide; violent crimes and crimes against property; family disintegration; and other psychosocial pathologies. Contemporary medicine suggests that as individual mental health deteriorates, there are unquestionable correlations with physical health and well-being (informal discussions, Dr. Lewis Allen, Norton Sound Health Corporation, 1978-1980).

- (3) For Inupiat and Yuit in the study area it is conceivable that population increases, the shift from basically kin-based social affiliations to associations based on other criteria discussed above, and at least the temporary village outmigrations of some segments of village populations for purposes of employment may decrease the contemporary level of close, first-hand, personal contact. Such a shift, even if for only segments of this population, will result in a more impersonal social setting, possibly a less extensive emotional support network for individuals, and resultant individual feelings of isolation or social alienation. The phenomena can be characterized as a negative response to change.

As difficult as it was to identify and quantify negative indices of change because of a weak historical and contemporary data base, it

is even more difficult to make positive response to change **projections** due to an even greater data gap. That is, fewer studies have been done to identify what is going "right" in a given **sociocultural** setting than what is going "wrong" in psychosocial terms. **Nonetheless** some projections to the year 2000 will be attempted with some degree of trepidation. Whereas, despite cultural values, most social scientists and members of a study population would agree that degenerative alcoholism, death from suicide, accidents, **or homicides**, and individual psychological dysfunction could be classified as being negative indicators of the degree to which a social system is functional, not all could as easily agree on what could be termed "positive" in the same context. Particularly in a cross-cultural setting, an increase in formal western education for basically a non-western, non-urban population, for example, may be perceived of as being "good" and adaptive by some and, conversely, as promoting assimilation, too rapid change, and conflict with the non-western cultural values and priorities by others. Another-example is bilingual education. Whereas some social scientists, educators, and individuals would perceive bilingual education as promoting positive ethnic and self identities and cultural continuity through generations, others (including some parents of children) may perceive this educational alternative as deterring a child's "progress" into the modern world and detracting from his or her efforts to be functional in the dominant language. In light of what has been discovered by social

scientists about cultural change processes and their effects on individuals and **social** systems worldwide, the positive indices projection follows:

- (1) Largely as a result of the trend towards expanding health care facilities and services in the study area, it can be projected that the general level of **health** in the study area will rise and infant mortality will continue to decline.
- (2) For those who desire or find formal education adaptive, the opportunities for expanded educational services, alternative means of educational delivery, and more cross-culturally relevant education will increase.
- (3) Insofar as Native corporations and organizations (and their leaders) are models with which Native individuals can identify, their projected increased economic and political influence in the larger non-Eskimo society may provide the basis for more positive individual identities over the next two decades.
- (4) After several decades of reliance on non-local, non-Eskimo organizations for the provision of solutions to problems beget in the process of modernization, there is currently a definite trend operating towards an interest in internal community solutions to community problems using locally available human

and non-human resources. This includes an interest in internally-derived, as opposed to externally-derived, decision making. Although this positive index refers primarily to the Native population of the study area, it **also** has some **applicability** to the non-Native population and Nome in general as a "bush" community. A recent interesting but not fully analyzed example from St. Lawrence Island may have relevancy here. During the winter of 1979-80 a young man from a St. Lawrence Island village, apparently previously involved in the use and possibly abuse of alcohol and/or drugs, was influenced by a fundamentalist religious movement. Part of his newly discovered **values** included the abandonment of alcohol and other drugs. This individual apparently had some charisma as a leader and role model for younger people in his community and as such was able to transmit his new values to a large number of teenage residents. The entire event, although not fully understood by adults in this and an adjacent community, has been successful in discouraging alcohol and other drug abuse and as such is perceived by many adults as improving life in the affected **communities**. As one woman stated, "I don't need to worry about what my kids are doing all the time now." It may be possible, with a more in depth knowledge of this event, to see in its occurrence both an internal means of social control of **activities** that were, in fact, socially dysfunctional and possibly

elements of a cultural revitalization movement described in the baseline. If the latter is true, the occurrence of similar events in other communities may be projected, although the focus of their energy and value system may, in fact, be different.

- (5) Decentralization trends described above could potentially be perceived as efforts of positive adaptation.
- (6) Lastly, with some hesitancy it may be suggested that both local Eskimo and pan-Eskimo movements may, in the last decade of the projection period, "evolve" more specifically into the kind of cultural revitalization movement described in the baseline portion of this study and by Burch (1978) and Lantis (1973). Although hampered to some degree by a lack of intraregional ethnic and cultural unity, at least some of the directions taken by "outside" Indians and even, within Alaska, the Inupiat of the North Slope Borough may be expected to be pursued by Natives of the study area. The degree to which local Inupiat and Yuit are successful in achieving economic well-being and effective political influence within the dominant, larger society. Cultural revitalization movements, basically positive adaptations, emerge from negative conditions -- that is, sociocultural settings in which life is no longer satisfactory or tolerable by the majority of the members of those societies.

Summary of Sociocultural Change

In brief summary, the key **sociocultural** changes projected to the year 2000 under **non-OCS** conditions are as follows:

- (1) There will be gradual population growth, but the ethnic ratio (Eskimo to non-Eskimo) will remain relatively stable with Eskimo natural growth exceeding that of non-Eskimos and the vast majority of transients being non-Native and residing in Nome. The Eskimo population (**Iñupiat** and **Yuit**) will remain the majority population.

- (2) The number of communities in the study area will not decrease and may in fact increase with decentralization. Household size and density will remain higher in small, primarily Native communities, but in communities with a larger percentage of non-Natives, Native household size and density will be greater than non-Native on the average.

- (3) There will be a minimal increase in per capita income for the area as a whole, but this increase will be realized primarily in the larger, more urban communities like Nome and Bethel. Rural villages will actually experience a decrease in per capita income.

(4) The sea will continue to be the focus of regional subsistence, economic, recreational, and value systems. The land adjacent to the coastal region will play an important but secondary role. Both the majority of Native and non-Native residents will continue to highly value access to these environments and their resources and will generally resent and resist external regulatory control.

(5) Subsistence as an economic, social, and cultural system will remain the major and most stable adaptation for the majority of Inupiat and Yuit in the study area. It will become increasingly important economically because of cash inflation and the minimal potential for earning cash in villages. Cash requisites for subsistence will increase and there will be generally no consistent inverse correlation between cash income and subsistence dependency on the part of most village residents or the majority of Natives in Nome and Bethel.

(6) There will continue to be considerable economic stratification between Natives and non-Natives primarily in Nome.

(7) Attitudes towards any kind of economic development in the area will continue to diverge widely between primarily business owners (who favor development) and village Natives (who

generally will be apprehensive of the impact of environmentally **alternating** development). These attitudinal discrepancies will probably not converge during the twenty years of the projection period.

- (8) Even in the **non-OCS** case the potential for OCS development has been anticipated. The aspirations and anxieties associated with this potential, even if OCS exploration and development never occur, will influence the existing **sociocultural** setting (non-Native and Native) at least for the next five years.
- (9) Commercial fisheries that are regional **ly-based** will expand to the biological limits of the fishery as perceived by regulatory agencies and will continue to be the major source of cash for Norton Sound and Yukon Delta communities. Local fishermen will continue to make attempts to keep large-scale, non-local fishing efforts out of the area and it is likely, at some point, that local commercial and subsistence use of the fishery may come into conflict. This will not become a fishery as large as Bristol Bay, **Unalaska**, or Kodiak at any point in the projection period or probably beyond.
- (10) The economic importance of Native corporations, profit and non-profit, will increase either through direct employment,

manpower training, or through **the** guise of technical assistance to Native economic development and capital investments.

(11) Kin-based social organization and the important functioning of extended families will continue for the majority of Natives in the area over the next **two** decades. However, as more western organizations and institutions continue to proliferate, the influence of kinship will gradually decline.

(12) Local human service delivery systems will continue to expand their services, but this expansion will be constrained by a lack of adequate funding and staffing and by the costs and limits of servicing such a geographically dispersed population.

(13) Native organizations will continue to gain political influence **vis-a-vis** non-Native organizations.

(14) Regional political **unity** within this study area will not be achieved over the projection period primarily because of differing non-Native/Native cultural priorities and leadership but also, to a lesser degree, because of **intra-Eskimo** cultural and linguistic differences and their consequential segmenting of in-group identity. There will, however, be more unity than exists at the present time which will be a response to "common

foe" in the form of non-local agents of impact and change.

- (15) The sources of **interethnic** contact will retain a character similar to that which exists contemporarily. The nature of **interethnic** interaction will include increased conflict due **primarily** to **interethnic** competition. Overt conflict will be most intense and frequent at the personal level, because the leadership of most organizations (both Native and non-Native) will find it mutually beneficial to minimize at least overt conflict. However, covert hostility, especially for the Eskimo population, will continue to be an important feature of **interethnic** interaction due to the Eskimo value placed on the avoidance of confrontation.
- (16) At least for the majority of the projection period, the **negative** indices of change (i.e. alcohol and other drug abuse, suicide, accidental death, etc.) will continue to increase possibly peaking at some point within this period. This situation will be both symptomatic of stress and contributing to conditions for other negative responses such as family disintegration,
- (17) Positive indicators of change, especially for Natives (i.e. decreased infant mortality, positive self-identity, cultural revitalization attempts, etc.) will also expand. "Cultural

revitalization" efforts will be a response to perceptions of the quality of life as being unsatisfactory or declining.



CHAPTER VII.

EXPLORATION ONLY SCENARIO

Description of the Scenario

As previously discussed, the petroleum development scenarios for each OCS case have been developed by Dames and Moore (1980b) and will be succinctly summarized at the beginning of each of the remaining chapters.

The exploration only scenario (Dames and Moore, 1980b, PP. 103-110) describes a sequence of events commencing approximately one year after the lease sale of 1983 and persists to 1985 after which time all OCS activities terminate as a result of the absence of any commercially meaningful petroleum find. This exploration activity involves the drilling of eight wells principally in the four summer months (i.e. June, July, August, and September) with activity centered in mid-Norton Sound. Drilling activities involve the use of jack up rigs, drillships, and a few gravel islands in shallow water (only if they prove to be non-environmentally disruptive and cost feasible). More meaningful for this study is the fact that the scenario proposes the use of an existing Nome port and air terminal facilities as a forward base -- that is only for air-shipped light

supplies and personnel shipments and for obtaining a fresh water supply. The planning for a fresh water supply has already commenced with the City of Nome for the COST well activities, but it can probably be assumed this same arrangement would pertain to at least the early phases of an exploration period. All heavy supplies would be stored on location in freighters or moored barges. The rear supply base for freighters and barges is located in the Aleutian Islands -- most possibly Dutch Harbor. Drilling rig supplies would be transferred from shore, freighter or barge by industry supply boats also anchored off Nome when not in use.

Dames and Moore (1980b) proposes, in this scenario, that industry activities would be potentially constrained by marine habitat concerns (i.e. migratory waterfowl, seals, walrus, salmon, etc.). They neglect to delineate how early, prior to the "four summer months" drilling period, support activities would commence except for one reference to the potentially harmful effects to marine resources of April activities. The scenario suggests that vessel and air traffic would provide the principal source of environmental impact.

Summary of Socioeconomic Projections

POPULATION

Population increase that would result from-exploration only activities would be minimal. These increases would not commence until 1983 at which time ISER (1980) projects an increase of 95 people (employees with their dependents and support personnel). This population increase would peak in 1985 with a total population of 198, decline in 1985 to 108, and be reduced to an insignificant 6 by 1986 (Ender, et al., 1980, P. 221 based on ISER's MAP model). This increase, of course, should be added to the projected and gradual population increase in the non-OCS case.

The majority of this population increase would be located in Nome and its immediate environments, would be seasonal, and would be non-Native. Due to the technical nature of the employment associated with exploration for petroleum in the absence of onsite construction, it can safely be projected that a minimal number of this small population influx would be technically trained village personnel and their families (probably not more than 10 plus dependents and this is probably an excessive estimate). Village personnel that would be trained and/or hired in technical capacities would basically result from efforts by industry to create local goodwill and minority hire mandates.

This degree of population increase, especially of a seasonal nature, is no greater than the number of seasonal workers that have come into Nome to work for Alaska Gold Co. since it reopened in 1975. Nor is it much greater than the number of people who may come ashore when a commercial fishing fleet comes into port or a U.S. Coast Guard icebreaker crew that takes liberty in Nome. It is probably considerably less than the free-lancing summer potential job seeking force that comes to Nome every year. It does, however, supply an incremental change that may add to the cumulative effects, but its duration is limited and, ultimately many of the individuals involved will be "offshore".

Lastly, it should be mentioned that in reality the exploration only population increase appears to be little more of an impact than the COST well endeavors commencing during the summer of 1980. Because the baseline stopped at 1980 prior to the commencement of COST well activities, the joint industry COST well endeavor is, for the most part, **gnored** by the SESP. In one sense, then, the "exploration on" y" might be better understood by monitoring the COST well effort, since some population and other impact variables are, in fact, realized during this phase and these data, then, could be most useful in retrospective analyses.

EMPLOYMENT

ISER's MAP model employment projections for the exploration only case suggest an employment increase of 47 positions in 1983 (split approximately equally between "mining and exogenous construction" and "local construction and transportation" categories). This employment would peak in 1984 with 104 positions, decline to 58 in 1985, and dissipate into a meaningless 1 in 1986 (Ender, et al., 1980, P. 221 based on ISER's MAP model). A few of these positions are in the "trade, service, and F.I.R.E. (finance, insurance, and real estate) category -- 2, 5, and 3 in 1983, 1984, and 1985 respectively. As previously discussed these positions would be, for the most part, seasonal and very technical suggesting the utilization of non-local and mostly non-Native personnel, For the same reasons that a very few positions may be filled by village residents, there may, in fact, be a few local Nome residents hired, both Native and non-Native, but again it is doubtful that this number would exceed 10 during the peak employment year. Most of these positions will employ individuals directly on drilling rigs, while other employment would include, but not be limited to, jobs like helicopter pilots, supply boat crews, freighter and barge crews, warehousemen, longshoremen, construction workers, welders, geologists or geological technicians, etc.

It may be important to mention at this point in the discussion that Ender, et al. (1980) and others have suggested that industry is already planning to move rotating personnel as directly as possible from the Nome air terminal to the drilling rigs and vice versa such as was the case in Yakutat. Inclement weather in the study area may, however, disrupt the effective implementation of such a plan.

Again, the basic employment pattern projected for the exploration only phase will have been previously introduced during the COST well efforts of the summer of 1980. It is unlikely that the majority population of Nome and surrounding communities will even be aware of most of these jobs.

ECONOMY

ISER's MAP model projects wages and salaries, personal income, and real per capita income for the exploration only case. Since these figures are applicable almost exclusively to non-local employees, they have negligible relevance directly to the study area. Although it is projected that a small number of positions will be held by regional residents, income derived from this employment can not be accurately projected because the number of people who will be employed is not known and the total amount of income generated will probably be too small to be of measurable significance.

There will be some local economic impact generated by exploration only activities that can be projected based on knowledge of the area and Ender, et al. (1980). These economic factors include the following:

(1) Ender, **et al.** (1980, P. 230) estimates that the average transient employee will spend approximately \$250 annually within the study area primarily on entertainment, souvenirs, and other personal items. Based on contemporary knowledge of expenditures by other transients, this amount seems unreasonably low. Nonetheless, there unquestionably will be some increased local revenue generated by the transient workforce. Bars, restaurant owners and gift shop owners will profit most lucratively from this expenditure.

(2) Exploration activities will undoubtedly involve some rental incomes for apartments used by transient or short-term industry residents, hotel rooms, hanger space, and land for storing airlifted materials. These rental incomes will be expended almost entirely in Nome and will go to local land and property owners except for businesses such as the Nugget Inn which is partly owned by an outside corporation.

(3) There will be some service revenues generated by exploration only activities such as air transport and telephone. These

expenditures may be substantial but will mostly go to firms outside of the region such as Alaska or Wien Airlines and General Telephone Company of Alaska. The City of Nome will provide some utilities in the form of water and some electricity, but since the income derived from these services barely meets costs, it can not be perceived as a source of revenue. Ender, et al. (1980) argue that the infrastructure of Nome's current utility system will not permit it to provide extensive services without major modifications.

Assessment of Sociocultural Impacts

SEA AND LAND

Conflict between developmental interests in sea and land and interests that value the sea and land in unaltered form -- values described in both the baseline and the **non-OCS** cases -- would probably be exacerbated in even the exploration only case. **The** concerns and interests currently stimulated by both the identification of tracts for potential sale and the preliminary COST well activities will **only** be intensified by exploration activities.

In terms of sea and land utilization, any use of the sea including anti/or adjacent to areas currently utilized for subsistence

activities or areas through which species migrate would be perceived of as territorial intrusion and, even more intensely, disruptive to critical marine resources. These perceptions will be independent of any "proof," if it actually exists, as to whether or not species disruption is in fact occurring. Inupiat and Yuit views of the sea as not being "owned" by any party will result in the questioning of the authority of the federal or state governments in "lease selling" tracts to industry representatives who will be conducting exploration activities. Individuals and/or organizations who favor development will not perceive of the exploration activity as being intrusive and some may, in fact, be enthusiastic in their support of exploration attempts. Due to the geographic location of tracts nominated during the "call," it is likely that maritime utilization conflicts will inevitably develop between exploration firms and individuals and Norton Sound commercial fishermen.

Native corporations have requested delays in the sale and exploration phase of OCS activities until such time that their CRSA (coastal resource service area) boards are fully functional, their coastal zone management plans have been researched and drawn up in final form, these plans are accepted by the state authority, and the implementation of these plans is in progress. It is doubtful that all of this will come to pass prior to scheduled exploration. Therefore it can be expected that these Native corporations will continue to insist

that any and all exploration and development await the completion of this process. Since neither the federal or state governments have been favorably responsive to a delay in the schedule, this area of desired local regulatory control could potentially end up in litigation before or during the exploration phase. It is quite apparent that Native organizations, particularly those with subsistence and/or environmental subdivisions (i.e. Kawerak, Inc. and Nunam Kitlutsisti), do not believe that the regulation of development by USGS and the U.S. Coast Guard is adequate nor derived from a satisfactorily reliable data base. Therefore, public pressure to delay exploration on the basis of adequate regulation will be vehement from these groups. Some non-Natives in the region will also protest exploration based on the rationale that regulatory control of industry is inadequate.

Conversely, however, there are segments of the study area's population that feel strongly that the regulation of industry vis-a-vis exploration or development phases would be very limited. A recent local editorial is very representative of this view -- a view that will persist into the exploration phase and probably become more loudly articulated if any delays in the exploration phase ensue:

Last week, we had the opportunity to hear the Atlantic Richfield presentation made at the Northwest Chamber of Commerce meeting.

e During the presentation, it was mentioned that the permits, environmental impact statements, lease sale papers etc. would take from eight to fifteen years to complete. All that being necessary BEFORE any oil **could** be taken out of the Norton Basin.

Now we think it's great that everyone is concerned about **the** environment and about how **all** the animals and fish in the area will get along around all the drilling equipment. Marine mammals and fish are important to use here in Northwest Alaska. The thing that seems incredible is that with our country needing oil so desperately, that it should take that long to break through all the red tape to get the stuff out of the ground

(Nome Nugget, 6 June 1980, P. 2)

Lastly, it is possible that increased U.S. Coast Guard (hereafter referred to as **USCG**) activity in the area stimulated by exploration activities may result in a more rigorous monitoring and enforcement of boat licensing and safety regulations relative to the local populace. This would, unquestionably, be viewed as **restrictive** to activity and, to some, an invasion of privacy.

ECONOMIC SYSTEMS

Since even exploration will involve drilling apparatus for at least eight wells (according to the scenario) and **vessel** traffic including supply boats, freighters, and barges, there will unquestionably

be some impact to the marine habitat and its species. The magnitude of this impact on species is not within the purview of this study. Due to the location of the nominated tracts, however, the subsistence species of greatest importance in the Bering Strait-Norton Sound area that may be subject to disruption would include: salmon, herring, spotted and ringed seals, bearded seals, **beluga**, migratory waterfowl, walrus, and possibly even migrating bowhead whales (refer to Dames and Moore, 1980b, for additional information on this topic). All of these species could also be influenced by increased air traffic to the exploration sites. Because of the geographic location of the lease tracts, the most direct impact of disrupted species would be to Norton Sound villages including Nome and the northerly Yukon Delta villages. Secondary impact, however, could influence villages anywhere in the study area or beyond that depend on subsistence species which migrate through areas of exploration activity. Reference **should** be made to the baseline in regard to the seasonal sensitivity of these species in relationship to subsistence endeavors. Direct contact with maritime hunters and fishermen in the exploration area is conceivable and likely.

Although the magnitude of species impact resulting from OCS exploration is unknown, any real or **perceived** reduction in subsistence species harvests or availability will be attributed to exploration activities primarily by village-based or Nome Native subsistence

users. In addition, with any level of offshore drilling activity there is a possibility of hydrocarbon or other substance pollution. The greater the intensity of activity, the greater the chance of a major accidental spill. In the case of exploration only, this chance may be minimal. However, it should be emphasized here and for all other cases that even if the risk is "insignificant," it would take only one statistically "insignificant" accident to severely and significantly damage the marine environment and its resources on which, as the baseline has shown, the majority of the population of the study area depends for its existence. Additionally, of possibly even greater concern to subsistence users is the cumulative pollutant effects of any OCS activity. The exploration phase will be perceived by subsistence users as the initial step in the cumulative pollutant process.

In the preliminary discussion of the employment scenario for the non-OCS case, the impact of direct employment for the study area was negligible. In this same section the segments of the local cash economy that would benefit from exploration activities were also discussed. In other sectors of the cash economy, particularly those affecting the Native population, the exploration impacts will most likely include the following:

- (1) There will be conflict with local and non-local commercial fisheries both in terms of an interference of access to fishing

grounds and potential species disruption and in terms of competition for dock space in Nome (the latter is applicable only to fishermen who have larger boats). There may, in addition, be conflict over aircraft availability for hauling gear, supplies, and/or fish and over air terminal apron or tie-down space primarily in Nome. Since local commercial fishermen are usually, but not exclusively, also subsistence fishermen (especially in the case of Natives), the concerns of the subsistence fisherman reiterated above will, of course, also be the concern of the commercial fisherman who is one and the same person.

- (2) It can be projected that the market for Native arts and crafts locally may minimally be expanded due to souvenir purchase by non-local exploration employees. Since the number of individuals in this category is not great and their time in local communities will be limited, this impact will not be significant. It is common, however, for transients that come into this area to display an extraordinary interest in purchasing and/or "potting" for Eskimo artifacts and in obtaining currently illegal "green" and/or skull-mounted ivory. The availability of this market may entice some local residents, both Native and non-Native, to engage in these illegal sales, whereas "potting" by transients would not only be illegal but would bring about conflict with local Natives.

- (3) Exploration only activities will probably not impact the residential portion of the governmental sector beyond that projected in the non-OCS case.
- (4) Exploration activities may impact Native organizations economically in two ways. Non-profits such as Kawerak, Inc. and Nunam Kitlutsisti, that are set up as the organizational protectors of subsistence, may have increased access to funds for researching OCS mitigating measures or may have access to industry funds offered as a public relations gesture. It is unlikely that such funds would be accepted, however, if they came attached to a tacit approval of exploration and development activities. Profit corporations willing to cooperate with industry may also have access to additional funds and therefore positions for facilitating, mediating, or expediting industry/corporation liaison activities.
- (5) There may be some temporary local inflation stimulated by the anticipation of an OCS "boom" suggested by exploration. Although such a local inflationary economic trend may be minimal, it would have village impact and would mimic the more extensive inflation that would be associated with actual development. In this same vein, businesses that expand in anticipation of development following exploration will suffer economic

consequence when the hopes of a "boom" fail to become reality -- that is, when no significant petroleum discovery is made during this phase. This is probably one of the most significant exploration only impacts which is not dealt with by either ISER (Alaska, U. of, ISER, 1980) or Ender, et al. (1980) and which will affect Nome more than any other community in the study area.

- (6) Needless to say the beginning of exploration will be enthusiastically received aptitudinally by the developmentally-oriented residents of the study area. Conversely the failure to find a significant petroleum deposit will create at least a temporary atmosphere of despair as the new "boom" is not realized. For some residents this will be their first experience in dealing with "big industry" and they will at least come out of the experience with greater empirical knowledge and sophistication of this process. Some older residents who were here during World War II or who identify with Nome's "boom" and "bust" history will probably accept the failure to find oil with an attitude of optimism -- that is, reflective of the view that "something else will come along."

Exploration, as presently scheduled, will not be welcomed by anti-developmental segments of the population and its

unsuccessful efforts will be perceived as a temporary reprieve from industrial expansion. The attitudes generated by success in delaying and/or preventing OCS exploration and development would be different in that an OCS delay would be the result of local efforts as opposed to chance.

There will be, of course, many individuals who will assume a more fatalistic approach -- that is, if oil is found, it was meant to be; if not, that too is all right. There will also be those, primarily in smaller villages of the study area, who are not cognizant that exploration is, in fact, taking place.

SOCIAL SYSTEMS

Due to the short duration of the exploration only scenario and the relatively small number of incoming transients, most aspects of the social system as described in the exploration only case will not be significantly different from that of the non-OCS case. The only exceptions to this assumption are as follows:

- (1) The area health delivery systems, particularly Norton Sound Health Corporation, will have to expand their trauma treatment services during the exploration phase due to the nature of petroleum drilling and supply/personnel transport activities. This expansion will probably be at the expense of other

services. The addition of an anesthesiologist and possibly greater surgical capabilities would be logical directions of this expansion.

- (2) As discussed in the economics section of this case, the anticipatory inflation that actually occurs would probably be most marked in the area of housing. Basically in Nome units of substandard housing that now are available at relatively low rates of rent may acquire higher rates. This may displace some current renters resulting in some of these individuals moving in with relatives bringing about increased household density (applicable primarily to the Native population) or some out-migration from Nome to area villages. All of these shifts will probably not be so extensive that their implications need to be explored in greater depth for this particular case. When petroleum is not found, the housing situation will probably return to that described in the non-OCS case.

POLITICAL SYSTEMS

Although the exploration only case assumes minimal demographic and economic impact on the study area, its impact will be somewhat more significant in the political arena. This projection is grounded in the fact that the reality of petroleum development implicit in

exploration activities will act as a catalyst for clearly establishing the **prodevelopment** and anti development "battle lines." There will, of course, be the silent majority who will not be a part of this struggle due to the lack of awareness of OCS activities, a lack of information about what to do to influence the course of OCS affairs, apathy, or intimidation. Nonetheless, the political conflicts, particularly those between organizations, will be the most distinctly focused at this point or, at least, during the time period following the sale but preceding **actual** exploration. The most probable course of political events related to this exploration only scenario will include the following:

- (1) Nome and Bethel will remain the key political centers in **re-**gards to OCS, although Nome **will play** the dominant role in this case because of its regions" ties to the majority of area **con-****tiguous** to the sale. Since Nome can be expected to take a more **prodevelopment** stance due to factors described throughout this study, it is conceivable that some overt conflict between Nome and Bethel, as regional center for the Yukon Delta, may result.

- (2) It is possible that Kawerak, Inc. and Nunam Kitlutsisti (and possibly other local Native organizations) may engage in litigation proceedings against both the state and federal governments in order to delay petroleum exploration and development until such time that these organizations feel adequate (in

their perception) studies, impact assessments, mitigation measures, and industry technology are developed. Whether these litigation efforts succeed or fail, the fact that no significant finds are made during the course of this scenario will ultimately reduce the developmental threats as perceived by these organizations. All attempts to delay OCS activities will be resisted and overtly criticized by Nome's business owners and some of its non-Native community as well as by more developmentally-oriented Native organizations and individuals (as an example, Sitnasuak may fall into this category during this phase of OCS activity).

- (3) The Coastal Resource Service Areas will be functioning and it is possible but definitely not certain that their coastal Zone Management Plans will be approved by 1983. Even if their plans are accepted, however, their actual influence on the course of exploration will probably not be significant in the end. The realities of exploration will unquestionably provide a meaningful stimulus to the concepts and functioning of regional unity not projected for the non-OCS case.
- (4) The Eskimo Walrus Commission and Alaska Eskimo Whaling Commission will continue to play increasingly more vocal roles in regards to the dangers of mixing oil and sea mammals as

exploration makes these activities a reality. These groups will remain species oriented and geographically diverse in composition although their political roles will transcend singular species questions. The efforts of these groups to have some influence in the OCS decision-making process will be supported by some of the more liberal and local environmental groups.

- (5) The directions of the state and federal governments in regards to OCS will probably remain relatively consistent with the contemporary situation, although recent litigation (June, 1980) against the state for inadequately assessing OCS impacts in their segment of the Beaufort sale area may **result** in more **extensive** study efforts on their part for the Bering-Norton lease sale.
- (6) The expertise or sophistication of local political **organiza-**tions, both Native and **non-Native**, will be enhanced by going through the exploration only process.
- (7) To the extent that exploration activities may involve the need for facilities, territorial access, and services now **prov**ided by Native organizations, the degree of political power **he'**d by these organizations will proportionately increase.

INTERETHNIC ATTITUDES AND RELATIONSHIPS

Since the ethnic balance was projected to remain relatively constant from the contemporary period to the year 2000 in the **non-OCS** case, the ratio of non-Natives to Natives will increase in the exploration **only** case. This increase, however, is only minimal at the peak and even then seasonal in nature and focused in Nome. As a **result based on numbers alone** (198 maximum in 1984, a few of whom will be Eskimo) there is no reason to project any meaningful change in **inter-ethnic** relations from that of the **non-OCS** case.

*

There may be some impact, however, based on **the** quality or nature of interethnic **re**lations. If the COST **we**ll experience provides any model for the **exp**oration only case, it is already apparent (i.e. June, 1980) that there is considerable public notice of the "outsiders" who are working on this joint industry venture. Dress identifies some of these predominately male employees -- red and white billed caps, cowboy boots, flotation vests, jeans, and travel bags lettered with industrial-related acronyms. To the extent that "imported" exploration employees may identify with each other as peers separate and distinct from residents, may be perceived of as "outsiders," may be perceived of as sexually competitive for local women by resident males, and may be **perce**ved of as having job **pre**ference in favored positions, interethnic relations may minimally

deteriorate. However, as previously discussed, Nome's history has included such a diversity of transient individuals that its capacity to deal socially with this interaction is undoubtedly greater than that of smaller villages or communities that have remained more or less isolated and ethnically unmixed. Overt conflict that does occur will most frequently be in bars or other social settings in which liquor is involved. Lastly it is likely that conflict based on "insider-outsider" identifications will, in fact, be both inter- and intraethnic in nature. To the degree that industry utilizes some local residents in staffing exploration positions, attitudes towards the industrial endeavors and, by association, their outside employees would be more positive in quality.

INDICATORS OF RESPONSE TO CHANGE: POSITIVE AND NEGATIVE

In both the baseline and non-OCS case the emphasis in the discussions of negative indices of impact and change has focused on the Native population of the study area. This was appropriate based on the assumption that rapid cultural change and modernization were primary factors responsible for maladaptively high rates of suicide, alcohol and other drug abuse, homicides, accidental deaths, and family disintegration. Ironically, however, it is projected that the non-Native population will probably be most significantly impacted in a negative sense in the exploration only case.

This projection is related to numerous factors that have both historical and contemporary dimensions. The majority of the Native population will not have a substantial vested interest in the perceived potential prosperity of OCS development, and the failure of industry to locate reserves with economically feasible productive potentials would have negligible impact on this portion of the population. Some segments of the Native population will be apathetic about the failure of exploration and others will see the turn of events as being advantageous to their needs and concerns. The long-time mostly non-Native Nome residents who have successfully adapted to the "boom-bust" history of the area will handle this perceived disappointment with greater resiliency. It will be primarily the more recent residents who have come to the area specifically for the purpose of investing in an **OCS-related** wind-fall or local more or less long-term residents, both non-Native and Native, who may have over extended all of their financial resources into an **OCS-related** venture that will experience the greatest mental anguish and stress in this scenario. It can be expected that suicides, alcohol and other drug consumption, family dissolution, stress-related health disorders, and other psychological and social traumas (including violent and non-violent crime) will intensify for segments of this group.

The overall stress-producing potential of the exploration only case unrelated to individual investments should not be underestimated. This has been suggested in other portions of this chapter but should be reiterated here specifically in regards to community and individual mental health as indices of response to change. It is during the period from the lease sale and through exploration (i.e. 1983-1985) that the decision-making processes regarding OCS may be the most intense and anxiety producing. Individuals or organizations that may legally fight development, at least with its present schedule, will have to make their final moves at this point in time and, if unsuccessful, will have to formulate plans to mitigate negative impact and maximize any positive effects of OCS development. Tensions between pro- and antidevelopment factions will probably peak during this period. Industry and prodevelopment anticipation of successful exploration will peak and then "crash" when no economically significant findings made and decisions regarding a reorientation of the future will by necessity, follow. Lastly, those individuals who had come to Nome to "make their fortune" may find themselves in a community with inflated costs and, at the end, diminishing employment opportunities. All of these conditions would stimulate stress and anxiety ultimately manifested in the individuals. It is not possible to quantify the results of such stress in numbers of suicides, numbers of homicides, incidence of alcohol abuse, etc. since the variables are numerous, complex, and

interrelated in a manner not clearly understood. But it is probably accurate to say that symptoms of stress, in any form, will unquestionably be magnified.

It is more difficult to suggest positive indices of response to OCS exploration, as what may affect one social level positively may, at the same time, affect another adversely. For example, in the baseline and **non-OCS** case Native revitalization movements have been described as positive adaptations to basically negative conditions. In the sense that support of development may result from a real and/or perceived economic depression, this unity of support and anticipation of the good things wrought by petroleum development may be described as positive. Along the same line, a unity of Inupiat and Yuit organizations in efforts to delay development may bring about a pan-Eskimo unity not historically or presently existing within the study area. In both of these cases, however, a unity of population segments with differing expectations may result in even less overall regional unity that cross-cuts **existing** ethnic and socioeconomic boundaries. Ultimately, for some, the failure to find significant amounts of petroleum may, in fact, set the scene for new alliances, new hopes for the future, and diminished conflict oriented about disparate goals. Lastly, facilities and/or services upgraded or commenced to accommodate exploration may result in a perception of the quality of life as being improved, which ultimately would effect the

overall **mental** health of the area's population positively and would, in part, compensate for many negative impacts of exploration activities.

Summary of Sociocultural Change

In brief summary, the key **sociocultural** impacts projected under the exploration only case will follow. These assume that when exploration is concluded unsuccessfully in 1985, the projections for change to the year 2000 will basically converge with those of the **non-OCS** case given a couple of years of socioeconomic and **sociocultural** readjustment. These impacts include:

- (?) There will be a minimal population growth peaking in 1984 with 198 people, most of whom will be non-Native, non-residential, and only seasonally in the study area.
- (2) Virtually all direct industry-related social and economic impact will be in Nome, but the villages and Bethel will unquestionably be impacted both perceptually and, for the Delta, in regards to fisheries.
- (3) There will be some new employment peaking in 1984 with 104 positions, but these will be mostly seasonal and technical and few will be available to local area residents. This labor force will be **highly** transient due to planned industrial

Logistics and will have minimal social and economic interaction with local residents.

- (4) Even exploration only could have an adverse effect on the area's species and the environments which they inhabit -- total ecosystems. Adverse impacts could result from **spills** or, most likely, from cumulative chemical and noise pollution. Any impacts of these ecosystems (especially those of Norton Sound) will negatively affect the populations dependent on resources that are a part of these systems. The extent of the human impact may not be measurable by the same criteria as the extent of impact on other biological species.
- (5) Exploration activities will be differently perceived by varying segments of the study area's population. Environmental/subsistence protection organizations (primarily Native in this area) may try to prevent or delay OCS exploration by litigation. Most business interests will support exploration and will oppose those who attempted to delay or prevent **OCS** activities.
- (6) Conflict between **OCS** exploration and area commercial fishing interests is imminent both over species issues and available maritime services.

- (7) OCS exploration will not significantly improve the area's economy and will result in temporary and localized inflation in the cash economy. Inflation will impact villages of the area more than Nome because of increased transportation costs.
- (8) The failure to find an economically significant quantity of petroleum thereby terminating OCS activities in the area will result in financial hardship and a sense of despair on the part of those who planned to profit by petroleum development and a sense of relief to those who opposed it. A significant segment of the population will be either apathetic about the outcome of exploration or will fail to understand its implications due to a lack of information.
- (9) Exploration activities will stress already understaffed and underfunded human service delivery systems.
- (10) Nome and regional Native organizations will continue to participate in power struggles vis-a-vis OCS issues, but both will gain in political sophistication as a result of the exploration activity. Coastal Resource Service Areas, their boards, and coastal zone management plans will play a significant political role in this scenario.

- (11) Exploration activities will only minimally change the ethnic ratio of the area. Because of the nature or character of **interethnic** contact involving transient industry employees, both covert and overt **interethnic** relationships will diminish in quality to at least a minimal degree.
- (12) Exploration activities and the "exploration only" scenario will create conditions of stress and anxiety that will be manifested in mostly negative indices of individual and societal response to such stress (i.e. **suicide**, alcohol abuse, etc.).

CHAPTER VIII

LOW (95%) FIND SCENARIO

Description of the Scenario

The low find scenario, which has a 95% probability of occurring if offshore oil and gas exploration actually takes place, is a sequence of events commencing approximately in 1983 (as exploration drilling) with a discovery projected for 1984, continued discovery-related exploration for six years total or until 1988, and commercial recovery continuing until 2009 (Dames and Moore, 1980b, pp. 163-188). The low find scenario involves the discovery of two marginal oil fields southwest of Nome and a single gas field south of Nome. Exploration drilling activities commence annually in April and continue throughout the summer and as long into the fall as weather permits (probably to late September). Production drilling extends year round according to this scenario beginning in 1989 and continuing through 1992. A total of 112 wells will be drilled during the production phase using both gravel islands and steel platforms. Onshore facilities to be constructed in accordance with this scenario include an oil terminal, an LNG plant, and a support base **all projected to** be located in the vicinity of Cape Nome. Onshore facility construction commences in 1987 and continues through 1989.

In 1989 three offshore and two onshore pipelines are constructed, totally 57 miles of pipeline, all but 4 miles of which are submerged.

It may be important to note that none of the projected wells in the Dames and Moore scenario are actually within the area of tract selection identified after these scenarios were developed. In reality, due to the location of the selected tracts, if facilities were still located at Cape Nome, the increased costs involved in developing at this level would change the cost-benefit ratio to the degree that the probability factor would actually shift downward. Other scenarios not including Cape Nome may be more economically feasible using the levels of petroleum reserve defined in Dames and Moore (1980b). A discussion of these possibilities, however, is not within the purview of this particular study,

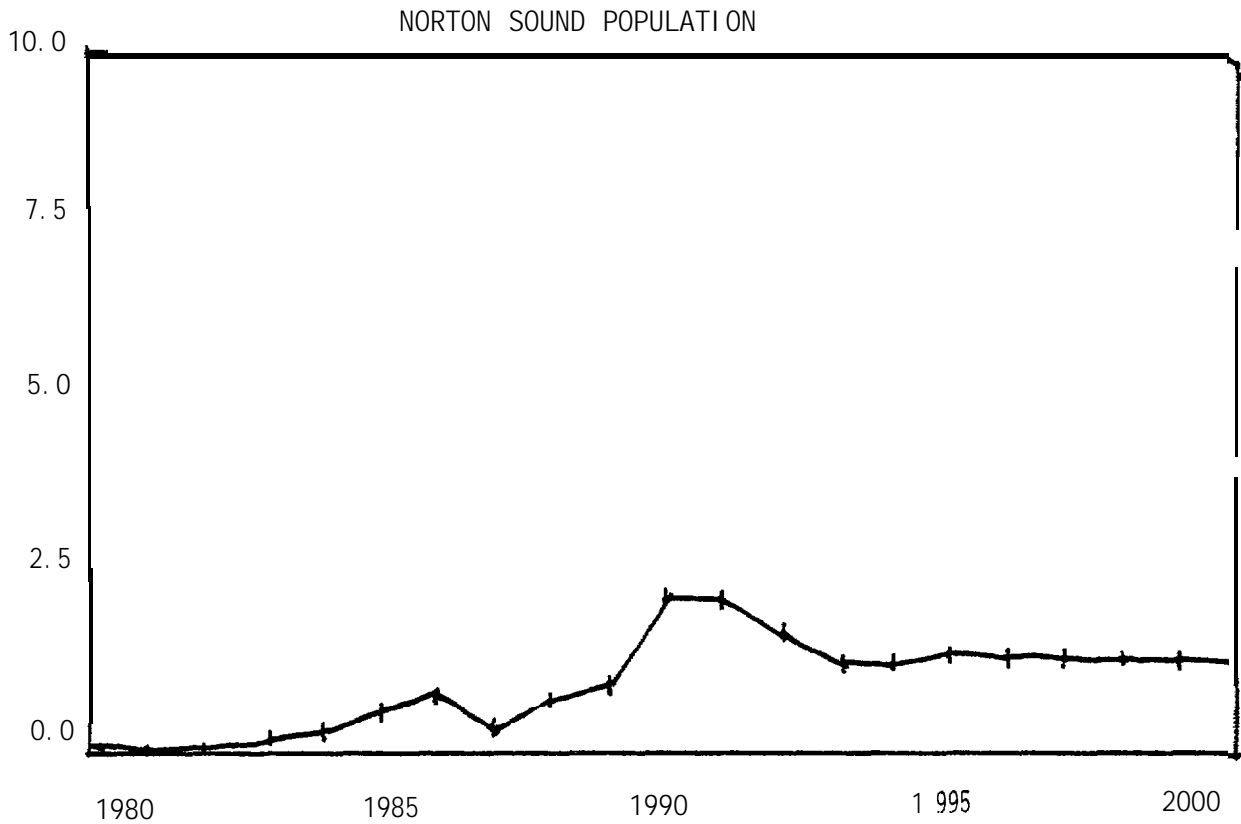
Summary of Socioeconomic Projections

POPULATION

Population increases that occur in association with the low find scenario are illustrated in Figure V as projected by ISER (Alaska, U. of, ISER, 1980). According to this scenario the population increase begins in 1983 with 189 persons, peaks in 1990 with 2,265 persons, and diminishes to 1,341 persons in the year 2000 (Ender,

Figure V
NORTON SOUND POPULATION, 1980-2000,
LOW FIND¹

Thousands
of Persons



¹ Taken from Alaska, U. of, ISER, P. 158.

et al., 1980, P. 220 based on ISER's MAP model). These population dynamics must be considered as supplementary to the population increase projected in the non-OCS case. At the peak of this increase in 1990 the population would expand 17.3% for the study area.

Since, however, most of these individuals would be located in Nome or its immediate vicinity, the effective population increase in Nome would approximate 100%. In a long term perspective, however, even in the year 2000 the inflation of this population would be approximately 50% in Nome and 8.9% for the region. These figures include an adjustment for the varying extent of ISER's and this study area's geographic expanse and non-OCS population increases.

The characteristics of the low find population increase are important to an understanding of OCS impact dynamics. The vast majority of this population would be immigrating and temporary oil and construction workers. These, of course, would be non-Native and they overwhelmingly would consider their occupation in the study area as being transient in nature. Ender, et al. (1980) projects that 80-90% of the onshore workers would reside in an enclave rather than within Nome or any other area community leaving the remaining 10-20% primarily in Nome. It is not possible, of course, to present a specific number of persons in these categories since the total number of immigrants will vary by year and the entire exert-se

is hypothetical in any event (see Ender, et al., 1980, for the quantitative data if desired). Some of this population increase **would** be immigrating village Natives, a portion of whom would bring their families with them, but even at the population peak years Ender, et al. (1980) projects that **only 70+** Natives who usually reside in villages would obtain temporary jobs here (P. 233). Based on what is known about Native family structure and dynamics, it **would** not be unreasonable to average 3 family members per Native village employee or **280+** immigrating Natives to Nome during the employment peak. Despite this increase in Nome's Native population it most likely will be counterbalanced by incoming residential non-Natives suggesting negligible flux of the ethnic ratio only if enclave non-Natives do not become functioning members of the community despite their projected social and geographic isolation. Because of the uncertainty of the economic status of both villages and other communities inside and outside of Alaska by 1983, it is virtually impossible to project how many Inupiat and Yuit will actually come to town (i.e. Nome) looking for work and how many non-Natives without jobs will come to Nome with optimism that they will be able to solve economic problems here. For this reason, the question of ethnic balance remains understandably unsettled.

EMPLOYMENT

Employment shifts coincident with the low find are graphically illustrated in Figure VI. ISER's MAP model employment projections in this scenario suggest an employment increase associated with OCS of 94 employees in 1983, a peak of approximately 1,560 in 1990 and 1991, and approximately ,000 employees between 1992 and 2000 (Ender, et al., 1980, P. 220 based on ISER's MAP model). For the year by year statistics in the low find refer to Ender, et al. (1980). Between 80-95% of these positions are directly OCS related (.e. in the classifications "mining and exogenous construction" and "local construction and transportation") and the remainder of the increase would be in the service sector of the economy indirectly related to OCS activities.

During the exploration and developmental phases the majority of the workers would be seasonal and transient in nature, particularly those employees involved in construction. During the production phase, commencing in 1990, the work force will stabilize in both number and, to some extent, character suggesting a large percentage of residential industry employees.

In all cases industry employment and the majority of related secondary employment, personnel are projected by Ender, et al. (1980)

Figure VI
NORTON SOUND EMPLOYMENT, 1980-2000,
LOW FIND¹

Thousands
of Persons



¹ Taken from Alaska, U. of, ISER, P, 160.

to be non-Native transients or immigrants. Ender, et al. (1980, P. 233) suggests that at peak employment maximally 250 local people will be employed or 15% of the total labor force at any given time, but they fail to describe an ethnic makeup of this local labor pool. As previously suggested, due to the educational and technical requirements of such employment and conflicting priorities such as subsistence, many of these positions will be filled by local non-Natives. On the other hand, industry requirements to meet EEO guidelines, public relations strategy in hiring locals, and political pressure by local and statewide Native organizations to increase Native hire throughout the state will influence their recruitment and training procedures. The nature of the direct OCS-related jobs has already been described in Chapter VII.

The secondary employment sector includes primarily service-related professions such as retail outlet clerks, restaurant and hotel staff, bartenders, etc. and some technical personnel such as clerical staff, electronic repair personnel, automobile and equipment mechanics, etc. Ender, et al. (1980) assumes that Nome's current unemployed labor force will be the first to fill these newly available positions. As previously discussed in the baseline portion of this study (Volume I), many residents of Nome have priorities that do not include full-time year-round employment. That is, a very

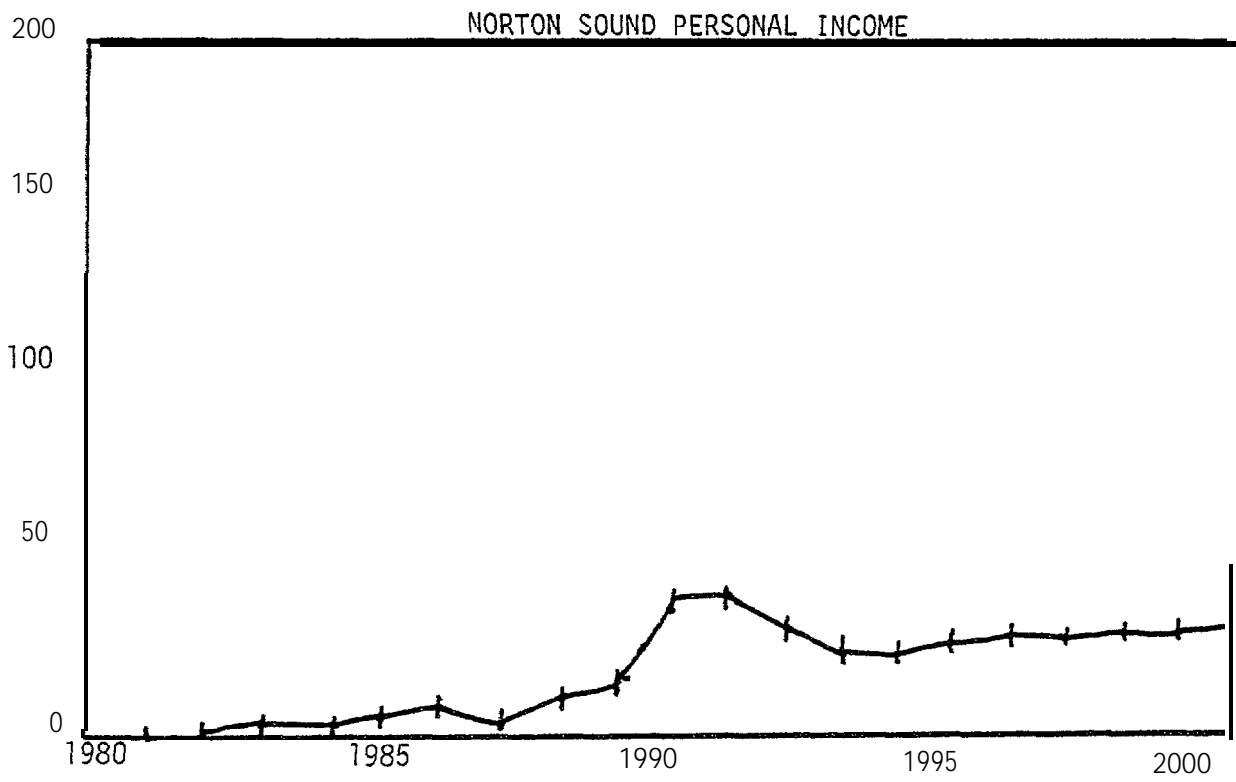
fluid and sporadic Nome labor force is not totally the end result of the labor market but is, for many, the result of differential individual priorities. To assume that every unemployed adult in Nome would enthusiastically grasp at a chance for year-round, permanent employment is unrealistic, especially if the relatively low-paying types of jobs now available in the service sector are the same kinds of jobs that would be available in greater abundance under OCS conditions. Some of these unemployed would be considerably more interested in more lucrative industry-related technical positions if they were available. For these same reasons, Ender and associates' assumption is questionable that of the remaining 85% of service sector jobs available in this scenario, 33% would be filled by immigrating village Natives (Ender, et al., 1980, P. 233). What this all means, then, is that most probably more of the service sector jobs than projected by Ender, et al. will be filled by immigrating non-Natives (including the potential of other ethnic minorities).

ECONOMY

Personal income and real per capita income as indices of the economy in the low find case are graphically illustrated in Figures VII and VIII respectively based on ISER's MAP model. As in the exploration case, the impact of increased personal income and real per capita

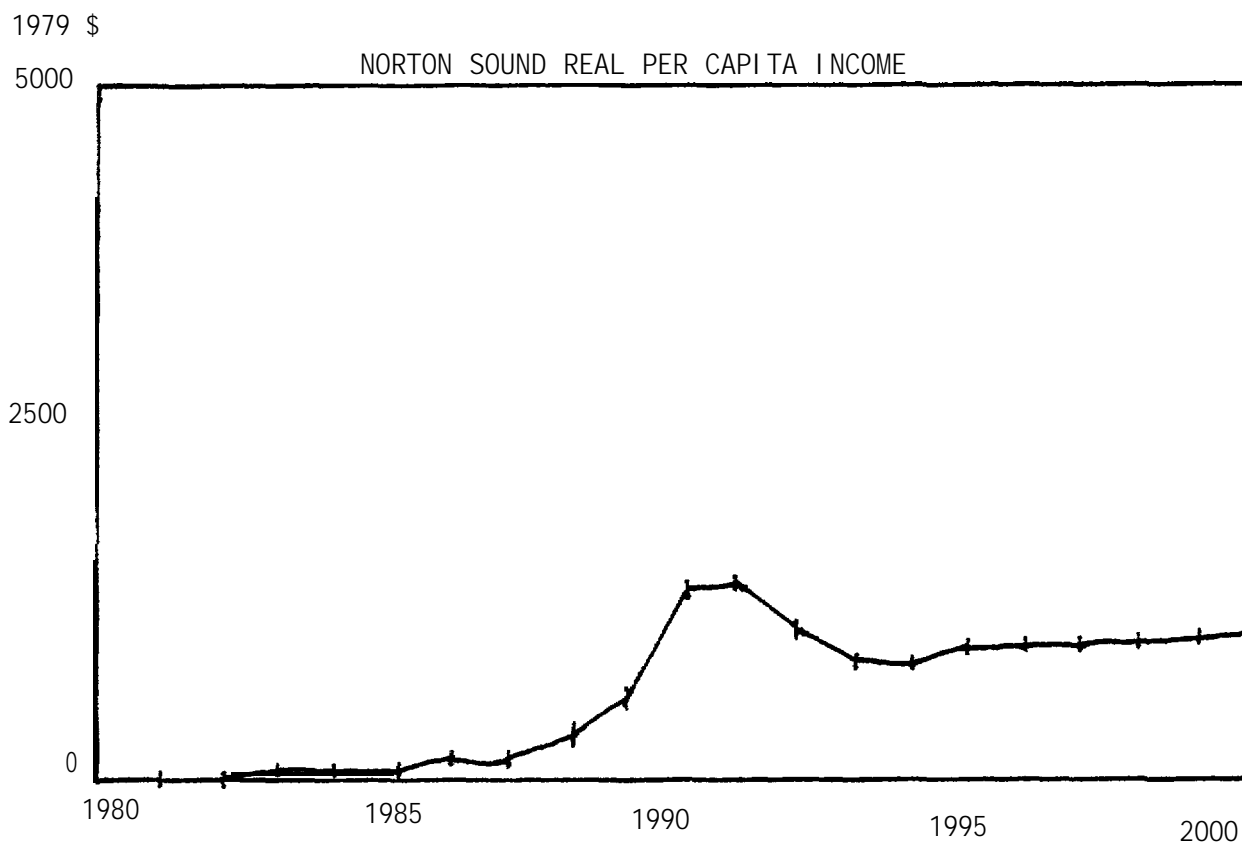
Figure VII
NORTON SOUND PERSONAL INCOME, 1980-2000,
LOW FIND'

Millions
of 1979 \$



' Taken from Alaska, U. of, ISER, P. 163.

Figure VIII
NORTON SOUND REAL PER CAPITA INCOME, 1980-2000,
LOW FIND¹



¹ Taken from Alaska, U. of, ISER, P. 164.

income on residents of the study area is minimized due to the small percentage of jobs being held by locals. There will be more local jobs or jobs for Native people from villages in this than in the exploration case, and even the maximum number of projected jobs held by people from the area (Ender, et al. estimates 250) will definitely contribute income locally. However, because the wage levels of the positions held by local people are unknown and many of these people employed may be giving up other jobs to work for industry, no realistic projection of actual salaries earned locally is possible. What salaries are available will go, for the most part, to individuals trained in construction skills or other technical trades and will not be as available to village residents as to Nome residents within the study area.

In the exploration and development phases of the low find case, the vast majority of the income will leave the area with transient personnel. As the production phase stabilizes both industry-employed population levels and residential status, a greater proportion of the income will be spent mostly in Nome. Ender, et al. (1980) projects that at the peak of employment (1991) Nome residents will expend 2,831,900 1979/\$ in Nome while transients will spend, again at peak employment, a total of 278,800 1979/\$ (P. 329). This averages out to \$10,850/resident and \$250/transient worker. Based on knowledge of the area and contemporary resident expenditures, these

numbers appear to be low. Even considering that the assumptions regarding these expenditures are accurate, however, they would have implications for local business owners which **will** be considered in the impacts assessment section of the chapter which follows.

Assessment of Sociocultural Impacts

SEA AND LAND

The major differences between the **exp'oration** only case and the low find case relative to sea and land values, utilization patterns, and potential ownership and control include: (1) the increased intensity of industry activity and related potential for environmental disruption; (2) the ultimate duration of developmental activity throughout an annual cycle rather than restricted to summer months; (3) the construction of underwater and surface pipelines; and (4) construction of onshore facilities, especially at Cape Nome. These will all be addressed below.

The intense regional interest in and concern for the sea and land environs held by the majority of the population and described in the baseline and two prior cases will become more **OCS-focused** in this case. This case would represent the first instance of obvious OCS activity (with the exception of lower profile COST well activities) in the sense that onshore facilities would be constructed,

marine traffic would increase, and construction of all necessary pipelines, roads, etc. would occur. The development of oil and gas would finally be realized after a lengthy anticipatory period. All those who had, over this period, resisted OCS development either overtly or covertly because of environmental values and concerns will, at this point, be forced to accept the reality that the environment and marine resources that they use will be in potential jeopardy and that the marine environment will, of necessity, be shared with industry endeavors. In the same way that local king crab subsistence users have recently noted a correlation between a decreased subsistence harvest and the relatively new commercial crab fishery, any change in the availability and abundance of subsistence resources during exploration, development, and production of the low (or mean and high) cases will be perceived to have a direct cause/effect relationship irregardless of the facts of causation. It is quite possible that even in the event that there is no actual decline in availability or abundance of resources, it is likely that a decline may be perceived as a reflection of the feeling that the environment is undergoing irreversible and irreparable damage.

Needless to say, those who value the sea and land for its developmental potential (primarily but certainly not exclusively non-Native) will see these environments as definitely increasing in

value once actual development commences.

In terms of sea and land utilization, ownership and control, there is a potential for very real conflict in this and all of the subsequent (mean and high) cases. These conflicts are both general and specifically related to the scenarios developed by Dames and Moore (1980b). Dames and Moore designate Cape Nome (13 miles east of Nome) or the vicinity of Cape Nome as the site of the onshore facilities (i.e. the enclave, LNG plant, and service boat docking facilities). Conflicts inherent in this scenario include the following:

- (1) For the same reasons Cape Nome has been projected as the most likely onshore facility site (i.e. a jutting headland with relatively deep water) it has been an excellent sea mammal hunting site prehistorically and historically (as is evidenced by the archaeological site of **Ayasayuk** and early historical documentation) and continues to be utilized as a hunting site today. Due to the geography, water depth, and wind and water currents in the vicinity of the Cape, it has the least amount and stability of sea ice in the Nome area during winter months and provides access to sea mammals and leads when the area around Nome proper is "choked" with shorefast and pack ice. The areas immediately east and west of the Cape continue today (as in the past -- 2,000 years at least to the east) to support

intensive fishing activities in addition to some sea mammal hunting and recreational campsites (most campsites fulfill all of these functions). In addition bird nesting areas are abundant to the east and migratory sea mammal routes approach the coast in this area (see the baseline; Dames and Moore, 1980a and 1980b). For all of these reasons any industry activity at the Cape or in its vicinity would encounter contemporary user resistance, would unquestionably effect the availability of subsistence resources to Nome residents, would be damaging to cultural resources due to the presence of archaeological sites, and could not be undertaken without considerable marine resource and environmental impact.

- (2) All non-third party owned land between Nome and Cape Nome and several miles to the east of the Cape is claimed by Sitnasuak under ANCSA. Most of the land held by private parties is Native allotments with a lengthy continuity of use through time. It is unlikely that the majority of the stockholders of Sitnasuak would approve the industrial use of the Cape even if corporation officials would support its use by industry as a source of revenue. It is also unlikely that many of the land owners of adjacent campsites would be willing to sell or lease these lands. Even if some were willing, it would be difficult for industry to obtain enough adjacent private holdings to

fulfill the acreage needs projected by Dames and Moore (1980b). In addition, BSNC has subsurface rights to Sitnasuak lands (which would include gravel needed by industry in the scenario) and have some level of authority over village corporation land use decisions that may negatively effect the region as a whole. It is possible that the corporate management of Sitnasuak and BSNC may not agree on an issue involving industrial use of Cape Nome.

- (3) Road access to Cape Nome is not currently able to carry large and heavy vehicular traffic to the Cape. Part of the road would require rebuilding and the remainder that runs through town would have to be replaced with a new road skirt'ng town. All of these needs would require land owner approval archaeological site clearance, and considerable capital expenditure.

In more general terms increased population projected in association with the low case will certainly create conditions in which there will be competitive utilization of sea and land by individuals with differing priorities. Whereas subsistence users will perceive such competition as potentially or actually depleting necessary resources, non-subsistence users who enjoy a recreational use of the area's environs and resources may also perceive competition for utilization by industry personnel and families as well as possibly a decrease in

the aesthetic value of the sea and land due to industry operations.

Lastly, whereas we have discussed some of the conflicts inherent in the use of Cape Nome as an onshore base, it is clear that wherever drilling occurs and wherever onshore facilities are placed (other than at Nome proper), the valuation placed by village residents on the sea and land environs and the real and perceived potential of oil exploration, development, and production to impact these environs will result in overt conflict and covert anxieties on the part of a substantial majority of the area's residents, primarily Inupiat and Yuit since they are the population that occupy the communities and use the areas outside of Nome.

ECONOMIC SYSTEMS

Of most critical relevancy to the subsistence economy of the area is, again, the potential impact of low find exploration, development, and production activities on the marine ecosystem on which the subsistence system is basically reliant. As described in the scenario synopsis in this chapter, the scope of this endeavor is dramatically multiplied in both intensity and duration from that of the exploration only case. Although this study has a basically human-impact orientation as opposed to the non-human biotic impact approach of multiple other studies (e.g. Dames and Moore, 1980a and

1980b; Alaska, U. of, Sea Grant Program, 1980; and all of the OCSEAP studies not referenced in this document), a more general knowledge of marine subsistence species environmental adaptation emerges from a thorough and well-organized awareness of **area** subsistence patterns and local resident information about these species and their habitats. Based on this knowledge it is reasonable to assume **exacerbated** environmental impacts and risks associated with year-round development and production drilling (as opposed to limited summer attempts in the exploration only case); the drilling of 112 wells from 6 exploration drilling rigs, 4 gravel islands, and 3 steel platforms (as opposed to 3 rigs and 2 gravel islands in the exploration only case); tanker and service boat traffic to meet these industry requirements; underwater and above ground pipelines (as opposed to no pipeline in the exploration only case); onshore facilities construction; winter ice disruption; and the ultimately destructive impact of a large-scale spill or cumulative pollutant effects (Dames and Moore, 1980b).

It is not possible to project all of these impacts directly on the level and quantity of subsistence endeavors, as the extent of impact has not yet been assessed by physical and biological scientists and the variables are too complex and numerous. Nonetheless, some level of impact on subsistence resources will inevitably result in this case. The maritime area most likely to be affected

will include **the** entirety of the Sound from Nome to and including the Yukon Delta. Spills and migratory species disruption could, **of** course, impact a much wider area including St. Lawrence Island and the Bering Strait. Subsistence response **to** this impact will depend on its intensity, affected species, alternative species that **could** be used as a replacement for affected species, adaptability of subsistence users, non-subsistence (i.e. cash) alternatives, cultural priorities, and other factors such as the national economic scene. Any impact that would affect the viability of subsistence endeavors would be an actual negative impact on the local economy (**partic- ularly** at the village level) and a perceived deleterious impact on the quality of life of **all** subsistence users (Native and non-Native). The magnitude of these impacts **will** be directly correlated with the degree of environmental and species disruption. OCS and its impact on species and subsistence in addition to resource management will remain the primary subsistence issues.

In regards **to the** viability of the local cash economy, **industry-** related pursuits will most **likely** impact commercial fishing directly. If worldwide cases can be used as analogies, in the opinion of many, oil and fishing are not compatible endeavors. Dames and Moore (1980b, P. 188) also project that the offshore pipeline network and the onshore network near or crossing salmon spawning streams would have the greatest impact on fisheries, especially during

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spawning or in very early stages of **the** various species development. This, of course, is an impact not appearing in the exploration only case but found in progressive degrees in the low, medium, and high finds respectively. The economic (i.e. cash) impact of a disruption to this fishery for principally the residents of **Golovin, Elim/Moses Point**, and the Yukon **Delta** has already been explored in prior cases.

The increase in the transient and temporary residential work force, especially during the exploration and developmental phases of the low find case, will expand the demand for and purchase of Native manufactured arts and crafts products. The anticipation of a market increase would inevitably increase the intensity and duration of the carving effort and may encourage the proliferation of carving attempts by both unskilled and/or inexperienced carvers. The recent market shifts in **Savoonga**, for example, provide a model for this kind of development. The price of raw ivory will inflate as will the incentive for local area residents to "pot" for **sale-**able artifacts. Many transient non-Natives will perceive the opportunity to purchase artifacts locally at a relatively low price for resale or personal opportunities to "pot" themselves as economically desirable ends. Both of these alternatives, particularly the latter, would result in transient/local conflict. Contemporary transient or short-term resident activity in regards to the artifact

market provide a very applicable model for this projection.

Basically in the low case ISER (1980) projects negligible growth in the governmental sector for the Norton Sound area and while Ender, et al. (1980) does project growth in this sector or in segments of the service sector funded by federal or state governments, the specifics of this growth are not detailed for all sectors of the economy. Therefore it is important to state in this context that given the population increase projected by ISER for this case, there is no question that an expansion of existing government or governmentally-funded services would both be necessary and would occur during the 1983-2000 period and new functions (such as OCS monitoring) would commence. The expansion of existing governmental or governmentally-funded functions or projected new functions for a minimal and stable population increase of 40-50% over Nome's existing population would include: teachers at both the public schools and community college (Ender, et al., 1980, P. 330, projects 13 in the former instance); policemen and state troopers (Ender, et al., 1980, P. 333, suggests 2 policemen for Nome); physicians, nursing staff, and health aides (a Native corporation function reliant primarily on federal government funding); social workers and counselors and social and psychological therapy paraprofessionals; land and resource managers including agencies such as BLM, ADF&G, NPS, USFWS, and possibly USGS and US Coast Guard for OCS-specific monitoring;

FAA and US Weather Bureau primarily due to an increase in air and marine traffic; state judicial and administrative systems (e.g. magistrate, judge, court clerks, governor's office, election supervisor's office, **public** defender, and district attorney); employment services such as CETA and the state manpower office; Bering Straits Housing Authority; and Department of Transportation. Although increased personnel in any of these areas may include only a slight increment of increase, for a small community such increases are relatively significant. If funding is not made available for upgrading existing systems and developing means to meet new needs, the existing overstressed agencies will find themselves totally **unable** to cope with increased demands resulting in **personal** frustration, ineffectiveness, and probably higher turnover rates than the existing stressed systems already exhibit.

A projection of Native corporation economic functioning in the low case would include progress in the economic development goals of Kawerak, Inc., BSNC, and some of the village corporations already discussed in the **non-OCS** and exploration only cases. By this time efforts to delay or prevent **OCS** exploration and production would have, by the nature of this scenario, failed. Their choices will now include mitigating measures and/or some degree of capitalizing fiscally on the activity they were unsuccessful in their attempts to prohibit and/or delay. As mentioned before there may be some

internal conflicts inherent in the subsistence advocacy roles and economic development roles of the same organization. Some of these organizations may be utilized by industry to recruit, train, and act as intermediaries in the employment by industry of regional Native people. The role of the Norton Sound Health Corporation was discussed in the previous paragraph regarding medical needs. Native corporations that have, by this time, been successful in business ventures and expertise, may find themselves in a lucrative position for gaining a firm financial base during this period. This may be particularly relevant for Sitnasuak.

In both the case of directly OCS-related positions described in the "employment" section of this chapter and the government or governmentally-funded positions described in this section, there probably will be some employment trends that are important to mention here:

(1) To the year 2000 the majority of positions in both categories will be held by non-Natives, but during this twenty year time span local Inupiat and Yuit participation in this job market will continue to expand so that the Native percentage of hire will increasingly become greater from the earlier to later ends of this period.

(2) The majority of non-Natives who fill these jobs will be short-term residents probably averaging approximately two years in

the region. Turnover will be the result of both agency policy and individual choice.

- (3) The work force in Nome overall will only slightly increase in stability over the study period. That is, there will continue to be relatively high rates of job turnover and considerable horizontal mobility between jobs held by the long-term residents (both Native and non-Native) of the study area. As regional Natives increase their levels of formal educational achievement and some exhibit changing priorities derived from western models and formal education, a greater percentage may both participate in the cash economy and some may stay with permanent positions for a greater temporal duration.

In terms of the interrelationship between cash and subsistence, the low find employment and economy projections, which indicate an increased cash flow to a relatively few residents of the study area, suggest the potential of greater quantities of cash being available to a small number of families for investment in subsistence technology. The majority of families having one or more members who may obtain direct or indirect OCS-related employment will be residents of Nome, but some village residents will take advantage of an expansion of the job market to reside for greater or lesser periods of time in Nome for this purpose. The latter will be most

likely to invest money in subsistence technology and will be almost exclusively Native, but many of Nome's Native and non-Native employed will also reinvest in subsistence technology. Ironically as the population of Nome increases because of OCS and competition for resources also intensifies, more efficient, sophisticated, and expensive technology will be required to exploit a productive subsistence range, hence requiring the reinvestment of large quantities of cash obtained from OCS employment. This trend is already apparent in Nome although unrelated to OCS at the present time.

OCS-related inflation, described in the exploration only case, is likely to become more pronounced in the low find case. It is conceivable that locally focused inflation may be greater in the low find case than both the mean and high cases. Whereas industry investments in areal facilities and services (e.g. air terminal, aircraft, housing, etc.) may be worthwhile in mean or high find scenarios, industry may be less willing to invest if only a low find potential were to exist and therefore would possibly compete for already existing facilities and services. Such competition would, of course, result in local inflation and, as previously discussed, such inflation would most adversely affect rural village residents in the region or those residents of Nome on limited or fixed incomes (primarily Native). Closely related to this point is the inevitable likelihood of more accentuated economic stratification emerging

locally based on the income differences between those that gain and retain employment and those who don't,

Lastly, in regards to attitudes towards development, the anticipation of OCS potential will be realized. For some this will mean apathetic acceptance, for others intense dissatisfaction resulting in some long-term residents leaving as they did in Valdez (Baring-Gould and Bennett, 1976), and, for those who desired a new "boom" for Nome both expectation realization and expectation disillusionment -- in the latter case either the magnitude of the find will be too small or their opportunities for participation will not be realized.

SOCIAL SYSTEMS

Since social system change in the next two decades has been discussed in some detail in the **non-OCS** case (Chapter VI) and many of these changes are directly relevant to the low find case, only points which emphasize divergence from this scenario in either quantity or quality and which focus on Nome as the center of OCS activity will be discussed here:

- (1) In the **non-OCS** case there was considerable discussion about the gradual and variable shift of Inupiat and Yuit populations from kin-based to non-kin alliances, associations, and

individual affiliations. To the extent that individuals leave family units in smaller communities to reside in Nome or an enclave in association with OCS employment, the families of these individuals will experience the loss of a member of the operative kin group and the individual who relocates will not have the same extensive kinship network on which she or he can rely. In a sense families that resettle will be subject to this same process. For Inupiat and Yuit individuals, residence in an enclave will be the most extreme form of kin-based isolation and they will find themselves in a social group with whom they have little or nothing in common. Contemporary illustrations of this social process would include the location of village residents in military units (non-National Guard), training centers (especially those outside of Alaska), and boarding schools (again, especially those outside of Alaska, but even these had peers from home areas to whom they could relate). Village residents who relocate in Nome proper would be more likely to have some kinsmen already in residence with whom they could interact. Some of these village residents will temporarily move in with relatives therefore increasing the average household density of Nome Native families.

- (2) Throughout the history of this and other areas of Alaska, the presence of a large number of males located at a work project,

even if the location is an enclave, results in a relatively significant incidence of **outmarriage** of local, primarily Native females to temporary male project personnel. The skewed demographic structure of the community of **Wales** is, without question, in large part a result of Wales' proximity to the previous **DEW-line**, now ALASCOM Tin City site. The NE Cape military facility on St. Lawrence Island, although even more remote, had similar although much less frequent results. When Nome acted as ferrying base for aircraft on lend-lease to the Soviet Union during **World War II**, many women married out and others were left as single parent mothers. The oil industry will unquestionably employ primarily **males** and an enclave, as projected by Dames and Moore (1980b), 13 miles from Nome will not effectively deter the outmarriage process. The effect of an enclave on a smaller community would even have more demographic impact on such a community, as industrial enclave resident males recruit the child-bearing aged females from a small population resulting in certain population decline. At best, even if **outmarriage** doesn't occur, sexual jealousies between resident males **and** enclave males over **local** women **will** inevitably result in family disruption. To the degree that industry activity draws in single females, some interaction with local males may occur but this will undoubtedly be minimal relative to the **alternat**:ve situation.

(3) The demographic structure (e.g. age, sex, ethnic ratio) of the Nome community has remained relatively stable since World War II and is projected to change only minimally in the non-OCS case. Even in the low find, however, this demographic structure will be somewhat transformed in character. The ratio of males to females will increase and there will probably be an increase in the age cohort 25-35 years old. The ethnic ratio will dramatically change during the peak population period in favor of non-Natives, but even during the stable production phase and assuming some Eskimo immigration the ratio of Natives to non-Natives will probably shift from the current approximately 65% Eskimo/35% non-Eskimo ratio to a 40% Eskimo/60% non-Eskimo ratio. The social, political, and economic implications of this population shift will be tremendous including topics to be discussed in other segments of this chapter. In terms of social interaction, however, the community character will become more impersonal, its Eskimo population will be a "minority" in the real and perceived senses, social stratification will become more obvious and functionally operative, and non-kin common interest associations will dominate the social structure. Not only will there be a recognizable ethnic shift, but long-term, "old timer" non-Natives will also find themselves in the position of being both a real and perceived minority in the low find social scene -- indeed, a somewhat

unique situation in Nome's history. An enclave residential unit located in Nome's immediate vicinity will only marginally mitigate these projections.

- (4) Increases in educational personnel for the local school system have been considered in Ender, et al. (1980). Ender, et al. does not, however, address the content of these educational programs. As previously discussed, over the last few years there has been an increase in bilingual and bicultural programs in Nome and the region's public school systems. These educational directions have largely resulted from pressures by the federal and state governments and local Native organizations to meet the needs of the majority Inupiat and Yuit populations. Federal funds earmarked for "minority education" have substantially benefited regional educational systems. It is very conceivable that the substance and direction of funding of educational programs (rural and Nome, elementary, secondary, postsecondary, and adult basic education) will assume some new direction in the low find case to accommodate the increased non-Native population and their cultural priorities, which will certainly not, in most respects, parallel those of the local Native population.

- (5) In the exploration only case the need for improved trauma treatment personnel and facilities has been addressed. In the low find case this same need **would** be intensified. In addition, however, would be the requirement of this system to meet the health needs of a substantially larger resident and transient population. A quantification of the physical needs is provided in **Ender, et al. (1980)**. It is of interest to speculate on whether or not the increase in private (as opposed to **PHS-funded**) patients with insurance coverage and more financial ability to pay for health care would relieve or strain the already presently overstressed regional health delivery system. It is also difficult to project the source of funds which would be necessary to expand this Native-owned system to accommodate a larger non-Native population.
- (6) The need for additional housing, both standard and low cost, projected in the exploration only case would be of a much greater magnitude in the low find case. As already discussed, the density of Native households on the average will undoubtedly increase as housing becomes more scarce and rents inflate. Local individual and corporate entrepreneurs will invest in additional housing units, but it is questionable whether or not the demand will keep up with the supply during population peak years. Housing supply and demand should **stablize** towards

the middle of the 1990s. Housing stratification will continue to exist and probably will be more marked in response to this scenario.

As is apparent from the preceding discussion, the vast majority of social system impacts based on this scenario will be focused in Nome rather than in smaller Native communities of the study area. To the degree that some individuals and families from villages will participate in life in Nome during this time and as the villages continue to depend on Nome for regional services, some effects of a similar but much less direct or intense nature will be experienced outside of Nome and its relatively immediate vicinity. The absence of direct village contact in this projection is predicted, however, on the assumption that any enclave, onshore facilities, and transportation activities would come from the Nome area. The location of any of these in the vicinity of a small community would result in a much different impact process that is not addressed here.

POLITICAL SYSTEMS

Two major themes of political change emerge in projecting low find impact. The first of these assumes that industry will find it necessary to gain access to Native lands for minimally, onshore facilities. Industry's present public relations efforts to develop

a functional rapport with local residents including village residents (e.g. the Jesse Owen Games, the funding of entertainment delivery to villages such as the Aman Dancers, etc.) strongly suggest the desire of industry to build a positive corporate image in the study area. As previously discussed in some detail, despite financial setbacks the Native corporations are the largest single land owners in the area, and due to this situation will probably have greater political power in the low find case than in the non-OCS or exploration only cases. Sitnasuak, which has invested financially in apartment complexes, a fuel/garage business, a hardware store, and other concerns and which owns most lands adjacent to the City of Nome, is more likely to profit from any level of oil and gas discovery than any other Native corporation or non-Native individual or corporate body in the study area.

The second major theme relating to political impact involves the projected population growth in Nome and its potential for disrupting the existing balance of power. The majority Eskimo population of the city, only recently in a position to make political inroads, will become a large Eskimo minority with fewer total votes but, due to land assets and greater political sophistication, will possess overall greater power than they do presently. The well established and contemporarily most politically powerful primarily but not

exclusively non-Eskimo minority may ironically find that the very prospect they have so dearly sought -- OCS development -- could also be the event that ultimately results in a demise of their political control. An influx of even 1,000 voting age individuals could significantly influence the existing political structure of Nome even assuming that only a portion of these participate in local decision-making processes. Those that embrace goals, values, and philosophies commonly shared by an immigrant petroleum-centered population will probably continue to flourish in the local political scene, but those who diverge widely from this mainstream may find themselves politically ineffective.

Although the issue of whether or not OCS development should occur and, if so when, will no longer be a moot point, disputes between pro- and anti-development factions will still be ongoing. Such conflicts will now be focused on questions about the manner in which exploration and development is being conducted and whether or not these activities are harming the marine environment and its resources and, if so, to what extent. Nunam Kitlusiisti, Kawerak, Inc., AVCP, and Eskimo Whaling Commission, and the Eskimo Walrus Commission will probably continue to be advocates of environmental and resource protection for the study area.

INTERETHNIC ATTITUDES AND RELATIONSHIPS

Differing from the **non-OCS** and exploration only cases, the low find case provides the first **OCS-related** occurrence of relatively large numbers of non-Natives coming into the study area. As has already been detailed, the ethnic balance of the existing Nome community will probably be overturned in favor of non-Natives for the first extended period of time since **Nome's** origin during the **gold** rush. **Interethnic** relationships between American Indians and non-Indian Americans in general and Eskimos and non-Eskimos in specific have been relevantly explored in several publications (e.g. Braroe, 1975; Chance, 1965; Graburn, 1969; Hughes, 1960; Jones, 1976; Marston, 1969; **Senungetuk**, 1971; Spindler, 1977, and others), and some insights from these works will be used here for purposes of projection.

Based on the origin and history of Nome explored in some detail in the baseline portion of this study, it is apparent that Nome is typical of more or less remote "boom" communities in being composed of a wide array of ethnic affiliations, previous life histories, educational and training expertise, interests, religious affinities, and normative behavior. For this reason it can be said with a high degree of certainty that Nome, more than any other community within the study area and **more** than most communities of this size, has a level of social flexibility that would be relatively adaptive to or

tolerant of the level of **OCS-related** immigration projected in the low find case. Such flexibility has limits, however, and the process of assimilating such individual and social diversity creates internal stress on members of such a community. An immigrating population that rapidly increases, at its most stable point, the community's population from 40-50% is adequately intense to suggest the likelihood of conflict and interpersonal stress.

The primary focus of stress and conflict in this particular instance is closely related to the ethnic structure previously described. For three-quarters of a century a minority of non-Natives has economically and politically dominated an Eskimo majority aboriginal to the region (although not to **Nome** specifically) in somewhat the same vein that American "civilization" has dominated aboriginal peoples throughout the New World. Although in this area enslavement, **relo-**
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cation, and/or conscription were not usual practices, more subtle means of domination resulted, for many Eskimos exposed to non-Natives over extended periods of time, in negative self identities, feelings of inferiority and nonacceptance by "whites," and suppressed hostilities. Over the intervening years internal adjustments have ameliorated **interethnic** relations to some extent, and for many, from all ethnic groups, mutual tolerance and respect have been the end **result** of lengthy knowledge and interaction. Mutual stereotyping, based on ignorance and lack of interpersonal contact, exists but not

nearly to as pervading a degree as in other multiethnic community settings. To this scene have come and gone short-term non-Native residents in relatively small numbers, some of whom have learned and developed respect and understanding of cultural and individual differences and other who have come and gone equipped with negative preconceptions of cultural differences that are only reaffirmed by experiences in residence.

An entrance into the social setting described above, over a short time period, of a large number of newcomers both to the study area but also to the state with negligible knowledge about Inupiat and Yuit cultures suggests the potential for interethnic conflict at a level not previously known here. It is probably safe to assume, based on what is known about Native and petroleum industry and construction worker interrelationships on the Trans-Alaska Pipeline (informal discussions, Larry Naylor and Paul Tiulana, 1978) that a relatively high level of prejudice, stereotyping, and lack of information about Native people would also be operative in the Nome social and employment settings. Although local Natives as a whole may tend to less overtly stereotype non-Native immigrant personnel, many would unquestionably feel animosity towards them for being outsiders, for working with industry, for "trespassing" on land or sea, and would react to implicit or explicit prejudice and disdain with at least covert antagonism and anxiety. This is not to imply that

all interpersonal interaction between local Natives and transient or short term **OCS-related** personnel would reflect such views or result in conflict, but undoubtedly the social scene would be more stressed in these respects in the low find scenario than it is contemporarily or than it is projected to be under **non-OCS** or exploration only conditions.

Although not exactly **interethnic** in nature, the interrelationships between some local non-Natives and short-term or transient non-Native **OCS-related** personnel may exhibit some parallel patterns. To the degree that outside recruited employees may perceive Nome to be a "hick town," "bushy," backward, or degenerate, many local residents of all ethnic affiliations would react with defense of "home" and "hometown folks." Commonly heard uncomplimentary comments about tourists, their stereotypic and untutored attitudes, dress, and behavior would, in part, be applied to incoming employees by locals. The greater the degree of local acceptance and approval by newcomers and the less frequent their incidence of contact, the less common negative **interethnic** or "insider" / "outsider" relationships will be. In addition, as previously discussed, failure of industry and their affiliates to hire a significant number of locals will unquestionably result in additional resentment and conflict. Those locals that are employed may, in part, develop an esprit de corps with co-workers that may transcend other ingroup localities.

INDICATORS OF RESPONSE TO CHANGE: POSITIVE AND NEGATIVE

With the exception of the exploration **only** case, in which non-Natives who were anxiously anticipating a significant discovery faced rather dramatic disappointment, all other cases including this one will probably involve more negative 'responses to change on the part of the Inūpiat and Yuit population of the study area than on the part of the non-Native population. As previously suggested, this projection relates to a rather extensive and ever-increasing body of knowledge regarding the cultural change and modernization processes of non-western peoples. While not accurately quantifiable for reasons previously discussed, it is projected that indices of negative change (e.g. suicide, alcohol and other drug abuse, homicides, family disintegration, etc.) will increase for the following reasons:

- (1) Native animosities and anxieties resulting from the rapid and intense growth of the non-Native population projected in this case will probably result in a dramatic escalation of all of these indices.
- (2) Because of the population increase and non-local origins of the majority of this population, the Nome community will **unquestionably** take on a less personal character. Face-to-face relationships with individuals with whom one is familiar will decrease in frequency. This context is one in which interpersonal

conflict may escalate and behavior restraints operative between acquaintances, friends, or kinsmen would be rendered less effective. Both violent and non-violent crimes could be expected to multiply.

(3) Stress related to sexual competition primarily for local females, increased economic stratification, and increased alcohol and other drug use and abuse will result in a decline in overall family solidarity for both Natives and non-Natives but probably more so for Native families living in Nome who have recently come from villages and have fewer adaptive skills for coping with town life.

(4) According to professional mental health personnel in Nome today, there is a significant number of residents of Nome and the villages who are only marginally functioning under current social conditions. Added stress resulting from a rapid population expansion, economic inflation, potential threats to subsistence, increased regulatory control, economic and social stratification, and a more impersonal social setting may be adequate impetus to push some of these individuals "over the edge" resulting in the potential of direct or indirect, conscious or unconscious suicide.

Positive indices of response to change will generally focus on the realization of an OCS find. It is difficult to speculate on these indices as applicable to those who perceive beneficial effects to be an end result of OCS development, but these may include the following:

- (1) An attitude of economic optimism, speculation, and improved real and perceived standard of living for the relatively small percentage of the local population that may directly or indirectly benefit from OCS development will become apparent.
- (2) If the City of Nome is indeed able to increase its municipal revenues from the taxation of Sitnasuak's land as Ender, et al. (1980) suggests, civic services may also correspondingly expand to the benefit of the majority of the population.
- (3) OCS development may result in an improvement of Nome's physical setting which would probably be perceived as an improvement in the quality of life.
- (4) If industry persists in its current efforts to create a benevolent and caring public image, this could possibly result in some level of fiscal contribution to both local social needs (education, medical care, mental health care, communications expansion, etc.) and positive community functions (e.g. Jesse

Owen Games).

- (5) A population increase and related economic investment by business owners may result in improved local entertainment and recreational opportunities (e.g. restaurants, theaters, etc.) and more diverse retail outlet inventories and services.
- (6) OCS development may provide a unity among dissimilar factions that sense a common foe -- in this case OCS. These may include some of the Native corporations that presently are not operating in a unified manner along with environmental groups, non-Native subsistence users and CRSA members, and others. In a similar sense a unity that derives from common purpose may equally arise bringing together **prodevelopment** factions that previously may not have shared a commonality strong enough to stimulate joint action or concern. The latter may include non-Native and Native business interests, industry representatives and local entrepreneurs, etc. In both the former and latter cases many current lines of affiliation may be cut and redrawn.
- (7) Classic conditions from which revitalization movements, previously discussed, arise include an unequivocal separation of the "haves" from the "have nets," social disharmony for a segment of a total population, and a desire to realize the

advantages of an emulated lifestyle concurrent with an attempt to recapture positive features of a former and very different lifestyle. It is in the low find case, more than in the non-OCS or exploration only cases, that such criteria would more likely be met. In that revitalization movements bring about a more satisfactory way of life for its participants, such a social process can be perceived as positive.

Summary of Sociocultural Change

In brief summary, the key sociocultural impacts projected under the low (95%) find will follow. These impacts include:

- (1) There will be substantial population growth given the relatively small size of the study area, but this increase will be confined to Nome and its immediate vicinity and will be in part resident in an enclave projected for Cape Nome. The increase will begin in 1983 with 189 persons, peak in 1990 with 2,265 persons, and stabilize with 1,341 persons in 2000. This population will be mostly non-Native and immigrant to the study area.
- (2) The engineering prerequisites of this case include more rigs, more gravel islands, and more wells than the previous (exploration only) case in addition to subsurface and surface pipeline,

tanker traffic, service boat traffic, and onshore facilities at Cape Nome -- all of these either dramatically expand or add to the industrial requirements of the exploration only case. These pose meaningful increases in environmental hazards.

- (3) Study area villages will not be directly affected by incoming populations, but particularly Norton Sound villages face the potential of subsistence and/or commercial fishing disruption. Villages may also be affected by some short-term and less long-term individual and family outmigration to Nome in addition to inflation in the cash economy.
- (4) There will be an **ncrease** in local positions through industry employment, but at the maximum this is projected to be approximately 250 positions or, at any given time, 10-15% of the total labor force. These positions **will** be more available to local non-Natives than to Natives due to a wide diversity of socio-economic factors. Most positions will be held by immigrating non-Natives most of whom will be totally new to the area and a significant portion of whom will be new to Alaska.
- (5) During the exploration and development phases of the low find, most cash **will** be expended outside of Nome, but during the

production phase more cash derived from OCS employment will be reinvested in Nome's economy.

- (6) Cumulative pollutant effects on the environment and resources are as severe a threat as any major spill because of the increase in intensity, duration, and seasonal extent of industrial activity.
- (7) Due to land ownership patterns, subsistence and recreation use, the fragility of the ecosystem, archaeological sites, and other social and geographic factors, the projection of Cape Nome as the site of onshore facilities construction is fraught with potential difficulties. Whereas use of any Native owned land for onshore facilities could result in conflict, the desire on the part of industry to use such lands could provide these corporate entities with economic and political power.
- (8) Conflict in sea and land use is inevitable in the low find case.
- (9) Subsistence will continue to be the primary adaptive strategy in villages and for many of Nome's residents (primarily Native). Any real impact to this economy will involve serious ramifications for this population. Any perceived disruption will

probably be attributed to OCS activities.

(10) Commercial fishing/OCS development conflict is virtually inevitable.

(11) Immigrating personnel will increase the Native arts and crafts market as well as the basically illegal market for raw ivory and artifacts.

(12) The governmental sector of the economy will expand to meet the needs of the additional population, but these positions will also be filled primarily by new and short-term residents although as the year 2000 approaches, more Natives will be employed in these capacities.

(13) Already stressed human service delivery systems will be unable to expand at the rate necessary to meet newly created demands.

(14) Native corporations will be dividing their money and human resources between assisting the economic viability of the area's Native population and developing mitigating measures to protect subsistence and the environment in the face of OCS activities. They will play increasingly more powerful political roles in the study area and probably in the state as a whole.

- (15) The local work force will continue to be relatively unstable with a continuation of horizontal job mobility and high turnover rates. The attraction of OCS-related jobs will potentially exacerbate these employment dynamics.
- (16) Additional cash income to long-term residents will be limited to a small percentage of total families. This factor and the immigrant employed population will increase economic and social stratification in the study area. Most Native families will reinvest a considerable percentage of additional income in subsistence technology.
- (17) Local inflation in the low find case may exceed that of all other cases considered in this study.
- (18) Attitudes towards OCS development will range from apathetic acceptance to continued passive and verbal resistance to out-migration from None to optimism and enthusiasm depending on individual and family priorities.
- (19) The low find case will accelerate the slow and variable shift among Inupiat and Yuit residents from kin-based to common interest affiliations. Kinship will, however, continue to be the singularly most important theme of social organization for

Natives to the end of the study period.

(20) OCS development, even in this case, will enhance the development of a more impersonal society in Nome. This trend will aggravate individual and family psychosocial pathologies.

(21) Enclave residence would be a more traumatic adjustment for village residents as a whole than for more urban-oriented Natives or non-Natives.

(22) Family disruption and female outmigration will probably ultimately result from the presence of a large number of OCS-employed male personnel even if most are housed in an enclave in the vicinity of Nome. This situation may result in demographic impacts on Native populations and conflict over sexual access to local females.

(23) Nome's demographic structure will undergo major shifts as a result of OCS-related immigration. For the first extended period since Nome's inception, Inupiat and Yuit segments of the population will become a real minority.

(24) Additional housing will be needed and, to some extent, provided, but Native household density in Nome will increase due

to housing shortages and rent inflation.

- (25) Despite a decrease in the Native/non-Native population ratio of Nome, Native organization and some individuals will grow in political power, but the large number of immigrants will probably be adequate to bring about major local political shifts in the contemporary Nome political scene.
- (26) Politically focused pro- and anti developmental factionalism will not cease at the point of low find development but may take new directions and recruit some different members.
- (27) Due to the **valuative** and normative sets of many immigrating transient and short-term industry personnel, interethnic relationships between Natives and non-Natives may involve an increase from the present condition of both covert hostility, overt conflict, and personal anxiety -- all have implications for **mental** health. The frequency of contact will be in inverse correlation with the intensity of conflict expression.
- (28) Nome as a community possesses an extraordinary capacity for assimilating and adapting to individual and group diversity at the present time. **The** capacity of the community to continue in this endeavor may decline with the change in community

structure.

(29) All negative indices of response to change will escalate under low find conditions due to stresses put on the social and economic systems.

(30) Positive indices of change will basically relate to the economic well-being of Nome municipality (and possibly Sitnasuak) and a minority of individual households within the community.

(31) Factually grounded knowledge and approval of Nome and its resident population by industry personnel and industry efforts to foster community support will ameliorate but not prevent potentially negative low find local impacts on all socio-cultural systems.

CHAPTER IX

MEAN (50%) FIND SCENARIO

Description of the Scenario

The mean or medium find scenario assumes modest discoveries of oil and gas in a sequence of events commencing in 1983 with exploration drilling and discovery projected within the same year; continued discovery-related exploration for seven years total or until 1989; and commercial recovery beginning in 1988 and continuing until 2011 (Dames and Moore, 1980b, pp. 137-162). The mean find scenario projects the discovery of five modestly producing oil fields located in two groups with two fields located off Cape Darby and three located "below that big white mountain just a little southeast of Nome." There are two projected gas fields located due south of Nome. Exploration drilling, as in the low find case, commences in April and continues throughout the summer and as long into the fall as weather permits (probably to late September). Production drilling extends year round commencing in 1988 and continuing until 1994. A total of 320 production wells will be drilled using both gravel islands and steel platforms. Onshore facilities to be constructed in accordance with this scenario include an oil terminal, an LNG plant, and a support base all projected to be located in the

vicinity of Cape Nome. Onshore facility construction commences in 1986 and continues until 1988. In 1988 pipeline construction is initiated with a grand total of 203 miles completed by 1990. Of these, 137 miles are submerged and 66 are surface. The surface line comes onshore at Rocky Point and parallels the coast to Cape Nome. The submerged line runs from the previously described oil fields to Cape Nome and Rocky Point.

It may be important to note that only one gas field (south of Nome) specified by Dames and Moore is located even marginally within the area of tract selection identified after these scenarios were developed. All other projected fields are north, northeast and northwest of the existing tract selection area. As in the case of the low find the selected tracts are located at a greater distance from the proposed Cape Nome support area. Therefore they would be less cost efficient to service from this projected onshore facility, would require an extension of proposed submerged pipeline, and may be more economically serviced in an alternative manner such as with self-contained offshore service and storage facilities. A discussion of these alternatives, however, is not within the scope of this particular study,

Summary of Socioeconomic Projections

POPULATION

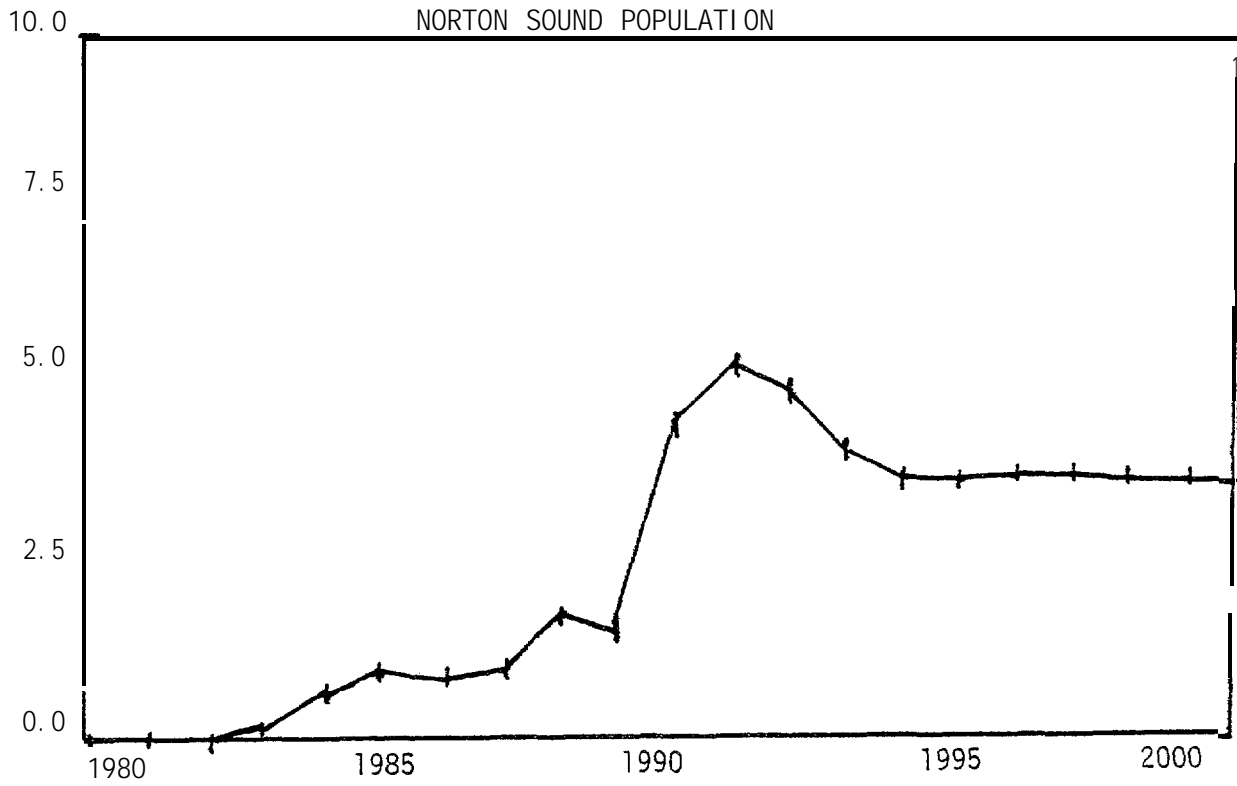
Population increases that occur in association with the mean find case are illustrated in Figure IX as projected by ISER (Alaska, U. of, ISER, 1980). According to this scenario the population increase commences in 1983 with 289 persons, peaks in 1991 with 5,310 persons, and diminishes to a stable and permanent population increase of approximately 3,730 in 1994 (Ender, et al., 1980, P. 218 based on ISER's MAP model). These population dynamics must be considered as supplementary to those projected in the **non-OCS** case. At the peak of this population expansion the study area population would increase by 35% for the study area. Since, however, most of these individuals will be located in Nome and an enclave in Nome's immediate vicinity, the effective population increase in Nome would be approximately 201% (unless, of course, the alternative of off-shore servicing is selected). In a long term perspective, however, even in 1994 (the year of stabilization) the inflation of this population would approximate 140% in Nome and 24.4% for the study area. These figures include an adjustment for the varying extent of ISER's and this study area's geographic expanse and **non-OCS** population increases.

Figure IX

NORTON SOUND POPULATION, 1980-2000

MEAN FIND¹

Thousands
of Persons



¹ Taken from Alaska, U. of, ISER, P. 158.

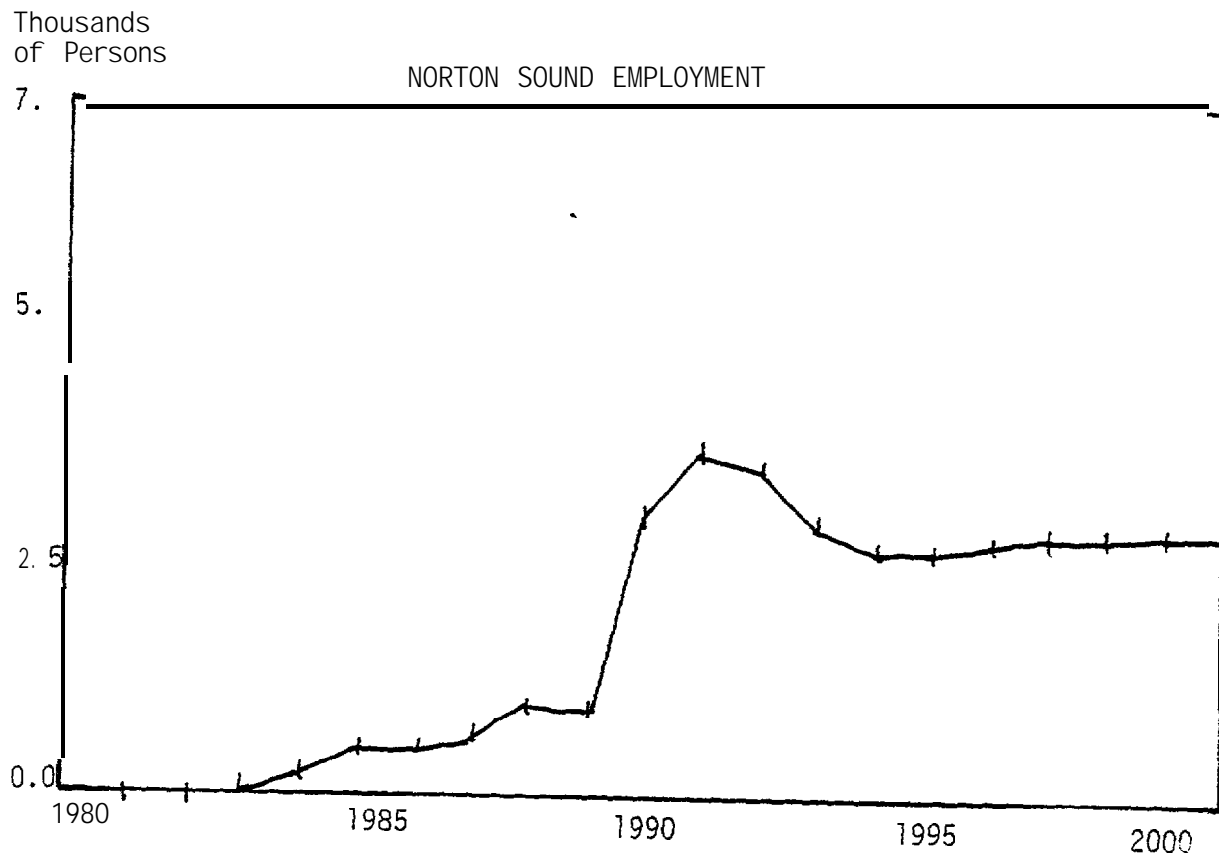
An understanding of the characteristics of the mean find population increase is important to fully comprehending OCS population impact dynamics. The vast majority of this population increase would include non-Native **immigrant** and temporary oil and construction workers, although many of these non-Natives would also be seeking secondary employment. As will be more fully explored in the employment section of this chapter, some of this population increment will include Natives from villages in the area coming into Nome for employment -- probably more than Ender, et al. (1980) projects. Ender, et al. (1980) suggests that in this case, as in the low find case, 80-90% of the onshore workers would reside in an enclave rather than in Nome or any other area community leaving the remaining 10-20% primarily in Nome. This 10-20% is, however, a much greater absolute number of people than in the low find case and this has implications for impact. As in the low find case, the hypothetical nature of this attempt at population quantification through modeling suggests the potential of a substantial "margin of error" which would influence **sociocultural** impact conclusions. As in the low find case, Natives who do move into Nome will, in some cases, be accompanied by their families and these families will average minimally 3 persons per employee and possibly more (averaging single Native immigrants with those who bring families). In terms of this case, it is apparent that the ethnic balance will overwhelmingly be overturned from the contemporary and **non-OCS** case population

structure in favor of non-Natives. Since many economic and social factors will influence the degree of village Native movement to Nome, it is difficult to project this new ethnic ratio, but a 30% Inupiat and Yuit /70% non-Native balance seems reasonable based on the givens available to date and current demographic trends. This assumption includes enclave residents as functioning members of the community in some respects and is projected for the stabilized population. This ethnic balance varies from that of Ender, et al. (1980), but Ender does not include enclave residents.

EMPLOYMENT

Employment patterns associated with the mean find are graphically illustrated in Figure X. ISER's MAP model employment projections in this scenario suggest an employment increase associated with OCS of 144 employees in 1983, a peak of 3,731 in 1991, and approximately 2,800 employees between 1993 and 2000 (Ender, et al., 1980, P. 218; see this reference for year by year statistics in the mean find case). Between 70-85% of these positions are directly OCS related (i.e. in the classifications "mining and exogenous construction" and "local construction and transportation") and the remainder of the increase would be in the service sector of the economy indirectly related to OCS activities.

Figure X
NORTON SOUND EMPLOYMENT, 1980-2000
MEAN FIND'



¹ Taken from Alaska, U. of, ISER, P. 160.

During the exploration and developmental phases, as in the low find case, the majority of the personnel would be seasonal and transient in nature, particularly those employees involved in construction. At the end of the developmental phase, which is 1993 or four years of overlap with the production phase, the work force will stabilize in both number and character suggesting a large percentage of residential industry employees.

As in the low and high find cases, Ender, et al. (1980) projects that the vast majority of secondary personnel will be non-Native transients or immigrants. Despite the magnitude of the find, Ender, et al. (1980) suggests that a maximum of 250 locals would be directly employed at any given time or never greater than 15% of the total labor force (P. 233), but the ethnic makeup of this "local" work force is never specified. The implications of this projection are of interest because as the magnitude of find increases, local employees become a continually greater minority of the total labor force. This, in turn, has implications for inter-ethnic and "insider" / "outsider" relationships, attitudes towards development, and the perceived and real well-being of the local economy, all of which will be discussed below.

As in the low find case, there will be pressure on industry to include as many "minorities" (e.g. in this case Natives) as possible

in the total number of local hires. On the other hand, subsistence priorities, a desire to return home to villages for some, and educational and occupational training levels below that of non-Natives will ensure the continuing domination of the local work force by non-Natives.

The nature of the secondary employment positions has been described in Chapter VIII as has the sporadic disposition of Nome's local and regional labor force. Again, the Ender, et al. (1980) assumption that local unemployed individuals will readily accept most available secondary employment may be increasingly misleading as the magnitude of the find escalates, since there will be a limited number of village residents interested in coming to Nome to work in any position and especially in relatively low paying secondary jobs, there will continue to be a preference on the part of both trained and untrained regional Natives for direct employment with industry, and the increased magnitude of the find will attract more and more non-Native job seekers to Nome.

Lastly, the assumption that 250 jobs is a ceiling on local hire may prove to be erroneous to the extent that industry may find that community relationships will benefit by local hire, political pressure to hire locals and, particularly, Native locals. will be firm and effective, and the number of relevantly trained regional

residents is actually greater than Ender and associates has assumed. It is of interest to note that the summer COST well endeavor to date (late June, 1980) has provided direct employment for 12 locals (None Nugget, July 4, 1980) -- greater than that projected for the exploration only case. This trend potentially could be applicable to other OCS cases.

ECONOMY

Personal income and real per capita income as indices of the economy in the mean find case are graphically illustrated in Figures XI and XII respectively based on ISER's MAP model. As in the exploration and low find cases, the impact of increased personal income and real per capita income on residents of the study area is minimized due to the overall small percentage of jobs being held by locals. However, the total amount of cash expended locally in this scenario will be substantially increased over that of the exploration only and low find cases. Although Ender, et al. (1980) suggests there would not be any additional direct employment in this case over that of the low case (an assumption questioned above), there would undoubtedly be substantially significant increased opportunities for secondary employment in this case. Whether or not these opportunities would be exploited by individuals who are currently local residents or residents of the region is speculative for reasons described

Figure XI
NORTON SOUND PERSONAL INCOME, 1980-2000
MEAN FIND¹

Millions of
1979 Dollars

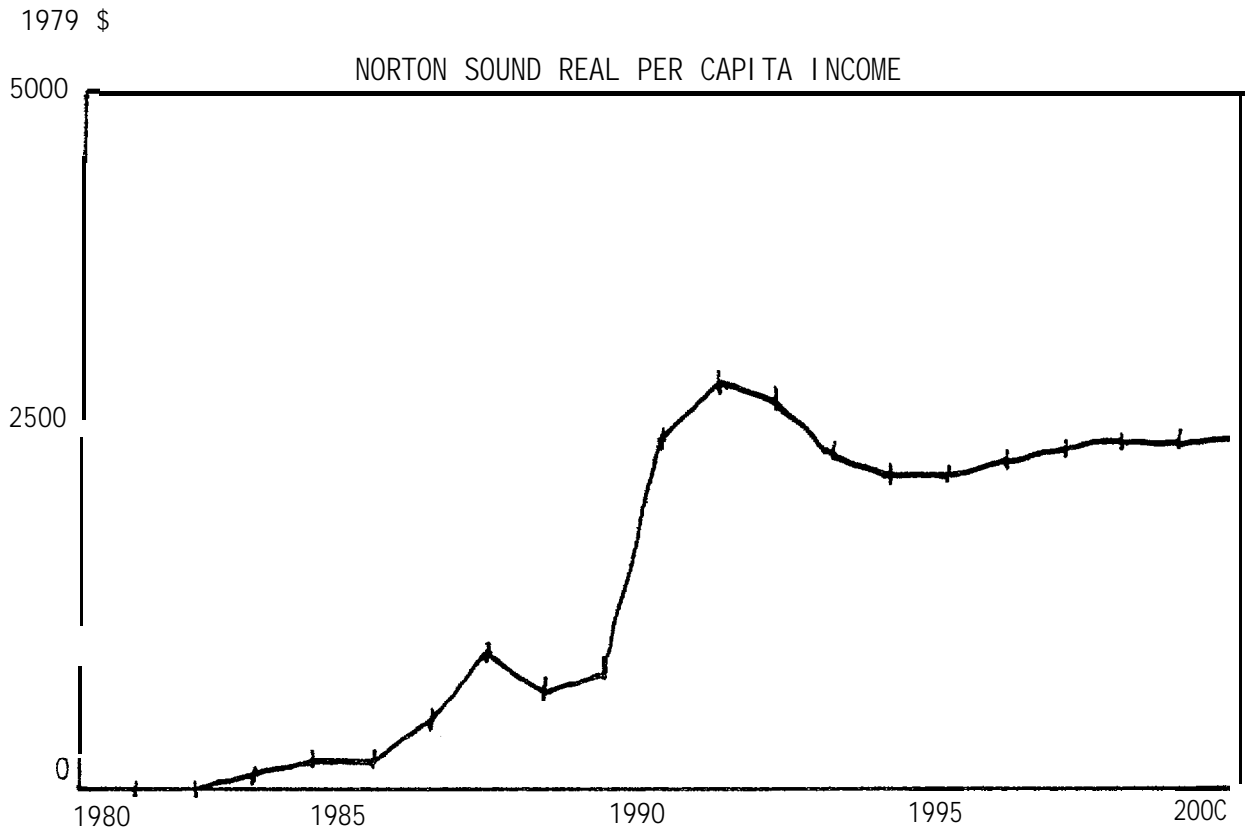


¹ Taken from Alaska, U. of, ISER, 1980, P. 163.

Figure XII

NORTON SOUND REAL PER CAPITA INCOME, 1980-2000

MEAN FIND¹



¹ Taken from Alaska, U. of, ISER, 1980, P. 164.

e

above and in Chapter VIII. No realistic projection of salaries earned and spent locally is feasible due to the variables of number and duration of residential personnel, wage scales by 1983, the potential for buying goods and/or services outside of Nome (especially in the case of a highly mobile population as this will probably be), and level of participation by regional residents in the labor force. As in all other projected instances, regional Natives will be much less likely to obtain and retain, over long periods of time, OCS related, direct, or indirect employment.

As in the low find case, the transient and short-term work force will persist throughout the exploration and development phases with the vast majority of wages earned leaving the study area prior to expenditures. The production phase will bring some stability to work force residence resulting in a greater proportion of income being expended in Nome and, minimally, to other communities of the study area for specialized purposes (e.g. arts and crafts, guide service, minor tourism, illegal ivory, artifacts, etc.). While quantitatively not a large absolute sum, the cash earned by employment or through specialized services by a few individuals would proportionately have substantial impact on a relatively small village cash economy.

Ender, et. al. (1980) projects that at the peak of employment (1991) Nome residents will expend 4,253,200 1979/\$ in Nome while transients will expend, again at peak employment, a total of 790,800 1979/\$ (P. 234). This averages out to \$10,850/resident and \$250/transient worker. Based on knowledge of the area, contemporary patterns of expenditure, and cost-of-living indices in Nome, these projections are unrealistically low and could be greatly altered by even a minimal shift in the number of projected local employees.

Assessments of Sociocultural Impacts

SEA AND LAND

Due to the nature of the mean find, the impacts of OCS projected in the low find for sea and land values, utilization patterns, and ownership and control are applicable to this case but with increased intensity relative to the increased magnitude of the find. This is particularly relevant to the extensive discussion in the low find case of the use of Cape Nome as an onshore facilities site and the inevitable cause/effect relationship which will be perceived by subsistence users to exist between OCS activities and any decline in the quality of the sea and land environs and the quantity of their resources.

There are, however, new impacts associated with the mean find, due to its greater geographic expanse and the increased degree of the exploration, development, and production efforts, that should be described here. Impacts specific to the scenario, that are treated for the first time in the mean find case, will also be explored in this case as models for actual impact, since the tracts designated by the call make it unlikely that some of the specifics of the existing scenarios will be realized. The model, however, will have a high degree of applicability since both the existing scenario as a model and actual impact will both be most intense in Norton Sound. Impacts, then, that are in addition to obvious increased intensity and that should be considered as augmenting those of the low find case include the following:

- (1) Those individuals who were described as being valuatively ambivalent about development versus subsistence -- that is, trying to decide which to opt for if they perceived only one choice could be made -- would probably receive the impetus to choose the alternative they would support in the face of this increased petroleum find. Some will see obvious cash benefits derived from OCS-related employment, leasing of land and right-of-ways, property value inflation, opportunities for business growth; and others will shift from ambivalence to developmental orientation valuatively based on this sequence of events. Some Native corporations and individuals will fall

into this category. There will be other ambivalent individuals who may choose opposition to development because of the obvious environmental modification resulting from a mean find. This category would increase in representation if any apparent environmental damage at any level occurs. In both cases (pro- and anti-development) a process of cost/benefit analysis will be ongoing in the minds of individuals and in the corporate "mind" of relevant organizations. Some individuals and organizations will continue incessantly to perceive no conflict of values implicit in this or any other case and will believe both development and subsistence and retreatal uses of the sea to be compatible. These will probably be in the minority.

- (2) Although, as we have previously noted, there is probably not adequate time between the years 1980 to 2000 for notable substantive value shifts regarding sea and land for the majority of the residents of the study area (particularly village residents), there will undoubtedly be a correlation between the number of individuals involved in OCS employment and the transmission of subsistence values regarding sea and land for subsequent generations. That is, those that opt for cash employment and participation in OCS activities, even if from a Native village in which subsistence use of sea and land have a high priority in the local value system, will potentially

transmit a somewhat modified value system to their offspring -- cultural change through **enculturation!** This projection applies to Native residents more than to non-Native residents of the study area.

- (3) A point not previously mentioned in the exploration only and low cases but discussed at some length in the baseline involves the view implicit in traditional **Inupiat** and Yuit culture that human violation of the environment and its species will result inevitably in "nature's" retaliation against transgressing human populations (i.e. the transgressions of one or several individuals will **result** in retaliation against the entire group of which those individuals are a part). Because this perception is not frequently verbalized to non-Natives, it may be considered a "quaint" view of the past not relevant to the present or to the future. No assumption could be further from the reality of the situation, as such a view or value unequivocally prevails in villages of the study area and for many of Nome's residents of recent village origin. The implications of this value only have had some applicability to the previous two OCS cases, but it will most certainly emerge in the mean case due to the obvious environmental modifications, potential species disruption, and magnitude of industry

efforts in this case. This is also the first case in which direct impact on or proximity to a small Native community is projected.

- (4) Using the scenario as a model as previously discussed, it is critical to this projection to discuss the impact of mean find activities on Norton Sound villages in general and Golovin, Solomon, Safety Sound, and Elim/Moses Point in specific. Cape Darby and Rocky Point are headlands at the entrance to Golovin Bay, and it is Cape Darby and the coastline from the cape to Nome that are involved in the mean find scenario. As clearly described in the baseline, residents of Norton Sound villages traverse both water in summer and fall and stable shorefast ice in winter and spring for distances as far as 20-30 miles from shore or farther if need requires and conditions permit. Subsistence and commercial fishing for salmon are the most crucial of the economic activities of the Golovin area proper, east along the coast from Cape Darby to Elim/Moses Point and towards Norton Bay, and west towards Safety Sound paralleling the projected pipeline route. Fishing for salmon is most critical during the summer months. Herring, another major fish species, winter off Cape Darby and Rocky Point and crab utilized by Golovin are obtained at the mouth of the bay, Walrus haul out in small numbers at Cape Darby and are hunted there by residents of Golovin, White Mountain and Elim. Seals are

hunted along the entirety of this coastline in water and on ice. Beluga, which are the most important sea mammal, calve in Norton Bay and tend to be available in association with fish which are their primary food source. Lastly, migratory waterfowl, of critical importance to the spring and fall diets of area residents, nest along the headlands and cliffs of much of the affected coastline. It is difficult to imagine how the process of laying pipeline and its existence (submerged and overland), the construction of access roads, increased marine traffic, noise, pollutants even in small percentages, air traffic, and other byproducts of OCS activities can not have some level of deleterious impact on these species and their habitats. The secondary implication of impact at any level would be on the human populations that rely on these species and value the quality of this habitat. The conflict with commercial fishermen using this same area will be potentially explosive.

- (5) If a service road is constructed for purposes of laying the projected pipeline, it could potentially provide road access for non-Natives and Native with four-wheel drive vehicles to ANCSA claimed land and coastline now relatively isolated except by boat in summer months and lengthy snow machine travel in winter months. The implications of increased contact and

vehicular access to or near the small community of Golovin suggest potential community disruption of a social nature.

- (6) Due to the character of land ownership along the coast that would be affected in the mean find case scenario, there would be a significant increase in both individual and corporate entities with whom industry would have to deal in this case. From the southeasterly termination of S'tnasuak's land along Safety Sound, there are numerous individual Native allotments along the entirety of the Safety Sound area, both on the coastal and lagoon (sound) sides of this lengthy sandpit. A bird refuge extends north of the sound. Solomon's land extends from the easterly part of Safety Sound to approximately Topkok Head, White Mountain's withdrawals extend to the adjacent coast and further east, then there is an area of corporation overlap, and, finally, Golovin's land includes both Rocky Point and Cape Darby. Unquestionably there would be the need to lease easements for any industry activities in these areas. The question then is imminent as to whether profit-making village corporations and their managers would permit industry-related activities on corporate lands that may be objectionable to corporate stockholders. If corporate managers would act in a fashion impervious to stockholders interests, the potential for intra- and intervillage conflict

would be considerable. The regional corporation, of course, may effectively agree or disagree with any or all decisions made in these matters utilizing veto powers or appropriate pressures as the situations warrant and in line with their corporate objectives.

ECONOMIC SYSTEMS

As in the previous section, the economic systems projections for the mean find case assume an increase in intensity of all impacts discussed in the low find case in addition to impacts not previously discussed or qualitatively as well as quantitatively different from the previous case. The latter (i.e. additional or qualitatively different impacts) include the following:

- (1) Although the low find case addresses the potential impact of OCS activity on subsistence species and consequently, subsistence users, and the intensity of this impact has a substantial potential for increasing, there are qualitatively different impacts in this case based on the geographic expanse of industry efforts and the intensity of impact on certain species not likely to be affected as dramatically in the low find case. See the discussion in point (4) of the preceding section for greater detail regarding species and their environments most subject to OCS-related impact in this case.

- (2) The substantial population increase associated with this case unequivocally would create a situation in which the sports hunting and fishing endeavors of transient or short-term OCS-related personnel would put substantial pressures on local resources. These biological pressures, whether real or perceived will result in allocational disputes between sports and subsistence users. Despite current state law which gives priority to subsistence users, allocational conflicts will precipitate powerful lobbying efforts on the part of sport hunter/fisherman interests that may affect state support of subsistence priorities. This is a trend that has already manifested itself in every area of the state in which large urban or quasiurban, non-Native populations develop usually in response to economic development -- Kenai and Upper Cook Inlet are excellent examples of such conflict. Some of these transient or short-term personnel will, in addition, demand subsistence fishing or hunting privileges comparable to those of local, primarily Native residents. This will not only increase levels of conflict but will encourage the state or federal governments (depending on the species) to escalate regulatory restrictions (e.g. application of family income requirements) and/or intensify enforcement efforts.

- (3) Due to exploration, development, and production efforts being located in Norton Sound and, specifically, near Golovin, Elim, and Moses Point, conflict with commercial fishermen, as already mentioned, is inevitable for this case. Not only would disruption of this fishery decrease the major source of cash for villages and their residents in this area, but the same Native corporations that are involved in this commercial fishery will also be responsible for approving or disapproving industry activity onshore on corporate withdrawal lands.
- (4) In addition to the general expansion of the Native arts and crafts market concomitant with industry-related population increases (especially in the exploration and construction phases), the increase in this market potential may stimulate renewed attempts at operating viable Native-owned arts and crafts coops or individually owned retail outlets. Coop endeavors in the past have not been markedly successful, but a market of potentially greater magnitude may revive these interests.
- (5) Nome's longstanding interest in building a port facility was discussed in the baseline segment of this report. A recently completed feasibility study indicated a total cost in excess of \$26 million for this facility (The Bering Straights, July,

1980). It is highly unlikely that this project will be realized without substantial governmental support. The discovery of oil and gas at mean or high find levels will act as an incentive for gaining governmental fiscal support for this project and therefore increase the probability of a port facility ever being built in Nome. Such a facility would decrease regional lighterage costs and encourage an expansion of maritime traffic to Nome.

- (6) Although the population increase and a projected intensification of intracommunity conflict especially in Nome will unquestionably contribute to an expansion of the governmental service sector, there may be a need for new kinds of services associated with psychological counseling or therapy, law enforcement and detention facilities, recreational direction and facilities, medical specialization, locally-available manpower training, etc.
- (7) A large quantity of the federal and state monies available to Native non-profit corporations and governmental agencies contemporarily are based on minority percentages of the present population (in this case Inupiat and Yuit) and the relatively low per capita income of the vast majority of the study area's population. The end result of OCS-related employment will not

only be a projected decline in the minority percentage of the population, but also an apparent increase in the per capita income of the area. This increased per capita income will not be accurately reflected in the corresponding decline of governmental fiscal support due to the fact that most of that money will "be in the hands" of transients or short-term residents or very unequally distributed between regional residents. Regional statistics will not meaningfully portray economic and social realities.

- (8) For regional subsistence users who do participate in OCS-related employment, there will be an increase in the amount of cash available to them for subsistence technology. The ultimate result of this economic situation may be an exaggeration of the unequal availability of modern technology within small communities or subcommunities of Nome for subsistence purposes. The economic and social implications of technological stratification among residents of small-scale, non-industrial societies have been meaningfully explored for the Skolt Lapps by Pelto (1973). Many parallels exist in hunter/gatherer societies outside of Alaska (e.g. the !Kung Bushmen) and are just now beginning to be explored within more or less traditional hunter/gatherer societies of Alaska. The social implications of these economic conditions will be discussed in the next section.

However, the economic implications include greater subsistence goods being available to a smaller number of families who may not, in fact, be those who embrace traditional distribution patterns and, as Worl noted on the North Slope (Worl Associates, 1978), some families will find themselves lacking the cash necessary for viably competing with other families (or crews) in subsistence pursuits.

- (9) Previous mention has been made of what has been identified as a relatively recent decentralization trend seemingly in progress in the region. For many, well-equipped campsites (i.e. cabins, woodburning stoves, transportation to camps, etc.) require some investment of cash, especially since families have tended to maintain permanent residence near schools and medical facilities at the same time they are maintaining one or more campsites in productive subsistence areas. This pattern has been a response to both contemporary western and more traditional Eskimo subsistence needs. Many satellite productive subsistence areas have been planned as new communities, but the actual development of these satellite areas into year round communities will require some corporate investment at the village level. There is some chance that money obtained through OCS-related leasing of land for easements or facilities, contractual services, payment for topographic survey

rights, or other cash sources may, ironically, make possible the realization of more traditional and isolated functional and more self-sufficient satellite communities.

- (10) In terms of attitudes towards development in general and towards OCS in specific, anti-industry views will continue to become increasingly more of a minority in Nome because of the influx of non-Natives associated with OCS development and the outmigration of those who oppose it. In general, however, to the year 2000, the majority of village residents will continue to be anxious about and opposed to offshore drilling.

SOCIAL SYSTEMS

As in the previous two impact categories, the projections suggested in the low find case are applicable to the mean find case but with greater intensity and with conceivably accelerated rates of change. In addition, there may be substantive variance in impacts that need to be addressed separately here. These include the following:

- (1) Previously in this chapter the change in ethnic ratio projected for Nome in this case was estimated to be a shift from the contemporary 60-65% Eskimo/35-40% non-Native ratio to approximately a 30% Eskimo/70% non-Native ratio. This mean find case projection includes the enclave population, as social

interaction in Nome with an enclave 13 miles or less by road from Nome would be considerable. The social structure of the community today includes many features of traditional Inupiat and Yuit culture including extended family households, networks of functional kinship ties and interactions, a high incidence of interpersonal interaction, informally derived respect and authority, and stratification between families focused on success at subsistence endeavors and access to subsistence technology. These non-western elements of social structure still prevail today but certainly will be in the vast minority under mean find social conditions in Nome. Nome will acquire a new demographic profile with a much greater percentage of males 25-40 years of age, a larger adult population overall, a greater number of single individual and married couple households with a small average number of children, and few extended family households. This population will be extremely transient in nature and large segments (possibly up to 60%) of the population will turnover on the average of very two years. Household density will be considerably less for all of Nome's population except for the households of long-term Native Nome residents.

- (2) As has already been discussed, the projections for the employment of local residents significantly increases in this case

over that projected for the exploration only and low find cases. Despite the fact that the majority of these employees are projected to be non-Natives, some Native families will undoubtedly be affected. Although the number of families impacted may be relatively small, internal family dynamics may change in some households that may become models of community change and influence closely interrelated kinsmen. Role differentiation between males and females in most Inupiat and Yuit households emphasize males as household heads and primary economic provider while females supplement the family economically, tend to be less mobile than males, are primary providers of child care, and are responsible for the majority of domestic duties. To date opportunities for the cash employment of both males and females has brought about internal family changes in the sense that males frequently leave their home community for temporary periods of time for such employment thereby leaving females as functional family heads gaining greater degrees of independence. Social service agencies noted that this trend was a prevalent byproduct of Trans-Alaska Pipeline employment of Native males from villages throughout the state. In some cases females have become more involved in local subsistence activities usually and more traditionally confined to males, Commonly in recent times many females have become increasingly more involved in village

full and part-time employment in part because such positions restrict male subsistence mobility, and, although not well documented, family conflicts over females assuming larger or primary direct "provider" roles and traveling alone outside of the village in conjunction with employment have become more prevalent in response to these economic shifts. The possibility of Native females being employed either directly in industry-related jobs (a likely possibility for some because of their duplicated "minority" status) or indirectly in secondary service sector positions may present added impetus to these changing family patterns while simultaneously providing a new source of cash.

- (3) Because of unequal amounts of cash available to regional residents as a result of direct or indirect OCS employment, there will be a trend, previously discussed, towards more complex economic and, hence, social stratification. The cash to acquire technology that is contemporarily desirable may continue to allow and encourage the development of what has been referred to as a "new class of unealigs" or entry into a significant social subgroup. The criteria for membership becomes modified to include access to cash. More traditional lines of authority may be disrupted in such a projection. As Graburn (1969) notes for Canadian *Inupiat*, social norms applying to

reciprocal obligations and egalitarianism will also undergo more rapid and extensive change in the mean find case.

- (4) Expansion of medical facilities was discussed in previous cases, and Ender, et al. (1980) projects additional expansions in this case. It may be, however, that, with the exception of trauma and other emergency care, the excessive costs to consumers of hospitalization locally may encourage mostly non-locals to fly to Anchorage or other urban areas for long term, non-emergency hospitalization, especially when specialization is involved in treatment. A consumer pattern of this sort may ultimately harm the health corporation economically since clinic and emergency services do not fiscally support the health care facility's operation.

POLITICAL SYSTEMS

All of the projections suggested for the low find case are applicable, with increased magnitude, to the mean find case.

In addition, the discussion concerning the increase in Sitnasuak's political influence would, in this case, be approximately expanded to a limited degree to the Solomon, White Mountain, and Golovin Corporations as a result of their control over Norton Sound coastal

Lands projected to be utilized in the mean find scenario. The increase in Native corporate political power will be inversely related to individual Native political control under mean OCS conditions. That is, the profit corporations will be in an effective position to gain political power through their manipulation of corporate coastal lands necessary for OCS development if their priorities allow them to be involved in industry endeavors. It is conceivable that economically and politically astute corporate leaders may select financially sound options that may, in fact, fail to coincide with village stockholder priorities or that perceived needs for economic security will outweigh other more valued priorities. On the other hand, the magnitude of the population increase of non-Natives in this case will render Native political control based on representation ineffectual in Nome and, to a lesser extent, regionally. To the degree that corporate leadership and individual Native priorities are of a "common mind," such conflict would be reduced. However, such a commonality of view is unlikely based on currently observable trends among the more "worldly" and politically and economically sophisticated corporate leaders. It is quite possible that conflicting priorities are implicit in the corporate structure model and therefore are unavoidable in rural, primarily Native areas.

To the degree that Native non-profits such as Kawerak, Inc. lose economic backing due to demographic shifts primarily in Nome, they will concurrently lose related political influence in the largely non-Native social setting.

Lastly, the CRSA (Coastal Resource Service Area) representative of communities outside of and surrounding Nome will only be in a position to influence the course of OCS development if their CZM (Coastal Zone Management) plan has been developed, approved by the state, and implemented, but it is questionable whether or not this process will be complete in time for OCS exploration given the current progress of the newly elected board. Nome's CRSA, on the other hand, has a functioning board and is currently in the planning stage. The Nome CZM plan, however, will undoubtedly be less restrictive on OCS industry development than would the regional plan. It should be noted that annexation of the coastline east and west of Nome's city limits (including the projected Cape Nome enclave and facilities site), if successful within the next year or two at the most, would profoundly effect Nome's economic and hence political control over Sitnasuak's land that is or could be developed. This annexation will probably not be achieved without formal litigation and stands a healthy chance of defeat.

INTERETHNIC ATTITUDES AND RELATIONSHIPS

All of the projections for interethnic relationships in the low find are clearly magnified dramatically as a function of the population influx of non-Native transient and short-term OCS personnel primarily in Nome. The increase of interethnic conflict in response to this major demographic shift can not be measured in terms of a simple one-to-one ratio, as each instance of overt or covert, direct or indirect, implicit or explicit interethnic hostility, prejudicial judgement, or biased interpersonal evaluation will have cumulative effects at the individual level. That is, negative expectations will be manifested in a greater frequency of conflict.

If and when this case is realized, Nome will no longer resemble the quasiurban Native "town" it is today and will become, as it was at the time of its origin, a "white man's" boom town but now involving major national industries and the personnel attracted to and trained for these endeavors. Needless to say, the interaction of the still primarily Inupiat and Yuit villages with this non-Native town will become less comfortable, more hostile, less comprehensible, and less a place in which one can meet, visit, and interact with friends, kinsmen, and other villagers on a daily basis. There is no question that the majority of Natives in this setting, with the exception of educated leaders, skilled technicians, and professionals, will

become part of a perceived lower socioeconomic class in a town newly populated in its majority by a largely similar group of non-Native oil workers. Those who remain as a part of the stable population will exceed all other presently existing social segments of Nome's population. Nome's present flexibility as a community which accepts a widely divergent population will unquestionably diminish.

INDICATORS OF RESPONSE TO CHANGE: POSITIVE AND NEGATIVE

In regards to negative indicators of change, all of those described in the low find case, basically related to rapid culture change and the impact of a large incoming non-Native population, will unquestionably increase in severity between the years 1983 to approximately the mid-1990's. This is the period in which the influx of population, both within and outside of the enclave, will be the most dramatic, and the local residents of Nome and the region will perceive and experience the most pronounced change in life ways. The incidence of suicide, alcohol and other drug abuse, accidental deaths most commonly related to alcohol and drug abuse, and violent (including homicide) and non-violent crime will skyrocket. There is, however, no accurate means by which the incidence of these individual and social pathologies can be quantitatively projected. Ironically, because the percentage of the growing population composed of local residents will decrease with each year after 1983,

statistics may indicate a decline in the incidence of these negative indices of change. The proportion of suicides, accidental deaths, etc. represented by what had been the local population (particularly Natives of recent village origin) will be **unequivocally** the vast majority of the **total** incidence. As previously discussed in some depth, **the** locally available expertise and/or number of professionals needed to understand and provide therapy to individuals expressing symptoms of stress and anxiety resulting from rapid change will be inadequate to meet the needs.

There are no additional indices of positive change beyond those described in the low find case. Those who profit from development and see the overall quality of life as improving will reflect their sense of well-being in individual and social stability.

Summary of Sociocultural Change

A brief summary of **the sociocultural** impacts projection for the mean find case follows:

- (1) The environmental disruption indicated by the mean find scenario will increase in both intensity and geographic expanse. The involvement of an area outside of Cape Nome for onshore modification and the addition of more drilling sites will be prevalent features **of** this expanded scenario.

(2) A significant increase in transient, short-term, and eventually longer-term OCS-related personnel will provide the stimulus for the majority of change projected in this case. This population increase begins with 289 persons in 1983, a peak of 5,310 persons in 1991, and a stabilized population of approximately 3,730 by 1994. It is assumed that all but a very few individuals in this new population will reside in Nome or the enclave within 13 miles of Nome. It is also assumed that an enclave connected to Nome by an all-weather road and located so close to town will not function to mediate, to any great degree, the impacts of this population except in regards to housing and municipal services such as water, electricity, sewer, etc. A large number of this population (minimally 10-20%) will not reside in the enclave in any event. This population will be primarily non-Native, male, and in the age range 25-40,

(3) Nome's ethnic ratio will shift from a current 60-65% Eskimo/35-40% non-Native to a projected ratio of 30% Eskimo/70% non-Native including enclave residents.

(4) Employment changes of a very hypothetical nature are projected by ISER (Alaska, U. of, ISER, 1980) and Ender, et al. (1980). These include an increase in employees of 144 in 1983, a peak

of 3,731 in 1991, and approximately 2,800 between 1993 and 2000. Between 70-85% of these will be directly OCS-related with the balance in the service sector. Ender and associates project (1980) that 250 positions will be the ceiling on local employment and that, consequently, most of these positions will be filled by people who do not presently reside in the region. Of those that do reside in the region who will be employed in either direct or secondary employment, the majority will be non-Native. It is likely that Ender and associates' projected ceiling of 250 locally employed is low, however. Immigrants from villages who come to Nome seeking employment will tend, even if successful in their job efforts, to remain for only short-term periods of time. The character of Nome will become increasingly less comfortable and hospitable for village residents as the ratio of Natives to non-Natives declines and the ratio of long-term non-Native residents to short-term or transient newcomers to the region also, and correspondingly, decline. Potential Native job seekers will prefer the higher paying direct OCS-related positions than lower-paying service sector positions.

- (5) Personal income and per capita income increases projected by ISER will largely not go to local residents during the exploration and production phases. The proportion that does go to

regions' residents will be inequitably distributed between a small percentage of local households and contribute to increased economic and social stratification locally. Inflation which results from increased economic activity in Nome will have the greatest negative impact on low or fixed income residents and village residents who bear the most extreme burden of inflated transportation and fuel costs.

- (6) In regards to sea and land values, utilization, and ownership and control, the low find projections are applicable but considerably magnified. In addition, the scenario inclusions of the Cape Darby-Golovin area and coastline from Cape Darby to Nome expands and intensifies this impact outside of the Nome area. Direct conflict with primarily subsistence and commercial fishing and other subsistence activities are inevitable. This impact area contains important species and intersects the migratory routes and overwintering areas of other species. While the magnitude of the projected find will provide the impetus for recruiting some who were ambivalent about OCS, the slightest real or perceived damage to the environment and species will invoke condemnation from many others (primarily village-based Natives or Nome-based Native and non-Native subsistence users). Many Inupiat and Yuit residents of the region will expect environmental and species-related hardships

on human populations to be the end result of harming habitats and species. Interrelationships between land owners and industry will be more complex because of the increased number of Native corporate landowners involved in this case's scenario. Native corporations may find themselves having **conflicts** of priorities between requisites for becoming **financially viable** while protecting the priorities of constituents.

- (7) Impacts projected for the low find case are applicable to this case with an increased magnitude. In addition, there will be increased pressure on locally available subsistence and **commercial** fisheries species that will **eminate** from sports hunting and fishing interests of the **OCS-related** transient and short-term population. Some conflict may emerge from this situation. Other economic impacts may include a stimulation of funding support for a Nome port facility; a revived attempt to reinstate Native arts and crafts coops and/or Native-owned **retail** outlets; governmental human services expansion; a potential decrease in governmental funding earmarked for large minority and/or low-income population communities; increased investment of cash in subsistence technology by some users and concomitant user stratification; and a proportiona? decrease in anti-development attitudes as the population of **OCS** personnel and hopeful potential employees increases.

(8) Impacts projected for the social system in the low find case are applicable to this case with an increase in magnitude of impact. In addition, the change in Nome's ethnic balance will be reflected in the increased incidence of non-Inupiat and Yuit social institutions in Nome, some Native family role disruption in both the villages and Nome, and increased social stratification based on economic stratification.

(9) Impacts to the political systems projected for the low find case are applicable to this case in increased magnitude. While Native corporations that are landowners of areas required by industry will gain greater political influence, Native individuals will become increasingly ineffective politically as they become a smaller and smaller percentage of the total population. Native non-profits may lose some economic backing. The regional CRSA may not have a functional and approved CZM plan by the time exploration commences.

(10) Impacts on interethnic relationships and negative and positive indices of change projected in the low find case are applicable here but in dramatically greater magnitude.



CHAPTER X

HIGH (5%) FIND SCENARIO

Description of the Scenario

The high find scenario, **which** assumes a 5% probability of occurrence if offshore oil and gas exploration actually occurs, is a sequence of events commencing in 1983 with exploratory drilling and discovery projected within the same year. Discovery-related exploration continues for ten years total or until 1992, and commercial recovery begins in 1989 and continues until 2016 (Dames and Moore, 1980b, pp. 111-136). The high (5%) find scenario projects the discovery of seven high producing oil fields located in three clusters with one cluster placed southwest of Nome, one south of Cape Darby, and one southwest of Sledge Island. There are three projected gas fields located generally south of Cape Nome. Exploration drilling, as in the low and mean find cases, commences in April and continues throughout the summer and as long into the fall as weather permits (probably to late September). Production drilling extends year round commencing in 1988 and continuing until 1996. A total of 592 production wells will be drilled using both gravel islands and steel platforms. Onshore facilities to be constructed in accordance with this scenario include an oil terminal, an LNG plant, and a support

base all projected to be located in the vicinity of Cape Nome. On-shore facility construction commences in 1986 and continues until 1988 as in the mean find. In 1988 pipeline construction is initiated with a total of 294 miles completed by 1993. Of these, 186 are submerged and 108 are surface. The surface lines are onshore at Rocky Point to the east of Cape Nome and at Sinuk to the west of Nome. Both lines then parallel the coast to the onshore facilities at Cape Nome. The submerged lines run from the previously described oil fields to Cape Nome, Rocky Point, and the mouth of the Sinuk.

It may be important to note that only two gas fields south of Nome as specified by Dames and Moore (1980b) are located within the area of tract selection identified after these scenarios were developed. All other projected fields are north, northeast, and northwest of the existing tract selection area. As in the low and mean find cases, the selected tracts are again located some distance from the proposed Cape Nome support base and would consequently be less cost efficient to service from this projected onshore facility, would require an extension of proposed submerged pipeline, and may be more economically serviced in an alternative manner such as with self-contained offshore service and storage facilities. A discussion of these alternatives, however, is not within the scope of this particular study.

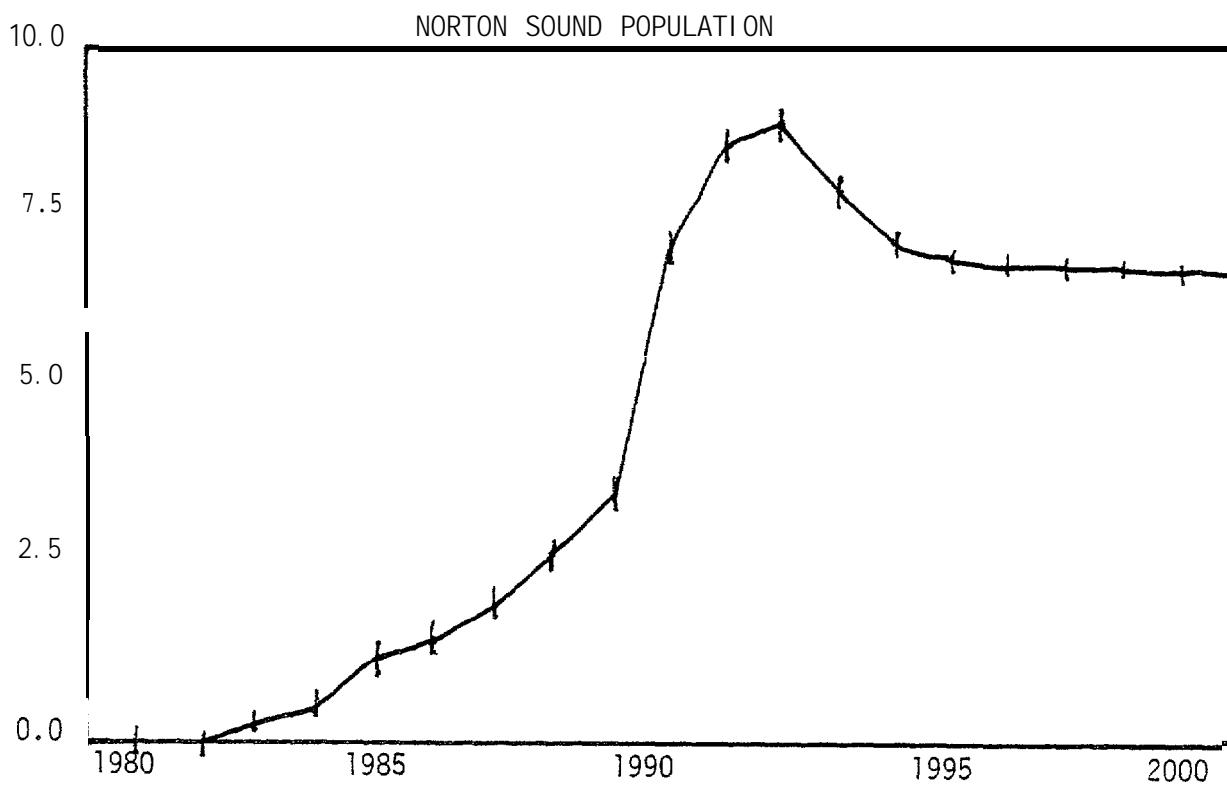
Summary of Socioeconomic Projections

POPULATION

Population increases that occur in association with the high find case are graphically illustrated in Figure XIII as projected by ISER (Alaska, U. of, ISER, 1980). According to this scenario the population increase commences in 1983 with 283 persons, peaks in 1992 with 8,874 persons, and diminishes to a stable and more or less permanent population increase of approximately 7,000 in 1994 (Ender, et al., 1980, P. 219 based on ISER's MAP model). These population dynamics must be considered as supplementary to those projected in the non-OCS case. At the peak of this population expansion, the population of the study area will increase approximately 44%. Since, however, most of these individuals will be located in Nome or at an enclave in Nome's immediate vicinity, the effective population increase in the Nome area would be approximately 300% unless, of course, the alternative of offshore servicing is selected. In a long term perspective, however, even in 1994, which is the year of stabilization, the inflation of the population would approximate 230% in Nome and 39% for the study area. These figures include an adjustment for the varying extent of ISER's and this study area's geographic expanse and non-OCS population increases.

Figure XIII
NORTON SOUND POPULATION, 1980-2000
HIGH FIND'

Thousands
of Persons



¹ Taken from Alaska, U. of, ISER, P. 158.

It is important to mention at this point that since this study does not agree with a 250 ceiling on local employment projected by Ender, et al. (1980), it would be logical to expect that a greater proportion of OCS-related positions would be filled by regional village residents. Therefore a percentage of Nome's population increase would be Native employees and in some cases, their families. On the other hand, Ender and associates do not really account for "boomers" (i.e. non-Native, non-locals) who would move to Nome in hopes of seeking employment. The addition of a "boomer" factor to the higher regional Native factor may effectively cancel one another out suggesting that the ethnic balance as projected in this study will be relatively accurate but that the total population increase for Nome and the region may essentially be higher. This is a qualifying statement that will be further expanded in the employment section of this chapter. Unquestionably, however, it is not within the purview of this study to generate quantitative population statistics that would address perceived weaknesses in ISER's MAP model (which fails to account for any question of ethnic breakdown) and in Ender and associates (1980) projections. Despite the inability of this study to deal quantitatively with demographic and economic numbers projections, impacts associated with such a tremendous population shift can be projected in a relatively meaningful and realistic manner. Because of the significant impact of an employment-related village resident immigration to Nome, it is critical to the accuracy of this study

to discuss perceived variations from the statistical models generated by ISER and Ender and associates despite an inability to quantitatively describe such variations. As opposed to the low and mean find cases, the sheer volume of the population increase in this case allows for a greater discrepancy in numbers projections while still allowing for relatively accurate sociocultural projections. This becomes somewhat of a "straw that breaks the camel's back" situation.

An understanding of the characteristics of the high find population increase is important to a more thorough comprehension of OCS population dynamics. The vast majority of this population increase will include non-Native transient and short-term oil and construction workers from outside of the study area, although many incoming non-Natives would also be seeking secondary employment. As has already been mentioned and will be considered in the employment section of this chapter, some of this population increment will include Natives from study area villages seeking employment in Nome. Ender, et al. (1980) projects that in this case, as in the low and mean cases, 80-90% of the onshore workers would reside in a Cape Nome area enclave rather than in Nome or any other regional community leaving the remaining 10-20% in residence in Nome. Of crucial concern here, however, are the facts that this 10-20% is nearly double the absolute population increase of the mean find case and the additional

fact that it is highly unlikely that a Cape Nome vicinity enclave will, in fact, keep the enclave population isolated from Nome.

As in the low and mean find cases, the Iñupiat and Yuit individuals who do move into Nome will, in some cases, be accompanied by their families and these families will average minimally 4 persons per employee not including single individuals. Families of village immigrants would more frequently accompany individuals who obtain longer-term, year-round, permanent positions than those who are temporarily employed in summer construction jobs. It can be expected, however, that in both cases, village Native turnover will be high resulting in a frequent replacement of Native individuals and/or families by other village residents from the region.

In terms of this case, the ethnic balance shift from a Native majority to non-local, non-Native majority will far exceed the magnitude of that projected for the mean find case. Since many economic and social factors will influence the degree to which village Native individuals and families will move to Nome, it is difficult to project the new ethnic ratio for Nome. However based on the assumptions of this study and knowledge of villagers reaction to development in Nome in the past, a new ratio of 15-20% Iñupiat and Yuit to 80-85% non-Native seems reasonable. This assumption includes enclave residents as at least peripherally functioning members of the Nome community and is projected for the stabilized population. The

percentage of Natives in Nome during the peak period may be even less. This ethnic balance varies from that of Ender and associates (1980), but the Ender projections do not include enclave residents and possibly underestimate both village immigration and the non-local, non-Native "boomer" factor.

EMPLOYMENT

Employment patterns associated with the mean find are graphically illustrated in Figure XIV. ISER's MAP model employment projections in this scenario suggest an employment increase associated with OCS of 140 employees in 1983, a peak of 6,798 in 1992, and approximately 5,000 employees between 1993 and 2000 (Ender, et al., 1980, P. 219 see this reference for year by year statistics in the high find case). Between 65-75% of these positions are directly OCS-related (i.e. in the classifications "mining and exogenous construction" and "local construction and transportation") and the remainder of the increase would be in the service sector of the economy indirectly related to OCS activities.

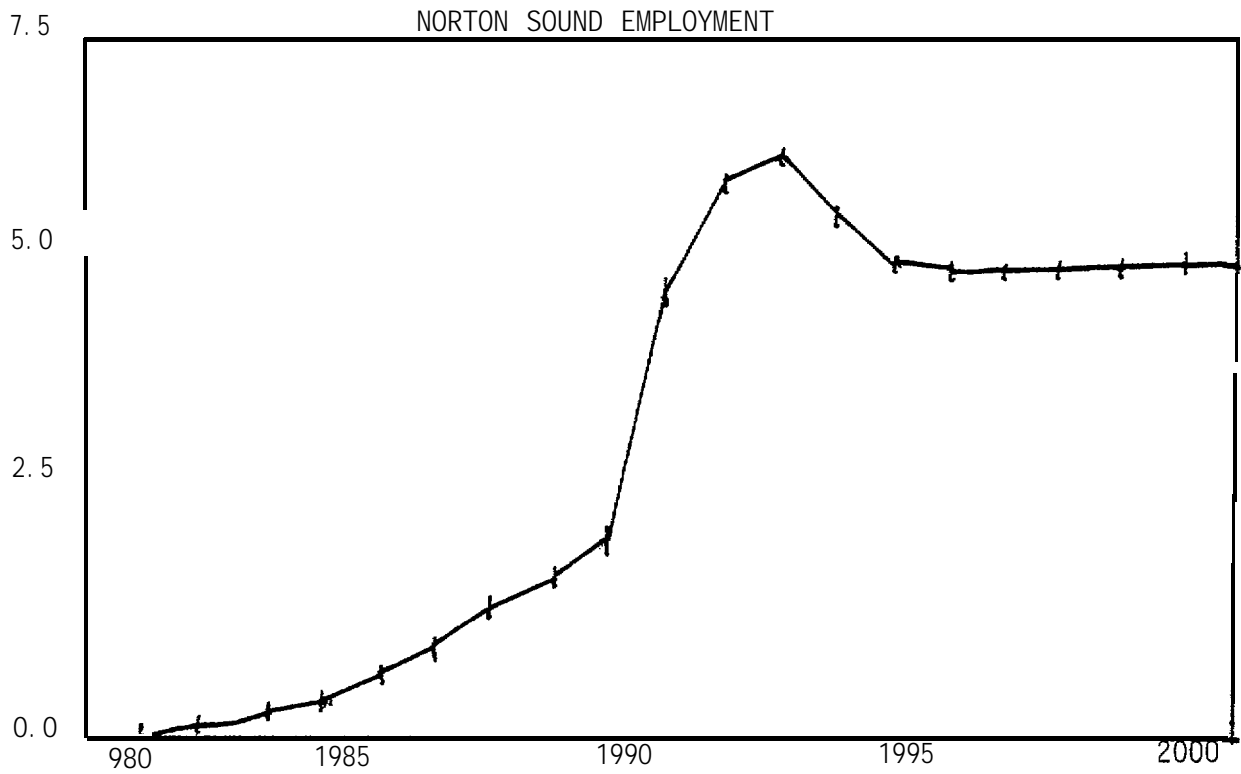
During the exploration and developmental phases, as in the low and mean find cases, the majority of the personnel would be seasonal and transient in nature, particularly those employees involved in construction. In 1994, which is two years prior to the ending of

Figure XIV

NORTON SOUND EMPLOYMENT, 1980-2000

HIGH FIND¹

Thousands
of Persons



¹ Taken from Alaska, U. of, ISER, P. 160.

the developmental phase, the work force will stabilize in both number and character suggesting a large percentage of residential industry employees.

As in the low and mean find cases, Ender, et al. (1980) projects that the vast majority of secondary personnel will be non-Native transient or short-term immigrants. As described in the last case, Ender and associates' (1980) ceiling of 250 local employees despite the magnitude of the find seems questionable. It is more likely that Ender's local hire percentage of approximately 15% of the total work force without a ceiling will be applicable to the high find scenario. If this assumption were applied to the high find case employment statistics, it is quite possible that there will be a peak of approximately 650 local (including regional) employees in 1992, leveling off to a more permanent number of 450 employees after 1993. The continuation of this 15% would be responsive to pressure on industry to hire as many "minorities" (e.g. in this case Natives and also women) as possible in the total number of local (i.e. regional) hires. Due to the limited number of local individuals in Nome per se who could and would assume industry related employment and the presence in regional villages of potential personnel who have undergone job training for projects like the Trans-Alaska Pipeline or training under the auspices of CETA funding, it can be reasonably projected that approximately 50% of

the "local hire" slots in direct OCS-related jobs will be filled by village-based residents. On the other hand, it is unlikely that village residents would be available in adequate number to fill the total of the "local hire" quota due to other priorities such as subsistence, kinship obligations, a dislike of the Nome social environment, the age/sex structure of village populations, interethnic conflict in Nome, homesickness, and other factors. Therefore the 50/50 split of local hire positions between Nome and village residents seems most reasonable. The total OCS work force will, then, remain dominated by non-Natives.

For all the reasons described above, it is most likely that the majority of the village personnel hired for direct OCS-related jobs and some of Nome's both Native and non-Native employees will rotate frequently in these positions much in the same fashion as did the majority of Native employees on the Trans-Alaska Pipeline. It would not be unreasonable to expect an average period of employment for village personnel to be approximately 9-12 weeks, although many, of course, will remain in the more stable part of the work force. This is simply stating that historical and existing work patterns for Nome and the region will probably not undergo any major shifts just because the jobs in question happen to be industry-related. For these reasons in addition to the need for trained expertise, industry is likely to prefer retaining local hire to the

15% level described above.

The nature of secondary employment has been described in Chapter VIII. As in previous cases, Ender and associates' assumption that the local unemployed "work force" would be willing to assume all vacant, relatively low-paying secondary jobs is probably misleading, as contemporarily there is always an availability of such employment opportunities that take some time to fill and the turnover rate in this sector is extraordinarily high.

ECONOMY

Personal income and real per capita income as indices of the economy in the high find case are graphically illustrated in Figures XV and XVI respectively based on ISER's MAP model. As in the exploration, low and mean find cases, the impact of increased personal income and real per capita income on residents of the study area is minimal due to the overall small percentage of jobs being held by locals and the projected short average period of employment. Due to the magnitude of this find and the increased absolute number of jobs being held by regional residents (especially village residents) in addition to the increased level of local spending, the economic impact will be substantially more significant in this case than in any other case of the study. As in the mean case, it is not possible to

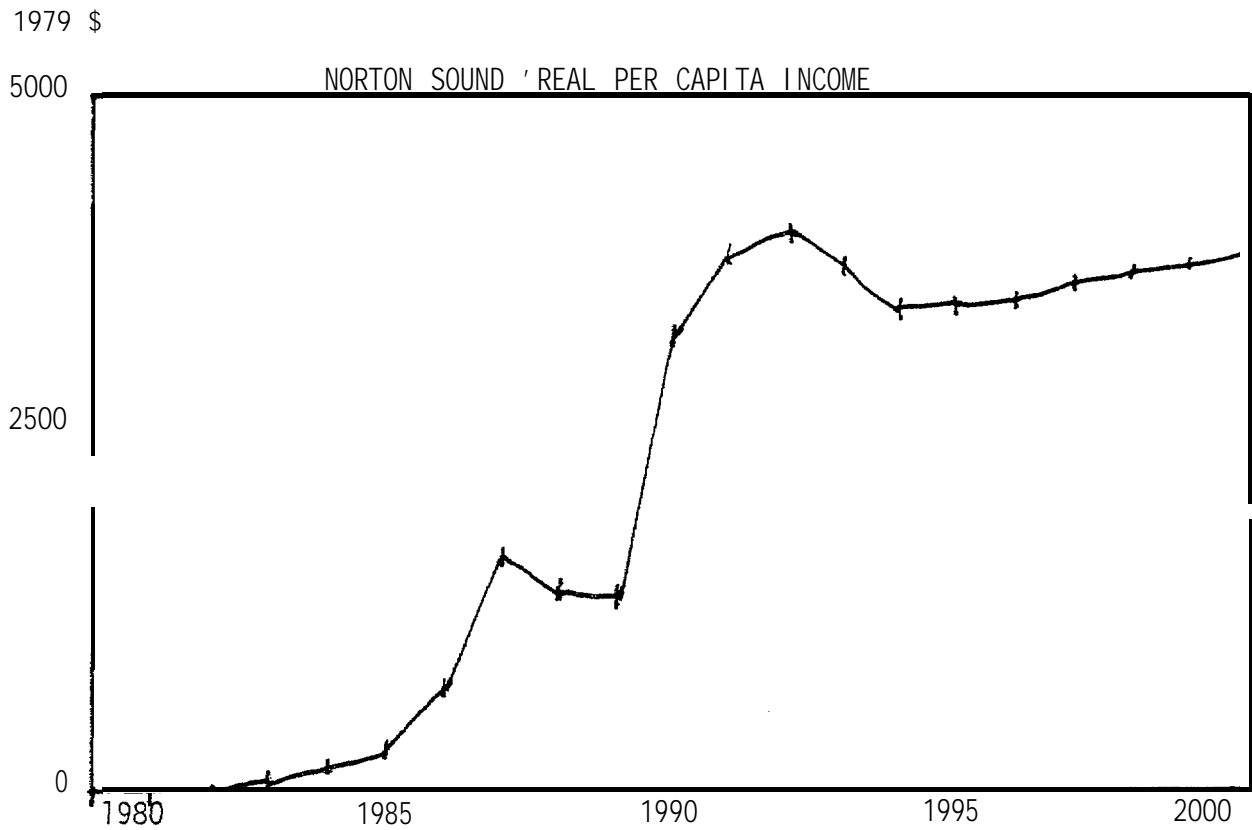
Figure XV
NORTON SOUND PERSONAL INCOME, 1980-2000
HIGH FIND¹

Millions of
1979 Dollars



¹ Taken from Alaska, U. of, ISER, 1980, P. 163.

Figure XVI
NORTON SOUND REAL PER CAPITA INCOME, 1980-2000
HIGH FIND¹



¹ Taken from Alaska, U. of, ISER, 1980, P. 164.

realistically project the total amount of salaries earned and spent locally due to the complexity of variables involved in making such a projection as described in Chapter IX. This income will most certainly be nequitably distributed at the local level.

As in the low and mean find cases, the transient and short-term work force will persist throughout the exploration and development phases with the vast majority of wages earned leaving the study area prior to expenditure. The production phase will bring some stability to work force residency resulting in a greater proportion of income being expended in Nome or, less frequently, in other regional communities. Money expended in communities outside of Nome will, in large part, be for more or less specialized goods and services that are not as available in Nome (e.g. some unique types of arts and crafts, localized guiding, artifacts, etc.), although village temporary housing and food services for traveling governmental or industry personnel may increase in demand. While these expenditures are quantitatively not large absolute sums, the cash earned by employment and/or through specialized goods and services by only a segment of a local village population would proportionately have substantial impact on the relatively limited village cash economy.

Ender, et al. (1980) projects that at the peak of employment in 1991, Nome residents will expend 5,001,900 1979/\$ in Nome while

transients will expend, again at peak employment, a total of 1,203,800 1979/\$ (P. 283). This averages out to \$10,850/resident and \$250/transient worker. As discussed in Chapter IX, these projections are probably unrealistically low.

Assessments of Sociocultural Impacts

In preparation for discussing the sociocultural impacts of OCS development of the immense proportion and intensity of the high find case, several potentially relevant models were considered. The contemporary Barrow/Prudhoe Bay/North Slope village analogy, while useful because of geographic and cultural similarities and the nature of impact, exhibited problems as a model because of the extent of the Prudhoe Bay enclave distance from Barrow or any other regional and functioning village; because OCS impact has not yet been well documented for this case; because of the nature of Barrow's contemporary population and history; and, mostly, because of the fact that the impact of OCS on Barrow is not nearly over and therefore assessable. The Kenai case also exhibits problems because of the sociocultural differences between Tanaina Athabascans and Iñupiat and Yuit; because of the intensity of impact in the Kenai area; because of ecological differences between Cook Inlet and the Norton Sound-Bering Strait area; and mostly because of the lengthy duration of non-Native impact on and co-residence with the Tanaina Athabascans

of the area. There may be models from other parts of the United States or other countries, but in all cases the environmental and sociocultural distinctions become variables that weigh too heavily in the process of analogy. In the end it was Nome itself and its origins as a "gold rush" boom town with a population at one point exceeding 300,000 that seemed to provide the best model. Many variables are constant, the magnitude of the population impact was temporarily higher but of a shorter overall duration, and the Inupiat and Yuit residents of the area have experienced 80+ additional years of contact with non-Natives, a cash economy and the technology of the "outside world." Nonetheless, the model provides the most reliable basis for projections of resource developmental impact of such a considerable magnitude. To some degree this model has, of course, been referenced throughout the study, but its application is, by far, the most relevant in the high find case -- hence the reason for this brief discussion here.

SEA AND LAND

Due to the nature of the high find, the impacts resulting from OCS activities projected in both the low and mean find cases for sea and land values, utilization patterns, and ownership and control are applicable to this case but with considerably greater intensity relative to the increased magnitude of the find. There are, in

addition, new impacts associated with the high find that should be described here due to the increased degree of **OCS-related** exploration, development, and production efforts and the greater geographic expanse of the high find case. Impacts specific to the high find scenario only will also be explored in this case as models for **actual** impact. In this case the production cluster, pipeline, and pump station southwest and west of Nome are new impact models. Their relevancy to possible real impacts is much less significant than that of the Cape **Darby** model because of the distance and ecological differences between the outer Norton Sound/mouth of the **Sinuk** River area projected in the high find scenario and the actual tract **selection** area southeast of **Nome** and well into Norton Sound proper. With these facts in perspective, impacts that are in addition to those associated with obvious increased intensity and augmenting those of the low and mean find cases include the following:

- (1) Individuals (most of whom will be Native and residents of villages or of recent village origin), who have persisted in placing their highest **valuative** priority on the well-being of sea and land environs and species, will perceive their values and what these values represent to be in great jeopardy. It is **likely** that some of these individuals will observe the intense **OCS** activity, in light of this perspective, with great personal despair of a very emotional nature. In accordance with the kind of adaptive fatalism still **prevalent** in Eskimo

sociocultural systems, many of these older individuals will feel helpless in the face of this despair and will continue to survive to the best of their abilities under these very changed conditions. They will emphasize the "old times," traditions, and the quality of life "then" as compared to "now." For younger individuals enculturated with similar values about land and sea, changed conditions may result in an attempt to abandon what will be perceived to be a non-adaptive and conflict-producing value system and to seek a livelihood and new adaptive strategies within the parameters of the western market economic system. For some, new economic strategies will fail to resolve these value conflicts, however.

- (2) Due to the tremendous growth of the population, the percentage of both the Nome and regional population that highly value sea and land environs and their attendant species will become decreasingly smaller at least until the mid-1990's.
- (3) The addition of a production cluster southwest of Nome in the outer margins of Norton Sound, the pipeline from the oil field to the mouth of the Sinuk, the pump station at the Sinuk, and the pipeline paralleling the coast to Cape Nome will stress parts of the Norton Sound-Bering Strait ecosystem not previously directly affected and conflict with the subsistence

activities of a different regional sub-population. OCS activities in these areas have greater proximity to the migratory paths of large sea mammals, particularly walrus and, less frequently, whales of several species. Both the winter and spring hunting of seals and **oogruk** by primarily Nome Native residents would be affected. The **Sinuk** mouth was **ethnohistorically** and prehistorically the site of a relatively **large** mainland **Iñupiat** population and a summer fishing site for Bering Strait insular people. In more recent times it was the site of a mining camp. It is contemporarily an important fishing/camping site for **Nome-based** King Islanders and Natives living in Nome whose origins were elsewhere (e.g. Sledge Island). The historic and archaeological sites are extensive and basically unstudied in the area of the **Sinuk** mouth. Crab populations extending southwest and west of Sledge Island are relatively large according to a recent State Dept. of Fish and Game survey.

- (4) As in the mean find case, the impacts of a service road for construction of a pipeline to the west of Nome would provide access to an area presently quite isolated except for boat traffic in the summer and some **snowmachine** traffic in the winter. There is no contemporary functioning village in this area, however.

(5) Land ownership for all but the Sinuk River area has been discussed in some detail in previous cases. Any attempt to conduct activities in this new area will require successful industry transactions with the King Island Native Corporation, whose withdrawals extend to the Sinuk; Sitnasuak, again, due to its withdrawals west of Nome; and Alaska Gold Co. which owns several miles of beach-fronted land due west of the existing city limits. Pipeline easement would not only have to cross lands owned by these corporate entities but would also have to somehow skirt the Nome airport and transect or bypass the existing downtown area of Nome. Currently the vast majority of King Island stockholders are adamantly opposed to all OCS activities and probably would not support any endeavors on their lands. However, King Island corporate leadership has exhibited a more positive attitude towards industry seemingly in response to potential profit which they feel could be derived from cooperation -- another instance of potential intracorporate conflict.

ECONOMIC SYSTEMS

As in the previous impact category, the economic projections for the high find case assume an increase in intensity of all impacts discussed in the low and mean find cases. In addition, there are

some new impacts not previously discussed that are so different from the previous case that specific mention is in order here. New impacts or qualitative or quantitative differences of a major magnitude requiring specific comment include:

- (1) Although the low and mean find cases address the potential impact of OCS activity on subsistence species and, consequently, on the delicate balance between these species and subsistence users, and the intensity of this impact has a substantial potential for and much greater chance of yielding some level of sudden or cumulative environmental destruction, there are qualitatively different impacts in this case. These impacts focus on the expanded geographic area of the high find and the intensity of impact on certain species not likely to be affected as dramatically in previous cases (i.e. walrus, some species of whales, seals, crab, and possibly others). Species in the area west of Nome are most heavily pursued by subsistence users residing in Nome (including King Islanders). It is crucial to impact comprehension to point out that the high find scenario describes a scene in which virtually all of the area east and west of Nome utilized by Nome subsistence users (primarily Native) is directly impacted by OCS activities. Users in Nome that are highly dependent on these habitats and have few potential or desirable economic alternatives will be most likely to suffer the majority of the consequences. In

addition, the previously described impact of sports hunting and fishing pressures, multiplied hundreds of times in this case, will **also** impact the Nome subsistence users more than any other regional group. As these species allocation pressures expand, as species may be endangered by industry endeavors, and as species avoid areas near Nome in which marine and air traffic and cumulative noise and chemical pollutants may peak, ironically state, federal and international regulatory agencies and/or treaties will, in the end, probably deal the final blow to Nome area subsistence use.

- (2) In regards to the mention of sports hunting and fishing pressures above, the large number of non-local, non-Native OCS-related personnel will provide a powerful special interest group in attempts to limit or eradicate legal subsistence priorities.
- (3) With increased opportunity for OCS-related employment and, to a lesser extent, secondary employment, regional Native-owned and operated commercial fisheries cooperatives may find it difficult to recruit adequate labor for fishing periods during the summer months, especially during the exploration and construction phases. This may have its most severe impact on the Yukon Delta and Lower Yukon communities.

(4) Commercial and subsistence fisheries are potentially subject to major disruption from high find activities, particularly the laying of submerged pipeline and other kinds of bottom disruption. Disruption of large-scale commercial efforts will affect mostly non-local (e.g. Unalaska and Kodiak) fishermen, although a few local people have interests in both large and small scale commercial crabbing. Small scale local and subsistence fisheries disruption would contribute to substantial local resentment and some degree of economic and nutritional deprivation.

(5) The financing of Nome's port facility will undoubtedly be assured under high find conditions.

(6) Contrary to Ender and associate's (1980) projections, it is likely that the high find case will contribute to an inadequate quantity of housing of any quality. The availability of land within the city for new construction in the absence of annexation will be relatively scarce.

(7) In relationship to the pressures on subsistence species and subsistence users in the vicinity of Nome, east to Cape Darby, and west to the Sinuk River, realization of presently planned decentralization moves to areas such as Cape Woolley, Marys

Igloo, and others will probably take place as a result of both the rapidly changing nature of Nome as a community, scarcity of subsistence resources, and for some village corporations, money obtained through cooperative ventures with industry. During the "gold rush" period, most Natives who came to Nome did so seasonally returning to more comfortable and subsistence productive home villages in the winter. The same theme may apply here but through the reverse of existing patterns of residence.

- (8) Because of the intensity of OCS activity in the high find case, employment in OCS-related jobs may be perceived by some as in direct opposition to subsistence success. That is, although jobs may provide cash much of which would be reinvested in subsistence technology, these same employment efforts may be perceived as contributing to subsistence decline -- a "catch-22" proposition.

SOCIAL SYSTEMS

As in the previous two impact categories, the projections suggested in the low and mean find cases are applicable to the high find case but with considerably greater intensity and with accelerated rates of change. In addition, there may be substantive variance in

impacts that need to be addressed separately. These include the following:

- (1) Previously in this chapter the change in ethnic ratio projected for Nome in the high find case was estimated to be a shift from the contemporary 60-65% Eskimo/35-40% non-Native ratio to 15-20% Eskimo/80-85% non-Native ratio. This high find case ethnic projection includes the enclave population for reasons previously discussed. As mentioned in Chapter IX, the presence of basically Inupiat and Yuit features of social structure within the larger Nome social system is very prevalent today. As the Inupiat and Yuit population become such a small minority of the total population, not only will basically Eskimo features of social organization become submerged in an overwhelmingly western social system, but the rate of social change for remaining Inupiat and Yuit may be accelerated. Another possibility, however, would be the internally derived and deliberate social withdrawal of the majority of the Eskimo population from non-Natives including an embracing of sociocultural differences, an attempt at the revival of Eskimo traditions, and a strengthening of ingroup identity. Similar processes have occurred in many other instances of ethnic minorities functioning as part of urban, impersonal larger community settings. A third possible process includes the fissioning of Inupiat and Yuit subgroups from the Nome community and the consequent settlement of new communities --

the decentralization described earlier in this chapter. This trend would, of course, further reduce the Eskimo percentage of the total Nome population. All three of these processes may be operative simultaneously.

- (2) Nome's demographic structure will become more highly weighted with males of the 25-40 year old age cohort, will include a greater number of single individual and childless married couple households, and the overall number of households will increase with a decline in density. The proportion of short-term residents may increase to 75% of the total population (short-term meaning two years or less residence in Nome) until the population stabilization occurs in the mid-1990's. The demographic structure of regional villages may shift due to the short-term **outmigration** of a large number of younger adult males and females and the permanent **outmigration** of a small number of these individuals seeking employment in Nome. Some females will marry non-Natives and permanently **outmigrate** from the region decreasing the recruitment capacity of the smaller communities.
- (3) The social and economic functioning of village households impacted by even temporary young adult **outmigration** will be impaired. This was discussed in some detail in the previous chapter.

(4) Due to the overwhelming population influx and the character of this population, the high find case will result in Nome's ultimate transition into a relatively large, transient oil town. Its present public image as a relatively small, "frontier" mining town with many "old timers" and a 80 year mining history will unequivocally be submerged by the more contemporary petroleum-based "boom" town image.

(5) Although seemingly a quantitative change, the necessity for expanding, upgrading, and in some cases, totally revising formal human service delivery systems in the high find case should be mentioned. For the Inupiat and Yuit populations, as kin-based support systems may decline in effectiveness in the face of massive non-Native population and industrial impact, these functions will have to be assumed by non-kin or formal human service delivery systems if individual needs are to be met.

POLITICAL SYSTEMS

All of the projections suggested for the low and mean find cases are applicable, with greatly increased magnitude, to the high find case.

In addition, the discussion concerning the increase of Sitnasuak, Solomon, White Mountain, and Golovin's political influence based on

Land ownership would, in this case, be appropriately expanded to a limited degree to the King Island Native Corporation and Alaska Gold Co. who are landholders of coastal lands west of Nome. As discussed in the mean find case, any increase in Native corporate power will be more than offset by the decrease in overall Native political power emanating from the drastic proportional decline of the Native population of both Nome and the study area. As previously discussed in some detail, corporate manager/stockholder priorities have a much greater opportunity for conflict as the magnitude of industry activity rises.

It is fairly certain that the City of Nome will try to expand its political influence through the annexation of coastal lands adjacent to Nome and over a wide geographic expanse in the high find case and, although not discussed previously, probably in the low and mean find cases as well. Annexation will be an important means for gaining a strong fiscal base from Native owned and OCS-developed lands, but annexation attempts will continue to be vigorously resisted by both Native corporations and Alaska Gold Co. Another means by which the City of Nome could potentially gain political control through economic power would be the formation of a borough government. Whereas presently there would be neither the number of votes or interest in this strategy with Nome's vastly expanded population could bring about a consideration of such an option. Native leaders

and village residents would probably resist any attempts at borough formation emanating from non-Native controlled Nome.

As previously mentioned, the CRSAS could potentially play a significant role in study area politics if their CZM plans are approved and functioning by the time OCS activity commences. Since membership in a CRSA depends on the location of one's voter registration, needless to say the Nome CRSA will have a substantially larger population representation than the regional CRSA. If the sale and exploration activities proceed as presently scheduled, the Nome CRSA has a better chance of having their CZM plan approved than does the regional organization. It can be expected that the Nome CZM plan will be much more permissive of industry activities and less conservationist in nature than that of the regional body.

INTERETHNIC ATTITUDES AND RELATIONSHIPS

All of the projections for interethnic relationships in the low and mean find cases were clearly a function of the population influx of non-Native transient and short-term OCS personnel located primarily in Nome. The same logic of projection applies to a much greater magnitude in the high find case. Not only will Inupiat and Yuit residents of the study area be a political and economic minority, but in the high find case they will become or approach being a

numerical minority not only in Nome but for the entirety of the study area, a situation which has only previously occurred during the early gold rush period. Some of the implications of being a numerical minority may include ineffectiveness in decisions affecting the entire population, a sense of being a "minority" that may not exist at the present time in which they are a numerical majority, the stimulation of militancy and demands for minority power, individual feelings of despair and perceptions of powerlessness or loss of control, and others. It conceivably may require a more difficult adjustment for any "minority" to go from being the majority numerically to being an absolute and unquestionable minority than it would to make such an adjustment in the opposite direction.

Lastly, in the high find case as Nome becomes the unquestionable "home ground" of non-Natives, most of whom will share few if any common values, perceptions, expectations, life experiences, and understandings with Inupiat and Yuit peoples, it can be projected that primarily Native village residents will guard preciously the ethnic integrity of village "turf" and will be considerably less willing to allow non-Native participation in village life in any context.

INDICATORS OF RESPONSE TO CHANGE: POSITIVE AND NEGATIVE

In regards to negative indices of change, all of those described in the low and mean find cases, basically related to the rapidity of sociocultural change and the impact of a large incoming non-Native population, will unquestionably increase in severity between the years 1983 to minimally the mid-1990's. This is the period in which the influx of population, both within and outside of the enclave, will be the most extreme, and the pre-OCS residents of Nome and the study area will perceive and experience the most pronounced change in life ways. As discussed in significant detail in all other cases, all negative indices of change will probably increase but in no case to as great a degree as in the high case. There are no projected changes from low and mean find cases except quantitatively and in the greater stress put upon the formal social systems necessary to mitigate negative or nonadaptive indices. Needless to say, a large segment of particularly the Inupiat and Yuit population of the study area is still in the process of trying to adapt to the rapid sociocultural change which has resulted-from non-Native sociocultural impact over a relatively short period of time -- at most a little over a century and, more intensively, over only the past 80 years. The major impact of the gold rush was of a great magnitude but of a very short duration. This impact will substantially be of a fairly equivalent magnitude but of a much longer duration.

Symptoms of stress and anxiety so obviously apparent in the study area today can only increase in severity and duration in response to the high find case and will take a substantial period of time to begin a decline.

There are no new indices of positive response to change for this case. Those who desire development and profit from it will, most likely, exhibit individual and social stability and perceive their quality of life as being improved because of OCS. For some who are transients or short-term residents, the ultimate promise of making a good income and leaving the study area for "home" will provide the greatest stimulus to their emotional and social well-being.

Summary of Sociocultural Change

A brief summary of the sociocultural impacts projection for the high find case include the following:

- (1) The potential for environmental disruption indicated by the high find scenario will increase in both intensity and geographic expanse with the inclusion of a drilling cluster west of Nome, a pipeline from this cluster to the mouth of the Sinuk River, and a pipeline from this point east to Cape Nome.

(2) A significant increase in transient, short-term, and eventually longer-term OCS-related personnel will provide the stimulus for the majority of change projected in this case. This population increase commences in 1983 with 283 persons, peaks in 1992 with 8,874 persons, and diminishes to a stable and more or less permanent population increase of approximately 7,000 in 1994. It is assumed that all but a very few of these individuals will reside in Nome or an enclave maximally 13 miles from Nome. Approximately 10-20% of this population, a large absolute number for an area with a currently small resident population, will live in Nome. The population increase will be primarily non-Native, male, and in the age range 25-40, although there will probably be a larger percentage of immigrating village-based Natives than Ender, et al. (1980) predicts. This village outmigration will at least temporarily impact study area villages.

(3) Nome's ethnic ratio will shift from a current 60-65% Eskimo/35-40% non-Native to a projected ratio of 15-20% Eskimo/80-85% non-Native including enclave residents. For the first time in the area's history since the first couple years of the gold rush, the Inupiat and Yuit population will be approaching a numerical minority within both Nome and the study area with implications for all impact categories.

- (4) Employment projections for direct and secondary OCS-related jobs commences in 1983 with 140 employees, peaks in 1992 with 6,198 employees, and levels off to 5,000 employees by 1993. Ender and associate's 250 ceiling on local hire is not considered realistic by this study, and it is assumed that 15% of the employment will remain "local" (in a regional sense) with approximately 50% from Nome and 50% from study area villages in this case. The majority of employees from villages and some of those from Nome will have short periods of tenure in these positions because of other priorities and the nature of employment conditions and social conditions in Nome.
- (5) Personal income and per capita income increases largely will not go to local residents, especially in the early stages of activity. However, the absolute dollar impact of locally earned wages and expenditures will be great because of the relatively limited size of the current economy. There also will be some special goods or services expenditures going directly to village residents.
- (7) In regards to sea and land values, utilization, and ownership and control, the low and mean find projections are applicable but considerably magnified. In addition, the scenario inclusion of drilling sites west of Nome, a pipeline to the Sinuk

River pump station, and pipeline east to Cape Nome will involve impact to archaeological and historic sites, species of larger sea mammals (e.g. walrus, whale) migrating through the Bering Strait, other smaller sea mammal populations, crab populations, and other species all of which are utilized primarily by Nome (including King Islanders) subsistence users. This discussion should be considered a model for impacts as all of the tracts selected are outside the area west of Nome and the vicinity of the Sinuk River.

- (8) The intensity of industry activity in the high find case may bring about feelings of despair for some, particularly older, subsistence users and provide impetus for some younger users to abandon what they will perceive as an increasingly non-adaptive way of life. Due to the increase of non-Native populations, the percentage of the study area population that highly value sea and land environs and their species will decrease.
- (9) The scenario description suggests that industry will have to deal with some additional land owners in the high find case -- namely King Island Native Corporation and Alaska Gold Co. -- due to the operations west of Nome.

(10) The impacts projected for economic systems in the low and mean find cases are applicable to the high find case with greater intensity in addition to a highly magnified pressure on fish and game species by the large industry-related population; allocation conflicts between subsistence and sports users are likely and pressure to change the state's subsistence priority may be forthcoming; local commercial fisheries coops may have difficulty recruiting labor in competition with industry; commercial crab fishing may be severely disrupted by OCS activity; Nome's port facility will probably be financed; and economic and social factors may bring about a trend towards Native decentralization.

(11) The impacts projected for social systems in the low and mean find cases are applicable to the high find case in greater intensity and with accelerated rates of change in addition to the potential for a submergence of Inupiat and Yuit social structure, the deliberate social withdrawal and militancy of remaining cohesive Native groups, and a revitalization of Inupiat and Yuit traditions in these remaining groups; the porportion of transients or short-term residents may increase to 75% of the total population until stabilization in the 1990's; there may be some temporary demographic shifts in villages where some younger males and females may at least

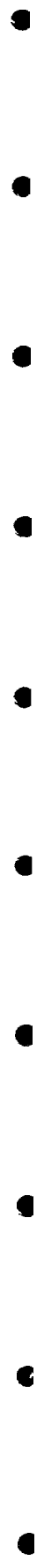
temporarily **outmigrate** for work and a few for marriage; Nome will undergo a dramatic shift of its image from a small, personal mining town to a **larger** oil boom town; and social service systems may have to undergo extensive expansion due to both the population increase and decline of kin-based support systems.

(12) The impacts projected for political systems in the low and mean find cases are applicable to the high find case with increased magnitude in addition to a potential expansion of King Island Native Corporation and Alaska Gold Company's land-based **political** power; a continued decrease, in both Nome and the overall region, of individual Native political power; a determined effort on the part of the City of Nome to annex a wide area of coastal lands adjacent to Nome or possibly attempt the formation of a borough (resisted by most village residents); and, although the Nome **CRSA** may have ample time to have a relatively pro-development CZM **plan** approved prior to the sale, it is unlikely under the present lease sale schedule that the regional CZM plan will be operational at the time of **the** lease sale.

(13) All of the projections for **interethnic** relationships projected for the low and mean find cases are applicable to the high find **at** a substantially increased level and are primarily a

function of high find demographic change. Most attitudinal shifts will relate to the status of Inupiat and Yuit residents as being an absolute and perceived numerical minority. Village residents can be expected to limit access of non-Natives to home village areas under any and all contexts.

- (14) Both negative and positive indices of change for the low and mean find cases are applicable to the high find case but the negative indices are increased in major proportions at least to the mid-1990's. Existing symptoms of stress and anxiety, basically still a byproduct of the last 80+ years of non-Native sociocultural contact on Inupiat and Yuit populations, can only be exacerbated by the overwhelming changes suggested in the high find scenario.



APPENDIX I

INFORMAL DISCUSSION

PARTICIPANTS

Every attempt was made to include all persons who so cooperatively aided in the completion of this study. Because of the lengthy period of time spent within the study area, some persons may not be mentioned here who also contributed to the content and accuracy of this study--to those I apologize for omission of recognition here.

Nome

Tom Abrams, Nome City Police
Carl Ahwinona, Kawerak
Betty Alexander, U.S. Post Office
Dr. Lewis Allen, NSHC
Allen Alowa, resident (originally from Savoonga)
Richard Atuk, BSNC (originally from Wales)
Garrett Aukon, Kawerak (originally from Erim)
Robert Baldwin, Alaska Gold Co.
Robert Bellmore, Nome Public Schools
Sue Boyle, KNOM
Ed Butler, resident
Jack Carpenter, Sitnasuak
Jenny Alowa Dann, resident (originally from Savoonga)
William Dann, Norton Sound Health Corporation
Frank DiConstanzo, Kawerak
Bruce Duthie, Norton Sound Family Services
Tom Ellanna, Eskimo Walrus Commission (originally from King Island)
Ursula Ellanna, resident (originally from King Island)
Ron Engstrom, Engstrom Arctic-Cat Sales
Richard Erman, Bering Strait REAA
Eskimo Walrus Commission members
Susan Fair, Fair Enterprises (Anchorage)
Howard Farley, resident and commercial fisherman
Tom Frank, BSNC
John Garrison, Sitnasuak (originally from Unalakleet)

Ray Gary, Alaska State Troopers
 Victor Goldsberry, State Manpower Office
 Car? Grauvogel, State Dept. of Fish and Game
Albro Gregory, The Nome Nugget
 Darrell Hargraves, Nome Public Schools
 Matthew Iya, Nome Eskimo Community (originally from Savoonga)
 Charlie Johnson, Kawerak {originally from White Mountain}
 Larry Kaplan, Alaska Native Language Center (Fairbanks)
 Dan Karmun, Kawerak (originally from Deering)
 King Island OCS public information meeting
 King Island Native Corporation meeting
 Ann Knobbe, Norton Sound Health Corporation
 Barbara Kokuluk, resident (from King Island)
 Vincent Kunnuk, Alaska Commercial Co. (originally from King Island)
 Jon Larson, Attorney for Savoonga Native Corporation
 Barry Levit, Norton Sound Family Services
 Guy Martin, Kawerak
 Nancy Mendenhall, Norton Sound Health Corporation
Lincoln Milligrock, resident (originally from Diomede)
 Art Morton, Northwest Regional Resource Center
 Gabriel Muktoyuk, King Island Native Corporation
Joseph Murphy, Nome Public Schools
 National Guard personnel, 1st Scout Battalion
 Charles Nelson, Bering Strait Housing Authority
 Robert Nelson, State Dept. of Fish and Game
 Frieda Nichols, Bering Sea Women's Shelter
 Nome Business Owner's Association meeting
 Nome City Council meetings
 Nome Fishermen's Association meeting
 Nome School Board meetings
 Nome OCS public information meeting (including Nome ARCO public information meetings regarding OCS development)
 Northwest Community College, Advisory Committee meetings
 Norton Sound Health Corporation board meetings
 Robert Pegau, State Dept. of Fish and Game
 Carol Perron, Bering Sea Noreen's Association
 Nate Perry, State Division of Social Services
 John Poling, resident
 John Pullock, King Island Native Corporation
 Caleb Pungowiyi, Kawerak
 Leo Rasmussen, Mayor
 Robert Rawls, The-Bering-Straights
Cheryl Richardson, Norton Sound Health Corporation
 Jan Sabo, State Dept. of Health and Social Services
 Mike Saclamana, King Island Native Corporation
 David O. Scott, Bureau of Land Management
 Wiley Scott, Nome Business Owner's Association

Margaret Seeganna, resident (from King Island)
Paul Sterling, BIA
Larry Stevens, Northwest Community College
Martha Stevens, Northwest Community College
John Taxac, King Island Native Corporation
Dan Thomas, Subsistence Section, State Dept. of Fish and Game
John Tongen, Bering Straits REAA
Darryl Trigg, Norton Sound Health Corporation
Michael Tschmelowski, Nome Public Schools
Sandra Tungwenuk, Nome Eskimo Community
Pete Walsh, Alascom
George Walters, BSNC

Bethel

Dr. Robert Alberts, Yukon-Kuskokwim Health Corporation
Dan Branch, Alaska Legal Services
Paul Gregory, PHS
Dan Laughlin, AVCP
Harold Napoleon, AVCP
Janet Shantz, Nunam Kitlutsisti
John Skorohod, PHS
Harold Sparcks, Nunam Kitlutsisti
Tony Vaska, Nunam Kitlutsisti

Diomedes

Andrew Kuniyak, resident, Diomedes Native Corporation
Dwight Milligrock, resident, Eskimo Walrus Commission

Elim/Moses Point

Walter Amaktoolik, Elim Fisheries Cooperative
John Jemowak, Elim Fisheries Cooperative
Charles Saccheus, resident

Emmonak

Evan Benedict, resident
Nick Benedict, City of Emmonak
Polcharia Evan, resident (also of Sheldon Point)
Martina Hamilton, resident
Father Hargraves, Catholic Church
Charlie Hootch, resident
Mary Ann Immamak, resident

Phillip Immamak, Mayor
Axel Johnson, Emmonak Native Corporation
Jake Johnson, Yukon Delta Fish Marketing Cooperative
Andrew Kelly, resident and Acting City Manager
Tommy Moses, Yukon Delta Fish Marketing Cooperative Store
Henry Munumuk, resident
Patrick Munumuk, resident
Bud O'Donnell, air taxi operator
Walter Sookiayak, Whitney Fidalgo (from Shaktoolik)

Gambel 1

Paul Apangalook, Mayor
Anders Apassingok, resident
Herbert Apassingok, resident
Philip Campbell, resident
Gambell City Council meeting
Danial Iyakitan, resident
Dennis James, resident
Winifred James, resident
Franklin Kaningok, resident
Allen Kulukhon, resident
Connie Oozevaseuk, resident
Gordon Oozevaseuk, resident
Roger Silook, Eskimo Whaling Commission and Eskimo Walrus Commission
Vernon S'wooko, resident
Willis Walunga, resident

Savoonga

Denny Akeya, resident
Nelson Alowa, resident
Eskimo Whaling Captains Association
Walter Featherly, BIA
Bradley Gologergen, resident
Hogarth Kingeekuk, resident
Vera Kingeekuk, City of Savoonga
Joseph Noongwook, resident, Eskimo Walrus Commission
Ivan Pungowiyi, resident
Paul Rookok, Savoonga Native Corporation
Savoonga OCS public information meeting
Clarence Waghiiyi, Mayor

Shishmaref

Bill Barr, resident, Shishmaref Native Corporation
Fannie Barr, resident
Gideon Barr, resident
Morris Kiyutelluk, resident
Herbert Nayokpuk, resident
Percy Nayokpuk, resident
Walter Nayokpuk, resident
Albert Ningeulook, resident
Gilbert Pootoogooluk, resident
Florins Snell, Community Health Aide
Gene Snell, resident
Fred Tocktoo, resident
Molly Tocktoo, resident
Vincent Tocktoo, Sr., Mayor
Alex Weyiouanna, resident
Clifford Weyiouanna, resident
Shirley Weyiouanna, resident
John Weyiouanna, resident

Stebbins

Morris Coffey, resident, Stebbins Native Corporation
Robert Ferris, resident
John Martin, Stebbins Native Corporation
Peter Martin, resident
Anna Mathias, resident
Austin Mathias, resident
Eva Nashorook, resident
Freddie Pete, resident
Isadore Pete, resident
Josephine Pete, resident
Mary Pete, resident
Julie Pugh, Community Health Aide
Bernadette Steve, teacher and resident
Virginia Tom, Community Health Aide
George Washington, Munz Agent
Klotilda Wassillie, resident

Unalakleet

Betty Anagick, resident
Mary Brown, Brown's Hotel
Charles Degnan, Bering Strait REAA

Frances Degnan, Unalakleet Native Corporation
Henry Ivanoff, Unalakleet Native Corporation
Harry Johnson, resident
Ruth Johnson, resident
Don Peterson, teacher
Sue Peterson, teacher
Jonathan Reynolds, BIA Principal
Mary Lou Stiles, resident and commercial fisherman
Norman Stiles, resident and commercial fisherman
Charles Towarak, Unalakleet Fish Cooperative

Wales

Roland Alexander, resident
Roland Angnaboogok, Sr., resident
Herbert Anungazuk, resident
Toby Anungazuk, resident
Luther Komonoseak, resident
Silas Komonoseak, resident
Evelyn Oxereok, resident
Frank Oxereok, Sr., resident
Arlene Ongtawasruk, Community Health Aide
Andrew Seetook, resident
Alfred Sereadlook, resident
Pete Sereadlook, resident
Jonah Tokeinna, Wales Native Corporation and Eskimo Walrus Commission
Katie Tokeinna, resident
Winton Weyapuk, Sr., resident

Other

Nelson Angapak, Calista Board, Anchorage (from Bethel area)
Agnes Brown, Mountain Village
John Foster, Teller
Maggie Foster, Teller
Karen Haugen, Anchorage (from Unalakleet)
Oscar Kawagley, Calista, Anchorage (from Bethel area)
Thomas Lonner, Subsistence Section, Dept. of Fish and Game, Juneau
Leonard Olanna, Breviq Mission
Cindy Sookiayak, Shaktoolik
Lance Trasky, Habitat Protection, State Dept. of Fish and Game,
Anchorage

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