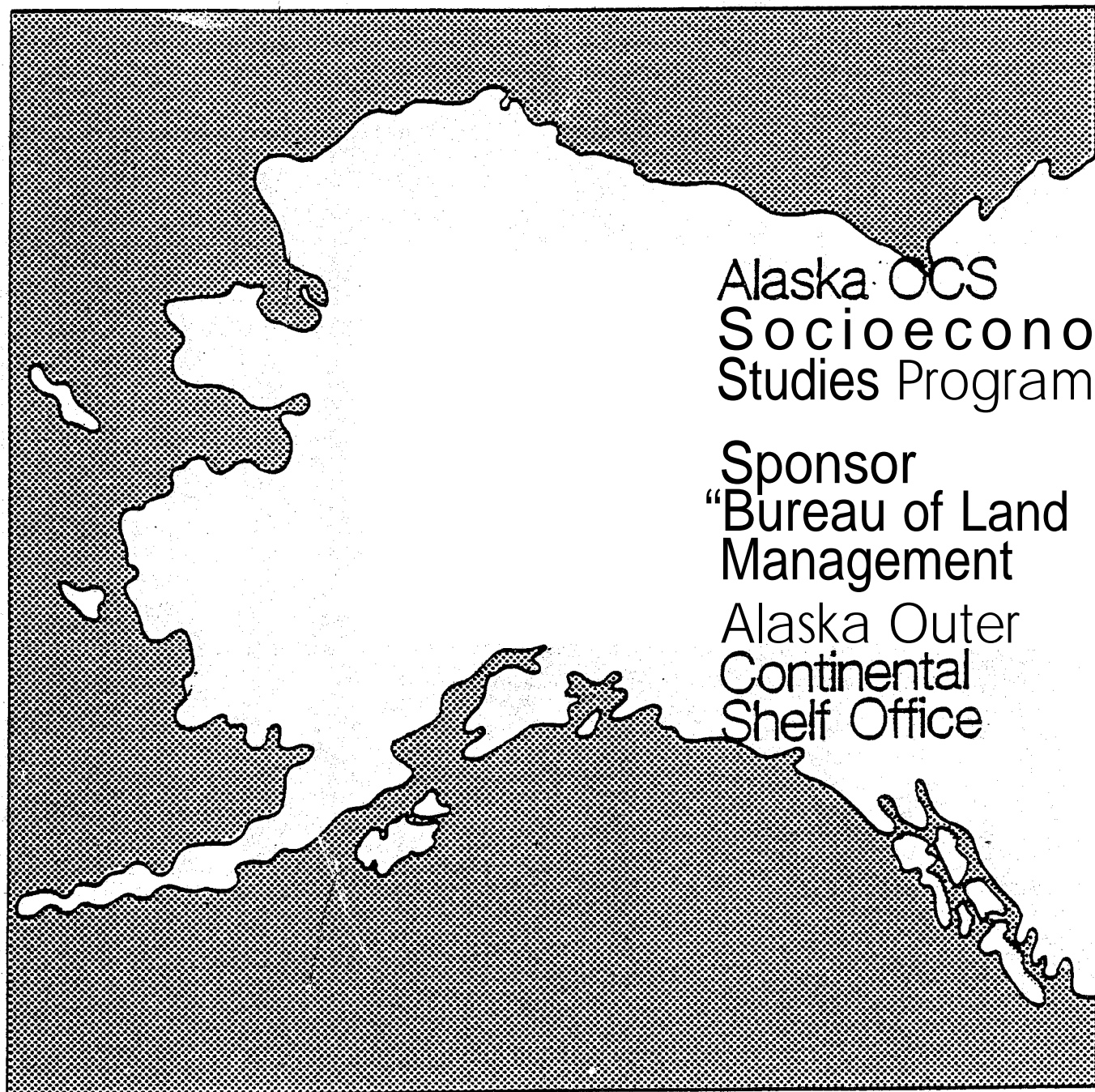


Technical Report  
Number 75



North Aleutian Shelf  
Non-OCS Forecast 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.

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ALASKA OCS SOCIOECONOMIC STUDIES PROGRAM  
NORTH ALEUTIAN SHELF  
NON-OCS FORECAST ANALYSIS

VOLUME I

PREPARED FOR  
  
MINERALS MANAGEMENT SERVICE  
ALASKA OUTER CONTINENTAL SHELF OFFICE

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## NOTICE

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ALASKA OCS SOCIOECONOMIC STUDIES PROGRAM

NORTH ALEUTIAN SHELF  
NON-OCS FORECAST ANALYSIS

VOLUME I

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## Abstract

This report discusses projected changes in the North Aleutian Shelf Region of Alaska over the next twenty years based on a scenario of **non-**development of Outer Continental **Shelf** resources. Volume I (this volume) examines social change at the regional and village-cluster level. Volume II presents a **community-by-community** examination of those features **of** change which particularly apply at that level. Projected changes are discussed along the dimensions of ecology, demography, economics, politics, social networks, education, health care, and religion. In each of these areas there are certain general trends which will characterize the region as a whole, while at the sub-regional and local level there are instances in which the peculiar structure of the **local** system leads to projections at variance with these overall regional projections.

At the regional level, and in general for the sub-regional and local systems as well, the dominant factor of the last decade has been **the** increased income generated from the commercial fisheries and the resultant closer integration of **local** with state and federal systems with attendant consequences in all areas of social and cultural life. **Ecologically** we project two major trends. First, **the** crab resource may suffer a steady decline as it becomes **overexploited**. Second, the salmon resource will continue to be abundant as a result of **mild** winters, the reduction in high seas interception of **the** resource (the imposition of

the 200-mile limit) and as a result of altered migratory routes. This abundant salmon resource will continue to be the basis of economic and social changes which will deeply affect the region. Demographically we project a gradual shift in favor of non-indigenous populations, though less rapidly than most other projections assume. The passage of ANCSA has had, and will continue to have, a retarding effect on the speed of migration of "outsiders" to the smaller villages since the lack of access to local land will make establishment of residence more difficult in the future. ANCSA will also promote demographic stability at the local level by encouraging the maintenance of residence by the indigenous population. Limited Entry will have a similar retarding effect on local growth since it precludes entry to the fishery of any but those who have established a pattern of historical use. We foresee a gradual move toward parity in the sex ratio of most communities in the region as increased incomes allow local individuals to comfortably marry and raise a family.

Economically the dominant consideration is the greatly increased incomes generated from the fisheries as a result of Limited Entry, increased abundance of the resource, technological advances in the exploitation of the resource, and the resultant growth in rates of participation in the larger, more formalized cash economy of the state and nation. Both the canned and frozen salmon markets are projected to remain strong during this period, both undergoing gradual growth and thereby providing a stable demand for local products. The fishermen of the Northeast Peninsula are in a more difficult position than those in the south and west of the region because they participate in the Bristol Bay fishery in which harvests are poorer, permits valued at less than half those of

other peninsular fisheries, and outside participation rates are much higher. Nonetheless, in general the major distinction between this region and the rest of **Alaska** is in the fact that the greatly increased incomes have come as a result of the expansion of a traditional resource utilization pattern, and therefore have been more easily accepted here than have other, more disjunctive changes in other parts of the state. Further, the enhanced incomes have allowed the people **of** this region to selectively involve themselves in the larger cash economy, purchasing what they want or need, and they have not been subject to the relative deprivation **which** has affected other areas in which knowledge of, and desire for, western industrial goods has outstripped the ability to purchase such articles. Increased incomes, as a result of Limited Entry in particular, have also resulted in a dichotomization of the population into those who have access to the fishery, and thereby to greater **incomes** and the manufactured goods and technology which can be purchased with such incomes, and those who do not, and in all probability never **will**, have access **to** the fishery and are thereby eliminated from participation and the associated high earning levels. Finally, traditional means of subsistence have been declining in importance with increased availability of imported goods, and we expect this trend to continue.

Politically the dominant consideration is the increasing interaction with **supra-local** agencies and bodies and the resultant pressure at the local **level** toward increased bureaucratization and formalized political structures. In the light of this we note five major trends. First, increased interaction with and dependence on external economic and political structures **will result** in the shift of local political structure and organization in the direction of increased formalization, including

boards and councils meeting in **formal** sessions, voting, and the concept of **majority rule**. Informal political structures **will** correspondingly decline in importance. Second, **there will be an** increased correlation among income, economic wealth, and political power. Third, there will be an increased awareness of, and interaction **with, supra-regional** political structures and processes. Fourth, these trends **will** result in an increased inflexibility of leadership roles in the community. Finally, "these processes of formalization and bureaucratization will **result** in increased perceptions of alienation between the management and administration of the **community** and **the** desires of **the** local population.

Socially the dominant trend is away from **informal** social structures (such as sharing networks, kinship reciprocity, and kin-based social groups) and informal social sanctions (such as gossip, censure, and ostracism) and toward **formal** mechanisms of social interaction (such as wage-labor or formal contract) and sanction (**such** as dependence on the **formal** court system and an organized police force). In these terms we see at least six major trends over **the** next two decades. First, we project the continued evolution of **more formal** bases of **social** cohesion, **such** as wage-labor relations and the use of **formal** contracts, at the expense of traditional structures revolving around kinship and **the** interdependence of nuclear family organizations. Second, the elimination of sane from the **commercial** fisheries will **result** in an accelerated development of **social class and status** relations. around the concept of economic wealth. Third, local social and economic networks **will** rapidly broaden to include non-local individuals, products, and values. Fourth, there will be an accelerated adoption of western material and **social** values **at** the expense of traditional orientations. Fifth, **in** spite of



the adoption of western values there will be a reversal of trends toward the amalgamation of ethnic identities and a renewal of the strength of ethnic identity and concomitant potentials for ethnic schism resulting primarily from the increased utility of such identification under the terms of ANCSA. Finally, we project an emergent schism socially at the local level between permanent and part-time residents as income levels allow many to spend most of the year out of the local community.

Educationally we see three major trends. First, there will be increasing importance assigned to the completion of high school, partly as a result of the Molly Hootch Decision which insured access to such education for all children of the region. Second, teachers will become increasingly committed to the region as locally produced teachers come to gradually equal outside teachers. Third, post-secondary education will increase in importance, particularly as communities come to see the wisdom of educating local children in the professions in order to better direct changes emanating from the state and federal levels, with particular emphasis on law, engineering, and medicine. Health care will also increase steadily in availability throughout this period with increased funds available and increased need for such care, particularly in the areas of alcoholism, drug abuse, suicide, accidental injury and death, and other stress-related disorders. Recreationally, patterns of activity will change to include hunting as a form of recreation rather than a means of subsistence, increased use of advanced recreational technologies (snowmobiles, four wheel drive vehicles, three wheelers, and so on), and extended vacations in other parts of the state and nation. In terms of religion, we expect a general movement toward secularization, though some individual communities may experience a relative religious revival ultimately dependent on the activities of individual priests.

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## METHODS, STANDARDS AND ASSUMPTIONS

### Introduction

The first tasks in any assessment of social change or impact are the establishment of parameters for the study, and the reduction of the infinite number of social actions to a comprehensible and workable set of categories. The potential number of independent, intervening, and dependent variables is infinite, so we are forced to simplify the phenomena by aggregating effects, controlling for the future occurrence of what we know will be major independent variables and applying **analytic** categories to empirical data. In doing so we can make observations, indicate areas of structural weakness and areas of particular resilience to external forces, and present an assessment of ~~what~~ conditions will prevail in the study communities at specified intervals through the next two decades.

The history of social science reflects an effort to organize and make comprehensible the phenomena of social change. This process has led to the construction of 'models' of change to explain **the** past, understand the present, and predict the future. The use The choice of a particular kind of **model** is determined by the nature of the problem, the availability of appropriate data, and the intended use of the study results. We

have elected to utilize a systems **model** of change. It has the dual advantages of being theoretically rigorous and inclusive at the same time that it is easily **operationalized** and applied to a wide variety of phenomena occurring in the real world.

### The Systems Model of Change

We employ a systems model in our **non-OCS** projection of change in the North Aleutian Shelf region. This **model** is relatively straightforward, allows for variation in how data are utilized, and, most importantly, can be altered as new information becomes available. This last factor is compelling in an analysis that may be used in the future to gauge the **sociocultural** consequences of **OCS** development.. Future analysts can easily modify the variables and their weights **as** changes appear. The effects of novel legislative actions, political movements, economic changes, and so on, can be examined as they affect the course of individual communities of the region.

The systems approach is **also** very flexible. Systems theory does not in itself determine that one agent or type of change is necessarily more important than another. Systems theory is a description of the interaction of a defined region, **area**, or community (the system) and a defined environment, but the operant variables are defined by the researcher with regard to the specific problem being addressed.

Systems analysis differs from cause and effect analysis in the assumption that two elements may be simultaneously **cause** and effect. In **other** words, systems models focus on **the** relationships or "feedback" between internal structures and external forces **or** agents of change, as well as



among internal structures alone. The model was drawn initially from mechanics into biology and eventually was adapted for use in the social sciences. Central to this model is the idea that individual living organisms (including human social organization) have shaped their adaptation to an environment by modifying themselves and/or the environment.

Systems models are particularly useful in assessing the nature of community social structures and how values and organizations within individual communities respond to influences from forces outside the community, forces which either may constrain certain forms of behavior or encourage greater flexibility by providing more alternatives for social, political, economic and cultural activities.

How will political leadership in a community react to imminent changes in the distribution of wealth within the community? How will individual fishermen alter their investment strategy in order to maximize returns, and what is the value hierarchy according to which such returns are judged? How is the structure of traditional kinship networks likely to change in response to economic and political forces? By presenting a baseline model of the communities, systems analysis enables the investigator to determine the extent to which local communities act to modify their circumstances, thereby altering the existing relationship between system and environment. An analysis of community responses to known or assumed environmental factors will form the core of our projective analysis of social change.

Within the context of systems analysis, we shall use the approach of Easton and Bailey, who have adapted the major concepts of systems theory for an examination of political behavior. This approach is ideal for

our purposes **in** that. it transforms a quantitative model into a **qualita-**  
tive one and serves as a paradigm for the analysis of **the** major **com-**  
**ponents** of social behavior (political, economic, kinship, and so **on**) by  
organizing in heuristic fashion the relationships between these com-  
ponents in a systems framework which **is** both easily understandable and  
useful for the prediction of social change.

## Components of Systems

### System

A social structure and its environment together constitute a social sys-  
tem, "and such systems are understood when the continuous process of  
adaptation and adjustment between structure and environment are under-  
stood" (Bailey 1969:10). **While** social systems can occur in easily  
recognizable forms such as isolated communities, at all times it should  
be kept in mind that they are analytic constructs, subject to manipula-  
tion by the investigator. **With** this caveat **in** mind, there are two  
important aspects of **social** systems which will characterize our study  
approach.

First, **all** social systems contain three major elements of interaction:  
the environment or input, the structure, and the response or output. In  
our analysis, all three elements and their interrelationships are exam-  
ined to provide the basis for the projection of future **sociocultural**  
changes. The boundaries separating these three elements, however, are  
not always evident and must **be** **arbitrarily** distinguished by the investi-  
gator. The outline contained in the appendix is the result of such **an**

effort.

Second, as ~~the~~ boundaries of the elements within a system are subject to manipulation by the investigator, ~~so~~ the boundaries of the system itself are subject to alteration. A community may be viewed as a social system in itself or as part of a larger social system, that of an entire region, which in turn can be viewed as part of a still larger social system, that of the state. The extent to ~~which~~ the community, region, or state ~~may be~~ viewed as a social system is determined by the interests of the investigator and the nature of social interaction between individuals residing in any of these locations. At the regional level, ~~therefore~~, a systems approach would examine the pattern of interactions between individuals and the social, economic or political contexts in which these interactions take place and ~~which~~ also act to link communities of the area together. For this particular region, however, these linkages are not powerful forces and ~~will~~ be discussed only briefly. That is, ~~while~~ some communities ~~will~~ be examined as 'community clusters' and have a great deal in common, we ~~will~~ find little that serves to integrate all the communities of the study area together. Therefore, we will focus our attention on individual communities and clusters of closely related communities,

### Subsystems

Within every social system there exist numerous different activities and forms of interaction which can be grouped together on the basis of their structure and function. These ~~smaller~~ units of social interaction are labelled "subsystems". Each subsystem works to maintain the vitality of the social system much as the engine, transmission and electrical system

of an automobile work to keep that system in motion.

The political subsystem operates **to** legitimize the authoritative allocation of scarce values and control the use of coercive power. The functions of the economic subsystem include **the** production, distribution, and acquisition or consumption of scarce resources or commodities. Religious subsystems serve social and individual integrative functions. Educational subsystems are responsible for the socialization of younger members of the community. The kinship subsystem regulates the social interaction of community members on the basis of certain specified **rol** es. The subsystem of local world view and **values** functions to establish **the** 'meaning' of other forms of social interaction and the individual's means of interpreting the environment.

As with the social system, it should be remembered that subsystems are often arbitrarily defined by the investigator. Each of the subsystems do not exist as independent units but interact with one another to meet the needs of the individuals **who** belong to the social system. Thus, the political subsystem in the form of a village council may also be involved in the economic sphere of village life by imposing regulations designed to limit access to certain subsistence items or encouraging outside investment and land development ventures. Secondly, the same subsystem may take different forms in different communities. Thus, the authoritative allocation of scarce values and exercise of power may be handled formally by a village council or city manager in one community **or** informally by **the** members of the leading kin **groups** in another **community**.

The balance of changes in these subsystems as a result of environmental changes **will** be used to develop our projections of future conditions. The current response patterns of individual communities or community clusters **will** suggest how they are likely to react in the future--and those structures that dominate current social organization are **likely** to have greatest sway in affecting the course of future change. If religious convictions are prominent mechanisms of social organization at present, and these convictions can be seen to retard the society-wide trend toward secularization, then we can predict that consequences common to such secularization will be minimized. The more widely shared or acknowledged the political organization of the community, or the more respected the leadership, the more successful the community is likely to be in establishing community-wide objectives or unanimity. This, in turn, is also an indication of how resistant they will be to changes in the external environment.

#### Environment: Input

The environment of a social system is "those factors we can accept as **givens**. They represent the independent variables or parameters of the system" (Easton 1965: 66). They are external to the social system as defined by the investigator and constitute a source of input to the **social** life of the community or community cluster under study.

Environmental input can be divided into three major categories: 1) **ecological**, 2) **extrasocietal** and 3) **intrasocietal**. Ecological variables may include such elements as weather, flora and fauna, natural resources and terrain. Extrasocietal variables include social, **political**, or

economic systems at the federal , state, regional , or sub-regional levels of interaction. For a specific community, neighboring communities, federal and state governments, native regional corporations and associations, floating processors, and outside business interests would also be part of the **extrasocietal** environment. Frequently these external systems may be **rivals** and may act as inputs either in the form of threats to security or as new resources. **Intrasocietal** variables consist of those subsystems which comprise the independent variables to the particular subsystem under study. Thus, in a specific community, those subsystems such as economic or kinship which affect community politics are viewed as part of the environment of the political subsystem. Also included in the **intrasocietal** component of the environment are demographic factors such as population size and age and sex ratios and **individual** needs. All three categories can be examined at both the level of the social system as well as individual subsystems. The independent variables of the environment can act as input in a systems model. There are two major ways in which this may occur. They can either exert a series of demands or pressures to which a community must respond or they can provide a number of resources or supports utilized by members of the community to their best advantage. An environment's impact on a community's social system can therefore be delineated by examining those variables which serve as demands or supports.

In our analysis we will establish major current trends at the international , national , state and regional level and project these trends into the future--this will constitute a major part of the social environment. We will then project local social reactions in the form of migration, changes in social and political relationships, cultural or personality

effects, and so on, and detail how these interact with the physical and social environment. By holding this environment constant per time period (i.e., as a constant pressure in a particular direction) we will be able to focus on local-level social dynamics (as our variables) as they interact with the environment.

### Structure

It is **important** to note the distinction between a community as a social system and the social structure of the community. For this analysis, **community** social structure refers to relatively standardized and currently active (or available) modes of interacting with other members of that **community** or other closely related communities. Analysis of the current relationship of this structure to both internal and external **social** forces and the projection of this interaction into the future is the objective of this study. "From a systems point of view, a structure can be characterized as an ordered set of interconnected operations performed by the elements of a system" (Cortes, Przeworski and Sprague 1974:8). These operations have two specific qualities which are worthy of note. First, they proceed in accordance with a set of **rules** or guidelines. In a social system these **rules** consist of the culturally constituted hierarchy of **values** which govern behavior by assigning to specific social **roles** expectable and appropriate rights and duties.

Second, the operations comprising a social structure take the form of behavior which is organized. This organization may be formal or informal and is usually characterized by the network of interactions among individuals within each subsystem of the community's **social** system. For

example, the village council , city **manager**, special interest **groups** and the residents of a community all possess certain **roles** and statuses related **to** the authoritative allocation of **scarce values** and the distribution of power. These roles and statuses make **up** the political organization of the **community**. Similarly, the boat captain, crew members, cannery plant employee and local **store** owner **all** possess **roles** and **statuses** which make up the economic organization. The key concept linking cultural rules with social organization is expectability--structure is composed **of** those behaviors which, in general **outline, are expected** from people in specific statuses and in the specific roles through which those statuses interact. That is, structure is patterned behavior since it **is** only through the repetition of types of behavior that such actions can become expectable. In the systems **model**, therefore, **structure** includes both the observable social organization and **the** culturally constituted set of **rules** on **which** that organization **is** based.

Before we consider the way in **which** the systems model is used in characterizing processes of **change** we must consider distinctions in the type of rules which form the basis **of** the **social** structure. **There** are **two** levels **of** rules governing social action. The **first** is **what** we might refer to as normative rules. Bailey (1969:4) defines **normative rules** as those **which** express ultimate and publicly acceptable values. "Normative rules do not prescribe a particular kind of action, but rather set broad **limits** to possible actions. They **leave** some **choice** about what exactly the player will **do** (Bailey 1969: 5)." These rules, **then**, are akin to canons of behavior and are, essentially, the reflection of **culturally** acceptable aims and **goals** with general, but not specific, **ethical**



guidelines for behavior.

The second set of rules has to do with actual social behavior and refer to the pragmatic rules for action. "Pragmatic rules are statements not about whether a particular line of conduct is just or unjust, but whether or not it will be effective. ..(ibid. p.6)." They may operate within the limits set by **the** (normative) rules, or they may not. The difference, then, is between **what** one really does in a certain situation and **what** people assert should be done in that situation.

For our purposes, the two sets of rules must be at least generally understood in order to project behavior **which will** be based on these rules. Such an understanding is necessary for two **resons**. First, one of the major indicators of social change in any **sociocultural** system is the conflict between normative and pragmatic **rules**. According to Bailey (1973:13), the conflict occurs when innovations at the level of **pragmatic** rules threatens the established order of normative rules:

An innovation, consequently, always has **the** potentiality of being a threat to some part of an established order: if its adoption results eventually in a change of **values** (as when peasants give up the goal of maintaining their family intact) this change is likely to come only after debate, argument and sometimes conflict.

The acceptance or rejection of a new way of responding to environmental input, therefore, will be the outcome of a debate about its **likely** consequences for other **valued** things. "The severity of this debate will depend partly upon the specificity of the code **which** lists other valued things and the way they connect with one another" (Bailey 1973:314).

Second, the arrangement of rules in the hierarchy of values allows one to weight the variables being studied. Thus a specific community **which**

places a higher value on kinship and reciprocity may undergo a greater degree of conflict and change when exposed to government policies such as ANCSA and Limited Entry than a community **which** places a **higher** value on employer-employee relationships and bureaucratic expertise. More will be said about this later.

It is clear that current conditions in the project site aggravate the schism between the two rule systems. Economic self-sufficiency has allowed, indeed promoted, independent and individual assessment of normative (closely **linked** to tradition and 'custom') rules. This has led to varying degrees of social disequilibrium depending on the social integrity of the particular community, its size and **the** degree **of** the economic change currently tolerated. The range of pragmatic **rules** that are now seen as acceptable has expanded radically. Very young members of the community have assumed prominent positions on the basis of extraordinary income alone. Alcohol, marijuana, and cocaine consumption has increased and is, in some communities, gaining in 'respectability.' This shift in the direction of 'utilitarian' **value** definitions will be an important analytic device in this report.

While each of our projections will be informed by the **value** hierarchy of the structure of each social system examined for the most part the presentation of the value hierarchy **will** be an implicit one. **Explicitly**, we **will focus** on projected changes in visible patterns of social interaction.

Response to Change: Output

The final aspect of the systems model is the response of the social system to changes in the environment, or the 'output' of the system. The behavior comprising this response represent the dependent variables in the systems framework and result from the processing of environmental inputs by the structure. This behavior can take several forms, including the decisions and actions of individuals and organized groups of individuals. The seeking of federal grants to fund public works projects may be seen as the response of a community to the recent availability of such funds.

This behavior also can be seen in the form of rates or levels, such as average annual income, marriage and divorce rates, morbidity and mortality rates, and participation levels at school. It can also be seen in terms of local development goals and needs assessments, the amount of social cohesivity or the intensity of face-to-face interaction. Finally, output can also be measured in terms of levels of stress or community well-being.

### Feedback Loops

Uncontrolled feedback loops are the dominant mechanisms used to describe 'natural' (i.e., mechanical or physical) phenomena. This description parallels that of cause/effect explanations. Tidal action erodes the coast while the coast itself has little affect on the tides. One variable acts independently of the other. This approach cannot provide an adequate description of human social forms or interaction.

In a community, behavior within the system feeds back to the structure of the system in one of several ways, effecting either reinforcement or

alteration of the structure. The latter may occur **in** one of two ways, resulting in either adaptive or radical change of **the** system (discussed below). This behavior also feeds back to **the** environment **itself** resulting in either an increased ability **to** utilize environmental resources, in failure to sufficiently utilize those resources and subsequent further attempts at alteration of the structure to allow such utilization, or in attempts to insulate the system from destructive elements in the environment.

**Whether** the response reinforces or alters the existing community social structure, the actors in **social** systems respond to 'input' in ways that minimize the stress on or disruption of the system--they operate to protect **a** sense of status quo or equilibrium. Such cybernetic mechanisms work in the following way. Actors (agents, organizations, individuals, **etc.**,) judge aspects of the environment and determine what conditions prevail or **what** resources are available. **If** they do not prove acceptable, actions are initiated to **re-establish** the status quo ante or a new status quo. For example, some input--in the form of new economic resources from the environment--acts to affect the potential distribution of wealth in a particular community. One individual (or group) becomes more wealthy than the community **can** tolerate without seriously disrupting the pattern of social **relations**. Actors in that community, in many minor and some major ways, take regressive action. They may treat the individual disdainfully or they may gradually accord him superior political or social status.

Local events and adaptations are partially in response to conditions, changing or stable, in the environment. **Once** a **local** reaction to such a

change in conditions has evolved, that structural or cultural adaptation will itself 'feed back' onto the environment, thereby forcing at least a minimal restructuring of the environment. As the environment continues to change new influences are brought to bear on the local system, old resources are altered or dry up, new resources become available, and the community once again adapts to the new conditions of the environment. For purposes of allowing for the consequence of such feed back the systems model employed in this analysis is most functional.

### Types of Change

The impetus to change stems not only from the environment but also from the system itself. Easton explains that 'regardless of the degree of structural differentiation and specialization, no system is endowed with so many channels that it has an infinite capacity to carry demands' (1965:121). Thus a community cannot foresee all the potential changes in the environment and develop guidelines and forms of organization to adapt to all contingencies. The more the environment changes the harder it is for the system to be adaptive. These strains on the ability of the community to respond to the environmental input and meet the needs of its members can lead to one of two results: one in which adaptive change occurs, and one in which radical change occurs.

When the system undergoes adaptive change, according to Bailey, "the normative rules which are felt by the actors to be definitive of the system are preserved; but the pragmatic rules by which these normative rules found adjustment with their environment are changed, because the environment has changed (1969:197)." This is a case of adaptive change.

In the case of a system undergoing radical change we find a change in the nonnative rules as well as the pragmatic rules of the hierarchical social structure. Bailey sees a change in normative structure as 'radical change' and Cortes, et al consider this type of change to be 'diachronic' in nature.

Systems die as systems when their structure changes, when different transformations are performed in a different order as men transform their social and physical environment. This change--the change of structure and function--we have termed diachronic change (1974: 284 ).

We will note in the body of this report where parts of the wider social system are undergoing such changes. Local-level economic systems, political systems, and kinship systems are being asked to fulfill functions hitherto unrecognized while novel organizational forms are performing functions that were once maintained by traditional social relationships. The implications drawn from these tendencies inform our projections.

### Qualifications to Application of Model

Decisions as to the relative importance of independent, intervening and dependent variables can only be made by assigning weights to each of these variables. This, however, is not a procedure **which** can be readily quantified. While the model of change utilized in our projection will remain constant, the assumptions and weights attached to each of the social subsystems in our analysis varies considerably from one community to the next. Each of the communities discussed vary in specific ways from each of the others and lead in some cases to significantly different projections. In one community kinship may currently play a dominant role in determining local trends of change. In another, more formal political arrangements dominate. In a third, community economic considerations and relationships are paramount. Religion plays a significant role in some communities and a negligible role in others, and so on. Thus, each community has its distinct 'ethos' and set of priorities; each has established a characteristic balance between the various objectives of its members and existing environmental (both social and physical) constraints and resources. One of our first tasks will be to characterize the distribution, or social 'weight' of each **major** category; in effect, each community must be outlined and described independently. What may be an insignificant variable in one community may be prominent, even central, in another community. Within each community different structures will also be differentially susceptible to forces of change. The overall balance of social forces within each community must be understood and concretely tied to existing and projected trends in the wider environment in order to usefully project future conditions.

## Application

Our problem in the present analysis is to project social change for the North Aleutian Shelf assuming no OCS-related development. The researchers are aware of the inherent theoretical and practical limitations to predictive analysis. The literature is filled with references to the 'impossibility' of 'predicting the future' with current social scientific methods. Intervening variables, small communities, etc., markedly reduce the accuracy of projections. While we agree that both the reliability and validity of such projections are in question, the OCS SESP objectives allow an opportunity to provide potentially valuable data to analysts hoping to dissociate the sociocultural consequences of OCS development from those occurring as a consequence of 'inevitable' change in the local and wider environment. We feel that if the underpinnings of our model of change are presented clearly, and informed with adequate data, readers will be better able to separate those changes that have occurred as a consequence of OCS from those that were projected under the assumptions, models and analytic procedures employed in this report.

No models of social change exist that can accommodate a simultaneous change in all social variables. Some aspects of the panorama of social system must be held constant so that changes in other parts may be observed and better understood. We will view change in the region as the response of individual communities and community clusters to significant inputs from their environment and the extent to which this response alters the structure of the social system under study.

Though it would be possible to examine a myriad of factors which might induce change, or encourage maintenance of the status quo, in fact not



all such influences are worth examining. Decisions will have to be made along the way concerning those forces which are most influential and those ~~which~~ may be disregarded. In the analysis and projection to be applied to each community we must first narrow our scope until only the changes in dominant social structures engendered by (aggregated) non-local forces of change are attempted. The reactions of local individuals and structures will themselves be regulated by the value hierarchy of the community. Thus, our objective is ~~to~~ set forth the relative importance of each component of local social structures, including both the patterns of social organization and the values which regulate the social organization. Finally, we will aggregate external forces that would most impinge on these structures in the future and to suggest the likely consequences.

In considering change within the framework of a systems model, we must detail the step by step interactions between the structure and its environment. Although frequently related, we can distinguish between **extrasocietal** and **intrasocietal** sources of change. Within the **intrasocietal** variables we can also distinguish among elements of the social structure itself ~~which~~ provide a demand for change. These include the effects of individual initiative, internal reorganization of the political system (becoming a first or second class city, for example), the departure of the resident minister or priest, increasingly skewed income distribution, shifts in patterns of property ownership, and conflicts created by the inconsistencies between normative and pragmatic rules. The population size of the community is a very important determinant in assessing the impact of changes in the internal organization of a **community**. Relatively **minor** changes in population or organization in a

community of less than one hundred can have dramatic consequences. Major pattern shifts in larger communities (above 500, for example) occur at a slower pace and with less sense of alienation or distance on the part of the wider community.

### Limitations

There are several inherent limits on the accuracy of such projections. Accuracy varies inversely with the length of time over ~~which~~ the projections are ~~made~~. As analysis considers longer periods of time predictive reliability ~~falls~~ off precipitously. Thus, we will not attempt to make 5-, 10-, 15- and 20-year projections for every variable in every community. ~~We~~ will instead only present projections of specific scope for variables we consider subject to that period of predictability.

A second limitation to projective analysis is ~~the~~ degree of sensitivity of the model employed. A ~~model~~ that aims for simplicity may obscure the impact of certain relevant variables, ~~while~~ a ~~model~~ which is indiscriminately comprehensive may have ~~little~~ analytic force. Either type of model is of ~~little~~ value in a projective ~~study~~. A systems model, which aims for a middle ground, provides the researcher with enough sensitivity and analytic force to efficiently conduct such research. Specific decisions or future actions, of course, cannot ~~be~~ predicted. We will provide a probabilistic 'range' of future regional, state, federal and international conditions. ~~We~~ will then examine the internal, specifically local sources of change and attempt to project the consequences of the interaction between the local and non-local levels of change using the systems ~~model~~. The central question will ~~be~~ how the

ongoing, essentially idiosyncratic, processes of change **within** each community or cluster of communities are **likely** to respond to relatively constant broader social forces of change.

In addition to the variability in **sociocultural** organization in these communities, assumptions have to be made concerning the viability of this organization in the face of change. Two facts need to be mentioned in this regard. First, much of the analytic 'projections' literature assumes the intrinsic 'frailty' of traditional social and cultural systems. Many assume traditional social systems are on the verge of extinction and that relatively minor external pressures will induce enduring and deleterious local consequences. Others tend **to** exaggerate the negative effects of major but short-duration projects such as the Alaska Pipeline. Second, the literature is inclined to see gross socioeconomic indicators such as unemployment, **out-** and in-migration, poverty levels, and so on, as the most significant measures of **sociocultural** change.

We do not see the alternatives as limited simply to persistence or extinction. We view indigenous cultural patterns as highly resilient and adaptable to even major forces of change. Broad, but relatively brief, fluctuations generate less profound social changes than do more subtle long-term fluctuations in economic wealth, occupational alternatives, or exposure to external social and cultural models through increased mobility and access to external information systems (e.g., television, radio, movies, government information sources and especially formal education within the **local** village social context). Thus, the objectives of this study require us **to** be sensitive to seemingly minor 'tendencies' that we

believe may have a significant cumulative influence in the study region.<sup>1</sup> In so doing, we frequently present a **single** episode or series of events which seem to us to reflect a relatively consistent response pattern. These patterns are then projected and used to predict the nature and results of interaction between major **social** forces and **local** communities (and community clusters).

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1. The **size** and **location** of the communities are also important in predicting directions and rates of change. In a predominantly rural environment, incremental changes in occupational alternatives can have major impacts on local social and cultural systems. The construction and operation of a single additional fish processing concern **within** any of the **small**, isolated communities of the study region **would** have significant impact. Similarly, an increase or decrease in economic returns from the fishery would have a dramatic impact on a local community while a larger urban community **would** not be so affected.

## Assumptions

This type of analysis is profoundly influenced by the set of assumptions made at the outset. As the difference between actual events and dominant assumptions increases the accuracy of the projections based on those assumptions decreases--no matter what methodological device or theoretical model is used in the analysis. Thus, our assumptions must be accurate or the projections based on them will prove unreliable. We must address such questions as 'how much pressure is required to generate a particular action?', 'how can social, economic or political forces be aggregated?' Although some subjectivity on the part of the analyst is unavoidable, we will be careful to make clear our categories and assumptions so others will be able to assess and utilize our results.

## Economic

Several socioeconomic assumptions will figure prominently in our projection estimates. First, as noted above, the use of gross economic indices cannot accurately establish the likely limits of local-level change. For example, population projections derived from ISER's MAP models are based on figures heavily influenced by urban-based industrial development. It is our assumption that such indices are inappropriate for an examination of the community in the North Aleutian Shelf region and that urban-based industrial development will have minimal impact on the region throughout the next twenty years. It is our experience from research in these communities and in the adjacent area of Bristol Bay

that such development has not had as great an effect as suggested by the MAP projections. Employment will be dealt with in the same fashion and knowledge gained in the field setting will be used where appropriate as a foundation for the projections. The researchers' understanding of recently accelerated economic development in the area as well as their understanding of potential directions of change in the domestic and international market will be relied upon to inform the discussion of economic trends likely to occur without OCS development.

### Economic Stratification

There is little question that economic stratification within many of the study communities has increased during the last five years and is accelerating. With two exceptions (Nelson Lagoon and Cold Bay) we will assume that this stratification will increasingly affect community social integration, the functioning of kinship networks, political representation, and so on. The pace at which stratification ramifies is a function of unique qualities of each community and will be examined at that level.

### Intra-regional Distinctions

As will emerge from our analysis, intra-regional economic distinctions will continue to increase in the future. The Chignik communities have already achieved distinction throughout Alaska as extraordinarily successful as a result of the impact of Limited Entry. This perception will continue even if this source of revenue is eventually more equally distributed within the region. Local perceptions and beliefs regarding the Chigniks will continue to differ significantly from those concerning

other communities. Economic distinctions among other **communities** are also increasing rapidly. The economies of King Cove and Sand Point are clearly expanding. They have relatively well-defined infrastructures with little (for their size) internal income skewing.

### Subsistence Pattern

This economic leap has also had an effect on the subsistence economy. While other studies have analytically distinguished the regional or local 'subsistence' system from the 'cash-based' system (cf. Ellanna, 1980) it must be assumed here that the two **forms** of productive activity are interrelated such that changes **in one** are bound **to** affect the other. It is therefore imperative that the relationship between the two be examined in order to accurately project current directions of change both without **OCS** development and as a base for **OCS** impact analysis.

Many members of the community continue to harvest traditional subsistence products, **though** often for expressly social reasons. Others have decided 'not to bother this year.' It is assumed **that** this nascent pattern, **if** current environmental conditions persist, will eventually have disruptive effects on traditional resource utilization patterns. While the skills and knowledge may survive far into the future, the incentive and desire to act in **traditional** ways may not. Care must be taken in assessing the costs and benefits to the Native population of continuing to produce traditional subsistence crops. It is in this trade-off between costs and benefits that the decision **will** be made whether **or not to** continue to produce these traditional crops.

## Effects of External Revenue

In the short term, external sources of revenue--at **the** community level--are likely to be made more available and responsive **to** local demands. This will occur even in spite **of** the fact that local sources of income **will** continue strong. Improved village economies seem to generate increased community demands on regional, state and federal sources of revenue. Local earnings act as an incentive in the following way: as community members begin to achieve economic security **their** awareness of the availability of, and thus their own demand for, improved **local** facilities (roads, airfields, sewers, housing, etc.,) increase apace. Projected state surpluses for the **early 1980's** (resulting from oil **revenues**) are **likely** to bring increased service **to** these demands.

In the intermediate term, however, within the next five to ten years, revenue from federal sources is **likely** to decline. This is in keeping with the relatively radical shift--at the federal level--towards fiscal conservatism. Program support **for Alaska** **will** suffer significant cut-backs, **which**, in turn, will directly affect many local-level programs supported by these funds. There **will**, however, be short-term mitigating efforts on **the** part of the State of **Alaska** to **assume** responsibility for many of these programs. This **will** occur on a selective basis, but **it** is fair to assume that most services to this particular area, where the **local** economy has expanded so rapidly, are likely to continue at present **levels** or to increase gradually.

In the long term, however, the prospects of state assistance begin to tail-off dramatically beginning around 1990. **ISER (1978:1)** projections



of state expenditures versus income see this period as the turning point in the economy. If no new discoveries of oil are made during the next few years expenditures are expected to exceed income by 1987 (and certainly by 1991). It is difficult to project anything but a rapid withdrawal of state support for local construction projects or development at this time.

We will frequently remark, however, how little the communities of this area depend on state and federal sources of revenue. There is clearly an increased utilization of revenue from these sources but the question of dependence remains open to debate. There is certainly a sense that these communities could well 'do without' external aid or interference.

### The Fishery

In the economic subsystem the fishery is of greater importance to the understanding of both the social system as a whole and the dynamics of change which are crucial to future projections than other aspects. The trend of the fishing economy is the dominant socioeconomic variable in the region. Future catch and price figures will deeply influence the regional and local economic environments. The system is currently very productive and the environment one of great demand, generating high levels of surplus income. While the specifics of resource exploitation vary among villages (e.g., some concentrate on crab, others on salmon; some have local community employment opportunities, others are relatively isolated), all would be negatively affected by a long-term downturn in price or catch.

Many factors, notably Limited Entry and future market conditions, must

be addressed in dealing with the future of the local fishery. In a recent court decision the transferability provisions of the Limited Entry regulations were held unconstitutional. The Commercial Fishing Entry Commission maintains that free transferability of permits at fair market value is essential to the current program. There can be little question that if entry into the local fisheries were opened to any fisherman there would be a dramatic surge of non-local participants in these highly lucrative economic sectors. Increased competition on the fishing grounds and in marketing the catch, as well as smaller catches per vessel, would inevitably lead to reduced earnings for local fishermen. We also assume that in the event Limited Entry is repealed some other form of entry restriction will be established which maintains current harvest distribution.

OCS SESP Technical Report #51 (1980:17-51) provides an excellent discussion of the difficulties encountered in projecting future harvesting and production levels. As they state, there is "sufficient proof that unforeseen changes in the physical, biological, market, and/or governmental environments of the fisheries can cause a rapid decline in a booming fishery; and they can just as readily create new fisheries or turn marginal fisheries into very productive ones (Terry, Suoles and Larson, pp. 44)" While we are inclined to question the equal likelihood of currently marginal fisheries moving into boom conditions, we have seen how rapidly the crab fisheries have declined and are aware of the potential for precipitous decline in the salmon resource.

#### Adaptation to Resource Availability

A third assumption that must be made with respect to the fisheries concerns the ability of local communities to adapt to changes in the availability of subsistence resources. The historical ability of local fishermen or fishing communities to adapt over many years to a wide fluctuation in conditions must be seen from two perspectives. On the one hand, they can be expected to successfully adjust to even major alterations in resource availability. On the other hand, however, we must be careful in projecting this ability into the distant future because as incomes continue at extraordinary levels there will be a countervailing tendency toward increased dependence on the products of such earnings. That is, as local dependence on high-cost non-local products increases, ability to readjust to prior or lower earning levels decreases. This applies as well (as we will note below) to traditional social and kinship networks. The more extensive the local reliance on externally-derived forms of social interaction, the longer they go without revalidating them, the more difficult it becomes to reactivate traditional social networks.

Use of our model will allow us to project the incidence of these two curves of change. It might be possible to both establish which dependencies on external resources have been established and to determine which ones would be maintained, and at what level, in the event of significant economic decline. It will also be possible to examine how traditional social patterns have changed during the recent past and to suggest how long these tendencies would have to continue before traditional forms could no longer be reactivated. While this is a relevant objective, it cannot be pursued in great detail in this report.

We assume that even significant fluctuations in the biological productivity of the principal commercial species will be met successfully by local adaptive flexibility--for the next 5-10 years. Although **the** local fishery itself has historically been subject **to** dramatic fluctuations from one year to the next, current conditions indicate that it will be relatively durable and consistent. There is historical evidence of a well-developed ability to adapt to radically changing conditions in the fishery. Given the technological sophistication **of the local** fleet and the abundance of alternative resources in the adjoining waters of the Gulf of Alaska and Bering Sea, even a major shift in the abundance of secondary resources could be replaced on the commercial market, at least on a temporary basis, by increased utilization of currently underutilized halibut, shrimp, herring or possibly even **bottomfish** species. (We will not suggest this possibility for salmon, on the other hand.) Necessary support infrastructure such as financing, **cannery**, retooling, and vessel refurbishing could be accomplished in relatively short order given such a major shift.

The recent history of the region **leads** us to a central assumption of this report **which is** that income **levels** recently achieved within the region will not fall precipitously. This can be debated on several grounds. First, the history of the **local** fishery **is** one of great variation and **cycl icity**. Much of this variation is biologically induced: fingerling mortality in relation to temperature fluctuation is an important variable. Fish migratory patterns vary. International and domestic market conditions seriously affect the income a fisherman receives for his catch, and, as noted above, Limited **Entry** regulations, which have played a pivotal role in the recent **efflorescence** of **the** area, have

recently been declared unconstitutional (**Ostrosky** vs. Commercial Fisheries Entry Commission [**CFEC**], now on appeal). Radical change is clearly possible.

These are powerful arguments. ~~We~~ have, however, elected ~~to~~ emphasize other factors. First, the determinant factor in the fish products market for the foreseeable future is Japanese demand. This demand is relatively stable; Japanese investment and efforts to control the Alaskan source of supply are evident and expanding. Domestic marketing agents act primarily as agents of Japanese wholesalers.

Yet another issue should be noted. Local investment and expansion has yet to reach a level where large numbers of individuals might be threatened by capital overextension.

### Demography

A note on population projections is in order ~~here~~. National population growth rates are relatively constant over relatively long periods of time. Growth rates for states and for **large** urban communities also vary but **little** on a year-to-year basis. Standardized 'straight-line' projections, such as the **MAP** or SKIMP models, may have some utility at such a **scale**. The smaller the community, on the other hand, the greater the potential variability from one year to the next and thus the less utility to be derived from such an approach. One new family of five entering or leaving a community of 50 individuals gives **the** statistical impression of a 10% per annum rate of **growth** or decline for that community. The statistics must be carefully examined before an accurate assessment of their meaning can be made. To the extent that the reasons

for such a move on the part of, e.g., a family are idiosyncratic and not tied to overall pressures or changes felt by the community as a whole, the population projections based on such changes are misleading and unlikely to **remain** constant over ensuing years. There are also certain social and perceived physical limits on **the** number of individuals **who** are **likely** to establish permanent residence in a particular community. People **will** begin to leave the community if they feel **it** is becoming "too crowded" or is populated by "too many outsiders." Our projections, arrived at independently on the basis of relatively subjective indices of **growth** incentives and restrictions are meant to conform to the idea that a relatively high growth rate will occur in response to specifiable economic and political developments expected during the next ten year period. This rate is then expected to diminish **as** the upper **social** and physical carrying capacity **of** these smaller communities is approached. Kinship affiliation, village incorporation, leadership patterns, **land** availability, **community** facilities, physical space, **ANCSA** land distribution, cultural context and attitudes **all** have a direct bearing on this rate.

### Political Context

Consistent **sociocultural** patterns underlie political interaction and these patterns can be used to project general decision-making patterns into **the** future. One cannot make predictions **of** change without making certain assumptions of continuity.

**With** respect to local-level political subsystems, it is assumed that much of the community's overall ability to adapt and respond to external

demands is dependent to a large degree upon the leadership abilities of certain **community** members. Those communities with outspoken, particularly skilled, representatives are less **likely** to bear the negative consequences **of** future development in the region. These leaders can **be** expected to utilize the legal and legislative systems to best serve their felt needs. It should be noted, however, that established leadership patterns in those communities that appear less responsive to **detrimental** external forces should not be expected to remain so under more extreme conditions. That is, such conditions **may** in fact give rise to cohesive 'political' reaction **which** 'creates' the leadership necessary to protect community interests-- leadership **which**, once called forth, can be expected to **become** an ongoing and effective system. Many communities in Alaska have witnessed this phenomenon; in reaction to some external pressure one individual in the community, often outside the traditional leadership structure, emerges as the focal representative of the **community's** interest and assumes a dominant position in reaction to this single change in the environment. Over time, and under continuing pressure, this individual may come to be accepted as the leader of the village.

### Social and Cultural Assumptions

#### Social Context

We also assume that, over time, "social responsibility" **will** transfer from the kinship system to **other** informal organizations (**e.g.**, for such functions as determining crew composition, marital arrangements, patterns of economic distribution, and the like). **At the same time,**

though, **that** social service needs have declined, efforts to provide services have increased. This effort is **likely** to intensify in **the** future, further reducing the 'need' to utilize traditional service mechanisms such as kinship structures.

The penetration of the local system by **supra-regional** forces has encouraged high levels of in-migration as **well**. Population has increased significantly in all the communities of **the** region except those noted in **Langdon's** report. This should be attributed **to** the increased earnings and job opportunities available **"locally**". Population distribution is likely to be increasingly skewed in favor **of** the **larger** communities. Facilities that are unlikely to exist **in the** smaller communities in the near future, as **well** as positive incentives to **locate** in the larger communities, point towards disproportionate growth in King Cove and Sand Point, and probably in **Cold Bay** as well.

One integrative aspect of this increase in local employment possibilities, and the resultant population increase, has to do **with** a reversal of former marriage patterns. The earlier tendency toward out-marriage has been largely replaced by local and **intercommunity** marriage patterns. This tendency **should** continue as long as **local** employment and earning opportunities prevail.

### **Ethnicity**

Individuals within many of the study communities have noted, and **experienced**, a growing inclination among their peers to **watch** television or ride three-wheelers over some of the less pleasant subsistence-related activities such as cleaning, sanding, **or** repairing of vessels, or



equally time consuming, and sometimes more onerous, cleaning and packing-out of game animals. We are assuming that **this** incipient tendency will ultimately have **sociocultural** consequences notable to **the** community. Increased television programming, videotape usage, and the introduction of more movies from "outside", as well as increased ability to purchase "imported" articles, foodstuffs, and so on may accelerate the trend.

One area in which these trends will have **major** effects is in the area of ethnic relations and ethnic consciousness. Until widespread contact occurs with other ethnic groups there is little reason for the **Aleuts** to see themselves as a distinct ethnic group. With the explosion in outside influence, however, it is only a matter of time before the group develops such a consciousness. Along with this is the possibility of a basic change in the culturally-based attitudes **of the people** of the region. The **Aleuts** have historically been characterized as non-competitive, but with the changing nature of the current social system this trait **will** come under serious pressure to alter in the direction of competition. Such an occurrence would signal a fundamental cultural change for this group, and from the directions of current change and it seems to be **only** a matter of time before this occurs.

Previous studies have projected future **non-OCS** development ethnic ratios to remain unchanged. While this projection may be accurate for larger regions and larger urban communities, it does not accord with observed tendencies in the communities of this study region. Recent census figures--even in the face of increased awareness of ethnic identity **concomitant with the ANCSA** implementation--indicate a gradual increase in

non-native residents in the study region. As noted above, we assume that even without OCS implementation there are several **forces** encouraging change in **the** region. Particularly important here are the changes in the fisheries, and their profitability, over the last decade. We must assume, as **witnessed** in the Bristol Bay area, that the recently accelerated development of the adjacent fisheries **will** promote **this** shift in ethnic composition of the Peninsula.

The presence of outside commercial fishermen during the early summer months each year is a firmly entrenched element of the native adaptation. Their numbers, their attitudes, their values have to some degree already been incorporated into **local** adaptive response. The effect of **novel** agents of change such as locally-resident non-native teachers, **on** the other hand, must be considered independently. **It** must be understood that '**ethnicity**' itself is primarily, at least in **the** initial stages, a response of the local population to changes in the environment rather than a force of change *per se*. **Only** after ethnicity has become a part of the local Weltanschauung (world-view) does it begin to exercise influence over future directions of change--but this process is well advanced in the social environments of these communities.

Even with the development of 'ethnic consciousness', certain aspects of 'westernization' including education, consumer behavior, and recreational activities will have a significant impact on these communities. The adoption of non-Native values is often very gradual, nearly imperceptible in some cases, and **is** therefore **the** more difficult **to** contend with for **local** populations. It takes many forms and is often unrecognized **as** externally-generated by members of the community. An increased

sense of alienation may be perceived, but the source is often ill-defined. Increased rates of alcoholism, narcotics usage, crime and violent crime, accidents, and suicide are often associated with this increased sense of displacement, disorientation, or anomie.

These detrimental effects of 'modernization' have been mitigated by the enormous expansion of **economic** potential which has characterized the last decade in the region. There can be **little** question that the enhanced sense of well-being of the inhabitants of **the peninsula today**--as a result of the high returns from the fishery--has had a dampening effect on the incidence of accidental and suicidal deaths. To the degree that our projections are tied to a leveling-off of earnings from the fishery--with **no OCS-related** development--we must also project an increase in this mortality rate. The source of this increase lies in the continued rise of value expectations with a leveling-off of **value** capabilities. Thus, the greater the frustrated expectations, the higher the intentional and **subintentional** mortality rate for the area.

Some local individuals will, of course, respond more rapidly in taking advantage of the new resources and possibilities being opened up with more extensive contact with **the** outside world. This will signal an important cultural shift in style of leadership. These new leaders, operating through **what Bailey** refers to as 'bridge actions' between the **system and the** environment, **will play a large role in** encouraging cultural changes among the Aleut.

The growth of ethnic consciousness and the emergence of a new style of political leader are only two of the many cultural consequences of current directions of change. All the communities Mull, to some extent, be subject to increased pressure for local development, increased reliance on external sources of capital, and, ultimately, a growing sense of dependence on non-local political forces and economic systems. This increase in external dependence will come at the expense of local systems of sociocultural interdependency, as has been often demonstrated in studies of social change. As new forms of community support are brought into existence, previous social structures which once provided such services are no longer required and begin to be transformed or transcended. This does not occur swiftly. It takes many years, possibly decades, during which, e.g., traditional kinship networks are not called upon to serve such functions before their demise can be noted and accepted by the community itself. The communities of this study region are clearly in such a transitional situation. Many traditional social structures are less frequently called into action, or are called on to fill novel needs in the context of the new circumstances. Forces that tend to reduce the need to utilize these structures accelerate the transformation of traditional patterns or the shift to new patterns of social interaction.

## Discussion

Recent economic growth, political awareness, and mobility factors have combined to produce a rapidly changing social environment. This cannot be seen as a unique quantum leap or as a single shift to a new plateau of political, economic and social awareness. It must be seen **within** the context of an accelerated transition toward greater expectations. Thus, with or without OCS development, many changes are imminent in current social trends and must be examined in detail in order to obtain a realistic picture of the impact of future OCS development **on** the study communities.

While on the surface it would appear paradoxical, the more isolated communities of the study region are both more susceptible to direct forces of social change and are more capable of adapting to **major** fluctuations in external sources of capital. These communities have access to a wider range of options in times of economic stress than more urban communities and have not established the government dependency relationship that is common to the latter.

**While** the projected income of the study communities is expected to gradually increase, largely due to the productivity of the commercial **fish-ing** industry, it is expected that those communities in the lower income range will enjoy a more significant increase than those at the upper end. For example, while Chignik residents may enjoy a 5-10% increase in net earnings (representing maybe \$20,000), those in the lower income ranges may reap 20-30% increases over the same period (representing, however, **only** a \$10,000 increase in net earnings). Yet, this increase will have much greater social and economic significance in the less

well-off communities than in the Chigniks.

We have attempted to document, as thoroughly as possible, the established and incipient tendencies and cultural directions of the present population of the study region. There can be little question that with no OCS related development these communities will have to confront a less benign social and economic environment, or that major social and cultural changes are already in process. We must note here, however, that we have considered only relatively consistent or gradually increasing social pressures on the local communities from external sources. Parenthetically, we must mention that the potential changes suggest by extreme OCS projections and emanating from the influx of a non-Native population nearly tripling the local population for a period exceeding a decade can only be described as profound. Studies of such potent long-term situations are very rare--those of relevance to Alaskan indigenous populations do not exist.

## Methods

### Data Collection

The process of collecting data can be seen as an operation distinct from analysis. However, the decision to collect one type of data rather than another is of some consequence to what kind of analysis can be attempted. The collection of data will be based on an understanding of the theoretical model and analytic procedures to be applied to that data.

In the present study we must deal with two separate sources of data. On the one hand, we have access to several previous BLM research reports,

various published studies on individual communities, general descriptions, and unpublished manuscripts that have been produced under varying conditions and with varying objectives. These have value in that ideas, some central concerns, and perspectives on a wide range of specific issues can be extracted. For the needs of this analysis, however, they are insufficient. Our interests demand a broad, holistic understanding of several different communities, many of which have never been examined in detail. They require firsthand collection of data on narrowly defined topics--i.e., those that are amenable to the model of change employed in our analysis.

Our model will allow us to closely integrate the analysis with the data. That is, in that the relative strength and role of each category of data varies by community, the data themselves will in great part determine the categories and structure employed in the analysis. It will also enable us to see future implications in relationships that are not open to direct examination.

### Codification

The first step in our analysis is the codification of data which involves its translation into systems language and the arrangement of translated data into appropriate categories. The second step involves the description of interaction between categories; determining what are the operative relationships within the system.

### Projective Analysis

The use of our model in a projective analysis requires the integration of structure with an assessment of trends--we must demonstrate both the

character of recent changes and their likely effect on **future** structures, and vice versa. Recent trends can be presented using two comparative approaches: first, we can quantitatively demonstrate changes that have taken place in the fishery, in ownership patterns, in local development, etc., and **where** possible **refer to** recent studies which **provide** such objective indices of change. Second, we can provide a qualitative appraisal of differences between villagers' assessments of recent changes with current structures and functions to determine subjective indices of change--and from these attempt **to** project future interaction. These assessments provide the most important measure of change for the communities in this study.

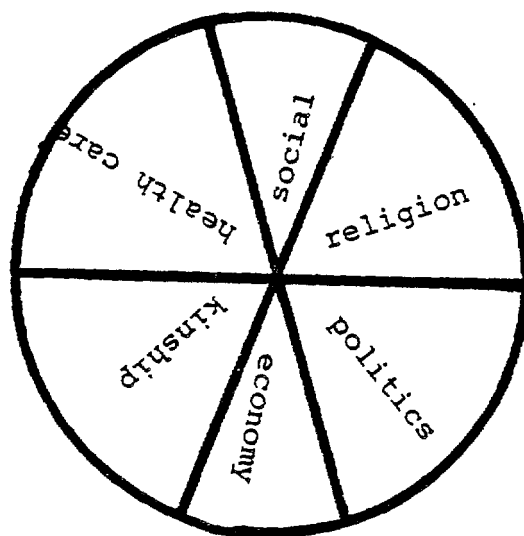
Although the weights assigned to the components of the social system may differ from one community to the next., the procedure for establishing the weights is **fairly** constant. Both independent (environmental input) and dependent (community response) variables will be weighted in terms of the value hierarchy of the community or community cluster under study. By clearly outlining the hierarchy of values **which** governs social behavior and provides **the** basis for social organization, one **can** determine, 1) which elements of the environment will have greater impact on the community, 2) **which** subsystem structures are important, and 3) which community responses are most important in determining the overall force of change.

There are three limitations **to** the procedure: **First**, at present. there is no established procedure for assigning weights to **the** different norms in the value hierarchy. The relative importance of each structural component can only be roughly approximated. Such an approximation can take



the form of a pie, in which each piece represents the proportion an arbitrary component plays in the overall operation of the system. For example:

Figure 1: A Generalized Model of Subsystems



Such an estimate is not to be taken as an interval seal e, that is we are not able to assign specific percentage values to each subsystem, but it is in some ways more than an ordinal scale in that we do have the ability to view kinship, for example, as not only more important than politics but as roughly two or three times as important..

Second, these approximations are not the same for all communities in the region. Differences in proportions can be detected between clusters of different communities and between individual communities. Third, not all of the environmental input is weighted by the value hierarchy of the community. There exists a hierarchy which is independent of the region, with economic forces having the greatest weight, followed by political, social, educational, and with religion at the bottom.

### Interpolation

Data sources can never be complete--there will always be gaps in the record which must be filled before the data can be analyzed. This process, by which the analyst supplies critical linkages between data sources, suggests relationships, etc., is called interpolation. In this process the analyst relies on his own understanding of how the system works to inform his assumptions--it therefore involves a possibly infinite set of lower order beliefs, values and preferences of the analyst that could never be fully explicated.

### Extrapolation

Analysis performed in order to project the operation of a system into the future based on the structure of an existing system is called extrapolation or systemic projection. When we determine the structure of each community and then position this structure in various future points and suggest how it will function in these new environments we make definite assumptions regarding which variables will remain constant and which are likely to change.

### STANDARDS

The following section details the established ethnographic trends and condition of the region under study. These standards are ethnographic factors which have been established as existing in the study region and have been verified by more than one investigator. These standards are divided into economic, social and cultural, political, religious, and educational.

#### Economic Standards

The major economic standards characterizing this region revolve around the impact of Limited Entry and the Alaska Native Claims Settlement Act. Both of these factors have served to greatly increase the economic return to the members of the communities in the region. The dominant effect of the rise in economic returns has been an increasing involvement of the local populace in the larger wage-labor cash economy. Economic relations have likewise come to depend more on formal contract and wage-labor agreements than on traditional forms of reciprocity, and this increased "instrumentalization" of the economy has become a

pervasive fact of local life.

The economic bonanza has been a two edged sword. The people as consumers and information gatherers exercise increased freedom and independence in what they choose because there is more from which to choose and more capital with which to make the purchases. Politically these communities are coming to exercise more power at **the supra-regional** levels. This has all occurred as the region has become more intensely linked to **the** "outside" (the environment). Another result of this local/environment interaction, however, has been a loss of local autonomy; of freedom **to** choose the future course of developments in their communities.

We also note that the unusually low rate **of** Native employment in these **small** rural communities is not **solely** a result of 'lack of employment' opportunities. In some communities, even during the non-harvest periods, employment positions go unfilled. Cultural preferences come into play **at** both ends. Employers **who** might otherwise set up an **enterprise** in a **local** community are aware that a major portion of **the** local population prefer not to **work**. **While the** view that they are 'lazy,' 'undependable,' 'unreliable,' and 'fickle' is largely unfair, from a purely business perspective there is both historical and contemporary justification. **It** should be made **clear**, however, that it is the outsider's assumption that 'everyone needs the money' or 'everyone should want to work' that is at variance, and **not** the local inhabitant. **The** local belief that 'one works in order to live' is radically **different** from the view of the larger society that 'one works in order get ahead' --many, if not most, of the population of the smaller communities

of the Peninsula view employment from this perspective. Their objective is to maximize the utility of available resources and sources of income rather than ~~to~~ maximize income at the expense of established social and cultural patterns. This is profoundly different from the dominant western approach to employment.

Another effect of the growth of importance of the" cash economy has been the reduction in importance of the traditional subsistence sector. It is important to keep in mind, however, that despite the overall ~~reduc-~~tion of subsistence harvests, some subsistence harvest patterns are culturally more 'attractive' or satisfying than others and would be pursued even in times of economic surplus, ~~while~~ others are pursued with essentially economic motives and are expendable if a more profitable alternative becomes available.

Finally, though this project is designed to project the direction of change without OCS development, merely the proposed development has already had measurable economic effects. In one town in the region a number of lots of land were sold in an area where there had been no development previously. Only a few of these parcels were purchased by ~~l~~ocal individuals, and none have been developed or resold. It is clear that many of these parcels are being held for speculative purposes, for future sale or lease to oil companies should OCS development occur. Purchased at bargain rates, the value of this land ~~will~~ probably increase with or without OCS development, and the purchases represent a calculated speculative venture. Expectations of segments of the community are already growing, and subtle, even unconscious maneuvers have been initiated so that returns from projected development can be maxi-

ized. Many community members are well aware of the 'inevitability' of OCS development at some level.

This 'real world' understanding of the likelihood of development must be taken into consideration in this projection. It is important to note that the possibility of OCS development is already a recognized factor in the region, and as such has already entered into the system whether or not development actually occurs.

#### Social and Cultural Standards

The dominant social standard of relevance to this area has been the increase in community cohesion, primarily at the instigation of the increased economic returns of the fishery and the felt need to protect local interests. There has also been a tendency towards a reduction in the importance of informal social sanctions such as censure and gossip and increased reliance on formal mechanisms of conflict resolution such as the police force and the formal court system. Culturally, the dominant standard has been the efflorescence of ethnic identity, primarily as a result of the importance of such identity for the distribution of land under the terms of ANCSA.

The recent efflorescence of the fishery, along with the effects of ANCSA, Molly Hootch, and other factors, has encouraged very high levels of community cohesion, personal satisfaction, and a growing sense of ethnic identity. On the one hand, there has been little time for the development of dependence on externally based sources of self-esteem and self-worth. On the other hand, incomes and capacities to acquire non-local resources have increased faster than expectations.

Personal and interpersonal identity conflicts resulting from two sets of cultural and social objectives have been minimal thus far, but may be expected to emerge increasingly in the future. Intergenerational **conflict** has been exacerbated as a consequence of inordinate earnings among the younger generation. Young adolescents earning \$50-75,000 in a few summer months are much less eager to be limited to normal high **school-level** social and economic options. Where this occurs, **the traditional** authority and power of more **mature community** members will suffer decline. As younger fishermen/permit holders are **able** to purchase new homes, support families, and establish independent households, traditional lines of authority will atrophy. Recently exaggerated income levels have, in this sense, acted disintegratively within the traditional sociopolitical environment.

The increased levels of interaction with the "outside" world, the increased ease of intervillage communication, and similar trends have already had major social effects. **Most** revolve around the increased dependence on formal means of resolution of conflict at the expense of traditional informal means. This is particularly true of the **larger** communities, but is also a factor in the smaller ones as well.

### Political Variation

Politically the major standard is the increasing bureaucratization of local political structures. As the local arena **comes** increasingly into contact with external political and economic bodies the importance of effective interaction **with** these bodies encourages the formalization of political power.

In some communities of the study region a relatively distinct political organization exists. Well defined objectives, firmly established political leadership, and deeply shared sociocultural patterns lend substantial legitimacy to our projections. In some of the smallest communities, the ability of a single individual or single family to assume control of the local decision-making process, and successfully channel resources and energy in narrowly defined directions, lends even more accuracy to our projections (especially if the individual is relatively young and committed to the community). However, in some small communities no organized political leadership has emerged, no families have assumed supremacy, and thus projections regarding future political action have less credibility. Political movements in larger communities, on the other hand, are more integrated with wider societal processes and are thus more amenable to prediction.

The ability of local communities to achieve political objectives has increased markedly during the last half decade. Much of this is due to the expanded production and returns from the local fishery. It is also in part due to new levels of political awareness and effectiveness brought about by ANCSA legislation and the creation of village and regional corporations. ANCSA-related legislation has also enhanced recognition of these communities by state and federal agencies--this, in combination with increased revenue at the state level, has accelerated the flow of funds to rural areas.



## Religious Standards

The area appears to have **become** somewhat more secularized in the last two decades. Religion is still nominally Russian Orthodox for most of the study communities, but in many communities, particularly the smaller ones, **the** presence of a priest is only intermittent at best and religion does not form **a** substantial basis of social interaction. In some of the larger communities there are full time priests in an established church, **but** even here **the** importance of religion appears **to be** in decline.

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## Educational Standards

Educational attainment in the region is on the increase for several reasons. First, the Molly **Hootch** decision gave every child the right to an education and mandated the building of secondary schools in all villages requiring them. This has meant that the **attainment** of a high **school** degree is increasingly **likely** for the children of the region.

Second, the increased levels of interaction **with** the external **world** has meant that the local communities can directly benefit from the education **of** their children beyond **the** secondary level. **Thus, there** is an increase in those from the region **going** on to college and graduate work in order to acquire the ability to serve as advocates for the local community, particularly in the fields of law, medicine, and engineering. Educational objectives are increasingly tied to local needs.

## REGIONAL PROJECTIONS

### Introduction

This **report offers** a 5- 10- **15-** and 20-year projection of social change **for** that portion of the Alaska Peninsula and eastern Aleutian Islands from Pilot Point in the east to False Pass **in** the west. This includes the communities of Pilot Point, **Ugashik, Port Heiden, Chignik Bay, Chignik Lagoon, Chignik Lake, Perryville, Ivanof Bay, King Cove, Sand Point, Cold Bay, Nelson Lagoon and False Pass.** The intermittent or minimal populations of Port **Moller,** Herendeen Bay, Squaw Harbor, **Unga, Belkovski,** and Sanak **Island** will only be discussed incidentally in relation to these other population centers.

Our projections are founded on two primary sources of data: The **first** source consists of information obtained through various government and private agencies, from **libraries** and personal data files, and information **provided by the BLM** in the form of various technical reports and technical papers and, in particular the baseline **sociocultural** analysis for the **Chignik** subregion by James Payne and Associates (1981) for the community of Cold Bay by Alaska Consultants, Inc. (1981), and for the individual communities of King Cove, Sand Point, False Pass, Nelson Lagoon, Port **Heiden,** Pilot Point and **Ugashik** on data supplied by James **Brelsford** and **Dr. Steve Langdon** and contained in appendices of the Earl Combs Associates, (n.d.). **The bulk of the** analysis, however, is based on data collected by the principle investigator or his consultants **in visits** to each of these communities.

Our projections **are** presented in the following manner. First, following our model and analytic methods, we will examine those features of the study area which can be used to distinguish it as a "region," how those features are likely to change during our projection period, and what the consequences of those changes will mean for present and future populations. Second, we apply this framework **to** the analysis of subregional systems and note how these vary from or conform to the regional-level projection. In the second volume of this report we present **community-level** projections as well as a table (as an appendix) of analytic categories used in our analyses. This appendix may be used as an aid to understanding the material presented for each level of analysis. The reader should be familiar with the studies cited above because this baseline data will not be reiterated here and many of the assumptions implicit in this report are founded on short- and long-term trends observed, stated, or implied in those earlier studies.

It should be noted that this report relies less on OCS projections of growth for the groundfish industry than on personal interviews with industry representatives and fishermen in the communities potentially affected by such growth (including Dutch Harbor/Unalaska processors and fishermen). This distinction is significant. Our projections for industry development and **population** growth resulting from the **bottom-fishery** are **well** below those of OCS and several other projections. We also find it difficult to accept **the** assumption that this fishery will be exclusively allocated to domestic fishermen within the next 15-20 years, or, even if this were to occur, that U.S. interests would be able to profitably utilize the available resource, or, finally, that

Local fishermen would enter this fishery in sizeable numbers. In terms of the **final** analysis, this difference is reflected **in** a projection of less extreme population and industrial development than suggested in other OCS projections.

**Sociocultural** projections are notably absent in the anthropological literature as the emphasis has been more one explaining the past or the present than predicting **the** future. However, **OCS SESP** objectives require the assessment of probable future conditions so that some judgments may be made regarding the effects **of OCS-related** development. We have endeavored to present here **what** informant discussions, literature search, and consultant interactions have **led** us to believe will occur within the projection period.

Manifold scenarios could have been constructed and their implications for **social** change followed through to their logical conclusion. Other OCS projections are indeed predicated on different, and in our view, rather extreme assumptions. We could have developed our forecast on themes of salmon fishery **decline** or improvement, market decline or improvement, accelerated growth in the **bottomfishery**, open access to the resource with abolition of Limited **Entry**, large scale mineral development, or any of several other problematic assumptions. Our informant data, in particular, lead us **to** forego such assumptions. Even if we had elected to pursue this alternative it would have meant the construction of dozens of separate scenarios to conform with the different sets of assumptions that **would** have to be employed. Thus, this forecast is our view **of the most probable course of social change** for the Alaska Peninsula region assuming no **OCS-related** development.

As will be apparent in this report, we foresee a substantial amount of change occurring over the next 20-year period which is unrelated to oil development. This should not be taken to indicate we believe these developments will have little or no effect on the region if they occur. Quite the reverse is true. While the general course of change appears relatively clear, the character, degree and pace of those changes can certainly be radically affected by oil-associated development. The character of the change concomitant with such acceleration is the critical element of any future analysis. It will be the compression of time over which a population is allowed to adjust to a particular environmental change that will be the critical variable in estimating a community's ability or inability to adapt to that change.

#### Alaska Peninsula

Projections are for that area of Alaska between Pilot Point on the Alaska Peninsula to the community of False Pass on the Aleutian Island of Unimak, including the city of Sand Point in the Shumagin Islands. This area is conveniently accepted as the Alaska Peninsula and will be referred to as such. As will be noted throughout this report, the region as a whole has endured over half a decade of accelerated social, economic and cultural change and we foresee a continuation of this general trend.

#### Input

## Ecological

As noted in the Methods, Standards and Assumptions section, our modeling of change for the region as a whole employs the general assumption of an ecological status quo. With the exception of the crab resource, we **do** not foresee any major decline in marine resources available in the Alaskan Peninsula during the forecast period. There is, however, a **possibility** that current large-scale foreign harvesting of the **bottomfish** resource, or domestic harvesting assumed to occur in the near future, will affect the reproductive ability of those species, but this is clearly at the distant end of our projection period and will not be considered here.

The increased abundance of the salmon resource is discussed in the Methods, Standards and Assumptions section **of** this report and is a fundamental element in projected **sociocultural** changes. We reiterate only the three primary causes of this biological abundance: mild winters, the reduction in high-seas interception (200-mile limit), and altered migratory routes. The biological decline of the crab fishery **is** a matter of **debate** at this time. Our opinion, from discussions with biologists, is that while this fishery may appear to 'recover' in the near future, the fact that over-harvesting has occurred and continues to occur, that the relationship of the crab fishery to the cod fishery and the general reproductive and migratory cycle of crab species is so little **understood**, that this resource is destined for continued decline and cannot be expected to protect **local** fishermen from any hypothetical long-term decline of the **salmon** fishery.

## Extrasocietal

### External Government

As noted in the Methods, Standards and Assumptions section of this report, we assume a gradual, but significant, decline in federal sources of revenue to the state and, ultimately, to this region of Alaska. This will be mitigated in the short-term, i.e., through 1990, by increased sources of state revenue which, when distributed to local communities, will offset declines in federal programs and, in the aggregate, amount to an increased level of government expenditure during this period. We also reiterate that, as a region, this area is far less dependent on such sources of income than most other areas of Alaska. Thus, the assumed short-term increase and ultimate precipitous decline in state assistance during the 1990's will affect this region to a significant but lesser degree than other areas of the state.

The federal government constitutes an environmental factor in the economic as well as the political sphere. For example, the greater the individual's earnings the more U.S. Internal Revenue Service regulations act to promote reinvestment of income. This has been an issue of substantial importance only during the last six or so years when earnings have been unusually high. Under current taxing structure the fisherman who earned \$200,000 in one season, without any major new investment, incurred a tax liability to the federal government of more than half his earnings. Shortly after this became evident there was a rash of new vessel purchases, new gear and new technology, all tax-deductible. This forced-investor principle quickly operated to their benefit when the following seasons brought even greater salmon returns,

larger harvests and improved returns per pound landed. This circle has continued to result in economic benefit to the region but has also led in some cases to substantial capital over-extension, and pressure to meet excessive debt obligations. This has already resulted, in some cases, in diversification of resource harvest patterns (herring, crab, and halibut are options) and led to increased time on the fishing grounds.

Access to finance capital has been a major precipitating force in the growth of wealth in these communities. HUD supported construction, state supported and bank financed vessel and gear purchases, and various state and federal grants-in-aid to the communities of the region have rapidly accelerated capital accrual.

Regional-level government has yet to have major economic bearing on community life or infrastructure. We do project, however, a gradual increase in the role of the two regional native corporations which exert authority over the peninsula: the Bristol Bay Native Corporation [for the eastern half) and the Aleut Corporation (for the western half). The APIA, a non-profit service-providing Corporation, has recently gone through a major leadership change--all but two individuals left the association. The underlying causes will not be discussed here--it is sufficient to note that such a shift can swiftly affect the character of the organization, its development or non-development orientation, and bear directly on current as well as future activities. Neither the Aleut Corporation nor the APIA have yet to make a major impression on the region as a whole so these changes will not be used to indicate a trend. We do suggest that such rapid leadership changes are possible throughout.



the region and must inevitably reduce the reliability of the projective enterprise.

### Commerce

Our discussion here of **the** economic environment **of** the peninsula includes only those features of the state, national and international economy which operate independently of the region. These include, in order of importance, the international and national market for salmon, foreign and domestic manipulation of production and cost variables, federal tax structure, and access to capital. Many others could be noted but these appear to be crucial to understanding external economic constraints and supports.

Two primary 'markets' and products emerge from this fishery: canned and frozen salmon. Most of the quick frozen salmon (primarily red salmon) produced in this region are destined for markets in Japan. This strong and constant market is may be viewed as an inelastic demand on the resource. We have discussed how the reduction of foreign harvesting has thus substantially increased demand and price to the fisherman and is a critical variable in changes occurring in this region. The frozen product is the most highly valued and priced. Canned salmon are produced for several markets, both domestic and international, and involve a greater variety of species and a much longer season. In many ways the Japanese demand sets the tone of the season. If reserves are **low, the** yearly run is not expected to be high or if U.S. or international demand is expected to be high, then the bid price for salmon escalates - the reverse often holds as well.

Japanese control of the fishery is firmly **fixed** and acknowledged by the regional population. They do not, however, see **a** threat in **the oligopolistic** manipulations of Japanese commercial interests and are more concerned **with** encouraging greater international participation than reducing excessive foreign control. Any threat inherent in this control has been substantially mitigated during the last few years with the appearance of 'floaters' and 'cash-buyers' described above.

Fisherman unions, while they operate as if they held some sway over the process, actually exert little influence on the ultimate price-per-pound received. One other relatively recent feature **of** the external economy that does **play** a prominent and increasing role in economic returns are the "outside buyers." These include floating processors of various types, airport middlemen **who** purchase product for transshipment to other processors, and **who** operate independently of the shore-based processors and must therefore establish competitive prices to attract fishermen. Thus, the fixed price established prior to the season between the fisherman union and the canneries is used as a baseline by the "cash buyers" for bidding-up the price in order to get the product. This has had **major** beneficial effects on economic returns to local fishermen.

## Intrasocietal

### Demography

The demographic characteristics of the regional population are certain **to** shift gradually in favor of non-indigenous residents. Natural increase and declining mortality rates will account for less than **half** the projected growth rate for the region as a **whole**. We hasten to add

that population projections assumed in this analysis are substantially less than suggested in other reports.

Nevertheless, the regional population will continue to increase throughout the projection period. It will occur independent of accelerated growth in the **bottomfishing** industry, without **OCS** development, and is predicated only on the assumption of reasonable stability in the fishery and consistent world demand for the product. We have noted several retarding factors to growth in the region and add here only that the smaller communities are more susceptible to these factors than the larger communities. For example, the distribution of **ANCSA**-related land will in some ways promote development in larger communities where sentiment favors construction, economic diversification, etc. However, in some of the smaller communities the distribution of **community** land, and the control of the remainder by the village corporation, will certainly retard immigration and economic development. The freedom to enter a community, build a house and establish residence that is common today will be substantially non-existent in the future--one would have to be able to purchase land before entering the community. Also, the incentive created by this legislation to maintain fictive, seasonal or dual residence in communities where individuals **hold** stock is sure to confound the statistics and the actual context of **village** organization. On the other hand, outright land ownership creates a definite incentive for shareholders to maintain residence in a community where such incentive **would** not have existed prior to **ANCSA**. Thus, **ANCSA** promotes stability and continuity as well.

Limited Entry should act in a similar way to retard population growth at

the local level. As the dominant economic enterprise, fishing can only be pursued by permit holders--whose numbers are currently rigidly controlled. The inherent tendency for permits **to** drift **out** of **local** hands, notwithstanding, new fishermen in general **will** not be moving into the area in attraction to fishing opportunities--these are more or **less** strictly limited. This **will** clearly operate **as** a brake to rapid expansion of local-level economies.

**We** will project, barring unforeseen fishery or oil development, a very gradual trend towards parity of the sex ratio of the population. Marriages into the region should be facilitated over time as a consequence **of** increased earnings.

### Structure

#### Values

**The** projected shift in population in favor of non-indigenous residents has wide ranging consequences for the regional system **of** values. Immigrants bear a different cultural background, different beliefs and **values**, which **will** alter the character of the local **social** environment. Since **the** primary attractive force of **the** region **will** continue **to** be the **local** fishery, it is expected **that** immigrants **will** be animated by the profit motive. This population and value influx will **occur** in communities **where** profit was traditionally, and to some extent **still** is, seen as coming **at the expense** of other community members. This **value dissonance must** ultimately result **in** overt or subliminal hostility between those identified as "outsiders" and those identified as "locals," or between the "greedy" and the "lazy." This is expected **to** surface within

the next five to ten years and to steadily increase until the balance of those **who** are 'really' locals and those who have assumed local identities or **who** do not see value in this identity shifts in favor of the non-indigenous population. Such a community can no longer be considered 'local' in the same sense as other communities which have not undergone such shifts. An exaggerated instance of this phenomenon is the exclusion of Cold Bay from virtually **all** social affiliation with other communities of the Peninsula. It is composed almost entirely of **non-indigenous** residents, has very **little** sense of community **cohesivity**, very few permanent residents (as opposed to fixed-term residents), no political integration, kinship organization, or shared ideas of continuity (though incipient forms of each are enumerated in our discussion of this community/subregion). While this phenomena is unique and is not likely to occur in other areas of the region--in that integrative elements of traditional communities far exceed disintegrative elements--we have observed indicators of increased bureaucratization, impersonal **iza-**tion and **politization**, and their concomitant social consequences, in virtually **all** the communities of this region. Wider travel and social and economic experience have a similar and pervasive effect on identity and must be considered as a secondary consequence of increased affluence in the region.

The dominant theme in terms of value change must be seen as economic abundance, increased economic expectations, and political organization. The recent **efflorescence** of the salmon fishery is the principle 'cause' --directly in the form of earnings and expectations and indirectly in the form of local political awareness and broader representation. As noted elsewhere, material possessions have a way of

affecting interpersonal values and relationships. As a wide variety of such new resources **enter** the community the perceived skew in the distribution of wealth increases. Normal attempts to reestablish equilibrium result in the wasteful **but** familiar "keeping up with the Jones" syndrome. While most major purchases can be defended as utilitarian, **e.g.**, new homes, vessels, and gear, others appear **to** be products of affluence and competition. This is clearly the case for teenagers purchasing new three-wheelers, cars, pick-up trucks, expensive video **equipment, etc.**, which become unserviceable within a few months. This waste is **a common** complaint among residents, and especially parents, within the **region**.

The region as a whole must be seen as composed of **at least** three separate but overlapping cultural heritages but which **all** (with the exception of **Cold Bay**) consider themselves **Aleut**. As discussed **later** at **the** subregional level, the **Chignik** subregion, the Southern Peninsula, and Cold Bay are distinct social groupings with minor kinship, language or cultural interface. Cold Bay is a community of white, non-indigenous semi-permanent and fixed-term government (state, federal, and military) residents and a few employees of commercial enterprise. The Southern Peninsular subregion is of **Aleut** and Scandinavian (primarily Norwegian) extraction and share cultural features **of** both heritages. The Chignik subregional population is primarily of **Russian-Aleut** extraction which thus reflects a temporally more **distant** period of contact and influence. Their values and beliefs are therefore more closely associated with the traditional Aleutian cultural configuration. The population of the Northern Peninsular subregion has an extensive history of admixture **of** several cultural heritages. **Yupik-speaking** Eskimo, Russian **Aleut**, Scandinavian, and later arrivals give these communities a varied and

integrated ethnic heritage forming the basis of what is viewed by local residents as an 'Aleut' identity.

As a broad generalization, however, it is fair to state that traditional cultural orientations, in the sense of early Aleut values, in this region no longer play a profound role in community interaction. For the most part, these values have been subordinated by western concepts of law and regulation, by bureaucratic form, and by the monetization of their economy. Traditional redistribution of wealth and concepts of equity have gradually given way to wealth aggregation and skewed distribution of status and prestige. Where in the recent past the product of a hunt would be distributed in a particular fashion among kinsmen, now a call over the CB that "I left a bunch of geese down on the beach if anyone wants one." Clearly the social value of traditional reciprocity, at least this form of reciprocity, has declined considerably with the advent of high income levels.

Despite the gradual dissolution of traditional Aleut values, the dramatic increase in immigrant population of the adjacent area of the Aleutian Islands (Unalaska/Dutch Harbor), and the social and economic changes it has brought, are familiar to everyone in the region and have affected the way social change is perceived in the Peninsula. Everyone is opposed to change which threatens the integrity of their community--this was frequently expressed in the remark "we don't want what happened in Dutch Harbor to happen here." Change, however, was not uniformly perceived in negative terms--quite the contrary. Most of the leaders of communities in this region see change as inevitable, necessary and beneficial, and are working to attain specific change objectives. The dom-

inant theme amongst these objectives was 'self-determination' and material prosperity. The goal of independence was shared universally, even by the incipient leadership of Cold Bay, though the forms by which this goal were expressed vary from isolationism to politics? intrigue to commercialism. It is this shared goal of internal control that inclines us to believe that individual community growth policy will be adjusted to prevent the occurrence of 'Dutch Harbor' in any part of the Peninsula. The recent ejection of floating processors by the community of Chignik Lagoon in 1981 is a reflection of this tendency to protect the local environment and population from the negative consequences of commercial development even at substantial economic cost to local residents. This is also evidenced by the willingness of the Chignik Fisheries Board to independently close the local fishery to protect the resource--at direct and significant economic cost to its membership.

## Organization

### Economic Organization

#### Commercial

The region may fairly be characterized as one of highly accelerated material and economic change. These changes have occurred over the last decade and can be more accurately bracketed in the period 1975-1980. During this time communities within the Peninsula have acquired satellite communication systems; some with individual household phones, others with single community phone systems; many have satellite television reception; most have electrical generators, individual cesspools or village sewage systems; all have access to currently adequate water supply.



Recently increased levels of income have fostered construction of new homes, the purchase of new trucks and cars, improved fishing gear and vessels, and the purchase of a full range of major and minor household conveniences like washers and dryers, refrigerators, garbage disposals, and many others.

Economic development for the region is predicated primarily on marine resources. A decline in salmon runs, or the market value of the product, will uniformly affect the region as a **whole** in a negative fashion while increased abundance or market price will have an opposite affect. The dramatic emergence of the bottomfishery as suggested in reports noted above is either not assumed to occur or, if it were to occur, not to have substantial affect on the communities of this region. Secondary entrepreneurialism, evolving out of the rapid growth in earning levels, will continue throughout the region, but will be centered primarily in the communities of Sand Point and **Chignik** Bay where economic, political and market conditions are particularly favorable for such development. Growth in housing, land purchases, and capital construction are all expected to occur over the projection period. The estimated average rate of growth for the next 20-year period, after averaging the **community-level** projections, is approximately 4% per annum.

The accelerated adoption of highly sophisticated technology has affected the local resource utilization pattern in fundamental ways. During the early development of this technology the fishermen of this region were mostly unable to make the **major** investments necessary to obtain it. By the mid-1970's when earnings and tax incentives made such investment feasible the fishermen entered the new technological era with a

vengeance. Today almost all the limit vessels are equipped with the full panorama of navigational devices and fish locators. The majority of the vessels, gear and labor saving devices are of recent construction or purchase. Access to these technological improvements has led to a generally increased catch per vessel and per man hour of labor. We note one generally negative consequence of this economic and technological change--as vessel earnings have increased the percentage allocated as crew share has begun to decrease. This tendency is just beginning and has not reached the point of widespread frustration as it has in Bristol Bay where crew shares have declined significantly as competition for employment has increased.

### Subsistence

A wide range of subsistence utilization patterns occur within the region and only the most general summarization can be attempted. In virtually all of the communities of this region the population consciously recognizes the fact that subsistence harvests have declined during the last decade, in particular since 1975. The obvious connection to increased earning levels is noted by residents in the following way; "now we really don't have to put up so many fish or to bring in four caribou each year, but lots of us still do." The subtle difference between having to and preferring to harvest a traditional resource can be seen either as a transitional phenomena or as a temporary variation in an established pattern. We feel certain that the longer the period during which these patterns are not pursued the more difficult the return to traditional subsistence utilization. We will deal in greater length with subregional variations, which can be large, in following sections

of this report. Official statistics and reports camouflage this phenomena because of the increased reporting pressure on local residents, the established ritual of reporting by a relatively consistent group of residents and by the fact that subsistence harvesting traditionally went unreported.

### Social Networks

The primary functional social units in these communities continues to be the family. Wider kinship affiliations still serve critical needs in all communities but Cold Bay. There has been a very subtle decline in the utility of these connections, however, and a growing tendency to replace them with formal and contractual relations. This can be seen in the fishery where economic factors have made it more attractive to hire non-kin-related individuals for crew, to hire construction personnel in some cases rather than press relatives into the operation, to pay for services that were once rendered on the basis of reciprocal kin obligation. While this is a pervasive social trend, we suggest that the social milieu within which it occurs is far more dependent on, and organized around, principles of kinship that the accelerated trend toward formal associations is more abrasive and notable in this region than in other parts of the United States. We foresee, during the next 20-year period, a gradual increase in frustration with this process and a corresponding growth of informal and semi-formal institutions designed to soften the impact of their decline. Incipient forms include the growth of voluntary social organizations such as Lions Clubs, Women's Clubs, informal church groups, and wider friendship and non-kin familial affiliations, and long-term non-kin captain/crew relationships.

## Political Organization

The dominant force of political change in this region is exerted at the individual community-level, not at the regional or subregional level. The amount of grant money awarded, the strength of the tax base, and the presence of community-wide facilities is primarily dependent upon political organization and political cohesivity and this varies considerably from one community to the next and will be discussed at this level in our appendices.

## Local Activities

A wide array of local level political structures play a focal role in channeling local opinion and confronting higher-level political organizations and representatives. Local City Councils are probably the dominant political forces for the incorporated communities while the village councils are the foci of widest decision-making in the unincorporated villages. The formal nature of the City Council, its associated larger population, its more formal character, its permanent staff, and its access to much higher funding levels, establish it as a more significant decision-making apparatus. We foresee a definite trend in the direction of incorporation. We suggest the following order and timetable (as supported in our individual community appendices); Chignik Bay will likely incorporate within the next year or two, as will Cold Bay. Chignik Lagoon should also have incorporated within two years. Nelson Lagoon may be expected to incorporate within the next five year period. Incentives to incorporate exist as well for False Pass, Chignik Lagoon, and Perryville but these communities are not as likely to pursue this option within the next five years but will probably incorporate

within the 10-year projection period. **Ivanof** Bay, Pilot Point, **Ugashik**, and Port **Moller** are not likely to have incorporated within the 10-year period and we are unable to suggest when it might occur.

Larger cities within the region have planning councils and **health** boards, and all have school boards. The planning councils determine zoning priorities, capital construction options, and do most of the leg work for the City Councils--often membership in these two organizations overlap. Local health boards are usually convened on a topical basis--to achieve a particular objective such as construction of a local clinic or to obtain health-related federal or state grants.

ANCSA has had, and is expected increasingly to have, significant impact on the region. The **implications** of this complex piece of legislation are far reaching, powerful and inadequately understood by much of the local population. For smaller villages the distinction between village council and village corporation, or shareholder and non-shareholder are not a consideration. For the larger villages and cities of the region, however, the significance of this distinction is increasing rapidly. The organization of Sand Point is probably the best example of the tendency for political power to shift out of the hands of one group of leaders into those of another. **The** tendency is for power to accumulate in the hands of shareholders at the political expense of non-indigenous residents. Where the distinction between the two categories is not salient, of course, no problem appears; it is only when the organization of the community is based on different leadership principles that the shift is notable. On the other hand, ANCSA has effectively assured permanent ownership and control of the region to the local indigenous popu-

lation through their native corporations. We project a gradual recognition of access to this power base during the next ten years and an accelerated utilization of this economic and political power to occur during the period immediately following 'full' transfer of control of the land to native hands in 1991.

If there is a structure or organization in the region poised to emerge as a prominent feature of the future political organization, it is the local-level Village Corporation. Only within the last 3-5 years have these organizations shown significant signs of activity. This activity, its impact and consequences, is on the verge of eruption. Again, the smaller the population, the less likely there will be significant differences between members of one organization and the next--the same 'leaders' will be on all relevant decision-making boards and councils. As the communities increase in size, different boards, councils, and corporations come to have distinct objectives and personnel, some of which inevitably conflict. This is the case for the larger communities in our study. In one community, for example, the city council was in direct opposition with the village corporation on the issue of land allocation. By law the village corporation must cede a certain amount of land to the city for its own needs; in this case they refused to allocate the appropriate acreage to the city. Access to subsurface minerals (predominantly gravel) emerged as an issue of conflict in Sand Point. Rights of way, zoning, and construction ordinances have also been the foci of inter-organizational conflict in other communities.

The gradual increase in the power of the village corporation in this region is a certainty. This increase in power will be met by an equal

decline in the authority or power of presently dominant political structures. This trend in political power will be supported by the increase in economic potential which will be gradual between 1980 and 1990 and by a precipitous increase beginning in 1991 and continuing through the end of our projection period. This is a prominent issue and will be dealt with where appropriate on the individual community level.

The school boards are also quasi-political bodies. Decisions whether or not to implement a particular plan, curriculum, or program are often made on the basis of preferences of 'key' individuals. Strict rules of one person, one vote, do not apply in many of the smaller communities. In the larger communities the growth of 'conservative' versus 'liberal' factions has generated friction. These boards, nevertheless, are unusually effective in projecting their desires on the Aleutian REAA and the Lake and Peninsula REAA offices. The political efficacy of these boards tends, in turn, to encourage greater participation and more demands. For those communities with independent school systems (King Cove and Sand Point) the de facto political power of these boards has already been demonstrated in major capital expenditure decisions. This trend must be projected into the future on a 'straight-line' basis with increased power, increased formalization of the positions, as well as an increased social importance attached to their actions.

Local health boards have also played a political role in the region but to a lesser degree than the school boards. They have evolved over the last decade either in response to external initiative, generalized local concerns, or in order to achieve specific capital objectives (e.g., purchase of an expensive device or to build a clinic). They have played a

minor role in village politics except where they have been created to deal with a particularly difficult problem or objective in which **case** they have performed a more strictly political role. Their future role is not **likely** to be greater. For the present unusual demands may place greater importance on their decisions (**as** in the case of a major flu epidemic, construction of a clinic, etc.).

### Social Control

The incidence **of major** criminal behavior in this region is extremely low. The rate of increase over the **last ten years** has not greatly exceeded the rate of population growth. Nuisance crime (vandalism, **malicious** mischief, **etc**), teenage alcohol consumption, petty theft, and drug related incidents, on the other hand, have shown a minor increase. To cite these issues as 'problems,' however, would be **to** exaggerate local views of the situation. **We** see these trends continuing during the next decade with a gradual decline in the effectiveness of informal mechanisms of social control (ostracism, gossip, sharing and so on), a corresponding increase in formal regulatory procedures (specific **rules**, more police and more arrests) and a parallel increase in the sense of disjunction felt by the population as a result of the depersonalization of social control mechanisms. These trends will be **subtle** and are unlikely to be noted as significant by the population.

### Religious Organization

The character or intensity **of** religious conviction in this region is **difficult** to evaluate. Attendance **levels** at church functions vary seasonally and with the schedule of the itinerant priests and **ministers** of



the region. Russian Orthodoxy has traditionally been the primary religious belief system and still dominates. Over the past few decades, however, its impact and influence on the region has declined relative to other formal religious practices and beliefs. Baptists and representatives of other major religious groups are very active in the region but non-denominational fundamentalist churches appear to be gaining in popularity and attendance relative to the more formal organizations. This trend of religious differentiation and general secularization of activity is expected to continue throughout the projection period.

### Educational Organization

This region includes two separate Regional Education Attendance Areas: the Lake and Peninsula REAA (for the northeastern portion) and the Aleutian Region REAA (for the portion from Port Moller west to Attu). King Cove and Sand Point have independent school districts and are not affected by decisions made by the REAAs. Of the two organizations, the Lake and Peninsula REAA has far more influence over educational policy in the region than does the Aleutian Region REAA. Pilot Point/Ugashik, Port Heiden, Chignik Bay, Chignik Lake, and Chignik Lagoon, Perryville and Ivanof Bay are all governed by decisions made in the Naknek offices of the Lake and Peninsula REAA. Only the villages of False Pass, Nelson Lagoon, and Cold Bay are affected by Aleutian Region decisions, and even then very little effort or control is exerted on these schools to conform to standards set at the regional level. The trend throughout the region is set in a very clear fashion: local-level decisions are to increasingly determine the immediate objectives and long-term goals of "their" school. This 'self-determination' effort is of relatively

recent origin but can be expected to accelerate over the next 5-to 10-year period, gradually leveling-off once a comfortable relationship, a balance, between local community objectives and fixed regional responsibilities is established.

The accelerated growth of the region's educational infrastructure has been little less than remarkable. For the eastern peninsula in particular this growth has been dramatic. New schools have been built and advanced education systems initiated that would not have been considered five years ago. Much of this development was spurred by the *Molly Hootch* court decision which mandated equal opportunity to every rural Alaskan child to acquire a high school education in their own community (a minimal school population implied). In the process of complying with this directive, the State of Alaska decided to provide qualified communities with the entire physical plant necessary to provide an equivalent education to these rural areas. Construction of these schools has occurred on an unprecedented scale throughout rural Alaska. In this region it has meant construction of new buildings, fuel storage facilities, gymnasiums, mechanical and carpentry shops, installation of new generators, and the provision of an incredible array of support materials and learning aids (video tapes and cameras, telescopes, computers, and other expensive electronic equipment).

In addition to enhancing the effectiveness of local instructors and improving physical plants, the availability of economic resources for educational purposes, averaging around \$24,000 per student per year, has also meant access to a very wide range of activities and travel. High school groups from the area have traveled to Mexico, Europe, Japan,

Hawaii , and other areas, as part of the goal of providing these students with the best education possible.

There do exist differences in the character of educational progress throughout the region, however, while the educational system of the Lake and Peninsula REAA have developed at the most rapid pace, the independent school systems of King Cove and Sand Point have a longer period of steady development and growth and are probably more intimately tied to local objectives and needs than the newer systems of **the Chignik** and Northern Peninsula subregions. We project continued improvement of educational delivery services in both independent and REAA school systems. However, development and growth within the REAA system will be accomplished at greater social cost and with more political conflict than will be characteristic of King Cove and Sand Point development. This is because policy and implementation decisions within the independent school systems are tied directly to local representation while the REAA schools must go through a lengthy period of adjustment between local community needs and fixed regional requirements.

#### Health Care Organization

The provision of adequate health care to the population of this region is one of the highest priorities of the **Aleutian/Pribilof** Island Association (APIA) and the Bristol Bay Native Association (**BBNA**). The ramification of services in this sector has also been remarkable. Health aides, supported both by external funding (Public Health Service) and local assistance, can be found in **all** the villages of the region. They are provided with equipment **which** allows them to communicate with knowledgeable medical staff in any situation that might be beyond their

technical ability. This system works very effectively and has been highly praised throughout Alaska. An emergency medivac system which allows injured patients to be flown to adequate medical facilities has also resulted in many saved lives. The response time and quality of training of these individuals has steadily improved. We expect, with some reservations, this trend to continue. That is, on the one hand, we see the development of medical facilities in the larger communities to proceed apace. On the other hand, we have noted an incipient tendency for service support for local-level health assistance to decline. There is some question whether or not health aides in very small villages will be maintained far into the future. If these two distinct trends in health care delivery continue, we will expect the per capita quality of major health care services available in population centers to gradually increase while provision of services to smaller communities will suffer. This will mean better quality service but at greater cost and greater distance.

#### Recreational Organization

The distinction between occupational and recreational time is not clearly delineated in this region. Wage employment, salaries, and forty-hour weeks are not features of this sociocultural region. The vast majority of the population are fishermen, their wives and offspring. The principal fishing period is the early summer months when more than 90% of their year's income is generated. These earnings, as noted elsewhere, are substantial and effectively reduce the "necessity" of following traditional subsistence patterns. However, many of these patterns are seen as inherently enjoyable and are pursued out of preference

and not need. Gathering berries, going out to hunt bear, moose or caribou, is seen today more as recreation than as **routinized** resource utilization. To the extent these patterns are continued within the context of inordinate earning levels, they should be seen as tied to inherent enjoyment or consumption preferences and less associated with necessity.

Other sources of entertainment and recreation have been tied to an accelerated broadening of the lines of communication to the 'outside' world. The role of television in altering the pattern, course, and content of social change in this region has been both prominent and profound. Almost all the villages of the region have access to satellite television reception and the few that do not are scheduled for installation in 1982. High earnings in the mid-1970's, however, brought the introduction of video tape systems, libraries, and exchange networks throughout the region. Thus today live broadcasts of programs from Anchorage can be supplemented by recorded programs and commercial video tapes available through exchange systems. A separate, state-wide study of the role of television in rural language acquisition, and in its wider role in the acculturation process is a very real research need. For the purposes of this projection, however, we will note but a few of the consequences of this innovation. Much time, especially during long periods of darkness during the winter, is devoted to watching **television**. This, logically, occurs at the expense of activities which were traditionally performed during these periods. Informal discussions with adult residents very often concerned the decline in social--primarily inter-familial--visiting and shared activities that were customary even in the early 1970's. "We used to all get together at the church to exchange presents with everyone." Bake sales, contests, and potluck

dinners were also mentioned frequently. Television is often implicated in **the** decline of wider social exchange patterns, but we are not suggesting that it is the sole or even dominant cause. Economic, political, educational, and experiential factors are also implicated in this general pattern of change. Social drinking must **also** be included as a form **of** recreation but we hasten to add that this occurs on a minor social **scale** within **small** familial units and **on an** infrequent basis.

Probably **the** fastest growing form of recreation, however, has a distinctly social character; this is the **school** system's gymnasium and athletic program. **The gym itself** has served **as** a powerful focus of evening activity **primarily** for young adolescents, **teenagers** and young **adult** members **of** the community. The gym is usually reserved in the evenings for specific activities, like volleyball, basketball, dancing, **or** other community activity. Some communities have reserved the gym on special nights for adults only. Basketball is probably the fastest growing and already the most popular sport in **the** region. **Almost** every **large** community has its own school basketball team **which** travels to other schools in the region to compete. These events are very popular and serve as one **of** the most effective integrative mechanisms in the region outside of the fishery. If trends observed in other parts of **Alaska** hold for this region it is likely that **adult** basketball **teams** will be formed and inter-city competition initiated.

Traditional 'Eskimo' or '**Aleut**' competitions are no longer evident in this region. There have been **efforts** to initiate some of these traditional practices through the educational **system** but they have not been accepted and retained.

## Output

In the previous two sections, we have not only detailed the environmental conditions, structural characteristics and values of the regional social system, we have also indicated current trends of change for these structures, or conditions that we expect to continue throughout the projection period.

The questions we have dealt with include "how will these environmental changes affect community structure" and, in turn "what will this mean for future social organization?" This leads to a wide range of potential questions. Those we will focus on here are "in what ways will the system have changed at the various projection horizons," and "how will the social systems as they are now evolving in the region be more or less able to respond to internal and external forces of change."

This report will touch on a wide variety of trends, assumptions, and projections. As they do not all carry the same weight in determining the character of future social and cultural conditions we will not attempt to integrate all the minor projections detailed in the body of the report. In this discussion of regional-level social change outputs we will focus only on the variables which are central to understanding the future social conditions in the Alaska Peninsula assuming no OCS-related development during the projection period. We ask "what are the consequences of these forces of change at each five year interval." In systems terms we ask what is the output of the interaction between our assumed environmental conditions, present social structure and trends of change.

## Economic

Our data indicate that the dominant force affecting the future of this region is economics because of the inordinately high income and expenditure levels achieved within the last five year period. It is a case of 'enough of anything is sufficient.'

Economics, in the sense of the process of extracting a living from a resource base, is, of course, a crucial variable in itself. Anthropological studies of societies throughout the world have made it clear, however, the intimate connection between a people's 'economic system,' its social and its cultural systems. Many studies have detailed the oftentimes major social and economic disruption that occurs when an alternative economic system is imposed on a traditional system. In these studies the common focus has been on kinship and systems of prestige and status. In the present case, on the other hand, the traditional (in the sense of firmly established) patterns of social and economic value were not violated because the external force operated within the established socioeconomic framework not in opposition to it. The people who became wealthy and those assumed the most powerful positions in the emergent system were those holding similar positions before the change. Thus, changes that have occurred are perceived as 'normal.' While Limited Entry in many ways determined who would eventually become well-off, very few informants understood their relative poverty to be a result of some external legal constraint. They see their social world to be a matter of their own doing and do not consider how conditions outside of their social environment have helped to shape their destiny.



It is not often in anthropology that the opportunity arises to study a region in which the thrust of social change has been in the direction of providing, within a short span of time, all the material benefits of the wider society without obliterating the basis of their established social order. The more common problem in Alaska, and among indigenous populations in general, is the replacement of traditional patterns with western practices which cannot adequately satisfy established needs. Here, it has been the case that external conditions have conspired to **allow** the local population liberal access to western society's premier medium of value exchange--even before a sense of need arose. Certainly the chronic sense of deprivation common to other **situations** of rapid social change has not occurred here.

It would appear, on the surface at least, that the more negative consequences of rapid development have yet to affect the population. Money has, in many ways, insulated this population from the detrimental consequences of rapid social change. The 'negative' aspects of social change, where they occur, will be of a more indirect and subtle nature.

The recent history of the region, particularly of **the** fishery, has clearly **preadapted** the population to changes that **would** occur in the present. That is, unlike Bristol Bay residents, the population of the peninsula entered their local fisheries in large numbers and were able to see these fisheries as a local preserve. They have a long history of efforts to protect their resource base, of relatively minor 'outside' participation in their fisheries, and a longer history of technological development. With this background, the advent of Limited Entry did not **come** as an unexpected, disorienting regulatory device as it had in Bris-

tol Bay where much of the population misunderstood its implications, but as a truly protective measure which would assure, in perpetuity, local fishermen unthreatened access to the resource.

The incidental benefit resulting from the growth in the value of their permits (most hold several permits--see below) has also tended to accelerate other economic development, not necessarily because permits are sold (very few have left local hands), but because they are used as collateral to secure vessel and equipment-improvement loans. A potentially long-term consequence of having so many permits in the hands of so few fishermen is the inherent pressure to sell or lease the permits that cannot be fished (only one permit may be fished at a time and the permit holder must be aboard the vessel at all times). Thus, a fisherman who holds a hand and a purse seine permit as well as a drift permit must allow his other permits to go unused while he fishes one at a time. It is clear to the fisherman that it would be better to have someone else fishing the other permits, on a percentage basis, for example, while he is fishing the drift permit. Various forms of leasing have evolved to accomplish this objective but the problem remains that somehow the permit must be legally transferred into another individual's possession before he can fish it. Thus, technically illegal leasing of permits has an inherent risk of permanently alienating a permit--thus the organization of such leasing around kinship and established crew/captain relationships. Eventually, however, we expect the permanent sale and alienation of permits to accelerate with an attendant increase in the number of vessels and fishermen fishing local waters.

The major distinguishing feature that sets the Northeastern Peninsula

off from the rest of the peninsula is their participation in a separate fishery. As Bristol Bay fishermen, they hold only a single drift permit, are subject to frequent fisherman strikes, harvest fewer fish at lower quality which fetch lower prices in the market. Their vessels are older on average, shorter and with less carrying capacity than seiners on the south coast. Bristol Bay permits and vessels are valued at less than half that of a Chignik permit or vessel. Harvests, gross and net return from the fishery, capital investment, etc., average between one half and one third that of the Chignik fishery. This lower level of economic commitment will have a significant bearing on the growth or decline of these communities and will be discussed in greater detail in the subregional and village-level analyses.

The peninsula, except for the Northern Peninsula subregion, has not had to endure the seasonal influx of a large non-indigenous population, nor have they had to suffer the consequences of a seasonal dramatic swing in the local ethnic balance. In Bristol Bay, for example, the population of central fishing communities can increase ten-fold when fishermen from Washington and California descend on the region for a few months each year.

These changes have occurred without the unusually high unemployment, welfare, and increased social services common to this type of accelerated economic development--notable in the adjacent Bristol Bay region. Traditional social relationships have not been altered in the very direct, and forced fashion observed in other parts of Alaska. What has happened is that preferences for a particular pattern of behavior have come to replace the often compelling character of traditional rela-

tionships and behavioral patterns. High incomes have in many ways freed the population from the unpleasant requirements of rural living and, at the same time, presented new social and experiential options which indirectly tend to restructure traditional social relationships. Thus, the changes have come not because the family breadwinner has relocated to work on the pipeline but in connection with changes in lifestyle associated with a dual residence in Seattle or Anchorage, or with increased access to the implements of material change in the local communities.

A major factor in our assessment of the changes that have occurred recently and are likely to occur in the future is the fact that the population of this region is in the economic position to select and utilize options that are presented by the environment. This is the critical difference between changes that are taking place in the Alaska Peninsula and those occurring in other parts of Alaska where the options suggested by the environment, the various communication media, travel, employment, business, etc., are largely understood by the population as unattainable. The perceived variance between the way things are and the way things could or should be is extreme in other regions and is relatively minor in the peninsula.

One of the logical consequences of rapid economic development is the exaggeration of the traditional skew in access to status, prestige, and wealth. This factor has been significantly enhanced, however, by the implementation of entry limitation for the region. As fishing begins to improve individuals who may not have qualified for a permit originally, or may have been too young or even non-fishermen, become interested in

entering the fishery. Limited Entry has, effectively, **permanently** excluded these individuals from access to the resource--there is no way they earn enough money to purchase a permit and a vessel. A permanent class has thus been created, displacing the traditional egalitarian ethic of these communities. Permit holders control the social status, economic wealth and political power in communities of the region.

This is not an entirely artificial schism in that those **who** were not fishermen before entry limitation were not in general among the dominant social groups. **What** Limited Entry has done is to accelerate and translate these minor forms of social differentiation into permanent social categories. The social disjunction between these 'groups of individuals is increasing rapidly. Expressions of social stress such as increased alcoholism, drug abuse and juvenile delinquency occur disproportionately among this economically disadvantaged group. Again, whether personal predisposition or environmental constraints are seen as primary, these individuals would probably have been in a disadvantaged position in any case--the severity of the status deprivation, however, is largely a product of entry limitation and unusually profitable fishing.

Decreased reliance on subsistence resources, as opposed to preferential utilization, is another consequence of this economic and material change. At higher earning levels there is less incentive to pursue traditional subsistence harvesting patterns and the degree to which the traditional pattern is a product of need or one of preference is clearly evident. **While** wishing to avoid the current political controversy over subsistence uses of natural resources, we feel justified in noting that

al though actual current dependence on this resource is not **high,avail** ability of such resources to the **local** communities remains highly valued by all the communities of the Peninsula. Any disruption or interference with present accessibility to subsistence resources **would** be met with strong and cohesive resistance by residents of this region.

### Soci al

Several central themes **will be** noted throughout **the** report: First, new and more formal bases **of** social cohesion are replacing traditional **reli-** ante on kinship bonds and nuclear familial interdependence; second, the accelerated development of **social class** and status around concepts of economic wealth; third, a rapid broadening of social and economic networks **to** include non-local individuals, products and values; fourth, a general reversal of trends toward amalgamation of ethnic identities and the renewed strength of ethnic identity and potential for schism resulting from implementation of **ANCSA**; and fifth, the accelerated adoption of western material and social values at **the** expense of traditional orientations.

Sense of well-being in **the** region **is** expected to continue to increase for the short-term as the population continues to adjust to unusual income levels. While it may seem **counterintuitive**, we must nevertheless project a gradual decline as expectations begin to accord more closely with reality over the next decade. That is, at this time capacities are high and expectations have not increased to the point where these capacities are seen as inadequate. At some point in the future, **expecta-** tions which are now increasing **at** a faster pace than capabilities, **will**

**exceed** capacities and this disjunction will become a factor in individuals' sense of well-being. This is a distant projection and should not be a significant factor in assessing current and immanent conditions in this region.

While the character of the social change may not reflect dramatic change of values and beliefs, the material, economic, and informational changes noted above must inevitably alter some of the more crucial features of the established social fabric. This **occurs** in many **subtle** ways over lengthy periods of time but its incipient form can be seen in recent trends in seasonal migration, dual residency patterns, expressions of wealth, political organization, formalized community schisms and factions, and in patterns of expenditures, social interaction, and recreation. Many traditional patterns, on the other hand, have been given new life as a result of the new economic abundance and a cultural resurgence of a sort has been observed. Wider social arenas and visiting, religious and community-wide **social** activities, and traditional arts and crafts have emerged or reemerged as expressions of village solidarity. Both processes are expected to continue throughout the forecast period.

One trend that can be noted in regard to social change is the emergent schism between permanent residents and part-year residents. In some communities this distinction does not affect social interaction. In others, however, it is significant and growing. A village that has had two-thirds of its shareholders establish permanent residence outside the community is open to friction on their return to the community. These **fishermen** return only during the summer season to reap the benefits of the harvest and then "go back to Anchorage or Seattle." "They don't

spend a penny here and they **call** themselves **locals!**" This frustration has not emerged, and probably will not, in **overt** hostility between these two factions, but **it** has affected the community's sense of identity, the management and distribution of village corporation **land**, village corporation decision-making, and relations between the two groups in general .

### Employment Patterns

The effects of non-local behavior patterns on **the region are less** notable here than in Bristol Bay, **for** example, **where the** dichotomy between native fishermen and Seattle and California fishermen is far more severe. The salmon fisheries of the **Alaska** Peninsula (**with** the exception of Port Heiden, **Pilot** Point and **Ugashik**) , as opposed to Bristol Bay, are dominated by **local** fishermen. The **local** processors, likewise, have established enduring contractual and non-contractual relationships with **local** fishermen and local communities and, if anything, give preference to these fishermen over non-local fishermen. **It** appears, moreover, that where **social** integration and economic security (or equality) are significant features of community adaptation that the ability of the population to **tolerate** outside influence is enhanced **while** the reverse appears to hold as well. **We** project that the tempo, ethnic ratio, and economic and **social** significance **of** incoming population will be more favorably tolerated in this region as a whole than it would be in most other predominantly indigenous areas **of** Alaska. That is, the process of absorbing or integrating non-local cultural, economic, social and political patterns will occur at **low levels** of **public** disharmony.



## Pol i ti cal

The political structure, organization and objectives of communities of this region are expected to shift in the direction of increased formalization. The power of informal organization is projected to decline accordingly. Voting and other explicit characteristics of representation should gradually supplant traditional village authority. Except in the larger, much faster growing communities of King Cove, Sand Point and Chignik Bay, this will occur at a very relaxed pace in tolerable increments without seriously violating established norms. For the exceptional communities, especially Sand Point, we expect more conscious ethnic, political and economic preferences to play a stronger role in determining official and unofficial community leadership. The occurrence of overt hostilities, conflict and fictionalization" should, to some degree, be expected here as well.

The part played by economic differentiation in the political process is discussed throughout the report. In capsule form, we foresee a rapidly increasing association between income, economic wealth and political power occurring during the next five to ten years. This will not seriously controvert our assumptions above regarding representational government. Both processes will occur side-by-side. It will simply be the case that those most committed to the political process, those who come before the voters of the community, will also be those who are among the more economically advantageous class. What this means is that issues that would once have been settled on the basis of more traditional values will increasingly come to be decided on the basis of economic benefit. The significance of this fact to the future course of

change for the region must not be underestimated.

Inherent in the formalization process is a growing sense of alienation between the management and administration of a community **and** the desires of the general population. This is **the** view held, in fact, by many of those **who** oppose village incorporation. "Once those people get control we won't have anything to say about anything." On the other hand, many of those **who** end up holding these power positions do so "because no one else wants the job." Clearly much of the problem is in perception and not in actual manipulation or abuse of political position. But this sentiment of impotence has its direct consequence in lower **levels** of political participation, enthusiasm and support.

**We** foresee the actual effectiveness of these political organizations to increase radically over the next five to ten year and to continue in spurts throughout the forecast period. This increase in efficacy will have marked effects **on** (1) the provision of community-wide amenities, (2) the setting of largely irreversible economic and social priorities, and (3) the formalization of unprecedented leadership roles in the **community**.

For the region as a **whole** we foresee a surge in **supra-regional** political awareness and **participation**. Representatives from this **region** are increasingly adept at, and committed to, expressing the views of their constituency. They are often required to travel widely and frequently to attend committee and board meetings and **to** represent their community's interest before governmental agencies. This experience **will** have a measurable impact **on** the community's ability to gain economic support, or other political considerations from higher--level political

organizations.

### Religion

Church activities, where these are evident, continue to serve important integrative and recreational functions. Attendance at weekly services has traditionally been very low and should not be seen as evidence of significant decline. However, many informants claimed that "the church is not very strong now" implying it exerted substantially more authority in the past than it does today. The small, isolated character of many communities has made regular services **difficult** at best. Some of the larger communities, on the other hand, have noted an increase in the number of people attending services over the last few years and that the trend is continuing. Our projections here are for gradual modification of the formal aspects of religious practices in the region, and greater secularization of activities. For particular communities, on the other hand, we foresee a growth in official enrollment, improved facilities and local commitment. Much of the future activity of this nature will come as a consequence of individual initiative on the part of incoming clergy and not primarily as a function of community initiative.

### Education

Educational attainment and objectives are clearly on the increase. High school graduation has become, in **less** than decade, a widespread goal in the region and the possibility of college education is no longer considered remote. Prior to **1975**, "very few kids really thought about finishing high school. **It** was no big deal." Now, even in the smallest communities this is held to be important. College attendance and gradua-

tion have increased several-fold during this period. Barring any major reversals of funding priorities, we project a continuation of this trend throughout the forecast period. Early withdrawals from school, poor attendance, and disillusionment with educational objectives appear on the decline. It should be noted that the relatively modest increase shown in high school graduations during the last few years actually reflects a remarkably steep trend if projected on a straight-line basis through the 1990's.

A chronic problem in 'bush' Alaska has been lack of teacher commitment, "burn-out" and relocation. The early phase of compliance with the Molly Hootch decision resulted in the hiring and assignment of newly graduated teachers out of the Pacific Northwest of the contiguous United States. This meant teachers were being assigned who had relatively little experience in teaching (1) in actual classroom situations (1) in teaching in a cross-cultural setting (3) in living in a culturally alien environment. To rapidly attract an adequate number of teachers, salaries were set unusually high. In general, commitment to this type of teaching situation was logically tied more to economic than to inherent rewards of the occupation. As a result teachers in bush communities averaged less than two years in any one community. Teachers commonly viewed their positions as 'fixed short-term' and tended to save their very high wages in anticipation of moving to, and establishing homes, in some other state or part of Alaska. Turnover was very high and students were justifiably reluctant to form the attachments to these teachers that tends to facilitate communication and education. This trend is gradually reversing as teachers gain experience and eventually locate in communities where they feel they can establish longer-term

associations and residence. The unavailability of land remains a significant obstruction but we project that teachers of this region will tend to remain in their positions longer, be more committed to "their" community, and be more likely to establish residence than those of adjoining regions of Alaska.

### Health Care

The provision of health care, as mentioned earlier, will increase steadily through the year 2000. Unfortunately, we must also project a gradual increase in the incidence of alcoholism, drug abuse, suicide, accidental injury and death, as well as problems of social control during this period. Increased mental illness and evidence of social stress should also be expected components of our projection of accelerated social change. As a certain number of individuals within a specified population, these trends will not appear striking. On a statistical basis they will stand out.

One might expect, on the other hand, relations between non-shareholder residents in the community to be affected by this trend in identification. While this may be a problem in selected communities the researchers have no data with which to support such an assumption. Non-shareholders, in fact, can be found in village corporation activities, on village councils and in other positions of authority throughout the region. Only in the communities of Sand Point and Chignik Bay can it be said that the difference between shareholder and non-shareholder was politically or economically significant. The size and political dynamics of the situation in these communities are of a different order than that experienced by other communities of the region.

Alcohol , while not a problem of the degree observed in other parts of Alaska, is nevertheless an **issue** of substantial **and** consistent concern to the region as a whole--for the general population but centering primarily on adolescent **males**. Substance abuse, primarily marijuana and cocaine, varies in significance by area, by community, and by season. Many feel that the cycle is tied to presence **of** 'outsiders' who distribute it in local communities--it seems more likely, however, that the **periodicity** of local income levels is as much a determinant as ready availability. **In** either case the period **of** greatest consumption is during the late fishing and post-fishing season **when** the fishermen are 'flush' with the seasons' earnings. The magnitude of the, problems associated with the use of marijuana and cocaine **are** seen by local residents as far less significant than those associated with excessive consumption of alcohol. This tendency is expected **to** continue throughout the projection period with the population becoming increasingly aware of the 'problem' of alcoholism. **The** dominant consumption pattern is 'binge-type' drinking with only a **small** population of habitual and constant drinkers.

## KING COVE-SAND POINT SUBREGION

### Introduction

Our data indicate that if the communities of the western peninsula are to be grouped as subregions or as village clusters, the primary means of unifying these communities is on the basis of resource utilization. This being the case, Sand Point, False Pass, Nelson Lagoon and King Cove might be included as a single subregion. However, even more so than in the **Chignik** major characteristics of each of these communities are bound to diverge over the next 5- 10- 15- and 20-year period. Each has charted a distinct and independent course of development. The needs of the Outer Continental Shelf SESP office, however, dictate the use of broader boundaries and populations so that change at the regional level can be examined as a unit.

As a compromise solution we have elected to divide this western peninsular area of Alaska into two separate village 'clusters.' One is composed of King Cove and Sand Point and the other consists of False Pass and Nelson Lagoon. The dominant parameters used to determine this configuration are population and geography. We reiterate that while all four of these communities are strongly linked by resource utilization patterns, the differences in projections required for each of these subgroups are sufficient to warrant treatment as separate entities.

King Cove and Sand Point, while they are not physically close to each other, must be seen to have strong geographic similarity. They work the same fishing grounds, and much of the extra-community social interaction for King Cove residents during the fishing season occurs in Sand Point.

Geography plays a dual role in uniting these two communities into a discrete subregion. First, King Cove and Sand Point are a day's journey from one another by sea, and about an hour apart by air. The notorious Aleutian chain weather often acts as a barrier to regular movement between the two locales. These factors effectively minimize off-season social interaction. On the other hand, distance, cost and **travel** time to any other community (except Cold Bay) place these two communities in a 'closest neighbor' relationship to one another. Cold Bay and False Pass, for example, are each closer **to** King Cove than is Sand Point, and Nelson Lagoon is about **the** same **distance** from each, and yet these communities are not significant features of their social environment. **The Chigniks**, just seventy **miles or** so to **the** northeast, are rarely considered neighbors of Sand **Point**. **It** must **be** remembered that **all** these other communities represent less aggregate population than Sand Point or King Cove alone. The populations of both communities see each other, first, as most closely linked to one another and, second, as linked directly to Anchorage.

A second geographic factor acting as **an** mechanism for the integration of the two communities is the harbor at Sand Point. Each year many King Cove residents must move their vessels to the Sand Point harbor for winter docking and return in May to prepare the **vessels** for the **following** season.

Given the changing value hierarchy of **the** subregion, **the** dominant forces of change in King Cove/Sand Point over the next twenty years **will** be economic, political and educational. **All** three of the subregion's **sub-**systems are viewed by area residents as crucial to the acquisition and



protection of wealth. The level of local **commerical** resources, immigration, and external commercial investment, followed by external government policies and **fiscal** appropriations describe the hierarchy of economic values currently seen as foremost in determining future economic events. The political subsystem will become a more prominent part of community life than is presently the case--more so in Sand Point than in King Cove.

## Input

### Extrasocietal

#### External Government

Changes in the relevance of external governments (federal, state, native corporations) to the communities in this subregion are in accordance with regional projections. **There** will **be** some deviation based on the fact that both are first class cities and hence, their involvement with federal, state and regional authorities **is** slightly different from that of the unincorporated **villages** in the region. Nevertheless, we can **pro-**ject a decline in federal involvement in the area, a slight but temporary increase in **state** involvement until **1990**, and a slight but steady increase in the involvement of the **Aleut** Corporation **in local develop-**ment.

One external government variable **that** will play a noticeable role in **the** projection of change in the next twenty years is the increased presence of **the** Internal Revenue Service. Rumors of "revenueurs" **visiting these** communities **in** an attempt to monitor or verify income have caused substantial concern in the **local** population. During the early 1970's the effort or need to maintain accurate records, or to pay major sums of money to the federal government, was minimal. This is now **of** concern to **local** residents. These agents are reported to be after taxes from individuals who had never reported their income to **the** government and are therefore in substantial debt for **back taxes**. For those **who** have followed the incentives inherent in federal taxing regulations, on the

other hand, investments, interest payments and accurate bookkeeping records are secondary but direct consequences of increased earnings.

## Intrasocietal

### Community Facilities

With the projected increase in population in the area during the next twenty years (see below), several projects involving the development of community facilities will be of high priority. These facilities, in turn, constitute an environmental input variable affecting the course of **sociocultural** changes throughout the projection period. Included in the varied list of priorities for the immediate future are: new or improved boat harbors, docks, and gear storage facilities, a source of electrical **supply** capable of meeting domestic and commercial needs, adequate water **supply**, schools, health clinics and roads. All of these items are scheduled or in the process of construction in both communities. The construction of a new dam to provide improved water supply **to** the community was noted as the highest priority for King Cove. For Sand Point a lengthy additional list could be composed and the reader is referred to the **Brelsford** appendices in Combs (1981) for review.

The projections for housing development are optimistic for both Sand Point and King Cove. Recent land sales in King Cove and sales scheduled for Sand Point have been long awaited and are likely to lead to a spurt of construction. The Aleutian Housing Authority will make HUD financing available to individuals who have title to their land and who meet appropriate income standards.

## Demography

The preliminary 1980 census shows King Cove with 462 residents and Sand Point with 619. Current size alone must be considered a powerful factor in assuring continuity. A brief glance at the population figures for Alaskan communities will show that, except where special circumstances exist (such as intrinsic attractiveness or recreation access), smaller communities have been subject to less long-term growth (over the "last decade") than the larger ones. False Pass has grown just 4.8% during the last decade. Nelson Lagoon has grown at an average rate of 3.2% per year. King Cove and Sand Point, on the other hand, have grown at an annual rate of 5% and 5.6% respectively since 1970. Percentages are also deceptive in a sense; the difference between a population of 43 and 59 for Nelson Lagoon over a period of a decade is likely to be minimal for social, political and economic relationships whereas the change from 360 to 619 for Sand Point cannot but have affected the entire population in a significant fashion. The bearing of this difference in forecasting future trends cannot be minimized.

A note on the accuracy of population figures is also in order. While the 1980 census reports Sand Point, for example, with a population of 619, a 1979 local census indicated a population of 773 and the 1981 State revenue Sharing Program assigns it a population of 794. The 1980 census shows King Cove at 460 permanent residents, a 1979 local survey shows 684 and a 1981 counting lists the population at 737 (see also Combs 1981:4). For smaller communities, on the other hand, we have observed a tendency to assign permanent residence status to some individuals who spend a majority of the time residing outside the community. The vari-

ante between actual and statistical population, however, is salient for this study only for the larger communities. Our projections will tend to accept the higher appraisals supplied locally. This is in keeping with our reliance on 'emir' estimations of current and likely future social changes occurring in these communities. Even though many individuals may just recently have established residence locally or may actually be in a long-term transient relationship with the community, they have come to be perceived as local residents and are participating in events and relationships with other residents as if they were permanent residents. They have entered local 'field of inclusion' to the point where their behavior affects relationships within the local system.

Apart from the question of accuracy, these figures reflect both a quantitative and a qualitative difference in the ability of these subregions to adapt to rapid social change. Our model suggests that populations below 80 permanent residents will find it difficult to sustain growth--they tend toward equilibrium at best. Below this level of population the local availability of marital partners is very low and village exogamy is required. Statistically speaking, the likelihood of the couple residing locally is less than 50%. For the larger communities, on the other hand, spouses are selected locally and new families normally elect to continue residing there.

Our more modest projections, therefore, amount to very significant growth in both Sand Point and King Cove. The present population of Sand Point, for example, possesses a highly diversified (and locally-oriented) economic and political base. They also show a general, though not pervasive, enthusiasm for economic development. This local attitude

tows **rd growth** plays a significant **role in** projecting an estimated 7% average population growth rate over the next **10-year** period. Thus, based on 'official' census figures, we project that by the year 1990 the population of Sand Point will approximate **1520** permanent residents. The succeeding decade, however, **cannot** be expected **to** show as rapid a rate of growth and we are setting our projections for the turn of the century at 2853 permanent residents. This forecast includes development of **groundfish** harvesting and processing facilities locally **but** at a level **below** that implied in projections noted above.

The corresponding projections for King Cove are not as dramatic, but are tied closely to the same indicators as are present for Sand Point. The difference is one of degree **only**. That is, they have recently **constructed** a new boat harbor, improved their rather **limited** road system, installed telephones in individual homes, and received satellite television. A new landing strip was also recently constructed about 7 miles from the community. Local comprehensive plans set the range of **population** in the year 2000 between 900 and **1081** (based on the current population of 684)--the second figure representing growth in the event of a significant increase in processing capacity. This figure represents an average **annual** growth rate of from 1.4% to a high **of** 2.3%. These estimates **fall below** actual growth potential based **simply** on natural increase, economic diversification, immigration, and **land** ownership incentives to growth. **We** are projecting a growth rate of approximately 3% per year to a population of approximately **919** by **1990** and 1235 by the year 2000. **We** note, however, that this figure is substantially **below** projections suggested by **SCIMP** modeling techniques.

## Structure

### Values

The value hierarchy of King Cove and Sand Point, as is much the case for the entire region, is in a state of transition. Traditionally, the values at the top of the hierarchy included family responsibility, mutual aid, egalitarianism, independence, and self-sufficiency. The social network of kin relations played a dominant role in organizing political and economic activities and distinctions between social groups were based on size, expertise in subsistence activities, and links with prominent individuals.

Presently, however, many of these traditional values have been challenged and even replaced by a new set of values. Industry and self-sufficiency continue to be valued but now with respect to commercial profits, technological capacity, and consumption instead of proficiency in subsistence hunting and fishing. Education has increased in importance in the eyes of many community members, and achievement levels are high for the subregion relative to the region as a whole. Egalitarianism has declined in importance under the influx of new sources of economic wealth and prosperity. The display of wealth has taken on new meaning resulting in increased consumption of non-local items and increased contact with the outside world. Mutual aid activities and cooperative endeavors, although still an important part of the value hierarchy, have declined in prominence. Family obligations continue to remain important, but a subtle shift has occurred in the direction of the immediate family to the detriment of extended kin.

Ethnic heritage plays a significant, though **not** dominant, role in **determining the** social organization of these communities. However, the differences in the character of this role in these **two** communities make it necessary **to** treat this facet of the **sociocultural** projections on an individual community basis. The reader is referred to the appendix for each community for detailed discussion of these issues,

### Organization

#### Economic Organization

##### Commercial

**While** both communities have yet to realize their **full** income potential, the economies of each are based on stable and growing sources of **revenue**. **The** community of Sand Point appears in a superior position in regard **to** determining its own course of development. It is subject to fewer objective constraints **to** development, provides a generally more hospitable climate for investment, and has the facilities and secondary resources necessary for economic expansion. King Cove, while it may not expand at the same **pace, is** nevertheless moving **in** the same general direction. Development in King Cove is restricted by several factors. **It** is basically a single processor community and continues to **be** tied in multiplex social and economic relationships with this processor. The development options open to **the** community are limited by the location and availability of land appropriate **for** new commercial processors. **The** single processor has **title** to half the acreage of the spit. on **which** King Cove is located. Outside buyers and floating processors have become more prominent in their economic environment but cannot provide many **of**



the needed services customarily provided by the local cannery. The distance of the community from their airstrip is another inhibiting factor.

We are comfortable in setting these two communities off as distinct, especially in regard to prospects for economic development. While Sand Point is clearly poised for the most accelerated growth, King Cove as well is ready for rapid development. Given recent land sales in King Cove and imminent land development, sale and distribution in Sand Point, we see very few fixed obstacles to a dramatic increase in population throughout the next 10-year projection period. Barring a precipitous decline in the salmon fisheries, or a dramatic increase in the rate of development of bottomfisheries, only the impending decline in the crab fishery will be of substantial import in determining the rate of future growth. Our projections, however, vary considerably from those of the consulting firm (Lane, Knorr and Plunkell, 1981) who prepared the "Revised Study for New Elementary-Secondary Educational Complex for Sand Point, Alaska" which sees population increasing to 4,680 persons within 20 years. This does not appear realistic. The last decade has seen a remarkable shift in the abundance and economic value of the salmon fishery resulting from mild winters, a shift in migratory patterns, Limited Entry, the 200-mile limit and other management restrictions, and a more competitive market. The rapid expansion of the crab industry has also contributed substantially to this efflorescence. This expansion occurred within the context of historically variable production, relatively low returns from the fishery, and very low levels of population. Expansion resulting from the causes noted above have, for the most part, peaked or reached structural limits. That is, the rate of expansion is severely limited, first by Limited Entry restrictions in the case of the

salmon resource, second, by a significant absolute decline in crab abundance, and, third, by government restrictions and quotas that will eventually dictate **who**, where, and at what profit **level**, alternative fisheries can be pursued. For instance, the potentially very profitable halibut fishery is likely to either **be placed** under some **form** of entry limitation or on a quota system, while significant marketing limitations are likely **to** be encountered as long as foreign **fleets** are allowed **to** participate at current levels on the U.S. continental **shelf**. While similar arguments **could** be adduced for King Cove as well, rather the reverse situation occurs.

For a general discussion of harvesting and processing techniques and objectives see Langdon appendices in **Earl** Combs, Inc. report (1981). **We** wish to add only a few additional points. First, the utilization of traditional set **net** sites, especially where multiple permits are held, has fallen in great part as a product of the increased profitability of the seine harvest--there is little profit incentive to pursue the more difficult, time consuming and less remunerative minor set net harvest.

Second, the number of limited entry permits held per individual must clearly decline over time as fathers transfer their permits to other family members **or** outsiders. This is a powerful incentive to maintaining or establishing permanent residence **locally**. Langdon notes, for example, how approximately 7 individuals pursued drift gill netting **the** entire **1981** fishing season. This trend **will** result in more and more fishermen and gear being brought into the area.

Third, for those unable to personally maximize the profitability of their seine permit the current strategy is to lease or transfer these

permits to others while the owner **gillnets**. This has a similar effect on the number of fishermen harvesting the resource, but as Langdon notes, very few King Cove residents have permanently alienated their permits. Such efforts to maximize a given set of options apply in greater part to the fishermen of Sand Point who are in a somewhat more advantageous position to effect these economic strategies. Transfer data for this community indicate the aggregate loss of several permits since 1975, **which** ultimately translates into more fishermen and more vessels in the region.

Fourth, several alternative resources are available if economic conditions in the salmon fishery suffer an unusual decline. The fact that these fishermen can rapidly shift to halibut, herring or crab fishing, or even to **bottomfish** under certain conditions, gives this subregion an unusual degree of flexibility and aids our projection of economic stability throughout the projection period.

In conjunction with the continued growth in the structure of commercial fishing activities, we are projecting substantial growth in related commercial activities. This subregion appears to possess an unusual number of economic entrepreneurs. For example, a disproportionate number of individuals from this subregion have applied for and received State Commercial Fishing Loans under a program initiated in 1974 to upgrade vessels and to diversify (see Combs 1981). This trend in economic sophistication must be expected to continue into the future and **eventually** to result in a broadening of the types of enterprises in which fishermen are involved.

### Subsistence

For this particular subregion we have had analytic problems dealing with subsistence utilization of available natural resources. Both communities are located at some distance from caribou habitat and are not within range of moose habitat at all. Subsistence taking of marine products cannot be considered high during the last decade and appear on a downward trend. Established dietary preferences still favor fish and crab consumption but the expense and difficulty of hunting caribou have substantially reduced the number of harvest tickets issued by (and returned to) the Department of Fish and Game. An informant's remark is a fitting summary, "half the reason we go out and hunt is for the food we get!" Subsistence is is not so much the process of satisfying a nutritional or economic need (as is common elsewhere in Alaska) as it is providing traditionally preferred products in a traditionally satisfying way. There can be little question that the incidence of this type of resource utilization has recently been on the decline nor, in the event of significant alteration in the economic environment, that it would be resumed.

### Social Networks

Whereas the populations of Perryville, Ivanof Bay, Chignik Bay, Chignik Lagoon and Chignik Lake would all tolerate identification as members of the Chignik subregion, it is questionable whether King Cove residents and Sand Point residents would view similarities between themselves as sufficient to link the two as a subregion. There are, however, several unifying economic, social and political factors acknowledged by leaders of the two communities.

The first, and probably most recognized, overlap is in the fishery. Individuals and vessels from the two communities recognize and interact with each other freely on shared fishing grounds, have personal associations in each community and share a common lifestyle and income pattern. There is, as well, an extensive ethnic and cultural heritage held in common between the two communities. The influence of Scandinavian immigrants on a predominantly Russian Aleut population has been significant and widespread. The population of these two communities are relatively outgoing, energetic, and highly competitive. Until the recent reidentification or intentional reassociation with latent native ancestry encouraged by ANCSA legislation, the trend had been in the direction of fixing identity along non-native lines. This shift is still 'in progress' and there are many individuals in these communities who hold complex allegiances to multiple identities. Some individuals who had never before considered their native forebearers or culture are making an awkward readjustment to new systems of social utility. One must now be 'native' to hold particular political or employment positions. The economic, social and political 'value' of this new identity is evident to all. Thus far, however, rigid lines of social organization, of personal association, of political power or economic superiority have not developed. That they are in the process of forming, however, cannot be questioned. Our community-level analyses demonstrate that ethnic identification is increasingly seen as a variable in determining political representation. This presages future economic events that will occur toward the close of the decade when title to land ultimately shifts to private, i.e., native, ownership.

Population levels **above** about 150 provide the context for qualitatively different social interaction than allowed **in** communities of 50 or 60. As the level of population continues to increase in our model **we** find increasingly more reliance **on** statuses which have been earned or reflect shared estimations **of** appropriateness. Personal relationships and dependencies in communities above this population also appear to change in character and intensity. Where at lower **levels** individuals could maintain personal relationships with every other member of the community, in **larger** villages this **is** not possible. **There** is clearly some objective limit **to the** number of relationships a single individual can usefully maintain. Beyond that limit relationships tend toward impersonality and decreased intimacy.

#### Political Organization

##### Local Affairs

Both King Cove and Sand Point have both incorporated--King Cove in 1947 and Sand Point in 1978. The impetus behind incorporating was **substantially** different in each **case**. King Cove residents were adjusting to a post war political environment, **while** the Sand Point population has only recently incorporated as a first **class** city (from a second class city) **in** order to better control the process of change occurring as a result **of** a **local** economic boom. Both communities have had some difficulty in extracting taxes levied against the **local** producer. This issue must **be** kept **in** mind in appraising the development potential of each of these communities. The **recent** incorporation of Sand Point may actually give **it** some advantage in future negotiations with present and future processors located there. Their concern lies in receiving the revenue due the

community, encouraging processors to locate in Sand Point, and providing or developing **the** necessary facilities to make Sand Point attractive for capital investment.

The leadership structure in the coming years will represent the gradual replacement of traditional forms of kin-based leadership with one which is professionally and bureaucratically oriented. Currently, both cities are managed by the same professional city manager operating out of Anchorage. **While** the researcher was negatively inclined toward the idea of a single manager for two separate communities with diverse sets of objectives, informants in both communities provide nothing but favorable reports on his business acumen, enthusiasm and accuracy. This role is perhaps one of the more difficult and more important in channeling resources and determining how local objectives will be achieved.

As the positions of leadership become more complex and demanding, there will be a decrease in the number of **local** individuals who are both willing and able to assume them. These positions require extensive travel and **long** hours to fulfill the demands of office. Those willing to maintain these positions must do so for little economic gain and substantial social responsibility. Those best able to handle these duties will also be those earning **sizeable** incomes during **the** fishing seasons and who therefore **will** be **unable** to participate in local administration for a major part of the year.

### Social Control

Issues of social control and their role in community interactions and our projections are discussed on the community **level** in the appendix.

### External Relations

With respect to external relations, independence is an important theme for both communities. Both have independent school systems. Local school boards play a significant role in determining curriculum, hiring and firing, long-term educational objectives and capital expansion. While the interaction between separate factions play an important role in setting community priorities, this friction does not seem to have had any of the long-term detrimental effects we have observed in other communities in Alaska. External governmental agencies have little impact on these communities. Aside from minor formal reporting requirements for revenue sharing funds, these cities are free to expend their funds in any way they wish.

### Religious Organization

The role of religion in the two communities is too great to include in our discussion at the community-cluster level. Our appendices devote detailed attention to this issue.

### Educational Organization

Education is another issue about which both King Cove and Sand Point residents share a similar perspective as well as similar capacities for growth in the next twenty years. Significant to the projection of growth in educational structure during the next twenty years is the fact that both cities have independent school systems. Both communities have adopted aggressive educational policies. Both hold secondary education as a top priority in terms of capital expenditure and both populations are fully supportive of the existing educational system. The local



school boards have set very optimistic goals for the short- and **long-** term future and appear to be achieving these objectives. Sand Point is prepared to construct an \$8,000,000 school complex on 25 acres of City **land within** the next 24 months. King Cove has also drafted plans for a new high school to be constructed **within** the same period (the current primary/secondary school will convert to a primary-only school).

## output

### Economic

This subregion has been impacted almost simultaneously by a **range** of **major** social change forces. Recent economic abundance **is** the dominant factor in most of these changes. The last five years have seen incomes for permit holders often reach six figures. This has been compounded by increased access to state and federal sources **of loans** and financing. New **vessel** purchases, home construction and improvement, trucks, **three-**wheeled motor cycles (except in King Cove where they are restricted], washers **and** dryers, refrigerators and freezers, televisions and videotape equipment are part **of** the standard complement of purchases made during this period. These purchases, in **turn**, have affected both subsequent economic returns (in the case of new **gear**, technology and vessels) and life style.

There have been other unrelated, but pervasive, changes occurring throughout **the** region. We have noted several in **the** regional projection but a few stand out as particularly salient in this subregion. **For** example, television and telephones are in universal evidence in individual **homes** in both communities. As **late** as **1975** the only means of external communication was the cannery radio **in** King Cove. The first **village** telephone appeared in 1976; others were installed in individual homes in **late 1976**; **satellite** television service began in **late 1977** or early **1978** in King Cove. **This** rapid change in communication has had far reaching social and cultural consequences for this subregion which are only just beginning to appear. Many informants noted how live television and

full-day scheduling has led to a reduction in subsistence activities and social visiting, and has altered the character of the day's (especially evening's) routine. It must be realized that the ability of informants to recognize these differences is also indicative of the recentness, intensity and impact of the changes. Soon television, telephone, and teleconference (a live video conference with legislators in Juneau), will have become commonplace. With the social incorporation of this new technology, with new levels of economic wealth and commercial products, an accelerated sense of dependency is being created. Within the next 5 to 10 year period all these new forms of convenience will have come to be accepted as necessity.

### Political

Based on existing data, we are projecting profound recent economic and political changes in this subregion throughout the next twenty years. It is important to note that the political and economic changes are intimately linked together and that one will not proceed without the others. The economic changes are dependent upon the continued growth of the local commercial fishing industry while the political changes are dependent upon the increasing concentration of power in the hands of local government. An illustration of the interdependence of these two forms of change is the gradual exertion of political pressure by the communities on the processors, as well as the authority to levy direct property and fish taxes. Both cities are encouraging other processors to locate in their communities (Pan Alaska and Norwegian processors for King Cove and several others for Sand Point). Secondary economic development is already taking place at a rapid pace in Sand Point and at

a more leisurely pace in King Cove.

An issue of increasing political concern in this subregion will be the establishment of effective means of law enforcement and social control. We might also note that there is an inherent bias introduced as a result of increased levels of police protection and record keeping itself. We must still project an increased occurrence of alcohol- and drug-related incidents over the next 5- to 10-year period. This increase is one of rate and must be calculated on the basis of an increased population.

Other social indices include a relatively low ( but increasing) rate of personal assault (including wife-beating), robbery, petty larceny (especially in Sand Point), malicious mischief, juvenile delinquency, and rape. The use of weapons in confrontation or crime has been minimal in both communities, which is a significant reflection of strong traditional sanctions and training concerning their use and abuse. The dominant social problem for King Cove is seen as loud three-wheelers "ripping through town" but this is likely to decline as new regulatory provisions are implemented.

### Social

These communities are relatively cohesive and integrated in the sense that members identify strongly with their city and take pride in its progress--even if they do not share such 'progress' as their personal goal. They have not reached a point where local friction is seen as a potential cause for leaving the community. The general boom in economic conditions has clearly contributed to this sense of independence and self-determination for these communities.

There are very few divorces in either community and the local nurse's assessment (and that of our consultants, S. Langdon and T. Brelsford) is that families are quite strong in these cities and that their sense of community is strong as well.

From another perspective, however, those individuals who have not been able to keep economic pace feel that things are just going too fast, that life is more difficult and more expensive, and that changes are occurring to their detriment. We cannot help but observe that this trend is likely to endure and that the schism between those **who** have access to economic abundance and those who do not will continue to increase throughout our 20-year projection period. Such schism will be exacerbated by the **inequal** distribution of Limited Entry permits. As evidenced by the data presented **by** Langdon and **Brelsford** in Combs (1981), the distribution of **LE** permits is decidedly skewed in favor of a relatively small portion of **the** population. The evolution of social class and economic wealth engendered by this legislation are discussed in the regional projection and apply in force to this subregion.

We have noted in other communities that ethnic identity is a crucial variable in the projection of social cohesion in the next twenty years. For these two cities the incentive to maintain traditional social forms such as the Aleut language, native dance, or crafts is minimal. **When** classes in **Aleut** or crafts were adopted in King Cove the **majority** of the participants were **white**. Native crafts have endured a similar fate, being transmitted only through formal educational networks and in good part as a novelty. Both King Cove and Sand Point are centered on the use of English as the sole language of instruction and social **interac-**

tion in the community. While there are between 25 and 30 Aleut speakers living in King Cove, most of them have not transmitted this ability to their children or grandchildren (Langdon, pers. comm.). Several families in Sand Point utilize the Aleut language in their homes but the same general trend observed above is the dominant theme for this community as well.

### Health Care

Public inebriation in this subregion is not considered a 'major' problem by local standards. However, the consumption of alcohol, by any standards, is high. Bars, at least during the off-season, are seen more as centers of social interaction than places for individualized consumption. During the fishing season, when the percentage of local consumers declines, the bar can loom as a central place for conflict and confrontation. Many fishermen claim other fishermen are drunk on the fishing grounds but it must be conceded that most drinking occurs in social settings in private homes. There has been a sizeable increase in the number of arrests (though few 'official' bookings) of intoxicated juveniles in both cities, as well as reports of alcohol-related violence and destruction of property. Drugs, primarily marijuana and cocaine are in increasing evidence as well and are thought to be related more to the year-round presence of outside fishermen than to increased income among teenagers and young adults. Some correlation between increased earnings and increased consumption of cocaine, which sells for about \$150 a gram, has to be assumed. Students report a sizeable percentage of their peers smoke marijuana and consume alcohol on a semi-regular basis, and believe that most have at least tried cocaine by the time they have reached 16

years of age. Consumption of these products appears to less of a problem in King Cove than in Sand Point but this could easily be a result of a sampling bias.

## COLD BAY SUBREGION

### Introduction

Cold Bay presents a unique problem **for** the projective analyst; as a government enclave it **is** susceptible **to rapid** decline or **growth** based wholly on non-local variables. Our projection, however, **will rest** primarily on **local** attitudes, information and informal discussions--any major governmental decision, such as switching the local base to remote operations, will clearly have a decided impact on our suggested scenario. However, while the statistical indicators under such circumstances **would** appear to change dramatically, the sociological content or meaning **of** such a change **should** not vary radically from our projection.

**We** have determined that Cold Bay cannot legitimately be tied to any other community of the region **to** form a village cluster or subregion. **Cold** Bay is unique on several counts. **Only** one or two natives live in Cold Bay; very few individuals have established residence for more than **ten** years; and most are employed in one way or another by state or federal agencies or employed in airport-related enterprise. **C**learly this does not conform with the ethnic and occupational **characteristics** of any other community in this area of Alaska.

**We** will treat this community as a subregion here, but this section **will** also serve as our individual community projection and **will** not be repeated in the appendices.



The present analysis is meant to provide analysis and projections only and relies on the rather thorough baseline analysis of current conditions and trends in the local commercial and public sector presented in Technical Report #59 (Alaska Consultants, 1981). It is meant to be additive and will avoid, where possible, overlap or redundancy. Our growth projections are lower than those suggested in their report, primarily as a result of our lower expectations regarding the likelihood of abrupt growth in the **bottomfishery**. In **non-bottomfishery-related** expectations it would appear that we have a slightly more optimistic view of local political and economic development and population growth.

The dominant forces of change in the Cold Bay subregion are political and economic. The survival of the community is dependent for the most part on policies and decisions made by state and federal government agencies which are based outside the subregion and by businesses such as the airlines. Fishery development, as noted below, has recently emerged as significant and holds promise of significant effects. Social **networks**, local level political **activities**, religion, education and health care (its non-political aspects) will **play** only minor roles in determining the course of change throughout the projection period.

While **we** will model our projections with modest expectations regarding future **bottomfishery** development, there are nevertheless indicators of potential development of these or other fisheries out of Cold Bay. The ultimate distribution and sale prices of land recently auctioned by BLM in Cold Bay are suggestive of growth throughout the projection period. Land was auctioned in two categories: commercial and residential. Residential land averaged about \$12,000 an acre while commercial land

sold for **as** much as \$300,000 **an** acre. One **ten** acre **parcel** sold for **three** million dollars, and the 13th **Native** Corporation invested \$2.5 million in another property. These are probably **among the** best indicators of commercial intentions to enter fishery operations in **Cold Bay**. These **land** purchases **at** seemingly inflated **prices** are clearly made **with** concrete objectives **in** mind. This issue **will** be discussed below.

### Input

#### Ecological

We are not assuming or projecting any **change in** the ecological environment of Cold Bay during the forecast period. Ecological considerations are likely to **play little direct role in the future** adaptation of this **community** to its environment. Long-term variations in weather patterns, fishery resources in adjoining waters, water **fowl** migratory patterns, or changes in **air** transportation routes **could** positively or negatively affect the viability of this community but cannot be expected **to** occur during the **20-year** projection period. Mineral resources are **insignificant**. The **Izenbek** reserve represents the only indigenous resource on which elements of this community depend in the way of income. **Professional** guides take hunters out of Cold Bay to **shoot** big game (caribou locally and moose and bear farther north along the Peninsula) and water fowl (the **largest** concentration of some species anywhere in the world), **The** abundance of these species are expected to remain constant as a result of **close** monitoring.

## Extrasocietal

### External Government

We do project an increasing effect of federal and state governmental actions on this community. The airport, currently the dominant factor in the existence of this community, is destined, with or without OCS or bottomfishery development, to expand its role in the community and region.

This community more than any other on the Alaska Peninsula is dependent on external governmental decision-making for its existence and continuity. Several state and federal agencies maintain representatives in Cold Bay. These include Federal Aviation Administration offices, Fish and Wildlife offices, Alaska Department of Transportation and Public Facilities, National Weather Bureau, Alaska Fish and Game Biologist (50% time), airport personnel (manager and security), dock maintenance personnel, local magistrate, Alaska fish hatchery employees, and personnel stationed at the adjacent military installation (Cold Bay Air Force Station).

It is evident, therefore, that changes in the level of government involvement are bound to have a significant impact on the community. Given the strategic importance of this community, however, such involvement will increase throughout the next twenty years rather than decrease as is projected for other subregions in the North Aleutian Shelf region.

### Commerce

Commercial interests in the area include Pacific Power and Light (owners

of ALASCOM), Standard Oil, Flying Tigers Airlines (which has a sole concession for the only restaurant, bar, entertainment, grocery and liquor store in the community, and one of the only two hotels in Cold Bay -- valid until 1985), Reeve Aleutian Airlines, Sand Point Air Service, Don Johnson (Bear Lake Lodge), Peninsula Airlines, and Wenke Northern Peninsula Fisheries (one of only two directly fish-related enterprises now located in Cold Bay). People refer to this operation as a processing concern but it is clear that this is primarily a fish buying and transfer facility and does not represent a major initiative in the development of fishery-related enterprise in the area. The 13th Regional Corporation, however, has had as many as 90 employees working in their processing facility--its future in the area will be discussed below. Arco and Reeve Aleutian Airlines are currently negotiating with Flying Tigers in an attempt to construct another hotel in Cold Bay -- under the sole concession contract, however, Flying Tigers Airlines has the option to construct it themselves and apparently intends to do so in order to maintain their control of business. Wein Airlines has been negotiating to establish a route into the area and will probably succeed within the next 5-year period. The 13th Regional Corporation has constructed a warehouse and bunkhouse and owns several trailer-homes. From a commercial perspective it is clear that substantial interest in Cold Bay exists. Of 127 acres auctioned by BLM this year only 5 acres were purchased by just 6 local residents while the rest was purchased by cannery representatives, investor/speculators, and developers.

We are projecting that the Thirteenth Regional Corporation, through local investments and entrepreneurial activities, will constitute a significant source of input in the extrasocietal environment of Cold Bay.

The activities of the King Cove Corporation will share in this impact as they diversify their operations in this community.

The *raison d'être* of this community, however, is its airstrip. This all-weather airstrip is one of the best landing fields in Alaska (the third largest in the state) and is used as a pivotal station on flights between many of the communities of the subregion, between points further east along the Aleutian chain (Akutan, Unalaska/Dutch Harbor, Nikolski, Atka, Shemya and Attu) and between the far east (Korea and Japan) and the contiguous United States. Japan, Korean and National Airlines have all applied to use this airport en route to the U.S. mainland and once the extension and necessary improvement of the strip (asphalt overlay) are accomplished the role of this airport should increase dramatically. The Cold Bay airfield is in a very, very propitious location for **bottomfish** development and will eventually **become** involved as an support station in future OCS activity (though this understanding is not used in the following analysis).

The 13<sup>th</sup> Regional Native Corporation, King Cove Corporation, Cold Bay Land Development Corporation, Reeve Aleutian Airways, and three cannery representatives were the primary purchasers and accounted for approximately 95% of the land obtained through the auction. This multi-million dollar investment/speculation would appear to bode omen of substantial commitment to establish profit-making enterprise in this community in the not-to-distant future. In many ways this controverts interview data indicating undesirable characteristics of the location such as isolation from fish harvesting areas (**bottomfish**, crab or salmon), harsh weather, periodic freezing and storm-surge activity which make the otherwise

excellent natural harbor unattractive.

### Larger Sociocultural System

Given the importance of Cold Bay as a transportation center, and the significant influx of outsiders and external commercial interests, we are projecting a much greater impact of the larger sociocultural system on the social structure, politics, economy, and value system than will be the case for other subregions or communities.

### Intrasocietal

#### Community Facilities

Land ownership has been the primary retarding factor in growth and development of this community. Until recently, there were only a few private owners of land. Many local residents expressed the desire to set up permanent residence in this community---all unanimously felt the principal factor retarding the growth and development of the community was the lack of available land. "Lots of people would stay here if they could just buy a home or some land." Clearly the auction was a step in this direction but one that really accomplished little in view of the fact that only six residents acquired land. As it stands now, in addition to these new land owners, there is only one privately owned house in Cold Bay, two homesteads (one with a small house on it), and nine state owned homes which are rented to government employees. Incorporation looms as a possible means of gaining access to more land. However, this problem with land ownership is going to be a critical focus of local political action in the future. Actions which tend to open access to land are likely to accelerate development while those that

obstruct land ownership will retard development.

A new fire station and new storage shed for the community are also on the legislative priority list for the community. The idea of constructing a new all-weather dock has grown strong but there are significant ecological factors which may, for the intermediate term (next 10 years), make this option unacceptable.

### Demography

Population projections for this community are more tentative than those suggested for other subregions of the Alaska Peninsula. This is because the population structure of Cold Bay is more dependent on governmental initiatives and decisions than on natural or sociological factors. We are relying on assumptions of continuity in current **levels** of military and government personnel, on implications for development represented by recent commercial land investment and on attitudes of present local residents toward establishing permanent homes here. The impetus for growth is, of course, somewhat retarded by the unavailability of land noted above; nevertheless, we project a gradually increasing rate of **population** growth over the next 20-year period averaging approximately 4% per year without **OCS-related** development. This is based on the **projected** level of commercial activity--primarily **fishery-** and transportation-related--and indicators of growing community cohesivity and permanence.

To maintain the consistency of this report we rely on the latest U.S. Census report for our estimates of current population and trends for this community and disregard the lower estimates presented by Alaska

Consultants (1981:99). The 1980 U. S. Census shows an 11% decline in population over the last ten years--from 256 to 226. It is notable that in this report we find ourselves in opposition to only one major assumption (the relatively grandiose **bottomfishery** projections) and one evident population trend. That is, our projections for the next 10-year period see a reversal of this downward trend.

### Structure

#### Values

The value hierarchy of the community of Cold Bay most closely approximates the norm of the larger **sociocultural** system of the U. S. Almost all of the community's residents are immigrants from other parts of Alaska and the U. S. and there is hardly a **trace** of a traditional Alaskan Native value system. The value hierarchy of Cold Bay lays greatest emphasis on independence rather than community solidarity, simplex rather than multiplex **social** relations, competition rather than **cooperation**, stratification based on employment status variables rather than on egalitarianism, and on educational priorities. Industry is viewed as valuable primarily from a commercial or bureaucratic standpoint. Innovation is valued **only** in the economic sector. Individualized self sufficiency is not as **highly** valued in this community as it is in other parts of the region--and **is** normally expressed in the idiom of certainty of employment. There is no overt sense of **ethnic** identity as contact between Native Alaskans and non-natives is minimal and normally occurs in transit situations and **only** within the context of a dominant white



popul ation.

## Organi zati on

### Economi c Organi zati on

#### Commerci al

The cash-based economy of Cold Bay is the result of external commercial enterprise. Unlike other subregions, **it is** based on transportation and very minor fish processing rather than on fish harvesting. The **adja-**cent military facility and several other federal and state agencies **pro-**vide the bulk of remaining occupational categories. The bearing of this major difference in economic infrastructure on social and political organization will be discussed below.

#### Subsi stence

Several local families put up fish during the summer season but they are considered more the exception than the rule. They are non-indigenous residents who put up around 50 salmon for the entire year and hunt geese and caribou, but are seen more as recreational than subsistence hunters or fishermen. We cannot foresee any significant decline of this activity, nor, for that matter does the pattern seem to be increasing as a percentage of the population. New arrivals all seem to 'give it a try' but few become committed to this pattern. As the population increases locally and in the region, however, we can foresee a depletion of available caribou and bear within range of this community.

## Social Organization

Cold Bay differs from other communities in the region in that the **basis** for social organization is not kinship. There are no major lineages as can be found in other subregions and none are expected **to** form in the next twenty years. In lieu **of** a traditional **social** organization, we are projecting the formation of voluntary organizations as a framework for social interaction. Several informal social organizations have been formed in the last few years and the level of **social** activity by **all** reports is on the increase. A volunteer fire department, a private men's Volcano Club, and a women's Ceramic Club are a few of the more formal social organizations.

**The** military personnel, as is commonly the case, are something less than full members the community. However, substantial similarity and overlap in attitude and a more or less shared perspective on employment and government allows these two segments of the population to interact well. The social activities at the base are open to all, and community activities are **well** attended by military personnel. We do **not** foresee any conflict arising out of this minor social schism. If', indeed, the post becomes a remote-control facility, then the bulk of this population **would** be reassigned. If this occurs, of course, the population **statistics** have to **be** amended, nevertheless, we do not expect our **sociocultural** projections **will** be invalidated by such a decline.

## Political Organization

### Local Affairs

The current political environment of this community is unusual. No formal organization exists. **There** are no official leaders or even recognized informal leaders. The **acephalous**, egalitarian, and diverse nature of the community is a result of relatively abbreviated periods of residence in the community, inhibitions to owning property, and the inherent sense of insecurity engendered. The impact of these characteristics on future social and political organization are examined below under output.

### Social Control

Problems with social control have not reached significant levels. There have been a few incidents of juvenile delinquency and one reputed car theft, and cocaine and marijuana are used to a minor degree locally but not to the point where it is considered a problem. Technically, the two airport security officers are only concerned with airport-related **security** but are **called** upon for a wide range of services. Any increase in **local** crime will occur very gradually and will likely be related to a seasonal influx of non-residents.

### Religious Organization

**Cold Bay** stands alone in the region with respect to religious tradition since its residents are not predominately Russian Orthodox. What religious structure does exist in the community is in the form of a non-denominational Christian church. For the most part, however, the community displays a higher level of secularization than other communities in the region and attendance at the local church is minimal. We are not projecting any significant changes in the current pattern of religious

belief and organization.

#### Educational Organization

Cold Bay falls within the jurisdiction of the Aleutian REAA. The local school has 44 children in kindergarten through twelfth grade, and has four teachers (one Principal Teacher and three teachers). Last year six new children attended the school. This represents a sizeable increase and may be indicative of future growth. We are reluctant, however, to use these figures to project future attendance or population growth because of the wide historical variability of population movements in this community, related to government decisions, but it would seem that growth is probably safely assumed at about 3-4% per year. This figure could miss the mark by several factors on a yearly basis but is expected to conform to average growth rates for the next decade. We feel more extended projections for this community would not be warranted.

#### Health Care Organization

The nurse assigned to this community recently departed, adding to the enthusiasm for construction of a local health clinic. Several individuals reported that \$250,000 had already been allocated for this purpose by the legislature and that all that was required was for the community to incorporate. Others, however, felt that the clinic could be constructed without having to incorporate.

Another health-related concern of the community is an EMS (Emergency Medical Service). The community sees itself as a pivotal center through which any emergency medical case must pass. All too frequently patients brought to Cold Bay must be re-routed elsewhere as they cannot be helped

locally because of lack of medical facilities. This problem is the focus of current attention and may be the factor which ultimately determines the fate of incorporation efforts for the community. As noted above, we feel that within the next two year period the EMS will be established in Cold Bay and that during the same period the community will have voted to incorporate as well.

#### Recreational Organization

Movies are shown every night at the local military base about eleven miles from town and provide a large part of the local entertainment. Other recreational activities and projections are detailed in Technical Report #59.

## output

### Economic

The 13th Regional Corporation floating processor **is** an important indicator of current trends. **It** is the first such activity (full-scale processing) at this location and employed an estimated 90 fishermen and processor workers at the peak of the past season. It proved a moderate economic success and in this sense **will** open consideration **of such** operations to other processors as **well**. **If, as plans** indicate, **this** corporation constructs a shore-based facility locally, the potential for growth **will be** substantially enhanced. The King Cove profit corporation, as discussed in our appendices on this community, owns a large parcel of land in the area and is considering several profit-making ventures for these holdings.

Fishery-related enterprises must contend with **sizeable** obstacles in the **form** of currents, weather, distance from the resource, navigability of the harbor, and lack of adequate water supplies. The last problem may also have a bearing on other processor-related activities and on development in general. **The** community's wells, **while** adequate for **local** consumption, **will** not provide sufficient potable water for the needs **of** substantially increased processing facilities. The above factors as **well as** lack of adequate basic **facilities** are our primary reasons for not projecting a high rate of growth **in** the basic sectors of the economy or in population.

The potential for decline, even given the impetus toward development,

exists in the form of dwindling federal spending on a national level, which will be further aggravated by the precipitous drop in state revenue expected to occur early in the 1990's. It should be remembered that the federal government and not the state government is the dominant employer in the area. The highly dependent nature of the community on these sources of revenue does not suggest that a reversal of imminent trends is likely. The commercial sector of the area will evolve during the next decade and can be expected to draw continued government support services. Construction, salmon and crab-fishery development, and transportation services and associated secondary elaboration should provide sufficient impetus to offset any national trend of decline in government services.

Our framework specifically denies likely oil development. However, to the extent that it has already played a role in the community, or is playing a continued role, such activity must be addressed. As noted above, oil-related development has already occurred in several senses. Exploratory and testing vessels have been in particular evidence in Dutch Harbor this last year and have made periodic visits to Cold Bay as well. Oil company representatives are frequent visitors to the region. For example, four Arco agents recently presented a scoping session to the community on oil development. Some residents feel these events are really meant to 'scope-out' the local political and social organization-- "they really want to know how they can manipulate us." Nevertheless, the attitude that "eventually oil will be produced" and that Cold Bay will play an important role in its development is in clear evidence.

The tie between oil speculation and fisheries-related investment is very nebulous at this time--none of the recent purchasers of land in the BLM auction acknowledged a connection to oil companies. If it is speculative, then some people are very confident that oil-related facilities will eventually be established locally. We are certain, however, that individuals who purchased residential property fall in a distinct non-speculative category, in that they cannot subdivide their property for sale, and only one non-commercial dwelling may be erected on the site, it is clear their intention is to build a home and establish permanent residence in the community.

#### Political

A fairly clear impression of the current political trends is reflected in the voting record of the community on taxation and incorporation. The community is almost exactly split on both issues. Those in favor of incorporation are also those most interested in development, in permanent residence, in owning land and in directing the course of the community. Those opposed see incorporation as unnecessary regulation and as an unfavorable redistribution of authority, that is, all of those put up for election (in the process) are also those who favor incorporation. Thus, many saw the election as an effort of a few individuals to get control of the community. This issue will have to be dealt with as soon as incorporation takes place. Taxation is another issue--an additional economic burden which seems unnecessary. This schism will not disappear in the future. We suspect that any increase in population will favor the group in support of incorporation. As undesirable decisions will be taken by the new leadership some sense of conflict will emerge--the



intensity of this conflict ~~will~~ depend on the political ability of the elected officials.

The BLM land auction noted previously, though little property passed into private hands, precipitated a dramatic surge of public sentiment for incorporation and local economic development. It has also spurred local political organization and expression of political position. An initial effort to pass an initiative to incorporate failed by a margin of one vote (40-41) and on the right of the community to establish some form of ~~tax~~ base (a prerequisite to incorporation) failed by two votes (40-42). The next time this is brought before the voters of the community we project the initiative will pass and that within the next two years they will have incorporated as a second class city. The necessary sentiment and willingness of individuals to fulfill the requirements and obligations of the elected positions is present and will ultimately mean formal political organization. It should be clear, however, that half the current voting population is opposed to formal authority in their community and would prefer to remain independent and ungoverned.

In spite of this attitude, the political environment of Cold Bay is one of sophistication. The population as a whole is very well informed, and attendance at public meetings is relatively high. They are very outspoken. The educational attainment level of residents, in the regional context, is extraordinary. This sophistication will be conspicuous if any detrimental effects of a particular development scenario are realized. As government employees they have access to a wide variety of information sources, opinions and factual data, and are already well informed regarding OCS projections. This expertise, of course, could be readily transmitted throughout the community if an external threat were noted.

## NELSON LAGOON-FALSE PASS SUBREGION

Nelson Lagoon and False Pass are analyzed as a village cluster because of similarities in ecology, economy, kinship and population size. As will be evident in the analysis, many features of their adaptation to the environment are dissimilar. Thus, more than other clusters presented in this report, this section will entail a comparative/contrastive discussion of the communities of Nelson Lagoon and False Pass.

False Pass and Nelson Lagoon are two villages of the South Peninsula-Unimak Island area of Alaska. These two villages have a strong historical interrelationship which continues into the present. We present here a brief recapitulation of facets of that history which are of particular relevance to our projections and which have not been integrated in other reports available to the OCS SESP. The bulk of the historical data presented here in summary are derived from Langdon (1981) and the village profiles of the AEIDC (1978).

The area was first explored by Russian entrepreneurs in search of otter pelts. In 1759 Stepan Glotov explored much of the region, and by the late part of the eighteenth century a flourishing otter trade had emerged. The next major period of local history was inaugurated with the switch from otter to salmon as the species of choice. This occurred following the transfer of political control from Russia to the United States. In the early part of this century salmon processors began

moving into both the False Pass and Nelson Lagoon areas. Both communities actually began as fish camps and gradually became permanent settlements, a pattern not at all unusual for this area. Nelson Lagoon was a native fish camp for years, and was **only** permanently settled in 1906 when a salmon **saltery** was built on the site. This, however, was only an intermittent development. **The** site was not finally settled as a village until the middle of the century with the movement of a group of people from **Herendeen** Bay around 1956.

False Pass was also a fish camp at the turn of **the** century, and in 1916 the Pacific **American** Fisheries opened a cannery at **Ikatan**, about fifteen miles south of the present site of **False** Pass. By the 1930's the entire subregion, along with the Sanak Islanders, were heavily involved in salmon fishing, and people from the village of **Morzhovoi** were working in the False Pass cannery. Gradually population shifted from **Sanak** Island and **Morzhovoi** to False Pass and the latter had become a permanent village with a population between 50 and 80 by the early 1950's.

Both villages illustrate the dynamism of population movements and concentrations in the subregion. From the first historical records with the Russian intrusion the region has been the site of the rapid growth, **efflorescence**, and decline of villages and settlements. The Russians forced movements of whole villages in order to better exploit **the** otter trade; the village of **Belkovski** was begun in 1823 through a forcible transfer of **Sanak** Islanders by the Russians, a process which was not unusual for the time. The changing nature of economic activities in the subregion also precipitated frequent changes in village locations. **With** the change from otter and cod to salmon in the first part of this cen-

tury new pressures directly resulted in the emergence of False Pass and Nelson Lagoon as important village sites. Also important in the subregion was the contribution of Scandinavian fishermen, especially with reference to Nelson Lagoon, a point covered more extensively below under social organization and ethnic identity. During the rise of the salmon fishery False Pass benefited from a migration of people from the Sanak Islands, Ikatan, Morzhovoi, and other villages and fish camps in the area. At the same time Nelson Lagoon was emerging as an important site on the north side of the peninsula for salmon fishing, and gradually the site drew population from Herendeen Bay and Port Moller.

Today both villages are important centers of salmon fishing, and the population is almost totally dependent on that resource for their survival. The two villages have been closely connected in the past, especially in economic and social terms. Both depend on salmon for their living, and they share fisheries in the subregion with False Pass fishermen frequently going north and east to exploit the northern side of the Alaskan Peninsula, and Nelson Lagoon fishermen going south and west to exploit the False Pass fishery. The villages have also exchanged marriage partners, the most notable occasion being an exchange some twenty years ago of four women from False Pass who married men in Nelson Lagoon. In general the two villages are closely interconnected and are subject to much the same general influences in terms of economics and sociocultural structure. There are, however, some particular differences which might lead to different projections in certain areas for each.

In the following narrative we will note how we see each of these commun-

ities changing or remaining stable over the next two decades, particularly emphasizing the ways they are developing as a part of the same subregion.

### Input

#### Ecological

Ecologically, both villages are in the maritime climate zone of Alaska, which is characterized by relatively mild winters and cool summers. The warmest month is August and the coolest is February. Both are also on the track of the west to east storm systems of the North Pacific, although the chances of severe storm damage are somewhat greater in False Pass than Nelson Lagoon because the latter is on the protected north coast of the Alaskan Peninsula while the former is on the southeastern side of Unimak Island. The area is also one of intense seismic activity, and both villages are flanked by major volcanoes which have been active in historical times. Again, False Pass seems to be at higher risk because it is on the Pacific side of the Aleutians and is therefore exposed to the tsunamis which are often associated with earthquakes, while Nelson Lagoon is protected from such tidal action by the peninsula between itself and the North Pacific. Though Nelson Lagoon is at less risk from storms and associated tsunamis, the village site itself is inferior topographically to that of False Pass and presents more long-term potential for radical change. This is because Nelson Lagoon is located in an area of low lying marshy coastline, tidal flats, and coastal inlets and lagoons. The village itself is located on a spit of land composed of volcanic sands and gravels deposited by dynamic

littoral and longshore transport processes still in action. The spit of land on which the village sits is composed of former beach ridges and berms now partially stabilized by vegetation. However, some estimates indicate that the southern, lagoon side of the spit is being eroded at the rate of one to two feet per year. Wind erosion is particularly important in the region, and any site at which there has been excavation is rapidly eroded by the action of the wind which averages nine knots per hour year round, and often exceeds gale force.

In terms of the physical environment, then, there is a possibility that the next twenty years will see increasing pressure on the village of Nelson Lagoon to come to grips with the problem of erosion of the village site. False Pass, on the other hand, is in a stable geographic position and is unthreatened by the type of wind and sea erosion problems facing Nelson Lagoon.

The most important aspect ecologically for both villages is the presence of the salmon fisheries. In both cases the villages are located close to very productive fisheries, the Isanotski Strait and Bechevin Bay area surrounding False Pass and the Hoodoo River (or Hudu River) fishery near Nelson Lagoon. Our projections call for little change in the quantity of this resource available, but we do see increasing competition for that resource from other surrounding villages as well as from outside fishermen. This latter will be more extensively considered below.

Energy resources in both villages are essentially undeveloped, and this is an area in which the next twenty years will undoubtedly see great expansion. Currently False Pass depends on individual electrical generators for power to each home, while the cannery itself has a 700kw

generator for its power needs. Fuel for the generators is imported from the mainland by Standard Oil. The area would seem to be prime for the development of geothermal and/or wind power, and if this occurs it would be a basis for further development of the area since the cost of importing fuel would be eliminated. In Nelson Lagoon much the same situation currently obtains, although a centralized electricity plant has been recently developed there through a grant from the State Division of Energy and Power Development consisting of two 60 kw generators and a 10 kw backup for the school. Nelson Lagoon has **also** recently inaugurated a wind generator program and **would** seem to be in a particularly favorable area for the development of this mode of electricity generation in the future. Again, if wind power can be sufficiently developed the area could become energy independent and the cost of living **would** be correspondingly reduced. Our projections are that within five years both **communities** will be deeply involved in the development of alternative sources of energy, and that within twenty years both communities will be relatively self sufficient in terms of the production of electrical energy.

The availability of water is another consideration of importance for the two villages. In **False** Pass, sufficient water is available from the runoff of several streams which empty into the Isanotski Strait, and a small dam has been constructed on one such stream which provides, through an aboveground system of plastic piping, sufficient water for the needs of the community. The availability of water is such that it could support a population several times larger than currently residing in the village. Nelson Lagoon is in a somewhat weaker position with regard to water. Most houses have wells nearby, but the water is very

brackish **and salty** and **is** unfit **for** consumption though **it** is used for washing clothes and flush toilets. Good drinking water **is** available only through importation or by traveling **to** a freshwater **lake** some **16** miles to the southwest of the village. The possibility has been raised of establishing a reverse osmosis desalinization plant in **Nelson** Lagoon, and if this were done it would eliminate the problem of transporting water to the village. Our projections see this as a major problem to be overcome by Nelson Lagoon, and this, in combination with the problem of erosion from sea and wind, will bear heavily **on** the direction of community action in the future.

### Extrasocietal

#### External Government

An extremely important input variable for these smaller villages is the impact of external government and governmental agencies. This has been particularly evident in two areas: fishing permit limitations and the implementation of the Alaskan Native Claims Settlement Act of **1971**. In the **former** case the region has been dramatically impacted by the institution of the Limited Entry fishing program. Limited Entry, by **restricting** the number **of** permits to fish in a given fishery and by limiting those permits to those **who** can demonstrate past utilization of the fishery, has served to strengthen the position of the local fisherman, at least in the short-run, **vis-a-vis** outside fishermen. By linking utilization of a fishery to historical use, Limited **Entry** **has** encouraged the maintenance of **social** and **economic** ties **to** the villages in the neighborhood of the fisheries. Probably more than any other force Lim-



ited Entry has encouraged the persistence of both of these villages. Again, however, there are individual differences between the two sites which put Nelson Lagoon at somewhat of a disadvantage when compared to False Pass.

The False Pass fishermen fish the region between Sanak Island and **Bechevin** Bay, **while** the Nelson Lagoon fishermen concentrate on the inlet side of the lagoon and the **Hoodoo** River estuary except in June when they will often travel to the southwest to exploit the False Pass fishery (this is partly a result of kinship **links** between the two villages which are extensive, as we will note below). Nelson Lagoon has managed to avoid the incursions of outside fishermen into their fishery through several mechanisms, one of **which** has been effective manipulation of the state regulatory process to insulate their fishery. In the **1960's** the seaward side of the lagoon (Caribou Flats) was closed to fishing after June 20th as a regulatory management measure. This was done at a time when the productivity of the **Hoodoo** River was very low, and was intended to protect the resource. However, now that the **Hoodoo** fishery is once again very productive the measure has the effect of reserving all the run of reds for **local** fishermen, and much **local** energy, political and social, is directed towards maintaining this privileged position, a point discussed further **below**.

Another such measure introduced at the same time established the distance between set net sites in the **Hoodoo** River fishery at 1800 feet, a figure double and even quadruple that established in other Alaskan fisheries (e.g., the minimum distance, by comparison, in Bristol Bay is **only** 300 feet). The combination of these measures has insured that out-

side fishermen are unable to **utilize** the local fishery and has reserved **its** use for residents of Nelson Lagoon alone. However, the maintenance **of such** regulations depends on their ability to continue **to** convince state authorities that they are necessary from an environmental standpoint, and already the state **is** coming **under** pressure from non-locals to change the regulations because they serve to restrain free trade. **The** outcome of this controversy will **be** crucial **to the** future of Nelson Lagoon, for if these regulations are abrogated the character of this community **will** be rapidly altered by outside fishermen seeking to exploit the very rich Hoodoo River Fishery. The importance **of** this issue, and of the attitude of regional and state authorities towards it, is one reason for the disproportionate interest and representation **of** Nelson Lagoon residents on several "regional and state boards, a point addressed in detail below.

## **Intrasocietal**

### **Community Facilities**

In Nelson Lagoon a centralized electricity plant is now in operation providing power to the entire community. False Pass is currently **examining** the feasibility of such an undertaking and it appears certain that. **within** five to ten years False Pass will have centralized electrical power. Both communities, **until** recently, had **no** paved roads, but both have, in the last five years, begun a program of road construction which will continue **at** a modest rate into the near **future**. Nelson Lagoon will, we project, begin **to seriously** develop wind power (a demonstration project became operational in 1981) and there is a strong possibility of a reverse osmosis desalination plant in order to

provide acceptable drinking water. The indications are that False Pass may al so begin to expl ore the potential of wi nd generated el ectricity.

Both communities have a need for an underground sewage system. In False Pass **the** only satisfactory sewage system is attached to the cannery, which is currently shut down. There has been agitation among the residents for a modern sewer system, and this will be an issue to **be** confronted in the near future. Nelson Lagoon is in a similar position and has also been considering the possibility of installing a sewage disposal and treatment system. This will be a concern of the local leadership during the next five year period.

### Demography

Demographically both villages have traditionally been in a very delicate balance. Historically the subregion has been one in which villages have been unable to survive over the long-term. However, with the implementation of **ANCSA** a certain demographic stability has been introduced. This is a result of the formation of native corporations to administer the allotment of land to the residents of the villages in the subregion. The possibility of acquisition of land has resulted in a commitment to the village **which** did not previously exist. This, in conjunction with the permit system instituted with the Limited Entry program, means that it is unlikely that residents will permanently depart from the area. Though individuals will continue to migrate during off-season to such places as Anchorage, Seattle, and points even more distant, they will continue to return during the fishing season and **will** maintain homes in the villages even when they are not resident. Immigration to both **villages** is currently at a minimum, and the importance of local residence

for property and fishing rights will insure that local forces will continue to operate, whenever possible, against such migration. Out-migration, while once substantial, appears to have been reduced with the implementation of Limited Entry and ANCSA and unusually profitable fishing seasons, and will probably be negligible over the foreseeable future. We therefore project that population will remain steady or increase only modestly, and that any increase will be primarily due to natural increase.

## Structure

### Values

The traditional value system of the Nelson Lagoon-Falase Pass subregion is Aleut with greatest emphasis on industry, self-sufficiency, independence, family responsibility, mutual aid and egalitarianism. Family and community are the major foci for social obligation, and sharing and distribution of subsistence resources proceeds along the lines of immediate family, extended kin and community affiliation.

With the increase in wealth and emphasis on the commercial sector of the local economy, many of the traditional values have been replaced by values from the larger sociocultural system. Social obligations based on kin group and community affiliation will continue to be highly valued, allowing for a greater degree of community cohesion than is found in other subregions of the North Aleutian Shelf Region. This, in turn, will continue to promote such values as community cooperation and mutual aid. With the recent increase in income levels and movement into the commercial fishing industry, the value placed on egalitarianism has declined in favor of upward social mobility, displays of wealth, and social stratification. These values, however, do not appear as highly placed on the value hierarchy of this subregion as they are on the value hierarchies of surrounding areas.

Community cohesion is also reinforced by the value placed on ethnic heritage which serves to distinguish local residents from outsiders. The modal ethnic identification of the population of the subregion is Aleut with admixtures of Russian and Scandinavian identities. In essence, the

Russian influence has been assimilated to an Aleut identity, and the Scandinavian influence, though more recent, is also in the process of being subsumed in the Aleut.

## Organization

### Economic Organization

Economically both villages have recently and abruptly entered into the cash economy of the larger society. This has been primarily a result of the vastly increased incomes generated by the local fisheries. In both communities the increase in earnings has exaggerated a social pattern which is essentially dual-resident or migratory. All putative members of these communities live in the local village immediately prior to, during and shortly after the fishing season. Two distinct patterns of off-season residence emerge, however. The majority of the families of this subregion take several weeks of vacation outside the region after the fishing season and then return to the local community for the remainder of the year. Another, increasing, segment of the community depart the local village at the close of the fishing season, establish residence elsewhere (Anchorage, Seattle, etc.) and return only at the beginning of the following fishing season. Many residents feel that this system allows them to experience the best of both worlds, and the increased earnings which allow for such extensive off-season vacations and dual residence is another factor which may contribute both to the long-term survival of the villages and to its existence as an itinerant 'fish camp.'

Probably the most crucial economic problem faced by these villages over the next two decades revolves around outside exploitation of the local fisheries. Already both areas are under heavy pressure by fishermen from other areas of Alaska as well as from Washington, Oregon, and California. Where a decade ago, for example, the Port **Moller** fishery (located some thirty miles across the bay from Nelson Lagoon) was primarily exploited by Nelson Lagoon fishermen, today the area has been taken over by outside fishermen and the Nelson Lagoon fishermen have retreated to the fortunately rejuvenated **Hoodoo** River fishery. The **False** Pass fishery also has come under increased pressure from outside fishermen. One of the problems here is the gradual alienation of fishing permits by local fishermen who are unable to resist the income represented by the sale of the permit. We project that the next decade will see increased efforts to restrict entry by non-local fishermen in two ways. First, any local permits for sale will be purchased by other local fishermen rather than allowing them to fall into the hands of outsiders. A hint of this has already occurred in Nelson Lagoon where an outsider was frustrated in his efforts to obtain a locally-owned permit, and where the chief has expressed concern over the "loss" to outsiders of between three and five permits in the last few years. Second, restrictive regulations working to the benefit of the local fishermen will be steadfastly supported, and attempts will be made to expand such regulations. Nelson Lagoon is again an excellent example with its unusually restrictive regulations concerning fishing on the seaward side of the lagoon as well as the 1800 foot distance mandated between set net sites. This will also serve as a further spur to local political activism in relations with regional, state, and federal authorities.

As alluded to above, the multiplex nature of these communities in itself insures that local resistance to outside intervention will be of a concerted nature. This is particularly clear in Nelson Lagoon where a system of consensus based on traditional use patterns has emerged as the determining factor in the location of set nets and drift gillnetting. This ability to adopt informal mechanisms based on village and subregional consensus, as in the Nelson Lagoon understanding regarding drift gillnetting only opposite the individuals shore set nets, strengthens the villages hand vis-a-vis outsiders and insures that such outsiders will be unable to take advantage of local social conflict or schisms.

The substantial increase in local income resulting from commercial fishing will significantly impact the structure of the subsistence sector of the subregional economy as well as the commercial sector. Already, there has been a greatly reduced dependence on, and consumption of, local subsistence resources. Caribou herds still provide a certain amount of subsistence resource for the village. Also available locally are several varieties of geese and game birds, bear, several kinds of smaller mammals, and, of course, numerous marine resources including salmon, crab, herring, and cod. Nelson Lagoon has access to similar marine resources, but has less land species available than does False Pass. In order to exploit land species Nelson Lagoon residents must journey at least thirty miles to the southwest, a distance which makes such exploitation much less attractive. However, even though Nelson Lagoon depends more exclusively on outside subsistence sources, False Pass has also greatly reduced its exploitation of local sources as earnings from the fishery have increased dramatically. In fact, neither of the villages is heavily dependent on local subsistence resources, and



this situation can be expected to persist as long as the fishery continues to provide high levels of income.

### Social Networks

Though both villages, and particularly Nelson Lagoon, have fairly shallow histories as permanent village sites they have managed to establish a viable and seemingly stable social structure in a relatively short period of time. This is primarily a result of the interrelations among the families which make up each community, as well as relations between communities. Both communities trace their heritage to a mixture of indigenous Aleut and foreign fishermen, particularly Russian in the case of False Pass and primarily Scandinavian in the case of Nelson Lagoon. This is reflected in the current surnames of many of the inhabitants of each village. In each village many families are linked both consanguineously and affinally, and there are also important links among the villages of the subregion.

Socially, then, both villages are multiplex societies with an intense interlinkage of kinship relations. Each village is composed of three or four major families which have intermarried extensively and which are therefore related to one another in manifold ways. Both villages have therefore formed very insular communities, with relatively few outside contacts. Interestingly, the few outside relationships consummated through marriage links have tended to be with one another, and there is a strong kinship network linking the two villages. The most important of these links concerns four False Pass women who, about twenty years ago, married men in Nelson Lagoon and removed to that area. This was

during the formative period of Nelson Lagoon as a permanent village, and has served to establish a deep connection between the two villages. This pattern of ingroup marriage or marriage with groups in the same subregion is another mechanism by which community solidarity is maintained, and promotes a local reluctance to open the village or the surrounding area to outsiders. At the same time it strengthens the position of each of the local villages through opening access to resources and relations in a village other than the natal village. In the very few instances where an outsider has married into the community it is only after several years of demonstrated commitment to the village and its values that the individual is assimilated into the community as a full member.

What is emerging for this subregion, then, is a system of social alliances in which both intravillage and intervillage relations are cemented through affinal links. Within the villages it is frequent for families to exchange several children as marriage partners, and not unusual for two brothers or a brother and a sister from one family to marry two siblings from another family. This is particularly true of those families which have fishing permits and claims to land under ANCSA.

We feel that this pattern of intervillage marriage alliances will continue through the projection period and that the links between False Pass and Nelson Lagoon will be further cemented. This is for three interrelated reasons. First, the value of village residence has increased substantially as a result of increased returns from the fishery, implementation of ANCSA and Limited Entry. Second, a clear reluctance to having unrelated individuals establish local residence has

been expressed. Although this attitude in part reflects a measure of local chauvinism it principally stems from the fact that anyone establishing residence at this time in the community **will** be eligible for title to that land when ANCSA allocations are finally made. This is a dangerous situation and operates to create hostility toward outsiders who might consider such an option. Consequently, residence will be more carefully monitored by the village members since the returns of such residence have greatly increased. **Third**, the intense intermarriage of families in each village has resulted in an overlapping of kin relations such that it is not unusual for individuals to have multiple kin relations to one another. On the local level this is recognized when, for example, one is simultaneously a cousin and an **uncle vis-a-vis** another individual in the community, and this leads to pressure to marry outside the group. The logical **place** to search for such "outside" members is in a village in the same subregion with which kinship links have already received historical warrant. For these reasons we feel that kinship relations between the two villages **will** continue to ramify during the projection period.

Within the communities themselves the recent changes in fishing regulations and the implementation of **ANCSA** have had some important effects in terms of social stratification. To the extent that there is **outmigration** it is almost exclusively made up of those who were unable to obtain a Limited Entry fishing permit. Effectively, the implementation of limited entry regulations institutionalized a system of social stratification in these villages. **Those** who were able to get permits, and particularly those families able to get multiple permits (either two of the same kind or some combination of set, drift, and seine permits), were

henceforth established as economically **viable** and upwardly **mobile**. Those **unable** to get **permits** were effectively shut **out of** the exploitation of the fishery resources and were condemned **to** perpetual second class citizenship. The result was the polarization of the communities into two economically divergent groups, with those unable **to** gain permits forming a permanent underclass. These latter are a definite minority, however, since most members of the village are related **to** one another and, even if they have no permit, are able to work for those **who** do have permits.

### Political Organization

Both False Pass and **Nelson** Lagoon are unincorporated villages **lying** within the unorganized borough. False Pass is governed by a village council, and Nelson Lagoon by a tribal council, both of which are manned by members of the local population. **In** both cases the local council is relatively inactive, but we expect this to change over the near future as the need to articulate village **policy** increases. With the encouragement of commitment to the villages which has occurred as a consequence of unusually high fishery earnings, **as well with** the institution of **ANCSA** and Limited Entry programs, home improvements **and** new construction have increased and community centers have been built in both villages. This is one sign of long-term commitment to residence in the village. Homes normally contain all the modern appliances, including dishwashers, washers, dryers, color televisions (although they are used only for videotapes **as** there are no television stations to date **though** satellite links are scheduled for both communities), and sophisticated stereo systems. There is an increasing desire for such material comforts as auto-

mobiles (and pick-up trucks), pleasure/work boats, and airplanes. We feel that the combination of increased expectations and decreased federal aid, for example the withdrawal of CETA funds, will lead to a steady increase in the role of the local village council in acquiring or submitting for local improvements from the state level.

In both villages local political control tends to rest in the hands of those who are also in the most advantageous economic position. Political control has evolved out of economic performance. In False Pass the village council is dominated by members of three families, each of which is a major force in the local fishery. In Nelson Lagoon the same situation obtains, with the tribal council dominated by those families who are most profitably involved in the exploitation of the local fishery (i.e., "highliners"). This means that the future political developments in these communities will be, above all, determined by the economic needs of the dominant families in the villages. This is particularly important in Nelson Lagoon, as the institution in the 1960's of a ban on fishing on the ocean side of the lagoon as well as the extreme distance of 1800 feet between set net sites are both hedges against the intrusion of outside fishermen into the local fishery. We project that these two issues will be the focus of Nelson Lagoon political interaction with the larger society over the next ten years at the least.

Another area in which both villages will be heavily implicated politically over the next decade is the distribution of land rights as mandated under ANCSA. Since False Pass and Nelson Lagoon are both unincorporated communities the land will be held in trust by the Municipal Lands Trustee of the Alaska Department of Community and Regional Affairs

until such time as incorporation occurs. The effect of this on the village social structure is to further encourage an insular atmosphere so that individuals from outside the community are unable to establish a claim to land before the land is finally distributed. Therefore, we project that the period between the present and the incorporation of these villages will be characterized by an increase in animosity toward outsiders who show interest in establishing permanent residence in the area. We also see these villages as likely to incorporate sometime in the next decade, especially as outside pressure to acquire local land builds.

#### Religious Organization

The data on the existing religious organization in the subregion is slim and thus will not be discussed in great detail. Although the bulk of the population is nominally Russian Orthodox, there is only one church in the subregion which is attended by a priest who visits on a yearly basis and providing little organizational focus for religious activities.

#### Educational Organization

An area which has caused concern in the past, and which could serve as a potential source of community debilitation, is the educational system. If a village has no school, or if it has only an elementary school with no secondary program, the growing incentive to obtain a high school education for the children may lead to a certain level of outmigration. This was the case in False Pass in the 50's, and locals report that at least one family ultimately moved from the community for the express

reason ~~that~~ there was no school ing beyond the el ementary 1 evel avail abl e for their children. However, in concert with the other trends we have noted toward improvement of community services, the 1 ast fifteen years have seen the development of adequate educational facilities in both villages. False Pass inaugurated an elementary school in 1962 and upgraded the facility to include secondary education in 1977. Nel son Lagoon built an elementary school in 1965 and added secondary education in 1972. Both villages therefore offer education through high school , thus removing one of the possible incentives for permanent **outmigration**. This is an additional reason we predict there will be relatively stable population levels in the villages over the next two decades.

Another educational trend which **will** become apparent in the next decade has to do with post-secondary education. For reasons discussed more extensively below it will soon be apparent to the subregion and the vil - lages which constitute it that it is to their advantage to educate their own children to become lawyers, and perhaps doctors, rather than depend on outsiders to fill such positions. This **will** insure that legal prob - lems and the formulation of regional and local ordinances is more directly influenced by knowledgeable professionals with a commitment to the welfare of the subregion itself. **It** is possible that the village corporation itself may subsidize such education in return for a guaran - tee that the individual will return to the village and practice his pro - fession for **the** benefit of the village and subregion. We will have more to say about this below.

### Health Care Organization

The health care system in the subregion is expected to remain relatively consistent throughout the projection period, given the population projections outlined above. The communities will continue to rely on the services of the APIA health corporation for their health needs. Each community will continue to have a full-time health aide and serious cases will be transported elsewhere. There are no current plans to expand existing health facilities and immediate services will be provided either in the home or in the office of the health aide. No significant changes in the level of quality or number of field staff are expected to occur in the next twenty years.



## output

The subregion under discussion here has experienced several significant changes in the last two decades, creating trends that should continue long into the future. ~~With~~ the changes ~~in~~ input factors, revolving especially around increased earnings, the institution of Limited Entry regulations, the ANCSA decision, and increased competition from outside fishermen, we have noted the attendant changes in the structure and functioning of the villages themselves. With these changes in structure, the nature of the output from the subregion ~~will~~ also change in several important ways. The ultimate effect of these changes will ~~be~~ to increase **intravillage** and subregional cohesion, mobilize **local** political forces for protectionist purposes, increase aggregate local wealth, increase levels of animosity towards outside fishermen, and introduce stability to village existence in a subregion noted historically for fluidity of village formation and disintegration.

## Economic

~~The~~ basic impetus behind these changes is economic. The vast increase in incomes attendant to the improved fishery and market, as well as major political shifts at the state level, has given these villages a social and political clout which historically they lacked. Income **lev-**  
**els** have skyrocketed, but at the same time the nature of economic activities has narrowed drastically. **Villagers** are now extremely specialized to the point that they are taking advantage of only the most rewarding of several possible commercial and subsistence activities. Though the subregion is rich in marine and terrestrial resources, the

villagers have effectively limited themselves to exploitation of salmon. Though several varieties of crab, cod, herring, and so on exist in the area local fishermen disdain involvement in their harvest.. The available land species have also greatly declined in importance in the local subsistence pattern. Whereas twenty years ago both False Pass and Nelson Lagoon depended for the majority of their subsistence needs on local resources, today most estimates are that upwards of eighty to ninety percent of local consumption is import oriented. Even salmon is seen primarily in terms of income generation, and is not utilized on a large scale as a source of food. This means that the subregion is increasingly implicated in a larger economic system based on a cash economy.

Levels of employment will remain high in the subregion for the foreseeable future, although there will be a minority of the population which is economically disadvantaged with respect to the rest of the villagers. This group consists primarily of those unable to obtain permits or persons unrelated to those who were able to obtain permits. Thus, the villages will be polarized into two groups, one an intensely interrelated extended kinship group which shares economic and social activities, and the other an isolated and unconnected group which is forced to survive in a more traditional manner through exploitation of local subsistence resources, periodic crew and cannery employment or social assistance. However, although this latter group has a vastly inferior economic capability in the village they are, nonetheless, subject to the influences of the cash economy of the larger society through their contact with the rest of the community. This will likely lead to the desire to share in the fruits of the state and national cash economy, including the desire to have modern appliances, modern utilities and housing, and so on.

Unable to acquire these goods on the basis of their involvement in the local economy, this group will come under increasing pressure to leave the village and migrate to the mainland, probably to Anchorage or another of the few **major** Alaskan cities. In the city they may be able to get jobs and begin to involve themselves in the cash economy. The result may be the "purging" of the village of all but those **who** hold permits and are able to profit from the local fishery. This will increase village cohesion as the **community** becomes a tightly **interrelated** kinship group. These individuals described above, are also the most subject to status deprivation, social stress and misconduct in the villages.

#### Social

On a cultural level, the dominant consideration is the nature of ethnic identity and the possible changes in such identity which might occur as a result of the changes in the environment and concomitant changes in the structure of the subregion noted above. The problems inherent in ethnic identification noted in our regional projections apply as well here. It is likely that the actual percentage of **Aleut** blood will fall below 50% but the historical trend toward reduced native identification has been largely reversed with the advent of **ANCSA** legislation. During the last decade or so there has been a resurgence of sorts in the population's awareness and positive identification with its **Aleut** heritage. In capsule summary, we have found a very sophisticated, traveled and relatively well-to-do population **who** traditionally found little use in expressing a strong native identity and now finds it advantageous to do so.

The incursion of outside fishermen has heightened the self-perception of local inhabitants as **Aleut** for several reasons. Outsiders are perceived as a threat, and ethnic unity is one way in which to conceptualize the distinction between "insider" and "outsider". It is a well accepted truism that nothing provokes unity like an external threat. This capacity for united action under outside pressure has been demonstrated **historically** in the region in the reaction of **the Aleuts** to the original Russian incursion, a reaction which included the alliance of numerous **Aleut** villages from **Unalaska** to the Alaskan Peninsula which had previously been essentially autonomous. The current economic **value** of **the** subregion can only be expected to heighten this reaction and to reaffirm the perception on the **local** level of an **Aleut** identity.

This is not to say, however, that the identity now emerging among the members of the subregion **will** be the equivalent of a traditional **Aleut** identity. In fact, there appear to be two **complementary** identities emerging in the current context. First, there are those who are **year-round** residents of the village and who see themselves as, in most respects, **local s**. This group remains in the village for the entire year, depends more on traditional means of subsistence than does the rest of the village, and has less contact with outside forces of change. A second, more **syncretic**, identity is beginning to emerge among **those** members of the village **who** practice a transhumant **style** of life in **which** they spend part of the year in **the** subregion and the remainder of **the** year in an urban area, particularly in Anchorage. Kinship should prevent or minimize the extent to which conflict emerges between these two groups but the general direction is toward different sets of values and objectives.

Finally, other external forces have also contributed to this resurgence of an Aleut identity in this region. Particularly important here, as in much of the continental United States, is the current trend towards compensation of Native American groups for past violations of local rights. The ANCSA decision clearly encourages the inhabitants of the subregion to see themselves as distinct from the rest of society in terms of ethnic identity, and it has made the identity of Aleut both profitable and socially acceptable.

### Political

The subregion, with the current high incomes, is also becoming more of a force in the state economy, and this economic clout is beginning to be felt in the political arena as well. The area is now being considered much more explicitly in the centers of state power as a factor in state legislation and resource regulation measures. Several individuals from both villages serve on regional and state boards and commissions which are directly concerned with fishery and land management. These factors will insure that the desires and needs of the subregion will receive more complete consideration in future state legislation dealing with the area.

Thus, the major arena of political conflict will shift from the local venue to the state and, to a lesser extent, federal levels. As the local communities, and the subregion as a whole, become even more cohesive and integrated, both economically and socially, conflict at the local level will be diminished. With the increasing concern over outside intrusion into the fisheries local and intervillage animosities will be

laid aside in favor of unified action to combat a perceived outside threat. The subregion is fast approaching an era of not only social and economic, but also political integration, and this is a process which will continue to accelerate within our 5-, 10-, 15- and 20-year projection periods.

### Religion

Residents in this subregion will undoubtedly retain much of the existing pattern of belief and participation in the rituals of the Russian Orthodox faith. As the area attempts to maintain its insularity and utilize its Russian-Aleut identity as an indicator of distinction, the Russian Orthodox religion will continue to serve as a marker creating a boundary between the subregion and the outside world (even though adjacent subregions will utilize the same religion for similar purposes). Participation in religious activities are not expected to increase significantly above current levels, however.

### Education

Allied with this increase in representation of local concerns at the state level will be a gradual change in the nature of education for villagers. We project that over the next two decades there will be a modest, though steady, increase in the number of villagers going beyond high school to receive college and graduate degrees. This is true for at least three reasons. First, increased contact with urban areas of Alaska and the west coast will expose villagers and their children to the importance of higher education both socially and economically. More important, however, is the utility of higher education in the pursuit of

Local concerns at the regional and state levels. Rather than having to depend on outside professionals for the pursuit of local issues, the communities will have their own members in a position to undertake such activities. This will insure not only better and more committed representation, but will also dovetail neatly with an increasing local desire for insulation from competing outsiders. Third, there is a constant pressure toward improved educational attainment coming from state sources in the form of improved educational standards and financial support. Again, however, we project that such higher education will increase only modestly, but even at a modest rate it will have major impact at the subregional level.

#### Health Care

As the distinction emerges between the economically successful family groups and those who lack permits to conduct commercial fishing, there will be a significant increase in a perception of deprivation. This, in turn, will manifest itself in a rise in stress-related disorders such as alcoholism, accidents, and stress-induced illness.

## CHIGNIK SUBREGION

### Introduction

The **Chignik** subregion is composed of **the** villages of **Chignik** Bay, **Chignik** Lake, **Chignik** Lagoon, **Perryville** and **Ivanof** Bay. All are located on a seventy-five mile stretch of shoreline on **the** southern side of **the** Alaskan Peninsula approximately midway between Naknek to the northeast and **Unimak** Island to the southwest. The villages are united in terms of geography, resource utilization, and concerns regarding interaction with the outside world. The subregion is influenced by Both Eskimo culture to the east and **Aleut** culture to the west, and in some ways is **less** clearly **Aleut** than those settlements to the west. Nonetheless, the inhabitants see themselves as **Aleut** and there is **no** question but that the subregion is an integral **part** of the insular and peninsular **Aleut** complex stretching from Pilot Point in the east to Attu in the west.

The dominant forces of change in the subregion are economic, social and political in that order. **In the** immediate future, continued **productivity** of the salmon industry and the potential for diversification in **marine** resource utilization **will** make the impact of available commercial resources, the development of the commercial sector of the economy and the increase in social stratification based on differences in income and wealth the dominant variable in the process of **sociocultural** change. Second, the struggle for community cohesion and the intensity of **kin-group**, **intra-community** and inter-community **ties will** also be crucial factors **in** influencing **local** political decisions and the ultimate



impacts of increased income and utilization of external political and economic resources. Local-level political activities will also be of importance, but not to the same degree as the first two sets of variables. Religion and education will play relatively minor roles in the overall course of change, albeit roles of greater importance than those played by these subsystems in other communities, or by these same subsystems in prior years.

### Input

#### Ecological

The villages of the subregion are on the southern littoral of the peninsula and are oriented towards the sea. They are in a region of seismic activity and are backed by several areas of active volcanic terrain. The subregion is also subject to the full force of tsunamis which often occur in conjunction with earthquakes in the area since they are on the southern side of the peninsula facing the Pacific, and are on the east to west track of storms coming out of the North Pacific. The subregion is a part of the maritime climate zone of Alaska and experiences mild winters and cool summers. The soil is generally gravelly and/or sandy with good drainage and water generally available from local creeks and streams. The dominant geographical consideration is the presence of the sea and the marine resources which are available there for exploitation.

## Extrasocietal

### External Government

The subregion, as is the case for the entire region, has been significantly impacted in the last decade by decisions and regulations promulgated at the state and federal levels. Most important here are the Limited Entry Act of 1973 and the Alaska Native Claims Settlement Act of 1971. These two factors have together contributed to a radical change in the economic structure and potential of the subregion and the villages living there. Prior to the advent of entry limitation the timing and location of the seasonal fishing activity had been firmly fixed. However, since the local fishery had never proven to be particularly lucrative, very few outsiders or non-locals (Kodiak/Chignik dual residents are considered 'locals'] participated in it. Thus, at the time of the establishment of Limited Entry the fishery was composed essentially of local residents. Later, with a significant shift in the abundance of salmon returning to the lake system of this subregion, the economic return from this fishery expanded dramatically. At this point the permit system acted to prevent non-local fishermen from taking advantage of this bonanza. In other words, the timing and provisions of Limited Entry effectively restricted exploitation of the resource in the subregion to local fishermen and acted to exclude potential immigrants. Economic returns to the local fishermen have mushroomed in the decade since the institution of Limited Entry and these greatly increased incomes in turn have provoked major changes in the structure of the villages concerned.

ANCSA is also a major externally initiated development impacting the subregion. The villages in the subregion are all unincorporated as yet, so the land which is due them is being held in trust until such incorporation occurs. The potential acquisition of this land has had an effect on mobilization of local political and social resources and has spurred development of the communities in several areas, as we will note below.

### Commerce

The geographic link among these five communities is particularly clear when we consider patterns of transportation and communication within this area of Alaska. The villages are linked both by sea and by air, and the possibility of establishing a road system is being considered. The dominant means of moving among these communities is by skiff (among the Lake, Lagoon and Bay) and by air (among Ivanof Bay, Perryville and the rest of the Chigniks). Both relative proximity of the five communities and distance from other communities (and its concomitant, the cost of transportation) serve integrative functions for the subregion. Air fare from Chignik Bay to Perryville (a distance of about 75 miles) is \$50; from Perryville to Ivanof Bay (a distance of about 15 miles) is \$20. These flights run on fairly regular schedules and thus the need to charter aircraft is minimal. By contrast, the least expensive means of moving from one of these communities to villages to the west involves flying first to Chignik Bay, then to Port Heiden, and then to Cold Bay and, finally, to King Cove or Sand Point. The minimum fare for such a trip would be \$140 one-way, and as these flights are relatively infrequent, charters, at even greater expense, are often necessitated. The

fare between Port Heiden and this subregion is less expensive (especially between Chignik Lake and Port Heiden) and this is reflected in the structure of social networks, marital patterns and visiting frequency between the two communities (see appendices). However, Kodiak plays the most prominent role of any outside area in the social networks of this subregion and must be considered as the dominant external link for Chignik residents. As noted in the individual village discussions in the appendices, a pattern of seasonal migration from Kodiak to Chignik Bay and Chignik Lagoon for the fishing season, and return to Kodiak at the close of the season, is maintained by the majority of those who have established permanent dwellings in Chignik Lagoon and by as many as 40% of the summer population of Chignik Bay. For the communities of Chignik Lake, Perryville and Ivanof Bay, this connection is not as significant.

### Sociocultural

All five communities are on the neck of the Alaskan Peninsula, and therefore are influenced by both the mainland to the east and the insular culture to the west. Their Aleut heritage makes them part of the larger Aleutian region, but they have more extensive relations and feel greater influences from mainland 'Eskimo culture than other villages in the region with the exception of Pilot Point, Port Heiden, and Ugashik. Though influenced by both mainland and insular cultures, the subregion itself is culturally, ethnically, and linguistically different from both.

Such cultural, ethnic and linguistic differences between this subregion and those to the southwest and northeast played a major historical role

in the establishment of the subregion as socially distinct, but their current role in distinguishing the subregion is less significant. The only distinctions many informants **could** make between the 'Chigniks' and Sand Point or King Cove were in terms **of** fishery-related issues and distance. However, several older residents were well aware of the difference between their own traditional idiom and those of natives to the southwest and northeast, though this group necessarily represents a diminishing proportion of the population. These informants referred to their traditional language as sugcestun and noted that they could freely converse with people from Kodiak. However, even those **who** were aware **of** the linguistic affinity with the Sugpiaq speakers to the north and east were quick to assert that they were, nonetheless, **Aleut**, not Eskimo.

## Intrasocietal

### Demography

The Chignik subregion has seen an overall high rate of population growth for the **last** decennial period. As a whole the population of the five villages rose from 342 to 514 inhabitants, an increase of almost exactly **50%** for the subregion as a whole. This growth, however, was disproportionately concentrated in Chignik (a rise from **83** to 179), Chignik Lake (117 to **138**), and Chignik Lagoon (unrecognized as a permanent settlement in 1970 to 48 in 1980), while Ivanof Bay (a drop from 48 to **41**) and **Permyville** (94 to 108) remained essentially stable. A portion **of** this increase is, however, spurious in that Chignik Lagoon has long been an elaborate fish camp during the season and has had a semi-permanent population **which** has recently been listed as permanent, largely as a result

of the impetus of **ANCSA** and **Limited Entry**. These population changes reflect a **shift** from near parity in population between the **Ivanof Bay/Perryville** axis and the **Chigniks** in 1970 (152 to 200) to domination of the subregion by the **latter** in 1980 (149 to 365). This period of population growth for the subregion reflects a certain amount of jockeying for position with the importance attached during the decade to establishment of residence and fishing patterns with the institution of **Limited Entry** and **ANCSA**.

The aggregate growth in population in the last decade in the subregion can be expected to continue at a gradually increased pace over the next five years. In a wider perspective, however, several conditions are **likely** to have significant impact on future population statistics within this area.

Both recent growth and projected growth within this subregion vary widely from one community to the next. As noted in the discussion of population growth over the last decade, there has been a shift in demographic **focus** from the western axis of **Perryville/Ivanof Bay** to the eastern axis revolving around the three **Chigniks**. In general we expect this process to continue over the next two decades. Much of the reason for this shift can be traced to the attitudes of the residents of each of these villages.

In **Perryville**, **Ivanof Bay**, and, to a **lesser** extent in **Chignik Lagoon**, land ownership is **often** seen as a means of preventing or slowing the sequence of events which might lead to population growth. Title to land is seen **as** a means of controlling the tempo of development **as well** as assuring that beneficiaries of such development are those already in an

advantageous position. In Chignik Lake and Chignik Bay, on the other hand, land title is seen at both the community and individual level as a means of encouraging development and growth. Our projections accord with these observations and differ with respect to established trends over the last decade only with respect to the community of Chignik Lagoon. Thus, the population of Chignik Bay is expected to grow, both in the aggregate and as a percentage of current population, at an exceptionally rapid rate (approx. 6% per year) to about 320 people by 1990. Chignik Lake will continue to grow at a relatively modest but constant rate over the next five years (approx. 3-4%) to about 200 people by 1990. Perryville, as well, is expected to continue its gradually increasing growth rate to as much as 4% per year over the next five year period, reaching a total population of 152 by 1990. Part of the growth of Perryville will be in response to the decline of Ivanof Bay, which is closer to Perryville than any other village. The population of Ivanof Bay, because it is composed of a small, rather narrowly defined group of related individuals, is likely, over the next five years at least, to continue to evidence little growth and to appear, at least statistically, as if it were subject to disintegration. As noted in greater detail in our appendices, Ivanof Bay, given its small population and potential for fission, is probably most subject to the internal pressures of disintegration. This community has, in fact, recently considered moving the entire village from its current location to another further up the coast. This is one possibility, but should it not occur we project that the village will begin to increasingly assume the nature of a seasonal fish camp, occupied primarily during the fishing season, rather than a permanent village, in effect reversing the process which

has occurred in Chignik Lagoon. The inordinately rapid population growth rate observed for Chignik Lagoon over the last decade is more apparent than real. This location has long been the site of temporary summer residence in connection with the fishery that occurs here each year. The establishment of a semi-permanent 'community' is of recent origin and is more a reflection of inordinate earning levels, precipitated by Limited Entry in the early seventies, than the expansion of permanent residents. The majority of those who own homes here migrate after the fishing season to Kodiak where they maintain permanent residence. We also project, however, that with the construction of relatively elaborate homes in the area, and with a significant increase in community facilities expected, an increase in permanent residents, which will not be reflected in any statistical document, will occur within the next 2-4 years. They will simply maintain their 'official' residence in Chignik Lagoon and rent out their homes in Kodiak or Anchorage. We expect the number of permanent residents to meet or exceed current census figures (48) by around 1986.

A potentially powerful impetus to population growth in the subregion occurs at the ten-year horizon in our projections. Assuming successful conveyance of ANCSA-related lands, private ownership and availability of land throughout Alaska, as well as in the Chignik subregion, will expand dramatically. The issue of private land ownership in Alaska has long been of intense concern. It can be expected that the market for land, especially in more convenient or attractive communities, will dramatically increase about the time of the 1991 conversion to private ownership. An inevitably accelerated growth rate, tied to this ownership (and resale), will occur as well. Our population estimates again see



Chignik Bay as the focus of this growth, at least in terms of absolute **growth** of number of residents. Our long-range population forecast, under the assumptions of this report, show the population of Chignik Bay by the year 2000 at approximately 1,200.

## Structure

### Values

The value hierarchy of the Chignik subregion represents displays a gradual displacement of traditional Native Alaska/Aleut values by values associated with economic development and increased "Westernization." The egalitarian ethic has declined in importance in the wake of increased income levels and access to outside consumer items. Increased social mobility, independence, and displays of wealth have become highly valued in the subregion while mutual aid, sharing, cooperation and family responsibilities and ties have been reemphasized.

Nevertheless, the one aspect of social life which works to preserve the status of traditional values is the multiplex nature of social roles. As noted below, the overlapping of economic, social and political roles allows for the continued importance of such values as mutual aid, inter-community cooperation, and family obligations in serving as guidelines or rules for social behavior. The strong religious organization in the area also serves to reinforce many of these traditional values.

### Organization

#### Economic Organization

##### Commercial

Fish constitute the dominant resource of the sub-regional commercial economy. The salmon fishery is the dominant variable in the subregion. Approximately 85% of current local income derives directly from this

fishery. The importance of the fishery has increased steadily over the last decade as Limited Entry regulations have been instituted and taken full effect. With the increase in utilization of the fishery has come a drastic increase in income generated. This has itself led to further capital investment and a significant upgrading of the capital equipment involved including ships, nets, gear, detection equipment and so on.

The Chignik salmon fishery and fishermen are unique in several respects. First, the number of permits held per permit holder is very high. For every individual who holds a permit the chances are that he holds at least one other, and the average number of permits per holder is over two, the highest rate we know of in Alaska. This allows the Chignik fishermen to exploit the full range of the salmon season. Seining is the dominant and preferred fishing strategy in this subregion. Once the bulk of the run is over many will shift to beach seining or set net fishing (for subsistence objectives), although the great productivity of the seining run during the heart of the season has effectively meant that increasingly local fishermen forego this season-end 'scratch' fishing. The high level of permit holding and the heavy dependence on seining differentiate the Chigniks from other subregions to the north.

The salmon fishery, then, is the most important aspect of resource utilization for this subregion, as for all other subregions covered in this report. But though the salmon fishery is by far the most important source of income, there are several other marine resources which are utilized, or have the potential to be utilized, by fishermen in the subregion, including shellfish, halibut, and bottomfish.

The **Chignik** subregion is located in an area in which the shellfish fisheries are of some importance. The major resources are tanner crab, king crab, and shrimp. The **Chignik** subregion is a productive tanner crab fishery and also produces quantities of shrimp, with king crab essentially a residual resource.

Tanner crab harvesting began in 1967 and has grown from a few thousand pounds per year to as much as 11 million pounds per year for the **subregion**. The last decade saw a steep rise in production for the first half and an even greater decline for the second half. In 1973-74 4.2 million pounds were harvested, and this rose to a high of 11.2 million pounds in 1975-76. However, by 1979-80 the figure had plunged to 1.1 million pounds, with signs it might fall below 1 million pounds in 1980-81. This decline in the productivity of the tanner crab fishery is partly a result of **overexploitation** of the species, but equally a result of the institution of Limited Entry salmon regulations and the subsequent concentration of subregional fishermen on salmon almost to the exclusion of all other marine resources. Even so, the importance of this resource to local fishermen is easily overestimated as most of the crab is actually caught by outside fishermen from other areas of the west coast. King crab has never been important in the subregion, with catches for the last decade consistently averaging under half a million pounds per year.

Shrimp is an important resource harvested in the subregion. However, it has not as yet been extensively exploited by local fishermen, but is instead pursued primarily by large non-local concerns. This industry began in 1968 and catches remained stable until 1972. During this initial period the only processor in the region was in the Shumagin

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Islands, operating five peelers. In 1972 several additional processors entered the area and since that time **the** area has consistently had from two to five processors operating as many as fifty-six peelers. Production in the **Chignik** subregion jumped from 4.9 million pounds in 1972-73 to **21.6** million pounds the next year, and has remained fairly **stable** at between 23 and 27 million pounds per year since then **with** 1979-80 seeing a total of 23.7 million pounds. The **Chignik** subregion now dominates shrimp production for **the** entire South Peninsula region with the decline **of** the Central (**Pavlof Harbor/Belkovski**) and **Unimak** Bight Districts over the last **half** decade. The failure of local fishermen to enter **the** shrimp fishery can be tied to the superior economic returns to be realized from the salmon fishery. However, in our section concerning **projections** we note the possibility that the shrimp, and shellfish in general, fishery may become more important in the future.

Several authorities indicated that the recent dramatic decline in crab harvests reflects an enduring trend and thus may not be a significant option in the long-term. Very few local fishermen are currently involved in this fishery and as the prospects of this fishery decline the likelihood of more entrants decreases. This fishery is capital intensive and requires a very large **initial** investment (for pots and other gear). However, the dominant consideration here **is** the **greatly** increased attractiveness of **the salmon** fishery **vis-a-vis** all other marine resources in the last **decade**.

**Bottomfish** are also a relatively unexploited marine *resource* in this subregion, and again largely for the same reason: the superior profit return on **the** salmon fishery makes **bottomfishing** unattractive. There

are currently very few processors available to handle bottomfish even if the fishermen decided to exploit this resource, and the technology necessary to process large quantities of bottomfish is unavailable in the subregion. Additionally, the costs of processing cod, for example, are too high for the return realized and few processors are likely to jump at the opportunity to switch from salmon to bottomfish. Such a shift would entail processing a larger volume of a product which is much less valuable per unit and would require a total restructuring of the processing operation. Finally, the prime bottomfishing areas are relatively remote when compared to the salmon fisheries and would require extended stays away from home which are distasteful to the local fishermen.

The halibut resource, on the other hand, has at times in the past decade been an important ancillary resource for the subregion. Several local fishermen participated in this fishery during the early 1970's when salmon runs were poor and many would be quick to shift to this resource in case of a long-term decline in salmon. Currently, however, halibut is relatively unexploited for several reasons. First, we again encounter the superior return to be gained in involvement in the salmon fishery. Second, the regulations surrounding halibut harvesting are in a state of flux. The North Pacific Fishery Management Council is currently examining the question of whether to include halibut under the present Limited Entry regulatory umbrella. This makes investment in the fishery problematic. Also, whether intentional or not, the open season for halibut has been fixed precisely at the height of the Chignik salmon fishery and thus a decision to fish halibut, even if entry limitation is not enacted, would entail a decision not to fish salmon.

Two major shore-based canning facilities exist at Chignik Bay (Anchorage Bay): Alaska Packers Association and Peter Pan. The Peter Pan processor has not operated the last several years because of legal difficulties but is expected to resume operations in 1982. A third facility, CWF (Columbia Wards Fishery), basically a fish camp, operates across from Chignik Lagoon.

There has been a gradual but notable increase in outside buyers and processors, generally operating floating plants ("floaters"), over the last three to four years. The resultant competition has inflated returns from the local fishery. These cash buyers normally wait until the shore processors, in negotiation with fishermen representatives, have settled on a price per pound of fish landed. They then set their price slightly higher. Because these floating processors have less fixed costs they are able to maximize profits in what is essentially a structural gap. They are, however, as subject to the vagaries of the international market as the major canners, and have far less capital reserves to absorb potential losses. The 1979 season, an unexpected boom year both in terms of production and price, brought the demise of many such cash buyers because they were forced to sell at low prices in a consumer's market.

### Social Networks

Socially, the villages of the subregion are composed of relatively small numbers of people who are related to one another through various affinal and consanguineal links. There are two major axes of social relationship within the subregion. The first centers on Perryville and Ivanof Bay, and the second centers on the Chigniks. Within each village most

affairs are under the control of one or **two** dominant lineages who have traditionally been economic, social, and political leaders. **This** pattern continues today, with those in the dominant economic position also filling the major **social** and political slots.

**The** villages, **then**, and the subregion as a **whole**, approximate the structures noted for the False Pass/Nelson Lagoon and **Ugashik/Port Heiden/Pilot** Point subregions. That is, the overlapping of social, economic, and political power **and** status has resulted in an intensely interlined multiplex society. Such a society traditionally depends not **on** formal or legalistic structures for social control, but rather on such informal mechanisms as censure, ostracism, gossip, and so on. By and large this remains the situation currently, though we will note below some expected changes in **the** nature of social control.

Beyond the subregion itself there are several important areas of interconnection between this subregion and others. **Of** most importance here are two: The Port **Heiden/Ugashik/Pilot** Point subregion, and Kodiak Island. Many **locals**, especially from **Chignik** Lake, Lagoon, and Bay, have relatives **or** friends in Port **Heiden**, and, to a lesser extent, in **Pilot** Point and **Ugashik**. **There** is a fairly high **level** of visiting and exchange between the two subregions, though not at levels as high as within the subregions themselves. The relationship with Kodiak is also a close one, dependent especially on the fact that many of the residents of **the Chignik** subregion maintain dual residences, with the residence in Kodiak being used **in** the off-season. This has been a very strong pattern in the past, and persists to the present time. We **will** note **below** some **of** the pressures which may alter this pattern **in** the future.



## Political Organization

### Local Affairs

The dominant political factor currently affecting the region is the ambiguous state of land allocation resulting from the fact that these communities are unincorporated as yet. This means that, pursuant to the ANCSA decision of 1971, all land to eventually be allocated to local residents is in fact being held in trust until such time as incorporation occurs. Since lack of title to land acts as a disincentive to economic investment, what community economic growth has occurred is primarily a function of individual earning levels and local government activities rather than outside forces.

Chignik Bay, as the leading edge of this development, provides the best example. The major political issue which the increase in earnings in conjunction with the ANCSA decision has fueled is the movement toward village incorporation. Chignik Bay appears to be firmly committed to incorporation as a second-class city. Incorporation offers concrete advantages and acknowledged benefits, e.g., as much as \$300,000 a year in raw fish tax revenue which, in conjunction with state assistance, can be used to construct or improve local roads, install septic tanks, bury water lines and provide a wide assortment of community services.

Currently, however, conservative forces in the villages still hold considerable sway. Impediments include a pervasive resistance to organization, control and formal leadership, largely out of fear of a loss of independence and autonomy associated with traditional community life. This latter resistance is expected to hold sway for some time, but to

eventually weaken and fail , a point addressed below in the section on political output.

In the political arena perhaps the clearest expression of subregional unity has been the Chignik Advisory Board. While it is relatively new (formed in 1980) it has been unusually successful . In objectives, it shares much with the older Chignik Boat Owners Association which was formed in 1956. Both the earlier organization and this latter organization have pursued a singular objective: the protection and enhancement of the local fishery. The Board consists of three members from each of the five communities of the subregion. This fifteen-member board began its life in a remarkable manner. The following is an abbreviated account of an event during the 1981 harvesting season.

It is crucial that an adequate escapement be maintained for the salmon fishery to continue to be highly productive: An important indicator of escapement in this subregion is the ratio between upper and lower lake fish taken during harvesting. The Chignik fishermen became aware of the fact that fishermen in an adjoining fishery management area, one that harvests fish destined for the Chignik lakes area, were catching "80-20" fish. This meant that the Chignik fishermen were harvesting fish that were 50-50 since they were further along the migratory route (i.e., 50% upper lake fish and 50% lower lake fish, which is a critical time to assure adequate escapement). The Chignik Advisory Board met and decided unanimously to 'close' the fishery until an adequate escapement was achieved. The Board was then informed by the Department of Fish and Game that they did not have the authority to close the fishery. The Board met again and decided to informally ask that no one fish until

adequate escapement was achieved. Not a single fisherman violated this informal closure.

The political, and economic, implications of this informal closure and its observation by all **Chignik** fishermen are enormous. It reveals a strong sense of subregional solidarity, and clearly supports the local contention that **Chignik** fishermen are as concerned with management objectives as Fish and Game representatives and, in the present case, clearly shows they were even more concerned than the area biologist. The success of this action has already had a unifying effect on these fishermen.

Another current factor which has had an impact on political activity is the threat to the constitutionality of the Limited Entry law. In an August, 1981, decision Federal District Court Judge **Carlson** ruled, in the **Ostrosky** case, that the current entry limitation scheme violated First Amendment provisions of the U.S. Constitution. The major objection of the court was to the free transferability provisions of the statute. The dominant sentiment among the fishermen is not that L.E. will be dismantled entirely, but that higher courts will support this decision and invalidate the free transferability provisions of the Limited Entry regulations. This being the case they expect that their permits will continue in force but that they may never sell or transfer their permit.

We note, however that most fishermen questioned on this problem asserted that even if someone were anxious to purchase their permit for \$250,000 cash they would be unwilling to sell. This is supported by evidence in the CFEC records of permit transfers over the last six years which show

the subregion has the lowest rate of turnover of all of Alaska's fisheries. Only three have been **sold** in the **last** two years. Nevertheless, this decision has engendered a palpable sense of both insecurity and solidarity among this population, generally because of a felt threat to their right of ultimate control over "their" fishery, and particularly because it threatens their children's right to inherit their permit.

#### Religious Organization

The religious orientation of the subregion **is** predominantly Russian Orthodox. There are Russian Orthodox churches in several of the villages, although only **Perryville** actually has a resident priest. This priest also serves the other villages in the region on an intermittent basis. **Chignik** Lagoon has recently completed construction of a new Russian Orthodox church, an act which demonstrates the subregions continued commitment to religious practice. The church also serves to draw people from outside the subregion (notably from the **Pilot** Point, **Ugashik**, Port. Heiden subregion, especially from Port **Heiden**) and thereby serves a wider integrative **function** which **will** probably aid **in its** persistence in the future.

#### Educational Organization

Each of the villages of **the** subregion has at least an elementary **school** within the community, and there are high **schools** in **Chignik** Bay, **Chignik** Lake, and **Perryville**. All schools in the subregion are under the direction of the Lake and **Peninsula School REAA**; this situation has not proven totally satisfactory. The headquarters of the regional **REAA** are in

Naknek, which is too far removed from the subregion to instill confidence in the local population that it will promulgate regulations and guidelines which are appropriate to the local environment and needs. This has meant that directives from the headquarters in Naknek have tended toward rigidity and standardization with fixed curricula and testing procedures. The response locally to such seemingly impersonal determination of educational content and testing will be covered more extensively below under educational output.

#### Health Care Organization

Each of the villages in the subregion has a public health aide resident. These aides are under the direction of the Public Health Service, and have access to the facilities of the PHS in Anchorage. Several of the communities are in the process of developing community health centers, or are considering including such health centers in the community centers themselves. In general, the pattern of provision of health care in this subregion is consonant with the overall regional pattern noted elsewhere in this report.

## Recreational Organization

Recreation in the subregion actually subsumes two very different sorts of activities and "residual subsistence activities".

With the great increase in earning power over the last decade, many of the local inhabitants have chosen to partake of recreational activities which depend on the material production of an industrialized society. Included here are such things as speedboats, airplanes, four-wheel drive vehicles, and so on. While most of these articles are utilized for dual purposes, that is for work as well as play, they are nonetheless representative of a shift in recreational patterns from traditional group games or hunts to more individualized activities dependent on complex mechanical equipment.

The other major form of recreation can be seen to be a result of the minimization of the importance of traditional methods of subsistence. The incomes now generated, along with the influence of western values and mores, make the hunting or trapping of traditional subsistence sources unnecessary. Nonetheless, such activities are still pursued, and at a much higher rate than is objectively "necessary" for survival. Imported foods and goods could have totally eliminated such activities, but they have not. Most people now pursue these activities, such as the hunting of bear, caribou, or geese, as a means of relaxation and recreation rather than for subsistence per se. This has become particularly attractive to those who spend a good deal of the year in urban areas such as Anchorage or Seattle. Having tired of the speed and hectic nature of life in the city, many are happy, indeed eager, to return to the village and go hunting in the solitude of the back country for a few

weeks. In Some instances **whole** groups of families **plan** and carry **out** seasonal hunting and pack trips which serve as an opportunity to relax and reestablish social ties.

## Output

### Economic

In keeping with our assumption (and its supportive arguments in the MSA) that there will be no long-term precipitous decline in the biological abundance of salmon, nor such a decline in the market price for the resource, we project continued high earning levels for the next five-year period as well as continued growth in both aggregate and relative wealth for this subregion.

This will be evidenced in several ways. First, consistent with incentives inherent in federal tax structure, there will be continued interest in vessel and gear upgrading. Second, recently the crab industry has received considerable attention of local investors as the logical avenue of fishery diversification. However, its dramatic downturn since 1976 and projected continued decline, is expected to significantly curb enthusiasm for investment in capital intensive (in excess of \$1.5 million each) crab vessels and to encourage other forms of capital diversification, especially in the year-round communities of Chignik Bay, Chignik Lake and Perryville. The crab industry, then, is expected to remain at best an adjunct to the salmon fishery, serving little more than a minor role in the economy of the region. The only possible exception to this would be in the case of a disastrous series of salmon seasons, in which case crab might be seen as a possible alternative resource. However, as we have noted, such a swing in the fortunes of the salmon fishery is not projected, and crab in all probability will remain a secondary resource for the period covered in these projections.



The shrimp fishery represents a possible avenue of diversification for the fishermen of the subregion, but again such exploitation **would** depend on a downturn in the **salmon** fishery which we do not expect **to** occur. Shrimp also requires very different gear, technology, and processing than salmon, and the capital investment necessary is unlikely to be made except in the case of long-term declines in **the** salmon fishery.

**The bottomfishery** is also a minor concern of the **local** fishermen in this subregion. Recent projections for **the** region as a whole have indicated the **likelihood** that this fishery will be expanded to **assume** a major role in the economic structure of the region (OCS report citing **ISER**, 1981). **We**, however, feel these projections are grossly exaggerated for several reasons.

First, the vast majority of all bottom fishing is done not by U.S. fishermen, but by foreign vessels operating in U.S. waters. As long as these foreign trawlers are allowed to harvest this resource within U.S. waters (where the bulk of the resource is located), the competitive edge can **never** shift **to** domestic producers; **until** this shift occurs, these producers will not enter the market in sufficient force to generate the projected **level** of development. Second, technological constraints and incentives also mitigate against **fixed-location** production facilities (as discussed above) . This means a substantial investment, both in money and technological development, **will** be necessary for floating processors, an investment which will seem counterproductive **to** subregional fishermen and processors unless the salmon market suffers a drastic decline.

Certainly for the **Chignik** subregion, which is only a moderate distance from the areas examined by **ISER**, we **must** project a more modest growth curve for bottom **fishing** itself, as **well** as major reduction of the **population** and **economic** effects implied by the **SCIMP** and **MAP** models. For example?, if the **SCIMP** projections (Technical Report #57, p. 132) based on assumptions of major expansion of the bottom fishery are accurate, then we must expect **today's** regional fishery-based population to rise from 578 to 3364 by 1991 and to 12127 by the year 2000. Only 'official' processor projections can be used to support this contention; **all informal direct** interviews with cannery representatives **minimize** the likelihood of this level of development. While it is beyond the purview of this report, we wish to note that **BLM** reliance on such non-OCS-related statistics can lead to erroneous assessments of likely OCS-related change. The "mean case scenario" for the Aleutian Islands, for example, begins with the following remarks: "Population impacts at the census division level tend to be substantial, both in terms of resident and total population. The impacts would be much greater (in percentage terms) if it were not for the already large population increase associated with projected fisheries expansion." If the current decline of the crab fishery were to continue (as we suggest is likely), if the groundfish fishery does not accelerate as projected by **SCIMP** and **MAP** models (and by consultants such as **Earl C. Combs, Inc.**), or if floating processors assume a far greater role in that development and the mean-case scenario of oil-related development proves accurate, then the real effects of oil development (of approximately 6800 production-related personnel) are going to be substantially greater than projected.

In regard to the Chignik subregion, we suggest that there is minimal likelihood of major local participation in groundfish harvesting and production during the next 10-year period. We also project little indirect population growth in this subregion resulting from such development. Thus, the differences between our projection for this area of Western Alaska and those of Earl C. Combs, Sea Grant, and other OCS informants is significant. As noted above and alluded to in Roger Marks' Memorandum of September 12, 1980, much depends on the extent to which domestic jurisdiction is exerted by the U.S. government. If present trends continue, it will be at least a decade before the profitability of the fishery will draw the commitment and investment required to generate major development.

Processors are faced with significant disincentives to entering the fishery. The technology required to process cod fish, for example, is yet in a rudimentary stage of development; a fundamental and difficult shift in the management and production orientation of large corporations will be required. Instead of two- to three-hundred cannery personnel processing high-value salmon, they would move to 30- and 40-man processing lines capable of handling a much higher volume of a far less valuable (per unit) product.

There is also the problem of establishing a market for bottom fish. U.S. processors must compete with generations of experience and firmly established markets in northern Europe. American expertise and markets are, by comparison, nonexistent. Yet another long-term issue will be the clear tendency toward floating processor/harvesters or mothership production for this fishery. The utility of shore-based processing

facilities will decline **as** technological proficiency increases. The 'floaters' can harvest and process the product almost immediately, for a **market** in which freshness and other minor indicators **of** superior quality **have** measurable impact **on** salability. On the **other hand**, there is a tremendous **vested interest** in maintaining **their very** expensive **shore-based** production facilities in operation **even though the floaters would** be more suitable to this fishery.

Finally, an important local factor retarding development of a bottom **fishery is of more** direct, consequence to this subregion. Even if **marketing** and processing **of** bottom **fish** proceeds **at** an accelerated **pace it** is questionable whether **or** not **local** fishermen will be able to enter the fishery. The technology required **to** harvest this resource at a **profitable level is** expensive, and the fishery is comparatively **remote requiring** extended periods away from **home; thus** it is **not** likely **to** be selected **by** local residents as long as **the** salmon resource continues to provide an adequate revenue. **It must be** considered, however, as a potentially viable alternative in the **event of a** dramatic decline in the salmon fishery.

The development of the halibut **fishery, though** potentially important, faces **most** of the same problems **outlined** above with **regard** to shellfish and bottom fish. The development of this fishery **would** require an expensive **shift in** technology, **would** require competition with foreign **fishermen**, and **would entail** alteration of fishing patterns and seasons.

In the case of halibut, however, **there is an** important additional **factor** which **should be** weighed. It is possible that halibut will be included by the North Pacific Fishery Management Council on the list of species

for which entry is limited. Only in the case where suitable advance warning of an impending 'disaster' year in the salmon fishery were given would sufficient motivation exist for local fishermen to elect to fish halibut instead of salmon. A series of such events, on the other hand, would certainly have this effect. For now, therefore, the fishermen of the subregion have taken a wait-and-see attitude. Nonetheless, as noted above we project no drastic expansion of this fishery as long as the salmon fishery continues to produce at current profitable levels.

### Social

While not pervasive, many informants noted a decline in the importance of traditional social networks and kinship. "Everyone has their own life to lead and there seems to be less time for anyone else." The rather dramatic increase in income and development of wealth has resulted in an increase in both the angle and range of the skew in social values. Many informants could remember when everyone was more or less equal in terms of material wealth and social prestige. Most can recall when barter and exchange played a more important role in their community. Interestingly, older residents also hold that "It was always easier to live in the old days. Everything you needed was right here. Now things are really hard. Everything is so expensive." This is clearly in contrast to the prevailing attitude of extraordinary income and reveals the relative sense of deprivation felt by these individuals. It is a measure of their sense of uncertainty and insecurity in regard to novel expectations and developments as well as their inability to maintain new life-style standards.

Inordinate incomes have reduced or eliminated many of the concrete or objective needs that traditionally bound one family to another. The trend is clearly to 'opt-out' of some of the more burdensome responsibilities and relationships. On the obverse side, the utility of mutual reciprocity has declined to a point we call 'C.B. redistribution.' practiced. 'That is, we have observed where individuals who have shot a number of birds, or killed a bear, will merely leave the excess on the shore and notify the entire village at large that "if you want some geese I left a bunch on the beach by X's house." This anonymous distribution system is another important measure of the degree to which the utility of traditional forms of 'balanced reciprocity' have degenerated during the last decade. The utility and weight attached to giving and receiving resources cannot be maintained where monetary equivalents exist in such abundance.

Recent externally-imposed regulatory changes have artificially accelerated the development of schisms between groups of 'haves' and 'have-nots' within this subregion. While differences in attitude and orientation toward work, leisure, alcohol, etc., have always existed within these communities, the introduction of entry limitation regulations have acted to rigidify pre-existing orientations. That is, where the development of a vastly improved resource base could have been expected to benefit particular individuals to a greater extent than other individuals, it could also have been expected to have substantially widespread beneficial effects on the entire population over time. This was not the case. Limited Entry assured those who were fishing at that time a perpetual right to fish the resource (as well as a valuable economic resource in the permit) while it permanently eliminated those

fishermen **who** were not then fishing, those **who** would normally have entered the fishery later, and those individuals **who would** clearly have wanted to enter the fishery under such improved conditions as have occurred since the regulations were implemented. Individuals in this second category are now in a **relatively** worse situation than they were before **the** fishery boom. *Most* of their friends and relatives are now earning exceptionally high wages, are forming **the** basis of long-term wealth, and have assumed **social** roles and attitudes in the community which effectively **eliminate** this **less-well-to-do** cohort from participation. Again, we recognize **that** this group of individuals would probably have been among the disenfranchised anyway--we **only** remark that a **substantial** exaggeration of the rate, intensity and permanence of this schism has occurred as a **result** of limited entry **regulations**.

In the context of pervasive **social** change above we must note how the recent economic boom in **the** fishery has allowed the majority of **the** **population** ready access to the products and social **values** of westernizing agents. **With** earnings in six figures these fishermen have able to **buy** virtually any consumer item they desire, maintain residence in two or more **communities**, travel anywhere they want, and take extended **vacations** at irregular intervals. Thus, many **of** the more noisome consequences **of** accelerated **social** change have not been **felt** by these communities. The increased economic and social schism inherent in this rapid increase in wealth has negatively affected only a small portion **of** the **total** population.

Two separate issues must be considered in projecting the consequences of this rapid growth in income and wealth. On the one hand, it allows

those individuals and families--with the disposition--to move in the direction of social cohesion. On the other hand, it appears to promote the rapid elaboration of options available to community members in terms of social behavior. Social sanctions are still strong, but economic self-sufficiency has allowed families to construct homes, to purchase products, and to pursue personal objectives which would have been considered disruptive five or ten years in the past. Thus the potential for individualized self-determination is very high and, in being expressed, has been cause for some dissension.

#### Political

This subregion has been subject to major sociocultural, political and economic change within the last five or six years. During that period satellite phone systems have been installed in all five communities, with service to individual homes already scheduled. Modal incomes have risen markedly from less than \$10,000 per year to in excess of \$50,000 (a very rough appraisal discussed in more detail in the appendices). Each of these communities is slated for installation of satellite television systems within the next two years--Chignik Bay and Chignik Lake will likely have two such systems, one for educational purposes and another for live television broadcasts. Community electrical service is planned for most of these communities and feasibility studies of hydro-power (at Mud Bay) are currently under way. The state-run ferry system has recently added Chignik Bay to its scheduled run, and the local cannery (APA) appears committed to year-round processing, which will ease access to many needed services and products (e.g., better mail service, more business opportunities, better transportation, more dependable sup-



ply Of food).

As **noted** in our section on political change, as **the** trend toward incorporation accelerates, so **will the** provision of services. We project a major surge of community-level government activity to occur **within** the next five year **period**. **This** will include large expenditures for roads, sewage systems, buried water lines, and electrical and other services. Local government employment will also mean a new source of income and a substantial shift in the character of local political interaction. **For the short-term, however,** it seems **clear** that those in current control of **the** local political process **will likely** be those who come to control the new forms of political organization inherent in village incorporation.

Many informants are anxiously awaiting official recognition of land ownership **so that** they can initiate their **own** commercial enterprises. Once title is established, within the next two years, we project a rapid elaboration of economic infrastructure, **at least for Chignik Bay, the** economic center' of this subregion. **To a lesser** degree this **will occur** throughout the subregion. Sustained economic **growth** at the community level is relatively assured given the value **of** the local resource **to** individual residents and the availability **of** city revenue in terms of **the** locally imposed raw fish tax (added **to half the** state's 3% tax already imposed **on** processors).

The purchase of construction machinery, and the building of restaurants, hotels, and **store** facilities are a few of **the** likely developments to occur **within** the next five years, in particular, in Chignik Bay, **which** is the focal community of this subregion. Third, as recent trends indicate, the construction of new housing is expected **to** continue throughout

the region but at a somewhat less accelerated pace than has been observed during the last three years. Fourth, while virtually all the families of these communities possess a wide range of modern electrical and mechanical labor-saving and entertainment devices, we can nevertheless project a continued increase in the number and quality of these devices throughout the subregion. Fifth, economies of scale which could not be utilized just five years earlier are now quite commonplace--direct case-lot purchases of food alone represent savings of several thousand dollars per year. Several informants claimed that total living expenses (oil, food, supplies and housing) ran less than \$10,000 per year for a family of five. Thus, there are indications that certain fixed costs have, with the advent of surplus capital, actually declined in the last five years and are likely to decline further in the future with electrification projects proposed for communities of this subregion.

It must be clear, however, that the pattern of expenditure varies significantly by individual community and by individual families within each community. New homes are the dominant expression of value priority within Chignik Lagoon while substantial diversity is observed in Chignik Bay and Chignik Lake in the manner in which income is converted into wealth--including a wide array of new skiffs and machinery as well as new homes.

There are, on the other hand, social forces acting to inhibit the development of political cohesion. For the region as a whole we have found that certain individuals have traditionally dominated the political decision-making of these communities and that they, for the most

part, continue to do so. We project this tendency to continue until new political structures are adopted which are based on representation and anonymous voting or until formal political roles are established that are unattractive to these traditional leaders. This is likely to correspond with formal incorporation. We also note the trend for direct descendants of current informants' leaders to assume these new structural roles in the absence of any serious opposition. This is a logical extension of the traditional system in that offspring of traditional leaders are in a highly advantageous position to assume novel political roles in the community. We assume, however, that this tendency will be less notable in the larger communities and therefore generate less frustration than it does in the smaller communities.

A related issue involves a general lack of interest or enthusiasm for political participation among this population as a whole. Those now fulfilling novel political roles uniformly see themselves as those most willing to perform them--little competition exists for these positions. They complain of apathy--that "everyone is happy to receive the benefits if they don't have to do anything themselves." On the other hand, when revenue does become available, opinions on how and where to disperse the resource are readily voiced and supported.

It is possible, as in the case of Chignik Lagoon, for official members of the community to be quite well-off and yet have very little 'community economic development.' A dozen modern and elaborate new homes have been constructed in the last few years but, as yet, the social, political and economic infrastructure common to an established community is not present. This village resembles more an elaborate 'fish camp' than

a fixed social entity.

Another incipient trend involves **the growth of legalism** and its implications. Along with an increased formalism in **economic** and political structures has come an increase in utilization and dependence **on** formal **legal** structures. This trend has resulted **from**, and has been in part a product of, increased impersonal **ization of the** environment. Rather than pursuing a conflict to **final** resolution within the community, recourse is taken to dispute settlement structures outside the community. This has **led** to substantial **social** friction in some cases but also represents a growing reliance on a formal mechanism **of** substantial long-term **importance to** these communities. There **will** eventually emerge a need to press, through **the** courts, objections to externally-induced changes deemed unacceptable to the **local** community. This awareness and experience with the court system **will clearly** facilitate their ability to retard or contain unwanted development **within** their areas of concern.

This tendency will **be** particularly evident in **the process of** incorporation, **which** is becoming of increasing concern **in** the subregion. **Incorporation** is another step in **the** formalization **of local** structure, and **has** been resisted by traditional elements. The resistance to incorporation is expected to **last** for some **time**, but **will** eventuate in incorporation **in the** next five years in **Perryville, Chignik Lagoon and Ivanof Bay**, and eventually in **all** communities **of** this subregion (excepting **Ivanof Bay**) within **the** next **eight to ten** years.

Finally, in **this** process of formalization **there** are local structures **which** have **come** forward **to fill** this **newly** emerging structural gap. **Such** structures may **be** able to successfully assume the functions

formerly filled by informal local structures. The success of the Chignik Advisory Board's informal decision to close the fishery will have an integrative effect and may serve as an integrative force in future negotiations with cannery representatives and floating processors, and in their own sense of political independence and power. Ramifications of such a sense of power are wide-ranging. No other subregion-wide organization is likely to emerge that is not in some way tied to the same resource or to a shared response to an outside threat to this resource or their right to it.

Political power is a logical concomitant of the events which promote incorporation as a city. These same shared objectives serve to integrate and ally the membership in an effective organization. They also result in a political structure which is more effective in expressing the preferences of the community, obtaining external resources, and achieving community ends. There are drawbacks, as noted above, but on the whole we can confidently project a trend toward formalized decision-making structures and organizations, toward a wider-based input into the decision-making process, and toward the distribution of services and benefits to a wider segment of the population as these organizational forms are elaborated. The power of the ballot has already emerged as a significant variable. In cases where entrenched, but unpopular, leadership patterns can be brought before the public for a secret vote, such traditional patterns are relatively fragile.

### Religion

All the communities in the subregion are at least nominally Russian Orthodox. We foresee no drastic change in this pattern of religious

affiliation over the projection period. The church will continue to be one of the foci of social interaction, both within the subregion and between the subregion and, especially, Port Heiden. We do expect that the subregion may acquire at least one additional priest since a new church has recently been constructed at Chignik Lagoon which has, as of this writing, no permanent priest. Other than this, we expect the pattern of religious affiliation and activity to remain essentially stable.

### Education

Although there is substantial variation among the three major permanent population centers (Chignik Lake, Chignik Bay, and Perryville) of this subregion, we can confidently project a gradual increase in the significance attached to the role of education in these communities. The number of high school graduates has risen steadily over the last five years. The local adult attitude toward higher education is increasingly positive. Local teachers have also noted a significant increase in the number of high school students considering post-secondary education. This trend is expected to continue to accelerate at least through the next ten-year projection period.

We wish to make clear, however, that the above projection is not based solely or even primarily on the virtually universal trend toward higher education. This trend occurs in a rather unique environment. Where high school students earn as much as \$70,000 in a single two-month fishing season, it is inherently more difficult to maintain the traditional arguments in favor of finishing high school or pursuing 'higher education.' Where college opportunities are likely to interfere with the option to fish, students elect to leave their communities at substantial

economic cost--and this is a potent measure of their commitment to education.

While all of the schools in this area fall under the authority of the Lake and Peninsula School REAA, the link between the district office in Naknek and the individual school is to a significant degree tenuous. School staff in each village and supervisory personnel in the regional office agree that little control can be exercised from Naknek. During the early establishment of these schools (resulting from the 1961 Hootch court decision) the goals, testing and curriculum were fixed and highly standardized. The current trend, however, is clearly in the direction of 'self-determination' with regard to educational objectives for each community. Each community has elected its own school board--and each of these boards are actively involved in setting the course of the local educational system. Relevance, utility and applicability are frequently mentioned as local goals for this system. Many of these locally established educational objectives have been incorporated into school agendas: courses in computer technology and programming, courses in machine operation, maintenance and repair, and physical education programs have come to play an increasingly important role in the wider community and have resulted from active local promotion.

### Health Care

As noted above, all the communities in the subregion have access to a public health aide. We see this form of health care delivery as likely to remain the dominant one for the projection period. In this sense the subregion will conform closely to the projections made for the region as a whole (see regional projections for health care).

There is one possible exception to the above. The growth of Chignik Bay, and possibility that it may eventually be incorporated as a first class city, makes more elaborate health care in that village likely. It is possible that a large health clinic may eventually be opened in the community. If this occurs, however, it will be toward the end of our twenty year projection period.

### Recreation

Recreational patterns are also expected to conform generally to the region wide pattern. Essentially this entails a persistence of traditional subsistence patterns at a level beyond that which could be accounted for by current subsistence needs. This is to say that traditional subsistence activities will now take on the flavor of recreational activities and will be pursued out of enjoyment and the desire for relaxation rather than out of a felt need for the resources involved.

We also see an increased level of utilization of advanced technological means of recreation. These include vehicles such as speedboats, airplanes, and automobiles and trucks, as well as such items as stereos, televisions (especially with increasing use of satellite hookups in the subregion), video tapes, and so on.

Finally, we see a continuation and acceleration of the pattern of extended vacations away from the subregion. Thus, in the off season we expect more people to spend long vacations in any of several west coast cities, notably Anchorage, Seattle, and San Francisco. In a sense, the persistence of traditional subsistence activities, now forms of recrea-



tion, and the high level of extended vacations in urban areas will reinforce one another. This is because an extended stay in the city inevitably leads one to view favorably a stay in the country, and vice versa. Many residents note that one of their favorite aspects of the current lifestyle is the possibility of partaking of one environment until they tire of it at which time they have an attractive alternative available.

## NORTH ALASKA PENINSULA SUBREGION

### Introduction

The North Alaska Peninsula Subregion consists of the three communities of Port Heiden, Pilot Point and Ugashik. Each of these communities has certain characteristics which are expected to produce dissimilar patterns of growth in both the long and the short run. While one community is projected to experience significant growth in population in the next twenty years, another is expected to remain relatively constant in size, while a third may even experience a decline in population. The commitment to locality and the activities directed at local development also differ with respect to each of these three communities.

Nevertheless, certain characteristics bind these three communities together into a distinct subregion of the Bristol Bay area. These characteristics can be categorized on the following bases. First, all three communities rely heavily on the red salmon runs of the Ugashik River system (and secondarily on the Meshik, Egegik and Kwichak runs in that order) for their commercial endeavors. The future of each of these communities will be determined in large part by the continued productivity of this resource utilization pattern.

Second, all three communities share a sense of isolation from the Bristol Bay Native Corporation which has jurisdiction over the land and resources of the area. This isolation is represented in both the geographical distance of BBNC headquarters in Anchorage and the Bristol Bay Native Association headquartered in Dillingham from the communities and

the divergence in development interests. All three communities have responded to this isolation through involvement in other, sub-regional organizations.

Third, each community is dominated by a single influential lineage or family. These lineages are usually overrepresented in both economic and political activities and their commitment to the village or city often shapes the projections for development.

Fourth, these communities are bound together by ties of both kinship and friendship. These ties have resulted in extensive intervisiting and solid networks of exchange.

Fifth, the communities display similar patterns of subsistence, in spite of their differing commercial incomes. They have access to similar resources and continue to rely on local subsistence items even though the potential exists for the cash-purchase of food from outside the region.

The dominant forces of change in this subregion will be social, political, economic, and educational. Social relations embodied in kin-group, community and subregional affiliation, will play a major role in political and economic activities, patterns of residence, and religious activity. Political activities will be directed at protecting existing resources from outside exploitation and strengthening subregional solidarity. Economic activities will emphasize the intensification of existing modes of production and distribution. The increasing value of education will result either in expansion of local facilities and programs or an increased rate of outmigration.

## Input

### Ecological

In both its ecological and **extrasocietal** aspects, the impact of relevant environmental inputs on **all** three communities is expected **to** be the same. With respect to the ecology itself, three particular factors are worthy of note. First, with the exception **of** Port Heiden, which is currently experiencing a problem of soil erosion, climactic and geophysical conditions in the area are assumed to remain constant throughout the next twenty years, thus having minimal impact on the course of change in the communities. Second, **all** three communities are dependent upon plentiful supplies of salmon **to** maintain and perhaps even expand **their** commercial endeavors. None of the communities have the capacity to actively pursue other commercial resources such as herring or **bottomfishing** (Port Heiden is part-owner of a 125 foot processor vessel which does have this capability but the operation is currently a financial liability), and would be forced to **travel** great distances to conduct profitable harvests of these alternatives. Third, fish and game which have traditionally provided sources of subsistence continue **to** remain abundant with two exceptions. In one area {Port Heiden}, the **flyway** of migratory birds, especially geese, has altered sufficiently **to** create a significant decline in the harvest of this **resource**. Throughout the entire subregion, the population of moose has been in decline and is expected to continue to do **so**. In both instances, the decline of subsistence resources has been attributed by **local** residents to the increase in the number of sports hunters and fishermen **in** the area. Assuming there is some connection between the two events, the

continued presence of sportsmen in the area will affect the subsistence patterns of all three communities.

## Extrasocietal

### External Government

The impact of **extrasocietal** factors throughout the entire subregion **will** remain relatively constant. Currently, there is a decline in the involvement of federal and regional governments in the area, which has resulted in the communities' increasing dependence on their own resources. CETA funding used for local administrative purposes has already disappeared and other federal sources of revenue are slowly drying up. This money will be supplanted in the next ten years by state revenue-sharing funds which **will** provide money for certain community development projects as well as administrative salaries. However, these sources of income are expected to diminish significantly from 1990 onward. Communities wishing to modernize and develop will be forced to do so with revenues generated through their own activities, economic or otherwise.

All three communities have felt a sense of isolation from the regional corporation and its subsidiaries, with the notable exception of the Bristol Bay Area Health Corporation. There is a widespread sense of isolation from the Bristol Bay Native Association for two reasons. First, the Association is headquartered in **Dillingham** and is perceived as being too distant from the North Alaska Peninsula Subregion to **allow** for much interaction. There are no representatives on the **Board** of Directors from this subregion and local residents are often unwilling to

travel to Dillingham to attend corporate meetings. Second, there is a feeling that, because of the geographic distance, the Corporation itself (headquartered in Anchorage) is unconcerned with local needs and desires. Their proposals and policies are often made without significant input from the subregion. Therefore, the goals, and means of attaining these goals, of the region and the subregion have diverged somewhat. This divergence has been made obvious by the formation of the Alaska Peninsula Corporation which unites five different communities including Port Heiden and Ugashik, and by the efforts of communities such as Pilot Point to independently work for development through their own village corporations.

It is projected therefore, that the involvement of the regional corporation in the affairs of the three communities in the subregion will continue in much the same way as it has to this point. It is possible that the Alaska Peninsula Corporation may eventually include a?? three communities. The subregion will continue to rely on the Bristol Bay Native Health Corporation for health care services. At least two of the three communities in the area have representatives on the board of the health corporation and, given the unavailability of health services from other sources in the foreseeable future, this corporation will constitute the major provider of health care in the area.

#### Larger Sociocultural System

This subregion is linked to the outside world through several different economic, political, educational and social contacts. These contacts carry with them extensive exposure of subregion residents to the larger sociocultural system. While in Anchorage, residents are confronted with

an urban environment. significantly different from their own. Many of the values, consumer items, etc, are brought from the city and transplanted in the local communities. The role of this contact in the future of these communities is certain to increase and, as discussed in the appendices, holds the potential to radically disrupt one or more of these villages.

## Intrasocietal

### Community Facilities

Given the projected declines in external sources of revenue, communities in the subregion will increasingly have to depend on commercial sources of revenue to fund local development endeavors. At present, efforts are underway to improve the community facilities in the entire subregion, although the extent of and commitment to this effort varies with each community. Nevertheless, there will be a greater effort to develop community-owned utilities such as electrical generators, community water and sewage systems, and more efficient methods of distributing community fuel supplies. These efforts will be motivated by the desire to make utilities efficient, profit-making ventures as well as the concern for improving the living standards of community residents.

Private development is also expected to continue in the subregion. This development, much like the community development, varies with each community depending on the commitment to and economic resources for building new homes or improving existing ones. However, in the subregion as a whole, there is a trend to build larger homes. This construction, however, is still at the level of individual or family-cooperative

endeavors and is not expected to utilize outside assistance.

### Demography

Population projections for the entire region are based on two observations: first, that the population in general is expected to grow in the next twenty years although **at** a rate significantly lower than previous projections, and, second, that much of the increase in population **will** be accounted for by an immigration of non-indigenous individuals attracted to the region by economic opportunities. The North Alaska Peninsula Subregion, however, stands as an exception to these projections **in** several respects. First, the population of the entire region appears to be stabilizing at the moment and will continue to do so for the next five to ten years. **While** the number of births for the entire region has been more than double the number **of** deaths in the past ten years (Alaska Department of Social Services, 1981), **outmigration** has accounted for the stabilization of the population in one community and the prospect of a decline in another. **The** rate of immigration appears to be much less than that of other subregions and, with **the** dependence of the subregion on existing **salmon** resources, is not expected to increase significantly in the next twenty years.

Given the trend for population stability, the age structure of the community is expected to display a greater proportion of individuals over the age of **30**. For the next ten years, the age groups **0-20**, **20-40**, and **40+** **will** be **roughly** equivalent in **size**. **From 1990** onward, however, the latter two age groups will constitute the bulk of the population of the area. The sex ratio in the next twenty years will remain relatively constant, with perhaps a slight increase in **the** number of males due to



the fact that those who choose not to move out of the area are those men who are unable to marry. **The** ethnic composition of the communities will also remain constant as the percentage of immigrants continues to remain low.

Those residents of the subregion who do remain, however, will have substantial contacts **with** the outside world. These contacts **stem** from three sources. One is economic. As residents interact with fishing **companies** in Anchorage and other communities or as the subregion cooperates in economic ventures with communities outside the subregion (i.e. South Naknek, **Egegik**), their involvement in the affairs and interests of other communities will increase.

A link to the outside world which has even greater significance, however, is educational. Most of the children in the subregion attend high school elsewhere, primarily Anchorage. A few attend school in Port **Heiden**. Once in Anchorage, however, these children develop interests and social relations which are urban-oriented. Entire families often move to Anchorage so that their children may attend high school. This temporary residence necessitates the development of employment opportunities and social contacts. This pattern has existed for several years " and there are no signs of it diminishing. Residents appear to be content with a continuation of this process as it allows them to enjoy the benefits of urban living while relying on the sub-region for commercial activities.

Third, residents of the subregion are bound to the larger world through kinship links. These links are evidenced by the frequent visiting of related kin in neighboring communities outside the subregion, **by**

participation together in religious rituals, and **by the** maintenance of patterns of exchange of subsistence items. At present, this is restricted primarily to relatives in the **Chigniks but** with extended stays in Anchorage of high school-age youth and their families, **it is highly likely** that significant kinship links **will** be established between the subregional communities and Anchorage, particularly after 1985.

## Structure

### Values

The value system in this subregion is dominated by two different cultural configurations. The traditional system of values is based on the Aleut ethnic tradition, Russian Orthodox belief system, a kin-based network of social relations, a rural orientation, and subsistence economic activities. The modern system of values is prefaced on a cash economy, an urban orientation, formal social relations, widespread travel outside the subregion, and improved communications with the outside world. As with the entire region, the modern configuration will gradually replace the traditional one in the subregion, especially among that segment of the population residing locally only during the summer. However, given the relatively fixed economic potential projected for this subregion, this process will not occur as rapidly or as extensively as in other subregions.

One value that appears to be undergoing a reemphasis, however, is ethnic heritage. While a strong Russian-Aleut identity is maintained by many of the residents of the subregion, this identity has diminished in importance and will continue to do so for reasons outlined below.

### Organization

#### Economic Organization

##### Commercial

Whether members of the subregion live year-round in the area or live elsewhere for most of the year, most are involved in commercial

## output

### Economic

Income levels are due **to** increase but a skew will develop in accordance with regional projections. The skew will be based on whether or not a resident has access to a Limited Entry permit and whether or not he is a year-round resident or resides in the subregion during the summer **while** residing and/or working elsewhere during the rest of the year. The commercial fishing industry will continue to employ the majority of adults in **the** subregion. **The** only source of employment for outsiders will be on **the** drift net boats or in the canneries and fish processing operations. A few administrative positions **will** exist but, with the exception of the proposed subregional center in **Port** Heiden, these positions **will** be part-time and not provide sufficient income.

**Those** who do not have Limited **Entry** permits **will either be** employed on the fishing vessels, cannery operations, or work part-time for the village corporations. **In** each case, the income earned will **be** substantially less than that earned by captains of the fishing vessels and a pattern of economic stratification will emerge with **highliners** at the top, prosperous fishermen from other lineages either at the same level or immediately below, families who only hold set net permits below them, and members of **family** groups who do not hold Limited Entry permits and are **unable** to afford them at the bottom. This **last** group **will undoubtedly** include community members who are on welfare.

## Social

With respect to social cohesion, two countervailing trends will be evident in the next twenty years. First, cohesion among kinship groups will slowly begin to diminish as a distinction arises between the more and the less prosperous members of a lineage. Kinship will continue to play a role in employment patterns but even this has begun to diminish as outsiders are increasingly employed in the canneries and on the boats.

The second trend will be an increase in inter-familial, inter-community, and inter-regional patterns. Inter-familial patterns are based on work or friendship and will serve to integrate residents of equal socioeconomic status. Inter-community patterns are based on friendship and common subregional interests and will serve to integrate the three communities into a unified subregional entity. Inter-regional patterns are based on kinship ties to Chignik and Anchorage and seasonal residence in Anchorage for educational purposes. These patterns will serve to expose the subregion to the larger world and will foster frequent travel outside the subregion.

Ethnic relations are expected to remain relatively constant throughout the next twenty years. The immigration of non-local whites is not expected to be great and the majority of this group will reside on a seasonal basis only. Those who reside year-round will be effectively integrated into the community social network, unlike the experience of immigrating whites in other areas of the region. The dominant ethnic identity will remain Aleut as determined by three factors. First, the percentage of immigrating whites will not be large enough to create a

serious disruption of **the** identity as Native. Second, **there** is a **particular** pride taken in the **Aleut** heritage by **local** residents. The Russian and Scandinavian heritage **which** also predominates **within the** subregion is effectively integrated in the local concept **of an** identity as **Aleut** and this **syncretic** identity **is** expected to remain in effect. Third, existing laws which provide certain economic, political and educational benefits encourage the claim to Native identity. Thus, even residents **who** are one-eighth **Aleut** **will** often emphasize that aspect of **their** heritage.

**The** one element mitigating against a traditional **Aleut** identity, however, is the frequent contact with the outside world, particularly the city of Anchorage. As Natives come **to be** exposed to the urban environment and the identity as urban-dweller and Alaskans, some confusion over the traditional identity **will result**. This may **result** in the emergence of two distinct variants of the **Aleut** identity, a traditionalist identity held by year-round residents and a modernist identity held by summer-only residents.

**Ethnicity**, therefore, **will not be** a cause for social conflict *in* the North Alaska Peninsula Subregion. There is the potential for conflict, however, between those residents who live in the subregion throughout the entire year and those residents who live in the subregion only **during** the summer. These two groups are distinguishable not only in **terms** of length of stay but also in terms **of levels** of income, education, exposure to the larger **world**, and commitment to future development. These differences have **already led** to certain **amount** of conflict over such issues as village corporation financial ventures outside of the

subregion and attempts to improve local facilities. In the next twenty years, a certain resentment for the summer-only residents will develop among the year-round residents as the latter group begins to question the extent of commitment to the future of the community among the former group. In turn, summer-only residents will be opposed to those activities and development projects which do not affect them directly or over which they have little control.

### Political

Administration of local affairs will aim for greater efficiency at reduced costs. While the administration will continue to be dominated by members of the leading lineages of each community, there will be a greater reliance on professional assistance for the solicitation of outside funding and the management of local funds. The largest community in the area, Port Heiden, will develop a model of city planning and management that conforms to those held by first class cities by the next twenty years. The functions of the village council will be effectively integrated into a subregional corporate endeavor which will attempt to develop pragmatic and consistent efforts at planning and development. These efforts will focus on 1) the management of local resources, 2) the protection of those resources from outside interests such as fishermen from other subregions and sports hunters, 3) joint economic ventures such as fish processing plants, 4) improvement of community facilities such as community buildings and utilities, and 5) efforts to secure funding to improve local housing.

What political conflicts do occur will exist in one of two forms: 1) conflicts between the local councils who will be heavily dominated by

year-round residents and the summer-only residents, and 2) conflicts **within** the subregional corporation between **the** representatives of the **three** communities. **The first set of** conflicts is expected to **be** more serious than the second and may result in **the** permanent out-migration of some summer-only residents. **The** second form of conflict is not expected to **be** seriously disruptive.

### Religion

No major changes in religious beliefs or behavior are expected to occur. There may be a **slight** increase in the amount **of** secularization in **the** subregion over the next twenty years but **it is not** expected to be as great as that of other subregions.

### Education

The one notable change in educational behavior over the next twenty years **will** be a gradual increase **in** the rate of continuing education. Already, there is an increase in the desire to go to college and, with the **outmigration of** youth to attend high **school** in Anchorage, this **desire** will increase in an urban environment. There are no existing plans **to** construct additional educational facilities in the area and with the gradual stabilization of the rate of population growth, no plans are anticipated in the projection period. Rate of teacher return and level of participation in extracurricular activities are expected to remain constant.

### Health Care

those members who are lacking in Limited Entry permits and who are



unable to migrate out of the subregion, the sense of relative deprivation will be high, resulting in an increase in stress and stress-related problems such as alcoholism, accidents, and illness. We also foresee an increase in diseases of old age among those year round-residents who are 65 and older. Otherwise, rates of illness are expected to remain constant.

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